Illinois Environmental Protection Agency
2520 West Iles Avenue • P.O. Box 19276 • Springfield, Illinois • 62794-9276 • 217-782-3397

JB Pritzker, Governor **James Jennings**, Acting Director

Coal Combustion Residual Surface Impoundment Permitting Program

Application Form CCR 1:

General Provisions

This form must be submitted for all construction and operating permit applications. Two sets of the applications must be submitted. Items which are self-explanatory are omitted in these instructions. Signatures on at least one (1) submittal must be original.

The owner or operator must place in the facility's operating record all permit applications submitted to the Agency and all permits issued under 35 Ill. Adm. Code 845 as required by 35 Ill. Adm. Code 845.800(d)(1).

DESCRIPTION OF CCR PERMIT APPLICATIONS FORMS

The application forms for Coal Combustion Residual (CCR) Surface Impoundment Permits include the following:

Form CCR 1 – General Provisions (included in this packet)

Form CCR 2 – Forms Based on Activity Type (Not included in this packet):

- 2CN New Construction
- 2CA Corrective Action Construction
- 2CC Closure Construction
- 2N Initial Operating Permit for a New CCR Surface Impoundment and Any Lateral Expansion of a CCR Surface Impoundment
- 2R Renewal Operating Permit
- 2E Initial Operating Permit for Existing or Inactive CCR Surface Impoundments that have *not* completed an Agency-approved closure before July 30, 2021
- 2OE Initial Operating Permit for Existing or Inactive CCR Surface Impoundments that *have* completed an Agency-approved closure before July 30, 2021
- 2OI Initial Operating Permit for Inactive Closed CCR Surface Impoundments

DETERMINING APPLICABILITY

Applicants *not* required to Submit a Permit Application		
1. Was the CCR generated at a facility that is *not* part of electric utility or independent power producer, such as manufacturing facilities, universities, and hospitals? If yes, **STOP.** Do not complete Form CCR 1. You donot need a CCR Surface Impoundment Permit under 35 Ill. Adm. Code 845.		2. Is the CCR placement at active or abandoned underground or surface coal mines? If yes, **STOP.** Do not complete Form CCR 1. You do notneed a CCR Surface Impoundment Permit under 35 Ill. Adm. Code 845.
3. Was the CCR generated primarily from the combustion of fuels other than coal for the purpose of generating electricity? If No, proceed to question 4. If Yes, answer the following question below:		4. Are you a landfill that receives CCR? If yes, **STOP**. Do not complete Form CCR 1. You do not need a CCR Surface Impoundment Permit under 35 Ill. Adm. Code 845.
Did the fuel burned consist of less than 50% coal on atotal heat input or mass input basis, whichever resultsin the greater mass feed rate of coal? If yes, **STOP**. Do not complete Form CCR 1. You donot need a CCR Surface Impoundment Permit under 35 Ill. Adm. Code 845.		

Applicants Required to Submit a Permit Application		
1. Are you an owner and/or operator of new and existing CCR surface impoundments, including any lateral expansions of CCR surface impoundments that dispose of or otherwise engage in solid waste management of CCR generated from the combustion of coal at electric utilities and independent power producers?		2. Are you an owner and/or operator of an inactive CCR surface impoundment at active and inactive electric utilities or independent power producers?
Yes → Complete Form CCR 1		Yes → Complete Form CCR 1

ACTIVITIES REQUIRING A CCR SURFACE IMPOUNDMENT PERMIT (35 Ill. Adm. Code Subpart B)		
1. Are you building a new CCR surface impoundment, lateral expansion or a CCR surface impoundment, or retrofitting an existing CCR surface impoundment?		2. Are you performing corrective action under Subpart F of the Rule?
Yes → Complete Forms CCR 1 and 2CN		Yes → Complete Forms CCR 1 and 2CA
3. Are you closing a CCR surface impoundment under Subpart G of the Rule?		4. Are you submitting an Initial Operating Permit for a new CCR surface impoundment and any lateral expansion of a CCR surface impoundment?
Yes → Complete Forms CCR 1 and 2CC		Yes → Complete Forms CCR 1 and 2N
5. Are you renewing an Operating Permit?		6. Are you submitting an Initial Operating Permit for an existing or inactive CCR surface impoundment that <u>has not</u> completed an Agency-approved closure prior to July 30, 2021?
Yes → Complete Forms CCR 1 and 2R		Yes → Complete Forms CCR 1 and 2E
7. Are you submitting an Initial Operating Permit for existing or inactive CCR surface impoundment that <u>has</u> completed an Agency-approved closure prior to July 30, 2021, <u>and</u> where the impoundment <u>is not</u> an inactive closed CCR surface impoundment?		8. Are you submitting an Initial Operating Permit for an inactive closed surface impoundment? An inactive closed surface impoundment is an inactive CCR surface impoundment that completed closure prior to October 19, 2015 with an Agency-approved closure plan.
Yes → Complete Forms CCR 1 and 2OE		Yes → Complete Forms CCR 1 and 2OI

CONTENTS OF FORM CCR 1 PACKAGE

Form CCR 1 – General Instructions
Form CCR 1 – Line-by-line Instructions
Form CCR 1 - Application

FORM CCR 1 – GENERAL INSTRUCTIONS

Who Must Apply for a CCR Surface Impoundment Permit?

Owners and operators of new and existing CCR surface impoundments, including any lateral expansions of CCR surface impoundments that dispose of or otherwise engage in solid waste management of CCR generated from the combustion of coal at electric utilities and independent power producers.

What other forms must be completed?

Form CCR 1 collects general information only. You must also complete a more detailed application based upon your proposed activity as follows:

- If your facility is building a new CCR surface impoundment, lateral expansion of a CCR surface impoundment, or retrofit of an existing CCR surface impoundment; you must also complete Form CCR 2CN for each new CCR surface impoundment, lateral expansion of a CCR surface impoundment, or retrofit of an existing CCR surface impoundment.
- If your facility will be performing any corrective action under Subpart F of 35 Ill. Adm. Code 845, you must also complete Form CCR 2CA for each CCR surface impoundment undergoing corrective action.

- If your facility is closing a CCR surface impoundment under Subpart G of 35 Ill. Adm. Code 845, you must also complete Form CCR 2CC for each CCR surface impoundment you will be closing.
- If your facility is applying for an initial operating permit for a new CCR surface impoundment and any lateral expansion of a CCR surface impoundment, you must also complete Form CCR 2N for each new CCR surface impoundment and any lateral expansion of a CCR surface impoundment.
- If your facility is renewing an operating permit, you must also complete Form CCR 2R for each CCR surface impoundment subject to the renewal.
- If your facility comprises an existing or inactive CCR surface impoundment that has not completed an Agency-approved closure prior to July 30, 2021; you must also complete Form CCR 2E for each existing or inactive CCR surface impoundment that has not completed an Agency-approved closure prior to July 30, 2021.
- If your facility comprises existing or inactive CCR surface impoundment that has completed an Agency-approved closure prior to July 30,2021, and where the impoundment is not an inactive closed CCR surface impoundment; you must also complete Form CCR 2OE for each existing or inactive surface impoundment that has completed an Agency-approved closure prior to July 30, 2021.
- If your facility comprises an inactive closed CCR surface impoundment, you must complete Form CCR 2OI for each inactive closed CCR surface impoundment. An inactive closed CCR surface impoundment is an inactive CCR surface impoundment that completed closure prior to October 19, 2015 with an Agency-approved closure plan.

Exhibit 1-1. Filing Dates for CCR Surface Impoundments Permit Applications

Permit Application	When to File
CCR 2R – Renewal Operating Permit	At least 180 days before the expiration of the existing permit unless the Agency has granted a waiver.
CCR 2E – Initial Operating Permit for Existing or Inactive CCR Surface Impoundments that have not completed an Agency-approved closure prior to July 30, 2021.	Must be submitted by October 31, 2021.
CCR 2OE – Initial Operating Permit for Existing or Inactive CCR Surface Impoundments that have completed an Agency-approved closure prior to July 30, 2021, and where the impoundment is not an inactive closed CCR surface impoundment.	Must be submitted by October 31, 2021.
CCR 2OI – Initial Operating Permit for Inactive Closed CCR surface impoundments.	Must be submitted by October 31, 2021.

FORM 1 – LINE-BY-LINE INSTRUCTIONS

Section 1: Facility, Operator, and Owner information

Item 1.1 Enter the facility's official or legal name. Do not use a colloquial name.

Item 1.2 Provide your Illinois EPA CCR Surface Impoundment permit number if you have an existing facility. If your facilityis new (i.e., not yet constructed), write or type "New Facility." If your facility is existing, but you are filing an initial permit, write or type "Initial Permit."

Item 1.3 Give the name (first and last), title, work telephone number, and e-mail address of the person who is thoroughlyfamiliar with the operation of the facility and with the facts reported in this application. The IEPA will contact the person listed if they have questions on the material submitted.

Item 1.4 Give the complete mailing address of the office to which the IEPA should send correspondence.

Item 1.5 Give the address or location of the facility identified under Item 3.1. If the facility lacks a street name or route number, give the most accurate, alternative geographic information (e.g., section number or quarter section number fromcounty records or "at intersection or routes 425 and 22"). Also provide the county name, county code (if known), city or town, state, and zip code.

Item 1.6 Give the legal name of the person, firm, public organization, or other entity that operates the facility described in this application. This may or may not be the same as the facility's name. The operator of the facility is the legal entity thatcontrols the facility's operation rather than the plant or site manager. Do not use a colloquial name.

Item 1.7 Give the name (first and last), title, work telephone number, and e-mail address of the person who is thoroughly familiar with the operation of the facility and with the facts reported in this application. The IEPA will contact the person listed if they have questions on the material submitted.

Item 1.8 Enter the address of the Owner/Operator.

Section 2: Legal Description

Item 2.1 Provide the legal description of the facility boundary.

Section 3: Publicly Accessible Internet Site Requirement

Item 3.1 Enter the web address.

Item 3.2 Select yes, to indicate that the website is titled, "Illinois CCR Rule Compliance Data and Information."

Section 4: Impoundment identification

Item 4.1 List all the Impoundment Identification numbers for your facility and check the corresponding box to indicate thatyou have attached a written description for each impoundment.

Section 5: Checklist and Certification

Item 5.1 Review the checklist provided. In Column 1, mark the sections of Form CCR1 that you have completed and aresubmitting with your application. In Column 2, indicate for each section whether you are submitting attachments.

Item 5.2 Certification Statement: The IEPA provides for severe penalties for submitting false information in this application form. 415 ILCS 5/44(a) provides that, "Except as otherwise provided in this Section, it shall be a Class A misdemeanor to violate this Act or regulations thereunder, or any permit or term or condition thereof, or knowingly to submit any false information under this Act or regulations adopted thereunder, or under any permit or term or condition thereof. A court may, in addition to any other penalty herein imposed, order a person convicted of any violation of this Act to perform community service for not less than 100 hours and not more than 300 hours of community service is available in the jurisdiction. It shall be the duty of all State and local law-enforcement officers to enforce such Act and regulations, and all such officers shall have authority to issue citations for such violations."

All permit applications must be signed by the owner, operator, or a duly authorized agent of the operator. 35 Ill. Adm. Code 845.210(b)(2)

An application submitted by a corporation must be signed by a principal executive officer of at least the level of vice president, or his or her duly authorized representative, if that representative is responsible for the overall operation of the facility described in the application form. In the case of a partnership or a sole proprietorship, the application must be signed by a general partner or the proprietor, respectively. In the case of a publicly owned facility, the application must be signed by either the principal executive officer, ranking elected official, or other duly authorized employee. 35 Ill. Adm. Code 845.210(b)(3)

This form must be typewritten or printed legibly. This form may be completed manually or online using Adobe Reader, a copy of it saved locally, printed, and signed before it is submitted to:

Illinois Environmental Protection Agency
Bureau of Land #33
Attn: Part 845 Coal Combustion Residual Rule Submittal
2520 West Iles Avenue
P.O. Box 19276
Springfield, IL 62794-9276

Form CCR 1	Illinois Environmental Protection Agency CCR Surface Impoundment Permit Application Form CCR 1 – General Provisions

Bureau of Land ID Number: 1990555005

CCR Permit Log Number:

Facility Name: Southern Illinois Power Cooperative Marion Plant

For IEPA Use Only

SECTION 1: FACILITY, OPERATOR, AND OWNER INFORMATION (35 Ill. Adm. Code 845.210(b))

Facility, Operator, and Owner Information

1.1	Facility Name		
	Southern Illinois Power Cooperative Marion Plant		
1.2	Illinois EPA CCR Permit Number (if applicable)		
	Initial Permit		
1.3	Facility Contact Information		
	Name (first and last) Jim Webb	Title Director of Environmental & Legislative Services	Phone Number 618-964-2268
	Email address jwebb@sipower.org		
1.4	Facility Mailing Address		
	Street or P.O. Box 11543 Lake of Egypt Road		
	City or Town Marion	State IL	Zip Code 62959
1.5	Facility Location		
	Street, Route Number, or Other Specific Identifier 11543 Lake of Egypt Road		
	County Name Williamson	County Code (if known)	
	City or Town Marion	State IL	Zip Code 62959
1.6	Name of Owner/Operator		

Facility, Operator, and Owner Info	1.7	Owner/Operator Contact Information		
		Name (first and last)	Title	Phone Number
		Email Address		
	1.8	Owner/Operator Mailing Address		
		Street or P.O. Box 11543 Lake of Egypt Road		
		City or Town Marion	State IL	Zip Code 62559

SECTION 2: LEGAL DESCRIPTION (35 Ill. Adm. Code 845.210(c))

Legal Description	2.1	Legal description of the facility boundary
		Williamson County, Illinois; Township 10 South, Range 2 East, Section 26

SECTION 3: PUBLICLY ACCESSIBLE INTERNET SITE REQUIREMENTS (35 Ill. Adm. Code 845.810)

Internet Site	3.1	Web address(es) to publicly accessible internet site(s) (CCR website)		
		https://sipower.org/il-845/		
	3.2	Is/are the website(s) titled "Illinois CCR Rule Compliance Data and Information"		
		☑	Yes	☐ No

SECTION 4: IMPOUNDMENT IDENTIFICATION

Impoundment Identification	4.1	List all the impoundment identification numbers for your facility and check the corresponding box to indicate that you have attached a written description for each impoundment.	
			☑ Attached written description
			☑ Attached written description
			☑ Attached written description
			☑ Attached written description
			☑ Attached written description
			☑ Attached written description

			☑	Attached written description
			☑	Attached written description
			☑	Attached written description
			☑	Attached written description

SECTION 5: CHECKLIST AND CERTIFICATION STATEMENT

Checklist and Certification Statement

5.1 In Column 1 below, mark the sections of Form 1 that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing.

Column 1		Column 2	
Section 1: Facility, Operator, and Owner Information	☑	w/attachments	☐
Section 2: Legal Description	☑	w/attachments	☐
Section 3: Publicly Accessible Internet Site Requirement	☑	w/attachments	☐
Section 4: Impoundment Identification	☑	w/attachments	☑

5.2 **Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (print or type first and last name) of Owner/Operator	Official Title
James J. Webb	Director of Environmental
Signature 	Date Signed 11/2/26

Illinois Environmental Protection Agency
2520 West Iles Avenue • P.O. Box 19276 • Springfield, Illinois • 62794-9276 • 217-782-3397

JB Pritzker, Governor **James Jennings**, Acting Director

Coal Combustion Residual Surface Impoundment Permitting Program

Application Form CCR 2E:

Initial Operating Permit for Existing or Inactive CCR Surface Impoundments

The owner or operator must place in the facility's operating record all permit applications submitted to the Agency and all permits issued under 35 Ill. Adm. Code 845, as required by 35 Ill. Adm. Code 845.800(d)(1).

FORM CCR 2E – GENERAL INSTRUCTIONS

Who must complete form CCR 2E?

The owner or operator of an existing or inactive Coal Combustion Residual (CCR) surface impoundment who has not completed an Agency-approved closure prior to July 30, 2021 must submit an initial operating permit to the Agency by October 31, 2021.

FORM CCR 2E – LINE-BY-LINE INSTRUCTIONS

Section 1: Construction History (35 Ill. Adm. Code 845.220 AND 35 Ill. Adm. Code 845.230)

Item 1.1 Enter the CCR's official or legal name. Do not use a colloquial name.

Item 1.2 If an identification number has been assigned to the CCR surface impoundment, enter it here. If a number has not been assigned, write "N/A".

Item 1.3 Provide the legal description of the CCR surface impoundment's boundary.

Item 1.4 Describe the purpose for which your facility is using the CCR surface impoundment.

Item 1.5 State how many years the CCR surface impoundment has been in operation, or what year it was constructed.

Item 1.6 List the types of CCR that have been placed in the CCR surface impoundment.

Items 1.7 and **1.8** Watershed information may be found on the USGS website.

Item 1.9 Check each box to acknowledge each item has been included with the application. Include written descriptions and Engineering plans and specifications as required.

Item 1.10.1 State if there is any record or previous/current knowledge of any type of structural instability of the CCR surface impoundment.

Item 1.10.2 If yes, please describe the instability issues, and if/how they have been resolved.

Section 2: Analysis of Chemical Constituents (35 Ill. Adm. Code 845.230(d)(2)(B))

Item 2.1 Check each box to acknowledge each analysis has been included with the application submittal.

Section 3: Demonstrations and Certifications (35 Ill. Adm. Code 845.230(d)(2)(D))

Check the box to indicate whether a demonstration, or an explanation has been attached for each of the selections.

Section 4: Attachments

Check the box next to each submission requirement, to acknowledge it has been included with the application submittal.

Section 5: Groundwater Monitoring

Check the box next to the Groundwater monitoring submission requirement to acknowledge they have been included within the application submittal.

Section 6: Certifications

Check the corresponding boxes to indicate you have attached each of the required certifications.

Form CCR 2E	Illinois Environmental Protection Agency CCR Surface Impoundment Permit Application Form CCR 2E – Initial Operating Permit for Existing or Inactive CCR Surface Impoundments That Have Not Completed an Agency-approved Closure Prior To July 30, 2021

Bureau of Land ID Number:
1990555005

CCR Permit Log Number:

Facility Name:
Southern Illinois Power Cooperative Marion Plant

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SECTION 1: CONSTRUCTION HISTORY (35 Ill. Adm. Code 845.220 AND 35 Ill. Adm. Code 845.230)

Construction History	1.1	CCR surface impoundment name.
		Pond 1/2
	1.2	Identification number of the CCR surface impoundment (if one has been assigned by the Agency).
		N/A
	1.3	Description of the boundaries of the CCR surface impoundment (35 Ill. Adm. Code 845.210(c)).
		SW1/4 of the NE1/4 of Section 26, Township 10S, Range 2E, Williamson County, Illinois
	1.4	State the purpose for which the CCR surface impoundment is being used.
		Inactive CCR surface impoundment, no current use
	1.5	How long has the CCR surface impoundment been in operation?
		Approximately 31 years (1979-2020)
	1.6	List the types of CCR that have been placed in the CCR surface impoundment.
		Bottom ash

Construction History	1.7	List name of the watershed within which the CCR surface impoundment is located.	
		Lake of Egypt-South Fork Saline River (HUC 051402040101)	
	1.8	Size in acres of the watershed within which the CCR surface impoundment is located.	
		21,766 acres	
	1.9	Check the corresponding box to indicate that you have attached the following:	
		☑	Description of the physical and engineering properties of the foundation and abutment materials on which the CCR surface impoundment is constructed.
		☑	Description of the type, size, range, and physical and engineering properties of the materials used in constructing each zone or stage of the CCR surface impoundment.
		☑	Describe the method of site preparation and construction of each zone of the CCR surface impoundment.
		☑	A listing of the approximate dates of construction of each successive stage of construction of the CCR surface impoundment.
		☑	Drawing satisfying the requirements of 35 Ill. Adm. Code 845.220(a)(1)(F).
		☑	Description of the type, purpose, and location of existing instrumentation.
		☑	Area capacity curves for the CCR Impoundment.
		☑	Description of each spillway and diversion design features and capacities and provide the calculations used in their determination.
		☑	Construction specifications and provisions for surveillance, maintenance, and repair of the CCR surface impoundment.
	1.10.1	Is there any record or knowledge of structural instability of the CCR surface impoundment?	
		☐ Yes	☑ No
	1.10.2	If you answered yes to Item 1.10.1, provide detailed explanation of the structural instability.	

SECTION 2: ANALYSIS OF CHEMICAL CONSTITUENTS (35 Ill. Adm. Code 845.230(d)(2)(B))

Constituents	2.1	Check the corresponding boxes to indicate you have attached the following:	
		☑	An analysis of the chemical constituents found within the CCR to be placed in the CCR surface impoundment.
		☑	An analysis of the chemical constituents of all waste streams, chemical additives and sorbent materials entering or contained in the CCR surface impoundment.

SECTION 3: DEMONSTRATIONS AND CERTIFICATIONS (35 Ill. Adm. Code 845.230(d)(2)(D))

Demonstrations

3.1 Indicate whether you have attached a demonstration that the CCR surface impoundment, as built, meets, or an explanation of how the CCR surface impoundments fails to meet, the location standards in the following sections:

35 Ill. Adm. Code 845.300 (Placement Above the Uppermost Aquifer)	☐	Demonstration	☑	Explanation
35 Ill. Adm. Code 845.310 (Wetlands)	☑	Demonstration	☐	Explanation
35 Ill. Adm. Code 845.320 (Fault Areas)	☑	Demonstration	☐	Explanation
35 Ill. Adm. Code 845.330 (Seismic Impact Zones)	☐	Demonstration	☑	Explanation
35 Ill. Adm. Code 845.340 (Unstable Areas and Floodplains)	☐	Demonstration	☑	Explanation

SECTION 4: ATTACHMENTS

Attachments

4.1 Check the corresponding boxes to indicate that you have attached the following:

☑	Evidence that the permanent markers required by 35 Ill. Adm. Code 845.130 have been installed.
☐	Documentation that the CCR surface impoundment, if not incised, will be operated and maintained with one of the forms of slope protection specified in 35 Ill. Adm. Code 845.430.
☑	Initial Emergency Action Plan and accompanying certification required by 35 Ill. Adm. Code 845.520(e).
☑	Fugitive dust control plan and accompanying certification required by 35 Ill. Adm. Code 845.500(b)(7).
☑	Preliminary written closure plan as specified in 35 Ill. Adm. Code 845.720(a).
☐	Initial written post-closure care plan as specified in 35 Ill. Adm. Code 845.780(d), if applicable.
☑	A certification as specified in 35 Ill. Adm. Code 845.400(h), or a statement that the CCR surface impoundment does not have a liner than meets the requirements of 35 Ill. Adm. Code 845.400(b) or (c).
☑	History of known exceedances of the groundwater protection standards in 35 Ill. Adm. Code 845.600, and any corrective action taken to remediate the groundwater.
☑	Safety and health plan, as required by 35 Ill. Adm. Code 845.530.
☑	For CCR surface impoundments required to close under 35 Ill. Adm. Code 845.700, the proposed closure priority categorization required by 35 Ill. Adm. Code 845.700(g).

SECTION 5: GROUNDWATER MONITORING

Groundwater

5.1 Check the corresponding boxes to indicate you have attached the following groundwater monitoring information:

☑	A hydrogeologic site characterization meeting the requirements of 35 Ill. Adm. Code 845.620.
☑	Design and construction plans of a groundwater monitoring system meeting the requirements of 35 Ill. Adm. Code 845.630.

Groundwater		☑	A groundwater sampling and analysis program that includes section of the statistical procedures to be used for evaluating groundwater monitoring data, required by 35 Ill. Adm. Code 845.640.
		☑	Proposed groundwater monitoring program that includes a minimum of eight independent samples for each background and downgradient well, required by 35 Ill. Adm. Code 845.650(b).
SECTION 6: CERTIFICATIONS			
Certifications	6.1	Check the corresponding boxes to indicate you have attached the following certifications:	
		☐	A certification that the owner or operator meets the financial assurance requirements of Subpart I, as required by 35 Ill. Adm. Code 845.230(d)(2)(N).
		☐	Hazard potential classification assessment and accompanying certifications required by 35 Ill. Adm. Code 845.440(a)(2).
		☐	Structural stability assessment and accompanying certification, required by 35 Ill. Adm. Code 845.450(c).
		☐	Safety factor assessment and accompanying certification, as required by 35 Ill. Adm. Code 845.460(b).
		☑	Inflow design flood control system plan and accompanying certification, as required by 35 Ill. Adm. Code 845.510(c)(3).

Southern Illinois Power Cooperative
Marion Plant

Initial Operating Permit Application - Pond 1/2

11-02-2026

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Document distribution

Southern Illinois Power Cooperative

Initial Operating Permit Application - Pond 1/2

11-02-2026

GLA21467997.4465

Prepared for

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Marion, IL 62959

Submitted to

Illinois Environmental Protection Agency

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Appendix K Safety and Health Plan

1. Introduction

Southern Illinois Power Cooperative (SIPC) owned and operated coal combustion residual (CCR) impoundments, known as Pond 1 and Pond 2, at the Marion Power Plant. Pond 1 and Pond 2 were formerly separated by a berm which was removed in 2021, therefore, Pond 1 and Pond 2 are currently considered one CCR surface impoundment (Pond 1/2). Pond 1/2 is inactive but has not yet completed an Illinois Environmental Protection Agency (IEPA) approved closure and is therefore subject to both 40 Code of Federal Regulations (CFR) Part 257 (until the United States Environmental Protection Agency (USEPA) approves the Illinois CCR program in lieu of Part 257), and the corresponding Title 35 of the Illinois Administration Code (IAC) Part 845 requirements. In accordance with the applicable provisions of 35 IAC 845.230(d), on behalf of SIPC, WSP USA Inc. (WSP) prepared this "Initial Operating Permit Application – Pond 1/2" (Application) for SIPC's CCR surface impoundment, Pond 1/2.

1.1 Background information

Pond 1/2 is located north of SIPC's Marion Power Plant and south of a former CCR landfill at 11543 Lake of Egypt Road, Marion, IL (Site, Figure 1). SIPC has owned and operated a coal-fired power plant at the Site since 1963. The Marion Power Plant property includes the Lake of Egypt, which it developed in 1962 to supply cooling water for plant operations. In the fall of 2020, SIPC closed Unit 4, an approximately 180-megawatt (MW) coal-fired unit. The Marion Power Plant still operates a smaller coal-fired unit (approximately 100-MW) and two natural gas units, both of which have limits of 1000 hours of operation per year.

Unit 123 was constructed in the early 2000s, repowering the existing steam turbine that had been powered by Units 1, 2, and 3. Units 1, 2, and 3 were 33 MW coal-fired cyclone generating units constructed in the 1960s. An additional 173 MW coal-fired unit (Unit 4) came online in 1978 and was shut down permanently in October 2020. A 109 MW circulating fluidized bed boiler provides steam to generating Unit 123. Marion Power Plant uses Illinois basin bituminous coal for Unit 123. Currently, all of the CCR generated from Unit 123 is handled dry and used for mine reclamation beneficial use off-site.

While in operation, prior Units 1, 2, and 3 generated fly ash and bottom ash. Former Unit 4 generated fly ash, bottom ash, and scrubber sludge. SIPC installed electrostatic precipitators at each of Units 1, 2, and 3 in 1975. Pond 1 (approximately 9-acre feet) and Pond 2 (approximately 15-acre feet) were originally constructed as two separate impoundments in 1979 (Figure 2). Historically, bottom ash from Units 1, 2, 3, and 4 was sluiced to Pond 1/2. The bottom ash was sold off-site for beneficial reuse. Pond 1/2 discharged to Pond 4 which discharges through permitted Wastewater Discharge Outfall 002.

1.2 Applicant organization

Consistent with the provisions of 35 IAC 845.230(d)(2), the Application has been prepared to address all applicable regulatory requirements of the initial operating permit for Pond 1/2. Following this Section 2.0

provides the history of construction specified in 35 IAC 845.220(a)(1). Section 3.0 is a compilation of, or description of inapplicability of, any additional documentation for the initial operating permit including:

- An analysis of the chemical constituents found within the CCR to be placed in the CCR surface impoundment 35 IAC 845.230(d)(2)(B);
- An analysis of the chemical constituents of all waste streams entering the CCR surface impoundment 35 IAC 845.230(d)(2)(C);
- Location Restrictions in accordance with 40 CFR 257.60 through 257.64 and 35 IAC 845.300 through 845.340 (Appendix A);
- Permanent marker installation in accordance with 40 CFR 257.73(a)(1) and 35 IAC 845.130 (Appendix B);
- Slope protection in accordance with 35 IAC 845.430;
- Emergency action plan in accordance with 40 CFR 257.73(a)(3) and 35 IAC 845.520 (Appendix C);
- Fugitive dust control plan in accordance with 35 IAC 845.500(b)(7) (Appendix D);
- Hydrogeologic Site Characterization in accordance with 35 IAC 845.620 (Appendix E);
- Design and construction plans for a groundwater monitoring program in accordance with 40 CFR 257.91 and 35 IAC 845.630 (Appendix F);
- Groundwater sampling and analysis program including statistical procedures in accordance with 40 CFR 257.93 and 35 IAC 845.640 (Appendix G);
- Proposed groundwater monitoring program in accordance with 40 CFR 257.98(a)(1) and 35 IAC 845.650(b) (Appendix H);
- Preliminary closure plan in accordance with 35 IAC 845.720 (Appendix I);
- Initial written post-closure plan in accordance with 35 IAC 845.780(d);
- Liner statement in accordance with 35 IAC 845.400(h) (Appendix J);
- History of known groundwater exceedances 35 IAC 845.230(d)(2)(M);
- Certification of financial assurance requirements of Subpart I;
- Hazard potential classification assessment in accordance with 35 IAC 845.440(a)(2);
- Structural stability assessment in accordance with 35 IAC 845.450(c);
- Safety factor assessment in accordance with 35 IAC 845.460(b);
- Inflow design flood control plan in accordance with 35 IAC 845.510(c)(3) (Appendix K);
- Safety and health plan in accordance with 35 IAC 845.530 (Appendix L); and
- Closure priority categorization required by 35 IAC 845.700(g).

2. History of construction

This section presents the design and construction history of Pond 1/2 in accordance with the construction-history requirements of 35 IAC 845.220(a)(1). The evaluation is based on information reasonably available to WSP at the time of preparation, including historical records and other relevant documentation relating to the CCR surface impoundment. Because certain historical records were unavailable or could not be verified, some information gaps remain. Known data gaps are identified where applicable.

2.1 Identifying information [845.220(a)(1)(A)]

The owner and operator of Pond 1/2 is SIPC, 11543 Lake of Egypt Road, Marion, Illinois 62959. The CCR surface impoundment is identified as Pond 1/2 and is located north of the Marion Plant generating facilities and south of the former CCR landfill (Figure 2).

2.2 Purpose, operational period, and CCR managed [845.220(a)(1)(B)]

Pond 1 and Pond 2 were constructed in 1979 to receive and manage sluiced bottom ash generated at the Marion Plant. The ponds functioned as incised bottom-ash impoundments and primary settling basins. Bottom-ash slurry was conveyed to the ponds through steel sluice pipes, and the ponds were reportedly operated alternately so that one pond could receive sluiced material while the other was drained and maintained. Settled bottom ash was periodically removed for beneficial use. Clarified water historically discharged from Pond 1 and Pond 2 through pipe culverts to Pond 4, which served as the final clarification pond prior to discharge to Little Saline Creek.

According to SIPC, Pond 1 and Pond 2 both ceased receiving bottom ash in 2020. In 2021, the ponds were dewatered, CCR was removed from the pond areas, the former separation berm between Pond 1 and Pond 2 was removed.

2.3 Watershed information [845.220(a)(1)(C)]

Pond 1/2 is located within the Lake of Egypt-South Fork Saline River watershed, which has a drainage area of 21,766 acres. The 12-digit hydrologic unit code (HUC) for this watershed is 051402040101 (USGS, 2025).

2.4 Foundation and abutment materials [845.220(a)(1)(D)]

The facility lies within the Central Mississippi River Valley between the New Madrid and Wabash Valley seismic zones. Based on historical borings, the Natural Resources Conservation Service (NRCS) Web Soil Survey, and published United States Geologic Survey (USGS) information, the foundation materials are anticipated to consist of Quaternary alluvial, colluvial, and eolian deposits consisting of combinations of silty clay, clayey silt, silty sand, and clayey sand over sedimentary bedrock that includes shale, sandstone, limestone, and coal-bearing strata (Hanson, 2019; Kleinfelder, 2012; NRCS, n.d.; USGS, 2019).

The former impoundments were reportedly constructed primarily by excavation, with localized earthen embankments along the perimeter. Based on available information, Pond 1/2 is considered an incised surface impoundment. SIPC also indicated that the units were not constructed over wet ash, slag, or other unsuitable materials. The construction materials, placement methods, compaction methods, and engineering properties of the embankment and foundation materials are not fully documented.

2.5 Construction materials and methods [845.220(a)(1)(E)]

Available 1962 Burns & McDonnell drawings show typical cross-sections for the outer embankments and the embankment separating Pond 1 from Pond 2 (Kleinfelder, 2012). The assessment reported historical upstream slopes of approximately 2H:1V to 2.5H:1V, a crest elevation of approximately 509.5 feet, and an approximately 12-foot-wide crest between the ponds. The source, physical or engineering properties, or placement and compaction methods for the embankment and pond materials are not known.

2.6 Detailed drawings and current configuration [845.220(a)(1)(F)]

Pond 1 and Pond 2 were incised impoundments with approximate crest elevations of 509.5 feet and approximate perimeter lengths of 1,300 feet each. Reported nominal storage capacities were approximately 9 acre-feet for Pond 1 and 15 acre-feet for Pond 2. The historical separating berm was approximately 12 feet wide. Under the current configuration, the separating berm has been removed, and the two areas are addressed as one CCR surface impoundment.

2.7 Instrumentation [845.220(a)(1)(G)]

Six monitoring wells and one staff gauge were installed in September 2025 as part of the groundwater monitoring system for Pond 1/2. Based on readily available information, no records were identified indicating that piezometers, inclinometers, settlement monuments, seepage monitoring devices, automated water-level monitoring equipment, or other embankment performance monitoring instrumentation were installed at Pond 1 or Pond 2.

2.8 Area-capacity curves [845.220(a)(1)(H)]

The reported approximate storage capacities are 9 acre-feet for Pond 1 and 15 acre-feet for Pond 2. Recent topography and bathymetric surveys are not currently available to develop an area-capacity curve for the ponds.

2.9 Spillways, diversions, inlets and outlets [845.220(a)(1)(I)]

Pond 1 received inflow through a steel sluice pipe near its southeastern corner and discharged through two outlet pipes near its northwestern corner. The upper pipe was reported as 12 inches in diameter and the lower pipe as 18 inches in diameter; each was approximately 50 feet long and discharged to Pond 4. Pond 2 received inflow through a steel sluice pipe near its southeastern corner and discharged through a single 12-inch-diameter steel pipe near its southwestern corner. That pipe was also approximately 50 feet long and discharged to Pond 4. No intake structures, gates, valves, trash racks, discharge channels, or emergency spillways were present in Pond 1 or Pond 2.

2.10 Construction specifications; surveillance, maintenance, and repair [845.220(a)(1)(J)]

According to SIPC, plant personnel performed informal routine visual observations of the ponds, but an impoundment-specific operation and maintenance manual and formal maintenance log have not been developed.

2.11 Modifications and closure-related activities

In 2021, the separation berm between Pond 1/2 was removed. The ponds were dewatered, and CCR was excavated from the pond areas; however, the quantities removed and excavation limits have not been fully documented. These activities were not completed under an IEPA-approved Part 845 closure construction permit. The preliminary anticipated closure method is closure by removal, subject to IEPA approval and verification of the prior CCR removal activities.

2.12 Structural instability [845.220(a)(1)(K)]

Available information reviewed for this Application did not identify a known history of structural instability associated with the former impoundments. SIPC reports no known major incidents or releases of impounded water associated with Pond 1 or Pond 2. The 2012 Kleinfelder report characterized the ponds as being in satisfactory overall condition during the May 25, 2011 site assessment. According to SIPC, subsequent visual assessments conducted following dewatering, CCR removal, and removal of the separation berm have likewise identified no significant structural concerns.

3. Required documentation

The section includes a brief discussion of the other documentation required by 35 IAC 845.230(d)(2) to be included in the Application.

3.1 Chemical composition of CCR [845.230(d)(2)(B)]

Pond 1/2 historically managed bottom ash. No analytical results are available from the bottom ash that was sluiced to Pond 1 or Pond 2. Currently, Pond 1/2 is inactive and, therefore, an analysis of the CCR to be placed in the CCR surface impoundment is not applicable.

3.2 Chemical composition of waste streams [845.230(d)(2)(C)]

Pond 1/2 is inactive with no current waste streams.

3.3 Location restriction documentation [845.230(d)(2)(D)]

35 IAC 845.230(d)(2) requires documentation that the CCR surface impoundment, as built, meets, or an explanation of how the CCR surface impoundment fails to meet, the location standards in sections 35 IAC 845.300, 845.310, 845.320, 845.330, and 845.340. The demonstration with respect to Pond 1/2 is included in the Location Restrictions Report provided in Appendix A.

3.4 Permanent marker installation [845.230(d)(2)(E)]

The permanent marker required by 35 IAC 845.130 was installed on October 21, 2026. Photographic proof of the installation of the permanent marker is provided in Appendix B. An identification number has not yet been assigned by IEPA. SIPC will place a permanent marker containing the IEPA identification number within 60 days of receipt of the identification number from IEPA.

3.5 Documentation of slope protection [845.230(d)(2)(F)]

35 IAC 845.230(d)(2) requires documentation that the CCR surface impoundment, if not incised, will be operated and maintained with one of the forms of slope protection specified in 35 IAC 845.430; however, as described in Section 2, Pond 1/2 is incised and, therefore, slope protection is not required.

3.6 Emergency action plan [845.230(d)(2)(G)]

The Initial Emergency Action Plan and the corresponding certification, prepared in accordance with 35 IAC 845.520(e), are provided in Appendix C.

3.7 Fugitive dust control plan [845.230(d)(2)(H)]

The Fugitive Dust Control Plan and the corresponding certification prepared, in accordance with 35 IAC 845.500(b)(7), are provided in Appendix D.

3.8 Hydrogeologic site characterization [845.230(d)(2)(I)(i)]

The Hydrogeologic Site Characterization prepared in accordance with 35 IAC 845.620 is provided in Appendix E.

3.9 Groundwater monitoring system design and construction [845.230(d)(2)(I)(ii)]

The groundwater monitoring system was designed and constructed according to the requirements of 35 IAC 845.630. The Design and Construction Report and corresponding certification are provided in Appendix F.

3.10 Groundwater sampling and analysis program [845.230(d)(2)(I)(iii)]

The groundwater Sampling and Analysis Plan prepared in accordance with 35 IAC 845.640, including the statistical procedures and corresponding certification, are provided in Appendix G.

3.11 Groundwater monitoring program [845.230(d)(2)(I)(iv)]

The proposed Groundwater Monitoring Program, prepared in accordance with 35 IAC 845.650, is provided in Appendix H.

3.12 Preliminary closure plan [845.230(d)(2)(J)]

Pursuant to 35 IAC 845.230(d)(2)(J), the Initial Operating Permit Application must include a Preliminary Written Closure Plan prepared in accordance with 35 IAC 845.720(a). The Preliminary Written Closure Plan for Pond 1/2 is provided in Appendix I and describes the anticipated closure method, closure activities, and preliminary schedule for closure of the CCR surface impoundment.

3.13 Post-closure plan [845.230(d)(2)(K)]

The proposed closure method for Pond 1/2 is closure by removal pursuant to 35 IAC 845.740. Accordingly, the post-closure care provisions applicable to closure with CCR remaining in place are not expected to apply. Groundwater monitoring and other requirements applicable following closure by removal will continue in accordance with 35 IAC 845.740 and the Agency-approved Closure Construction Permit. Therefore, an initial written post-closure care plan is not included at this time.

3.14 Liner documentation [845.230(d)(2)(L)]

35 IAC 845.230(d)(2) requires the certification specified in 35 IAC 845.400(h), or a statement that the CCR surface impoundment does not have a liner meeting the requirements of 35 IAC 845.400(b) or (c). As described in Section 2, Pond 1 and Pond 2 were constructed on natural material and does not have a liner that meets the requirements of 35 IAC 845.400(b) or (c). The certification from the qualified engineer attesting that this information is accurate is included in Appendix J.

3.15 History of known groundwater exceedances [845.230(d)(2)(M)]

35 IAC 845.230(d)(2) requires a discussion of known exceedances of groundwater protection standards listed in 35 IAC 845.600. A groundwater monitoring system was installed around Pond 1/2 in September 2025. Prior to this date, no groundwater monitoring was required or has been voluntary completed by SIPC. Prior to this Application, eight groundwater samples were collected from each of the newly installed groundwater monitoring wells to meet the background sampling requirements in 35 IAC 845.640(d). The results from the background sampling events are provided in the proposed Groundwater Monitoring Program (Appendix H). The ninth groundwater sampling event is scheduled for November 2026, and evaluation of the groundwater data is anticipated to be completed in January 2027. At that time, exceedances of the groundwater protection standards, if any are identified, will be reported to the Agency as required by 35 IAC 845.650(d).

3.16 Financial assurance [845.230(d)(2)(N)]

35 IAC 845.230(d)(2) requires a certification that the owner or operator meets the financial assurance requirements of Subpart I; however, SIPC is a not-for-profit electric cooperative that meets the exemption requirements of 35 IAC 845.900(e).

3.17 Hazard potential classification [845.230(d)(2)(O)]

35 IAC 845.230(d)(2) requires documentation that the owner or operator of a CCR surface impoundment, if not incised, must conduct initial and annual hazard potential classification assessments of the CCR surface impoundment, specified in 35 IAC 845.440; however, as described in Section 2, Pond 1/2 is incised and, therefore, these hazard potential classifications are not required.

3.18 Structural stability [845.230(d)(2)(P)]

35 IAC 845.230(d)(2) requires documentation that the owner or operator of a CCR surface impoundment, if not incised, conduct initial and annual structural stability assessments of the CCR surface impoundment, specified in 35 IAC 845.450; however, as described in Section 2, Pond 1/2 is incised and, therefore, these structural stability assessments are not required.

3.19 Safety factor assessment [845.230(d)(2)(Q)]

35 IAC 845.230(d)(2) requires documentation that the owner or operator of a CCR surface impoundment, if not incised, conduct an initial and annual safety factor assessment of the CCR surface impoundment, specified in 35 IAC 845.460; however, as described in Section 2, Pond 1/2 is incised and, therefore, these safety factor assessments are not required.

3.20 Inflow design flood control system plan [845.230(d)(2)(R)]

The Inflow Design Flood Control System Plan and the corresponding certification, prepared in accordance with 35 IAC 845.510(c)(3), are included in Appendix K.

3.21 Safety and health plan [845.230(d)(2)(S)]

The Safety and Health Plan prepared in accordance with 35 IAC 845.530 is included in Appendix L.

3.22 Proposed closure priority categorization [845.230(d)(2)(T)]

Pursuant to 35 IAC 845.230(d)(2)(T), the Initial Operating Permit Application for Pond 1/2 must include the proposed closure priority categorization required by 35 IAC 845.700(g). Accordingly, Pond 1/2 was evaluated against each of the closure priority categories established in Section 845.700(g).

- Category 1 applies to CCR surface impoundments that have caused impacts to an existing potable water supply well or impacts to groundwater quality within the setback zone of an existing potable water supply well. No information currently indicates that Pond 1/2 has caused impacts to an existing potable water supply well or within an applicable potable water supply setback zone.
- Category 2 applies to CCR surface impoundments that present an imminent threat to human health or the environment or that have otherwise been designated by IEPA. Based on the information currently available for Pond 1/2, no documented conditions were identified that demonstrate the existence of an imminent threat to human health or the environment. No information was identified indicating that IEPA has designated the impoundment as a Category 2 unit. Accordingly, Category 2 does not apply.

- Category 3 applies to CCR surface impoundments located within an environmental justice area as defined by Section 845.700(g). Based on the available information reviewed for this application, Pond 1/2 does not meet the criteria for Category 3.
- Category 4 applies to inactive CCR surface impoundments with exceedances of the groundwater protection standards established under 35 IAC Part 845.
- Category 5 applies to existing CCR surface impoundments with exceedances of groundwater protection standards. Pond 1/2 is an inactive CCR surface impoundment and therefore does not qualify for Category 5.
- Category 6 applies to inactive CCR surface impoundments that are in compliance with groundwater protection standards.
- Category 7 applies to existing CCR surface impoundments that are in compliance with groundwater protection standards. Pond 1/2 is an inactive CCR surface impoundment and therefore does not qualify for Category 7.

Pond 1/2 is an inactive CCR surface impoundment. However, the closure priority categorization cannot be finalized at this time because the groundwater monitoring program has not yet been completed and compliance with the groundwater protection standards has not been established. The ninth groundwater sampling event is scheduled for November 2026, and evaluation of the groundwater data is anticipated to be completed in January 2027. Because Pond 1/2 is inactive, the proposed closure-priority category is expected to be either Category 4 or Category 6, depending on the results of the groundwater protection standard evaluations. The proposed categorization will be updated following completion of that evaluation and submitted for Agency review, as applicable.

4. Closing

WSP has prepared this Initial Operating Permit Application for Pond 1/2 on behalf of SIPC and in accordance with the applicable requirements of 35 IAC 845.230(d). This Application compiles the available information regarding the history of construction, current site conditions, and supporting documentation for the CCR surface impoundment and identifies those requirements that are not applicable based on the unit's current configuration and status. Pond 1/2 is currently inactive and is proposed to be closed by removal in accordance with 35 IAC 845.740. The operating permit will be maintained until completion of the groundwater monitoring required under 35 IAC 845.740(b), three years after groundwater monitoring does not show an exceedance of the groundwater protection standard. According to 35 IAC 845.230(e), this operating permit will be renewed within five years.

5. References

Burns & McDonnel. 1962. As-built drawing, sheet 30.

Hanson Professional Services Inc. 2019. Emery Pond – Hydrogeologic Investigation Report, Marion Power Plant, Williamson County, Illinois. March 29. 2019.

Kleinfelder. 2012. Coal Ash Impoundment Site Assessment Draft Report: Pond 1/2 Bottom Ash Impoundments and Pond 4 Bottom Ash Impoundment, Southern Illinois Power Cooperative, Marion Power Station, Marion, Illinois. March, 20, 2012

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. n.d. Web Soil Survey. Available at: https://websoilsurvey.nrcs.usda.gov/. Accessed October 14, 2026.

Southern Illinois Power Cooperative. 2025. Testimony of Todd Gallenbach PowerPoint Demonstrative. SIPC Hearing Exhibit 49, Petition of Southern Illinois Power Cooperative for an Adjusted Standard from 35 Ill. Admin. Code Part 845 or, in the Alternative, a Finding of Inapplicability, AS 2021-006. Illinois Pollution Control Board. Electronically filed June 13, 2025.

U.S. Geological Survey. 2025. Watershed Boundary Dataset, 2025 Snapshot. Available at: https://www.usgs.gov/national-hydrography/watershed-boundary-dataset. Accessed October 14, 2026.



LEGEND

Approximate Waste Boundary of Pond 1/2

0 400 800

1 inch equals 400 ft

Feet

NOTE(S)

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: VANTOR
3. MONITORING LOCATIONS ARE BASED ON SURVEY BY INGENAE, LLC (OCTOBER 2025)

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

OPERATING PERMIT APPLICATION REPORT - POND 1/2

TITLE

SITE LAYOUT

CONSULTANT

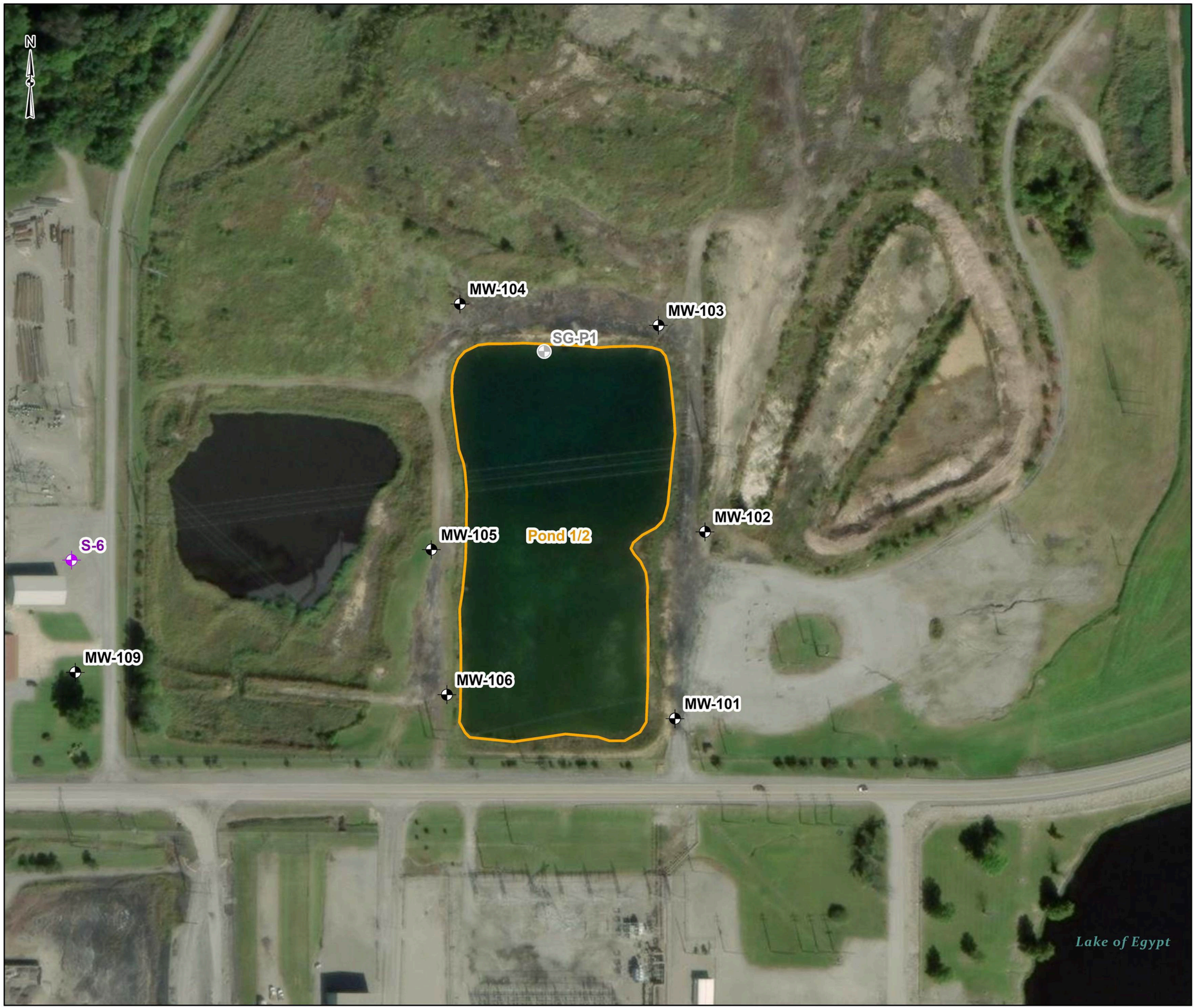
wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM, KAS
REVIEWED	DSC
APPROVED	JP

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	1

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- Monitoring Wells
- Staff Gauge
- Piezometer
- Approximate Waste Boundary of Pond 1/2

0 150 300

1 inch equals 150 ft

Feet

NOTE(S)

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: VANTOR
3. MONITORING LOCATIONS ARE BASED ON SURVEY BY INGENAE, LLC (OCTOBER 2025)

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

OPERATING PERMIT APPLICATION REPORT - POND 1/ 2

TITLE

GROUNDWATER MONITORING WELL LOCATION MAP

CONSULTANT

wsp

YYYY-MM-DD	10/16/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DSCF

PROJECT NO. CONTROL: GLA21467997.4465

REV.: -

FIGURE: 2

B:\Southern Illinois Power Cooperative\Marion Power Plant\99 PROJ\21467997 Operating Permit Application\0010 Site wide GWE\0010 site wide gwe.aprx

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Appendix A Location Restriction Documentation

Southern Illinois Power Cooperative

Location Restriction Report - Pond 1/2

November 02, 2026

GLA21467997.4465

Document distribution

Southern Illinois Power Cooperative

Location Restriction Report - Pond 1/2

November 02, 2026

GLA21467997.4465

Prepared for

Southern Illinois Power Cooperative
11543 Lake of Egypt Road
Marion, IL 62959

Submitted to

Illinois Environmental Protection Agency

Prepared by

WSP
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Figure 1 Project Location Map

Figure 2 Environmental Background Map

Figure 3 Nearby Mines

Figure 4 Well Location Map

Qualified Professional Engineer Certification

I certify that I have reviewed the location restriction evaluation for Pond 1/2 and that, to the best of my knowledge, information, and belief, the evaluation has been prepared in accordance with recognized and generally accepted good engineering practices and addresses the applicable location restriction requirements of 35 IAC 845.300 through 845.340 and 40 CFR 257.60 through 257.64.

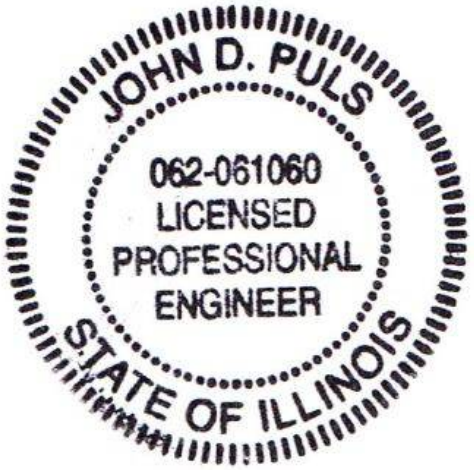
Based on my review of the information and analyses presented, I certify that the demonstrations and conclusions contained in this Location Restrictions Report meet the applicable requirements of 35 IAC 845.300 through 845.340 and 40 CFR 257.60 through 257.64.

Qualified Professional Engineer: John Puls

Illinois P.E. License No.: 062.061060

Signature: _____

Date: November 2, 2026



1. Introduction

WSP USA Inc. (WSP) on behalf of Southern Illinois Power Cooperative (SIPC) evaluated the location criteria and prepared this Location Restrictions Certification Report for the coal combustion residual (CCR) impoundments, known as Pond 1 and Pond 2, at the Marion Power Plant (Site). Pond 1 and Pond 2 were formally separated by a berm which was removed in 2021, therefore, Pond 1 and Pond 2 are currently considered one CCR surface impoundment (Pond 1/2). The CCR surface impoundment is subject to 40 Code of Federal Regulations (CFR) Part 257 (until the United States Environmental Protection Agency (USEPA) approves the Illinois CCR program in lieu of Part 257), and the corresponding Title 35 of the Illinois Administrative Code (IAC) Part 845. Pond 1/2 occupies an area of approximately 5.2-acres located at 11543 Lake Egypt Rd, Marion, Illinois (Latitude 37° 37’ 12.83” and Longitude -88° 57’ 8.64”, see Figure 1). The location of Pond 1/2 is shown on Figure 2.

2. Regulatory criteria

The purpose of this Location Restriction Certification Report is to provide demonstrations for the certification required by both 35 IAC 845.300 through 845.340 and 40 CFR 257.60 through 257.64. Location Restrictions include:

- 35 IAC845.300 / 40 CFR 257.60: Uppermost Aquifer
- 35 IAC 845.310 / 40 CFR 257.61: Wetlands
- 35 IAC 845.320 / 40 CFR 257.62: Fault Areas
- 35 IAC 845.330 / 40 CFR 257.63: Seismic Impact Zones
- 35 IAC 845.340 / 40 CFR 257.64: Unstable Areas
- 35 IAC 845.340 / 40 CFR 257.3-1, as applicable through §257.52(b): Floodplains.

3. Location restrictions

The following sections outline SIPC's ("owner"") requirements as presented in 35 IAC 845 Subpart C and 40 CFR 257 Subpart D, Location Restriction regulations.

3.1 Placement above the uppermost aquifer - 35 IAC 845.300 / 40 CFR 257.60

Available geologic, hydrogeologic, construction, and survey information was reviewed to evaluate the position of the base of Pond 1/2 relative to the upper limit of the uppermost aquifer. The evaluation included boring and monitoring well construction data, survey data, groundwater-elevation records, and hydrogeologic cross sections. The base elevation of Pond 1/2 was established using the surveyed pond-bottom elevation at the SG-P1 staff gauge supplemented by the reconstructed pre-development topographic surface. The upper limit of the uppermost aquifer was evaluated using the estimated seasonal-high groundwater elevation for the shallowest water-bearing unit, including consideration of normal seasonal groundwater fluctuations.

An appropriate groundwater monitoring zone, consisting of shallow groundwater within unconsolidated geologic materials above competent rock, was identified in the vicinity of Pond 1/2. Under the current conceptual site model, this zone is in close proximity and hydraulic connection to Pond 1/2 and represents a potential migration pathway for CCR constituents. Although this zone was not initially identified as meeting the definition of the uppermost aquifer, its upper limit was conservatively used to evaluate compliance with the location restriction.

Due to the age of Pond 1 and Pond 2 and uncertainty in historical activities, the precise bottom elevation of Pond 1/2 is unknown. However, based on information provided by SIPC, the bottom elevation is expected to be approximately 495 feet North American Vertical Datum of 1988 (NAVD88). The estimated seasonal-high elevation of the uppermost water-bearing zone is approximately 503 feet NAVD88. Therefore, the estimated base of Pond 1/2 is approximately 8 feet below the estimated upper limit of this water-bearing zone. Accordingly, Pond 1/2 does not satisfy the requirement that the case of the CCR surface impoundment be located at least 5 feet above the upper limit of the uppermost aquifer.

3.2 Wetlands and rare threatened and endangered species - 35 IAC 845.310 / 40 CFR 257.61, Illinois Endangered Species Protection Act [520 ILCS 10] and 40 CFR 257.3-2

WSP conducted a desktop analysis of the Pond 1/2 location to determine compliance with 35 IAC 845.310 and 40 CFR 257.61, which prohibits new and existing CCR surface impoundments from being

located in wetlands, Illinois Endangered Species Protection Act [520 ILCS 10] and 40 CFR 257.3-2. Under the Illinois Endangered Species Act it is unlawful to possess, take, transport, sell, offer for sale, give, or otherwise dispose of any state-listed animals. 40 CFR 257.3-2 prohibits solid waste disposal facilities or practices from causing or contributing to the taking of any threatened or endangered species or adversely affecting the critical habitat of any threatened or endangered species, as defined by the Endangered Species Act. Results of the desktop analysis are described below.

3.2.1 Aquatic resources

The potential presence of wetlands within the footprint of Pond 1 and Pond 2 was evaluated using information readily available through the United States Geological Survey (USGS) 7.5-minute topographic maps (USGS, n.d.), National Wetland Inventory (NWI; USFWS, n.d.), Natural Resources Conservation Service (NRCS) soil data (NRCS, n.d.), Federal Emergency Management Agency (FEMA) floodplain maps (FEMA, n.d.), and aerial imagery. The USGS 7.5-minute topographic maps identified Pond 1/2 as perennial lake/pond features. Pond 1/2 were identified as a palustrine, unconsolidated bottom, intermittently exposed, diked/impounded (PUBGh) feature by the National Wetland Inventory. The NRCS Soil Web Survey reports Pond 1 and Pond 2 as miscellaneous water (map unit symbol: M-W). Review of available USGS, NWI, NRCS, and historic aerial imagery resulted in the identification of no additional aquatic resources. Pond 1/2 were not located within a floodplain, as identified by the FEMA Flood Map Service Center.

3.2.2 Rare, threatened, and endangered Species

An Illinois Department of Natural Resources Ecological Compliance Assessment Tool (EcoCAT) report and a US Fish and Wildlife Service Information for Planning and Consultation (IPaC) species list were generated, on October 5, 2026, to determine the potential presence of any state or federally listed species at the Pond 1/2 location. The EcoCAT report indicated that no records of state-listed species or critical habitat are known to occur within the boundary of Pond 1/2. The IPaC results indicate five threatened, endangered, or candidate species potentially occur in the vicinity of the Project area, including the Gray bat (*Myotis grisescens*), Indiana bat (*Myotis sodalist*), Northern Long-eared bat (*Myotis septentrionalis*), Whooping crane (*Grus americana*), and Monarch butterfly (*Danaus Plexippus*). However, suitable habitat for these federally-listed species was not observed, therefore, no impacts are anticipated.

3.3 Fault areas - 35 IAC 845.320 / 40 CFR 257.62

35 IAC 845.320 and 40 CFR 257.62 prohibits the location of CCR surface impoundments to be located within 60 meters (200 feet) of a fault that has had displacement in Holocene time. WSP reviewed the Illinois State Geologic Survey Map of Structural Features (ISGS, 1995) and Pond 1/2 is not within 200 feet of known faults.

3.4 Seismic impact zones - 35 IAC 845.330 / 40 CFR 257.63

35 IAC 845.330 and 40 CFR 257.63 prohibits CCR surface impoundments from being located in seismic impact zones. A seismic impact zone means an area having a 2 percent (%) or greater probability that the maximum expected horizontal acceleration, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10 g (10% g) in 50 years. The USGS Seismic hazard map (Peterson et al., 2024) indicates that Pond 1/2 are located within a seismic impact zone.

3.5 Unstable areas and floodplains - 35 IAC 845.340 / 40 CFR 257.64

An existing CCR surface impoundment must not be located in an unstable area unless recognized and generally accepted engineering practices have been incorporated into its design to ensure that the integrity of its structural components will not be disrupted. At a minimum, the evaluation must consider: (1) on-site or local soil conditions that may result in significant differential settlement, including liquefaction; (2) on-site or local geologic or geomorphologic features; and (3) on-site or local human-made features or events, both surface and subsurface.

WSP reviewed available historical aerial imagery and topographic mapping, and available site-specific geologic, hydrogeologic, geotechnical, construction, inspection, structural-stability, and safety-factor information. The evaluation is organized below by the potentially destabilizing conditions identified for Pond 1/2.

3.5.1 Karst terrain

Karst terrain may include erosional and subsurface features formed by dissolution of limestone, dolomite, or other soluble rock, including sinkholes, collapsed shafts, sinking streams, caves, seeps, large springs, and blind valleys. WSP reviewed the Illinois State Geological Survey (ISGS) Karst Terrains and Carbonate Rocks of Illinois, Map 8 (Scale 1:1,000,000; Weibel et al., 1997), for evidence of karst-related features beneath or near Pond 1/2 and none were identified.

3.5.2 Mining

WSP reviewed the Illinois Department of Natural Resources (IDNR) *Illinois Mine Permits* (IDNR, n.d.) viewer and the ISGS *Coal Mines in Illinois Viewer* (ILMINES; IDNR, n.d.-a) to identify historical or active underground and surface mining beneath or near Pond 1/2. The review considered mapped mine boundaries, mine shafts, mine-shadow or subsidence areas, and available information concerning mine depth and status.

The IDNR Illinois Mine Permits viewer was reviewed as the primary source for mining information near Pond 1/2, supplemented by the ISGS Coal Mines in Illinois Viewer (ILMINES). Multiple points associated with inactive historical underground mining are mapped along the South Fork Saline River northeast of

Pond 1/2, with the nearest mapped points approximately 2,250 feet northeast of Pond 1/2 (Figure 3). These features are associated with inactive, pre-1932 mining and available information does not establish precise locations or purposes.

No mapped underground mine workings, mineshafts, or underground mine buffer areas were identified within the boundaries of Pond 1/2. Due to historical underground mine features being mapped in the vicinity of the site, with the nearest mapped mine locations approximately 2,250 feet northeast of Pond 1/2, underground mine buffer areas do occur within the operating limits northeast of Pond 1/2. Based on available mapping, mining and mine subsidence do not appear to represent an unstable-area concern for Pond 1/2.

3.5.3 Quarries

Available ISGS Directory of Illinois Mineral Producers and Maps of Extraction Sites (Circular 584; ISGS, n.d.-b), topographic mapping, aerial imagery, and site records were reviewed to identify active or abandoned quarries, aggregate pits, or similar excavations near Pond 1/2.

No active or abandoned quarries, aggregate pits, or similar excavations were identified within the review area. Therefore, excavation, blasting, dewatering, slope movement, or subsidence associated with quarrying or aggregate extraction are not expected to affect Pond 1/2. Accordingly, quarries and aggregate extraction do not appear to represent an unstable-area concern for Pond 1/2.

3.5.4 Oil / gas recovery wells or other human-made subsurface features

WSP reviewed the ISGS Illinois Oil and Gas Resources Interactive Map (ISGS, n.d.-c), available facility drawings, utility information, historical plans, and aerial imagery for oil or gas wells and other human-made surface or subsurface features capable of affecting foundation or embankment integrity. Features considered include groundwater monitoring wells MW-101 through MW-106 along the perimeter of Pond 1/2, background monitoring well MW-109 approximately 625 feet southwest of Pond 1 and 2, and a staff gauge near the northern border of Pond 1/2 (Figure 4). One oil and gas well (API No. 121990210400; Rendleman, E. No. 1) was identified approximately 1,050 feet south of Pond 1/2 (Figure 4). The well was completed on July 5, 1957, has a recorded total depth of 2,251 feet and is classified as “Dry and Abandoned, No Shows, Plugged”. Current SIPC personnel are not aware of the former presence of this well. The available mapping indicates that the well is not in the vicinity of Pond 1/2, near the southern side of the Marion Power Plant.

Pond 1 and Pond 2 were constructed primarily by excavation with embankments along their perimeters. Historical infrastructure included steel sluice pipes and three outlet pipes connecting the ponds to Pond 4. Pond 1 formerly discharged through 12-inch and 18-inch diameter outlet pipes, each approximately 50 feet long. Pond 2 discharged through an approximately 50 feet, 12-inch diameter outlet pipe. Available information did not identify buried utilities, former structures, or other human-made surface or subsurface features within the vicinity Pond 1/2 that would be expected to affect the stability of Pond 1/2.

The identified features include groundwater monitoring infrastructure, one plugged and abandoned oil and gas well located outside the Pond 1/2 boundary, and former pond inlet and outlet piping associated with historical operations. Based on the available information, these human-made surface and subsurface features do not appear to represent an unstable-area concern for Pond 1/2.

3.5.5 Liquefaction / differential settlement

Available geotechnical information was reviewed to evaluate whether soils near Pond 1/2 may be susceptible to liquefaction or significant differential settlement. The information reviewed included boring logs and geotechnical laboratory data obtained during the groundwater monitoring well installations. Most classified samples were identified as low-plasticity clay (CL), with fines contents generally ranging from approximately 67 to 97 percent (WSP, 2026). Several non-plastic samples with lower fines contents were also encountered.

The predominantly cohesive soils identified in the tested samples are expected to have relatively low susceptibility to conventional liquefaction. However, the non-plastic samples with lower fines contents may warrant further evaluation where they occur below the groundwater table. A site-specific liquefaction analysis has not been performed, and the available laboratory data alone are insufficient to determine liquefaction susceptibility throughout the Pond 1/2 area. A site-specific differential settlement evaluation has also not been performed.

3.5.6 Slope stability / poor foundation conditions

Pond 1/2 is an incised impoundment; therefore, the potential for instability is limited. Available geotechnical information from the groundwater monitoring well installations was reviewed for indications of potentially unsuitable foundation conditions. Laboratory testing indicates that many of the tested soil intervals consist of CL soil, although non-plastic and lower-fines materials were also encountered (WSP, 2026). No site-specific slope stability or bearing capacity analysis has been performed for Pond 1/2.

3.5.7 Floodplains

Pond 1/2 must not be located in a floodplain unless recognized and generally accepted engineering practices have been incorporated into the design to ensure that the CCR surface impoundment will not: (1) restrict the flow of the base flood; (2) reduce the temporary water-storage capacity of the floodplain; or (3) result in washout of CCR so as to pose a hazard to human life, wildlife, or land or water resources. A base flood is a flood having a 1-percent or greater annual chance of occurrence.

WSP reviewed the effective FEMA Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS) for the Site (FEMA, n.d.). Based on the effective mapping and surveyed unit location, Pond 1/2 is not located within the floodplain; therefore, the engineering demonstration applicable to a unit located within a floodplain is not required (Figure 2).

4. Summary of findings

The table below summarizes the location-restriction determinations for Pond 1/2. A finding of “Does Not Meet” identifies a location standard for which the available information does not establish compliance and for which this report provides the explanation required by 35 Ill. Adm. Code 35 IAC 845.230(d)(2)(D).

Location Restriction	Federal Citation	IEPA Citation	Finding
Uppermost Aquifer	40 CFR 257.60	35 IAC 845.300	Does Not Meet
Wetlands	40 CFR 257.61	35 IAC 845.310	Meets
Fault Areas	40 CFR 257.62	35 IAC 845.320	Meets
Seismic Impact Zones	40 CFR 257.63	35 IAC 845.330	Does Not Meet
Unstable Areas	40 CFR 257.64	35 IAC 845.340 (a) – (b)	Inconclusive
Floodplains	40 CFR 257.3-1 / 40 CFR 257.52 (b)	35 IAC 845.340 (c)	Meets

5. References

Federal Emergency Management Agency (FEMA), n.d. *Flood Insurance Rate Maps (FIRMs) and Flood Insurance Studies (FISs).* FEMA Flood Map Service Center. Accessed October 2026. FEMA Flood Map Service Center.

Illinois Department of Natural Resources (IDNR), n.d. *Illinois Mine Permits*. Office of Mines and Minerals, Land Reclamation Division, Accessed October 2026.

Illinois State Geological Survey (ISGS), 1995. *Structural Features - 1995* [GIS dataset]. ISGS GIS Database, GISDB_BEDGEO: IL_Structural_Features_1995. Illinois State Geological Survey, Champaign, Illinois.

ISGS, n.d.-a. *Coal Mines in Illinois Viewer* (ILMINES). Accessed October 2026.

ISGS, n.d.-b. *Aggregate-Mine* [GIS dataset]. Illinois State Geological Survey, Prairie Research Institute. Accessed October 2026.

ISGS, n.d.-c. *Illinois Oil and Gas Resources (ILOIL)* [interactive map]. Illinois State Geological Survey, Prairie Research Institute, Champaign, Illinois. Accessed October 2026.

U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS), n.d. *Web Soil Survey.* National Cooperative Soil Survey. Accessed October 2026. Web Soil Survey.

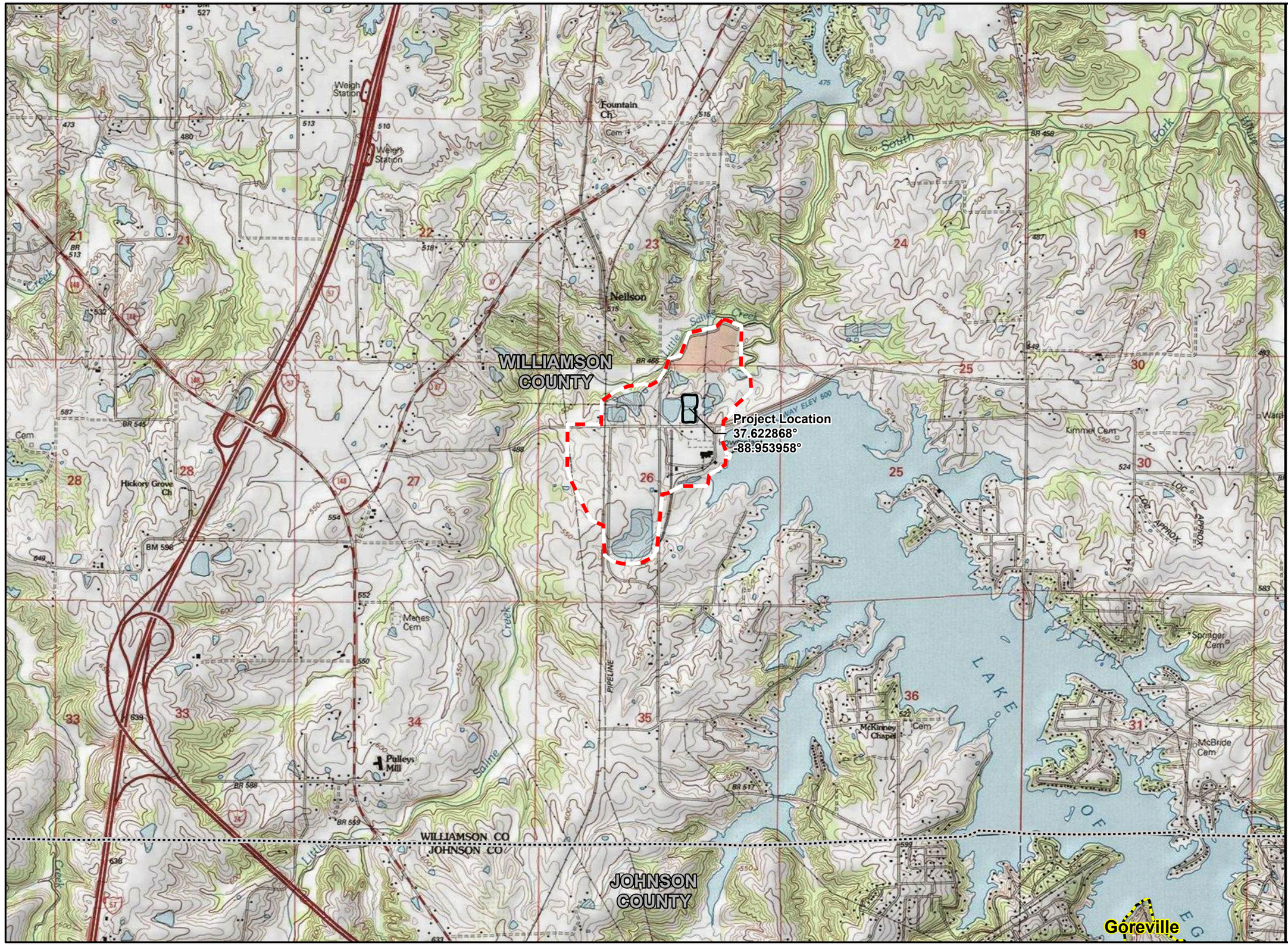
Petersen, M.D., A.M. Shumway, P.M. Powers, et al., 2024. *Data Release for the 2023 U.S. 50-State National Seismic Hazard Model - Overview*. U.S. Geological Survey data release. https://doi.org/10.5066/P9GNPCOD. Accessed October 2026.

United States Fish and Wildlife Service (USFWS), n.d. *National Wetlands Inventory (NWI), Wetlands Mapper.* U.S. Fish and Wildlife Service. Accessed October 2026. National Wetlands Inventory Wetlands Mapper.

United States Geological Survey (USGS), n.d. *USGS 7.5-Minute Topographic Maps*. U.S. Geological Survey, National Geospatial Program. Accessed October 2026. USGS topoView.

Weibel, C.P., and S.V. Panno, 1997. *Karst Terrains and Carbonate Rocks of Illinois*. Illinois State Geological Survey, Illinois Map 8 (IMAP 8), scale 1:500,000. Accessed October 2026.

WSP USA Inc. (WSP), 2026. Hydrogeologic Site Characterization Report – Pond 1/2, November 2, 2026.



LEGEND

- Approximate Operating Limit
- Apprroximate Limits of Pond 1/2
- City/Town
- County Boundary

ILLINOIS



0 1,000 2,000

1 IN =2,000 FT

DESIGNED BY			
DRAWN BY	M. Lamothe	10/13/2026	
CHECKED BY			
AS-BUILT BY			
	NAME	DATE	PHONE

SITE NAME:

WO#
MAT
WBS L2

Marion Plant
Williamson County, Illinois

DRAWING TITLE:

Project Location Map

DRAWING NO:

Figure 1



LEGEND

- Approximate Operating Limit
- Apprroximate Limits of Pond 1 and Pond 2
- 3DHP Flowline
- 3DHP Waterbody
- Wetland - NWI
- 100-Year Floodplain
- Local Road



0 100 200

1 IN =200 FT

DESIGNED BY			
DRAWN BY	M. Lamothe	10/13/2026	
CHECKED BY			
AS-BUILT BY			
	NAME	DATE	PHONE

SITE NAME:

WO#
MAT
WBS L2

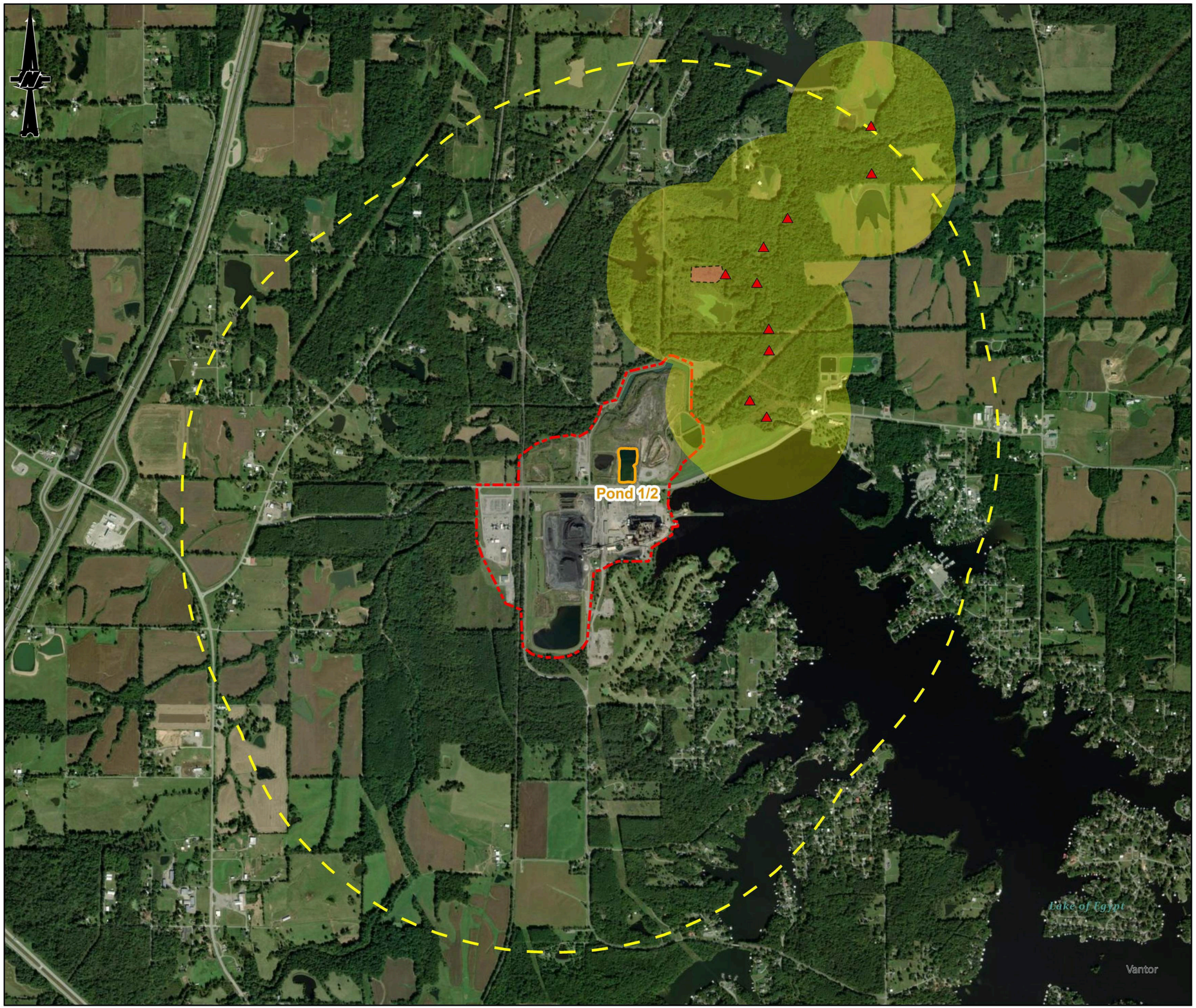
Marion Plant
Williamson County, Illinois

DRAWING TITLE:

Environmental Background Map

DRAWING NO:

Figure 2



LEGEND

- Approximate Location of Underground Mine
- 500-ft Mine Buffer
- General Area of Mining
- 1-Mile Buffer Around Operating Limits
- Approximate Limits of Pond 1/2
- Approximate Operating Limits

0 0.25 0.5

1 inch equals 1,753 ft Miles

NOTE(S)

1. ABANDONED AND ACTIVE COAL MINE FEATURES WERE REVIEWED USING THE ILLINOIS STATE GEOLOGICAL SURVEY (ISGS) COAL MINE VIEWER.
2. ISGS APPLIES A 500-FOOT BUFFER AROUND MAPPED MINE FEATURES TO ACCOUNT FOR POTENTIAL MAPPING INACCURACIES.
3. THE UNDERGROUND MINE FEATURES NEAR POND 1/2 PREDATE 1932 AND ARE THEREFORE CONSIDERED APPROXIMATE IN LOCATION.

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. WORLD IMAGERY: VANTOR
3. ILLINOIS STATE GEOLOGICAL SURVEY COAL MINE VIEWER

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

LOCATION RESTRICTION REPORT - POND 1/2

TITLE

NEARBY MINES

CONSULTANT

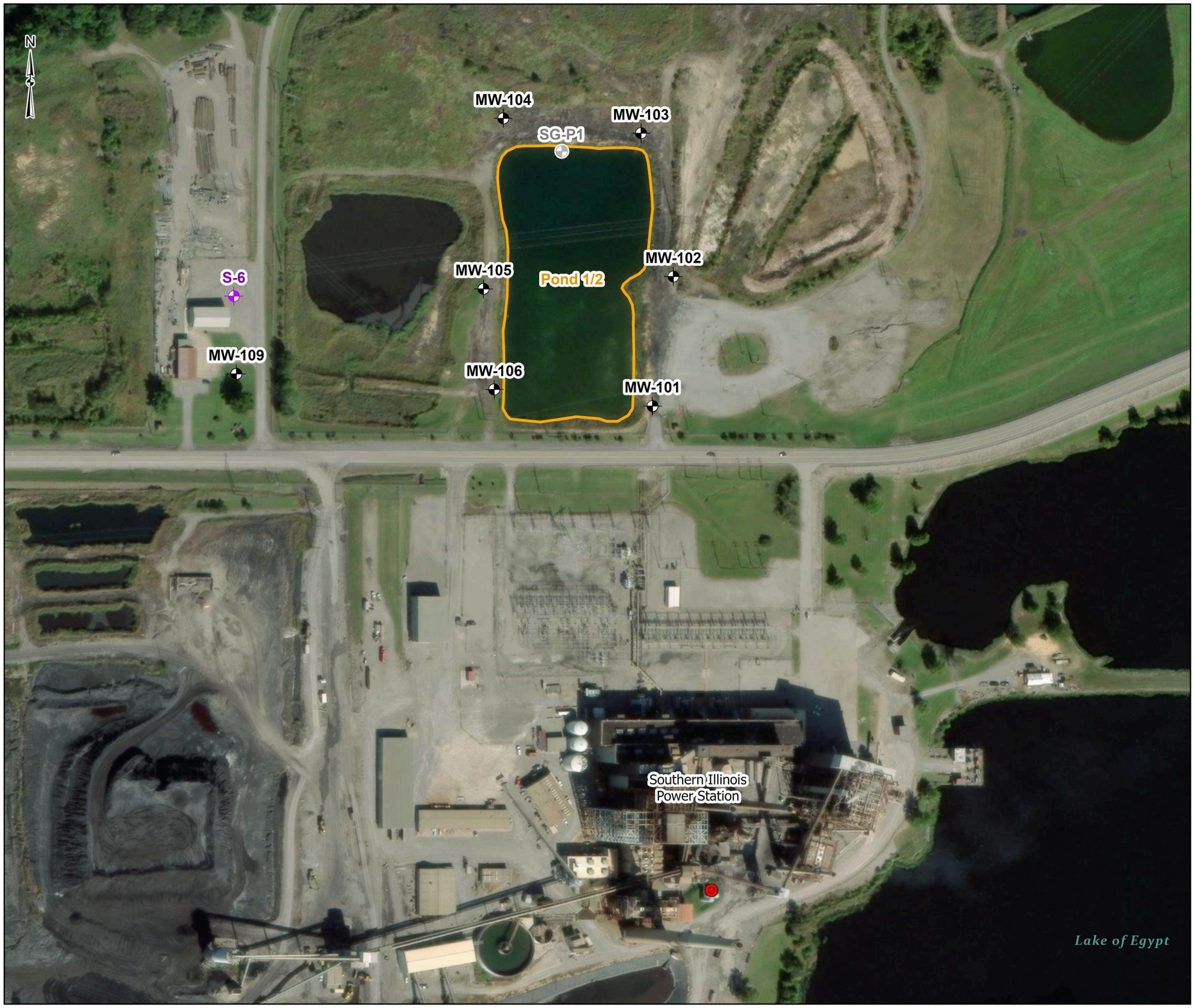
wsp

MM-DD-YYYY	10/22/2026
DESIGNED	JV
PREPARED	NC
REVIEWED	DCS
APPROVED	JP

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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LEGEND

- Monitoring Wells
- Staff Gauge
- Piezometer
- Abandoned and Plugged Oil Exploration Well
- Approximate Waste Boundary of Pond 1/2

0 216 432

1 inch equals 216 ft

Feet

NOTE(S)

1. ABANDONED OIL EXPLORATION WELL WAS DRILLED TO A TOTAL DEPTH OF 2,251 FEET AND PLUGGED IN 1957, BASED ON ISGS OIL AND GAS RESOURCES RECORDS.

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: VANTOR
3. MONITORING LOCATIONS ARE BASED ON SURVEY BY INGENAE, LLC (OCTOBER 2025)
4. OIL WELL LOCATION IS BASED ON ISGS OIL AND GAS RESOURCES.

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

LOCATION RESTRICTION REPORT - POND 1/2

TITLE

WELL LOCATION MAP

CONSULTANT

wsp

YYYY-MM-DD	10/22/2026
DESIGNED	JV
PREPARED	NC
REVIEWED	DCS
APPROVED	JP

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

B:\Southern Illinois Power Cooperative\Marion Power Plant\99 PROJ\GLA21467997 Operating Permit Application\0010 Site wide GWE.0010 site wide one acre

wsp.com

Appendix B Proof of Permanent Marker Installation

APPENDIX B
PROOF OF MARKER INSTALLATION



APPENDIX B
PROOF OF MARKER INSTALLATION



Appendix C Emergency Action Plan

Southern Illinois Power Cooperative

Emergency Action Plan - Pond 1/2

November 02, 2026

GLA21467997.4465

Document distribution

Southern Illinois Power Cooperative

Emergency Action Plan - Pond 1/2

November 02, 2026

GLA21467997.4465

Prepared for

Southern Illinois Power Cooperative
11543 Lake of Egypt Road
Marion, IL 62959

Submitted to

Illinois Environmental Protection Agency

Prepared by

WSP
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Suite 103
Merrimack, NH 03054
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3.	**Responsible persons and notification procedures**	**6**
4.	**Emergency responders**	**7**
5.	**Map and potentially affected area**	**8**
6.	**Annual meetings**	**9**
7.	**Plan review and amendment**	**10**
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Table 1.1 Responsible Persons and Contact Information
Table 2.1 Local Agencies
Table 2.2 State Agencies
Table 2.3 Federal Agencies

Figure 1 Pond 1/2 Emergency Action Plan Map

Qualified Professional Engineer Certification

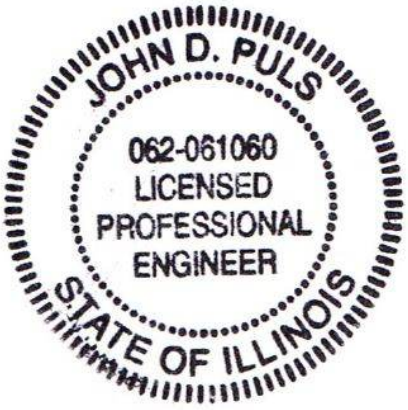
I certify that I have reviewed this Emergency Action Plan for Pond 1/2 and that the Emergency Action Plan has been prepared in accordance with recognized and generally accepted engineering practices and meets the applicable requirements of 35 IAC 845.520.

Qualified Professional Engineer: Illinois P.E. License No.: John Puls

062.061060

Signature:

Date: November 2, 2026



1. Background

Southern Illinois Power Cooperative (SIPC) owns and operates the Marion Plant located at 11543 Lake of Egypt Road in Marion, Illinois. Pond 1 and Pond 2 were constructed in 1979 and historically operated as separate coal combustion residual (CCR) surface impoundments used to receive and manage sluiced bottom ash generated at the Marion Plant. The impoundments functioned as incised bottom-ash impoundments and primary settling basins. Settled bottom ash was periodically removed for beneficial use.

Pond 1 and Pond 2 ceased receiving bottom ash in 2020. In 2021, the impoundments were dewatered, CCR was removed from the pond areas, the former separation berm between Pond 1 and Pond 2 was removed. Following removal of the separation berm, the two former pond areas are considered one CCR surface impoundment and are referred to herein as Pond 1/2.

Pond 1/2 is currently inactive and does not receive CCR or other waste streams. Although CCR removal activities were conducted in 2021, those activities were not completed pursuant to an Illinois Environmental Protection Agency (IEPA)-approved closure construction permit under Title 35 of the Illinois Administrative Code (35 IAC) Part 845. Therefore, Pond 1/2 has not completed closure under Part 845 and remains subject to the applicable requirements of Part 845. The preliminary anticipated closure method for Pond 1/2 is closure by removal in accordance with 35 IAC 845.740, subject to IEPA approval.

This Emergency Action Plan (EAP) has been prepared in accordance with 35 IAC 845.520. The purpose of this EAP is to establish procedures for identifying and responding to a safety emergency associated with Pond 1/2; identify the SIPC personnel responsible for implementing those procedures; establish appropriate notification procedures for emergency responders and governmental agencies; and provide for coordination between SIPC and local emergency responders.

2. Safety emergency

A safety emergency associated with Pond 1/2 would be represented by an event or condition that results in, or has the potential to result in, an uncontrolled release of water, sediment, CCR, or CCR-impacted material from Pond 1/2 that could adversely affect human health, property, or the environment.

Potential conditions that may constitute or indicate a safety emergency include, but are not necessarily limited to:

- an uncontrolled release of accumulated water, sediment, CCR, or CCR-impacted material from Pond 1/2;
- unexpected accumulation of water resulting in overtopping or uncontrolled discharge from Pond 1/2;
- significant erosion, settlement, cracking, slope movement, sinkhole development, or other physical conditions that could result in loss of containment;
- failure or blockage of temporary or permanent stormwater or water-management features associated with Pond 1/2;
- conditions encountered during closure activities that could result in an uncontrolled release of CCR, CCR-impacted material, sediment, or accumulated water; or
- another condition determined by SIPC or a qualified professional engineer to present an actual or imminent threat to human health, property, or the environment.

Potential safety emergencies will be identified through observations by SIPC personnel, inspections conducted in accordance with applicable Part 845 requirements, observations made by contractors during closure or other activities at Pond 1/2, and reports received from other persons.

If a condition is observed that may constitute a safety emergency, the condition shall be immediately reported to the SIPC individual designated as responsible for implementation of this EAP. SIPC will evaluate the observed condition and, as appropriate, initiate the notification and response procedures described in this EAP.

If an observed condition presents an immediate threat to human life or property, emergency responders shall be contacted immediately by calling 911.

3. Responsible persons and notification procedures

In the event of a safety emergency, the situation shall be immediately reported to the SIPC individual designated as the EAP Coordinator. The EAP Coordinator, or their designated alternate, shall evaluate the condition and initiate the appropriate response and notification procedures. The EAP Coordinator shall notify appropriate SIPC supervisory personnel and emergency responders and shall report the safety emergency to applicable Local, State, and Federal government agencies, as appropriate.

Table 1.1: Responsible Persons and Contact Information

Name	Title	Phone Number
James J. Webb	Director of Environmental & Legislative Services	(618) 964-2268 (618) 889-5206
Jason A. McLaurin	Environmental Coordinator	(618) 964-2446 (618) 889-8647
Daniel Theis	Coal Handling Supervisor (EAP Coordinator)	(618) 964-2570 (618) 697-1971

4. Emergency responders

Table 2.1: Local Agencies

Agency	Phone Number
Emergency – Fire, Police, Medical	911
Williamson county Emergency Management Agency	(618) 993-2323
Williamson County Sheriff	(618) 997-6541
Lake of Egypt Fire Department	(618) 964-1278

Table 2.2: State Agencies

Agency	Phone Number
Illinois Emergency Management Agency	(618) 997-2123
Illinois Environmental Protection Agency	(217) 782-3397

Table 2.3: Federal Agencies

Agency	Phone Number
National Weather Service	(314) 946-7610
Corps of Engineers St. Louis, MO	(314) 263-5703
United States Environmental Protection Agency (Chicago, IL)	Business Hours: (708) 353-2102 After Hours: (708) 353-2318

5. Map and potentially affected area

Pond 1 and Pond 2 are incised CCR surface impoundments. Because the ponds are incised, an inundation map identifying areas potentially affected by a failure of the impoundment has not been developed.

6. Annual meetings

Representatives of SIPC shall conduct an annual face-to-face meeting or exercise with local emergency responders in accordance with 35 IAC 845.520(b)(5).

The meeting or exercise will provide an opportunity to:

- review the purpose and procedures of this EAP;
- familiarize emergency responders with Pond 1/2 and access to the Site;
- review the types of safety emergencies that could potentially occur;
- review notification and communication procedures;
- discuss the roles and responsibilities of SIPC and emergency responders; and
- identify changes or improvements that should be incorporated into the EAP.

SIPC shall document each annual meeting or exercise. Documentation shall include, at a minimum, the date of the meeting or exercise, participating organizations, subjects discussed, and any recommended changes to the EAP.

Records of the annual meetings or exercises shall be maintained in accordance with the applicable requirements of 35 IAC 845.520(g).

7. Plan review and amendment

SIPC shall evaluate this EAP at least once every five years to ensure that the information and procedures contained herein remain accurate and appropriate for Pond 1/2.

The EAP shall also be reviewed when conditions at Pond 1/2 change in a manner that could substantially affect the procedures established in this Plan. Such changes may include, as applicable:

- changes to the physical configuration of Pond 1/2;
- commencement or completion of closure activities;
- changes to stormwater or water-management features;
- changes to potential release pathways;
- changes to responsible SIPC personnel;
- changes to emergency responder contact information; or
- information obtained from an actual emergency, inspection, annual meeting, or emergency exercise indicating that revisions are warranted.

When a change in conditions substantially affects the EAP, SIPC shall amend the Plan in accordance with 35 IAC 845.520.

Any amendment to this EAP shall be certified by a qualified professional engineer as required by 35 IAC 845.520.

8. Recordkeeping and notification

SIPC shall maintain the current EAP and associated documentation in the facility operating record in accordance with the applicable requirements of 35 IAC Part 845.

If a safety emergency requiring implementation of this EAP occurs, SIPC shall document the event. The documentation should include, as applicable:

- the date and time the condition was identified;
- a description of the safety emergency;
- the location and nature of the condition;
- the person who identified the condition;
- SIPC personnel notified;
- emergency responders and governmental agencies notified;
- response and corrective actions implemented;
- observations regarding any release or affected area;
- the date and time the emergency condition was determined to have ended; and
- follow-up actions or modifications to the EAP determined to be necessary.

Documentation associated with implementation of the EAP shall be submitted to IEPA and maintained in the operating record as required by 35 IAC 845.520 and other applicable provisions of Part 845.

The current EAP and other records required to be made publicly available shall be posted to SIPC's publicly accessible internet site in accordance with the applicable requirements of 35 IAC 845.800 and 845.810.

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Appendix D Fugitive Dust Control Plan

Southern Illinois Power Cooperative

Fugitive Dust Plan – Pond 1/2

November 02, 2026

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Document distribution

Southern Illinois Power Cooperative

Fugitive Dust Plan – Pond 1/2

November 02, 2026

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Prepared for

Southern Illinois Power Cooperative
11543 Lake of Egypt Road
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Submitted to

Illinois Environmental Protection Agency

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Qualified Professional Engineer Certification

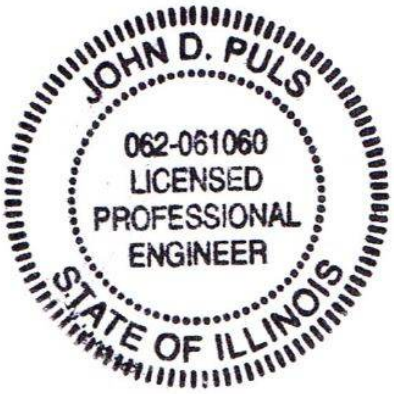
I certify that I have reviewed this Fugitive Dust Control Plan for Pond 1/2 and that this Fugitive Dust Control Plan has been prepared consistent with recognized and generally accepted engineering practices and is structured to meet the applicable requirements of 35 IAC 845, including Section 845.720(a) and 40 CFR 257 including Section 257.80(d).

Qualified Professional Engineer: John Puls

Illinois P.E. License No.: 062.061060

Signature: _____

Date: November 2, 2026



1. Background

Southern Illinois Power Cooperative (SIPC) owns and operates the Marion Plant located at 11543 Lake of Egypt Road in Marion, Illinois. Pond 1 and Pond 2 were constructed in 1979 and historically operated as separate coal combustion residual (CCR) surface impoundments used to receive and manage sluiced bottom ash generated at the Marion Plant. The impoundments functioned as incised bottom-ash impoundments and primary settling basins. Settled bottom ash was periodically removed for beneficial use.

Pond 1 and Pond 2 ceased receiving bottom ash in 2020. In 2021, the impoundments were dewatered, CCR was removed from the pond areas, the former separation berm between Pond 1 and Pond 2 was removed. Following removal of the separation berm, the two former pond areas are considered one CCR surface impoundment and are referred to herein as Pond 1/2. Pond 1/2 is currently inactive and does not receive CCR or other waste streams.

Pond 1/2 is subject to 40 Code of Federal Regulations (CFR) Part 257 [until the United States Environmental Protection Agency (USEPA) approves the Illinois CCR program to operate in lieu of Part 257], and the corresponding Illinois Environmental Protection Agency (IEPA) Title 35 of the Illinois Administrative Code (IAC) Part 845. This Fugitive Dust Control Plan (FDCP or Plan) has been prepared in accordance with 35 IAC 845.500 and 40 CFR 257.80.

Both 35 IAC 845.500 and 40 CFR 257.80 establish requirements for controlling CCR fugitive dust at CCR units, roads, and other CCR management and material-handling activities. The requirements include preparation and implementation of a CCR fugitive dust control plan, procedures for logging citizen complaints, periodic assessment of the effectiveness of the plan, and preparation of periodic reports describing actions taken to control CCR fugitive dust.

The purpose of this FDCP is to identify measures that SIPC will use, as applicable, to minimize CCR from becoming airborne at Pond 1/2; establish procedures for documenting and responding to public complaints involving CCR fugitive dust; and establish procedures for periodically assessing the effectiveness of the Plan.

Because Pond 1/2 is inactive, does not currently receive CCR or other waste streams, and CCR was previously removed from the pond areas, routine CCR handling activities that could generate fugitive dust do not currently occur at Pond 1/2. Accordingly, under current conditions, the potential for CCR fugitive dust is limited. However, closure of Pond 1/2 has not been completed under Part 845. Fugitive dust control measures may therefore be necessary if CCR or CCR-impacted material is encountered, excavated, handled, temporarily stored, loaded, transported, or otherwise disturbed during investigation or closure activities. This FDCP establishes the measures that will be implemented, as appropriate, during such activities.

2. Fugitive dust control measures

The primary means of controlling CCR fugitive dust associated with Pond 1/2 will be maintaining adequate moisture in CCR or CCR-impacted material that is disturbed during closure or other activities. Under current inactive conditions, no routine excavation, handling, loading, transportation, or placement of CCR occurs at Pond 1/2. Therefore, active fugitive dust control measures are not anticipated to be necessary during normal site conditions. If CCR or CCR-impacted material is encountered or disturbed during closure or other activities, SIPC will implement appropriate fugitive dust control measures based on the nature of the activity and observed site conditions. Such measures may include, as applicable:

- applying water to CCR, CCR-impacted material, exposed surfaces, temporary storage areas, or travel surfaces to maintain adequate moisture and minimize airborne dust;
- minimizing unnecessary handling or rehandling of CCR or CCR-impacted material;
- minimizing drop heights during excavation, loading, unloading, or material transfer;
- limiting the size and duration of exposed areas containing CCR or CCR-impacted material;
- stabilizing disturbed areas when active work has been completed;
- controlling vehicle speeds on unpaved roads or work areas associated with CCR handling;
- removing accumulated CCR or CCR-impacted material from roadways and work areas, as necessary;
- covering or otherwise controlling CCR or CCR-impacted material during transportation, as applicable; and
- modifying or temporarily suspending dust-generating activities if visible fugitive dust cannot be adequately controlled.

The specific control measures implemented will depend on the activity being performed, the condition and moisture content of the material, weather conditions, and the potential for CCR fugitive dust to migrate beyond the immediate work area. If fugitive dust is observed during closure or other activities involving CCR or CCR-impacted material, SIPC or its contractor will take appropriate corrective measures to mitigate the observed dust. Additional water or other appropriate dust-control measures will be applied, work practices will be modified, or the activity will be temporarily suspended, as necessary, until fugitive dust is adequately controlled.

3. Procedures for logging public complaints

SIPC may receive complaints involving CCR fugitive dust by telephone, mail, or other established means of communication. Any complaint involving potential CCR fugitive dust associated with Pond 1/2 will be documented in a complaint log. Upon receipt of a complaint, SIPC's Environmental Department or other designated personnel will evaluate the complaint and determine whether fugitive dust control measures are functioning appropriately or whether additional corrective measures are necessary. Complaint records will be maintained in the facility operating record in accordance with the applicable requirements of 35 IAC Part 845 and 40 CFR Part 257. SIPC will submit reports concerning CCR fugitive dust complaints to IEPA in accordance with the applicable reporting requirements of 35 IAC 845.500.

4. Procedures for assessing the effectiveness of this Plan

SIPC's Environmental Department or other designated personnel will periodically assess the effectiveness of this FDCP. Because Pond 1/2 is inactive and routine CCR handling does not currently occur, assessment under existing conditions will consist primarily of observations made during applicable site inspections and review of any public complaints involving potential CCR fugitive dust. During closure or other activities involving excavation, handling, temporary storage, loading, transportation, or disturbance of CCR or CCR-impacted material, SIPC or its designated contractor will visually observe the work areas to evaluate the effectiveness of the fugitive dust control measures being implemented. Observations conducted during active closure activities will be documented in an inspection log or other appropriate project record. If observations or public complaints indicate that the fugitive dust control measures being implemented are inadequate, SIPC will take appropriate corrective measures. SIPC will periodically review the observations, complaint records, and corrective actions to determine whether the measures identified in this Plan remain effective for controlling CCR fugitive dust.

5. Plan review and amendment

SIPC will review this Fugitive Dust Control Plan when conditions or activities associated with Pond 1/2 change in a manner that could substantially affect the written Plan.

Conditions that may warrant review or amendment of the Plan include, as applicable:

- commencement of closure construction activities;
- changes to the anticipated closure method or construction sequence;
- identification of CCR or CCR-impacted material requiring excavation or handling;
- changes to temporary storage or material-handling procedures;
- repeated observations of fugitive dust;
- public complaints indicating that existing control measures may be inadequate; or
- changes to applicable regulatory requirements.

If changed conditions substantially affect the written Plan, SIPC will amend the Fugitive Dust Control Plan in accordance with 35 IAC 845.500 and 40 CFR 257.80. Any amendment to this Plan will be certified by a qualified professional engineer as required by 35 IAC 845.500 and 40 CFR 257.80.

6. Recordkeeping and reporting

SIPC will maintain the current FDCP and associated records in the facility operating record. Records associated with implementation of this Plan may include, as applicable:

- public complaint logs;
- documentation of complaint investigations;
- inspection or observation records;
- documentation of corrective measures;
- records of fugitive dust control measures implemented during closure activities;
- amendments to this Plan; and
- required fugitive dust reports.

SIPC will prepare and submit the required reports concerning CCR fugitive dust in accordance with 35 IAC 845.500 and 40 CFR 257.80. The FDCP and other records required to be made publicly available will be posted to SIPC's publicly accessible internet site in accordance with the applicable requirements of 35 IAC 845.800 and 845.810 and 40 CFR 257.106 and 257.107.

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Appendix E Hydrogeologic Characterizations

Southern Illinois Power Cooperative

Hydrogeologic Site Characterization - Pond 1/2

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Document distribution

Southern Illinois Power Cooperative

Hydrogeologic Site Characterization - Pond 1/2

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Prepared for

Southern Illinois Power Cooperative
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Submitted to

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Attachment D Field Hydraulic Conductivity Reports

1. Introduction

This Hydrogeologic Site Characterization was prepared for Southern Illinois Power Cooperative's (SIPC's) Coal Combustion Residual (CCR) surface impoundment, Pond 1/2, at the Marion Power Plant in Marion, Illinois (Site). The CCR surface impoundment is subject to 40 Code of Federal Regulations (CFR) Part 257 [until the United States Environmental Protection Agency (USEPA) approves the Illinois CCR program to operate in lieu of Part 257], and the corresponding Illinois Environmental Protection Agency (IEPA) Title 35 Illinois Administrative Code (IAC) Part 845. Pond 1 and Pond 2 were formally separated by a berm which was removed in 2021, therefore, Pond 1 and Pond 2 are currently considered one CCR surface impoundment, referred to herein as Pond 1/2. The regulated unit and associated approximate waste boundary are show in Figure 1. This Hydrogeologic Site Characterization was prepared to address the requirements of 35 IAC § 845.620 and based on historical site information, subsurface investigations, monitoring well installation data, and literature review to characterize the Site geology, hydrogeologic conditions, and groundwater flow.

2. September 2025 site investigation

In September 2025, WSP completed the hydrogeologic field investigation in the vicinity of Pond 1/2, herein referred to as the “September 2025 Site Investigation” or “Site Investigation”, to characterize Site-specific subsurface conditions and support development of the proposed groundwater monitoring system. The investigation included advancement of soil borings at monitoring well locations MW-101 through MW-106 and MW-109, continuous collection and logging of subsurface materials by a qualified geologist, and installation of monitoring wells within identified saturated geologic materials. Field observations included, but were not limited to, lithologic descriptions, material conditions, changing of geologic materials with depth, drilling response, and drilling refusal.

Selected intervals were sampled for geotechnical and environmental laboratory analyses to further characterize the physical and chemical properties of the subsurface materials. Geotechnical sample intervals were selected to characterize distinct geologic materials encountered during drilling and, where practicable, similar materials across multiple boring locations to evaluate spatial variability. Environmental soil samples were generally collected from the corresponding interval to provide chemical characterization of the identified geologic materials.

Data collected during the September 2025 Site Investigation and subsequent data collection efforts (i.e. slug testing) are proved herein. Investigation locations are shown in Figure 1, and the resulting geologic, geotechnical, analytical and well-construction information is provided in Tables 1 through 4. Supporting boring logs and laboratory documentation are provided in Attachments A through C. The results of Site Investigation provide the primary Site-specific dataset used to characterize the geology and hydrostratigraphy in the vicinity of Pond 1/2 and to refine the conceptual site model (CSM) presented in the following sections.

3. Regional and site geology

3.1 Regional geologic setting and Site geology

The Marion Power Plant is located on the southern margin of the Illinois Basin in the Shawnee Hills section of the Interior Low Plateaus physiographic region. The Illinois Basin is a depositional and structural basin comprised of Cambrian to Permian age sedimentary rocks. The southern portion of the basin is heavily faulted with northeast-striking, high-angle reverse and normal faults and bears evidence of several tectonic episodes. Many of these faults contain commercial vein deposits of fluorite. This region contains gently rolling topography with rugged Mississippian and Pennsylvanian bedrock hills situated between Pleistocene glacial deposits in lowlands located to the north and the Mississippi Embayment to the south.

Site geologic conditions have been logged via the advancement of borings (with sample collection) in the unconsolidated geologic materials and upper weathered / competent bedrock interface. Based on site-specific observations, surficial geologic materials (i.e., above competent bedrock) and the uppermost competent bedrock formation in the immediate region of the Site are described in Table 1 below:

Table 1 – Site Geology

Geologic Unit	Geologic Age	Extent within the Site and General Geologic Description	Interpretation of Hydrogeologic Character in the Current Conceptual Site Model
			(Illustrative Ground Surface)
Fill Materials	Recent (Anthropogenic placement)	Fill materials are logged in selected Site borings. Where present, the fill materials generally consist of light gray to yellowish brown gravel with some silt and clay, and trace amounts of sand and asphalt.	Fill material is logged as vadose-zone material placed near the ground surface and, thus, the fill materials are not identified to have hydrogeologic significance affecting groundwater flow. However, recharge to groundwater may be influenced by surficial fill materials and may be considered within the conceptual site model.
Localized Alluvium of the Cahokia Formation	Quaternary; Relatively Recent	Mapped in lower extents of stream valleys; not logged in the near vicinity of Pond 1/2. "Mainly silt, silty clay and fine sand; brown to grayish brown, weakly to well stratified; includes some coarser beds; mainly noncalcareous; up to 25 feet thick" (Grimley et al, 2020)	Alluvium associated with Little Saline Creek is mapped to the north of the Site and alluvium of the South Fork Saline River is mapped to the east-northeast of the Site. Both areas are likely to be groundwater discharge zones to perennial surface water features in areas downgradient of the Site but are not located in the near vicinity of the Site (i.e., Pond 1/2)
Peoria and Roxana Silt Loess	Quaternary (Wisconsin Glacial Episode)	In the immediate vicinity of the Site, the silt loess is mapped within higher elevations between stream valleys (where it is eroded). The loess is "Silt loam; massive; upper 3/5 of unit is typically more yellowish brown to grayish brown (Peoria Silt); lower portion has pinkish-brown hue (Roxana Silt); noncalcareous (leached); up to 12 feet thick" (Grimley et al, 2020)	Within the southeastern portion of the Site, the uppermost phreatic zone is logged within silt loess with relatively low hydraulic conductivity. Site-specific logging generally describes the unit as uniform silt.
Ice-marginal Deposits of the Glasford Formation	Quaternary (Illinois Glacial Episode)	Till or other ice-marginal deposits are mapped within the Site in the deeper portion of borings within the middle and northern extents of the Site, consistent with geologic mapping of the region. "Till and ice marginal deposits; includes subglacial and supraglacial deposits; contains Sangamon Geosol alteration in upper 5 to 10 feet; unit is thin on bedrock highlands and thick within infilled preglacial bedrock valleys" (Grimley et al, 2020)	Contains clay, silt, sand, and gravel (Grimley et al, 2020). Relatively dense and a fine-grained matrix, till is expected to be present as a relatively low-hydraulic-conductivity unit below fill materials (site-specific) and above competent bedrock. Groundwater flow is likely to be more prominent within the overlying fill along the top of the till.
Transition Zone of Saprolite and Partially Weathered Rock (PWR)	Derived from Pennsylvanian bedrock	Due to sufficient in-place weathering, a saprolite and partially weathered rock transition zone is recorded in the southern portion of the Site where till is absent. The parent bedrock is the uppermost unit(s) of the underlying Tradewater Formation (see below).	With a limited extent, but presence in place of till, the observed sand-rich PWR zone is expected to provide an uppermost groundwater flow zone above competent bedrock.
Sandstone, shale, siltstone, and coal of the Tradewater Formation	Pennsylvanian	The Tradewater Formation is mapped as the uniform bedrock geologic unit at the Site and nearby vicinity (Nelson, 2020) The formation consists of a sequence of sandstone, siltstone, shale, and coal seams (Nelson et al, 2021)	With respect to the Site, groundwater flow and transport is interpreted to primarily occur above the top of the competent bedrock surface due to an eroded bedrock surface similar to the prominent topographic relief of the Site area and associated nearby, shallow groundwater discharge zones to nearby surface water features.

Note: Geologic units are depicted in stratigraphic sequence, but the thickness of the table rows are not indicative of relative geologic unit thickness. Rather, the depiction is for juxtaposition only.

Boring logs (Attachment A) and geotechnical data (Attachment B) collected during soil boring advancement provide additional site-specific geologic descriptions and measurements. Representative cross-sections of the geology in the vicinity of Pond 1/2 are shown in Figure 2A-2D. The boring logs preserve the material descriptions and drilling observations recorded at each boring location, whereas

the cross-sections present an interpreted stratigraphic framework developed by integrating those observations other geotechnical data, drilling response and refusal, available Site information, and regional geologic context. Accordingly, some contacts and stratigraphic assignments shown on the cross sections were not explicitly logged during the September 2025 Site Investigation and are inferred. The cross-sections do not supersede the boring logs but provide a broader interpretation of Site geology and the lateral relationships among the observed materials. As shown on the representative cross-sections and summarized in Table 1 geology in the vicinity of Pond 1/2 is interpreted to be:

- Fill: Anthropogenic fill consists primarily of silty-clay fill, variable non-plastic fines, sand, gravel and coal fines or bottom ash. Fill was encountered from ground surface to approximately 18 ft-bgs. Fill was not observed at MW-109. Fill is interpreted as being laterally variable and discontinuous across the Site.
- Clay: Clay consists primarily of low-to-medium plasticity sandy silty clay and silty clay, with locally variable sand content. Clay was encountered beneath fill materials with a thickness ranging from approximately 12 to 19.5 ft. Clay is interpreted as laterally extensive but variable in thickness and material character. Clay, assuming native soil, is likely to be a weathered loess.
- Loess: Loess is interpreted as a non-plastic, pale brown, hard relatively uniform silt associated with the Peoria and Roxana Silts. Loess occurs locally at approximately 21 to 27 ft bgs with an interpreted thickness of approximately 6 ft, with variable inferred thickness across the site between borings. Loess is interpreted as localized and discontinuous, occurring primarily to the southeast on Pond 1/2 where it has not been eroded or replaced by fill or till.
- Till: Till consists of dense, fine-grained material containing clay, silt, sand, and gravel. Till is interpreted below fill and/or clay at approximately 21 to 30 ft bgs, with an approximate thickness ranging from 0.5 to 5.5 ft. The unit is absent to the south of Pond 1/2, variable in thickness, and locally absent within areas where PWR is preserved.
- PWR: Saprolite/PWR transition zone consists of weathered sandstone-derived material generally described as very dense or hard. The top of PWR ranges from approximately 17 to 27.5 ft bgs with a variable thickness of 0.5 to 13 ft. PWR was observed in a subset of borings and is interpreted as laterally variable and discontinuous, with greater representation to the south of Pond 1/2 where till is absent or thinner.
- Bedrock: Bedrock is interpreted as relatively competent Pennsylvanian sandstone of the Tradewater Formation. The interpreted top of competent bedrock surface ranges from approximately 21.5 to 30 ft bgs based on drilling refusal and end-of-boring conditions.

The 2025 borings terminated at approximately 21.5 to 30 ft bgs after encountering a targeted monitoring well screened zone above competent bedrock, logged locally as sandstone. Relatively competent bedrock conditions are interpreted from Site borings, regional geology, available reports, and nearby well records. Accordingly, the lithology, stratigraphy, and chemical and physical properties below the investigated interval were not directly characterized but are considered within the Site hydrogeologic conceptual site model.

3.1.1 Structural characteristics

No structural features such as fracture systems or faults are mapped within the Site or the immediate vicinity that may be expected to influence the hydrogeologic conceptual site model for the Site. Regionally, the Cottage Grove Fault System is located to the north of the Site, and the Little Cache Fault Zone is located southeast of the Site. The Cottage Grove Fault System presents right-lateral, strike-slip faulting and the Little Cache Fault Zone consists of high-angle normal vaults that follow the valley of Little Cache Creek in Johnson County (Nelson, 1995). Since these mapped fault systems and zones are located approximately 6-8 miles from the Site (Nelson, 2020; Nelson et al., 2021) and local groundwater discharge zones are present near the Site, these regional structural features are relevant to regional-scale hydrogeology but not interpreted to be influential within the scale of the Site hydrogeologic conceptual site model.

3.1.2 Soil characteristics

Based on geologic logging of unconsolidated materials within Site borings, the predominate soil description for Site soils (i.e., unconsolidated geologic materials above competent bedrock) is silt and clay in varying proportions (i.e., silty clay, clayey silt, and clay) with minor other grain size components. Regarding soil-science classifications for Site soils, the State Soil Geographic (STATSGO) database documents Site soils as B/C hydraulic soil groups or soils with moderate runoff potential with K-Factors between 0.17 and 0.43 (IEPA, 2008). A survey of soil-science classifications for the Site vicinity was completed and are shown in Figure 3.

3.1.3 Geotechnical results

Geotechnical samples were collected during the September 2025 hydrogeologic investigation to characterize the physical properties of the Site unconsolidated geologic materials in the region of Pond 1/2 and to support interpretation of the Site geology and hydrostratigraphic units. Samples were collected from selected intervals within the borings advanced for monitoring wells MW-101 through MW-106 and monitoring well MW-109. Sample intervals were selected to characterize distinct geologic materials encountered during drilling and, where practicable, to evaluate similar geologic materials across multiple boring locations to assess spatial variability of across the Site. The samples represented the clay-rich fill or till materials from the unconsolidated zone and saprolite / PWR materials from the transition zone above competent bedrock. Laboratory testing included grain-size distribution, Atterberg limits (when applicable), and moisture content. Geotechnical laboratory results are summarized in Table 2, and the supporting geotechnical laboratory reports are provided in Attachment B.

Geotechnical laboratory testing generally supports the field interpretation of the native unconsolidated materials as a predominantly fine-grained unit. Tested clay-rich samples were consistently classified as lean clay (CL), with approximately 67 to 97% passing the No. 200 sieve. Liquid limits generally ranged from 26 to 42, plasticity indices ranged from 10 to 20, and as-received moisture contents ranged from approximately 17 to 39%. These results are consistent with the field descriptions of low- to medium-

plasticity silty clay and sandy silty clay, while the variability in fines and moisture content reflects local differences in sand content and soil condition.

Field penetration resistance within unconsolidated materials was variable but was generally consistent with the logged soft-to-stiff conditions. Penetration resistance typically increased substantially at or below the transition to till or PWR, where recovered materials were described as very dense or hard and repeated partial-penetration refusal was recorded. Limited laboratory testing of samples at MW-103 and MW-105 classified the tested material as lean clay with sand, and these samples are interpreted to be glacial till, complementing the laboratory soil testing results. Till samples contained approximately 74 to 75% fines and had lower moisture contents than most tested unconsolidated materials present above the till.

Collectively, the available data support a geologic conceptual site model consisting of a variable thickness of fill materials, silt loess, PWR local to the southern portion of the Site, till local to the middle and northern portion of the Site. These unconsolidated materials overly competent bedrock. The thickness and character of the fill and till materials vary somewhat across the Site, while the character of sandstone-derived PWR and the underlying competent sandstone bedrock was observed to be consistent.

3.1.4 Soil laboratory analytical results

Soil samples were collected during the September 2025 hydrogeologic investigation to characterize the chemical properties of the geologic materials in the region of Pond 1/2 and to supplement the physical characterization described in Section 2.1.3. Seventeen soil samples were collected from selected depth intervals in borings MW-101 through MW-106 and MW-109. Sample intervals were generally selected to coincide with geotechnical sampling intervals and to characterize distinct geologic materials encountered during drilling. Soil samples were collected from approximately 0 to 26 ft bgs and represented the various unconsolidated geologic materials present above relatively competent bedrock. Samples were analyzed for metals and other inorganic constituents, including CCR-related constituents and radium-226 and radium-228. Soil analytical results are summarized in Table 3, and the supporting analytical laboratory report is provided in Attachment C.

Relatively high variability in concentrations was observed for arsenic, boron, calcium, lead, molybdenum, and sulfate. Within the analyzed dataset, detected arsenic concentrations ranged from 0.31 to 84.7 milligrams per kilogram (mg/kg), detected boron concentrations ranged from 2.21 to 67.1 mg/kg, detected calcium concentrations ranged from 583 to 164,000 mg/kg, detected lead concentrations ranged from 2.36 to 250 mg/kg, detected molybdenum concentrations ranged from 0.25 to 16.5 mg/kg, and detected sulfate concentrations ranged from 70.3 to 15,800 mg/kg. Relatively higher concentrations of several of these constituents occurred in samples of fill and till unconsolidated materials collected at borings MW-102, MW-103, and MW-104. These locations are interpreted to be historically or currently located downgradient of the Pond 1/2 unit.

The three samples collected from the loess, fill, till, and PWR zones of borings MW-101, MW-105, and MW-106 generally contained lower concentrations of arsenic, boron, lead, molybdenum, and sulfate as compared to concentrations referenced above for borings MW-102, MW-103, and MW-104. However,

calcium was detected at a relatively higher concentration at boring MW-105. Many variables, such as the current or historical presence of CCR materials located near or upgradient of the borings, saturation conditions, and the physical and geochemical nature of the geologic materials, affect the measured concentrations of constituents.

4. Regional and Site hydrogeology

4.1 Regional hydrogeology

The Site is located within the South Fork Saline River / Lake of Egypt watershed (IEPA, 2008). Regional groundwater flow is toward the Lake of Egypt reservoir and associated South Fork Saline River, which represent groundwater discharge zones to these surface water features. Pond 1/2 is located to the west of the Lake of Egypt dam, situated in an area where groundwater is interpreted to primarily flow toward the South Fork Saline River drainage area below the dam (i.e., to the north and east toward the river and tributaries).

Water well construction logs provide regional hydrogeologic information. Water wells in the vicinity of the Marion Power Plant are logged to be 95-260 feet (ft) deep and screened in bedrock. These wells are capable of being pumped at 5-20 gallons per minute (gpm) to support domestic water use (Illinois State Geological Survey [ISGS], n.d.-a). Further discussion of identified drinking water wells in the vicinity of the Pond 1/2 is provided in Section 5.1.

4.2 Site hydrogeology and hydrostratigraphic units

Site hydrogeologic conditions were evaluated using data collected during the September 2025 Site Investigation and subsequent hydrogeologic monitoring. These data include monitoring well boring logs, monitoring well survey data, and groundwater-elevation measurements collected from October 2025 through September 2026.

Based on these data, a single hydrostratigraphic unit is evaluated in the vicinity of Pond 1/2, consisting of the unconsolidated geologic materials located above competent bedrock. As presented in previous sections of this report, a limited thickness of heterogenous, but hydraulically interconnected, saturated geologic materials is present above competent bedrock. Although the composition and hydraulic properties of these materials vary, collectively they form a continuous unconfined water-bearing unit.

The deposition origin, grain size distribution, and associated hydraulic conductivity of the individual materials, including fill, saprolite, loess, and till, vary across the Site; therefore, localized preferential groundwater-flow zones may occur. For example, in the southern portion of the Site, relatively sandy saprolite overlying competent bedrock likely provides a more transmissive zone for groundwater flow than the overlying saturated loess. Progressing northward, clay-rich till directly overlies competent bedrock, and the primary zone of groundwater flow is interpreted to shift upward to the softer fill material overlying the till, despite the fine-grained matrix of that material.

Based on the limited saturated thickness of the unconsolidated materials overlying competent bedrock, Site topographic relief, the presence of downgradient perennial streams and rivers that receive groundwater discharge, and site-specific hydrogeologic observations, the water-table aquifer within the unconsolidated deposits above competent bedrock is interpreted to represent a single hydrostratigraphic

unit. Groundwater-flow direction within this unit is strongly influenced by topography and the interrelated upper surface of competent bedrock. The interpreted water-table surface, component-bedrock surface, and available groundwater-quality indicators are consistent with this interpretation. The resulting potentiometric-surface elevation map (Figure 4) does not exhibit anomalous features and generally aligns with expected surface water and topographic controls, supporting the representation of the unconsolidated materials as a single hydrostratigraphic unit in the current Conceptual Site Model (CSM).

4.2.1 Description of uppermost water-bearing zone and potential migration pathways

As described in above, an appropriate groundwater monitoring zone consisting of saturated unconsolidated geologic materials above competent rock was identified for the Site. Under the current CSM for the Site, this zone is in close proximity to and hydraulically connected with Pond 1/2 and represents a potential migration pathway for CCR constituents. Although this zone was not identified during this phase of work as meeting the definition of the uppermost aquifer, it represents the appropriate zone for groundwater monitoring is hereafter referred to as the Uppermost Water-bearing Zone (UWBZ).

Pond 1 and Pond 2 were constructed within the shallow unconsolidated materials described above. Accordingly, the proposed monitoring network was designed to monitor saturated materials adjacent to and downgradient of the CCR surface impoundment at depths representative of potential groundwater migration from the unit, considering the estimated surface water and base elevation of Pond 1/2. Although the materials comprising the UWBZ are heterogenous, no laterally continuous low-permeability units have been identified that hydraulically separate the saturated unconsolidated materials into distinct monitoring zones. Therefore, the saturated unconsolidated materials are interpreted as a single, heterogeneous UWBZ. Monitoring wells are screened within the saturated unconsolidated materials above component bedrock including PWR, loess, fill, and till, depending on the monitoring well location and the historical extent of glacial deposits within lower-elevation stretches of the Site region.

Potentiometric-surface maps for the UWBZ are provided in (Figures 5 through 16). The potentiometric-surface data indicate that groundwater elevations and flow directions in the vicinity of Pond 1/2 are influenced by surface water elevations in Pond 1/2 and the adjacent Pond 4. Locally, groundwater-flow direction varies from northwest to northeast, depending on location relative to Pond 1/2 and Pond 4 and their surface water elevations. Portions of Pond 1/2 are interpreted to receive groundwater discharge, while other portions, particularly along the northern extent, exhibit hydraulic connection with the UWBZ and a generally north-northeastern groundwater-flow direction. Local groundwater-flow direction varies in response to precipitation and stormwater inflow to Pond 1/2, with observed variations generally corresponding to changes in the surface water elevation in Pond 1/2 (and adjacent Pond 4).

Based on the available groundwater elevation and well construction data, groundwater is generally encountered at depths ranging from approximately 11.0 to 19.5 ft bgs, and the saturated thickness of the UWBZ is approximately 8 to 18 ft. Groundwater elevations observed within the monitoring network range from approximately 496 to 508 ft above the North American Vertical Datum of 1988 (NAVD88). Compiled

well-construction information and groundwater elevation data from monthly gauging events are provided in Table 4.

4.2.2 Vertical gradients

Due to the identification of a single hydrostratigraphic unit that serves as the UWBZ for the Site, monitoring well pairs (located relatively close and with vertically separated screened zones) have not been installed for purpose of evaluating vertical hydraulic gradients. Competent sedimentary bedrock underlying the UWBZ is currently interpreted under the CSM to represent a less significant groundwater flow pathway based on the observed bedrock characteristics, Site topography, the presence of nearby perennial surface water features interpreted groundwater discharge zones, and the absence of anomalous groundwater elevations or baseline groundwater quality conditions suggesting significant groundwater migration through the underlying bedrock. SIPC will continue to evaluate these conditions and refine the CSM as additional data become available.

4.2.3 Water table elevation and groundwater flow direction

Groundwater elevations measured in the monitoring wells from October 2025 through September 2026 were used to evaluate water table conditions and groundwater flow directions within the UWBZ in the vicinity of Pond 1/2. The potentiometric-surface elevations within the UWBZ (Figures 5-16) indicate that groundwater flow in the vicinity of Pond 1/2 is generally toward the north and northeast with localized westward flow. The northern and northeastern flow directions are generally consistent with Site topography and the configuration of the underlying bedrock surface and represent a general flow direction toward the South Fork Saline River and its tributaries, which are interpreted as regional groundwater discharge features.

Local groundwater flow conditions are also influenced by surface water elevations within Pond 1/2 and Pond 4. Pond 4, located west of Pond 1/2, has a lower measured surface water elevation than Pond 1/2. The UWBZ potentiometric-surface map indicates a localized westward groundwater flow component toward Pond 4, consistent with the interpreted hydraulic connection between the UWBZ and the nearby surface water features. Accordingly, groundwater flow directions in the immediate vicinity of Pond 1/2 may vary spatially and in response to local hydraulic conditions, including changes in the surface water elevations within the ponds. Horizontal hydraulic gradients and the horizontal components of groundwater flow within the UWBZ are further evaluated in Sections 3.2.4 and 3.2.5.

4.2.4 Hydraulic conductivity testing

In-situ instantaneous change in head (slug) tests were performed in the six monitoring wells (MW-101 through MW-106) screened within the UWBZ in the region of Pond 1/2. A slug test can be used to estimate the hydraulic conductivity of the formation in the immediate vicinity of a monitoring well. To perform a slug test, the water level is displaced (typically by inserting or removing a solid “slug”), and the rate at which the water level falls or rises back to static conditions is measured. Such tests are referred to as falling-head or rising-head slug tests, respectively.

Falling-head tests were performed by lowering a solid cylindrical slug [~ 2.875 ft (length) x 0.125 ft (diameter)] into a well which initially displaced the water level in the well approximately 1.2 ft to 2.0 ft above the pre-test static level. As the water level recovered towards the pre-test static level, a data logger with a pressure transducer measured water levels at discreet time intervals (~ 0.5 seconds). After the falling-head test was completed, the slug was removed, and water level data were collected using the data logger for a rising head test. Rising-head test data were not retained for estimating hydraulic-conductivity since the preceding falling-head test did not achieve greater than 90 percent (%) recovery toward the pre-test static level. Under these conditions, the rising-head test did not begin from a sufficiently recovered static condition and was therefore excluded from hydraulic-conductivity estimates and the falling-head test was used instead. Slug-test data were analyzed using the Bouwer-Rice method. Slug test results are summarized in Table 5 below and software (AQTESOLV) output reports are included in Attachement D.

Table 5 – Slug Test Hydraulic Conductivity Summary

Well ID	Hydraulic Conductivity – *k* (feet/day)
MW-101	0.004
MW-102	0.06
MW-103	0.28
MW-104	0.64
MW-105	0.004
MW-106	0.03
Site Geometric Mean	0.042

Under 35 IAC 620.210(a)(2)-(3), the geologic criteria for Class I groundwater (potable resource water) include sand-and-gravel deposits at least 5 feet thick with no more than 12 % fines, sandstone at least 10 feet thick, or fractured carbonate at least 15 feet thick, with groundwater occurring at least 10 feet below land surface. Available characterization has not demonstrated these geologic criteria within the UWBZ, although MW-104 meets the separate hydraulic-conductivity criterion specified in 35 IC 620.210(a)(4)(B) of $1x10^{-4}$ cm/sec (approximately 0.2835 ft/day) with a hydraulic conductivity of 0.64 ft/day. Based on the results of in-situ slug tests, groundwater within the UWBZ is not considered usable potable water. Groundwater classification is discussed further in section 4.2.7.

4.2.5 Horizontal component of flow

WSP calculated the monthly horizontal gradients (*i*) for the UWBZ in the vicinity of Pond 1/2 using groundwater elevation data collected from MW-109 (upgradient) and MW-106 (downgradient) from

September 2025 to October 2026. The calculated horizontal hydraulic gradient ranges from 0.00589 to 0.0125 foot per foot.

The gradient was calculated using the following relationship:

$$i = {}^{h_L}/_{L}$$

Where: i = hydraulic gradient (foot per foot)
h_L = head loss (elevation difference in ft)
L = length (horizontal distance in ft)

As described in 4.2.4, hydraulic conductivity (k) values were calculated from in-situ slug tests performed in six wells screened in the UWBZ at Pond 1/2. Using the hydraulic conductivity from MW-106, the calculated horizontal gradient between MW-109 and MW-106, and an assumed effective porosity of 0.1, the average horizontal rate of groundwater flow (seepage velocity, V_{gw}) was calculated as follows:

$$V_{gw} = {}^{ki}/_{\theta}$$

Where: V_{gw}= *Groundwater seepage velocity (feet per day [ft/day])*
k = Hydraulic conductivity (ft/day)
i = Hydraulic gradient (foot per foot)
θ = *Estimated effective porosity (unitless)*

The estimated average horizontal seepage velocity is approximately 2.65×10^{-6} ft/day, or approximately 0.968 feet per year. The hydraulic-transect used for this calculation does intersect Pond 4 surface features to the west of Pond 1/2, where surface-water conditions may locally influence groundwater elevations and the hydraulic gradient along the selected flow path. The calculated gradient and resulting seepage velocity should be considered representative estimates of groundwater-flow conditions rather than precise measures of groundwater velocity along a specific vector. Monthly hydraulic gradients and groundwater seepage velocity are presented in Table 6.

4.2.6 Groundwater Quality Data

No groundwater quality data specific to Pond 1/2 were available prior to implementation of the September 2025 Hydrogeologic Investigation. Following installation of the proposed groundwater monitoring system, background groundwater monitoring was initiated in October 2025 in accordance with 35 IAC Part 845. Groundwater quality data collected during the background monitoring period, including associated statistical evaluations, are presented in the Groundwater Monitoring Program Report (WSP, 2026).

4.2.7 Groundwater classification

35 IAC 620.240 was amended effective March 28, 2025 to include groundwater regulated under 35 IAC 845 as Class IV: Other Groundwater pursuant to Section 620.240(h). Accordingly, groundwater in the vicinity of Pond 1/2 is classified as Class IV groundwater.

4.3 Climate

Long-term climatic conditions in the vicinity of Pond 1/2 were characterized using the National Oceanic and Atmospheric Administration (NOAA) 1991-2020 U.S. Climate Normals for the Carbondale Southern Illinois Aiport Station (GHCN-D stations USW00093810). The station is located at approximately 37.7833 degrees (°) north latitude and 89.2453° west longitude at an elevation of approximately 401 feet above mean sea level. This station was selected because it represents the southern Illinois regional climate and provides a complete NOAA 1991-2020 normal dataset for monthly maximum, minimum, and mean temperature and precipitation (NOAA, 2021).

The normal annual mean temperature is 56.4 degrees Fahrenheit (°F), with a normal annual mean daily maximum temperature of 67.1°F and a normal annual mean daily minimum temperature of 45.8°F. January is the coldest month, with a normal mean temperature of 33.2°F and normal maximum and minimum temperatures of 41.7°F and 24.8°F, respectively. July is the warmest month, with a normal mean temperature of 78.0°F and normal maximum and minimum temperatures of 88.4°F and 67.5°F, respectively.

Normal annual precipitation is 44.01 inches. Precipitation is measured throughout the year, with monthly normals ranging from 2.61 inches in February to 5.34 inches in April. The highest monthly precipitation occurs during April and May, at 5.34 and 4.98 inches, respectively. Monthly temperature and precipitation normals are summarized in Table 7.

4.4 Surface Water Features

Surface water features are presented in Figure 17. The Site is within the South Fork Saline River watershed, which drains eastward (at a regional scale). Lake of Egypt, a reservoir on the South Fork Saline River, is a prominent surface-water body in the vicinity of Pond 1/2 and is located approximately 650 ft southeast of the CCR surface impoundment. The lake is a reservoir with a surface area of approximately 2,300 acres and was developed by SIPC for use as cooling water for the Marion Power Plant. Lake of Egypt is open to the public and supports recreational uses; additional discussion of its water-supply and recreational uses is provided in Section 4.1. The South Fork Saline River flows north from Lake of Egypt reservoir spillway and then east.

Little Saline Creek is a mapped steam within the watershed and is generally located west and north of the Site with a general north-northeast flow direction. Little Saline Creek eventually flows into the South Fork Saline River, approximately 2,200 ft northeast of Pond 1/2. IEPA records identify Little Saline Creek as a river / stream monitoring location in Williamson County within Hydrologic code 05140204.

Groundwater-elevation data indicate that Site groundwater flow is generally toward the north and northeast toward the South Fork Saline River and its tributaries that are located to the north of the Lake of Egypt dam. Groundwater discharge to these surface water features is likely, providing alignment of the Site groundwater flow directions with the proximity of perennial surface water features located topographically downgradient.

5. Identification of potential receptors

The Lake of Egypt is located approximately 650 ft southeast of Pond 1/2. The Lake of Egypt is primarily used for cooling water for the Marion Power Plant; however, the lake is open for public recreational use including boating, swimming, and fishing. The lake also provides drinking water for over 4,500 people residing in Williamson, Johnson, and Union counties. In 2019, Hanson collected five samples from the lake including one background sample, two samples near the shore closest to the Marion Power Plant facility, and two samples downstream, including one sample in the vicinity of the public water supply intake. Sampling indicates no surface water standard exceedances due to groundwater impacts from the Site (Hanson, 2021).

WSP reviewed public records and found four private water wells and one irrigation well located within a 1-mile radius of the approximate operating limits (ISGS, n.d.-a). The closest wells are identified on Figure 18. The nearest private water well is located northwest of Pond 1/2, approximately 2,700 ft northwest and is accompanied by an irrigation well. This private well is screened from 70-150 ft bgs in sandstone and has a pumping rate of 7 gpm (ISGS, n.d.-a). The irrigation well is screened from 120-242 ft bgs in lime sandstone and has a pumping rate of 20 gpm (ISGS, n.d.-a). Another private well is located approximately 5,250 ft southwest of Pond 1/2. This private well is screened in sandstone from 60-90 ft bgs and has a pumping rate of 5 gpm (ISGS, n.d.-a). A third private well is located at the Lake of Egypt Country Club. This well is approximately 4,000 ft south/southeast (upgradient) of Pond 1/2. This well is screened from 60-95 ft bgs in sandstone and has a pumping rate of 7 gpm (ISGS, n.d.-a). This well is on SIPC property. The fourth private well is located approximately 6,500 ft east of Pond 1/2. This private well is screened from 112-133 ft bgs in sandstone and has a pumping rate of 5 gpm (ISGS, n.d.-a).

There are no nature preserves located within the 1-mile radius of the approximate operating limits. According to ISGS, no active or abandoned mines exist within the town of Marion (ISGS, n.d.-b).

6. References

Hanson Professional Services Inc. 2021. Groundwater Monitoring Plan, March 24, 2021.

Illinois Environmental Protection Agency (IEPA). 2008.South Fork Saline – Lake of Eqypt Watershed TMDL Report, June 2008.

Grimley, D.A., L.R. Follmer, and W. J. Nelson. 2020. Surficial Geology of Williamson County, Illinois: Illinois State Geological Survey, STATEMAP Williamson County-SG, 1:62,500, report, 11 p., 2020.

Illinois State Geological Survey (ISGS). n.d.-a. Illinois Water & Related Wells Map (ILWATER), accessed October 2026.

ISGS. n.d.-b. Coal Mines in Illinois Viewer (ILMINES). Accessed October 2026.

Nelson, J. W., 1995, Structural Features in Illinois, Illinois State Geological Survey. 1995.

Nelson. 2020. Bedrock Geology of Williamson County, Illinois. 2020.

Nelson, et al. 2021. Structural Features in Illinois. 2021.

National Oceanic and Atmospheric Administration (NOAA). 2021.

WSP. 2026. Groundwater Monitoring Analysis Plan – Pond 1/2, Southern Illinois Power Cooperative Marion Plant, November 2, 2026.

Table 2
Geotechnical Laboratory Data
Hydrogeologic Site Characterization - Pond 1/2
Southern Illinois Power Cooperative, Marion, Illinois

Sample Identification		Sample Type	Sample Depth (ft bgs)	Soil Classification	In-situ Moisture (%)	Atterberg Limits				Grain Size Distribution	
Boring ID	Sample ID					LL	PL	PI	LI	% Finer #4 sieve	% Finer #200 sieve
MW-101	SS-01	Bag	0.0-3.0	-	3.1	Non-Plastic				92.3	14.7
MW-101	SS-05	Bag	11.0-13.0	CL	18.8	26	16	10	0.28	99.9	80.5
MW-102	SS-02	Bag	3.0-6.0	-	7.8	Non-Plastic				97.8	22.4
MW-102	SS-06	Bag	13.0-16.0	CL	24.3	35	18	17	0.37	100.0	96.8
MW-102	SS-10	Bag	23.0-26.0	CL	17.4	35	16	19	0.07	96.8	68.0
MW-103	SS-07	Bag	16.0-18.0	CL	19.9	35	15	20	0.25	99.2	84.8
MW-103	SS-08	Bag	18.0-21.0	CL	22.1	35	18	17	0.24	99.9	86.2
MW-103	SS-10	Bag	23.0-24.5	CL	22.2	33	17	16	0.32	96.4	78.3
MW-103	SS-11	Bag	14.0-29.0	CL	11.2	31	18	13	-0.52	97.7	74.2
MW-103	SS-12	Bag	28.0-31.0	CL	7.9	30	17	13	-0.70	98.8	74.4
MW-104	SS-03	Bag	6.0-8.0	-	29.2	Non-Plastic				93.9	33.0
MW-104	SS-07	Bag	16.0-18.0	-	30.5	Non-Plastic				86.3	43.6
MW-104	SS-08	Bag	18.0-21.0	CL	39.2	42	22	20	0.86	100.0	82.0
MW-104	SS-10	Bag	23.0-26.0	CL	23.1	32	13	19	0.53	99.8	69.6
MW-105	SS-06	Bag	13.0-16.0	CL	17.5	29	14	15	0.23	99.4	67.3
MW-105	SS-10	Bag	23.0-25.0	CL	6.6	29	16	13	-0.73	100.0	75.3
MW-106	SS-04	Bag	8.0-11.0	CL	22.8	28	16	12	0.56	100.0	87.9
MW-106	SS-06	Bag	13.0-16.0	CL	19.7	27	14	13	0.44	99.5	74.3
MW-106[1]	SS-10	Bag	23.0-25.0	-	-	-	-	-	-	-	-
MW-109	SS-02	Bag	3.0-6.0	CL	22.1	28	17	11	0.46	100.0	92.9

Notes:
1) Insufficient sample size to perform any testing.
CL = clay
ft bgs = feet below ground surface
LI = liquidity index
LL = liquid limit
PI = plasticity index
PL = plastic limit
% = percent

Created by: JDV
Checked by: SLG
Reviewed by: DFSC

Table 3
Soil Analytical Data
Hydrogeologic Site Characterization - Pond 1/2
Southern Illinois Power Cooperative, Marion, Illinois

Boring ID		MW-101	MW-102			MW-103	MW-104			MW-105			MW-106			MW-109		
Sample Date		9/11/2025	9/11/2025	9/11/2025	9/11/2025	9/12/2025	9/17/2025	9/17/2025	9/17/2025	9/15/2025	9/15/2025	9/15/2025	9/15/2025	9/15/2025	9/15/2025	9/15/2025	9/15/2025	9/15/2025
Sample ID		SS-10	SS-02	SS-06	SS-10	SS-04	SS-03	SS-07	SS-08	SS-01	SS-06	SS-10	SS-04	SS-06	SS-10	SS-02	SS-07	SS-08
Start Depth (ft bgs)		23.0	3.0	13.0	23.0	8.0	6.0	16.0	18.0	0.0	13.0	23.0	8.0	13.0	23.0	3.0	16.0	18.0
End Depth (ft bgs)		26.0	6.0	16.0	26.0	11.0	8.0	18.0	21.0	3.0	16.0	25.0	11.0	16.0	25.0	6.0	18.0	21.0
Analyte	**Unit**																	
Antimony	mg/kg	< 0.38 U	1.41	< 0.38 U	< 0.39 U	6.24	< 0.4 U	5.15	2.78	0.92	0.42	< 0.39 U	< 0.38 U	< 0.37 U	< 0.36 U	< 0.4 U	< 0.38 U	< 0.39 U
Arsenic	mg/kg	< 0.19 U	49.1	4.31	3.39	84.2	7.82	84.7	30	24.8	4.6	0.31	3.78	2.57	0.48	4.27	5.18	0.31
Barium	mg/kg	35.4	132	108	23.8	162	75.3	97.9	57	167	84.1	100	127	80	32.7	188	138	18.4
Beryllium	mg/kg	0.79	2.02	0.66	0.79	1.96	0.79	1.96	0.86	1.23	0.56	0.92	0.56	0.47	0.56	0.54	0.57	< 0.3 U
Boron	mg/kg	< 1.92 U	43.1	2.78	< 1.96 U	67.1	54.6	66.3	50.1	20	< 2 U	< 2 U	2.21	< 2 U	< 1.92 U	2.75	3.21	< 2 U
Cadmium	mg/kg	< 0.19 U	2.42	< 0.19 U	< 0.2 U	5.88	0.74	5.63	3.63	1.14	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.19 U	< 0.19 U	< 0.19 U	< 0.2 U
Calcium	mg/kg	719	12400	1890	1850	31300	42900	54200	164000	16800 S	1360	1070	1720	1710	583	2840	2470	675
Chloride	mg/kg	< 27 U	< 27.5 U	31.3	< 28.1 U	< 30.9 U	< 31.6 U	< 30.3 U	< 36.5 U	< 27.1 U	< 28.8 U	< 25.3 U	< 29.5 U	< 29.3 U	< 25.4 U	< 29.4 U	< 28.3 U	< 25.6 U
Chromium	mg/kg	4.06	36.9	17.3	16.5	54	14.3	46.8	30.5	30.4	15.6	10.3	16	15.6	5.95	16.6	18.3	4.94
Cobalt	mg/kg	2.53	13.1	5.34	2.35	9.33	4.74	7.86	3.91	9.29	8.11	16.6	5.22	4.08	15.8	16.6	5.6	0.74
Fluoride	mg/kg	4.91	< 2.65 USR	< 3.09 U	9.03	8.66	< 3.16 U	11.1	7.94	10.6	< 2.88 U	< 2.53 U	4.16	< 2.93 U	< 2.54 U	< 2.94 U	< 2.83 U	3.49
Lead	mg/kg	5.64	137	7.84	7.24	250	25.1	246	106	62.6	12.5	6.19	6.93	5.92	3.83	8.59	9.02	2.36
Lithium	mg/kg	3.33	21.6	12	6.98	14.9	5.66	13	10.1	14.9	9.09	16.8	13.6	9.87	6.23	10.9	9.43	1.97
Mercury	mg/kg	< 0.011 U	0.021	< 0.012 U	< 0.012 U	0.102	0.082	0.224	0.397	0.052	< 0.012 U	< 0.01 U	< 0.012 U	0.031	< 0.01 U	< 0.012 U	< 0.012 U	< 0.011 U
Percent Moisture	%	9.2	9.2	19.8	16.7	25.7	21.7	25	34.1	11.2	14.2	5.8	17	16.4	6.4	18.3	16.7	8.9
Molybdenum	mg/kg	< 0.19 U	8.01	0.53	0.4	14	2.74 B	16.5	8.5	3.57	0.33	0.3	0.25	0.36	0.55	0.49	0.58	< 0.2 U
Radium 226 + 228	pCi/g	2.11 J	3.73	4.12	1.99 J	1.93 J	< 3.81 U	1.71 J	2.05 J	3.25	< 3.54 U	< 3.2 U	1.65 J	1.92 J	2.08 J	2.89 J	1.65 J	1.58 J
Radium-226	pCi/g	0.71 J	1.79 QDR	0.85 JQDR	0.72 J	1.48	< 1.27 U	< 1.42 U	< 1.47 U	1.15	< 1.18 U	< 1.07 U	0.71 J	< 1.18 U	0.85 J	0.94 J	0.82 J	0.79 J
Radium-228	pCi/g	1.4 J	1.94 J	3.27 QDR	1.27 J	< 2.71 U	< 2.54 U	0.96 J	1.76 J	2.1 J	< 2.36 U	< 2.13 U	0.94 J	1.56 J	1.23 J	1.95 J	0.83 J	0.79 J
Selenium	mg/kg	< 0.96 U	2.91	< 0.94 U	< 0.98 U	3.52	1.7	5.11	5	1.16	< 1 U	< 1 U	< 0.98 U	< 1 U	< 0.96 U	< 0.94 U	< 0.96 U	< 1 U
Sulfate	mg/kg	< 54 U	815 S	142	83.1	15100	14400	15800	4510	112	135	109	< 59 U	70.3	< 50.9 U	< 58.8 U	< 56.6 U	< 51.3 U
Thallium	mg/kg	< 0.19 U	1.51	< 0.19 U	< 0.2 U	3.01	0.56	3.03	1.54	0.71	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.19 U	0.19	< 0.19 U	< 0.2 U

Notes:
ft bgs = feet below ground surface
mg/kg = milligram per kilogram
pCi/g = picocuries per gram
% = percent

Created by: GRD
Checked by: SLG
Reviewed by: DFSC

Qualifiers:
B = Indicates the analyte was detected in the associated method blank.
J = Indicates the result was detected below quantitation limts.
QDR = Indicates the relative percent difference (RPD) was outside accepted recovery limits.
R = Indicates the RPD was outside accepted recovery limits.
S = Indicates the spike recovery is outside accepted recovery limits.
U = Indicates the analyte was not detected above the laboratory reporting limit, laboratory reporting limit is provided.

Table 4
Well Construction and Water Level Summary
Hydrogeologic Site Characterization - Pond 1/2
Southern Illinois Power Cooperative, Marion, Illinois

Well Construction Information									10/08/2025		11/17/2025		12/01–12/03/2025		01/20–01/21/2026	
Well ID	Monitoring Well Type	Ground Elevation (ft NAVD 88)	Top of Casing / Reference Elevation (ft NAVD 88)	Total Depth (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Screen Length (ft)	Screened Unit in UWBZ	DTW (ft btoc)	Groundwater Elevation (ft NAVD 88)	DTW (ft btoc)	Groundwater Elevation (ft NAVD 88)	DTW (ft btoc)	Groundwater Elevation (ft NAVD 88)	DTW (ft btoc)	Groundwater Elevation (ft NAVD 88)
MW-101	Downgradient	513.691	516.324	27.5	22.5	27.5	5.0	Loess	16.90	499.42	15.40	500.92	16.02	500.30	15.74	500.58
MW-102	Downgradient	515.579	518.110	26.0	21.0	26.0	5.0	Clay/Till	14.35	503.76	15.60	502.51	15.52	502.59	15.61	502.50
MW-103	Downgradient	509.592	512.344	29.0	24.0	29.0	5.0	Till	11.50	500.84	12.50	499.84	13.12	499.22	13.73	498.61
MW-104	Downgradient	509.856	512.519	29.0	24.0	29.0	5.0	Clay/Till	12.90	499.62	12.20	500.32	12.36	500.16	13.18	499.34
MW-105	Downgradient	510.864	513.440	25.0	20.0	25.0	5.0	Clay/Till	11.90	501.54	12.00	501.44	11.22	502.22	12.38	501.06
MW-106	Downgradient	513.289	515.937	29.0	24.0	29.0	5.0	PWR	15.50	500.44	16.00	499.94	16.45	499.49	16.16	499.78
MW-109	Background	509.877	512.554	21.0	16.0	21.0	5.0	Clay/PWR	8.63	503.92	6.60	505.95	6.21	506.34	8.68	503.87

Notes:
DTW = depth to water measured below the surveyed top-of-casing
ft = feet
ft bgs = feet below ground surface
ft btoc = feet below top of casing
NAVD 88 = North American Vertical Datum of 1988
PWR = Partially Weathered Rock
UWBZ = Uppermost Water Bearing Zone

Table 4
Well Construction and Water Level Summary
Hydrogeologic Site Characterization - Pond 1/2
Southern Illinois Power Cooperative, Marion, Illinois

Well Construction Information									02/26/2026		03/02–03/03/2026		04/15–04/16/2026		05/18/2026	
Well ID	Monitoring Well Type	Ground Elevation (ft NAVD 88)	Top of Casing / Reference Elevation (ft NAVD 88)	Total Depth (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Screen Length (ft)	Screened Unit in UWBZ	DTW (ft btoc)	Groundwater Elevation (ft NAVD 88)	DTW (ft btoc)	Groundwater Elevation (ft NAVD 88)	DTW (ft btoc)	Groundwater Elevation (ft NAVD 88)	DTW (ft btoc)	Groundwater Elevation (ft NAVD 88)
MW-101	Downgradient	513.691	516.324	27.5	22.5	27.5	5.0	Loess	15.80	500.52	15.90	500.42	15.24	501.08	15.40	500.92
MW-102	Downgradient	515.579	518.110	26.0	21.0	26.0	5.0	Clay/Till	15.50	502.61	15.11	503.00	14.97	503.14	15.70	502.41
MW-103	Downgradient	509.592	512.344	29.0	24.0	29.0	5.0	Till	13.00	499.34	13.19	499.15	12.90	499.44	13.30	499.04
MW-104	Downgradient	509.856	512.519	29.0	24.0	29.0	5.0	Clay/Till	12.90	499.62	13.25	499.27	16.30	496.22	14.50	498.02
MW-105	Downgradient	510.864	513.440	25.0	20.0	25.0	5.0	Clay/Till	12.60	500.84	11.82	501.62	16.71	496.73	15.10	498.34
MW-106	Downgradient	513.289	515.937	29.0	24.0	29.0	5.0	PWR	16.30	499.64	16.90	499.04	19.54	496.40	19.00	496.94
MW-109	Background	509.877	512.554	21.0	16.0	21.0	5.0	Clay/PWR	9.00	503.55	8.95	503.60	11.06	501.49	9.60	502.95

Notes:
DTW = depth to water measured below the surveyed top-of-casing
ft = feet
ft bgs = feet below ground surface
ft btoc = feet below top of casing
NAVD 88 = North American Vertical Datum of 1988
PWR = Partially Weathered Rock
UWBZ = Uppermost Water Bearing Zone

Table 4
Well Construction and Water Level Summary
Hydrogeologic Site Characterization - Pond 1/2
Southern Illinois Power Cooperative, Marion, Illinois

Well Construction Information									06/03/2026		07/15/2026		08/10/2026		09/03/2026	
Well ID	Monitoring Well Type	Ground Elevation (ft NAVD 88)	Top of Casing / Reference Elevation (ft NAVD 88)	Total Depth (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Screen Length (ft)	Screened Unit in UWBZ	DTW (ft btoc)	Groundwater Elevation (ft NAVD 88)	DTW (ft btoc)	Groundwater Elevation (ft NAVD 88)	DTW (ft btoc)	Groundwater Elevation (ft NAVD 88)	DTW (ft btoc)	Groundwater Elevation (ft NAVD 88)
MW-101	Downgradient	513.691	516.324	27.5	22.5	27.5	5.0	Loess	15.13	501.19	14.86	501.46	14.50	501.82	14.36	501.96
MW-102	Downgradient	515.579	518.110	26.0	21.0	26.0	5.0	Clay/Till	15.91	502.20	14.68	503.43	15.10	503.01	16.52	501.59
MW-103	Downgradient	509.592	512.344	29.0	24.0	29.0	5.0	Till	14.71	497.63	12.14	500.20	12.00	500.34	11.50	500.84
MW-104	Downgradient	509.856	512.519	29.0	24.0	29.0	5.0	Clay/Till	11.89	500.63	11.09	501.43	11.30	501.22	11.02	501.50
MW-105	Downgradient	510.864	513.440	25.0	20.0	25.0	5.0	Clay/Till	12.84	500.60	11.46	501.98	11.80	501.64	12.97	500.47
MW-106	Downgradient	513.289	515.937	29.0	24.0	29.0	5.0	PWR	15.47	500.47	14.89	501.05	15.00	500.94	14.89	501.05
MW-109	Background	509.877	512.554	21.0	16.0	21.0	5.0	Clay/PWR	7.13	505.42	4.39	508.16	6.50	506.05	8.14	504.41

Notes:
DTW = depth to water measured below the surveyed top-of-casing
ft = feet
ft bgs = feet below ground surface
ft btoc = feet below top of casing
NAVD 88 = North American Vertical Datum of 1988
PWR = Partially Weathered Rock
UWBZ = Uppermost Water Bearing Zone

Created by: JDV
Checked by: SEB
Reviewed by: DFSC

Table 6
Hydraulic Gradients and Groundwater Flow Velocities
Hydrogeologic Site Characterization - Pond 1/2
Southern Illinois Power Cooperative, Marion, Illinois

Date	Head Loss (ft)	Flow Length (ft)	Hydraulic Gradient[1] (foot per foot)	Porosity (unitless)	Conductivity[2] (ft/day)	Groundwater Velocity (ft/day)	Groundwater Velocity (ft/year)
October 2025	3.49	571.2	0.00610	0.1	0.03	1.83E-03	0.668
November 2025	6.02	571.2	0.0105	0.1	0.03	3.16E-03	1.15
December 2025	6.86	571.2	0.0120	0.1	0.03	3.60E-03	1.31
January 2026	4.10	571.2	0.00717	0.1	0.03	2.15E-03	0.785
February 2026	3.92	571.2	0.00686	0.1	0.03	2.06E-03	0.751
March 2026	4.57	571.2	0.00799	0.1	0.03	2.40E-03	0.875
April 2026	5.10	571.2	0.00892	0.1	0.03	2.68E-03	0.977
May 2026	6.02	571.2	0.0105	0.1	0.03	3.16E-03	1.15
June 2026	4.96	571.2	0.00868	0.1	0.03	2.60E-03	0.950
July 2026	7.12	571.2	0.0125	0.1	0.03	3.74E-03	1.36
August 2026	5.12	571.2	0.00896	0.1	0.03	2.69E-03	0.981
September 2026	3.37	571.2	0.00589	0.1	0.03	1.77E-03	0.645
					Average	2.65E-03	0.968

Notes:
1) Hydraulic gradient calculation based on the head loss and flow length between MW-109 and
2) Conductivity as estimated at MW-106.
ft = feet
ft/day = feet per day
ft/min = feet per minute
ft/year = feet per year

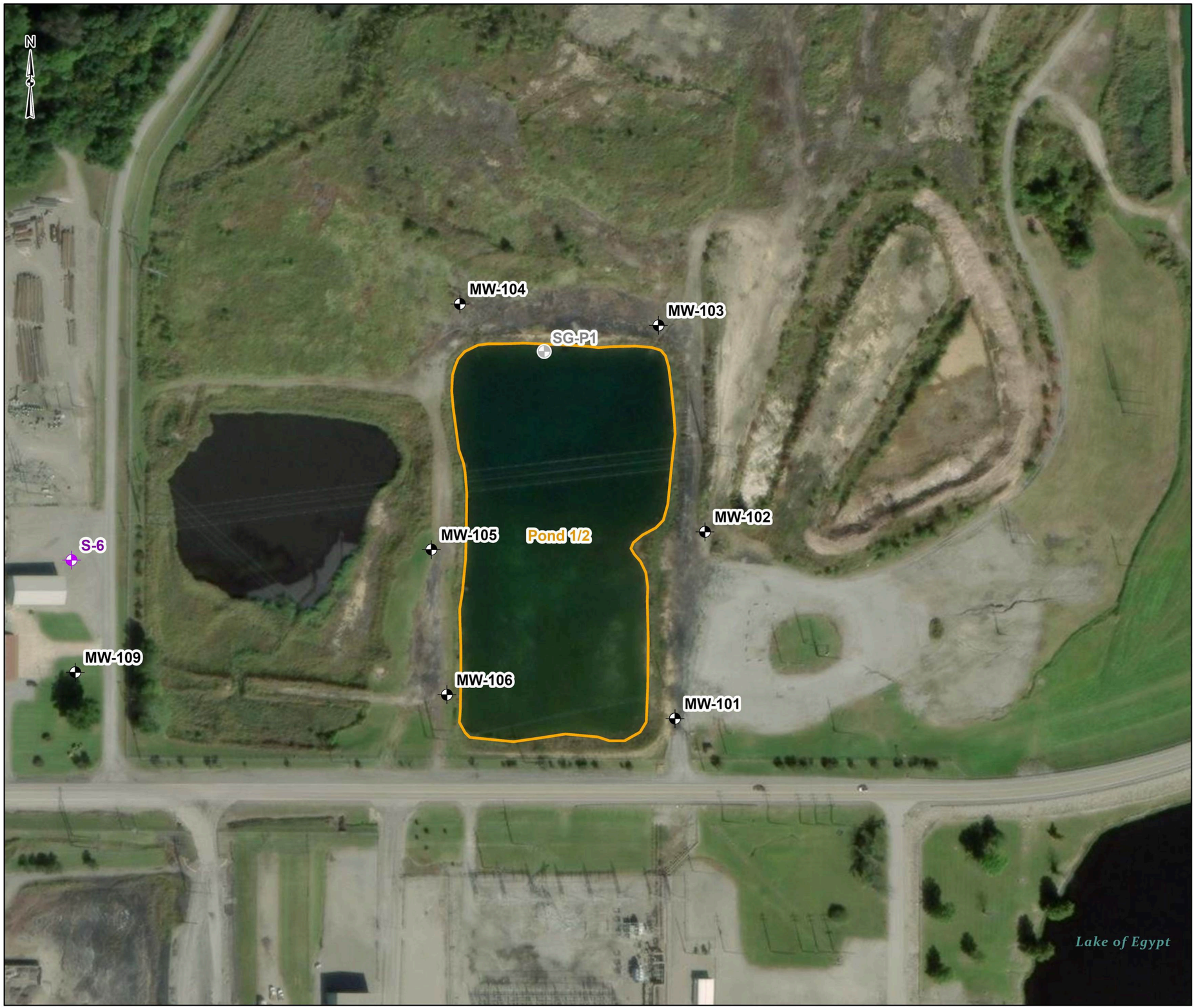
Created by: JDV
Checked by: SLG
Reviewed by: DFSC

Table 7
Monthly Temperature and Precipitation Summary
Hydrogeologic Site Characterization - Pond 1/2
Southern Illinois Power Cooperative, Marion, Illinois

Month	Normal Maximum Temperature (°F)	Normal Minimum Temperature (°F)	Normal Mean Temperature (°F)	Normal Precipitation (inches)
January	41.7	24.8	33.2	2.79
February	47.2	27.8	37.5	2.61
March	57.1	35.9	46.5	4.14
April	68.1	45.2	56.7	5.34
May	77.0	55.4	66.2	4.98
June	85.7	64.2	74.9	4.11
July	88.4	67.5	78.0	3.61
August	87.2	64.8	76.0	3.05
September	80.8	55.7	68.3	2.85
October	70.1	44.7	57.4	3.54
November	56.2	35.0	45.6	3.87
December	45.7	28.2	37.0	3.12
Monthly Average	67.1	45.8	56.4	3.67
Annual Total	NA	NA	NA	44.01

Notes/Abbreviations:
1) Source: NOAA National Centers for Environmental Information (NCEI), U.S. Climate Normals 2020: U.S. Monthly Climate Normals (1991-2020), Carbondale Southern Illinois Aiport, Illinois, GHCN-D Station USW00093810.
°F = degrees Fahrenheit
NA = not applicable

Created by: JDV
Checked by: WJF
Reviewed by: DFSC



LEGEND

- Monitoring Wells
- Staff Gauge
- Piezometer
- Approximate Waste Boundary of Pond 1/2

0 150 300

1 inch equals 150 ft

Feet

NOTE(S)

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: VANTOR
3. MONITORING LOCATIONS ARE BASED ON SURVEY BY INGENAE, LLC (OCTOBER 2025)

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

GROUNDWATER MONITORING WELL LOCATION MAP

CONSULTANT

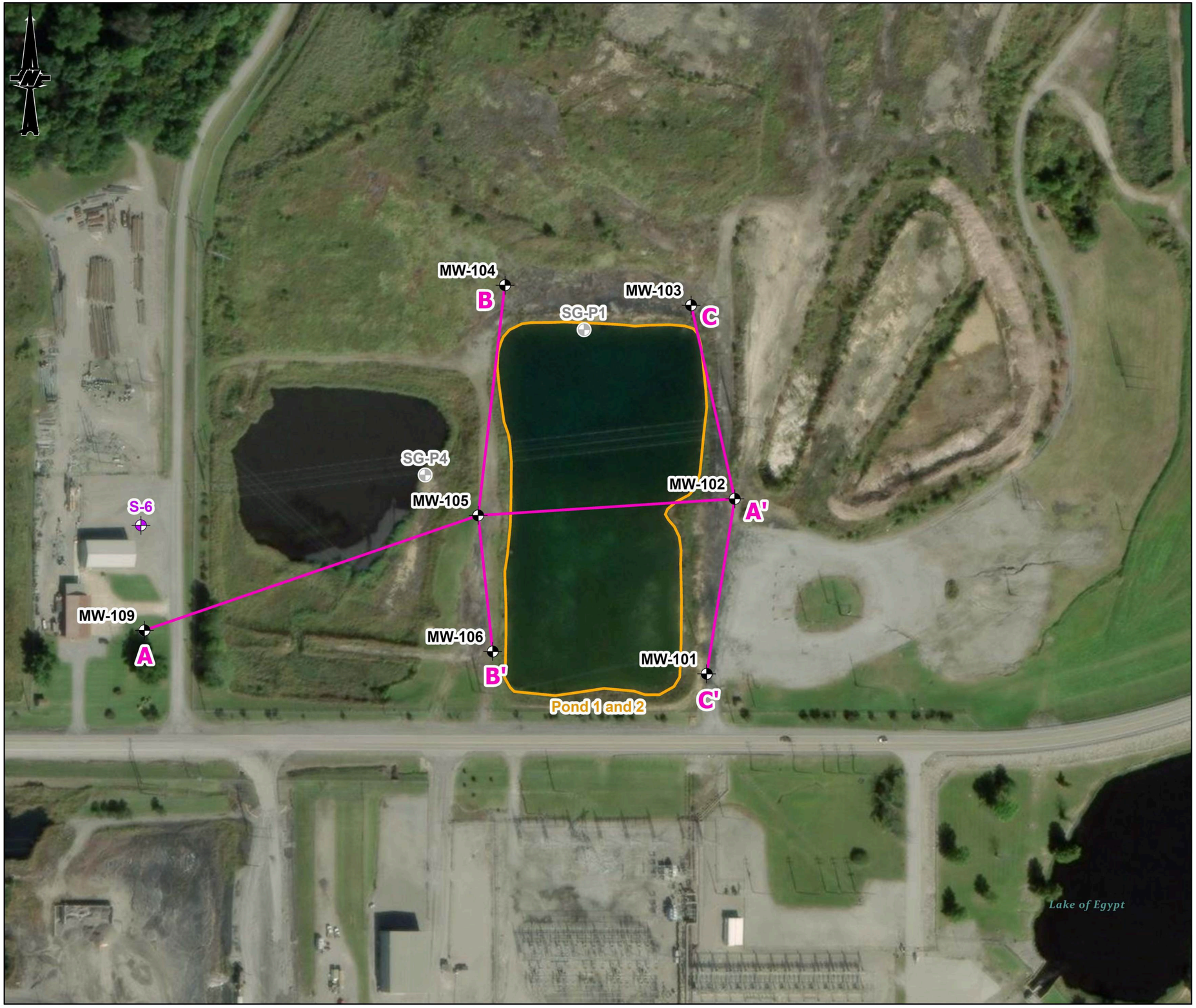
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YYYY-MM-DD	10/16/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	1

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- Monitoring Well
- Piezometer
- Staff Gauge
- Approximate Limits of Pond 1/2
- Cross Section Locations

0 250 500

1 inch equals 160 ft

Feet

NOTE(S)

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION SURVEY COMPLETED BY INGENAE ON OCTOBER 8, 2025.
4. HALEY & ALDRICH, 2021. POND INVESTIGATION REPORT OF CERTAIN PONDS AT SOUTHERN ILLINOIS POWER COMPANY'S (SIPC) MARION STATION (MARION). PREPARED BY HALEY & ALDRICH, INC. FOR SIPC. FILE NUMBER 201285-000. SEPTEMBER 1, 2021.

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

POND 1/2 - CROSS SECTION LOCATION MAP

CONSULTANT

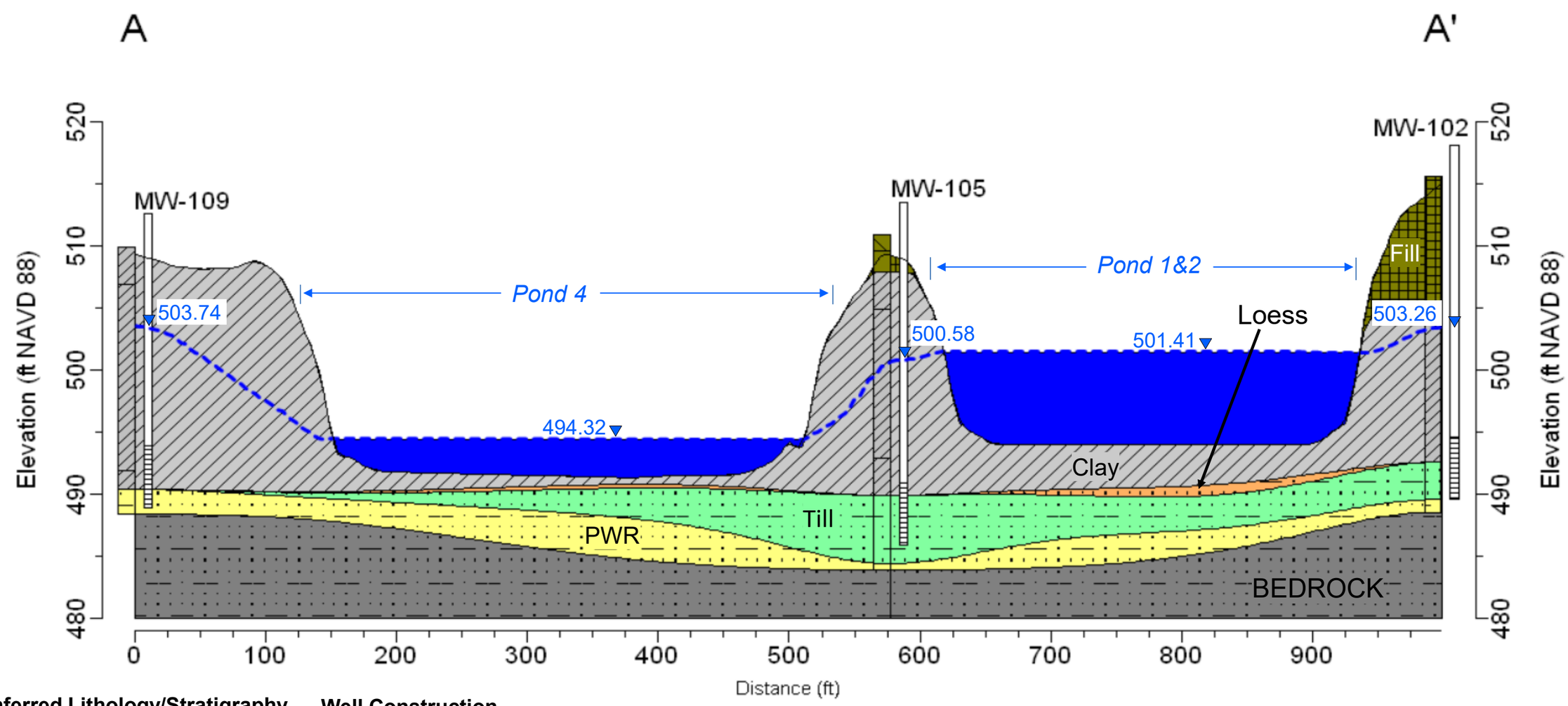
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YYYY-MM-DD	10/15/2026
DESIGNED	JV
PREPARED	NC
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	2A

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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Inferred Lithology/Stratigraphy

- Fill
- Clay
- Loess
- Till
- PWR
- Bedrock

Well Construction

- PVC riser
- PVC screen
- Estimated Groundwater Elevation Surface (ft NAVD 88)
- Observed Groundwater Elevation (ft NAVD 88)

NOTE(S)
1. VERTICAL EXAGGERATION X10
2. FT – FEET
3. NAVD 88 – NORTH AMERICAN VERTICAL DATUM OF 1998
4. GROUNDWATER AND SURFACE WATER ELEVATION BASED ON MANUAL OBSERVATION FROM SEPTEMBER 22, 2026
5. INFERRED LITHOLOGY AND STRATIGRAPHY BASED ON OBSERVATIONS FROM THE SEPTEMBER 2025 SITE INVESTIGATION AND INTERPRETATIONS OF GEOLOGIC MATERIALS.
6. POND 4 BATHYMETRY INCORPORATED BASED ON HALEY & ALDRICH (2021) MEMORANDUM (SEE REFERENCE 1). POND 1&2 BATHYMETRY IS NOT AVAILABLE AND BOTTOM ELEVATIONS ARE INFERRED BASED UPON AVAILABLE INFORMATION.
7. TOP OF BEDROCK ELEVATION IS INFERRED BASED ON REFUSAL DEPTH DURING BORING ADVANCEMENT.

REFERENCE(S)
1. HALEY & ALDRICH, 2021. POND INVESTIGATION REPORT OF CERTAIN PONDS AT SOUTHERN ILLINOIS POWER COMPANY'S (SIPC) MARION STATION (MARION). PREPARED BY HALEY & ALDRICH, INC. FOR SIPC. FILE NUMBER 201285-000. SEPTEMBER 1, 2021.

CLIENT
SOUTHERN ILLINOIS POWER COOPERATIVE

CONSULTANT
wsp

YYYY-MM-DD	2026-10-27
DESIGNED	SCM
PREPARED	JV
REVIEWED	JV
APPROVED	DFSC

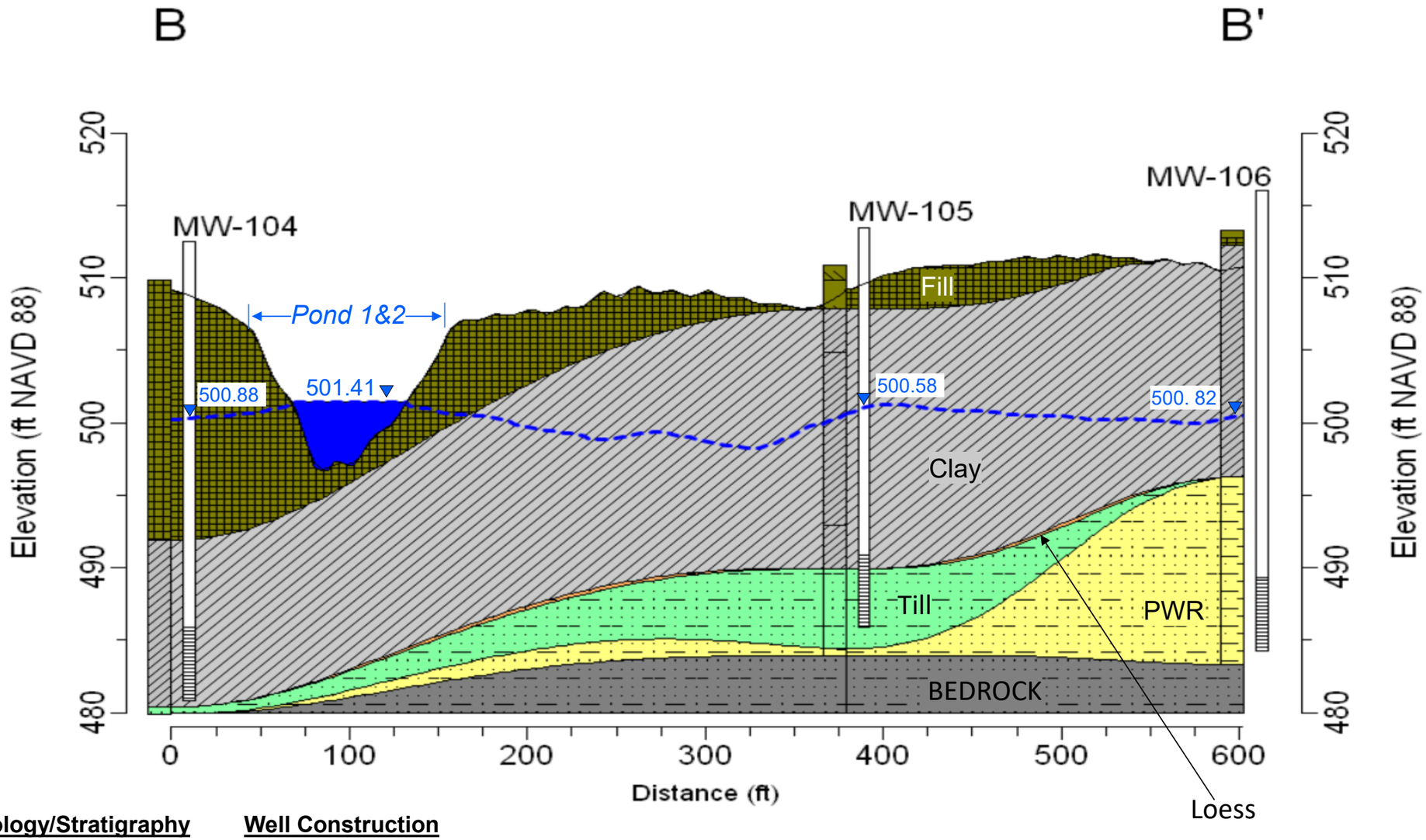
PROJECT
HYDROGEOLOGIC SITE CHARACTERIZATION – POND 1/2

TITLE
CROSS SECTION A-A'

PROJECT NO.
US-WSP-GLA21467997.4465

REV.
E

FIGURE
2B



Inferred Lithology/Stratigraphy

- Fill
- Clay
- Loess
- Till
- PWR
- Bedrock

Well Construction

- PVC riser
- PVC screen
- Estimated Groundwater Elevation Surface (ft NAVD 88)
- Observed Groundwater Elevation (ft NAVD 88)

NOTE(S)
1. VERTICAL EXAGGERATION X10
2. FT – FEET
3. NAVD 88 – NORTH AMERICAN VERTICAL DATUM OF 1998
4. GROUNDWATER AND SURFACE WATER ELEVATION BASED ON MANUAL OBSERVATION FROM SEPTEMBER 22, 2026
5. INFERRED LITHOLOGY AND STRATIGRAPHY BASED ON OBSERVATIONS FROM THE SEPTEMBER 2025 SITE INVESTIGATION AND INTERPRETATIONS OF GEOLOGIC MATERIALS.
6. POND 4 BATHYMETRY INCORPORATED BASED ON HALEY & ALDRICH (2021) MEMORANDUM (SEE REFERENCE 1). POND 1&2 BATHYMETRY IS NOT AVAILABLE AND BOTTOM ELEVATIONS ARE INFERRED BASED UPON AVAILABLE INFORMATION.
7. TOP OF BEDROCK ELEVATION IS INFERRED BASED ON REFUSAL DEPTH DURING BORING ADVANCEMENT.

REFERENCE(S)
1. HALEY & ALDRICH, 2021. POND INVESTIGATION REPORT OF CERTAIN PONDS AT SOUTHERN ILLINOIS POWER COMPANY'S (SIPC) MARION STATION (MARION). PREPARED BY HALEY & ALDRICH, INC. FOR SIPC. FILE NUMBER 201285-000. SEPTEMBER 1, 2021.

CLIENT
SOUTHERN ILLINOIS POWER COOPERATIVE

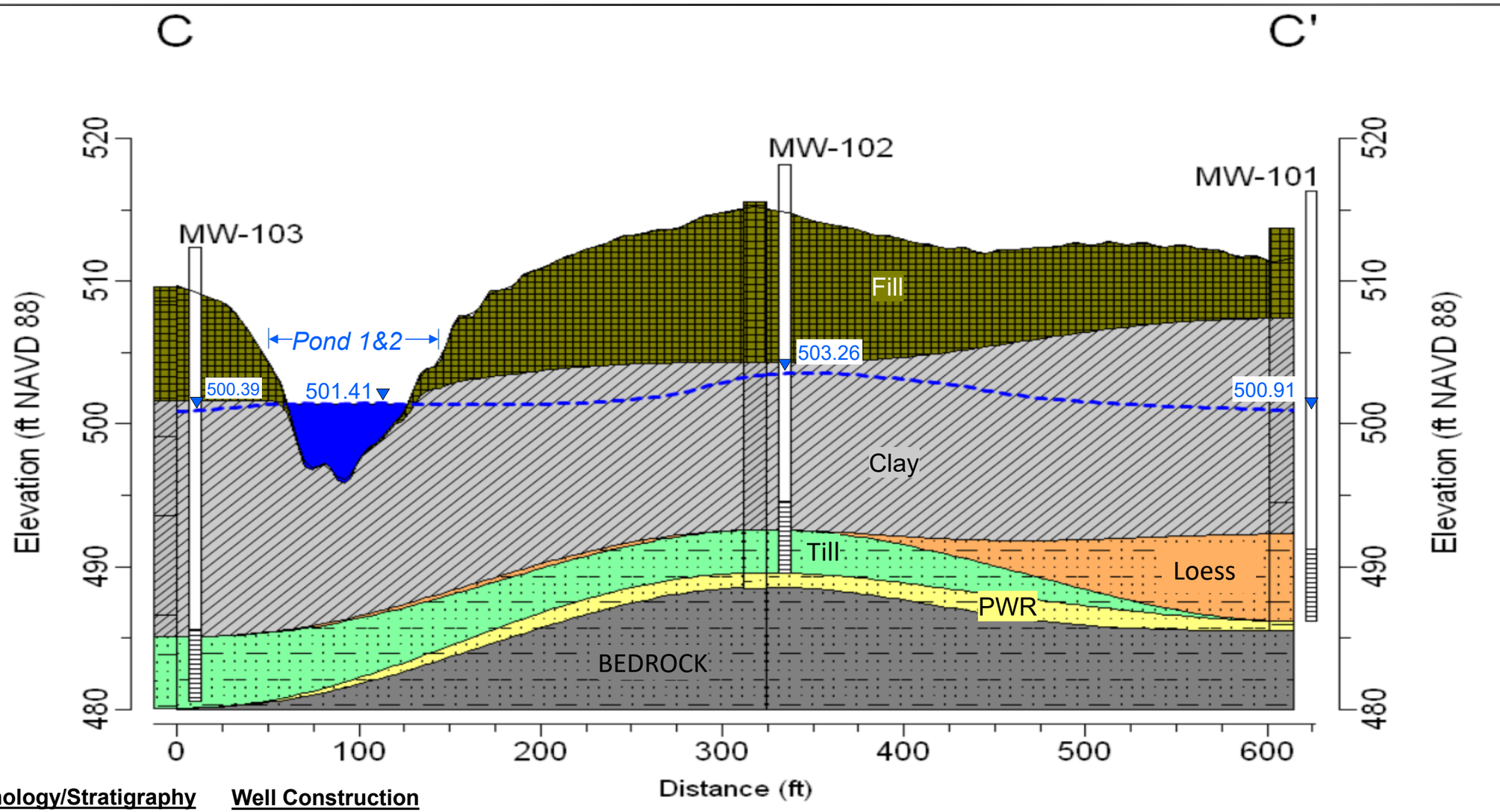
CONSULTANT
wsp

YYYY-MM-DD	2026-10-27
DESIGNED	SCM
PREPARED	JV
REVIEWED	JV
APPROVED	DFSC

PROJECT
HYDROGEOLOGIC SITE CHARACTERIZATION – POND 1/2

TITLE
CROSS SECTION B-B'

PROJECT NO. US-WSP-GLA21467997.4465 | REV. C | FIGURE 2C



Inferred Lithology/Stratigraphy

- Fill
- Clay
- Loess
- Till
- PWR
- Bedrock

Well Construction

- PVC riser
- PVC screen

- Estimated Groundwater Elevation Surface (ft NAVD 88)
- Observed Groundwater Elevation (ft NAVD 88)

NOTE(S)
1. VERTICAL EXAGGERATION X10
2. FT – FEET
3. NAVD 88 – NORTH AMERICAN VERTICAL DATUM OF 1998
4. GROUNDWATER AND SURFACE WATER ELEVATION BASED ON MANUAL OBSERVATION FROM SEPTEMBER 22, 2026
5. INFERRED LITHOLOGY AND STRATIGRAPHY BASED ON OBSERVATIONS FROM THE SEPTEMBER 2025 SITE INVESTIGATION AND INTERPRETATIONS OF GEOLOGIC MATERIALS.
6. POND 4 BATHYMETRY INCORPORATED BASED ON HALEY & ALDRICH (2021) MEMORANDUM (SEE REFERENCE 1). POND 1&2 BATHYMETRY IS NOT AVAILABLE AND BOTTOM ELEVATIONS ARE INFERRED BASED UPON AVAILABLE INFORMATION.
7. TOP OF BEDROCK ELEVATION IS INFERRED BASED ON REFUSAL DEPTH DURING BORING ADVANCEMENT.

REFERENCE(S)
1. HALEY & ALDRICH, 2021. POND INVESTIGATION REPORT OF CERTAIN PONDS AT SOUTHERN ILLINOIS POWER COMPANY'S (SIPC) MARION STATION (MARION). PREPARED BY HALEY & ALDRICH, INC. FOR SIPC. FILE NUMBER 201285-000. SEPTEMBER 1, 2021.

CLIENT
SOUTHERN ILLINOIS POWER COOPERATIVE

CONSULTANT
wsp

YYYY-MM-DD	2026-10-29
DESIGNED	SCM
PREPARED	JV
REVIEWED	JV
APPROVED	DFSC

PROJECT
HYDROGEOLOGIC SITE CHARACTERIZATION – POND 1/2

TITLE
CROSS SECTION C-C'

PROJECT NO. US-WSP-GLA21467997.4465 | REV. D | FIGURE 2D



LEGEND

- Approximate Limits of Pond 1/2
- Approximate Operating Limits
- Alfisols
- Entisols
- Inceptisols
- Data Not Available

0 1,000 2,000

1 inch equals 704 ft US Feet

NOTE(S)

1. SOIL INFORMATION IS DERIVED FROM THE USDA NRCS STATSGO2 DATABASE.
2. AREAS SHOWN AS "DATA NOT AVAILABLE" REPRESENT LOCATIONS FOR WHICH SOIL MAPPING INFORMATION IS NOT AVAILABLE WITHIN THE USDA STATSGO2 DATABASE.

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY USA_SOILS_MAP_UNITS: SOURCE: USDA NRCS, ESRI
WORLD IMAGERY: VANTOR

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

SOIL SURVEY MAP

CONSULTANT

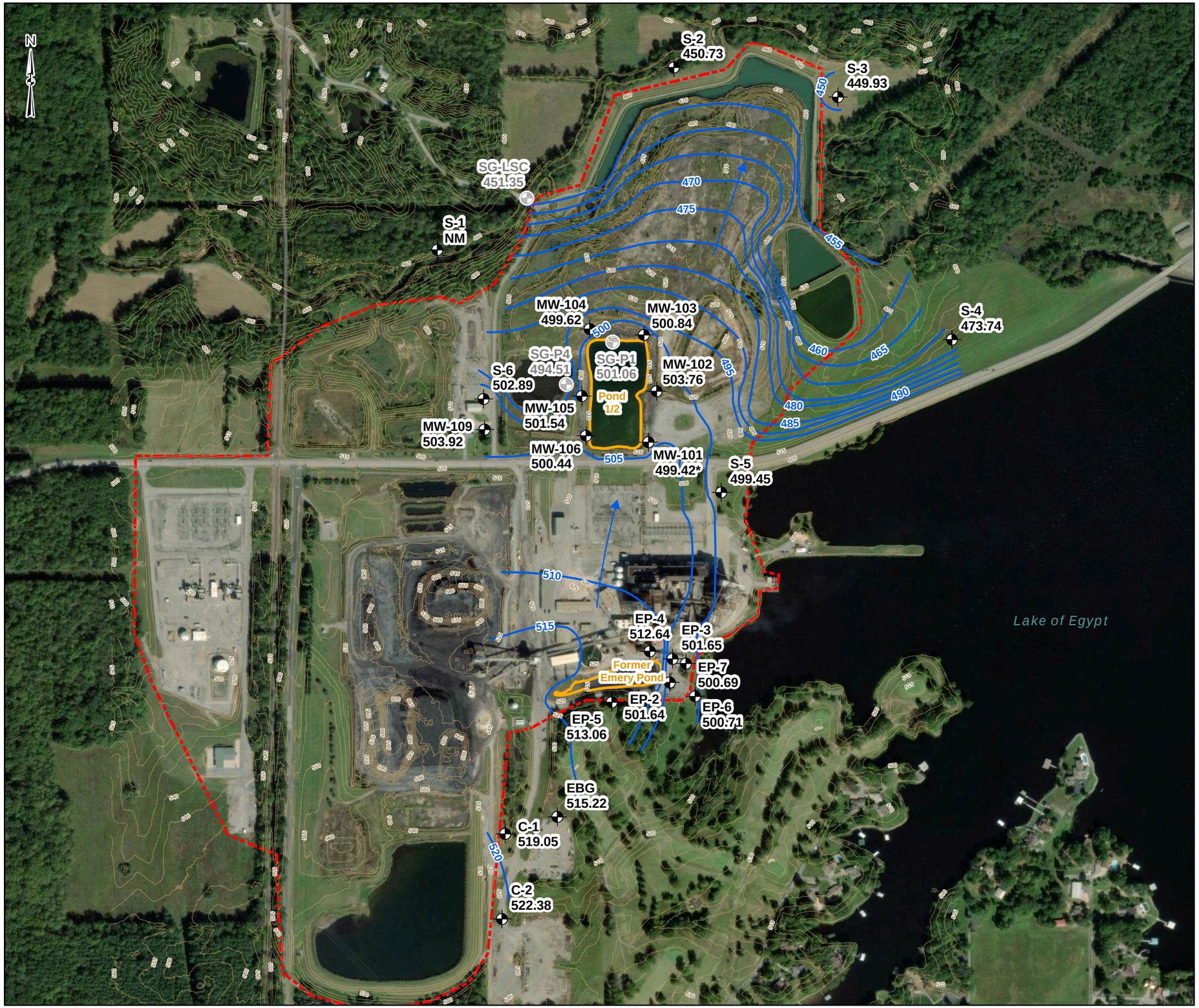
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MM-DD-YYYY	10/30/2026
DESIGNED	JV
PREPARED	NC
REVIEWED	JV
APPROVED	DFSC

PROJECT NO. CONTROL	REV.	FIGURE
GLA21467997.4465	-	3

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- Monitoring Well
- Staff Gauge
- Interpreted Groundwater Flow Direction
- Groundwater Elevation Contour (5 ft-msl Interval)
- Topographic Contour (5 ft-msl Interval)
- Approximate Limits of CCR Surface Impoundment
- Approximate Facility Limits

0 550 1,100

1 inch equals 550 ft

Feet

NOTE(S)

1. GROUNDWATER ELEVATIONS MEASURED ON OCTOBER 8, 2025.
2. NM = NOT MEASURED
3. * = MW-101 WAS NOT USED IN THE CONTOUR INTERPRETATION.

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET2. IMAGERY WORLD IMAGERY: VANTOR3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE
4. 2020 LIDAR/DTM DATA DOWNLOADED FROM ILHMP TO GENERATE TOPOGRAPHIC CONTOURS.

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

SITE-WIDE OCTOBER 2025 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM, KAS
REVIEWED	JV
APPROVED	DSCF

PROJECT NO. CONTROL: GLA21467997.4465

REV.: -

FIGURE: 4

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 250 500

1 inch equals 250 ft

Feet

NOTE(S)

1. WATER LEVEL MEASUREMENTS COLLECTED ON OCTOBER 8, 2025.
2. * = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

OCTOBER 2025 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO. CONTROL: GLA21467997.4465

REV.: -

FIGURE: 5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)
1. WATER LEVEL MEASUREMENTS COLLECTED ON NOVEMBER 17, 2025.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

NOVEMBER 2025 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	6

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)
1. WATER LEVEL MEASUREMENTS COLLECTED ON DECEMBER 2 AND 3, 2025.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

DECEMBER 2025 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	7

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)
1. WATER LEVEL MEASUREMENTS COLLECTED ON JANUARY 20 AND 21, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

JANUARY 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO. GLA21467997.4465 | CONTROL | REV. - | FIGURE 8

B:\Southern Illinois Power Cooperative\Marion_Power_Plant\09_PRO\21467997_Operating_Permit_Application\0011_GWE_20260011_GWE_2026.aprx

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)
1. WATER LEVEL MEASUREMENTS COLLECTED ON FEBRUARY 26, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

FEBRUARY 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	9

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)

1. WATER LEVEL MEASUREMENTS COLLECTED ON MARCH 2 AND 3, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

MARCH 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	10

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)
1. WATER LEVEL MEASUREMENTS COLLECTED ON APRIL 15 AND 16, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

APRIL 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO. GLA21467997.4465 | CONTROL | REV. - | FIGURE 11

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0

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LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)

1. WATER LEVEL MEASUREMENTS COLLECTED ON MAY 18, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

MAY 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	12

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)
1. ATER LEVEL MEASUREMENTS COLLECTED ON JUNE 3, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

JUNE 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO. GLA21467997.4465 | CONTROL | REV. - | FIGURE 13

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)
1. WATER LEVEL MEASUREMENTS COLLECTED ON JULY 15, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

JULY 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

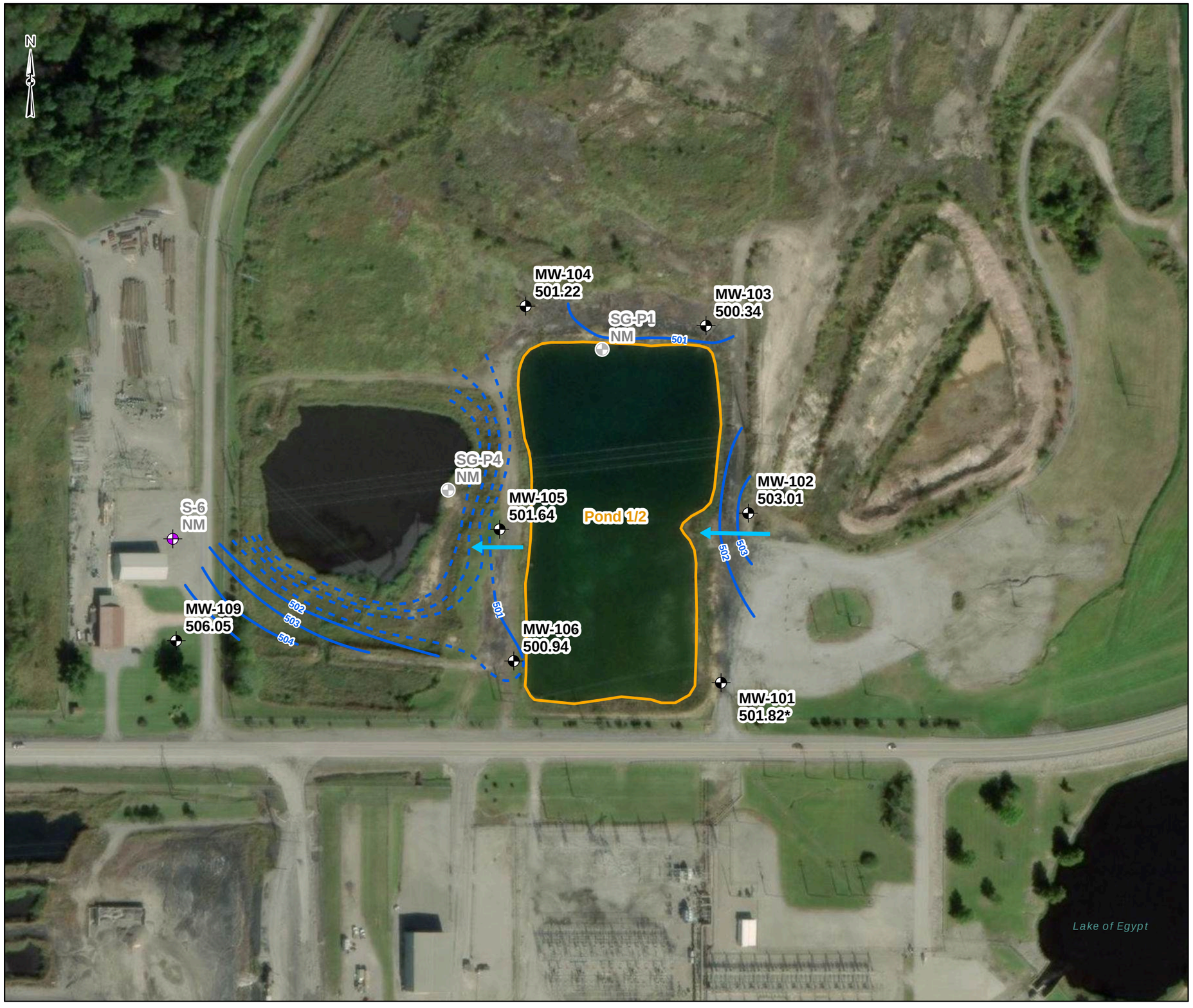
PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	14

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

Feet

1 inch equals 165 ft

NOTE(S)

1. WATER LEVEL MEASUREMENTS COLLECTED ON AUGUST 10, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

AUGUST 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	15

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)
1. WATER LEVEL MEASUREMENTS COLLECTED ON SEPTEMBER 3, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

SEPTEMBER 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

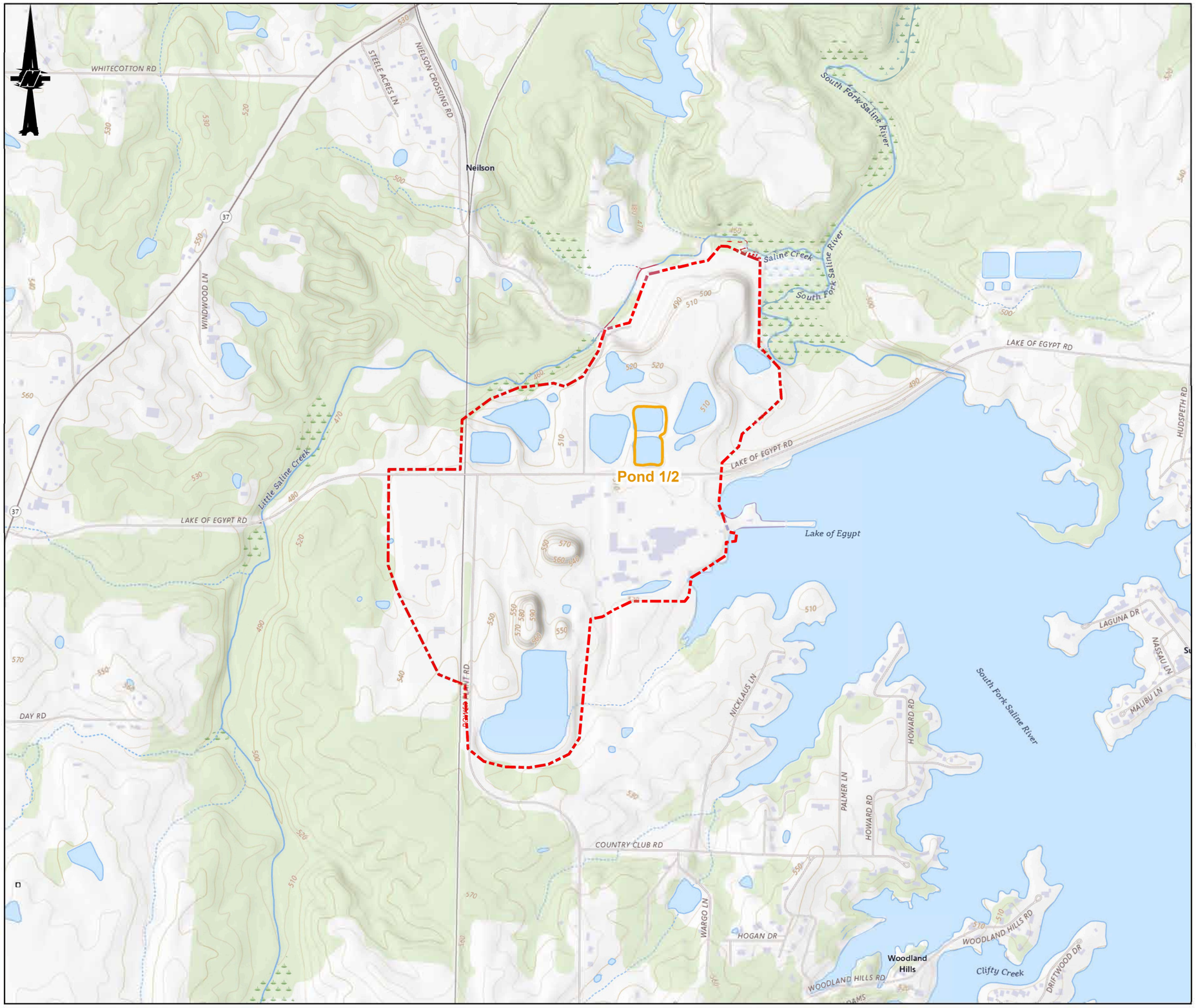
PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	16

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0



LEGEND

- Approximate Limits of Pond 1/2
- Approximate Operating Limits

0 0.25 0.5

1 inch equals 1,014 ft Miles

NOTE(S)

1. TOPOGRAPHIC AND SURFACE-WATER INFORMATION IS DERIVED FROM THE USGS TOPOGRAPHIC MAP SERVICE. BODIES OF WATER SHOWN WITHIN THE OPERATING LIMITS ARE APPROXIMATE AND MAY NOT REPRESENT ACTUAL SITE CONDITIONS.

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY USGSTOPO: USGS THE NATIONAL MAP: NATIONAL BOUNDARIES DATASET, 3DEP ELEVATION PROGRAM, GEOGRAPHIC NAMES INFORMATION SYSTEM, NATIONAL HYDROGRAPHY DATASET, NATIONAL LAND COVER DATABASE, NATIONAL STRUCTURES DATASET, AND NATIONAL TRANSPORTATION DATASET; USGS GLOBAL ECOSYSTEMS; U.S. CENSUS BUREAU TIGER/LINE DATA; USFS ROAD DATA; NATURAL EARTH DATA; U.S. DEPARTMENT OF STATE HIU; NOAA NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION. DATA REFRESHED SEPTEMBER 4, 2026-V1.2

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

SITE TOPOGRAPHY AND SURFACE WATER FEATURES

CONSULTANT

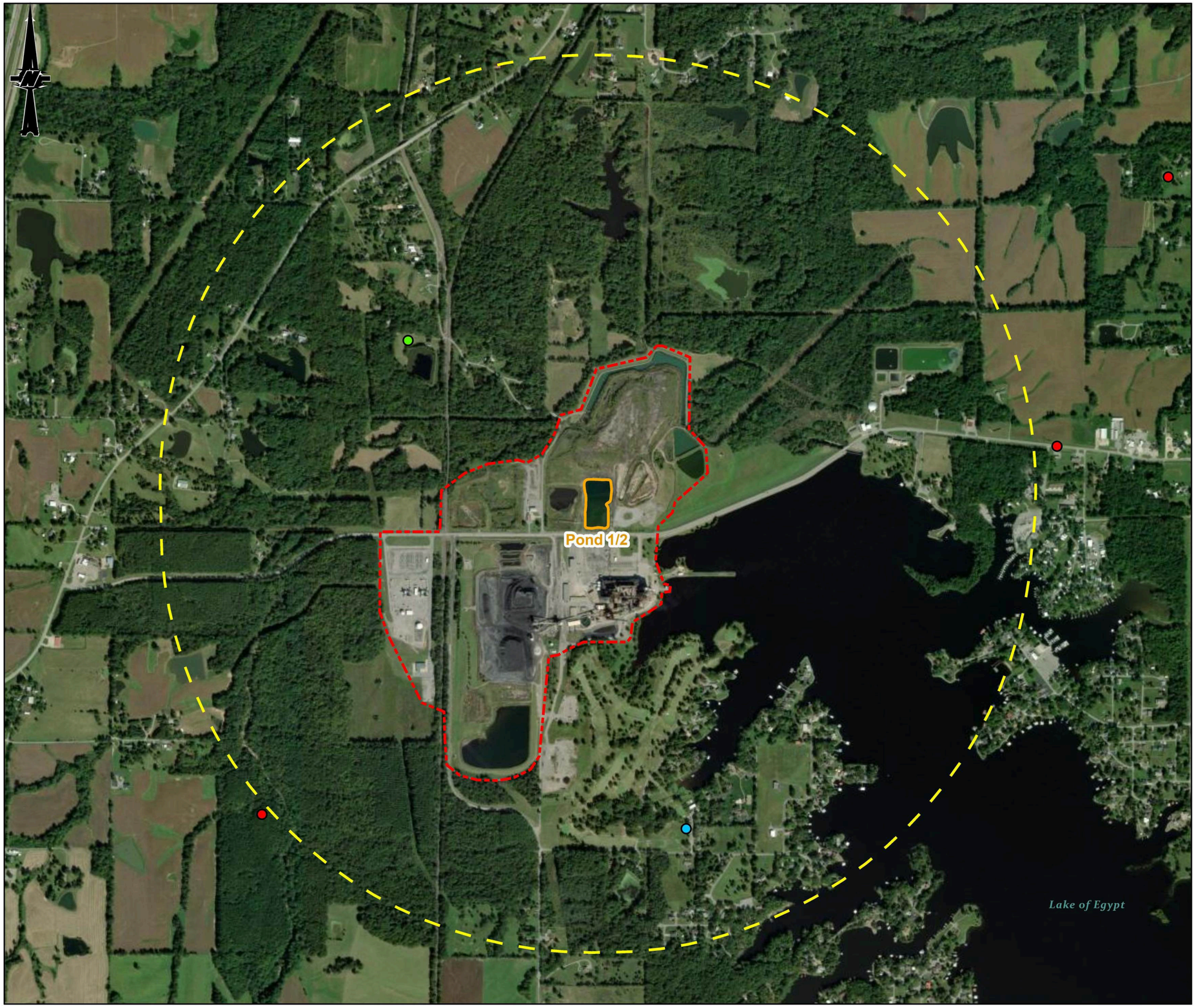
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MM-DD-YYYY	10/30/2026
DESIGNED	JV
PREPARED	NC
REVIEWED	
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	17

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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LEGEND

- Private Well Within 1-Mile Buffer of Pond 1/2
- Private Well Outside 1-Mile Buffer of Pond 1/2
- Overlapping Private Well and Irrigation Well
- Approximate Limits of Pond 1/2
- Approximate Operating Limits

0 0.25 0.5

1 inch equals 1,217 ft Miles

NOTE(S)

1. PRIVATE WELL LOCATIONS WERE OBTAINED FROM THE ILLINOIS WATER AND RELATED WELLS DATABASE.

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: EARTHSTAR GEOGRAPHICS
3. PRIVATE WELL LOCATIONS: ILLINOIS STATE WATER SURVEY (ISWS) ILLINOIS WATER AND RELATED WELLS DATABASE, ACCESSED OCTOBER 2026.

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

HYDROGEOLOGIC SITE CHARACTERIZATION - POND 1/2

TITLE

NEARBY PUMPING WELLS

CONSULTANT

wsp

MM-DD-YYYY	10/30/2026
DESIGNED	JV
PREPARED	NC
REVIEWED	
APPROVED	

PROJECT NO. CONTROL	REV.	FIGURE
GLA21467997.4465	-	18

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Attachment A Boring and Construction Logs

RECORD OF BOREHOLE: MW-101

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 11, 2025	ELEVATION:	513.7 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348462.3 ft E: 804679.6 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILL METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT: Plastic & Liquid Limits (%), Water Content (%), NP Nonplastic	SHEAR STRENGTH: Nat Vane, Rem Vane, Pocket Pen Su, Q, U, Torvane	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
0	CME 550X	Hollow Stem Auger - 6.00-in Hole Dia.	FILL - BOTTOM ASH, non plastic fines, some gravel; black; non-cohesive, dry, compact to dense.			0.0	SS-01	SS	20	4-8-9	17	NP			0.00 - 3.00 ft: SS-01 blows: 4-8-9-29		
1																	
2																	2.00 ft bgs: Top of Bentonite
3							SS-02	SS	63	17-29-29	58				3.00 - 6.00 ft: SS-02 blows: 17-29-29-27-27-19		
4																	
5																	
6						507.4	SS-03	SS	80	2-3-4	7		0.25		6.00 - 8.00 ft: SS-03 blows: 2-3-4-4		
7			(CL) sandy SILTY CLAY, medium plasticity; light brown; cohesive, w < PL, firm to stiff, trace coal fines throughout, tan mottling.	CL		6.3											
8							SS-04	SS	90	1-3-4	7		0.38		8.00 - 11.00 ft: SS-04 blows: 1-3-4-6-6-6		
9																	
10																	
11							SS-05	SS	105	3-3-5	8		0.38		11.00 - 13.00 ft: SS-05 blows: 3-3-5-5		
12																	
13							SS-06	SS	103	2-3-5	8		0.38		13.00 - 16.00 ft: SS-06 blows: 2-3-5-6-7-6		
14																	
15																	
16							SS-07	SS	108	2-4-5	9		0.75		16.00 - 18.00 ft: SS-07 blows: 2-4-5-6		
17																	
18							SS-08	SS	103	2-5-8	13		0.75		18.00 - 21.00 ft: SS-08 blows: 2-5-8-9-10-10		
19						494.5											
			(CL) SILTY CLAY, medium plasticity, trace sand; dark yellowish brown mottled light gray; cohesive, w < PL, stiff.			19.2							1.25				
20																	20.00 ft bgs: Top of Filter Sand
21						492.3	SS-09	SS	174	11-60/5"	60		0.62		21.00 - 23.00 ft: SS-09 blows: 11-60/5", Rec: 100%		
22			PARTIALLY WEATHERED ROCK, SAMPLED AS - (ML) SILT, non plastic; pale brown; cohesive, w < PL, hard.	ML		21.4											
23							SS-10	SS	133	56-60/4"	60				23.00 - 26.00 ft: SS-10 blows: 56-60/4", Rec: 100%		
24																	
25																	

Continued on Next Page

HAMMER TYPE: Automatic

REV:

LOGGED: WHN DATE: Sep 11, 2025

CHECKED: MASV DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-101

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 11, 2025	ELEVATION:	513.7 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348462.3 ft E: 804679.6 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILL METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT (Plastic & Liquid Limits (%); Water Content (%); NP Nonplastic)	SHEAR STRENGTH (Nat Vane; Rem Vane; Pocket Pen Su; Q; U; Torvane)	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
26	CME 550X	Hollow Stem Auger - 6.00-in Hole Dia.	PARTIALLY WEATHERED ROCK, SAMPLED AS - (ML) SILT, non plastic; pale brown; cohesive, w < PL, hard.	ML			SS 11	S S	240	60/3"	60				26.00 - 28.00 ft: SS-11 blows: 60/3", Rec: 100%	15Sep25	22.50 - 27.50 ft bgs: Screen Interval
28						485.5	SS 12	S S	188	60/2"	60				28.00 - 31.00 ft: SS-12 blows: 60/2", Rec: 100%		
			End of hole at 28.16 ft.														

HAMMER TYPE: Automatic

REV:

LOGGED: WHN DATE: Sep 11, 2025

CHECKED: MASV DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-102

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 11, 2025	ELEVATION:	515.6 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348748.5 ft E: 804725.7 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DRILL RIG: CME 550X
DRILL METHOD: Hollow Stem Auger - 6.00-in Hole Dia.

DEPTH (ft)	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT	SHEAR STRENGTH	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
0	FILL - BOTTOM ASH, fine to medium, trace gravel; black; non-cohesive, dry, loose to dense, trace tan fly ash.			0.0	SS-01	SS	57	2-6-9	15				0.00 - 3.00 ft: SS-01 blows: 2-6-9-9-10-19		
1															
2															2.00 ft bgs: Top of Bentonite
3					SS-02	SS	67	17-34-39	60				3.00 - 6.00 ft: SS-02 blows: 17-34-39-36-37-35		
4										O	NP				
5															
6					SS-03	SS	85	10-13-10	23				6.00 - 8.00 ft: SS-03 blows: 10-13-10-8		
7															
8					SS-04	SS	57	3-4-2	6				8.00 - 11.00 ft: SS-04 blows: 3-4-2-4-3-3		
9															
10															
11				504.3	SS-05	SS	22	1-3-3	6				11.00 - 13.00 ft: SS-05 blows: 1-3-3-5		
12	(CL) SILTY CLAY, low plasticity, trace fine sand; light orangish brown mottled light grayish tan; cohesive, w < PL, firm to stiff.	CL		11.3							0.88				
13					SS-06	SS	11	2-3-5	8	H			13.00 - 16.00 ft: SS-06 blows: 2-3-5-6-6-7	15Sep25	
14															
15											0.50				
16					SS-07	SS	100	2-3-4	7				16.00 - 18.00 ft: SS-07 blows: 2-3-4-6		
17											0.88				
18					SS-08	SS	100	2-4-5	9				18.00 - 21.00 ft: SS-08 blows: 2-4-5-8-9-9		
19															19.00 ft bgs: Top of Filter Sand
20											1.50				
21					SS-09	SS	100	3-6-8	14				21.00 - 23.00 ft: SS-09 blows: 3-6-8-11		
22											1.62				
23				492.6							1.62				
24	(CL) sandy SILTY CLAY, low plasticity, fine sand, trace gravel; light orangish brown mottled light grayish tan; cohesive, w < PL, firm to stiff.			23.0	SS-10	SS	100	10-13-15	28	H			23.00 - 26.00 ft: SS-10 blows: 10-13-15-15-19-20		21.00 - 26.00 ft bgs: Screen Interval
25															

Continued on Next Page

HAMMER TYPE: Automatic

REV:

LOGGED: MASV
CHECKED: WHN

DATE: Sep 11, 2025
DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-102

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 11, 2025	ELEVATION:	515.6 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348748.5 ft E: 804725.7 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILL METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT (Plastic & Liquid Limits (%); Water Content (%); NP Nonplastic)	SHEAR STRENGTH (Nat Vane; Rem Vane; Pocket Pen Su; Q; U; Torvane)	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
26	CME 550X	Hollow Stem Auger - 6.00-in	(CL) sandy SILTY CLAY, low plasticity, fine sand, trace gravel; light orangish brown mottled light grayish tan; cohesive, w < PL, firm to stiff. - 26.0 to 27.0 ft: trace coarse sand and weathered rock fragments	CL		488.6	8	SS	100	7 / 7 / 6	13		Torvane: 1.38		26.00 - 28.00 ft: SS-11 blows: 60/2", Rec: 100%		
27			PARTIALLY WEATHERED ROCK, SAMPLED AS - (SM) SILTY SAND, fine; tan; non-cohesive, dry, very dense. End of hole at 27.08 ft.			27.0 488.5	9	SS	100	50/1"	50/1"				27.00 - 29.00 ft: SS-12 blows: 60/1", Rec: 100%		
28																	
29																	
30																	
31																	
32																	
33																	
34																	
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50																	

HAMMER TYPE: Automatic

REV:

LOGGED: MASV DATE: Sep 11, 2025

CHECKED: WHN DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-103

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 12, 2025	ELEVATION:	509.6 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 349065.2 ft E: 804654.3 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILL METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT: Plastic & Liquid Limits (%) / Water Content (%) / NP Nonplastic	SHEAR STRENGTH: Nat Vane / Rem Vane / Pocket Pen Su / Q / U / Torvane	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
0	CME 550X	Hollow Stem Auger - 6.00-in Hole Dia.	TOPSOIL - (CL) SILTY CLAY, low plasticity, some gravel; dark gray; cohesive, w < PL, hard, trace fly ash gravel.	CL		0.0 / 508.6	SS-01	SS	67	11-35-87	60				0.00 - 3.00 ft: SS-01 blows: 11-35-87-40-26-34		
1			FILL - BOTTOM ASH, medium to coarse, poorly graded; black; non-cohesive, moist, very loose to very dense.			1.0											
2																	2.00 ft bgs: Top of Bentonite
3							SS-02	SS	63	9-14-12	26				3.00 - 6.00 ft: SS-02 blows: 9-14-12-13-14-12		
4																	
5																	
6			- 6.0 to 8.0 ft: wet				SS-03	SS	50	1-1-2	3				6.00 - 8.00 ft: SS-03 blows: 1-1-2-1		
7																	
8			(CL) sandy SILTY CLAY, low plasticity, fine sand; light brown to light gray; cohesive, w > PL, very soft, trace coal fines.			501.6 / 8.0	SS-04	SS	70	1-0-0	0				8.00 - 11.00 ft: SS-04 blows: 1-0-0-0-2-2		
9																15Sep25	
10						499.1											
11			(CL) sandy SILTY CLAY, low plasticity, trace gravel; light brown to light gray; cohesive, w < PL, stiff.			10.5	SS-05	SS	100	3-3-6	9		0.38		11.00 - 13.00 ft: SS-05 blows: 1-3-3-5		
12													1.38				
13							SS-06	SS							13.00 - 16.00 ft: SS-06 data unavailable		
14																	
15																	
16			- 16.0 ft: changes to W~PL	CL			SS-07	SS	100	1-2-5	7	H	1.25		16.00 - 18.00 ft: SS-07 blows: 1-2-5-7		
17																	
18							SS-08	SS	73	3-7-8	15	H	1.25		18.00 - 21.00 ft: SS-08 blows: 3-7-8-9-9-7		
19																	
20																	
21							SS-09	SS	100	5-4-5	9		0.88		21.00 - 23.00 ft: SS-09 blows: 5-4-5-5		
22																	22.00 ft bgs: Top of Filter Sand
23			- 23.0 to 24.5 ft: trace sand												23.00 - 26.00 ft: SS-10 blows: 2-3-12-13-60/5"		
24			PARTIALLY WEATHERED ROCK, SAMPLED AS - sandy SILTY CLAY, fine sand, trace gravel; reddish brown mottled light gray; non-cohesive, dry, very dense.			485.1 / 24.5	SS-10	SS	73	2-31-12	43	H	0.38				
25																	

Continued on Next Page

HAMMER TYPE: Automatic

REV:

LOGGED: MASV DATE: Sep 12, 2025

CHECKED: WHN DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-103

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 12, 2025	ELEVATION:	509.6 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 349065.2 ft E: 804654.3 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILL METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT	SHEAR STRENGTH	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
26	CME 550X	Hollow Stem Auger - 6.00-in Hole Dia.	PARTIALLY WEATHERED ROCK, SAMPLED AS - sandy SILTY CLAY, fine sand, trace gravel; reddish brown mottled light gray; non-cohesive, dry, very dense.	CL		480.1	SS-11	SS	100	14-29-60/5"	60		2.38		26.00 - 28.00 ft: SS-11 blows: 14-29-60/5"		24.00 - 29.00 ft bgs: Screen Interval
27																	
28							SS-12	SS	100	25-60/6"	60				28.00 - 31.00 ft: SS-12 blows: 25-60/6"		
29			End of hole at 29.50 ft.														
30																	
31																	
32																	
33																	
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36																	
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42																	
43																	
44																	
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46																	
47																	
48																	
49																	
50																	

WATER CONTENT: Plastic & Liquid Limits (%); Water Content (%); NP Nonplastic

SHEAR STRENGTH: Nat Vane; Rem Vane; Pocket Pen Su; Q; U; Torvane

HAMMER TYPE: Automatic

REV:

LOGGED: MASV DATE: Sep 12, 2025

CHECKED: WHN DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-104

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 12, 2025	ELEVATION:	509.9 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 349098.0 ft E: 804349.7 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DRILL RIG: CME 550X
DRILL METHOD: Hollow Stem Auger - 6.00-in Hole Dia.

DEPTH (ft)	DESCRIPTION	USCS	ELEV. DEPTH (ft)	NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT	SHEAR STRENGTH	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
0	FILL - (CL) SILTY CLAY, low plasticity, trace sand; brownish black; cohesive, w < PL, stiff, coal fines throughout, trace organics.		0.0	SS-01	SS	93	9-11-10	21				0.00 - 3.00 ft: SS-01 blows: 9-11-10-12-19-19		
2	- 2.5 to 2.8 ft: lens of gray, coarse sand-sized fly ash		506.9											2.00 ft bgs: Top of Bentonite
3	FILL - BOTTOM ASH, non plastic fines, some fine to coarse subangular gravel; black, trace silt; non-cohesive, wet, very loose to compact, slightly cohesive.		3.0	SS-02	SS	67	8-36-102	60				3.00 - 6.00 ft: SS-02 blows: 8-36-102-43-56-58		
4	- 3.0 to 6.0 ft: trace industrial metal scrap													
6				SS-03	SS	100	3-2-2	4		NP		6.00 - 8.00 ft: SS-03 blows: 3-2-2-2		
8	- 8.0 to 16.0 ft: possible voids			SS-04	SS	10	1-0-1	1				8.00 - 11.00 ft: SS-04 blows: 1-0-0-1-0-1	15Sep25	
10														
11				SS-05	SS	80	0-0-1	1				11.00 - 13.00 ft: SS-05 blows: 0-0-1-1		
12														
13				SS-06	SS	90	0-1-1	2				13.00 - 16.00 ft: SS-06 blows: 0-1-1-1-2-2		
14														
15	- 15.0 to 15.2 ft: light gray silty clay inclusion													
16				SS-07	SS	100	1-2-4	6		NP		16.00 - 18.00 ft: SS-07 blows: 1-2-4-2		
17														
18	(CL) sandy SILTY CLAY, low plasticity, fine to medium sand; orangish brown to reddish brown; cohesive, w ~ PL, soft.	CL	491.9 18.0	SS-08	SS	50	0-0-0	0				18.00 - 21.00 ft: SS-08 blows: 0-0-0-1-2-4		
19	- 18.0 to 21.0 ft: possible voids													
20														
21				SS-09	SS	100	2-3-4	7		0.25		21.00 - 23.00 ft: SS-09 blows: 2-3-4-4		
22														22.00 ft bgs: Top of Filter Sand
23				SS-10	SS	100	1-4-3	7				23.00 - 26.00 ft: SS-10 blows: 1-4-3-4-5-5		
24														
25														

Continued on Next Page

HAMMER TYPE: Automatic

REV:

LOGGED: MASV
CHECKED: WHN

DATE: Sep 12, 2025
DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-104

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 12, 2025	ELEVATION:	509.9 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 349098.0 ft E: 804349.7 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILL METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT (Plastic & Liquid Limits (%); Water Content (%); NP Nonplastic)	SHEAR STRENGTH (Nat Vane; Rem Vane; Pocket Pen Su; Q; U; Torvane)	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
26	CME 550X	Hollow Stem Auger - 6.00-in Hole Dia.	(CL) sandy SILTY CLAY, low plasticity, fine to medium sand; orangish brown to reddish brown; cohesive, w ~ PL, soft.	CL			SS-11	SS	100	3-4-8	12		0.62		26.00 - 28.00 ft: SS-11 blows: 3-4-8-8		24.00 - 29.00 ft bgs: Screen Interval
27																	
28			- 28.0 to 29.5 ft: trace coarse sand												28.00 - 31.00 ft: SS-12 blows: 1-3-23-60/4"		
29						480.4	SS-12	SS	100	1-3-23	26		1.00				
30			PARTIALLY WEATHERED ROCK, SAMPLED AS - (SC) CLAYEY SAND, low plasticity fines; orangish brown to tan; non-cohesive, dry, very dense.	SC		29.5 / ~~479.9~~									~~30.00 ft: SS-13~~ blows: 60/0", Rec: 0%		
31			End of hole at 30.00 ft.														
32																	
33																	
34																	
35																	
36																	
37																	
38																	
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49																	
50																	

HAMMER TYPE: Automatic

REV:

LOGGED: MASV DATE: Sep 12, 2025

CHECKED: WHN DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-105

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 15, 2025	ELEVATION:	510.9 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348721.2 ft E: 804305.7 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DRILL RIG: CME 550X
DRILL METHOD: Hollow Stem Auger - 6.00-in Hole Dia.

DEPTH (ft)	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT	SHEAR STRENGTH	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
0	TOPSOIL - (ML) sandy SILT, non plastic, fine sand; dark brown, trace clay; non-cohesive, dry, very dense, some organics.			0.0	SS-01	SS	57	2-5-5	10				0.00 - 20.00 ft: No groundwater encountered. 0.00 - 3.00 ft: SS-01 blows: 2-5-5-10-6		
3	(CL) sandy SILTY CLAY, low plasticity, trace gravel; light brown; cohesive, w < PL, firm to stiff, trace gray mottling. - 3.0 to 6.0 ft: some sand	CL		507.9 3.0	SS-02	SS	67	2-4-4	8		0.50		3.00 - 6.00 ft: SS-02 blows: 2-4-4-5-6-6		
6					SS-03	SS	75	3-4-5	9				6.00 - 8.00 ft: SS-03 blows: 3-4-5-4		
8	- 8.0 ft: changes to W~PL				SS-04	SS	100	2-3-4	7		0.38		8.00 - 11.00 ft: SS-04 blows: 2-3-4-4-6-6		
11					SS-05	SS	100	2-3-5	8				11.00 - 13.00 ft: SS-05 blows: 2-3-5-5		
13					SS-06	SS	100	3-4-5	9	PL ⊣	1.12		13.00 - 16.00 ft: SS-06 blows: 3-4-5-7-7-7		
16					SS-07	SS	70	2-7-6	13		0.88		16.00 - 18.00 ft: SS-07 blows: 2-2-6-8		
18	(CL) sandy SILTY CLAY, low plasticity, fine sand; light brown; cohesive, w ~ PL, stiff.			492.9 18.0	SS-08	SS	100	8-11-12	23		0.75		18.00 - 21.00 ft: SS-08 blows: 8-11-12-60/5"		18.00 ft bgs: Top of Filter Sand
21	PARTIALLY WEATHERED ROCK, SAMPLED AS - sandy SILTY CLAY, fine sand; reddish brown to tan; non-cohesive, dry, very dense.			489.9 21.0	SS-09	SS	100	24-45-60/5"	60				21.00 - 23.00 ft: SS-09 blows: 24-45-60/5"		20.00 - 25.00 ft bgs: Screen Interval
23					SS-10	SS	100	21-60/5"	60	○ ⊣			23.00 - 25.00 ft: SS-10 blows: 21-60/5"		
25															

Continued on Next Page

WATER CONTENT: ⊢ Plastic & Liquid Limits (%); ○ Water Content (%); NP Nonplastic; 0 25 50 75 100 125 150
SHEAR STRENGTH: × Nat Vane; ⊕ Rem Vane; ■ Pocket Pen Su; ● Q; ○ U; ▲ Torvane; 0 1 2 3 4 5

HAMMER TYPE: Automatic

REV:

LOGGED: MASV DATE: Sep 15, 2025

CHECKED: WHN DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-105

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 15, 2025	ELEVATION:	510.9 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348721.2 ft E: 804305.7 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILLING METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: REC %	SAMPLES: BLOWS	SAMPLES: N-VALUE	WATER CONTENT	SHEAR STRENGTH	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
25	CME 550X	Hollow Stem Auger - 6.0"	PARTIALLY WEATHERED ROCK, SAMPLED AS - sandy SILTY CLAY, fine sand; reddish brown to tan; non-cohesive, dry, very dense.	CL		485.4		SS	100		60/2"	H Plastic & Liquid Limits (%); ○ Water Content (%); NP Nonplastic	× Nat Vane; ⊕ Rem Vane; ■ Pocket Pen Su; ● Q; ○ U; ▲ Torvane		25.00 - 27.00 ft: ~~SS 11 blows;~~ 60/2", Rec: 100%		
26			25.0 to 27.0 ft: trace sandstone gravel														
27			End of hole at 25.50 ft.														
28																	
29																	
30																	
31																	
32																	
33																	
34																	
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50																	

HAMMER TYPE: Automatic

REV:

LOGGED: MASV DATE: Sep 15, 2025

CHECKED: WHN DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-106

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 15, 2025	ELEVATION:	513.3 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348498.9 ft E: 804329.6 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DRILL RIG: CME 550X
DRILL METHOD: Hollow Stem Auger - 6.00-in Hole Dia.

DEPTH (ft)	MATERIAL PROFILE: DESCRIPTION	USCS	ELEV. DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT	SHEAR STRENGTH	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
0	TOPSOIL - (SM) SILTY SAND, fine to medium, non plastic fines, some fine subrounded gravel; blackish brown; non-cohesive, dry, compact, some organics.		0.0											
			512.8											
1	FILL - BOTTOM ASH, poorly graded; black; non-cohesive, dry, compact.		0.5											
			512.3											
2	(CL) sandy SILTY CLAY, low plasticity; light brown; cohesive, w ~ PL, stiff, trace black staining.		1.0	SS-01	SS	50	5-13-17	30				0.00 - 3.00 ft: SS-01 blows: 5-13-17-14-14-13		2.00 ft bgs: Top of Bentonite
3														
4				SS-02	SS	50	4-6-7	13		0.50		3.00 - 6.00 ft: SS-02 blows: 4-6-7-5-4-6		
5														
6	- 6.0 to 8.0 ft: some light gray mottling			SS-03	SS	100	3-5-6	11		0.62		6.00 - 8.00 ft: SS-03 blows: 3-5-6-8		
7														
8		CL		SS-04	SS	100	3-3-5	8		0.50		8.00 - 11.00 ft: SS-04 blows: 3-3-5-5-6-5		
9														
10														
11				SS-05	SS	75	2-3-4	7				11.00 - 13.00 ft: SS-05 blows: 2-3-11-4		
12														
13	- 13.0 to 17.0 ft: some light gray mottling			SS-06	SS	100	2-3-4	7		0.75		13.00 - 16.00 ft: SS-06 blows: 2-3-4-4-6-7		
14														
15														
16												16.00 - 18.00 ft: SS-07 blows: 3-4-13-31		
17			496.3	SS-07	SS	100	3-4-13	17						
	PARTIALLY WEATHERED ROCK, SAMPLED AS - (SP) SAND, fine to medium, poorly graded, some gravel, trace fines; reddish brown to tan; sandstone; non-cohesive, dry, hard.		17.0											
18				SS-08	SS	100	44-60/5"	60				18.00 - 21.00 ft: SS-08 blows: 44-60/5"		
19														
20														
21		SP		SS-09	SS	95	60/5"	60				21.00 - 23.00 ft: SS-09 blows: 60/5", Rec: 95%		
22														22.00 ft bgs: Top of Filter Sand
23				SS-10	SS	100	60/4"	60				23.00 - 25.00 ft: SS-10 blows: 60/4", Rec: 100%		
24														
25														

Continued on Next Page

HAMMER TYPE: Automatic

REV:

LOGGED: MASV
CHECKED: WHN

DATE: Sep 15, 2025
DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-106

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 15, 2025	ELEVATION:	513.3 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348498.9 ft E: 804329.6 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILL METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT	SHEAR STRENGTH	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
26	CME 550X	Hollow Stem Auger - 6.00-in Hole Dia.	PARTIALLY WEATHERED ROCK, SAMPLED AS - (SP) SAND, fine to medium, poorly graded, some gravel, trace fines; reddish brown to tan; sandstone; non-cohesive, dry, hard.	SP			SS-11	SS	100	60/5"	60				25.00 - 27.00 ft: SS-11 blows: 60/5", Rec: 100%		
27																	
28							SS-12	SS	100	60/3"	60				28.00 - 30.00 ft: SS-12 blows: 60/3", Rec: 100%		
29																15Sep25	24.00 - 29.00 ft bgs: Screen Interval
30						483.3											
			End of hole at 30.00 ft.														
31																	
32																	
33																	
34																	
35																	
36																	
37																	
38																	
39																	
40																	
41																	
42																	
43																	
44																	
45																	
46																	
47																	
48																	
49																	
50																	

WATER CONTENT: Plastic & Liquid Limits (%); Water Content (%); NP Nonplastic. Scale: 0, 25, 50, 75, 100, 125, 150

SHEAR STRENGTH: Nat Vane; Rem Vane; Pocket Pen Su; Q; U; Torvane. Scale: 0, .5, 1, 2, 3, 4, 5

HAMMER TYPE: Automatic

REV:

LOGGED: MASV DATE: Sep 15, 2025

CHECKED: WHN DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-109

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 15, 2025	ELEVATION:	509.9 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348533.3 ft E: 803759.4 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILL METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT	SHEAR STRENGTH	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
0	CME 550X	Hollow Stem Auger - 6.00-in Hole Dia.	(CL) sandy SILTY CLAY, low plasticity, fine sand; brown mottled light brown; cohesive, w < PL, stiff.	CL		0.0	SS-01	SS	67	7-4-3	7		1.25		0.00 - 3.00 ft: SS-01 blows: 7-4-3-4-6-7		2.00 ft bgs: Top of Bentonite
3			(CL) SILTY CLAY, low plasticity, some sand; light brown; cohesive, w ~ PL, soft to firm.			506.9 3.0	SS-02	SS	100	2-4-5	9		0.50		3.00 - 6.00 ft: SS-02 blows: 2-4-5-6-6-6		
6							SS-03	SS	100	3-3-5	8		0.62		6.00 - 8.00 ft: SS-03 blows: 3-3-5-5		
8			- 8.0 to 13.0 ft: orangish brown				SS-04	SS	100	2-3-5	8		0.50		8.00 - 11.00 ft: SS-04 blows: 2-3-5-5-7-7		
11			- 11.0 to 13.0 ft: trace subangular gravel				SS-05	SS	100	3-3-4	7		0.38		11.00 - 13.00 ft: SS-05 blows: 3-3-4-4		
13							SS-06	SS	73	1-1-2	3		0.38		13.00 - 16.00 ft: SS-06 blows: 1-1-2-4-5-7	15Sep25	14.00 ft bgs: Top of Filter Sand
16			- 16.0 to 18.0 ft: trace fine sand				SS-07	SS	100	6-11-11	22				16.00 - 18.00 ft: SS-07 blows: 6-11-11-11		
18			(CL) sandy SILTY CLAY, low plasticity, fine sand, trace fine gravel; orangish brown; cohesive, w ~ PL, stiff.			491.9 18.0	SS-08	SS	100	5-11-14	25		1.38		18.00 - 21.00 ft: SS-08 blows: 5-11-14-60/3"		16.00 - 21.00 ft bgs: Screen Interval
19						490.4											
20			PARTIALLY WEATHERED ROCK, SAMPLED AS - (SP) SAND, fine, poorly graded, trace fines; tan; non-cohesive, dry, very dense.	SP		19.5	SS-09	SS	100	60/1"					21.00 - 23.00 ft: SS-09 blows: 60/1"		
21						488.4											
			End of hole at 21.50 ft.														

WATER CONTENT: Plastic & Liquid Limits (%); Water Content (%); NP Nonplastic. SHEAR STRENGTH: Nat Vane; Rem Vane; Pocket Pen Su; Q; U; Torvane.

HAMMER TYPE: Automatic

REV:

LOGGED: MASV DATE: Sep 15, 2025

CHECKED: WHN DATE: Oct 02, 2025

Draft

WELL CONSTRUCTION DIAGRAM
STICKUP

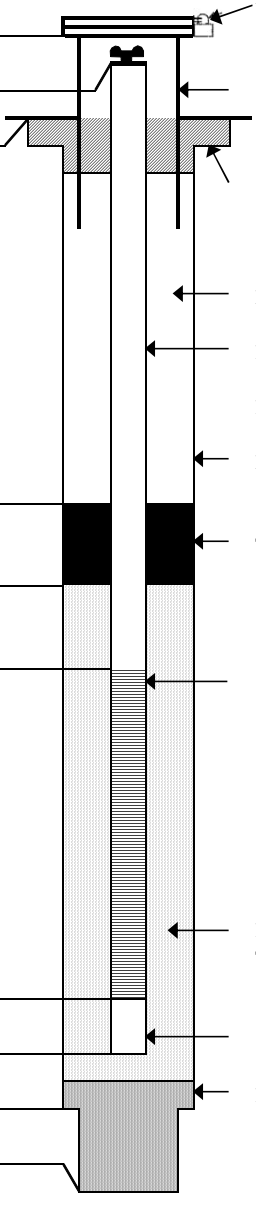
LOCATION ID:
MW-109

Project Name:	Southern Illinois Power Cooperative, Ponds 1 and 2	Date Started:	9/15/2025
Project Location:	Marion, IL	Date Completed:	9/15/2025
Project Number:	US-WSP-GLA21467997.4465	Logged By:	MASV
Task Number	2.1	Checked By:	
Subcontractor:	Holcomb Foundation Engineering	Checked Date:	
Drilling Method:	Hollow Stem Auger		
Development Method:	Pump and surge		
Development Date:	9/17/2025		
Bucking Posts/Ballards:	Yes		
Northing:	348533.26 ft	Easting:	803759.39 ft
Notes:	Static water level on day of installation 10.7 ft below top of riser		

Measuring Point Information

Measuring Point (MP) Type:	Ground
MP Elevation (ft amsl):	509.88

Item	Depth BMP (ft)	Elevation (ft amsl)
Stickup	-2.94	512.82
Riser Pipe (Top)	-2.67	512.55
Ground Surface Elevation	0	509.88
Top of Well Seal	2	507.88
Top of Sand Pack	14	495.88
Top of Screen	16	493.88
Base of Screen	21	488.88
End Cap	21.3	488.58
Drilled Depth	21.5	488.38
Bottom of Exploration	21.5	488.38
Bedrock Surface	19.5	490.38



Description

Lock Identification	NA
Stickup Casing Type:	Stainless Steel
Stickup Casing Diameter:	4 inches
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Chips
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inches
Borehole Diameter:	6 inches
Type of Seal:	Bentonite Chips
Screen Type:	10 Slot Schedule 40 PVC
Screen ID:	2 inchs
Screen Slot Size:	0.010 inches
Screen Length:	5 feet
Filter/Sand Pack Type:	Number 1 Sand
Sump:	
Fallback/Backfill:	Sand/Native

NOT TO SCALE

100 Apollo Drive, Chelmsford, Massachusets 02110

WELLCONSTRUCTION DIAGRAM - STICKUP
Southern Illinois Power Cooperative

WELL CONSTRUCTION DIAGRAM
STICKUP

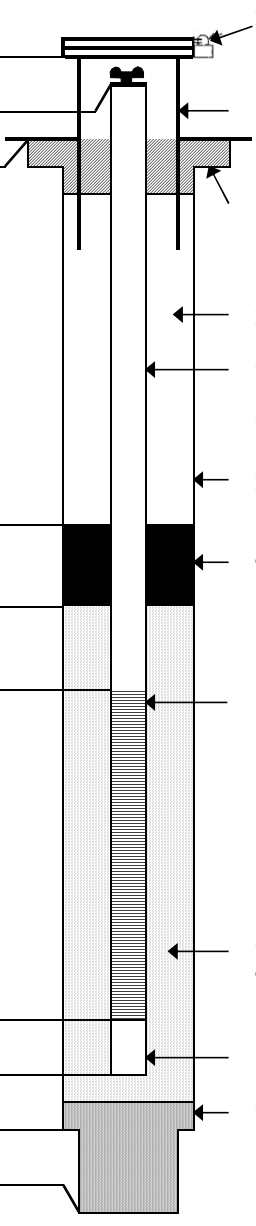
LOCATION ID:
MW-101

Project Name:	Southern Illinois Power Cooperative, Ponds 1 and 2	Date Started:	9/11/2025
Project Location:	Marion, IL	Date Completed:	9/11/2025
Project Number:	US-WSP-GLA21467997.4465	Logged By:	MASV
Task Number	2.1	Checked By:	
Subcontractor:	Holcomb Foundation Engineering	Checked Date:	
Drilling Method:	Hollow Stem Auger		
Development Method:	Pump and surge		
Development Date:	9/17/2025		
Bucking Posts/Ballards:	Yes		
Northing:	348462.30 ft	Easting:	804679.65 ft
Notes:	Dry on day of installation		

Measuring Point Information

Measuring Point (MP) Type:	Ground
MP Elevation (ft amsl):	513.69

Item	Depth BMP (ft)	Elevation (ft amsl)
Stickup	-3.11	516.8
Riser Pipe (Top)	-2.63	516.32
Ground Surface Elevation	0	513.69
Top of Well Seal	2	511.69
Top of Sand Pack	20	493.69
Top of Screen	22.5	491.19
Base of Screen	27.5	486.19
End Cap	27.6	486.09
Drilled Depth	27.9	485.79
Bottom of Exploration	27.9	485.79
Bedrock Surface	26	487.69



Description	
Lock Identification	NA
Stickup Casing Type:	Stainless Steel
Stickup Casing Diameter:	4 inches
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Chips
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inches
Borehole Diameter:	6 inches
Type of Seal:	Bentonite Chips
Screen Type:	10 Slot Schedule 40 PVC
Screen ID:	2 inchs
Screen Slot Size:	0.010 inches
Screen Length:	5 feet
Filter/Sand Pack Type:	Number 1 Sand
Sump:	
Fallback/Backfill:	Sand/Native

NOT TO SCALE

100 Apollo Drive, Chelmsford, Massachusets 02110

WELL CONSTRUCTION DIAGRAM
STICKUP

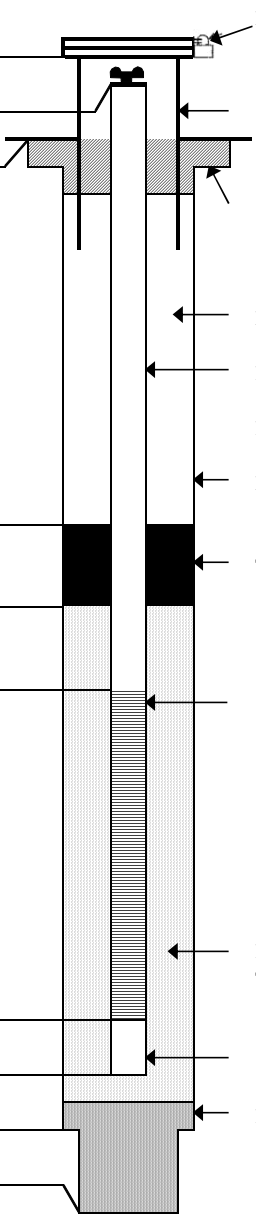
LOCATION ID:
MW-102

Project Name:	Southern Illinois Power Cooperative, Ponds 1 and 2		Date Started:	9/12/2025	Date Completed: 9/12/2025
Project Location:	Marion, IL		Logged By:	MASV	
Project Number:	US-WSP-GLA21467997.4465	Task Number 2.1	Checked By:		Checked Date:
Subcontractor:	Holcomb Foundation Engineering	Drilling Method: Hollow Stem Auger			
Development Method:	Pump and surge	Development Date: 9/17/2025			
Bucking Posts/Ballards:	Yes				
Northing:	348748.53 ft	Easting: 804725.69			
Notes:	Static water level on day of installation: 18.7 ft below top of riser				

Measuring Point Information

Measuring Point (MP) Type:	Ground
MP Elevation (ft amsl):	515.58

Item	Depth BMP (ft)	Elevation (ft amsl)
Stickup	-2.84	518.42
Riser Pipe (Top)	-2.53	518.11
Ground Surface Elevation	0	515.58
Top of Well Seal	2	513.58
Top of Sand Pack	19	496.58
Top of Screen	21	494.58
Base of Screen	26	489.58
End Cap	26.2	489.38
Drilled Depth	27.08	488.5
Bottom of Exploration	27.08	488.5
Bedrock Surface	27	488.58



Description	
Lock Identification	NA
Stickup Casing Type:	Stainless Steel
Stickup Casing Diameter:	4 inches
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Chips
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inches
Borehole Diameter:	6 inches
Type of Seal:	Bentonite Chips
Screen Type:	10 Slot Schedule 40 PVC
Screen ID:	2 inchs
Screen Slot Size:	0.010 inches
Screen Length:	5 feet
Filter/Sand Pack Type:	Number 1 Sand
Sump:	
Fallback/Backfill:	Sand/Native

NOT TO SCALE

100 Apollo Drive, Chelmsford, Massachusets 02110

WELL CONSTRUCTION DIAGRAM
STICKUP

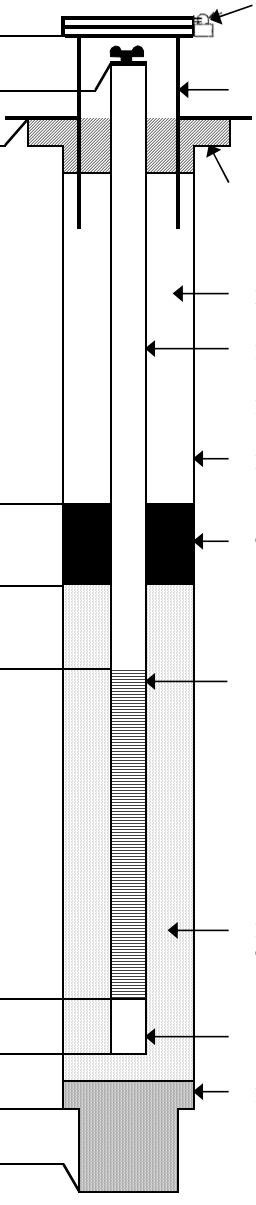
LOCATION ID:
MW-103

Project Name:	Southern Illinois Power Cooperative, Ponds 1 and 2			Date Started: 9/12/2025	Date Completed: 9/12/2025
Project Location:	Marion, IL			Logged By: MASV	
Project Number:	US-WSP-GLA21467997.4465	Task Number	2.1	Checked By:	Checked Date:
Subcontractor:	Holcomb Foundation Engineering	Drilling Method:	Hollow Stem Auger		
Development Method:	Pump and surge	Development Date:	9/17/2025		
Bucking Posts/Ballards:	Yes				
Northing:	349065.15 ft	Easting:	804654.26		
Notes:	Static water level on day of installation: 12.54 ft below top of riser				

Measuring Point Information

Measuring Point (MP) Type:	Ground
MP Elevation (ft amsl):	509.59

Item	Depth BMP (ft)	Elevation (ft amsl)
Stickup	-3.18	512.77
Riser Pipe (Top)	-2.75	512.34
Ground Surface Elevation	0	509.59
Top of Well Seal	2	507.59
Top of Sand Pack	22	487.59
Top of Screen	24	485.59
Base of Screen	29	480.59
End Cap	29.2	480.39
Drilled Depth	29.5	480.09
Bottom of Exploration	29.5	480.09
Bedrock Surface	24.5	485.09



Description	
Lock Identification	NA
Stickup Casing Type:	Stainless Steel
Stickup Casing Diameter:	4 inches
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Chips
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inches
Borehole Diameter:	6 inches
Type of Seal:	Bentonite Chips
Screen Type:	10 Slot Schedule 40 PVC
Screen ID:	2 inchs
Screen Slot Size:	0.010 inches
Screen Length:	5 feet
Filter/Sand Pack Type:	Number 1 Sand
Sump:	
Fallback/Backfill:	Sand/Native

NOT TO SCALE

100 Apollo Drive, Chelmsford, Massachusets 02110

WELLCONSTRUCTION DIAGRAM - STICKUP
Southern Illinois Power Cooperative

WELL CONSTRUCTION DIAGRAM
STICKUP

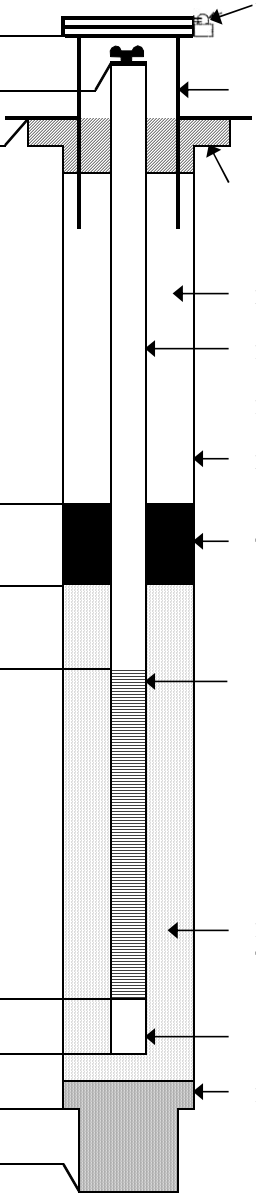
LOCATION ID:
MW-104

Project Name:	Southern Illinois Power Cooperative, Ponds 1 and 2		Date Started:	9/12/2025	Date Completed: 9/12/2025
Project Location:	Marion, IL		Logged By:	MASV	
Project Number:	US-WSP-GLA21467997.4465	Task Number 2.1	Checked By:		Checked Date:
Subcontractor:	Holcomb Foundation Engineering	Drilling Method: Hollow Stem Auger			
Development Method:	Pump and surge	Development Date: 9/17/2025			
Bucking Posts/Ballards:	Yes				
Northing:	349098.01 ft	Easting: 804349.67 ft			
Notes:	Static water level on day of installation: 12.1 ft below top of riser				

Measuring Point Information

Measuring Point (MP) Type:	Ground
MP Elevation (ft amsl):	509.86

Item	Depth BMP (ft)	Elevation (ft amsl)
Stickup	-3.02	512.88
Riser Pipe (Top)	-2.66	512.52
Ground Surface Elevation	0	509.86
Top of Well Seal	2	507.86
Top of Sand Pack	22	487.86
Top of Screen	24	485.86
Base of Screen	29	480.86
End Cap	29.3	480.56
Drilled Depth	30	479.86
Bottom of Exploration	30	479.86
Bedrock Surface	29.5	480.36



Description	
Lock Identification	NA
Stickup Casing Type:	Stainless Steel
Stickup Casing Diameter:	4 inches
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Chips
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inches
Borehole Diameter:	6 inches
Type of Seal:	Bentonite Chips
Screen Type:	10 Slot Schedule 40 PVC
Screen ID:	2 inchs
Screen Slot Size:	0.010 inches
Screen Length:	5 feet
Filter/Sand Pack Type:	Number 1 Sand
Sump:	
Fallback/Backfill:	Sand/Native

NOT TO SCALE

100 Apollo Drive, Chelmsford, Massachusets 02110

WELL CONSTRUCTION DIAGRAM
STICKUP

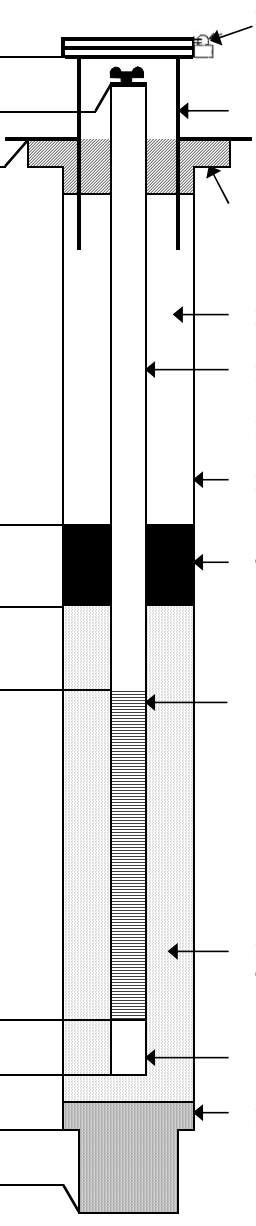
LOCATION ID:
MW-105

Project Name:	Southern Illinois Power Cooperative, Ponds 1 and 2		Date Started:	9/15/2025	Date Completed: 9/15/2025
Project Location:	Marion, IL		Logged By:	MASV	
Project Number:	US-WSP-GLA21467997.4465	Task Number 2.1	Checked By:		Checked Date:
Subcontractor:	Holcomb Foundation Engineering	Drilling Method: Hollow Stem Auger			
Development Method:	Pump and surge	Development Date: 9/17/2025			
Bucking Posts/Ballards:	Yes				
Northing:	348721.24 ft	Easting: 804305.74 ft			
Notes:	Dry on day of installation				

Measuring Point Information

Measuring Point (MP) Type:	Ground
MP Elevation (ft amsl):	510.86

Item	Depth BMP (ft)	Elevation (ft amsl)
Stickup	-2.95	513.81
Riser Pipe (Top)	-2.58	513.44
Ground Surface Elevation	0	510.86
Top of Well Seal	2	508.86
Top of Sand Pack	18	492.86
Top of Screen	20	490.86
Base of Screen	25	485.86
End Cap	25.3	485.56
Drilled Depth	25.5	485.36
Bottom of Exploration	25.5	485.36
Bedrock Surface	21	489.86



Description	
Lock Identification	NA
Stickup Casing Type:	Stainless Steel
Stickup Casing Diameter:	4 inches
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Chips
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inches
Borehole Diameter:	6 inches
Type of Seal:	Bentonite Chips
Screen Type:	10 Slot Schedule 40 PVC
Screen ID:	2 inchs
Screen Slot Size:	0.010 inches
Screen Length:	5 feet
Filter/Sand Pack Type:	Number 1 Sand
Sump:	
Fallback/Backfill:	Sand/Native

NOT TO SCALE

100 Apollo Drive, Chelmsford, Massachusets 02110

WELLCONSTRUCTION DIAGRAM - STICKUP
Southern Illinois Power Cooperative

WELL CONSTRUCTION DIAGRAM
STICKUP

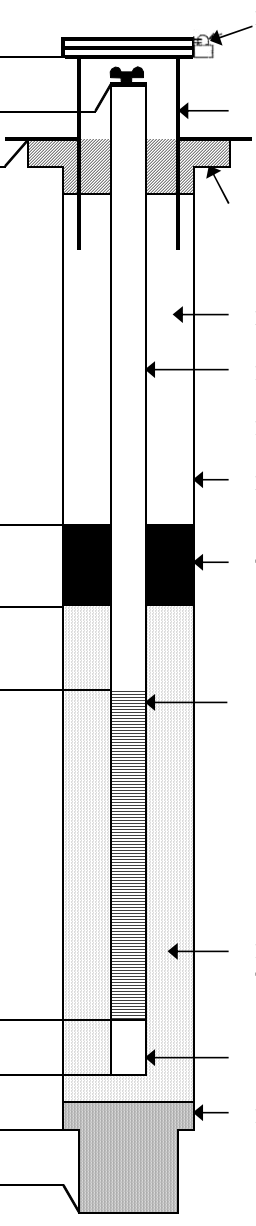
LOCATION ID:
MW-106

Project Name:	Southern Illinois Power Cooperative, Ponds 1 and 2		Date Started:	9/15/2025	Date Completed: 9/15/2025
Project Location:	Marion, IL		Logged By:	MASV	
Project Number:	US-WSP-GLA21467997.4465	Task Number 2.1	Checked By:		Checked Date:
Subcontractor:	Holcomb Foundation Engineering	Drilling Method: Hollow Stem Auger			
Development Method:	Pump and surge	Development Date: 9/17/2025			
Bucking Posts/Ballards:	Yes				
Northing:	348498.92 ft	Easting: 804329.60 ft			
Notes:	Static water level on day of installation 16.21 ft below top of riser				

Measuring Point Information

Measuring Point (MP) Type:	Ground
MP Elevation (ft amsl):	513.29

Item	Depth BMP (ft)	Elevation (ft amsl)
Stickup	-3.19	516.39
Riser Pipe (Top)	-2.74	515.94
Ground Surface Elevation	0	513.2
Top of Well Seal	2	511.2
Top of Sand Pack	22	491.2
Top of Screen	24	489.2
Base of Screen	29	484.2
End Cap	29.3	483.9
Drilled Depth	30	483.2
Bottom of Exploration	30	483.2
Bedrock Surface	17	496.2



Description	
Lock Identification	NA
Stickup Casing Type:	Stainless Steel
Stickup Casing Diameter:	4 inches
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Chips
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inches
Borehole Diameter:	6 inches
Type of Seal:	Bentonite Chips
Screen Type:	10 Slot Schedule 40 PVC
Screen ID:	2 inchs
Screen Slot Size:	0.010 inches
Screen Length:	5 feet
Filter/Sand Pack Type:	Number 1 Sand
Sump:	
Fallback/Backfill:	Sand/Native

NOT TO SCALE

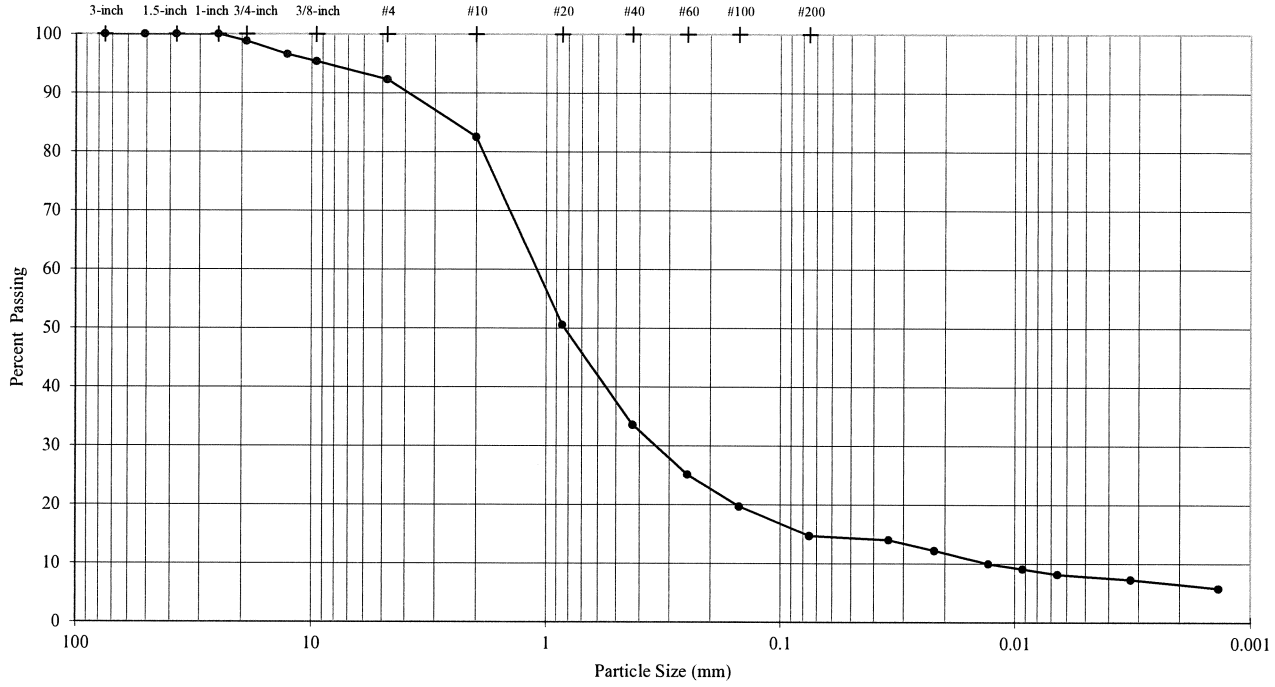
100 Apollo Drive, Chelmsford, Massachusets 02110

WELLCONSTRUCTION DIAGRAM - STICKUP
Southern Illinois Power Cooperative

Attachment B Geotechnical Laboratory Reports

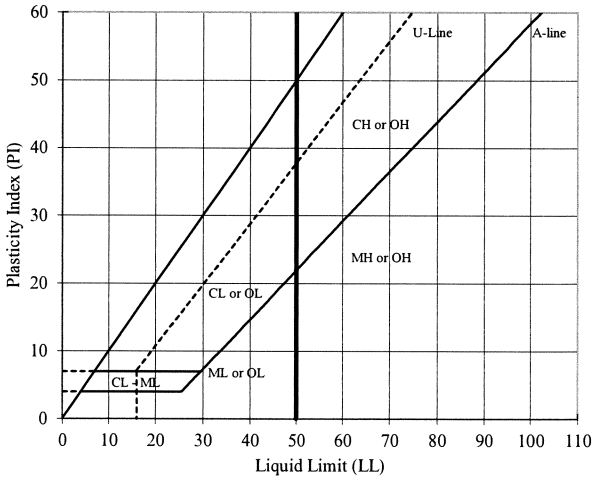
PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-101 SS-01** DEPTH (ft): **0.0-3.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**1.2**	
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**98.8**			**7.7**
1/2-inch	12.7	**96.6**	Fine Gravel	**6.5**	
3/8-inch	9.5	**95.4**			
#4	4.75	**92.3**			
#10	2.0	**82.5**	Coarse Sand	**9.8**	
#20	0.85	**50.5**	Medium Sand	**49.0**	
#40	0.425	**33.6**			**77.6**
#60	0.25	**25.1**	Fine Sand	**18.9**	
#100	0.15	**19.7**			
#200	0.075	**14.7**			
Hydrometer Analysis	0.035	**14.0**	Silt or Clay Fines	**14.7**	
	0.022	**12.2**			
	0.013	**9.9**			
	0.0092	**9.1**			
	0.0065	**8.2**			
	0.0032	**7.3**			
	0.0014	**5.8**			

Sieve Analysis (Initial Separation on No. 4 Sieve)



USCS Description (ASTM D 2487):

Black, BOTTOM ASH

LL	PL	PI	LI
Non-Plastic			

As-Received Moisture Content (%): **3.1**

USCS Group Symbol: **-**

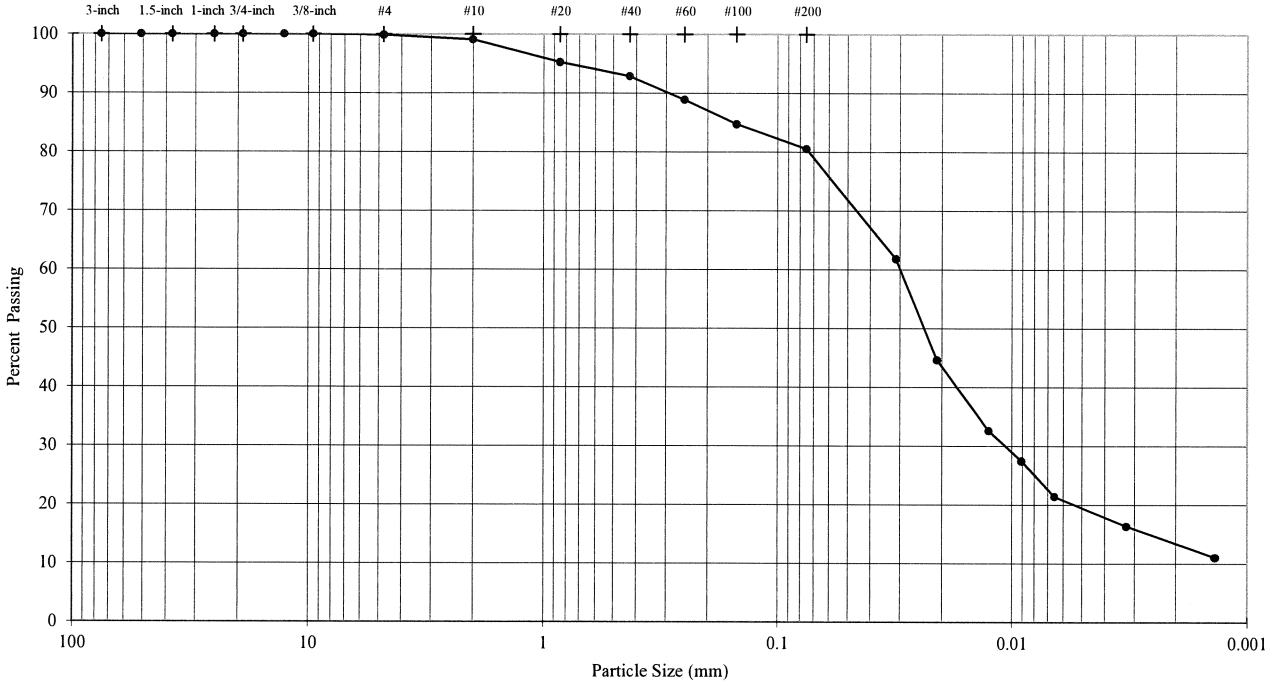
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

TECH	NC
DATE	9/30/2025
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REVIEW	BAB

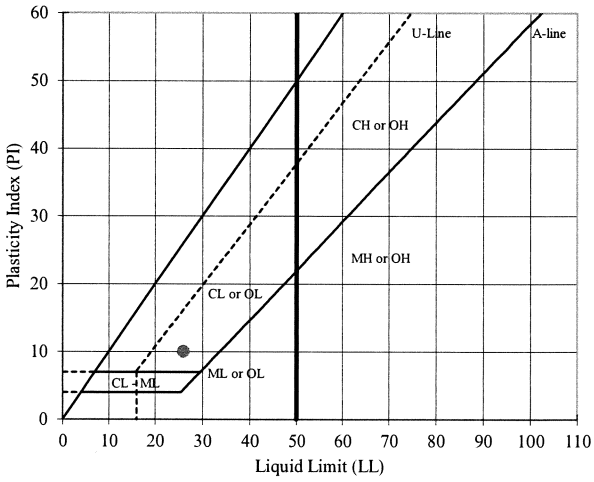
PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-101 SS-05** DEPTH (ft): **11.0-13.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			**0.1**
1/2-inch	12.7	**100.0**	Fine Gravel	**0.1**	
3/8-inch	9.5	**100.0**			
#4	4.75	**99.9**			
#10	2.0	**99.1**	Coarse Sand	**0.8**	
#20	0.85	**95.3**	Medium Sand	**6.2**	
#40	0.425	**92.9**			**19.4**
#60	0.25	**88.9**	Fine Sand	**12.4**	
#100	0.15	**84.7**			
#200	0.075	**80.5**			
	0.031	**61.8**	Silt or Clay Fines	**80.5**	
	0.021	**44.6**			
	0.013	**32.6**			
	0.0090	**27.4**			
	0.0065	**21.4**			
	0.0032	**16.3**			
	0.0014	**11.0**			

Sieve Analysis (Initial Separation on No. 4 Sieve)
Hydrometer Analysis



LL	PL	PI	LI
26	**16**	**10**	**0.28**

USCS Description (ASTM D 2487):
Dark yellowish brown,LEAN CLAY WITH SAND, trace gravel, little bottom ash

As-Received Moisture Content (%): **18.8**

USCS Group Symbol: CL

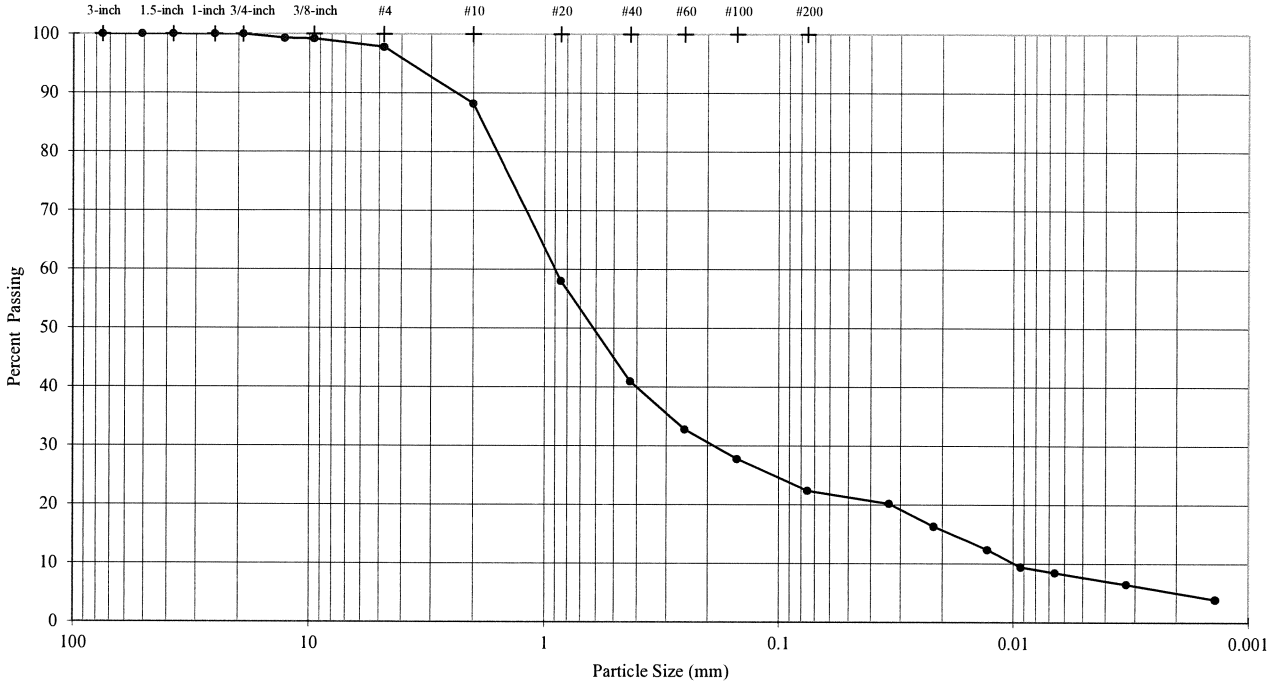
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

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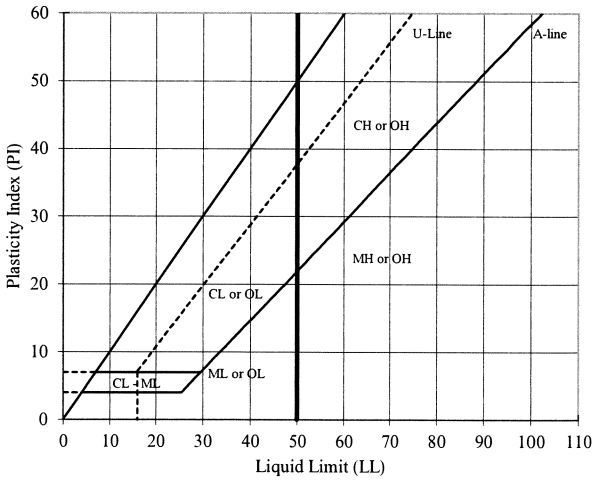
PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-102 SS-02** DEPTH (ft): **3.0-6.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			**2.2**
1/2-inch	12.7	**99.3**	Fine Gravel	**2.2**	
3/8-inch	9.5	**99.2**			
#4	4.75	**97.8**			
#10	2.0	**88.2**	Coarse Sand	**9.6**	
#20	0.85	**58.0**	Medium Sand	**47.2**	
#40	0.425	**41.0**			**75.4**
#60	0.25	**32.8**	Fine Sand	**18.6**	
#100	0.15	**27.7**			
#200	0.075	**22.4**			
	0.034	**20.2**	Silt or Clay Fines	**22.4**	
	0.022	**16.3**			
	0.013	**12.3**			
	0.0093	**9.4**			
	0.0066	**8.4**			
	0.0033	**6.5**			
	0.0014	**3.9**			

Sieve Analysis (Initial Separation on No. 4 Sieve)
Hydrometer Analysis



Visual Description:

Black, BOTTOM ASH

LL	PL	PI	LI
--	--	--	--

As-Received Moisture Content (%): **7.8**

USCS Group Symbol: -

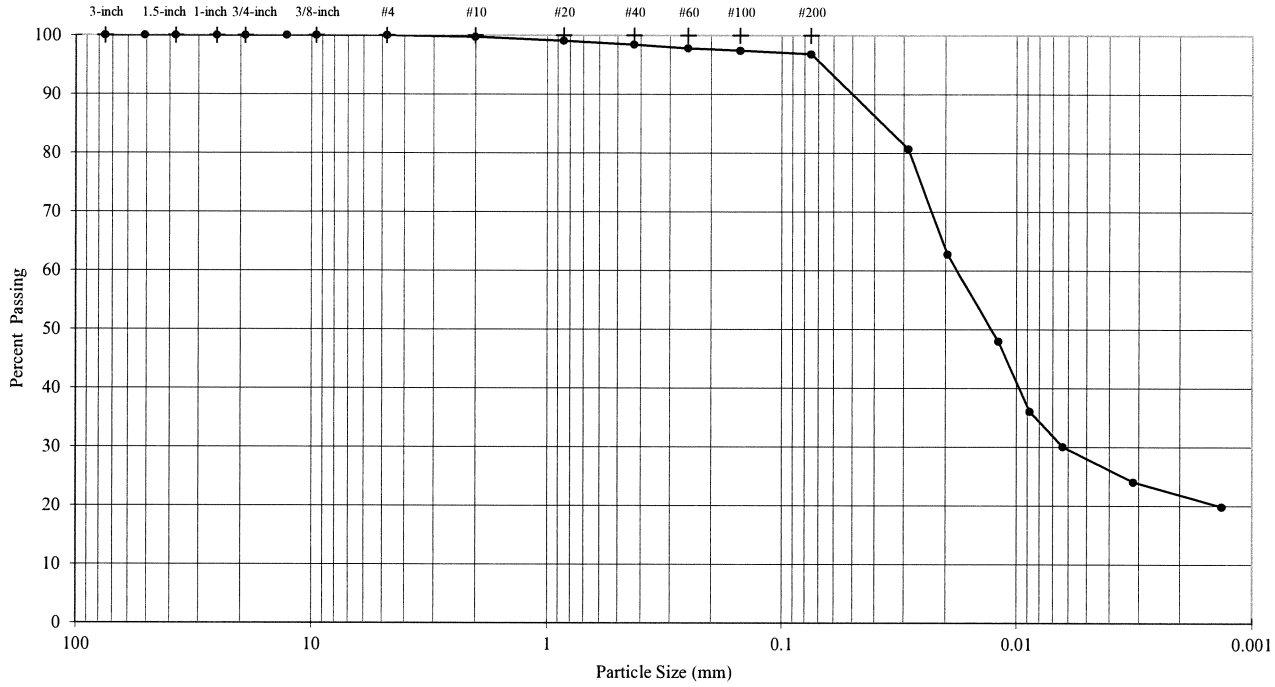
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

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REVIEW	BAB

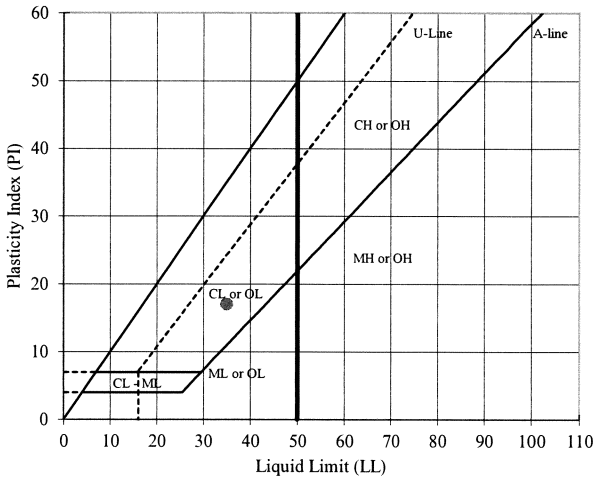
PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-102 SS-06** DEPTH (ft): **13.0-16.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	**0.0**
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			
1/2-inch	12.7	**100.0**	Fine Gravel	**0.0**	
3/8-inch	9.5	**100.0**			
#4	4.75	**100.0**			
#10	2.0	**99.8**	Coarse Sand	**0.2**	**3.2**
#20	0.85	**99.1**	Medium Sand	**1.3**	
#40	0.425	**98.4**			
#60	0.25	**97.9**	Fine Sand	**1.6**	
#100	0.15	**97.4**			
#200	0.075	**96.8**			
	0.029	**80.7**	Silt or Clay Fines	**96.8**	
	0.020	**62.8**			
	0.012	**47.9**			
	0.0088	**36.0**			
	0.0063	**30.0**			
	0.0032	**24.1**			
	0.0013	**19.8**			

Sieve Analysis (Initial Separation on No. 4 Sieve)
Hydrometer Analysis



LL	PL	PI	LI
35	**18**	**17**	**0.37**

USCS Description (ASTM D 2487):
Brownish yellow, LEAN CLAY, trace sand

As-Received Moisture Content (%): **24.3**

USCS Group Symbol: CL

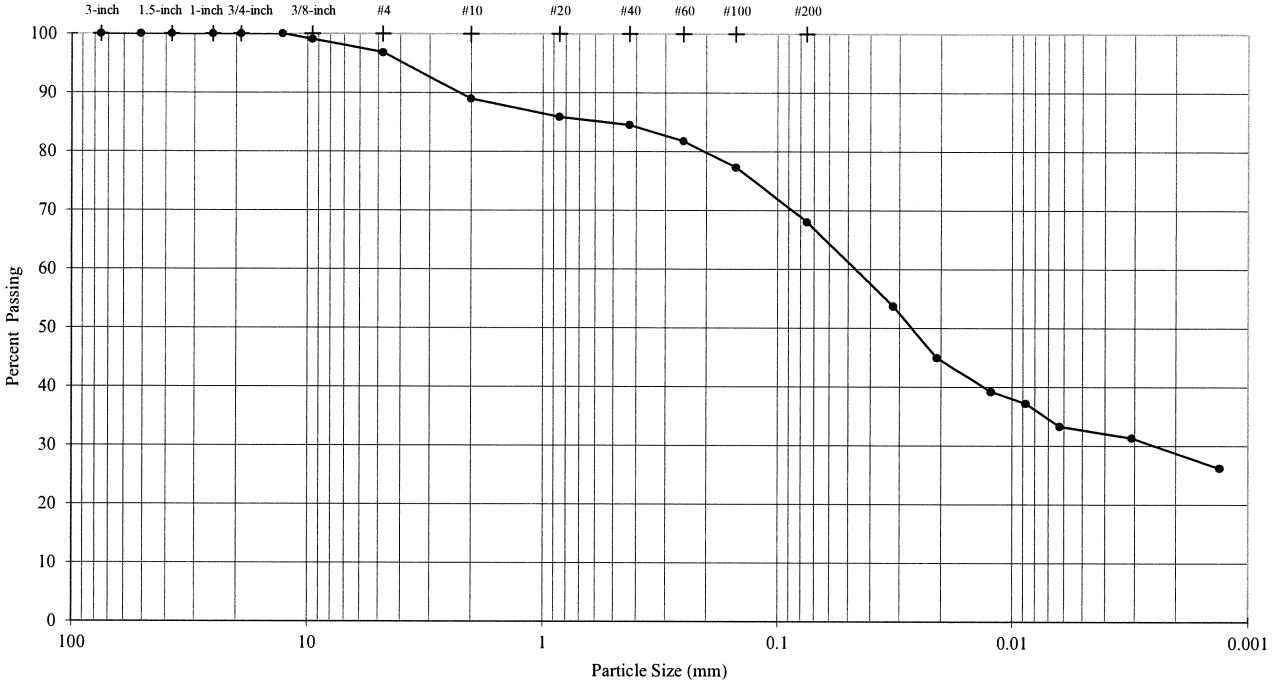
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

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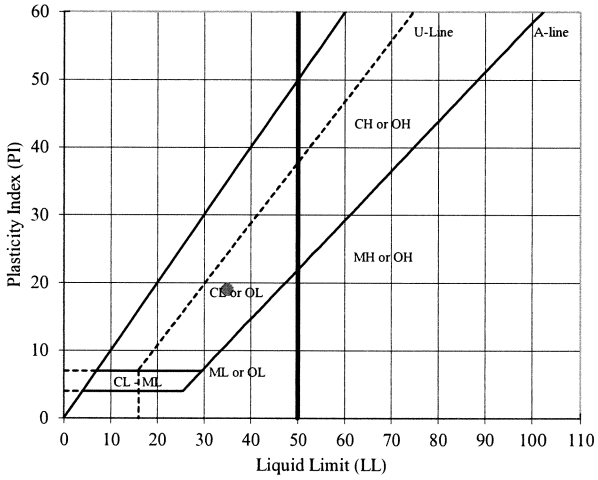
PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-102 SS-10** DEPTH (ft): **23.0-26.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			**3.2**
1/2-inch	12.7	**100.0**	Fine Gravel	**3.2**	
3/8-inch	9.5	**99.1**			
#4	4.75	**96.8**			
#10	2.0	**89.0**	Coarse Sand	**7.8**	
#20	0.85	**85.9**	Medium Sand	**4.5**	
#40	0.425	**84.5**			**28.8**
#60	0.25	**81.8**	Fine Sand	**16.5**	
#100	0.15	**77.3**			
#200	0.075	**68.0**			
Hydrometer Analysis	0.032	**53.7**	Silt or Clay Fines	**68.0**	
	0.021	**44.9**			
	0.012	**39.2**			
	0.0087	**37.2**			
	0.0062	**33.3**			
	0.0031	**31.3**			
	0.0013	**26.2**			

Sieve Analysis (Initial Separation on No. 4 Sieve)



LL	PL	PI	LI
35	**16**	**19**	**0.07**

USCS Description (ASTM D 2487):

Brownish yellow, LEAN CLAY WITH SAND, trace gravel

As-Received Moisture Content (%): **17.4**

USCS Group Symbol: CL

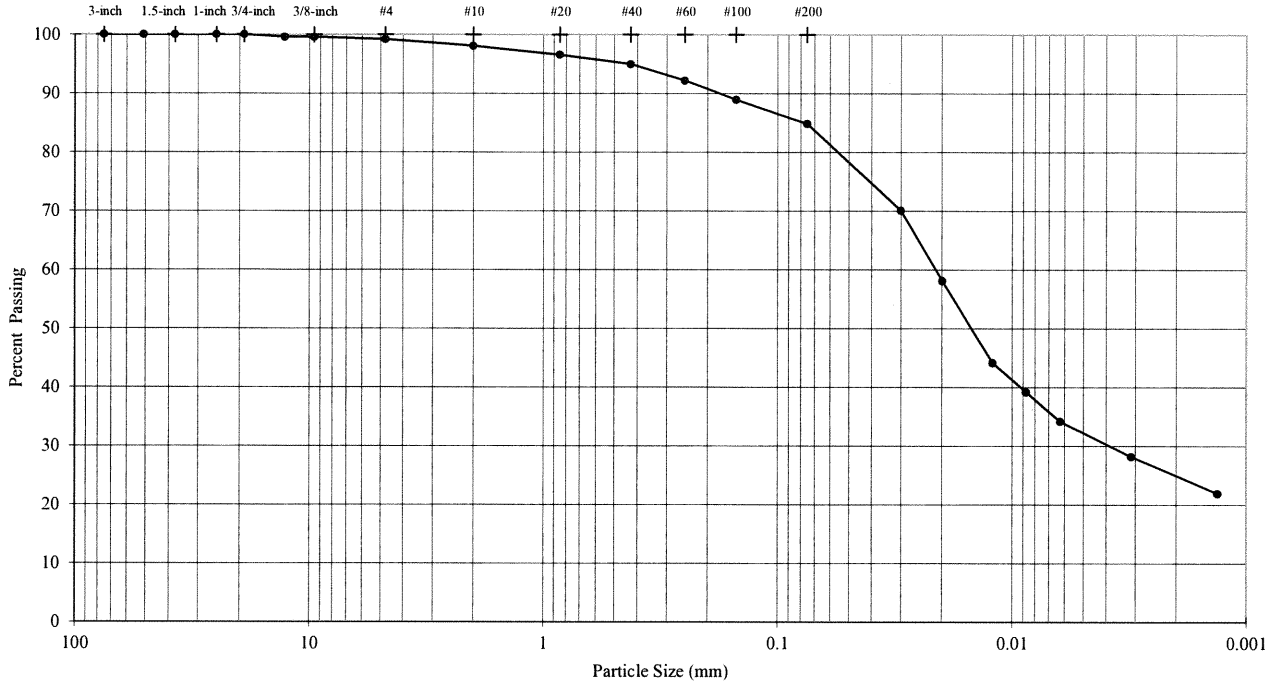
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

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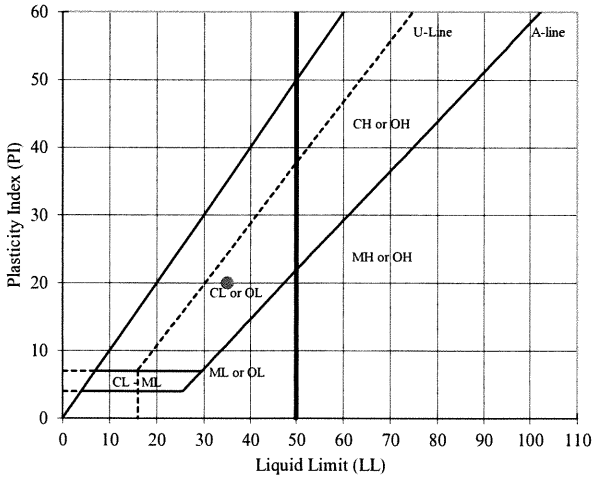
PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-103 SS-07** DEPTH (ft): **16.0-18.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			**0.8**
1/2-inch	12.7	**99.6**	Fine Gravel	**0.8**	
3/8-inch	9.5	**99.6**			
#4	4.75	**99.2**			
#10	2.0	**98.1**	Coarse Sand	**1.1**	
#20	0.85	**96.6**	Medium Sand	**3.1**	
#40	0.425	**95.0**			**14.4**
#60	0.25	**92.2**	Fine Sand	**10.1**	
#100	0.15	**88.9**			
#200	0.075	**84.8**			
Hydrometer Analysis	0.030	**70.1**	Silt or Clay Fines	**84.8**	
	0.020	**58.1**			
	0.012	**44.2**			
	0.0087	**39.2**			
	0.0062	**34.2**			
	0.0031	**28.2**			
	0.0013	**21.9**			

Sieve Analysis (Initial Separation on No. 4 Sieve)



LL	PL	PI	LI
35	**15**	**20**	**0.25**

USCS Description (ASTM D 2487):

Brownish yellow, LEAN CLAY, some sand, trace gravel

As-Received Moisture Content (%): **19.9**

USCS Group Symbol: **CL**

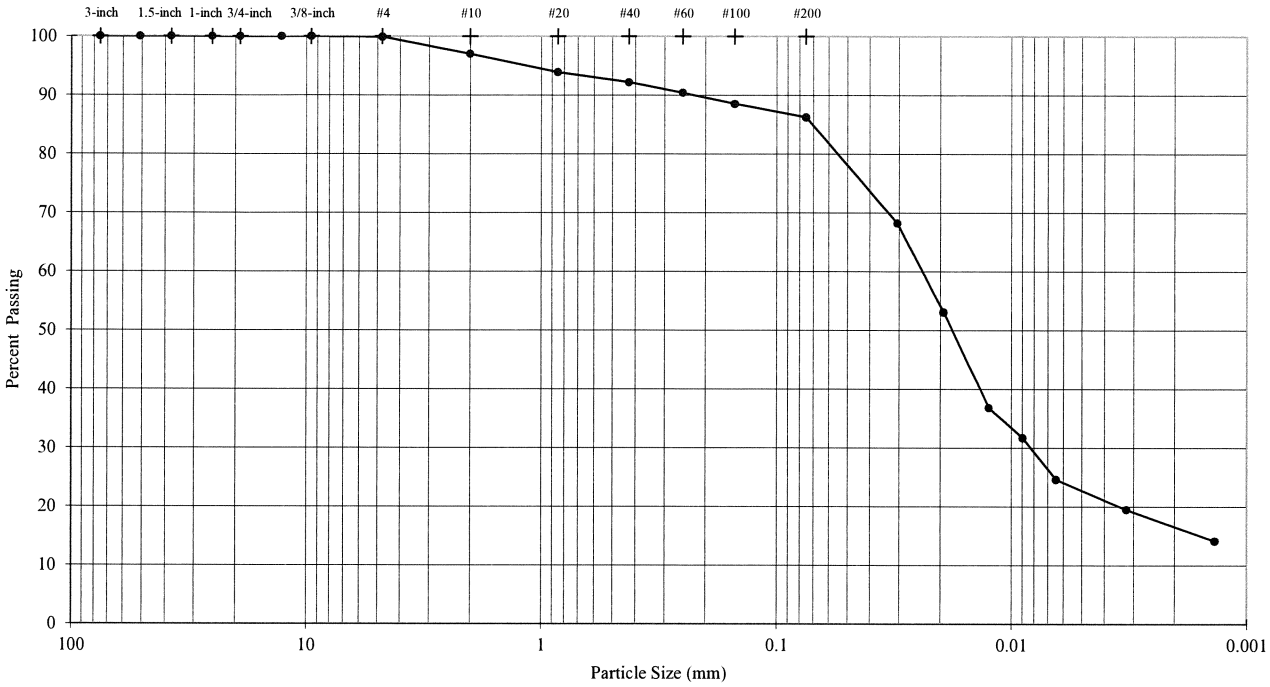
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

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PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

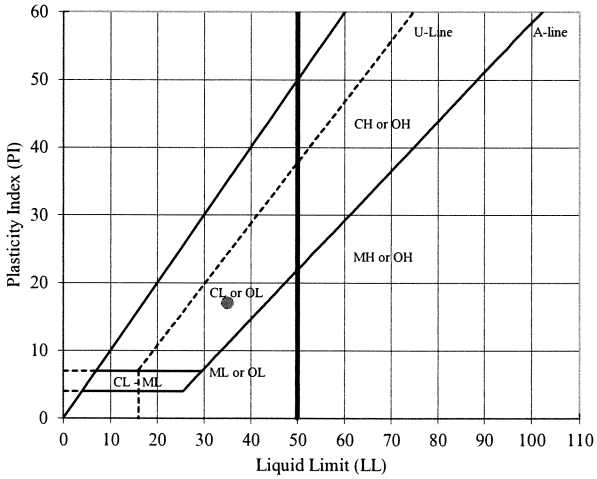
PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-103 SS-08** DEPTH (ft): **18.0-21.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			**0.1**
1/2-inch	12.7	**100.0**	Fine Gravel	**0.1**	
3/8-inch	9.5	**100.0**			
#4	4.75	**99.9**			
#10	2.0	**97.0**	Coarse Sand	**2.9**	
#20	0.85	**93.9**	Medium Sand	**4.8**	
#40	0.425	**92.2**			**13.7**
#60	0.25	**90.4**	Fine Sand	**5.9**	
#100	0.15	**88.5**			
#200	0.075	**86.2**			
	0.030	**68.2**	Silt or Clay Fines	**86.2**	
	0.019	**53.1**			
	0.012	**36.8**			
	0.0089	**31.7**			
	0.0064	**24.6**			
	0.0032	**19.5**			
	0.0014	**14.2**			

Sieve Analysis (Initial Separation on No. 4 Sieve)

Hydrometer Analysis



LL	PL	PI	LI
35	**18**	**17**	**0.24**

USCS Description (ASTM D 2487):

Yellowish brown, LEAN CLAY, some sand, trace gravel, trace bottom ash

As-Received Moisture Content (%): **22.1**

USCS Group Symbol: CL

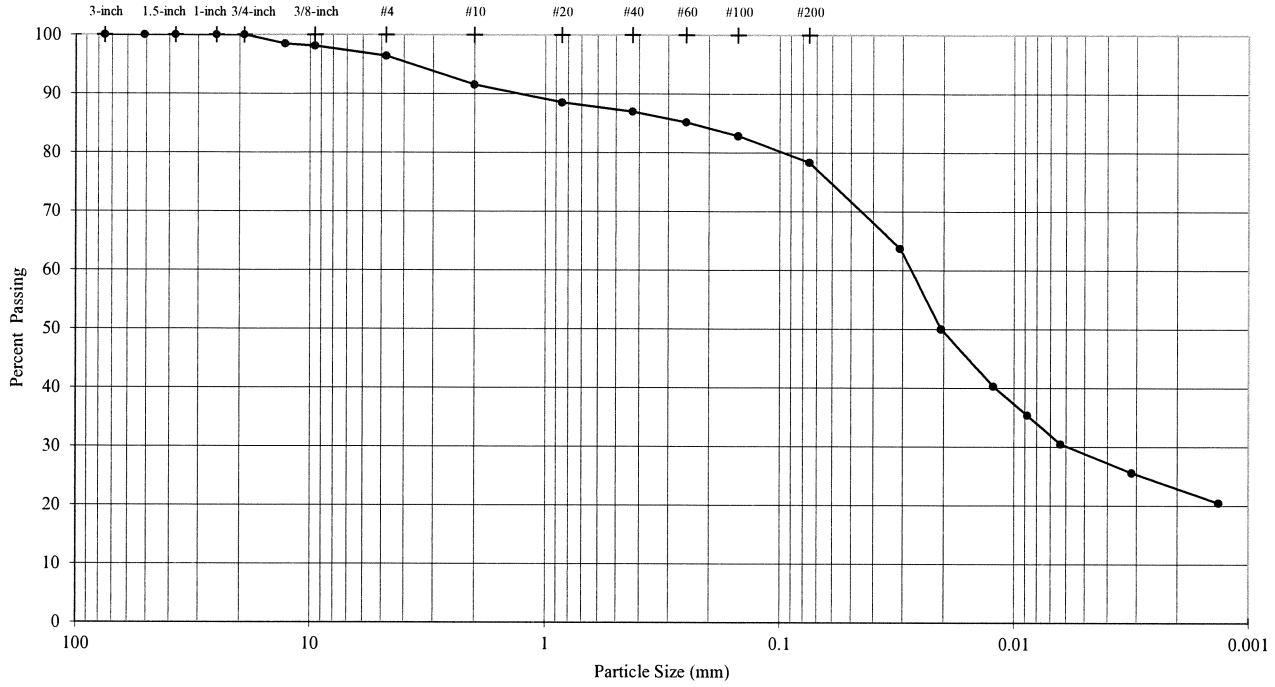
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

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DATE	9/30/2025
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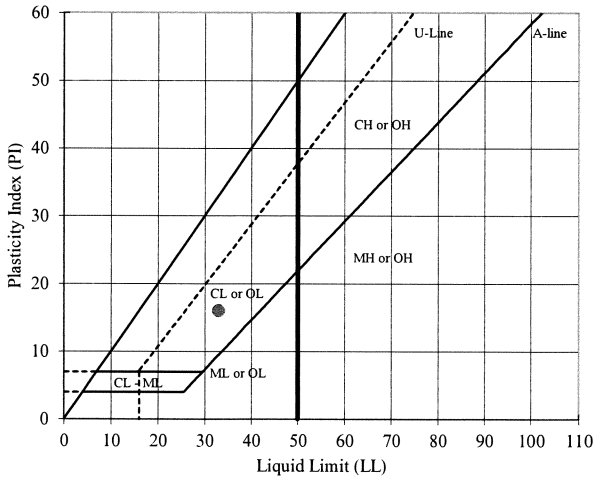
PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-103 SS-10** DEPTH (ft): **23.0-24.5**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			**3.6**
1/2-inch	12.7	**98.5**	Fine Gravel	**3.6**	
3/8-inch	9.5	**98.1**			
#4	4.75	**96.4**			
#10	2.0	**91.5**	Coarse Sand	**4.9**	
#20	0.85	**88.5**	Medium Sand	**4.6**	
#40	0.425	**87.0**			**18.1**
#60	0.25	**85.1**	Fine Sand	**8.6**	
#100	0.15	**82.8**			
#200	0.075	**78.3**			
Hydrometer Analysis	0.031	**63.7**	Silt or Clay Fines	**78.3**	
	0.020	**50.0**			
	0.012	**40.3**			
	0.0088	**35.3**			
	0.0063	**30.5**			
	0.0031	**25.6**			
	0.0013	**20.4**			

Sieve Analysis (Initial Separation on No. 4 Sieve)



LL	PL	PI	LI
33	**17**	**16**	**0.32**

USCS Description (ASTM D 2487):

Yellowish brown, LEAN CLAY WITH SAND, trace gavel

As-Received Moisture Content (%): **22.2**

USCS Group Symbol: **CL**

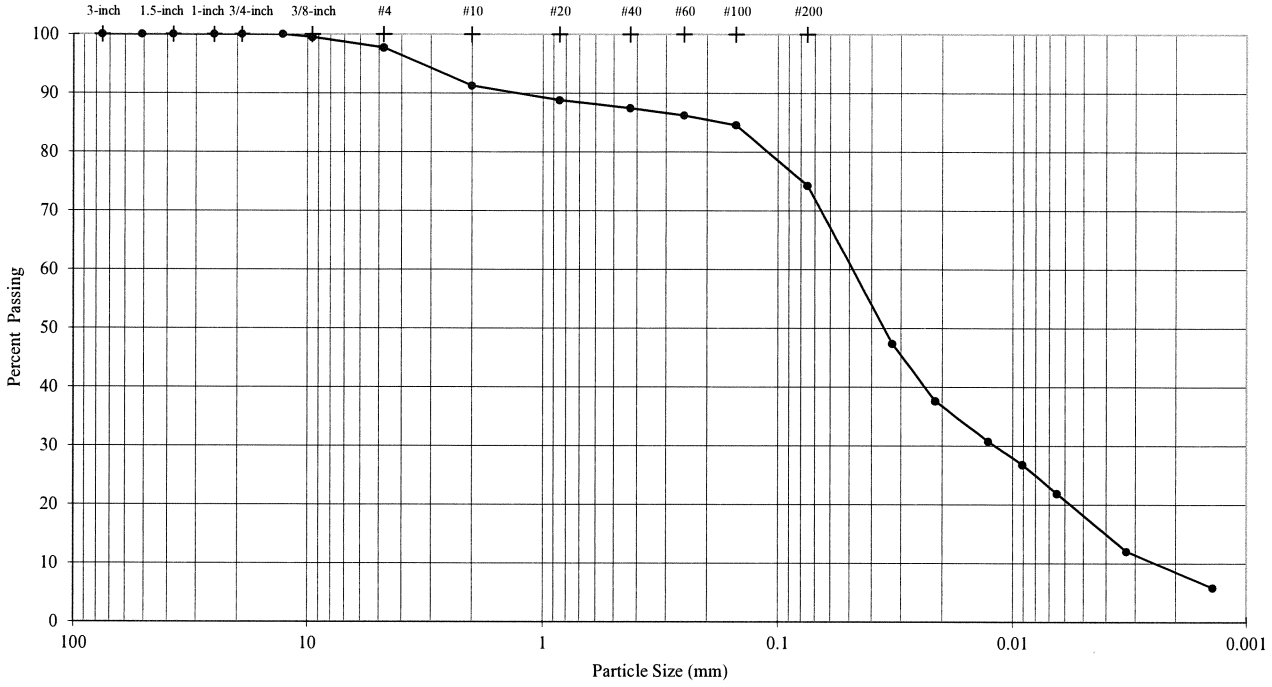
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

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DATE	9/29/2025
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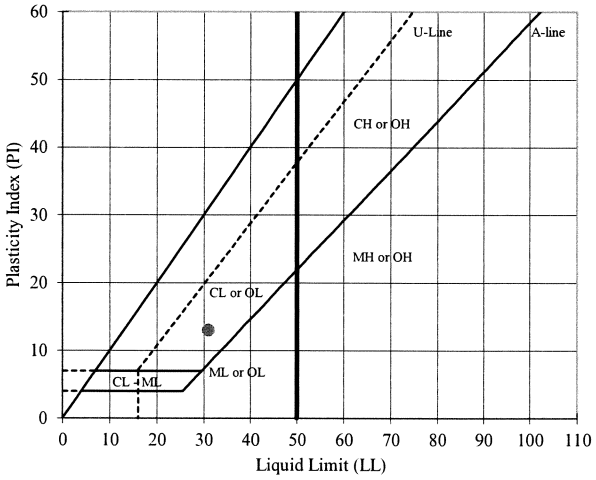
PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-103 SS-11** DEPTH (ft): **14.0-29.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			**2.3**
1/2-inch	12.7	**100.0**	Fine Gravel	**2.3**	
3/8-inch	9.5	**99.5**			
#4	4.75	**97.7**			
#10	2.0	**91.2**	Coarse Sand	**6.5**	
#20	0.85	**88.8**	Medium Sand	**3.8**	
#40	0.425	**87.4**			**23.5**
#60	0.25	**86.2**	Fine Sand	**13.2**	
#100	0.15	**84.6**			
#200	0.075	**74.2**			
	0.033	**47.4**	Silt or Clay Fines	**74.2**	
	0.021	**37.6**			
	0.013	**30.7**			
	0.0090	**26.8**			
	0.0065	**21.8**			
	0.0033	**12.0**			
	0.0014	**5.8**			

Sieve Analysis (Initial Separation on No. 4 Sieve)
Hydrometer Analysis



LL	PL	PI	LI
31	**18**	**13**	**-0.52**

USCS Description (ASTM D 2487):
Yellow, LEAN CLAY WITH SAND, trace gravel

As-Received Moisture Content (%): **11.2**

USCS Group Symbol: CL

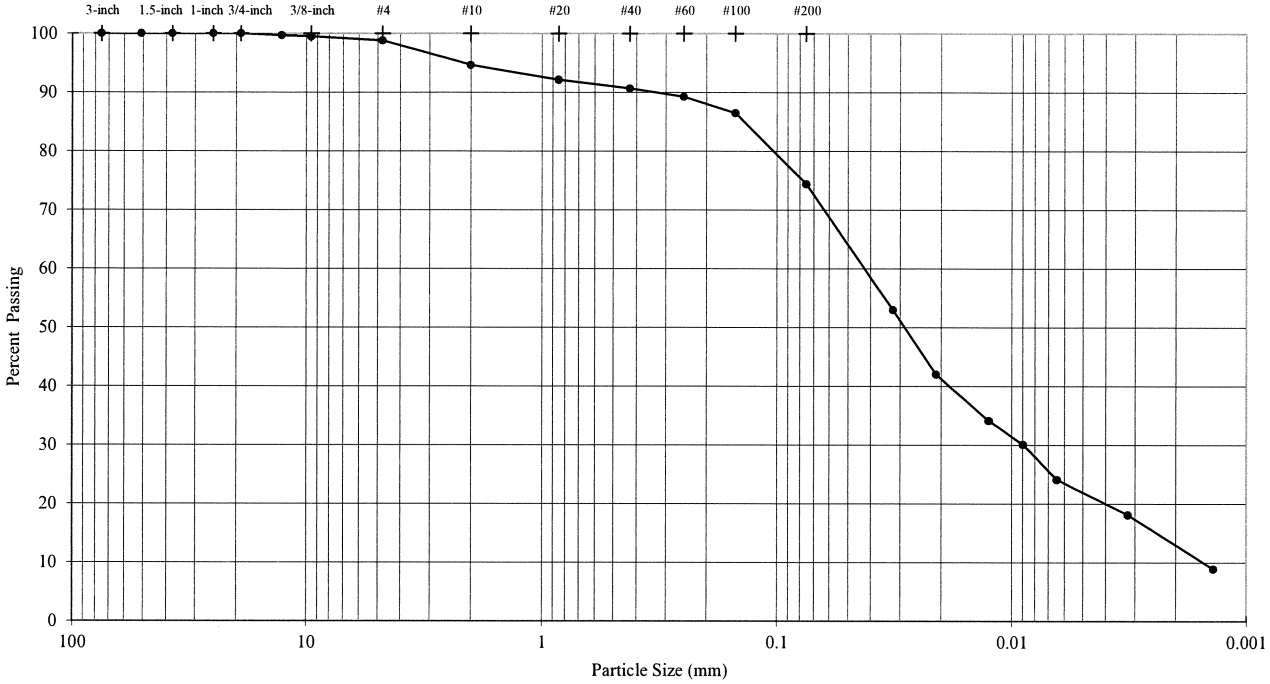
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

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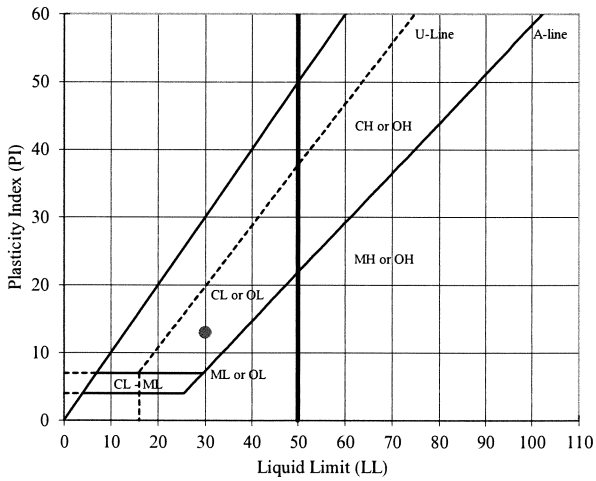
PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-103 SS-12** DEPTH (ft): **28.0-31.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			**1.2**
1/2-inch	12.7	**99.7**	Fine Gravel	**1.2**	
3/8-inch	9.5	**99.5**			
#4	4.75	**98.8**			
#10	2.0	**94.6**	Coarse Sand	**4.2**	
#20	0.85	**92.1**	Medium Sand	**4.0**	
#40	0.425	**90.6**			**24.4**
#60	0.25	**89.2**	Fine Sand	**16.2**	
#100	0.15	**86.4**			
#200	0.075	**74.4**			
Hydrometer Analysis	0.032	**53.0**	Silt or Clay Fines	**74.4**	
	0.021	**42.0**			
	0.012	**34.1**			
	0.0089	**30.0**			
	0.0064	**24.1**			
	0.0032	**18.1**			
	0.0014	**8.9**			

Sieve Analysis (Initial Separation on No. 4 Sieve)



LL	PL	PI	LI
30	**17**	**13**	**-0.70**

USCS Description (ASTM D 2487):

Yellow, LEAN CLAY WITH SAND, trace gravel

As-Received Moisture Content (%): **7.9**

USCS Group Symbol: CL

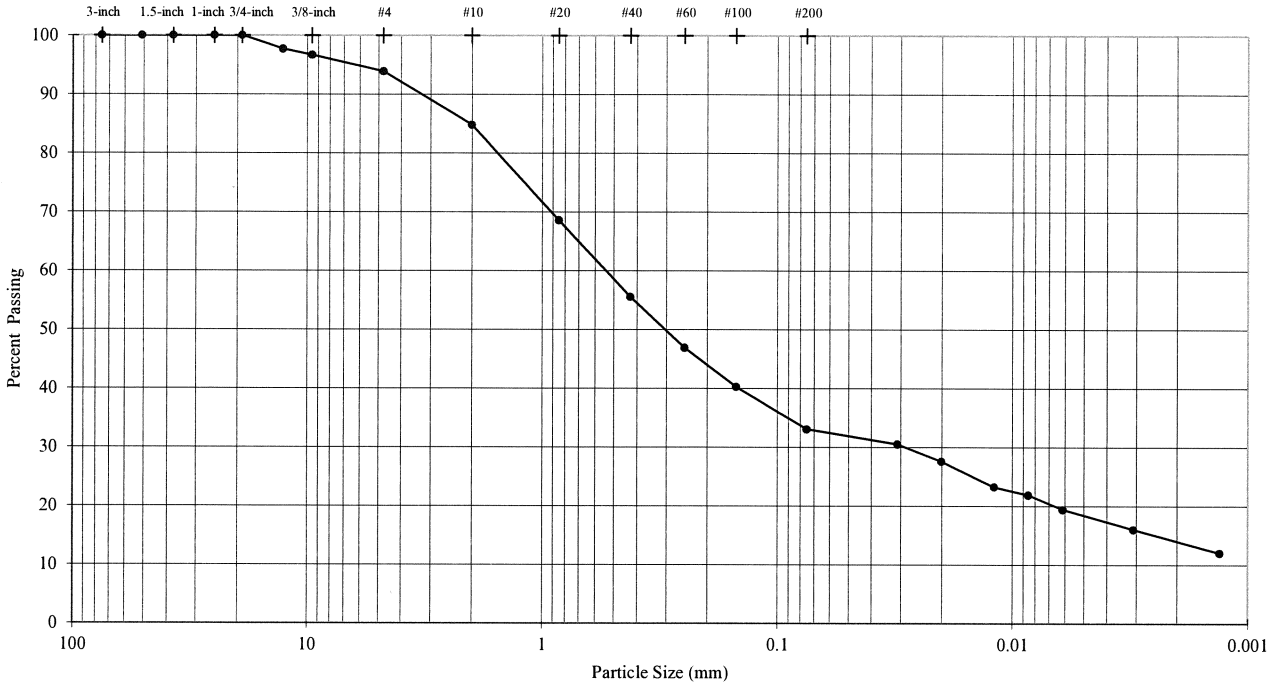
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

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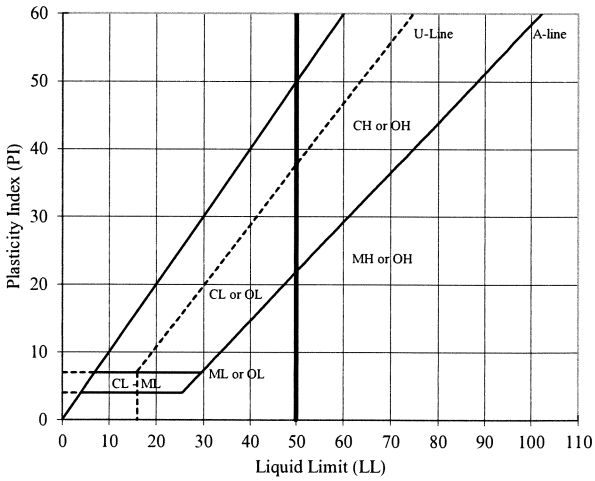
PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-104 SS-03** DEPTH (ft): **6.0-8.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			**6.1**
1/2-inch	12.7	**97.7**	Fine Gravel	**6.1**	
3/8-inch	9.5	**96.7**			
#4	4.75	**93.9**			
#10	2.0	**84.8**	Coarse Sand	**9.1**	
#20	0.85	**68.6**	Medium Sand	**29.3**	
#40	0.425	**55.5**			**60.9**
#60	0.25	**46.9**	Fine Sand	**22.5**	
#100	0.15	**40.3**			
#200	0.075	**33.0**			
Hydrometer Analysis	0.031	**30.5**	Silt or Clay Fines	**33.0**	
	0.020	**27.6**			
	0.012	**23.2**			
	0.0085	**21.8**			
	0.0061	**19.4**			
	0.0031	**16.0**			
	0.0013	**12.0**			

Sieve Analysis (Initial Separation on No. 4 Sieve)



LL	PL	PI	LI
Non-Plastic			

USCS Description (ASTM D 2487):
Black, BOTTOM ASH

As-Received Moisture Content (%): **29.2**

USCS Group Symbol: -

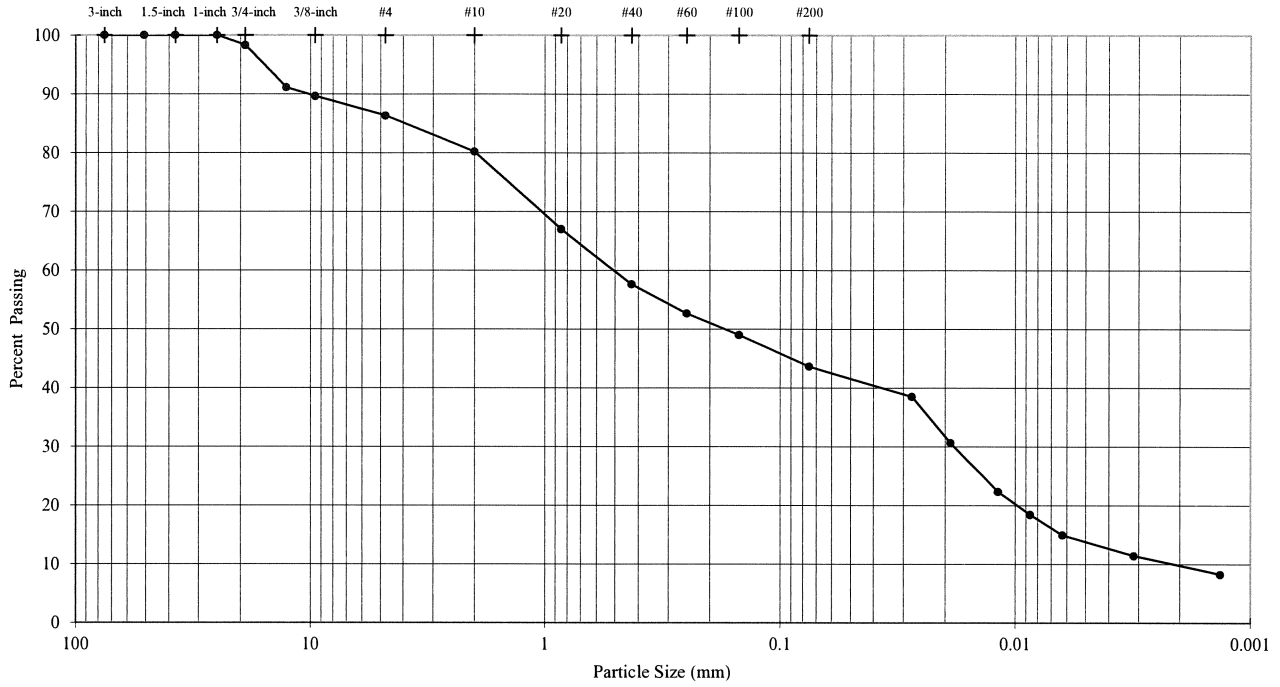
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

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PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

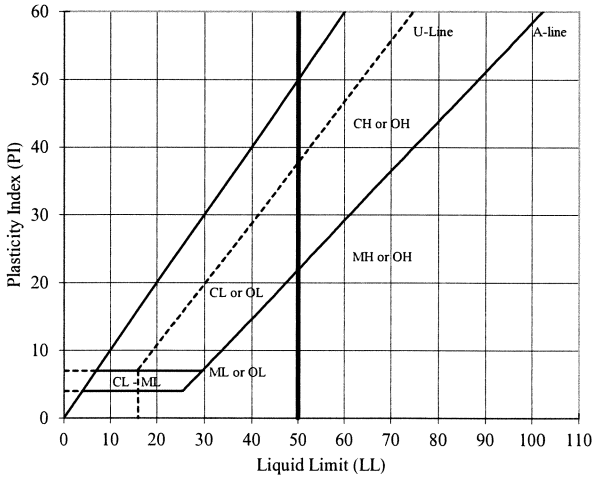
PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-104 SS-07** DEPTH (ft): **16.0-18.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**1.7**	
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**98.3**			**13.7**
1/2-inch	12.7	**91.1**	Fine Gravel	**12.0**	
3/8-inch	9.5	**89.6**			
#4	4.75	**86.3**			
#10	2.0	**80.2**	Coarse Sand	**6.1**	
#20	0.85	**67.0**	Medium Sand	**22.6**	
#40	0.425	**57.6**			
#60	0.25	**52.7**	Fine Sand	**14.0**	**42.7**
#100	0.15	**49.0**			
#200	0.075	**43.6**			
	0.028	**38.5**	Silt or Clay Fines	**43.6**	
	0.019	**30.6**			
	0.012	**22.3**			
	0.0086	**18.4**			
	0.0062	**14.9**			
	0.0031	**11.4**			
	0.0013	**8.3**			

Sieve Analysis (Initial Separation on No. 4 Sieve)

Hydrometer Analysis



USCS Description (ASTM D 2487):

Black, BOTTOM ASH

LL	PL	PI	LI
Non-Plastic			

As-Received Moisture Content (%): **30.5**

USCS Group Symbol: **-**

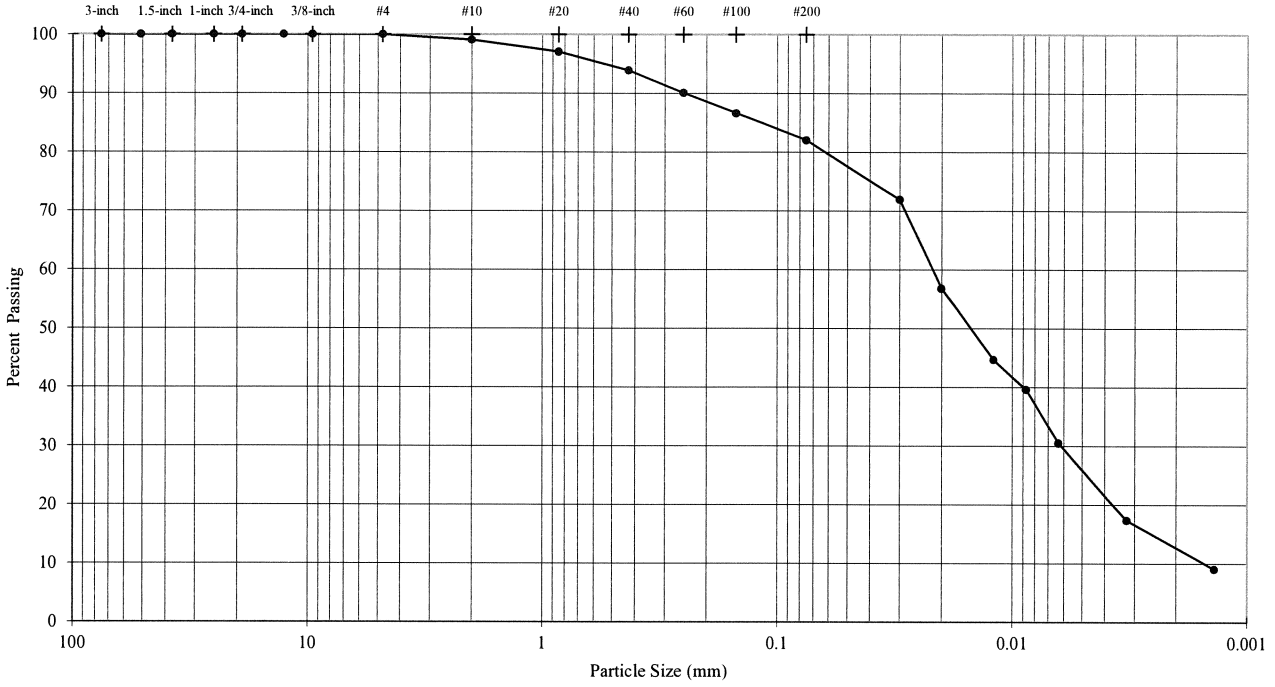
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

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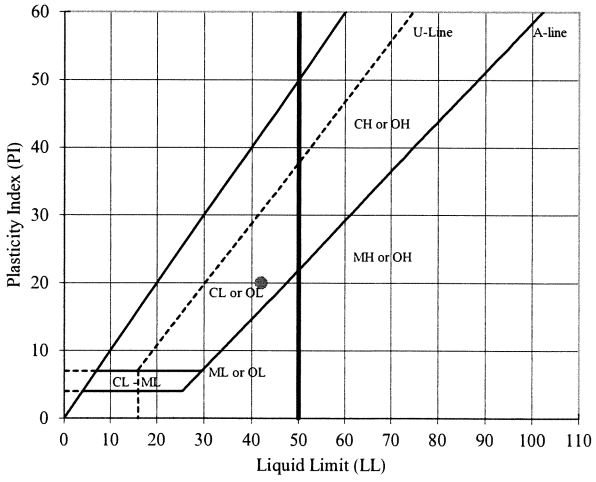
PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-104 SS-08** DEPTH (ft): **18.0-21.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	**0.0**
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			
1/2-inch	12.7	**100.0**	Fine Gravel	**0.0**	
3/8-inch	9.5	**100.0**			
#4	4.75	**100.0**			
#10	2.0	**99.1**	Coarse Sand	**0.9**	**18.0**
#20	0.85	**97.0**	Medium Sand	**5.2**	
#40	0.425	**93.9**			
#60	0.25	**90.1**	Fine Sand	**11.9**	
#100	0.15	**86.6**			
#200	0.075	**82.0**			
	0.030	**71.9**	Silt or Clay Fines	**82.0**	
	0.020	**56.8**			
	0.012	**44.6**			
	0.0087	**39.6**			
	0.0063	**30.5**			
	0.0032	**17.4**			
	0.0014	**9.0**			

Sieve Analysis (Initial Separation on No. 4 Sieve)
Hydrometer Analysis



LL	PL	PI	LI
42	**22**	**20**	**0.86**

USCS Description (ASTM D 2487):
Grayish brown, LEAN CLAY WITH SAND

As-Received Moisture Content (%): **39.2**

USCS Group Symbol: CL

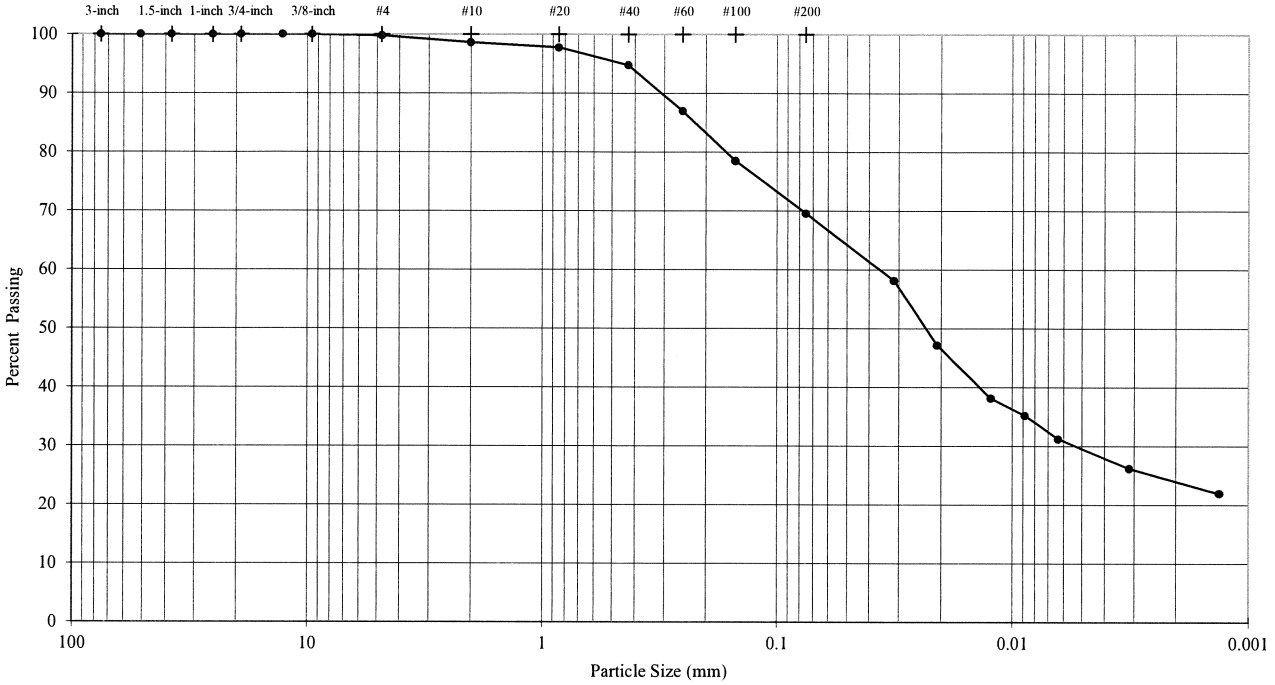
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

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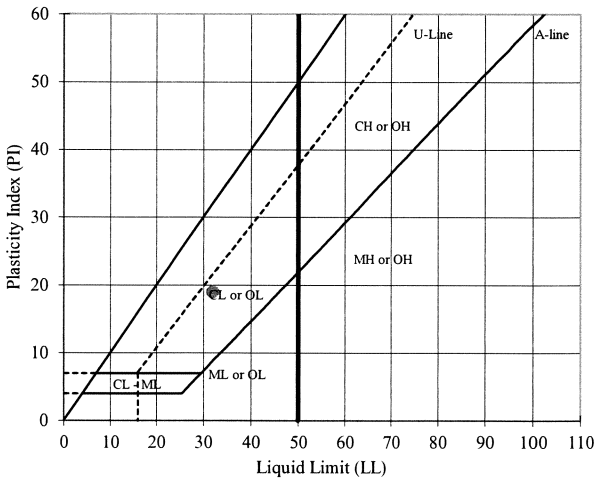
PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-104 SS-10** DEPTH (ft): **23.0-26.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			**0.2**
1/2-inch	12.7	**100.0**	Fine Gravel	**0.2**	
3/8-inch	9.5	**100.0**			
#4	4.75	**99.8**			
#10	2.0	**98.6**	Coarse Sand	**1.2**	
#20	0.85	**97.7**	Medium Sand	**3.9**	
#40	0.425	**94.8**			**30.2**
#60	0.25	**87.0**	Fine Sand	**25.2**	
#100	0.15	**78.5**			
#200	0.075	**69.6**			
Hydrometer Analysis	0.031	**58.1**	Silt or Clay Fines	**69.6**	
	0.021	**47.1**			
	0.012	**38.1**			
	0.0088	**35.2**			
	0.0063	**31.2**			
	0.0031	**26.2**			
	0.0013	**21.9**			

Sieve Analysis (Initial Separation on No. 4 Sieve)



LL	PL	PI	LI
32	**13**	**19**	**0.53**

USCS Description (ASTM D 2487):
Brownish yellow, SANDY LEAN CLAY, trace gravel

As-Received Moisture Content (%): **23.1**

USCS Group Symbol: CL

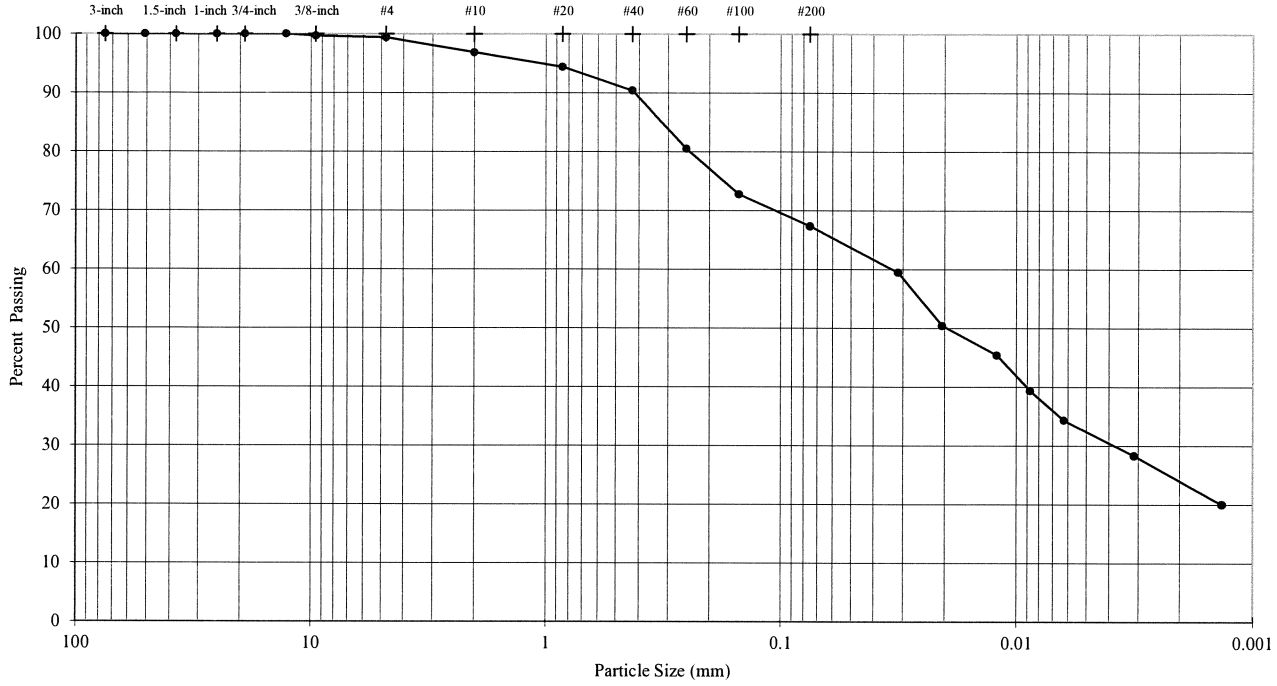
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

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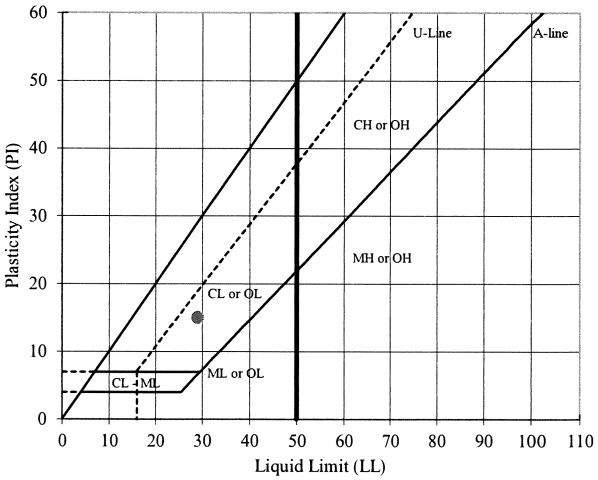
PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-105 SS-06** DEPTH (ft): **13.0-16.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			**0.6**
1/2-inch	12.7	**100.0**	Fine Gravel	**0.6**	
3/8-inch	9.5	**99.7**			
#4	4.75	**99.4**			
#10	2.0	**96.8**	Coarse Sand	**2.6**	
#20	0.85	**94.4**	Medium Sand	**6.5**	
#40	0.425	**90.4**			**32.1**
#60	0.25	**80.5**	Fine Sand	**23.1**	
#100	0.15	**72.7**			
#200	0.075	**67.3**			
	0.031	**59.4**	Silt or Clay Fines	**67.3**	
	0.020	**50.4**			
	0.012	**45.4**			
	0.0087	**39.4**			
	0.0062	**34.3**			
	0.0031	**28.3**			
	0.0013	**20.0**			

Sieve Analysis (Initial Separation on No. 4 Sieve)
Hydrometer Analysis



LL	PL	PI	LI
29	**14**	**15**	**0.23**

USCS Description (ASTM D 2487):
Brownish yellow, SANDY LEAN CLAY, trace gravel

As-Received Moisture Content (%): **17.5**

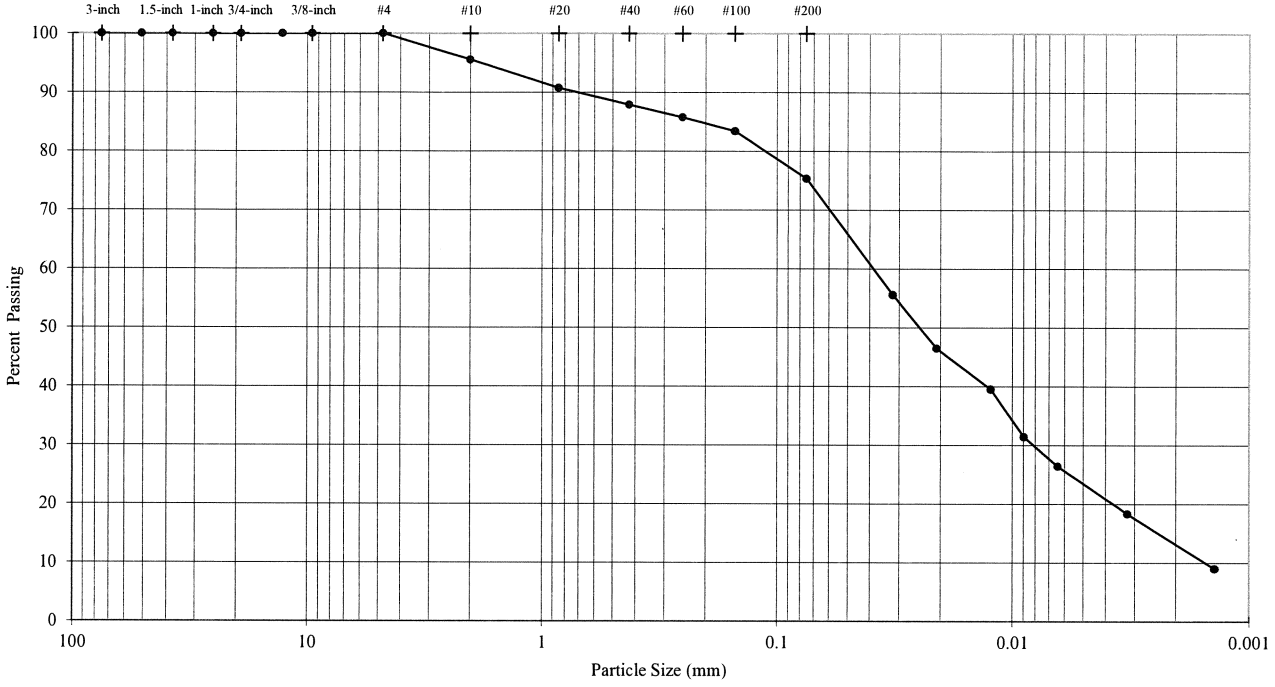
USCS Group Symbol: **CL**

Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.
(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

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PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

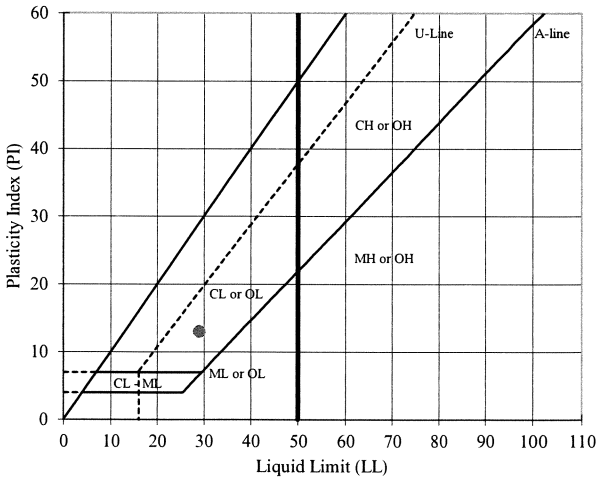
PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-105 SS-10** DEPTH (ft): **23.0-25.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	**0.0**
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			
1/2-inch	12.7	**100.0**	Fine Gravel	**0.0**	
3/8-inch	9.5	**100.0**			
#4	4.75	**100.0**			
#10	2.0	**95.6**	Coarse Sand	**4.4**	**24.7**
#20	0.85	**90.7**	Medium Sand	**7.7**	
#40	0.425	**87.9**			
#60	0.25	**85.8**	Fine Sand	**12.6**	
#100	0.15	**83.4**			
#200	0.075	**75.3**			
	0.032	**55.6**	Silt or Clay Fines	**75.3**	
	0.021	**46.5**			
	0.012	**39.5**			
	0.0089	**31.4**			
	0.0064	**26.4**			
	0.0032	**18.3**			
	0.0014	**9.0**			

Sieve Analysis (Initial Separation on No. 4 Sieve)

Hydrometer Analysis



LL	PL	PI	LI
29	**16**	**13**	**-0.73**

USCS Description (ASTM D 2487):

Brownish yellow, LEAN CLAY WITH SAND

As-Received Moisture Content (%): **6.6**

USCS Group Symbol: CL

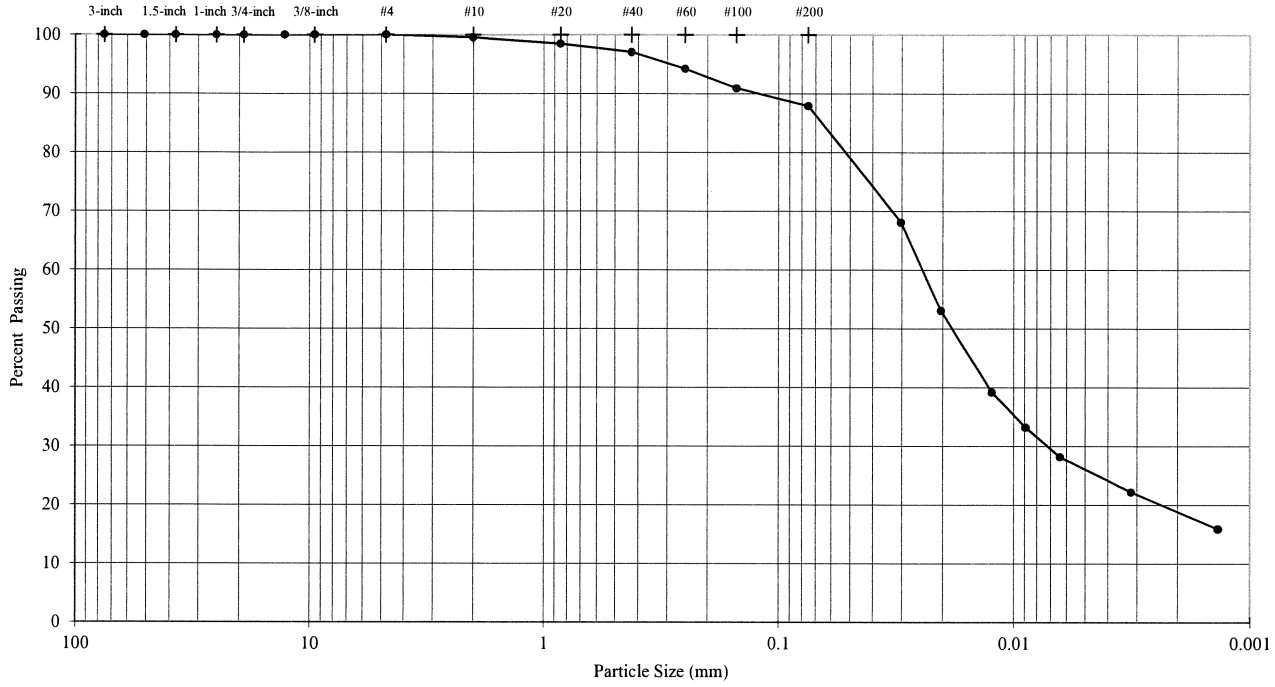
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

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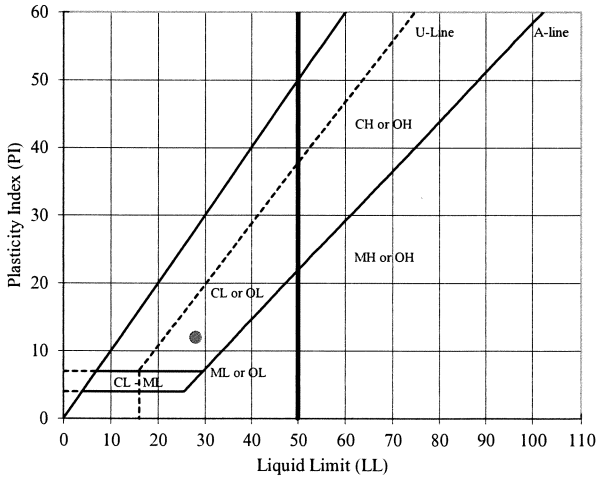
PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-106 SS-04** DEPTH (ft): **8.0-11.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	**0.0**
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			
1/2-inch	12.7	**100.0**	Fine Gravel	**0.0**	
3/8-inch	9.5	**100.0**			
#4	4.75	**100.0**			
#10	2.0	**99.5**	Coarse Sand	**0.5**	**12.1**
#20	0.85	**98.5**	Medium Sand	**2.5**	
#40	0.425	**97.0**			
#60	0.25	**94.2**	Fine Sand	**9.1**	
#100	0.15	**90.9**			
#200	0.075	**87.9**			
	0.030	**68.1**	Silt or Clay Fines	**87.9**	
	0.020	**53.1**			
	0.012	**39.2**			
	0.0089	**33.2**			
	0.0064	**28.2**			
	0.0032	**22.2**			
	0.0013	**15.9**			

Sieve Analysis (Initial Separation on No. 4 Sieve)
Hydrometer Analysis



LL	PL	PI	LI
28	**16**	**12**	**0.56**

USCS Description (ASTM D 2487):
Yellowish brown, LEAN CLAY, some sand, trace gravel

As-Received Moisture Content (%): **22.8**

USCS Group Symbol: **CL**

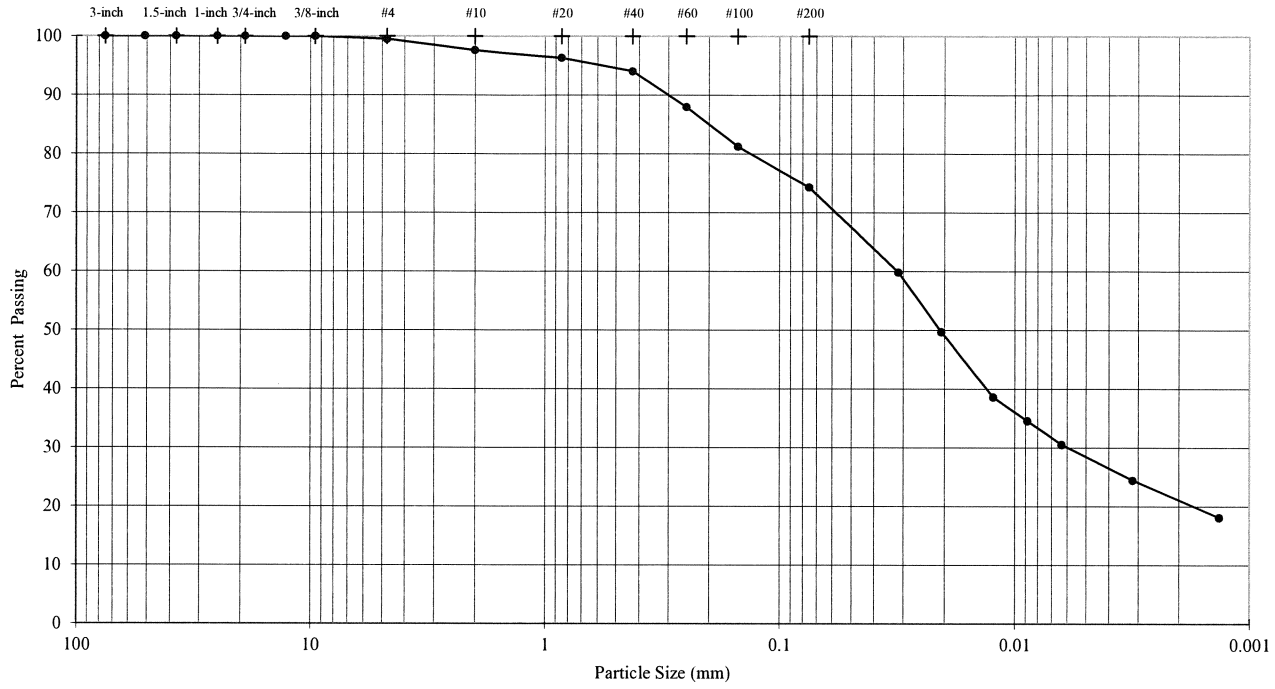
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

TECH	NC
DATE	9/30/2025
CHECK	BJ
REVIEW	BAB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

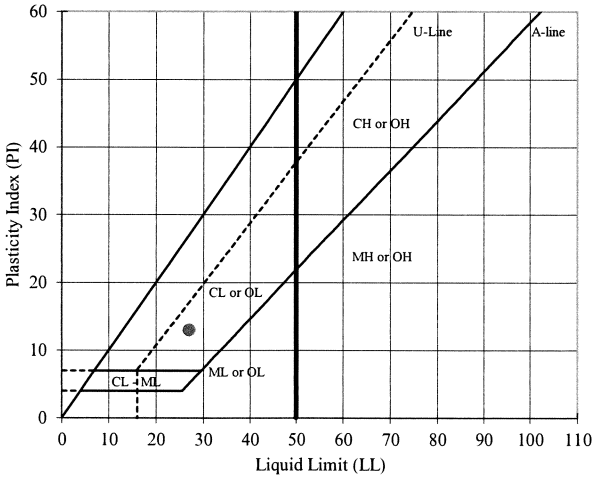
PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-106 SS-06** DEPTH (ft): **13.0-16.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			**0.5**
1/2-inch	12.7	**100.0**	Fine Gravel	**0.5**	
3/8-inch	9.5	**100.0**			
#4	4.75	**99.5**			
#10	2.0	**97.6**	Coarse Sand	**1.9**	
#20	0.85	**96.3**	Medium Sand	**3.6**	
#40	0.425	**94.0**			**25.2**
#60	0.25	**88.0**	Fine Sand	**19.7**	
#100	0.15	**81.2**			
#200	0.075	**74.3**			
	0.031	**59.8**	Silt or Clay Fines	**74.3**	
	0.021	**49.7**			
	0.012	**38.6**			
	0.0088	**34.5**			
	0.0063	**30.5**			
	0.0032	**24.4**			
	0.0013	**18.1**			

Sieve Analysis (Initial Separation on No. 4 Sieve)

Hydrometer Analysis



LL	PL	PI	LI
27	**14**	**13**	**0.44**

USCS Description (ASTM D 2487):

Brownish yellow, LEAN CLAY WITH SAND, trace gravel

As-Received Moisture Content (%): **19.7**

USCS Group Symbol: **CL**

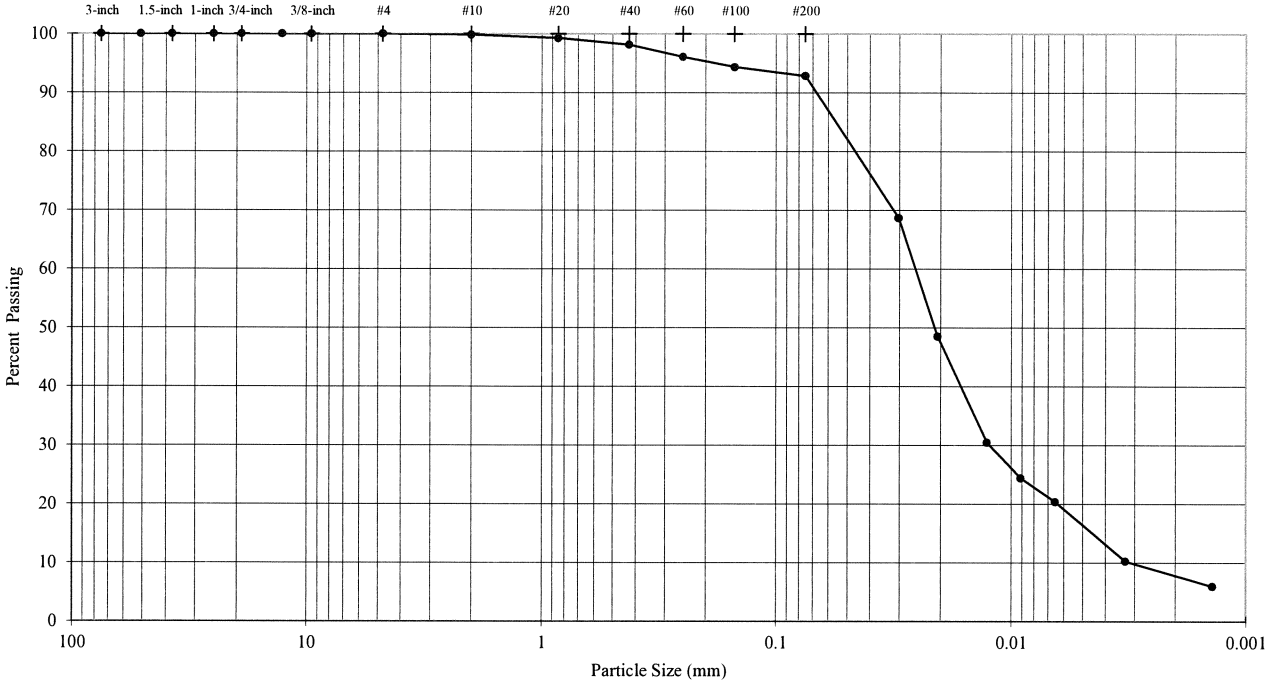
Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

TECH	NC
DATE	9/29/2025
CHECK	
REVIEW	

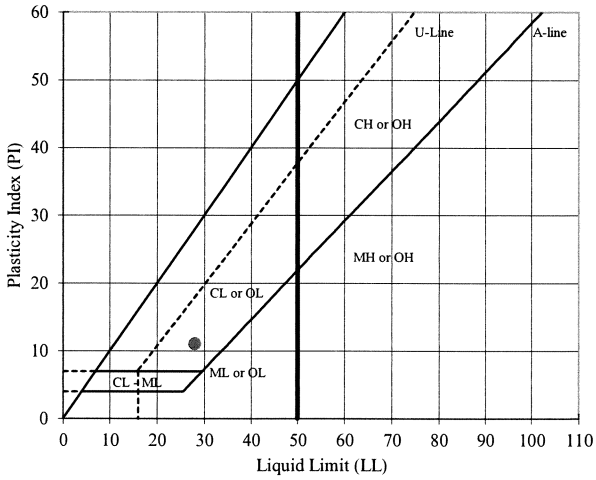
PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS
ASTM D421, D422, D4318

PROJECT NAME: **SIPC Ponds 1&2**
SAMPLE ID: **MW-109 SS-02** DEPTH (ft): **3.0-6.0**
TYPE: **Bag**



Sieve	Particle Size (mm)	% Passing	Description	Percentage	
3-inch	75.0	**100.0**	Cobbles	**0.0**	
2-inch	50.8	**100.0**	Coarse Gravel	**0.0**	**0.0**
1.5-inch	37.5	**100.0**			
1-inch	25.0	**100.0**			
3/4-inch	19.0	**100.0**			
1/2-inch	12.7	**100.0**	Fine Gravel	**0.0**	
3/8-inch	9.5	**100.0**			
#4	4.75	**100.0**			
#10	2.0	**99.9**	Coarse Sand	**0.1**	**7.1**
#20	0.85	**99.3**	Medium Sand	**1.7**	
#40	0.425	**98.1**			
#60	0.25	**96.1**	Fine Sand	**5.3**	
#100	0.15	**94.4**			
#200	0.075	**92.9**			
	0.030	**68.7**	Silt or Clay Fines	**92.9**	
	0.021	**48.5**			
	0.013	**30.4**			
	0.0091	**24.4**			
	0.0065	**20.3**			
	0.0033	**10.3**			
	0.0014	**6.0**			

Sieve Analysis (Initial Separation on No. 4 Sieve)
Hydrometer Analysis



LL	PL	PI	LI
28	**17**	**11**	**0.46**

USCS Description (ASTM D 2487):
Yellowish brown, LEAN CLAY, little sand

As-Received Moisture Content (%): **22.1**

USCS Group Symbol: CL

Notes: (1) Particle size analysis sample Mechanically dispersed using Stirring Apparatus A for about 1 Minute.

(2) Sample prepared for Atterberg Limits testing by the dry method. Material retained on No. 40 sieve removed from Atterberg Limits sample by dry sieving. Plastic Limit test performed by hand rolling. Method A Liquid Limit test performed using manual device.

TECH	NC
DATE	9/30/2025
CHECK	
REVIEW	

Attachment C Analytical Laboratory Report

December 04, 2025

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:

Illinois	100226
Illinois	1004652024-2
Kansas	E-10438
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: SIPC CCR Soils **WorkOrder:** 25091509

Dear Jason McLaurin:

TEKLAB, INC received 17 samples on 9/17/2025 5:30:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Director of Customer Service
(618)344-1004
ehurley@teklabinc.com

Report Contents

Client: Southern Illinois Power Cooperation
Work Order: 25091509
Client Project: SIPC CCR Soils
Report Date: 04-Dec-25

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Receiving Check List	24
Chain of Custody	Appended

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Abbr	Definition
*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
NC	Data is not acceptable for compliance purposes
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

Case Narrative

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 25091509
Client Project: SIPC CCR Soils
Report Date: 04-Dec-25

Cooler Receipt Temp: 12.7 °C

Ra226/228 analyses were performed by Alliance Technical Group - Akron. See attached report for results.

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2026	Collinsville
Illinois	IEPA	1004652024-2	NELAP	4/30/2026	Collinsville
Kansas	KDHE	E-10438	NELAP	7/31/2026	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2026	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2026	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2026	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2025	Collinsville
Arkansas	ADEQ	88-0966		3/14/2026	Collinsville
Illinois	IDPH	17584		5/31/2025	Collinsville
Iowa	IDNR	430		6/1/2026	Collinsville
Kentucky	KWLCP	KY98050		12/31/2025	Collinsville
Kentucky	KWLCP	KY98006		12/31/2025	Collinsville
Kentucky	UST	0073		1/31/2026	Collinsville
Mississippi	MSDH			4/30/2026	Collinsville
Missouri	MDNR	930		1/31/2028	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-001 **Client Sample ID:** MW-102 SS-02

Matrix: SOLID **Collection Date:** 09/11/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**9.2**	%	1	09/22/2025 14:56	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	2.65	SR	**ND**	mg/Kg-dry	1	09/22/2025 16:14	245193
Chloride	NELAP	27.5		**ND**	mg/Kg-dry	1	09/20/2025 17:08	245097
Sulfate	NELAP	53.0	S	**815**	mg/Kg-dry	1	09/22/2025 16:14	245193
Matrix spike and RPD did not recover within control limits due to sample composition.								
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.46		**132**	mg/Kg-dry	1	09/22/2025 16:54	245104
Boron	NELAP	1.85		**43.1**	mg/Kg-dry	1	09/22/2025 16:54	245104
Calcium	NELAP	9.26		**12400**	mg/Kg-dry	1	09/24/2025 17:32	245104
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.38		**1.41**	mg/Kg-dry	10	09/22/2025 11:16	245095
Arsenic	NELAP	0.19		**49.1**	mg/Kg-dry	10	09/23/2025 22:42	245104
Beryllium	NELAP	0.28		**2.02**	mg/Kg-dry	10	09/23/2025 22:42	245104
Cadmium	NELAP	0.19		**2.42**	mg/Kg-dry	10	09/23/2025 22:42	245104
Chromium	NELAP	0.46		**36.9**	mg/Kg-dry	10	09/23/2025 22:42	245104
Cobalt	NELAP	0.46		**13.1**	mg/Kg-dry	10	09/23/2025 22:42	245104
Lead	NELAP	0.19		**137**	mg/Kg-dry	10	09/23/2025 22:42	245104
Lithium	*	0.28		**21.6**	mg/Kg-dry	10	09/23/2025 22:42	245104
Molybdenum	NELAP	0.19		**8.01**	mg/Kg-dry	10	09/23/2025 22:42	245104
Selenium	NELAP	0.93		**2.91**	mg/Kg-dry	10	09/23/2025 22:42	245104
Thallium	NELAP	0.19		**1.51**	mg/Kg-dry	10	09/24/2025 16:31	245104
SW-846 7471B								
Mercury	NELAP	0.011		**0.021**	mg/Kg-dry	1	09/18/2025 16:38	245035
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-002 **Client Sample ID:** MW-102 SS-06

Matrix: SOLID **Collection Date:** 09/11/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**19.8**	%	1	09/22/2025 14:56	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	3.09		**ND**	mg/Kg-dry	1	09/20/2025 17:46	245097
Chloride	NELAP	30.9		**31.3**	mg/Kg-dry	1	09/20/2025 17:46	245097
Sulfate	NELAP	61.7		**142**	mg/Kg-dry	1	09/20/2025 17:46	245097
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.47		**108**	mg/Kg-dry	1	09/22/2025 16:55	245104
Boron	NELAP	1.89		**2.78**	mg/Kg-dry	1	09/22/2025 16:55	245104
Calcium	NELAP	9.43		**1890**	mg/Kg-dry	1	09/24/2025 17:34	245104
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.38		**< 0.38**	mg/Kg-dry	10	09/22/2025 11:22	245095
Arsenic	NELAP	0.19		**4.31**	mg/Kg-dry	10	09/23/2025 22:47	245104
Beryllium	NELAP	0.28		**0.66**	mg/Kg-dry	10	09/24/2025 16:37	245104
Cadmium	NELAP	0.19		**< 0.19**	mg/Kg-dry	10	09/23/2025 22:47	245104
Chromium	NELAP	0.47		**17.3**	mg/Kg-dry	10	09/23/2025 22:47	245104
Cobalt	NELAP	0.47		**5.34**	mg/Kg-dry	10	09/23/2025 22:47	245104
Lead	NELAP	0.19		**7.84**	mg/Kg-dry	10	09/23/2025 22:47	245104
Lithium	*	0.28		**12.0**	mg/Kg-dry	10	09/23/2025 22:47	245104
Molybdenum	NELAP	0.19		**0.53**	mg/Kg-dry	10	09/24/2025 16:37	245104
Selenium	NELAP	0.94		**< 0.94**	mg/Kg-dry	10	09/23/2025 22:47	245104
Thallium	NELAP	0.19		**< 0.19**	mg/Kg-dry	10	09/24/2025 16:37	245104
SW-846 7471B								
Mercury	NELAP	0.012		**< 0.012**	mg/Kg-dry	1	09/18/2025 16:31	245035
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-003 **Client Sample ID:** MW-102 SS-10

Matrix: SOLID **Collection Date:** 09/11/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**16.7**	%	1	09/22/2025 14:56	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	2.81		**9.03**	mg/Kg-dry	1	09/20/2025 17:59	245097
Chloride	NELAP	28.1		**ND**	mg/Kg-dry	1	09/20/2025 17:59	245097
Sulfate	NELAP	56.1		**83.1**	mg/Kg-dry	1	09/20/2025 17:59	245097
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.49		**23.8**	mg/Kg-dry	1	09/22/2025 16:57	245104
Boron	NELAP	1.96		**< 1.96**	mg/Kg-dry	1	09/22/2025 16:57	245104
Calcium	NELAP	9.80		**1850**	mg/Kg-dry	1	09/24/2025 17:36	245104
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.39		**< 0.39**	mg/Kg-dry	10	09/22/2025 11:28	245095
Arsenic	NELAP	0.20		**3.39**	mg/Kg-dry	10	09/23/2025 22:53	245104
Beryllium	NELAP	0.29		**0.79**	mg/Kg-dry	10	09/23/2025 22:53	245104
Cadmium	NELAP	0.20		**< 0.20**	mg/Kg-dry	10	09/23/2025 22:53	245104
Chromium	NELAP	0.49		**16.5**	mg/Kg-dry	10	09/23/2025 22:53	245104
Cobalt	NELAP	0.49		**2.35**	mg/Kg-dry	10	09/23/2025 22:53	245104
Lead	NELAP	0.20		**7.24**	mg/Kg-dry	10	09/23/2025 22:53	245104
Lithium	*	0.29		**6.98**	mg/Kg-dry	10	09/23/2025 22:53	245104
Molybdenum	NELAP	0.20		**0.40**	mg/Kg-dry	10	09/24/2025 16:42	245104
Selenium	NELAP	0.98		**< 0.98**	mg/Kg-dry	10	09/23/2025 22:53	245104
Thallium	NELAP	0.20		**< 0.20**	mg/Kg-dry	10	09/24/2025 16:42	245104
SW-846 7471B								
Mercury	NELAP	0.012		**< 0.012**	mg/Kg-dry	1	09/18/2025 16:43	245035
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-004 **Client Sample ID:** MW-101 SS-10

Matrix: SOLID **Collection Date:** 09/11/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**9.2**	%	1	09/22/2025 14:57	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	2.70		**4.91**	mg/Kg-dry	1	09/20/2025 18:12	245097
Chloride	NELAP	27.0		**ND**	mg/Kg-dry	1	09/20/2025 18:12	245097
Sulfate	NELAP	54.0		**ND**	mg/Kg-dry	1	09/20/2025 18:12	245097
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.48		**35.4**	mg/Kg-dry	1	09/22/2025 16:58	245104
Boron	NELAP	1.92		**< 1.92**	mg/Kg-dry	1	09/22/2025 16:58	245104
Calcium	NELAP	9.62		**719**	mg/Kg-dry	1	09/24/2025 17:45	245104
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.38		**< 0.38**	mg/Kg-dry	10	09/22/2025 11:33	245095
Arsenic	NELAP	0.19		**< 0.19**	mg/Kg-dry	10	09/23/2025 23:45	245104
Beryllium	NELAP	0.29		**0.79**	mg/Kg-dry	10	09/23/2025 23:45	245104
Cadmium	NELAP	0.19		**< 0.19**	mg/Kg-dry	10	09/23/2025 23:45	245104
Chromium	NELAP	0.48		**4.06**	mg/Kg-dry	10	09/23/2025 23:45	245104
Cobalt	NELAP	0.48		**2.53**	mg/Kg-dry	10	09/23/2025 23:45	245104
Lead	NELAP	0.19		**5.64**	mg/Kg-dry	10	09/23/2025 23:45	245104
Lithium	*	0.29		**3.33**	mg/Kg-dry	10	09/23/2025 23:45	245104
Molybdenum	NELAP	0.19		**< 0.19**	mg/Kg-dry	10	09/23/2025 23:45	245104
Selenium	NELAP	0.96		**< 0.96**	mg/Kg-dry	10	09/23/2025 23:45	245104
Thallium	NELAP	0.19		**< 0.19**	mg/Kg-dry	10	09/24/2025 16:48	245104
SW-846 7471B								
Mercury	NELAP	0.011		**< 0.011**	mg/Kg-dry	1	09/18/2025 16:45	245035
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-005 **Client Sample ID:** MW-105 SS-01

Matrix: SOLID **Collection Date:** 09/15/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**11.2**	%	1	09/22/2025 14:57	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	2.71		**10.6**	mg/Kg-dry	1	09/20/2025 18:24	245097
Chloride	NELAP	27.1		**ND**	mg/Kg-dry	1	09/20/2025 18:24	245097
Sulfate	NELAP	54.2		**112**	mg/Kg-dry	1	09/20/2025 18:24	245097
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.47		**167**	mg/Kg-dry	1	09/24/2025 17:47	245104
Boron	NELAP	1.89		**20.0**	mg/Kg-dry	1	09/24/2025 17:47	245104
Calcium	NELAP	9.43	S	**16800**	mg/Kg-dry	1	09/24/2025 17:47	245104
Matrix spike control limits for Calcium are not applicable due to high sample/spike ratio.								
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.38		**0.92**	mg/Kg-dry	10	09/22/2025 11:39	245095
Arsenic	NELAP	0.19		**24.8**	mg/Kg-dry	10	09/23/2025 22:59	245104
Beryllium	NELAP	0.28		**1.23**	mg/Kg-dry	10	09/23/2025 22:59	245104
Cadmium	NELAP	0.19		**1.14**	mg/Kg-dry	10	09/23/2025 22:59	245104
Chromium	NELAP	0.47		**30.4**	mg/Kg-dry	10	09/23/2025 22:59	245104
Cobalt	NELAP	0.47		**9.29**	mg/Kg-dry	10	09/23/2025 22:59	245104
Lead	NELAP	0.19		**62.6**	mg/Kg-dry	10	09/23/2025 22:59	245104
Lithium	*	0.28		**14.9**	mg/Kg-dry	10	09/23/2025 22:59	245104
Molybdenum	NELAP	0.19		**3.57**	mg/Kg-dry	10	09/23/2025 22:59	245104
Selenium	NELAP	0.94		**1.16**	mg/Kg-dry	10	09/23/2025 22:59	245104
Thallium	NELAP	0.19		**0.71**	mg/Kg-dry	10	09/24/2025 17:11	245104
SW-846 7471B								
Mercury	NELAP	0.011		**0.052**	mg/Kg-dry	1	09/18/2025 16:40	245035
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-006 **Client Sample ID:** MW-109 SS-02

Matrix: SOLID **Collection Date:** 09/15/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**18.3**	%	1	09/22/2025 14:57	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	2.94		**ND**	mg/Kg-dry	1	09/20/2025 18:37	245097
Chloride	NELAP	29.4		**ND**	mg/Kg-dry	1	09/20/2025 18:37	245097
Sulfate	NELAP	58.8		**ND**	mg/Kg-dry	1	09/20/2025 18:37	245097
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.47		**188**	mg/Kg-dry	1	09/22/2025 17:12	245104
Boron	NELAP	1.89		**2.75**	mg/Kg-dry	1	09/22/2025 17:12	245104
Calcium	NELAP	9.43		**2840**	mg/Kg-dry	1	09/24/2025 17:52	245104
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.40		**< 0.40**	mg/Kg-dry	10	09/22/2025 11:44	245095
Arsenic	NELAP	0.19		**4.27**	mg/Kg-dry	10	09/23/2025 23:51	245104
Beryllium	NELAP	0.28		**0.54**	mg/Kg-dry	10	09/23/2025 23:51	245104
Cadmium	NELAP	0.19		**< 0.19**	mg/Kg-dry	10	09/23/2025 23:51	245104
Chromium	NELAP	0.47		**16.6**	mg/Kg-dry	10	09/23/2025 23:51	245104
Cobalt	NELAP	0.47		**16.6**	mg/Kg-dry	10	09/23/2025 23:51	245104
Lead	NELAP	0.19		**8.59**	mg/Kg-dry	10	09/23/2025 23:51	245104
Lithium	*	0.28		**10.9**	mg/Kg-dry	10	09/23/2025 23:51	245104
Molybdenum	NELAP	0.19		**0.49**	mg/Kg-dry	10	09/25/2025 11:01	245104
Selenium	NELAP	0.94		**< 0.94**	mg/Kg-dry	10	09/23/2025 23:51	245104
Thallium	NELAP	0.19		**0.19**	mg/Kg-dry	10	09/24/2025 16:54	245104
SW-846 7471B								
Mercury	NELAP	0.012		**< 0.012**	mg/Kg-dry	1	09/18/2025 16:47	245035
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-007 **Client Sample ID:** MW-109 SS-08

Matrix: SOLID **Collection Date:** 09/15/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**8.9**	%	1	09/22/2025 14:58	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	2.56		**3.49**	mg/Kg-dry	1	09/20/2025 19:28	245097
Chloride	NELAP	25.6		**ND**	mg/Kg-dry	1	09/20/2025 19:28	245097
Sulfate	NELAP	51.3		**ND**	mg/Kg-dry	1	09/20/2025 19:28	245097
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.50		**18.4**	mg/Kg-dry	1	09/22/2025 17:14	245104
Boron	NELAP	2.00		**< 2.00**	mg/Kg-dry	1	09/22/2025 17:14	245104
Calcium	NELAP	10.0		**675**	mg/Kg-dry	1	09/24/2025 17:53	245104
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.39		**< 0.39**	mg/Kg-dry	10	09/23/2025 10:02	245095
Arsenic	NELAP	0.20		**0.31**	mg/Kg-dry	10	09/23/2025 23:56	245104
Beryllium	NELAP	0.30		**< 0.30**	mg/Kg-dry	10	09/23/2025 23:56	245104
Cadmium	NELAP	0.20		**< 0.20**	mg/Kg-dry	10	09/23/2025 23:56	245104
Chromium	NELAP	0.50		**4.94**	mg/Kg-dry	10	09/23/2025 23:56	245104
Cobalt	NELAP	0.50		**0.74**	mg/Kg-dry	10	09/23/2025 23:56	245104
Lead	NELAP	0.20		**2.36**	mg/Kg-dry	10	09/23/2025 23:56	245104
Lithium	*	0.30		**1.97**	mg/Kg-dry	10	09/23/2025 23:56	245104
Molybdenum	NELAP	0.20		**< 0.20**	mg/Kg-dry	10	09/23/2025 23:56	245104
Selenium	NELAP	1.00		**< 1.00**	mg/Kg-dry	10	09/23/2025 23:56	245104
Thallium	NELAP	0.20		**< 0.20**	mg/Kg-dry	10	09/24/2025 16:59	245104
SW-846 7471B								
Mercury	NELAP	0.011		**< 0.011**	mg/Kg-dry	1	09/18/2025 16:52	245043
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-008 **Client Sample ID:** MW-109 SS-07

Matrix: SOLID **Collection Date:** 09/15/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**16.7**	%	1	09/22/2025 14:58	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	2.83		**ND**	mg/Kg-dry	1	09/20/2025 19:40	245097
Chloride	NELAP	28.3		**ND**	mg/Kg-dry	1	09/20/2025 19:40	245097
Sulfate	NELAP	56.6		**ND**	mg/Kg-dry	1	09/20/2025 19:40	245097
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.48		**138**	mg/Kg-dry	1	09/22/2025 17:16	245104
Boron	NELAP	1.92		**3.21**	mg/Kg-dry	1	09/22/2025 17:16	245104
Calcium	NELAP	9.62		**2470**	mg/Kg-dry	1	09/24/2025 17:55	245104
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.38		**< 0.38**	mg/Kg-dry	10	09/23/2025 10:07	245095
Arsenic	NELAP	0.19		**5.18**	mg/Kg-dry	10	09/24/2025 0:02	245104
Beryllium	NELAP	0.29		**0.57**	mg/Kg-dry	10	09/24/2025 0:02	245104
Cadmium	NELAP	0.19		**< 0.19**	mg/Kg-dry	10	09/24/2025 0:02	245104
Chromium	NELAP	0.48		**18.3**	mg/Kg-dry	10	09/24/2025 0:02	245104
Cobalt	NELAP	0.48		**5.60**	mg/Kg-dry	10	09/24/2025 0:02	245104
Lead	NELAP	0.19		**9.02**	mg/Kg-dry	10	09/24/2025 0:02	245104
Lithium	*	0.29		**9.43**	mg/Kg-dry	10	09/24/2025 0:02	245104
Molybdenum	NELAP	0.19		**0.58**	mg/Kg-dry	10	09/25/2025 11:06	245104
Selenium	NELAP	0.96		**< 0.96**	mg/Kg-dry	10	09/24/2025 0:02	245104
Thallium	NELAP	0.19		**< 0.19**	mg/Kg-dry	10	09/24/2025 17:05	245104
SW-846 7471B								
Mercury	NELAP	0.012		**< 0.012**	mg/Kg-dry	1	09/18/2025 17:06	245043
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-009 **Client Sample ID:** MW-106 SS-06

Matrix: SOLID **Collection Date:** 09/15/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**16.4**	%	1	09/22/2025 14:58	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	2.93		**ND**	mg/Kg-dry	1	09/20/2025 19:53	245097
Chloride	NELAP	29.3		**ND**	mg/Kg-dry	1	09/20/2025 19:53	245097
Sulfate	NELAP	58.6		**70.3**	mg/Kg-dry	1	09/20/2025 19:53	245097
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.50		**80.0**	mg/Kg-dry	1	09/22/2025 17:17	245104
Boron	NELAP	2.00		**< 2.00**	mg/Kg-dry	1	09/22/2025 17:17	245104
Calcium	NELAP	10.0		**1710**	mg/Kg-dry	1	09/24/2025 17:57	245104
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.37		**< 0.37**	mg/Kg-dry	10	09/23/2025 10:12	245095
Arsenic	NELAP	0.20		**2.57**	mg/Kg-dry	10	09/24/2025 0:08	245104
Beryllium	NELAP	0.30		**0.47**	mg/Kg-dry	10	09/24/2025 0:08	245104
Cadmium	NELAP	0.20		**< 0.20**	mg/Kg-dry	10	09/24/2025 0:08	245104
Chromium	NELAP	0.50		**15.6**	mg/Kg-dry	10	09/24/2025 0:08	245104
Cobalt	NELAP	0.50		**4.08**	mg/Kg-dry	10	09/24/2025 0:08	245104
Lead	NELAP	0.20		**5.92**	mg/Kg-dry	10	09/24/2025 0:08	245104
Lithium	*	0.30		**9.87**	mg/Kg-dry	10	09/24/2025 0:08	245104
Molybdenum	NELAP	0.20		**0.36**	mg/Kg-dry	10	09/24/2025 0:08	245104
Selenium	NELAP	1.00		**< 1.00**	mg/Kg-dry	10	09/24/2025 0:08	245104
Thallium	NELAP	0.20		**< 0.20**	mg/Kg-dry	10	09/25/2025 11:10	245104
SW-846 7471B								
Mercury	NELAP	0.012		**0.031**	mg/Kg-dry	1	09/18/2025 16:54	245043
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-010 **Client Sample ID:** MW-105 SS-10

Matrix: SOLID **Collection Date:** 09/15/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**5.8**	%	1	09/22/2025 14:59	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	2.53		**ND**	mg/Kg-dry	1	09/20/2025 20:06	245097
Chloride	NELAP	25.3		**ND**	mg/Kg-dry	1	09/20/2025 20:06	245097
Sulfate	NELAP	50.5		**109**	mg/Kg-dry	1	09/20/2025 20:06	245097
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.50		**100**	mg/Kg-dry	1	09/22/2025 17:30	245104
Boron	NELAP	2.00		**< 2.00**	mg/Kg-dry	1	09/26/2025 14:51	245104
Calcium	NELAP	10.0		**1070**	mg/Kg-dry	1	09/24/2025 18:07	245104
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.39		**< 0.39**	mg/Kg-dry	10	09/25/2025 10:57	245311
Arsenic	NELAP	0.20		**0.31**	mg/Kg-dry	10	09/24/2025 0:25	245104
Beryllium	NELAP	0.30		**0.92**	mg/Kg-dry	10	09/24/2025 0:25	245104
Cadmium	NELAP	0.20		**< 0.20**	mg/Kg-dry	10	09/24/2025 0:25	245104
Chromium	NELAP	0.50		**10.3**	mg/Kg-dry	10	09/24/2025 0:25	245104
Cobalt	NELAP	0.50		**16.6**	mg/Kg-dry	10	09/24/2025 0:25	245104
Lead	NELAP	0.20		**6.19**	mg/Kg-dry	10	09/24/2025 0:25	245104
Lithium	*	0.30		**16.8**	mg/Kg-dry	10	09/24/2025 0:25	245104
Molybdenum	NELAP	0.20		**0.30**	mg/Kg-dry	10	09/24/2025 0:25	245104
Selenium	NELAP	1.00		**< 1.00**	mg/Kg-dry	10	09/24/2025 0:25	245104
Thallium	NELAP	0.20		**< 0.20**	mg/Kg-dry	10	09/25/2025 11:29	245104
SW-846 7471B								
Mercury	NELAP	0.010		**< 0.010**	mg/Kg-dry	1	09/18/2025 16:57	245043
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-011 **Client Sample ID:** MW-105 SS-06

Matrix: SOLID **Collection Date:** 09/15/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**14.2**	%	1	09/22/2025 14:59	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	2.88		**ND**	mg/Kg-dry	1	09/20/2025 20:18	245097
Chloride	NELAP	28.8		**ND**	mg/Kg-dry	1	09/20/2025 20:18	245097
Sulfate	NELAP	57.7		**135**	mg/Kg-dry	1	09/20/2025 20:18	245097
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.50		**84.1**	mg/Kg-dry	1	09/22/2025 17:34	245104
Boron	NELAP	2.00		**< 2.00**	mg/Kg-dry	1	09/22/2025 17:34	245104
Calcium	NELAP	10.0		**1360**	mg/Kg-dry	1	09/24/2025 18:12	245104
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.39		**0.42**	mg/Kg-dry	10	09/23/2025 10:46	245095
Arsenic	NELAP	0.20		**4.60**	mg/Kg-dry	10	09/24/2025 0:13	245104
Beryllium	NELAP	0.30		**0.56**	mg/Kg-dry	10	09/24/2025 0:13	245104
Cadmium	NELAP	0.20		**< 0.20**	mg/Kg-dry	10	09/24/2025 0:13	245104
Chromium	NELAP	0.50		**15.6**	mg/Kg-dry	10	09/24/2025 0:13	245104
Cobalt	NELAP	0.50		**8.11**	mg/Kg-dry	10	09/24/2025 0:13	245104
Lead	NELAP	0.20		**12.5**	mg/Kg-dry	10	09/24/2025 0:13	245104
Lithium	*	0.30		**9.09**	mg/Kg-dry	10	09/24/2025 0:13	245104
Molybdenum	NELAP	0.20		**0.33**	mg/Kg-dry	10	09/24/2025 0:13	245104
Selenium	NELAP	1.00		**< 1.00**	mg/Kg-dry	10	09/24/2025 0:13	245104
Thallium	NELAP	0.20		**< 0.20**	mg/Kg-dry	10	09/25/2025 11:15	245104
SW-846 7471B								
Mercury	NELAP	0.012		**< 0.012**	mg/Kg-dry	1	09/18/2025 16:59	245043
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-012 **Client Sample ID:** MW-104 SS-08

Matrix: SOLID **Collection Date:** 09/17/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**34.1**	%	1	09/22/2025 14:59	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	3.65		**7.94**	mg/Kg-dry	1	09/20/2025 20:31	245097
Chloride	NELAP	36.5		**ND**	mg/Kg-dry	1	09/20/2025 20:31	245097
Sulfate	NELAP	72.9		**4510**	mg/Kg-dry	1	09/20/2025 20:31	245097
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.50		**57.0**	mg/Kg-dry	1	09/22/2025 17:36	245104
Boron	NELAP	2.00		**50.1**	mg/Kg-dry	1	09/22/2025 17:36	245104
Calcium	NELAP	10.0		**164000**	mg/Kg-dry	1	09/24/2025 18:14	245104
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.39		**2.78**	mg/Kg-dry	10	09/23/2025 10:51	245095
Arsenic	NELAP	0.20		**30.0**	mg/Kg-dry	10	09/24/2025 0:19	245104
Beryllium	NELAP	0.30		**0.86**	mg/Kg-dry	10	09/24/2025 0:19	245104
Cadmium	NELAP	0.20		**3.63**	mg/Kg-dry	10	09/24/2025 0:19	245104
Chromium	NELAP	0.50		**30.5**	mg/Kg-dry	10	09/24/2025 0:19	245104
Cobalt	NELAP	0.50		**3.91**	mg/Kg-dry	10	09/24/2025 0:19	245104
Lead	NELAP	0.20		**106**	mg/Kg-dry	10	09/24/2025 0:19	245104
Lithium	*	0.30		**10.1**	mg/Kg-dry	10	09/24/2025 0:19	245104
Molybdenum	NELAP	0.20		**8.50**	mg/Kg-dry	10	09/24/2025 0:19	245104
Selenium	NELAP	1.00		**5.00**	mg/Kg-dry	10	09/24/2025 0:19	245104
Thallium	NELAP	0.20		**1.54**	mg/Kg-dry	10	09/25/2025 11:20	245104
SW-846 7471B								
Mercury	NELAP	0.015		**0.397**	mg/Kg-dry	1	09/18/2025 17:13	245043
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-013 **Client Sample ID:** MW-104 SS-07

Matrix: SOLID **Collection Date:** 09/17/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**25.0**	%	1	09/22/2025 14:59	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	3.03		**11.1**	mg/Kg-dry	1	09/20/2025 20:44	245097
Chloride	NELAP	30.3		**ND**	mg/Kg-dry	1	09/20/2025 20:44	245097
Sulfate	NELAP	606		**15800**	mg/Kg-dry	10	09/22/2025 12:33	245097
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.47		**97.9**	mg/Kg-dry	1	09/22/2025 17:38	245104
Boron	NELAP	1.89		**66.3**	mg/Kg-dry	1	09/22/2025 17:38	245104
Calcium	NELAP	9.43		**54200**	mg/Kg-dry	1	09/24/2025 18:16	245104
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.38		**5.15**	mg/Kg-dry	10	09/23/2025 10:56	245095
Arsenic	NELAP	0.19		**84.7**	mg/Kg-dry	10	09/24/2025 2:20	245104
Beryllium	NELAP	0.28		**1.96**	mg/Kg-dry	10	09/24/2025 2:20	245104
Cadmium	NELAP	0.19		**5.63**	mg/Kg-dry	10	09/24/2025 2:20	245104
Chromium	NELAP	0.47		**46.8**	mg/Kg-dry	10	09/24/2025 2:20	245104
Cobalt	NELAP	0.47		**7.86**	mg/Kg-dry	10	09/24/2025 2:20	245104
Lead	NELAP	0.19		**246**	mg/Kg-dry	10	09/24/2025 2:20	245104
Lithium	*	0.28		**13.0**	mg/Kg-dry	10	09/24/2025 2:20	245104
Molybdenum	NELAP	0.19		**16.5**	mg/Kg-dry	10	09/24/2025 2:20	245104
Selenium	NELAP	0.94		**5.11**	mg/Kg-dry	10	09/24/2025 2:20	245104
Thallium	NELAP	0.19		**3.03**	mg/Kg-dry	10	09/25/2025 11:24	245104
SW-846 7471B								
Mercury	NELAP	0.013		**0.224**	mg/Kg-dry	1	09/18/2025 17:16	245043
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-014 **Client Sample ID:** MW-103 SS-04

Matrix: SOLID **Collection Date:** 09/12/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**25.7**	%	1	09/22/2025 14:59	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	3.09		**8.66**	mg/Kg-dry	1	09/20/2025 20:56	245097
Chloride	NELAP	30.9		**ND**	mg/Kg-dry	1	09/20/2025 20:56	245097
Sulfate	NELAP	618		**15100**	mg/Kg-dry	10	09/22/2025 12:46	245097
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.46		**162**	mg/Kg-dry	1	09/22/2025 17:39	245104
Boron	NELAP	1.85		**67.1**	mg/Kg-dry	1	09/22/2025 17:39	245104
Calcium	NELAP	9.26		**31300**	mg/Kg-dry	1	09/24/2025 18:18	245104
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.37		**6.24**	mg/Kg-dry	10	09/23/2025 11:45	245095
Arsenic	NELAP	0.19		**84.2**	mg/Kg-dry	10	09/24/2025 2:26	245104
Beryllium	NELAP	0.28		**1.96**	mg/Kg-dry	10	09/24/2025 2:26	245104
Cadmium	NELAP	0.19		**5.88**	mg/Kg-dry	10	09/24/2025 2:26	245104
Chromium	NELAP	0.46		**54.0**	mg/Kg-dry	10	09/24/2025 2:26	245104
Cobalt	NELAP	0.46		**9.33**	mg/Kg-dry	10	09/24/2025 2:26	245104
Lead	NELAP	0.19		**250**	mg/Kg-dry	10	09/24/2025 2:26	245104
Lithium	*	0.28		**14.9**	mg/Kg-dry	10	09/24/2025 2:26	245104
Molybdenum	NELAP	0.19		**14.0**	mg/Kg-dry	10	09/24/2025 2:26	245104
Selenium	NELAP	0.93		**3.52**	mg/Kg-dry	10	09/24/2025 2:26	245104
Thallium	NELAP	0.19		**3.01**	mg/Kg-dry	10	09/25/2025 12:06	245104
SW-846 7471B								
Mercury	NELAP	0.013		**0.102**	mg/Kg-dry	1	09/18/2025 17:18	245043
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-015 **Client Sample ID:** MW-104 SS-03

Matrix: SOLID **Collection Date:** 09/17/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**21.7**	%	1	09/22/2025 15:00	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	3.16		**ND**	mg/Kg-dry	1	09/20/2025 21:09	245097
Chloride	NELAP	31.6		**ND**	mg/Kg-dry	1	09/20/2025 21:09	245097
Sulfate	NELAP	632		**14400**	mg/Kg-dry	10	09/22/2025 12:59	245097
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.50		**75.3**	mg/Kg-dry	1	09/23/2025 16:11	245166
Boron	NELAP	2.00		**54.6**	mg/Kg-dry	1	09/23/2025 16:11	245166
Calcium	NELAP	10.0		**42900**	mg/Kg-dry	1	09/23/2025 16:11	245166
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.40		**< 0.40**	mg/Kg-dry	10	09/23/2025 11:01	245095
Arsenic	NELAP	0.20		**7.82**	mg/Kg-dry	10	09/25/2025 10:18	245166
Beryllium	NELAP	0.30		**0.79**	mg/Kg-dry	10	09/25/2025 10:18	245166
Cadmium	NELAP	0.20		**0.74**	mg/Kg-dry	10	09/25/2025 10:18	245166
Chromium	NELAP	0.50		**14.3**	mg/Kg-dry	10	09/25/2025 10:18	245166
Cobalt	NELAP	0.50		**4.74**	mg/Kg-dry	10	09/25/2025 10:18	245166
Lead	NELAP	0.20		**25.1**	mg/Kg-dry	10	09/24/2025 22:14	245166
Lithium	*	0.30		**5.66**	mg/Kg-dry	10	09/25/2025 10:18	245166
Molybdenum	NELAP	0.20	B	**2.74**	mg/Kg-dry	10	09/25/2025 10:18	245166
Selenium	NELAP	1.00		**1.70**	mg/Kg-dry	10	09/25/2025 7:39	245166
Thallium	NELAP	0.20		**0.56**	mg/Kg-dry	10	09/25/2025 10:18	245166
Sample result(s) for MO exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.								
SW-846 7471B								
Mercury	NELAP	0.012		**0.082**	mg/Kg-dry	1	09/18/2025 17:27	245043
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-016 **Client Sample ID:** MW-106 SS-04

Matrix: SOLID **Collection Date:** 09/15/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**17.0**	%	1	09/22/2025 15:00	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	2.95		**4.16**	mg/Kg-dry	1	09/20/2025 21:22	245097
Chloride	NELAP	29.5		**ND**	mg/Kg-dry	1	09/20/2025 21:22	245097
Sulfate	NELAP	59.0		**ND**	mg/Kg-dry	1	09/20/2025 21:22	245097
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.49		**127**	mg/Kg-dry	1	09/22/2025 17:41	245104
Boron	NELAP	1.96		**2.21**	mg/Kg-dry	1	09/22/2025 17:41	245104
Calcium	NELAP	9.80		**1720**	mg/Kg-dry	1	09/24/2025 18:19	245104
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.38		**< 0.38**	mg/Kg-dry	10	09/23/2025 11:05	245095
Arsenic	NELAP	0.20		**3.78**	mg/Kg-dry	10	09/24/2025 2:32	245104
Beryllium	NELAP	0.29		**0.56**	mg/Kg-dry	10	09/24/2025 19:28	245104
Cadmium	NELAP	0.20		**< 0.20**	mg/Kg-dry	10	09/24/2025 2:32	245104
Chromium	NELAP	0.49		**16.0**	mg/Kg-dry	10	09/24/2025 2:32	245104
Cobalt	NELAP	0.49		**5.22**	mg/Kg-dry	10	09/24/2025 2:32	245104
Lead	NELAP	0.20		**6.93**	mg/Kg-dry	10	09/24/2025 2:32	245104
Lithium	*	0.29		**13.6**	mg/Kg-dry	10	09/24/2025 2:32	245104
Molybdenum	NELAP	0.20		**0.25**	mg/Kg-dry	10	09/25/2025 12:10	245104
Selenium	NELAP	0.98		**< 0.98**	mg/Kg-dry	10	09/24/2025 2:32	245104
Thallium	NELAP	0.20		**< 0.20**	mg/Kg-dry	10	09/25/2025 12:10	245104
SW-846 7471B								
Mercury	NELAP	0.012		**< 0.012**	mg/Kg-dry	1	09/18/2025 17:20	245043
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Client: Southern Illinois Power Cooperation **Work Order:** 25091509

Client Project: SIPC CCR Soils **Report Date:** 04-Dec-25

Lab ID: 25091509-017 **Client Sample ID:** MW-106 SS-10

Matrix: SOLID **Collection Date:** 09/15/2025 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW3550C_5035A_ASTM2974								
Percent Moisture	*	0.1		**6.4**	%	1	09/22/2025 15:00	R371708
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY								
Fluoride	NELAP	2.54		**ND**	mg/Kg-dry	1	09/22/2025 12:21	245097
Chloride	NELAP	25.4		**ND**	mg/Kg-dry	1	09/22/2025 12:21	245097
Sulfate	NELAP	50.9		**ND**	mg/Kg-dry	1	09/22/2025 12:21	245097
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.48		**32.7**	mg/Kg-dry	1	09/22/2025 17:42	245104
Boron	NELAP	1.92		**< 1.92**	mg/Kg-dry	1	09/22/2025 17:42	245104
Calcium	NELAP	9.62		**583**	mg/Kg-dry	1	09/24/2025 18:21	245104
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.36		**< 0.36**	mg/Kg-dry	10	09/23/2025 11:10	245095
Arsenic	NELAP	0.19		**0.48**	mg/Kg-dry	10	09/24/2025 19:34	245104
Beryllium	NELAP	0.29		**0.56**	mg/Kg-dry	10	09/24/2025 3:18	245104
Cadmium	NELAP	0.19		**< 0.19**	mg/Kg-dry	10	09/24/2025 3:18	245104
Chromium	NELAP	0.48		**5.95**	mg/Kg-dry	10	09/24/2025 3:18	245104
Cobalt	NELAP	0.48		**15.8**	mg/Kg-dry	10	09/24/2025 3:18	245104
Lead	NELAP	0.19		**3.83**	mg/Kg-dry	10	09/24/2025 3:18	245104
Lithium	*	0.29		**6.23**	mg/Kg-dry	10	09/24/2025 3:18	245104
Molybdenum	NELAP	0.19		**0.55**	mg/Kg-dry	10	09/24/2025 3:18	245104
Selenium	NELAP	0.96		**< 0.96**	mg/Kg-dry	10	09/24/2025 3:18	245104
Thallium	NELAP	0.19		**< 0.19**	mg/Kg-dry	10	09/25/2025 12:15	245104
SW-846 7471B								
Mercury	NELAP	0.010		**< 0.010**	mg/Kg-dry	1	09/18/2025 17:34	245043
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		**See Attached**		1	10/30/2025 11:30	R375664

Receiving Check List

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 25091509
Client Project: SIPC CCR Soils
Report Date: 04-Dec-25

Carrier: Mario Vinci
Received By: EAH

Completed by: Laura E Henson
On: 18-Sep-25

Reviewed by: Ellie Hopkins
On: 18-Sep-25

Pages to follow: Chain of custody 2 Extra pages included 52

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C	12.7	
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice	☐	
Chain of custody present?	Yes ☑	No ☐				
Chain of custody signed when relinquished and received?	Yes ☑	No ☐				
Chain of custody agrees with sample labels?	Yes ☐	No ☑				
Samples in proper container/bottle?	Yes ☑	No ☐				
Sample containers intact?	Yes ☑	No ☐				
Sufficient sample volume for indicated test?	Yes ☑	No ☐				
All samples received within holding time?	Yes ☑	No ☐				
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑			
Container/Temp Blank temperature in compliance?	Yes ☐	No ☑				

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☐	No ☐	No VOA vials ☑
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	NA ☑
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑

Any No responses must be detailed below or on the COC.

Cooler #2 = 9.7C (LTG 5). The samples were out of temperature compliance upon receipt. Per Mario Vinci, proceed with analyses.- EAH/lhenson - 9/18/2025 9:44:25 AM

MW-104 SS-08 (9/12/25 collection) and MW-104 SS-02 (9/17/25 collection) were not received. MW-103 SS-04, MW-104 SS-03, MW-106 SS-04, and MW-106 SS-10 were received and added to the chain of custody. Danielle Sylvia Cofelice (WSP) was notified via e-mail. - EAH/LH 9/18/25

Per Danielle Sylvia Cofelice (WSP), MW-104 SS-02 was listed in error where MW-104 SS-03 was collected. Proceed with all samples as received. - ehurley - 9/18/2025 11:06:51 AM

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 2 Work order # 25091509

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004

Client:	Southern Illinois Power Cooperation
Address:	11543 Lake of Egypt Road
City / State / Zip	Marion, IL 62959
Contact:	Jason McLaurin
Phone:	(618) 964-1448
E-Mail:	jmclaurin@sipower.org
Fax:	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 10.7/9.7 °C LTG# 5
Preserved in: ☐ LAB ☐ FIELD
FOR LAB USE ONLY

Lab Notes
Per Mario Vinci, proceed out of temperature compliance.

Client Comments: Report QC LVL: 1 SM 9/17/25

Metals = Ba B Ca (ICP), Sb As Be Cd Cr Co Pb Li Mo Se Tl (ICP/MS) and Hg

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☐ Yes ☐ No

Project Name/Number: SIPC CCR Solids

Sample Collector's Name:

Results Requested (call for PFAS TAT and surcharges)
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ☐ 3 Day (50% Surcharge)

Billing/PO#:

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER	MATRIX: Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	SUB Ra226/228	Total Metals
25091509-001	MW-102 SS-02	9/11/25	2										/				—	—	—
002	MW-102 SS-06	9/11/25	2										/				—	—	—
003	MW-102-SS-10	9/11/25	2										/				—	—	—
004	MW-101 SS-10	9/11/25	2										/				—	—	—
	MW-104 SS-08	9/12/25 ⊕	2										/				—	—	—
005	MW-105 SS-01	9/15/25	2										/				—	—	—
006	MW-109 SS-02	9/15/25	2										/				—	—	—
007	MW-109 SS-08	9/15/25	2										/				—	—	—
008	MW-109 SS-07	9/15/25	2										/				—	—	—
009	MW-106 SS-06	9/15/25	2										/				—	—	—

Relinquished By	Date/Time	Received By	Date/Time
Mario Vinci	9/17/25 1736		9/17/25 1730

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder: 102796

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 2 of 2 Work order # 25091509

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004

Client:	Southern Illinois Power Cooperation		
Address:	11543 Lake of Egypt Road		
City / State / Zip	Marion, IL 62959		
Contact:	Jason McLaurin	**Phone:**	(618) 964-1448
E-Mail:	jmclaurin@sipower.org	**Fax:**	

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C LTG# _____
Preserved in: ☐ LAB ☐ FIELD **FOR LAB USE ONLY**
Lab Notes
* Samples received. ⊕ Samples not received. Danielle Sylvia

Client Comments: Cotelice (WSP) notified via e-mail. sent 9/18/25 Report QC LVL: 1

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☐ Yes ☑ No

Metals = Ba B Ca (ICP), Sb As Be Cd Cr Co Pb Li Mo Se Tl (ICP/MS) and Hg

Project Name/Number: SIPC CCR Solids
Sample Collector's Name:

Results Requested (call for PFAS TAT and surcharges)
☑ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date _____ ☐ 3 Day (50% Surcharge)

Billing/PO#:

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER	MATRIX: Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	SUB Ra226/228	Total Metals
25091509 – 010	MW-105 SS-10	9/15/25	2										✓				✓		✓
011	MW-105 SS-06	9/15/25	2										✓				✓		✓
012	MW-104 SS-08	9/17/25	2										✓				✓		✓
013	MW-104 SS07	9/17/25	2										✓				✓		✓
	MW-104 SS02	9/17/25 ⊕	2										✓				✓		✓
014	MW-103 SS-04	9/12/25 *																	
015	MW-104 SS-03	9/17/25																	
016	MW-106 SS-04	9/15/25																	
017	MW-106 SS-10	9/15/25																	

Relinquished By	Date/Time	Received By	Date/Time
Marcia Vinci	9/17/25 1730	Elizabeth A Hurley	9/17/25 1730

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder: 102796

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

December 03, 2025

Elizabeth Hurley
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 25091509

Dear Elizabeth Hurley:

Order No.: 25091710

Alliance Technical Group - Akron received 17 sample(s) on 9/22/2025 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0828, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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Case Narrative

WO#: **25091710**
Date: **12/3/2025**

CLIENT: TEKLAB Inc,
Project: 25091509

WorkOrder Narrative:
25091710: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Alliance Technical Group Work Order Number assigned to this report.

Alliance Technical Group holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Alliance Technical Group and that of the customer. It cannot be reproduced in any form without the consent of Alliance Technical Group or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Alliance Technical Group is not responsible for use or interpretation of the data included herein.

All results for solid samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Sequence Sample Notes:
25091710-003A PctMoist_S(2540): Parent sample and DUP exhibited high RPD due to suspected sample inhomogeneity.

25091710-002A Radium-228_S(9320): Parent sample and duplicate exhibit a high RPD most likely due to sample matrix. Both results are below the PQL.

25091710-001A Radium-226_S(9315): Parent sample and duplicate exhibit a high RPD, most likely due to matrix interference.
25091710-002A Radium-226_S(9315): Parent sample and duplicate exhibit a high RPD. Both parent sample and duplicate results are below the PQL.

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Case Narrative

WO#: **25091710**
Date: **12/3/2025**

CLIENT: TEKLAB Inc,
Project: 25091509

Analytical Sequence QC Notes:
LCS/LCSD-89239 Radium-228_S(9320): LCS and LCSD exhibit high RPD. Individually each LCS and LCSD meet required criteria

Original

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Qualifiers and Acronyms

WO#: **25091710**
Date: **12/3/2025**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected above the MDL.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
d	Manual integration in which peak was deleted
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B	The analyte was detected in the Method Blank at a concentration greater than the RL.
MB+	The analyte was detected in the Method Blank at a concentration greater than the MDL.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
W	Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

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Workorder Sample Summary

WO#: **25091710**

03-Dec-25

CLIENT: TEKLAB Inc,
Project: 25091509

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
25091710-001	25091509-001B		9/11/2025	9/22/2025 1:40:00 PM	Solid
25091710-002	25091509-002B		9/11/2025	9/22/2025 1:40:00 PM	Solid
25091710-003	25091509-003B		9/11/2025	9/22/2025 1:40:00 PM	Solid
25091710-004	25091509-004B		9/11/2025	9/22/2025 1:40:00 PM	Solid
25091710-005	25091509-005B		9/15/2025	9/22/2025 1:40:00 PM	Solid
25091710-006	25091509-006B		9/15/2025	9/22/2025 1:40:00 PM	Solid
25091710-007	25091509-007B		9/15/2025	9/22/2025 1:40:00 PM	Solid
25091710-008	25091509-008B		9/15/2025	9/22/2025 1:40:00 PM	Solid
25091710-009	25091509-009B		9/15/2025	9/22/2025 1:40:00 PM	Solid
25091710-010	25091509-010B		9/15/2025	9/22/2025 1:40:00 PM	Solid
25091710-011	25091509-011B		9/15/2025	9/22/2025 1:40:00 PM	Solid
25091710-012	25091509-012B		9/17/2025	9/22/2025 1:40:00 PM	Solid
25091710-013	25091509-013B		9/17/2025	9/22/2025 1:40:00 PM	Solid
25091710-014	25091509-014B		9/12/2025	9/22/2025 1:40:00 PM	Solid
25091710-015	25091509-015B		9/17/2025	9/22/2025 1:40:00 PM	Solid
25091710-016	25091509-016B		9/15/2025	9/22/2025 1:40:00 PM	Solid
25091710-017	25091509-017B		9/15/2025	9/22/2025 1:40:00 PM	Solid

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DATES REPORT

WO#: **25091710**

03-Dec-25

Client: TEKLAB Inc,
Project: 25091509

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
25091710-001A	25091509-001B	9/11/2025	Solid	Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Percent Moisture by SM2540Mod			9/25/2025 3:00:00 PM
				Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM
25091710-002A	25091509-002B			Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Percent Moisture by SM2540Mod			9/29/2025 4:05:00 PM
				Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM
25091710-003A	25091509-003B			Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Percent Moisture by SM2540Mod			9/29/2025 4:05:00 PM
				Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM
25091710-004A	25091509-004B			Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Percent Moisture by SM2540Mod			9/29/2025 4:05:00 PM
				Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM
25091710-005A	25091509-005B	9/15/2025		Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Percent Moisture by SM2540Mod			9/29/2025 4:05:00 PM
				Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM
25091710-006A	25091509-006B			Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM

Original

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DATES REPORT

WO#: **25091710**

03-Dec-25

Client: TEKLAB Inc,
Project: 25091509

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
25091710-006A	25091509-006B	9/15/2025	Solid	Percent Moisture by SM2540Mod			9/29/2025 4:05:00 PM
				Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM
25091710-007A	25091509-007B			Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Percent Moisture by SM2540Mod			9/29/2025 4:05:00 PM
				Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM
25091710-008A	25091509-008B			Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Percent Moisture by SM2540Mod			9/29/2025 4:05:00 PM
				Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM
25091710-009A	25091509-009B			Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Percent Moisture by SM2540Mod			9/29/2025 4:05:00 PM
				Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM
25091710-010A	25091509-010B			Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Percent Moisture by SM2540Mod			9/29/2025 4:05:00 PM
				Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM
25091710-011A	25091509-011B			Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Percent Moisture by SM2540Mod			9/29/2025 4:05:00 PM

Original

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DATES REPORT

WO#: **25091710**

03-Dec-25

Client: TEKLAB Inc,
Project: 25091509

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
25091710-011A	25091509-011B	9/15/2025	Solid	Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM
25091710-012A	25091509-012B	9/17/2025		Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Percent Moisture by SM2540Mod			9/29/2025 4:05:00 PM
				Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM
25091710-013A	25091509-013B			Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Percent Moisture by SM2540Mod			9/29/2025 4:05:00 PM
				Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM
25091710-014A	25091509-014B	9/12/2025		Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Percent Moisture by SM2540Mod			9/29/2025 4:05:00 PM
				Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM
25091710-015A	25091509-015B	9/17/2025		Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Percent Moisture by SM2540Mod			9/29/2025 4:05:00 PM
				Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM
25091710-016A	25091509-016B	9/15/2025		Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Percent Moisture by SM2540Mod			9/29/2025 4:05:00 PM
				Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM

Original

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Website: http://www.settek.com

DATES REPORT

WO#: **25091710**

03-Dec-25

Client: TEKLAB Inc,

Project: 25091509

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
25091710-016A	25091509-016B	9/15/2025	Solid	Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM
25091710-017A	25091509-017B			Combined Radium-226/228 (EPA 9315/9320)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Percent Moisture by SM2540Mod			9/29/2025 4:05:00 PM
				Radium-226 Analysis (9315)		10/21/2025 9:40:00 AM	10/31/2025 8:53:00 AM
				Radium-228 Analysis (9320)		10/21/2025 9:40:00 AM	10/30/2025 11:30:00 AM

Original

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Analytical Report

(consolidated)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/11/2025
Project: 25091509
Lab ID: 25091710-001
Matrix: SOLID
Client Sample ID: 25091509-001B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)					**MBDRA226RA22**	**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	3.73	3.30		pCi/g-dry	± 1.02	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)					**SW9315**	**E903-904**	Analyst: **SEE**
Radium-226	1.79	1.10	QDR	pCi/g-dry	± 0.220	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)					**SW9320**	**E903-904**	Analyst: **SEE**
Radium-228	1.94	2.20	J	pCi/g-dry	± 0.800	1	10/30/2025 11:30:00 A
Yield	1					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/11/2025
Project: 25091509
Lab ID: 25091710-002
Matrix: SOLID
Client Sample ID: 25091509-002B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)					**MBDRA226RA22**	**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	4.12	3.73		pCi/g-dry	± 1.04	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)					**SW9315**	**E903-904**	Analyst: **SEE**
Radium-226	0.85	1.24	JQDR	pCi/g-dry	± 0.150	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)					**SW9320**	**E903-904**	Analyst: **SEE**
Radium-228	3.27	2.49	QDR	pCi/g-dry	± 0.890	1	10/30/2025 11:30:00 A
Yield	1					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
U	Samples with CalcVal < MDL
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode

Original

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/11/2025
Project: 25091509
Lab ID: 25091710-003
Matrix: SOLID
Client Sample ID: 25091509-003B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)					**MBDRA226RA22**	**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	1.99	3.47	J	pCi/g-dry	± 0.780	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)					**SW9315**	**E903-904**	Analyst: **SEE**
Radium-226	0.72	1.16	J	pCi/g-dry	± 0.140	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)					**SW9320**	**E903-904**	Analyst: **SEE**
Radium-228	1.27	2.31	J	pCi/g-dry	± 0.640	1	10/30/2025 11:30:00 A
Yield	1					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/11/2025
Project: 25091509
Lab ID: 25091710-004
Matrix: SOLID
Client Sample ID: 25091509-004B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)					**MBDRA226RA22**	**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	2.11	3.23	J	pCi/g-dry	± 0.840	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)					**SW9315**	**E903-904**	Analyst: **SEE**
Radium-226	0.71	1.08	J	pCi/g-dry	± 0.150	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)					**SW9320**	**E903-904**	Analyst: **SEE**
Radium-228	1.40	2.15	J	pCi/g-dry	± 0.690	1	10/30/2025 11:30:00 A
Yield	1					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/15/2025
Project: 25091509
Lab ID: 25091710-005
Matrix: SOLID
Client Sample ID: 25091509-005B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)					**MBDRA226RA22**	**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	3.25	3.23		pCi/g-dry	± 0.960	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)					**SW9315**	**E903-904**	Analyst: **SEE**
Radium-226	1.15	1.08		pCi/g-dry	± 0.180	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)					**SW9320**	**E903-904**	Analyst: **SEE**
Radium-228	2.10	2.15	J	pCi/g-dry	± 0.780	1	10/30/2025 11:30:00 A
Yield	1					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

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Analytical Report

(consolidated)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/15/2025
Project: 25091509
Lab ID: 25091710-006
Matrix: SOLID
Client Sample ID: 25091509-006B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)					**MBDRA226RA22**	**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	2.89	3.62	J	pCi/g-dry	± 0.930	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)					**SW9315**	**E903-904**	Analyst: **SEE**
Radium-226	0.94	1.21	J	pCi/g-dry	± 0.150	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)					**SW9320**	**E903-904**	Analyst: **SEE**
Radium-228	1.95	2.41	J	pCi/g-dry	± 0.780	1	10/30/2025 11:30:00 A
Yield	1					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

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Analytical Report

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WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/15/2025
Project: 25091509
Lab ID: 25091710-007
Matrix: SOLID
Client Sample ID: 25091509-007B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)					**MBDRA226RA22**	**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	1.58	3.48	J	pCi/g-dry	± 0.710	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)					**SW9315**	**E903-904**	Analyst: **SEE**
Radium-226	0.79	1.16	J	pCi/g-dry	± 0.150	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)					**SW9320**	**E903-904**	Analyst: **SEE**
Radium-228	0.790	2.32	J	pCi/g-dry	± 0.560	1	10/30/2025 11:30:00 A
Yield	1					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

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Analytical Report

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WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/15/2025
Project: 25091509
Lab ID: 25091710-008
Matrix: SOLID
Client Sample ID: 25091509-008B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)				**MBDRA226RA22**		**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	1.65	3.52	J	pCi/g-dry	± 0.770	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)				**SW9315**		**E903-904**	Analyst: **SEE**
Radium-226	0.82	1.17	J	pCi/g-dry	± 0.150	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)				**SW9320**		**E903-904**	Analyst: **SEE**
Radium-228	0.83	2.35	J	pCi/g-dry	± 0.620	1	10/30/2025 11:30:00 A
Yield	1					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

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Analytical Report

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WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/15/2025
Project: 25091509
Lab ID: 25091710-009
Matrix: SOLID
Client Sample ID: 25091509-009B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)				**MBDRA226RA22**		**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	1.92	3.54	J	pCi/g-dry	± 0.910	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)				**SW9315**		**E903-904**	Analyst: **SEE**
Radium-226	0.36	1.18	U	pCi/g-dry	± 0.110	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)				**SW9320**		**E903-904**	Analyst: **SEE**
Radium-228	1.56	2.36	J	pCi/g-dry	± 0.800	1	10/30/2025 11:30:00 A
Yield	1					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

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Analytical Report

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WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/15/2025
Project: 25091509
Lab ID: 25091710-010
Matrix: SOLID
Client Sample ID: 25091509-010B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)					**MBDRA226RA22**	**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	0.92	3.20	U	pCi/g-dry	± 0.740	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)					**SW9315**	**E903-904**	Analyst: **SEE**
Radium-226	0.38	1.07	U	pCi/g-dry	± 0.110	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)					**SW9320**	**E903-904**	Analyst: **SEE**
Radium-228	0.54	2.13	U	pCi/g-dry	± 0.630	1	10/30/2025 11:30:00 A
Yield	1					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

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WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/15/2025
Project: 25091509
Lab ID: 25091710-011
Matrix: SOLID
Client Sample ID: 25091509-011B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)					**MBDRA226RA22**	**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	0.73	3.54	U	pCi/g-dry	± 0.700	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)					**SW9315**	**E903-904**	Analyst: **SEE**
Radium-226	0.31	1.18	U	pCi/g-dry	± 0.100	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)					**SW9320**	**E903-904**	Analyst: **SEE**
Radium-228	0.42	2.36	U	pCi/g-dry	± 0.600	1	10/30/2025 11:30:00 A
Yield	1					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

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WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/17/2025
Project: 25091509
Lab ID: 25091710-012
Matrix: SOLID
Client Sample ID: 25091509-012B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)				**MBDRA226RA22**		**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	2.05	4.40	J	pCi/g-dry	± 0.870	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)				**SW9315**		**E903-904**	Analyst: **SEE**
Radium-226	0.29	1.47	U	pCi/g-dry	± 0.0900	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)				**SW9320**		**E903-904**	Analyst: **SEE**
Radium-228	1.76	2.93	J	pCi/g-dry	± 0.780	1	10/30/2025 11:30:00 A
Yield	1					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

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Analytical Report

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WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/17/2025
Project: 25091509
Lab ID: 25091710-013
Matrix: SOLID
Client Sample ID: 25091509-013B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)					**MBDRA226RA22**	**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	1.71	4.25	J	pCi/g-dry	± 0.760	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)					**SW9315**	**E903-904**	Analyst: **SEE**
Radium-226	0.75	1.42	U	pCi/g-dry	± 0.130	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)					**SW9320**	**E903-904**	Analyst: **SEE**
Radium-228	0.96	2.83	J	pCi/g-dry	± 0.630	1	10/30/2025 11:30:00 A
Yield	0.98					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

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WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/12/2025
Project: 25091509
Lab ID: 25091710-014
Matrix: SOLID
Client Sample ID: 25091509-014B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)				**MBDRA226RA22**		**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	1.93	4.07	J	pCi/g-dry	± 0.760	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)				**SW9315**		**E903-904**	Analyst: **SEE**
Radium-226	1.48	1.36		pCi/g-dry	± 0.190	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)				**SW9320**		**E903-904**	Analyst: **SEE**
Radium-228	0.45	2.71	U	pCi/g-dry	± 0.570	1	10/30/2025 11:30:00 A
Yield	1					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

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WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/17/2025
Project: 25091509
Lab ID: 25091710-015
Matrix: SOLID
Client Sample ID: 25091509-015B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)					**MBDRA226RA22**	**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	0.79	3.81	U	pCi/g-dry	± 0.650	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)					**SW9315**	**E903-904**	Analyst: **SEE**
Radium-226	0.43	1.27	U	pCi/g-dry	± 0.110	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)					**SW9320**	**E903-904**	Analyst: **SEE**
Radium-228	0.36	2.54	U	pCi/g-dry	± 0.540	1	10/30/2025 11:30:00 A
Yield	0.94					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

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WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/15/2025
Project: 25091509
Lab ID: 25091710-016
Matrix: SOLID
Client Sample ID: 25091509-016B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)				**MBDRA226RA22**		**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	1.65	3.72	J	pCi/g-dry	± 0.950	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)				**SW9315**		**E903-904**	Analyst: **SEE**
Radium-226	0.71	1.24	J	pCi/g-dry	± 0.140	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)				**SW9320**		**E903-904**	Analyst: **SEE**
Radium-228	0.94	2.48	J	pCi/g-dry	± 0.810	1	10/30/2025 11:30:00 A
Yield	0.78					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

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Analytical Report

(consolidated)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Collection Date: 9/15/2025
Project: 25091509
Lab ID: 25091710-017
Matrix: SOLID
Client Sample ID: 25091509-017B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
COMBINED RADIUM-226/228 (EPA 9315/9320)					**MBDRA226RA22**	**E903-904**	Analyst: **SEE**
Radium-226/Radium-228 Combined	2.08	3.24	J	pCi/g-dry	± 0.830	1	10/31/2025 8:53:00 AM
RADIUM-226 ANALYSIS (9315)					**SW9315**	**E903-904**	Analyst: **SEE**
Radium-226	0.85	1.08	J	pCi/g-dry	± 0.150	1	10/31/2025 8:53:00 AM
Yield	1					1	10/31/2025 8:53:00 AM
RADIUM-228 ANALYSIS (9320)					**SW9320**	**E903-904**	Analyst: **SEE**
Radium-228	1.23	2.16	J	pCi/g-dry	± 0.680	1	10/30/2025 11:30:00 A
Yield	1					1	10/30/2025 11:30:00 A

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

Alliance Technical Group - Akron
3310 Win St.
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TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-001A
Project: 25091509
Client Sample ID 25091509-001B

Tag Number:
Collection Date: 9/11/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	9.13	0.100		%	1	9/25/2025 3:00:00 PM

Qualifiers:				
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	ND	Not Detected	PL	Permit Limit
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-002A
Project: 25091509
Client Sample ID 25091509-002B

Tag Number:
Collection Date: 9/11/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	19.6	0.100		%	1	9/29/2025 4:05:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-003A
Project: 25091509
Client Sample ID 25091509-003B

Tag Number:
Collection Date: 9/11/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	13.5	0.100	QDR	%	1	9/29/2025 4:05:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-004A
Project: 25091509
Client Sample ID 25091509-004B

Tag Number:
Collection Date: 9/11/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	7.06	0.100		%	1	9/29/2025 4:05:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-005A
Project: 25091509
Client Sample ID 25091509-005B

Tag Number:
Collection Date: 9/15/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	7.08	0.100		%	1	9/29/2025 4:05:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

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Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-006A
Project: 25091509
Client Sample ID 25091509-006B

Tag Number:
Collection Date: 9/15/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	17.1	0.100		%	1	9/29/2025 4:05:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-007A
Project: 25091509
Client Sample ID 25091509-007B

Tag Number:
Collection Date: 9/15/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	13.9	0.100		%	1	9/29/2025 4:05:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-008A
Project: 25091509
Client Sample ID 25091509-008B

Tag Number:
Collection Date: 9/15/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	14.9	0.100		%	1	9/29/2025 4:05:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-009A
Project: 25091509
Client Sample ID 25091509-009B

Tag Number:
Collection Date: 9/15/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	15.3	0.100		%	1	9/29/2025 4:05:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-010A
Project: 25091509
Client Sample ID 25091509-010B

Tag Number:
Collection Date: 9/15/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	6.25	0.100		%	1	9/29/2025 4:05:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-011A
Project: 25091509
Client Sample ID 25091509-011B

Tag Number:
Collection Date: 9/15/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	15.4	0.100		%	1	9/29/2025 4:05:00 PM

Qualifiers:				
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	ND	Not Detected	PL	Permit Limit
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-012A
Project: 25091509
Client Sample ID 25091509-012B

Tag Number:
Collection Date: 9/17/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	31.8	0.100		%	1	9/29/2025 4:05:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Website: http://www.settek.com

Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-013A
Project: 25091509
Client Sample ID 25091509-013B

Tag Number:
Collection Date: 9/17/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	29.4	0.100		%	1	9/29/2025 4:05:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-014A
Project: 25091509
Client Sample ID 25091509-014B

Tag Number:
Collection Date: 9/12/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	26.3	0.100		%	1	9/29/2025 4:05:00 PM

Qualifiers:		
H	Holding times for preparation or analysis exceeded	
ND	Not Detected	
R	RPD outside accepted recovery limits	
U	Samples with CalcVal < MDL	
M	Manual Integration used to determine area response	
PL	Permit Limit	
RL	Reporting Detection Limit	
W	Sample container temperature is out of limit as specified at testcode	

Original

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Website: http://www.settek.com

Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-015A
Project: 25091509
Client Sample ID 25091509-015B

Tag Number:
Collection Date: 9/17/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	21.2	0.100		%	1	9/29/2025 4:05:00 PM

Qualifiers:				
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	ND	Not Detected	PL	Permit Limit
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-016A
Project: 25091509
Client Sample ID 25091509-016B

Tag Number:
Collection Date: 9/15/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	19.4	0.100		%	1	9/29/2025 4:05:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(base report)

WO#: **25091710**

Date Reported: **12/3/2025**

CLIENT: TEKLAB Inc,
Matrix: SOLID
Lab ID: 25091710-017A
Project: 25091509
Client Sample ID 25091509-017B

Tag Number:
Collection Date: 9/15/2025

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **DHF**
Percent Moisture	7.36	0.100		%	1	9/29/2025 4:05:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Original

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Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **25091710**

03-Dec-25

Client: TEKLAB Inc,
Project: 25091509 **BatchID:** **89239**

Sample ID: **MB-89239**	SampType: **MBLK**	TestCode: **Radium-228_**	Units: **pCi/g**	Prep Date: **10/21/2025**	RunNo: **220002**
Client ID: **BatchQC**	Batch ID: **89239**	TestNo: **SW9320**	**E903-904**	Analysis Date: **10/30/2025**	SeqNo: **5868225**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	0.800	2.00									J
Yield	1.00										

Sample ID: **LCS-89239**	SampType: **LCS**	TestCode: **Radium-228_**	Units: **pCi/g**	Prep Date: **10/21/2025**	RunNo: **220002**
Client ID: **BatchQC**	Batch ID: **89239**	TestNo: **SW9320**	**E903-904**	Analysis Date: **10/30/2025**	SeqNo: **5868226**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	5.06	2.00	5.000	0	101	50	130				QLR

Sample ID: **LCSD-89239**	SampType: **LCSD**	TestCode: **Radium-228_**	Units: **pCi/g**	Prep Date: **10/21/2025**	RunNo: **220002**
Client ID: **BatchQC**	Batch ID: **89239**	TestNo: **SW9320**	**E903-904**	Analysis Date: **10/30/2025**	SeqNo: **5868227**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	3.74	2.00	5.000	0	74.8	50	130	5.060	30.0	20	R

Sample ID: **25091710-001ADUP**	SampType: **DUP**	TestCode: **Radium-228_**	Units: **pCi/g-dry**	Prep Date: **10/21/2025**	RunNo: **220002**
Client ID: **25091509-001B**	Batch ID: **89239**	TestNo: **SW9320**	**E903-904**	Analysis Date: **10/30/2025**	SeqNo: **5868233**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL
W	Sample container temperature is out of limit as specified at testcode				

Original

Alliance Technical Group - Akron
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Cuyahoga Falls, Ohio 44223
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Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **25091710**
03-Dec-25

Client: TEKLAB Inc,
Project: 25091509 **BatchID:** **89239**

Sample ID: **25091710-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/g-dry** Prep Date: **10/21/2025** RunNo: **220002**
Client ID: **25091509-001B** Batch ID: **89239** TestNo: **SW9320** **E903-904** Analysis Date: **10/30/2025** SeqNo: **5868233**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	1.96	2.20						1.937	1.13	20	J
Yield	1							1.100	0	0	

Sample ID: **25091710-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/g-dry** Prep Date: **10/21/2025** RunNo: **220002**
Client ID: **25091509-002B** Batch ID: **89239** TestNo: **SW9320** **E903-904** Analysis Date: **10/30/2025** SeqNo: **5868235**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	2.25	2.49						3.270	36.9	20	JR
Yield	1							1.243	0	0	

Qualifiers:

H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL
W	Sample container temperature is out of limit as specified at testcode				

Original

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Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **25091710**

03-Dec-25

Client: TEKLAB Inc,
Project: 25091509 **BatchID:** **89239**

Sample ID: **MB-89239**	SampType: **MBLK**	TestCode: **Radium-226_**	Units: **pCi/g**	Prep Date: **10/21/2025**	RunNo: **220003**
Client ID: **BatchQC**	Batch ID: **89239**	TestNo: **SW9315**	**E903-904**	Analysis Date: **10/31/2025**	SeqNo: **5868272**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00									U
Yield	1.00										

Sample ID: **LCS-89239**	SampType: **LCS**	TestCode: **Radium-226_**	Units: **pCi/g**	Prep Date: **10/21/2025**	RunNo: **220003**
Client ID: **BatchQC**	Batch ID: **89239**	TestNo: **SW9315**	**E903-904**	Analysis Date: **10/31/2025**	SeqNo: **5868273**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	5.05	1.00	5.000	0	101	70	130				

Sample ID: **LCSD-89239**	SampType: **LCSD**	TestCode: **Radium-226_**	Units: **pCi/g**	Prep Date: **10/21/2025**	RunNo: **220003**
Client ID: **BatchQC**	Batch ID: **89239**	TestNo: **SW9315**	**E903-904**	Analysis Date: **10/31/2025**	SeqNo: **5868274**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	5.73	1.00	5.000	0	115	60	140	5.050	12.6	40	

Sample ID: **25091710-001ADUP**	SampType: **DUP**	TestCode: **Radium-226_**	Units: **pCi/g-dry**	Prep Date: **10/21/2025**	RunNo: **220003**
Client ID: **25091509-001B**	Batch ID: **89239**	TestNo: **SW9315**	**E903-904**	Analysis Date: **10/31/2025**	SeqNo: **5868280**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL
W	Sample container temperature is out of limit as specified at testcode				

Original

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **25091710**

03-Dec-25

Client: TEKLAB Inc,
Project: 25091509 **BatchID:** **89239**

Sample ID: **25091710-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/g-dry** Prep Date: **10/21/2025** RunNo: **220003**
Client ID: **25091509-001B** Batch ID: **89239** TestNo: **SW9315** **E903-904** Analysis Date: **10/31/2025** SeqNo: **5868280**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	1.42	1.10						1.794	23.3	20	R
Yield	1							1.100	0	0	

Sample ID: **25091710-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/g-dry** Prep Date: **10/21/2025** RunNo: **220003**
Client ID: **25091509-002B** Batch ID: **89239** TestNo: **SW9315** **E903-904** Analysis Date: **10/31/2025** SeqNo: **5868282**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.24						0.8455	200	20	RU
Yield	1							1.243	0	0	

Qualifiers:

H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL
W	Sample container temperature is out of limit as specified at testcode				

Original

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **25091710**

03-Dec-25

Client: TEKLAB Inc,
Project: 25091509 **BatchID:** **R217428**

Sample ID: **MB-R217428** SampType: **MBLK** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **217428**
Client ID: **BatchQC** Batch ID: **R217428** TestNo: **A2540B** Analysis Date: **9/25/2025** SeqNo: **5796344**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	0.0312	0.100									J

Sample ID: **25091612-001ADUP** SampType: **DUP** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **217428**
Client ID: **BatchQC** Batch ID: **R217428** TestNo: **A2540B** Analysis Date: **9/25/2025** SeqNo: **5796364**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	15.9	0.100						16.59	3.95	5	

Sample ID: **25091710-001ADUP** SampType: **DUP** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **217428**
Client ID: **25091509-001B** Batch ID: **R217428** TestNo: **A2540B** Analysis Date: **9/25/2025** SeqNo: **5796365**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	8.70	0.100						9.131	4.80	5	

Qualifiers:

H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL
W	Sample container temperature is out of limit as specified at testcode				

Original

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **25091710**
03-Dec-25

Client: TEKLAB Inc,
Project: 25091509 **BatchID:** **R217650**

Sample ID: **MB-R217650** SampType: **MBLK** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **217650**
Client ID: **BatchQC** Batch ID: **R217650** TestNo: **A2540B** Analysis Date: **9/29/2025** SeqNo: **5802264**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	0.0391	0.100									J

Sample ID: **25091710-002ADUP** SampType: **DUP** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **217650**
Client ID: **25091509-002B** Batch ID: **R217650** TestNo: **A2540B** Analysis Date: **9/29/2025** SeqNo: **5802285**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	19.7	0.100						19.57	0.519	5	

Sample ID: **25091710-003ADUP** SampType: **DUP** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **217650**
Client ID: **25091509-003B** Batch ID: **R217650** TestNo: **A2540B** Analysis Date: **9/29/2025** SeqNo: **5802286**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	15.4	0.100						13.55	12.8	5	R

Qualifiers:

H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL
W	Sample container temperature is out of limit as specified at testcode				

Original

TEKLAB, INC. Chain of Custody

25091710

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp: Sampler: Client QC Level: 2

Comments: **Please Issue reports and invoices via email only**
SHIP to ATG-Akron. Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.

Project# 25091509

Contact: Elizabeth Hurley Email: ehurley@teklabinc.com
Requested Due Date: Standard TAT Billing/PO: 39426 Phone: (618) 344-1004 ext. 33 State of Sample Origin = IL

24.6°C = 24.4 +0.2

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Radium 226/228	CAM										
	25091509-001B	9/11/25	HNO3	Soil	✔	48										
	25091509-002B	9/11/25	HNO3	Soil	✔	30										
	25091509-003B	9/11/25	HNO3	Soil	✔	48										
	25091509-004B	9/11/25	HNO3	Soil	✔	22										
	25091509-005B	9/15/25	HNO3	Soil	✔	20										
	25091509-006B	9/15/25	HNO3	Soil	✔	38										
	25091509-007B	9/15/25	HNO3	Soil	✔	40										
	25091509-008B	9/15/25	HNO3	Soil	✔	28										
	25091509-009B	9/15/25	HNO3	Soil	✔	32										
	25091509-010B	9/15/25	HNO3	Soil	✔	42										
	25091509-011B	9/15/25	HNO3	Soil	✔	28										

*Relinquished By	Date/Time	Received By	Date/Time
	9/18/25	9/22/25 1340 FedEx	

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, State, Federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016

25091710

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp: Sampler: Client QC Level: 2

Comments: **Please Issue reports and invoices via email only**
SHIP to ATG-Akron. Please analyze for Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.

Project# 25091509

Contact: Elizabeth Hurley Email: ehurley@teklabinc.com
Requested Due Date: Standard TAT Billing/PO: 39426
Phone: (618) 344-1004 ext. State of Sample Origin = IL

24.6°C = 24.4 + 0.2

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Radium 226/228	CPM
	25091509-012B	9/17/25	HNO3	Soil	✔	32
	25091509-013B	9/17/25	HNO3	Soil	✔	40
	25091509-014B	9/12/25	HNO3	Soil	✔	28
	25091509-015B	9/17/25	HNO3	Soil	✔	30
	25091509-016B	9/15/25	HNO3	Soil	✔	50
	25091509-017B	9/15/25	HNO3	Soil	✔	34
			HNO3	Groundwater	✔	
			HNO3	Groundwater	✔	
			HNO3	Groundwater	✔	
			HNO3	Groundwater	✔	
			HNO3	Groundwater	✔	

*Relinquished By	Date/Time	Received By	Date/Time
	9/18/25	9/22/25 1340 FedEx	

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Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Sample Log-In Check List

Client Name: **TEK-IL-62234-A** Work Order Number: **25091710** RcptNo: **1**

Logged by: **Maggie M. Grmek** **9/22/2025 1:40:00 PM**

Completed By: **Maggie M. Grmek** **9/22/2025 5:27:49 PM**

Reviewed By:

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

Log In

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☑ No ☐ Not Present ☐ NA ☐
   No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

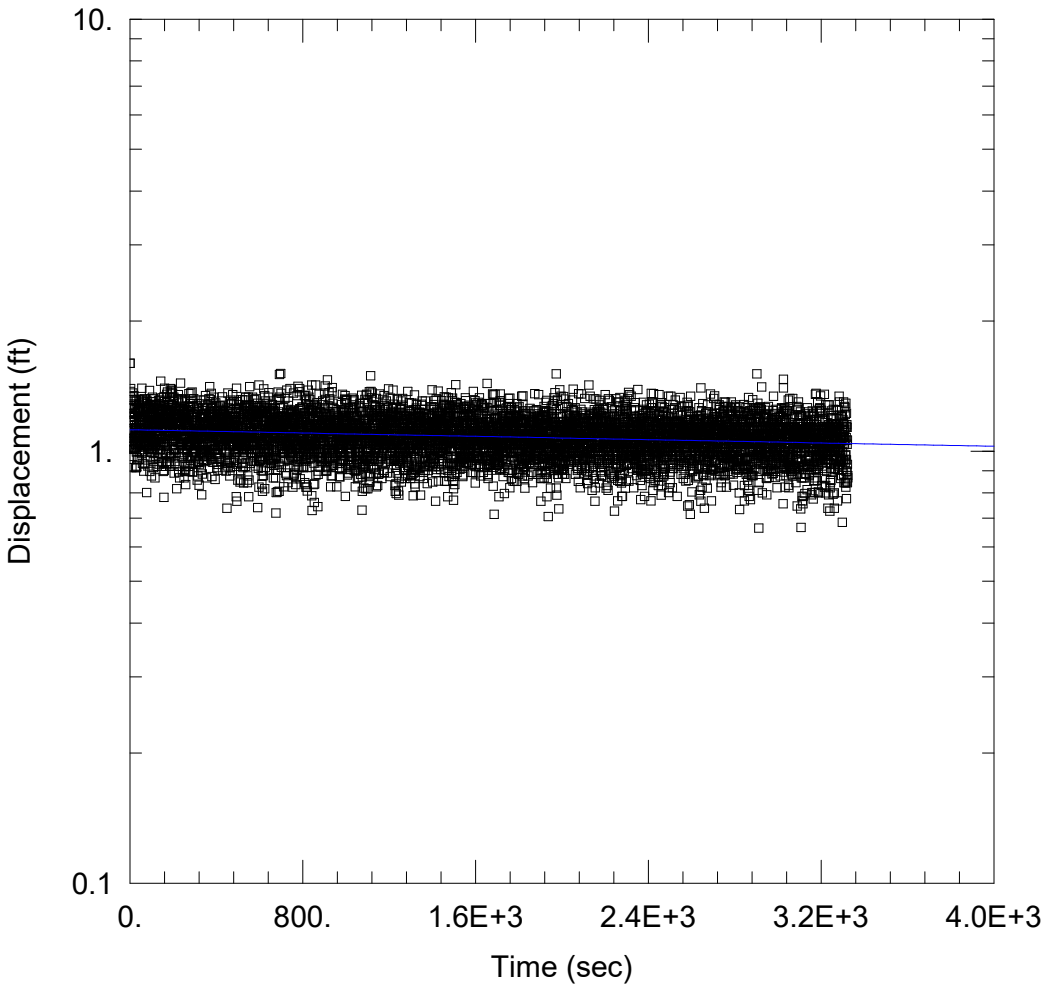
Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Cooler Information

Cooler No	Temp ºC	Condition	Seal Intact	Seal No	Seal Date	Signed By
box	24.6	Good	Not Present			

Attachment D Field Hydraulic Conductivity Test Map



WELL TEST ANALYSIS

Data Set: C:\...\MW-101-SLUG-IN.aqt
Date: 10/19/26 Time: 16:31:48

PROJECT INFORMATION

Company: WSP
Client: SIPC
Test Well: MW-101
Test Date: 9/24/2026

AQUIFER DATA

Saturated Thickness: 6.1 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-101)

Initial Displacement: 1.597 ft
Total Well Penetration Depth: 6.1 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 6.1 ft
Screen Length: 5. ft
Well Radius: 0.08333 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.00433 ft/day
y0 = 1.121 ft

Data Set: C:\Users\USJV703850\WSP O365\GLD-21467997,SIPC Operating Permit Application IL - 5 Technical W
Date: 10/19/26
Time: 16:32:13

PROJECT INFORMATION

Company: WSP
Client: SIPC
Test Date: 9/24/2026
Test Well: MW-101

AQUIFER DATA

Saturated Thickness: 6.1 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-101

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 1.597 ft
Static Water Column Height: 6.1 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 1. ft
Screen Length: 5. ft
Total Well Penetration Depth: 6.1 ft

No. of Observations: 6648

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	1.597	1662.	0.9291
0.5	1.089	1662.5	0.9499
1.	1.176	1663.	1.137
1.5	1.183	1663.5	0.9315
2.	1.375	1664.	1.061
2.5	1.107	1664.5	1.188
3.	1.056	1665.	0.9315
3.5	1.396	1665.5	1.119
4.	1.125	1666.	1.132
4.5	1.174	1666.5	1.052
5.	1.276	1667.	1.072
5.5	1.225	1667.5	1.287
6.	1.028	1668.	0.9777
6.5	1.216	1668.5	1.07
7.	1.165	1669.	0.9291
7.5	1.072	1669.5	1.001
8.	1.068	1670.	1.059
8.5	1.112	1670.5	0.9291
9.	1.317	1671.	0.9384

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
9.5	1.197	1671.5	1.114
10.	0.9153	1672.	0.9777
10.5	1.253	1672.5	1.19
11.	1.054	1673.	0.973
11.5	1.257	1673.5	1.172
12.	1.015	1674.	1.012
12.5	1.259	1674.5	1.035
13.	1.264	1675.	1.199
13.5	1.125	1675.5	1.146
14.	1.363	1676.	1.239
14.5	0.973	1676.5	1.033
15.	1.313	1677.	1.068
15.5	1.049	1677.5	1.017
16.	1.336	1678.	1.135
16.5	1.174	1678.5	0.9777
17.	1.054	1679.	1.356
17.5	1.167	1679.5	1.077
18.	1.276	1680.	0.9892
18.5	1.072	1680.5	1.042
19.	1.345	1681.	0.9984
19.5	1.07	1681.5	1.077
20.	1.01	1682.	1.135
20.5	1.01	1682.5	0.8298
21.	1.049	1683.	1.033
21.5	1.225	1683.5	0.9176
22.	1.204	1684.	1.35
22.5	1.146	1684.5	1.093
23.	1.072	1685.	1.07
23.5	1.262	1685.5	1.188
24.	1.317	1686.	1.218
24.5	1.25	1686.5	1.296
25.	1.105	1687.	0.7143
25.5	1.038	1687.5	0.9407
26.	1.13	1688.	0.9753
26.5	1.035	1688.5	1.033
27.	1.072	1689.	1.033
27.5	0.9153	1689.5	1.033
28.	1.132	1690.	0.9522
28.5	1.072	1690.5	0.9892
29.	1.01	1691.	1.354
29.5	1.13	1691.5	1.149
30.	0.9961	1692.	1.197
30.5	0.9153	1692.5	1.072
31.	1.306	1693.	0.9291
31.5	1.091	1693.5	1.054
32.	1.153	1694.	0.9615
32.5	0.9245	1694.5	1.091
33.	1.054	1695.	1.033
33.5	1.056	1695.5	0.9684
34.	1.253	1696.	1.19
34.5	0.9661	1696.5	1.292
35.	0.9546	1697.	0.9037
35.5	1.253	1697.5	1.061

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
36.	1.028	1698.	1.04
36.5	1.045	1698.5	1.059
37.	1.225	1699.	0.9984
37.5	1.091	1699.5	0.9268
38.	1.234	1700.	1.107
38.5	1.07	1700.5	1.248
39.	1.047	1701.	1.137
39.5	1.236	1701.5	1.077
40.	1.283	1702.	1.209
40.5	1.273	1702.5	1.052
41.	1.232	1703.	0.9684
41.5	1.243	1703.5	0.9315
42.	1.165	1704.	0.98
42.5	1.317	1704.5	1.135
43.	1.132	1705.	0.9777
43.5	0.9961	1705.5	1.089
44.	0.9569	1706.	1.075
44.5	1.206	1706.5	0.9315
45.	1.29	1707.	1.13
45.5	1.262	1707.5	1.061
46.	1.204	1708.	1.042
46.5	1.028	1708.5	0.7836
47.	1.174	1709.	1.054
47.5	1.132	1709.5	0.9407
48.	1.049	1710.	0.9407
48.5	1.049	1710.5	0.9407
49.	1.086	1711.	0.9615
49.5	1.181	1711.5	0.9084
50.	1.25	1712.	1.278
50.5	1.093	1712.5	1.292
51.	1.241	1713.	1.149
51.5	1.128	1713.5	1.093
52.	1.202	1714.	1.19
52.5	1.162	1714.5	1.356
53.	1.132	1715.	1.109
53.5	1.306	1715.5	1.308
54.	1.095	1716.	1.278
54.5	1.045	1716.5	1.033
55.	0.9869	1717.	1.035
55.5	1.114	1717.5	0.9107
56.	1.398	1718.	1.149
56.5	1.054	1718.5	1.012
57.	1.25	1719.	1.033
57.5	0.9961	1719.5	1.017
58.	0.9361	1720.	1.202
58.5	1.174	1720.5	1.13
59.	1.317	1721.	1.093
59.5	1.292	1721.5	0.9938
60.	1.271	1722.	1.16
60.5	1.153	1722.5	1.033
61.	1.197	1723.	1.167
61.5	1.236	1723.5	1.035
62.	1.234	1724.	1.091

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
62.5	1.091	1724.5	1.239
63.	1.181	1725.	0.9777
63.5	1.028	1725.5	0.9592
64.	1.008	1726.	0.9892
64.5	0.8991	1726.5	1.209
65.	1.128	1727.	0.9199
65.5	1.035	1727.5	0.8737
66.	1.303	1728.	1.135
66.5	0.9338	1728.5	1.033
67.	1.322	1729.	0.9707
67.5	1.125	1729.5	1.128
68.	1.038	1730.	1.017
68.5	1.153	1730.5	1.042
69.	1.167	1731.	1.119
69.5	1.035	1731.5	0.98
70.	1.049	1732.	1.109
70.5	1.174	1732.5	0.9984
71.	1.047	1733.	1.209
71.5	1.105	1733.5	0.7975
72.	1.091	1734.	1.176
72.5	1.052	1734.5	1.091
73.	1.259	1735.	1.139
73.5	1.049	1735.5	1.098
74.	1.114	1736.	0.9037
74.5	1.072	1736.5	1.052
75.	1.072	1737.	1.116
75.5	1.049	1737.5	1.13
76.	1.07	1738.	1.169
76.5	1.162	1738.5	1.003
77.	1.271	1739.	1.119
77.5	1.313	1739.5	1.07
78.	1.105	1740.	1.169
78.5	0.8021	1740.5	1.137
79.	1.287	1741.	1.093
79.5	0.9546	1741.5	0.9546
80.	1.174	1742.	0.9569
80.5	1.232	1742.5	1.015
81.	1.165	1743.	1.257
81.5	1.271	1743.5	1.077
82.	1.303	1744.	1.116
82.5	1.033	1744.5	0.9984
83.	0.9245	1745.	1.033
83.5	1.105	1745.5	0.9984
84.	1.086	1746.	1.042
84.5	1.253	1746.5	1.22
85.	1.091	1747.	1.146
85.5	1.125	1747.5	1.119
86.	1.01	1748.	0.9915
86.5	1.181	1748.5	0.9291
87.	1.082	1749.	0.9915
87.5	1.259	1749.5	1.072
88.	1.028	1750.	0.9499
88.5	1.031	1750.5	1.137

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
89.	1.197	1751.	0.9037
89.5	1.052	1751.5	0.8922
90.	1.195	1752.	1.109
90.5	1.211	1752.5	1.149
91.	1.012	1753.	1.146
91.5	1.382	1753.5	1.22
92.	1.142	1754.	1.324
92.5	1.112	1754.5	1.061
93.	0.8968	1755.	1.264
93.5	1.045	1755.5	1.052
94.	1.271	1756.	1.015
94.5	1.195	1756.5	1.033
95.	1.07	1757.	0.8922
95.5	0.9707	1757.5	1.197
96.	1.084	1758.	1.098
96.5	1.112	1758.5	1.287
97.	1.283	1759.	1.326
97.5	1.223	1759.5	0.8229
98.	1.109	1760.	1.052
98.5	1.197	1760.5	1.072
99.	0.9938	1761.	1.16
99.5	1.223	1761.5	1.209
100.	1.049	1762.	1.038
100.5	0.876	1762.5	1.248
101.	1.301	1763.	0.9892
101.5	1.105	1763.5	0.9984
102.	1.125	1764.	1.109
102.5	1.241	1764.5	1.042
103.	1.047	1765.	1.149
103.5	0.9915	1765.5	1.077
104.	1.333	1766.	1.209
104.5	1.204	1766.5	0.8645
105.	1.181	1767.	1.259
105.5	1.026	1767.5	1.246
106.	1.283	1768.	1.093
106.5	1.035	1768.5	0.9915
107.	1.213	1769.	1.121
107.5	1.008	1769.5	1.146
108.	1.204	1770.	1.176
108.5	0.9153	1770.5	0.9014
109.	1.259	1771.	1.16
109.5	0.9453	1771.5	0.9684
110.	1.199	1772.	1.13
110.5	1.195	1772.5	1.077
111.	1.322	1773.	1.109
111.5	1.13	1773.5	0.8529
112.	1.172	1774.	1.07
112.5	1.162	1774.5	1.137
113.	1.068	1775.	1.017
113.5	0.9938	1775.5	1.204
114.	1.223	1776.	1.169
114.5	1.28	1776.5	1.068
115.	1.063	1777.	1.07

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
115.5	1.052	1777.5	1.119
116.	1.181	1778.	1.19
116.5	1.047	1778.5	0.9499
117.	0.8668	1779.	1.012
117.5	1.028	1779.5	1.107
118.	1.181	1780.	1.248
118.5	1.035	1780.5	1.109
119.	1.114	1781.	0.8506
119.5	1.192	1781.5	1.135
120.	1.165	1782.	0.9522
120.5	0.973	1782.5	1.239
121.	1.109	1783.	1.149
121.5	1.052	1783.5	1.089
122.	1.204	1784.	1.061
122.5	1.142	1784.5	1.16
123.	1.065	1785.	1.075
123.5	1.165	1785.5	1.209
124.	1.172	1786.	1.017
124.5	1.063	1786.5	1.112
125.	1.253	1787.	1.054
125.5	1.278	1787.5	1.061
126.	1.183	1788.	1.059
126.5	0.9222	1788.5	1.199
127.	1.259	1789.	0.9892
127.5	1.093	1789.5	1.112
128.	1.109	1790.	1.132
128.5	0.9869	1790.5	1.119
129.	1.213	1791.	1.202
129.5	1.248	1791.5	1.287
130.	1.234	1792.	0.8506
130.5	0.9638	1792.5	0.8945
131.	1.199	1793.	1.012
131.5	1.01	1793.5	1.176
132.	1.202	1794.	1.061
132.5	1.31	1794.5	1.162
133.	1.052	1795.	1.257
133.5	1.183	1795.5	1.172
134.	1.084	1796.	1.035
134.5	1.181	1796.5	0.9592
135.	1.287	1797.	0.9984
135.5	1.172	1797.5	1.209
136.	0.9338	1798.	1.16
136.5	1.25	1798.5	1.169
137.	1.153	1799.	0.906
137.5	1.232	1799.5	0.8829
138.	1.169	1800.	1.149
138.5	1.008	1800.5	0.9384
139.	1.313	1801.	0.9291
139.5	1.045	1801.5	1.098
140.	1.112	1802.	1.266
140.5	1.162	1802.5	0.9961
141.	1.202	1803.	1.209
141.5	1.084	1803.5	1.093

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
142.	1.01	1804.	0.9684
142.5	1.153	1804.5	1.132
143.	1.162	1805.	0.9084
143.5	1.451	1805.5	1.061
144.	1.192	1806.	1.031
144.5	1.13	1806.5	1.042
145.	1.271	1807.	0.9315
145.5	0.9453	1807.5	1.116
146.	1.241	1808.	1.098
146.5	1.125	1808.5	1.098
147.	1.065	1809.	1.098
147.5	1.07	1809.5	1.109
148.	1.031	1810.	1.042
148.5	0.9846	1810.5	0.9984
149.	1.329	1811.	1.052
149.5	0.9222	1811.5	1.188
150.	1.25	1812.	1.13
150.5	1.213	1812.5	1.149
151.	1.223	1813.	1.054
151.5	1.142	1813.5	0.9638
152.	1.181	1814.	0.9384
152.5	1.248	1814.5	1.34
153.	0.943	1815.	1.012
153.5	1.156	1815.5	1.077
154.	1.125	1816.	1.072
154.5	1.047	1816.5	1.109
155.	0.8968	1817.	0.9615
155.5	1.223	1817.5	0.876
156.	1.333	1818.	1.077
156.5	1.049	1818.5	1.135
157.	1.181	1819.	1.239
157.5	0.7813	1819.5	1.28
158.	1.28	1820.	1.343
158.5	1.271	1820.5	1.035
159.	0.9014	1821.	0.9084
159.5	1.197	1821.5	1.077
160.	1.398	1822.	1.176
160.5	1.125	1822.5	1.22
161.	1.301	1823.	0.9222
161.5	1.169	1823.5	1.162
162.	1.153	1824.	1.04
162.5	1.035	1824.5	1.077
163.	1.153	1825.	0.9592
163.5	1.045	1825.5	1.093
164.	1.142	1826.	0.9199
164.5	1.082	1826.5	1.172
165.	1.223	1827.	1.061
165.5	1.248	1827.5	0.8645
166.	0.9938	1828.	1.038
166.5	0.9846	1828.5	0.8206
167.	1.132	1829.	1.239
167.5	0.9453	1829.5	0.9546
168.	1.213	1830.	1.098

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
168.5	1.109	1830.5	0.8945
169.	1.132	1831.	0.9592
169.5	0.9338	1831.5	1.07
170.	1.25	1832.	0.9684
170.5	1.354	1832.5	1.04
171.	1.204	1833.	0.9777
171.5	1.142	1833.5	1.16
172.	1.162	1834.	1.22
172.5	1.07	1834.5	0.9984
173.	1.005	1835.	1.017
173.5	1.089	1835.5	1.098
174.	1.37	1836.	1.209
174.5	1.202	1836.5	0.9315
175.	0.9361	1837.	1.098
175.5	1.063	1837.5	0.9915
176.	1.248	1838.	1.169
176.5	1.162	1838.5	0.9707
177.	1.213	1839.	1.068
177.5	1.181	1839.5	1.07
178.	1.278	1840.	0.9938
178.5	1.28	1840.5	1.072
179.	1.241	1841.	0.9777
179.5	1.278	1841.5	1.033
180.	1.259	1842.	0.9915
180.5	1.22	1842.5	0.9522
181.	1.086	1843.	1.033
181.5	1.169	1843.5	0.876
182.	1.216	1844.	1.061
182.5	0.9453	1844.5	1.181
183.	1.192	1845.	0.9777
183.5	0.9823	1845.5	1.059
184.	0.9222	1846.	1.017
184.5	1.105	1846.5	0.9961
185.	1.331	1847.	1.16
185.5	1.257	1847.5	0.9384
186.	1.139	1848.	1.137
186.5	1.259	1848.5	1.22
187.	1.086	1849.	1.015
187.5	1.162	1849.5	0.9684
188.	1.396	1850.	1.149
188.5	1.172	1850.5	0.9407
189.	0.9707	1851.	1.112
189.5	1.105	1851.5	1.169
190.	0.9707	1852.	1.146
190.5	1.142	1852.5	1.255
191.	1.084	1853.	1.075
191.5	1.37	1853.5	1.04
192.	1.391	1854.	0.9892
192.5	1.28	1854.5	0.98
193.	1.183	1855.	1.04
193.5	1.38	1855.5	0.9245
194.	0.9869	1856.	1.16
194.5	1.07	1856.5	1.16

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
195.	1.232	1857.	1.001
195.5	1.28	1857.5	1.135
196.	1.361	1858.	1.091
196.5	1.052	1858.5	1.012
197.	1.271	1859.	1.077
197.5	1.162	1859.5	0.8922
198.	1.363	1860.	1.042
198.5	1.112	1860.5	1.169
199.	1.142	1861.	1.098
199.5	1.153	1861.5	1.109
200.	1.012	1862.	0.9984
200.5	1.287	1862.5	1.077
201.	1.07	1863.	1.176
201.5	1.234	1863.5	1.116
202.	1.199	1864.	1.075
202.5	1.052	1864.5	0.846
203.	1.333	1865.	1.054
203.5	1.008	1865.5	1.075
204.	1.22	1866.	1.091
204.5	1.008	1866.5	0.9707
205.	0.8899	1867.	1.077
205.5	1.213	1867.5	1.199
206.	1.008	1868.	1.109
206.5	1.091	1868.5	0.9592
207.	1.195	1869.	1.112
207.5	0.9361	1869.5	1.172
208.	1.199	1870.	1.033
208.5	1.107	1870.5	1.239
209.	1.065	1871.	1.151
209.5	1.07	1871.5	0.9915
210.	0.9453	1872.	1.042
210.5	1.123	1872.5	1.098
211.	1.142	1873.	1.13
211.5	1.109	1873.5	1.093
212.	1.01	1874.	1.199
212.5	1.128	1874.5	1.359
213.	1.089	1875.	0.9315
213.5	0.9915	1875.5	1.035
214.	1.257	1876.	1.239
214.5	1.241	1876.5	1.093
215.	1.25	1877.	0.9522
215.5	1.169	1877.5	1.052
216.	1.172	1878.	1.121
216.5	0.8183	1878.5	1.04
217.	1.223	1879.	1.059
217.5	1.105	1879.5	1.109
218.	1.082	1880.	1.119
218.5	1.19	1880.5	1.112
219.	1.162	1881.	0.9984
219.5	1.199	1881.5	0.9777
220.	1.202	1882.	1.248
220.5	1.153	1882.5	1.052
221.	1.209	1883.	1.015

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
221.5	1.169	1883.5	1.093
222.	1.313	1884.	1.116
222.5	1.047	1884.5	1.132
223.	1.091	1885.	0.9615
223.5	1.125	1885.5	1.199
224.	1.192	1886.	1.188
224.5	1.352	1886.5	1.098
225.	1.322	1887.	0.9984
225.5	1.213	1887.5	0.9984
226.	0.8945	1888.	1.132
226.5	1.241	1888.5	1.061
227.	0.9915	1889.	1.181
227.5	1.22	1889.5	1.017
228.	1.313	1890.	0.8829
228.5	0.9222	1890.5	0.9592
229.	1.047	1891.	1.22
229.5	1.172	1891.5	1.077
230.	1.125	1892.	1.128
230.5	0.8668	1892.5	1.352
231.	1.239	1893.	0.9892
231.5	1.253	1893.5	1.162
232.	1.239	1894.	1.098
232.5	1.139	1894.5	0.9892
233.	1.112	1895.	1.015
233.5	1.202	1895.5	0.9407
234.	1.054	1896.	1.093
234.5	1.271	1896.5	1.052
235.	1.031	1897.	1.19
235.5	1.437	1897.5	1.209
236.	1.033	1898.	0.9592
236.5	1.089	1898.5	1.017
237.	1.139	1899.	1.07
237.5	1.065	1899.5	1.017
238.	1.047	1900.	1.059
238.5	0.9707	1900.5	1.116
239.	1.322	1901.	1.098
239.5	1.223	1901.5	0.8645
240.	1.181	1902.	1.176
240.5	1.313	1902.5	1.033
241.	1.035	1903.	0.7651
241.5	0.9707	1903.5	0.8945
242.	1.047	1904.	0.9199
242.5	1.008	1904.5	1.035
243.	1.303	1905.	1.077
243.5	1.241	1905.5	1.04
244.	1.195	1906.	1.209
244.5	1.125	1906.5	1.017
245.	1.068	1907.	1.149
245.5	1.07	1907.5	1.112
246.	1.125	1908.	1.015
246.5	1.234	1908.5	0.9753
247.	1.063	1909.	0.8645
247.5	1.22	1909.5	0.9014

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
248.	1.112	1910.	0.9268
248.5	1.213	1910.5	1.135
249.	1.065	1911.	0.9315
249.5	1.229	1911.5	1.061
250.	1.181	1912.	0.9777
250.5	0.8668	1912.5	1.202
251.	1.063	1913.	1.149
251.5	0.9846	1913.5	1.202
252.	1.082	1914.	1.132
252.5	1.165	1914.5	1.061
253.	1.229	1915.	1.052
253.5	1.313	1915.5	0.9684
254.	0.9037	1916.	1.04
254.5	0.8968	1916.5	0.9984
255.	0.9338	1917.	0.9915
255.5	1.199	1917.5	1.269
256.	1.213	1918.	0.8668
256.5	1.195	1918.5	1.209
257.	1.13	1919.	1.052
257.5	1.086	1919.5	0.9615
258.	0.8991	1920.	1.229
258.5	0.8367	1920.5	1.149
259.	1.153	1921.	0.9222
259.5	1.125	1921.5	0.9384
260.	1.162	1922.	1.229
260.5	0.9199	1922.5	0.8829
261.	1.142	1923.	1.239
261.5	1.005	1923.5	1.162
262.	1.195	1924.	1.038
262.5	1.241	1924.5	1.199
263.	1.181	1925.	0.8945
263.5	1.045	1925.5	1.114
264.	1.047	1926.	1.296
264.5	1.139	1926.5	1.149
265.	1.008	1927.	1.07
265.5	0.9938	1927.5	1.052
266.	1.082	1928.	1.012
266.5	1.01	1928.5	0.8829
267.	1.165	1929.	1.31
267.5	0.9707	1929.5	1.16
268.	1.13	1930.	1.232
268.5	1.165	1930.5	0.7836
269.	1.271	1931.	1.061
269.5	1.229	1931.5	1.109
270.	1.223	1932.	1.107
270.5	0.9707	1932.5	0.8645
271.	1.248	1933.	1.061
271.5	1.028	1933.5	1.017
272.	1.153	1934.	0.9315
272.5	0.8968	1934.5	1.04
273.	1.359	1935.	0.9384
273.5	1.052	1935.5	1.202
274.	1.047	1936.	1.149

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
274.5	0.9222	1936.5	0.7051
275.	1.031	1937.	1.139
275.5	1.13	1937.5	1.204
276.	1.199	1938.	1.07
276.5	1.128	1938.5	1.042
277.	1.153	1939.	0.9615
277.5	1.271	1939.5	1.098
278.	1.072	1940.	1.001
278.5	1.271	1940.5	1.232
279.	1.262	1941.	0.9407
279.5	0.8968	1941.5	1.13
280.	1.287	1942.	1.003
280.5	1.033	1942.5	1.093
281.	1.125	1943.	0.9892
281.5	1.363	1943.5	0.98
282.	0.9522	1944.	1.054
282.5	1.033	1944.5	1.16
283.	1.259	1945.	1.116
283.5	0.9707	1945.5	0.9407
284.	1.322	1946.	1.091
284.5	1.052	1946.5	1.093
285.	1.089	1947.	1.052
285.5	1.179	1947.5	0.8206
286.	0.973	1948.	0.9107
286.5	1.1	1948.5	1.202
287.	0.9915	1949.	1.116
287.5	1.22	1949.5	1.098
288.	1.37	1950.	0.9315
288.5	1.112	1950.5	1.098
289.	1.063	1951.	1.257
289.5	0.8945	1951.5	1.033
290.	1.181	1952.	1.121
290.5	0.9938	1952.5	1.22
291.	1.089	1953.	0.9707
291.5	1.068	1953.5	1.054
292.	1.287	1954.	0.9522
292.5	1.269	1954.5	1.22
293.	0.9315	1955.	1.172
293.5	1.213	1955.5	1.119
294.	1.13	1956.	1.162
294.5	1.105	1956.5	1.276
295.	0.9938	1957.	1.072
295.5	1.174	1957.5	1.172
296.	1.322	1958.	1.19
296.5	0.9961	1958.5	1.061
297.	1.065	1959.	0.9222
297.5	0.9961	1959.5	0.9777
298.	1.068	1960.	1.287
298.5	1.063	1960.5	0.9615
299.	1.033	1961.	1.146
299.5	0.9707	1961.5	0.9592
300.	1.197	1962.	1.146
300.5	1.162	1962.5	1.061

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
301.	1.031	1963.	0.9037
301.5	1.091	1963.5	1.329
302.	1.167	1964.	0.98
302.5	1.162	1964.5	1.188
303.	1.102	1965.	0.9014
303.5	1.008	1965.5	0.9707
304.	0.9638	1966.	1.149
304.5	0.9938	1966.5	1.172
305.	1.033	1967.	0.9984
305.5	1.142	1967.5	0.9892
306.	0.9338	1968.	1.366
306.5	1.114	1968.5	0.9915
307.	1.072	1969.	0.9407
307.5	1.091	1969.5	0.9107
308.	1.028	1970.	1.16
308.5	1.273	1970.5	1.135
309.	1.112	1971.	1.098
309.5	1.07	1971.5	1.162
310.	1.199	1972.	0.9915
310.5	1.047	1972.5	1.137
311.	1.068	1973.	0.9499
311.5	0.8575	1973.5	1.509
312.	1.125	1974.	1.248
312.5	1.287	1974.5	0.8206
313.	1.045	1975.	1.001
313.5	1.232	1975.5	1.079
314.	1.105	1976.	1.001
314.5	1.065	1976.5	0.7905
315.	0.876	1977.	0.9176
315.5	0.9453	1977.5	1.054
316.	0.943	1978.	1.035
316.5	1.082	1978.5	1.116
317.	1.082	1979.	1.313
317.5	0.943	1979.5	1.31
318.	1.25	1980.	1.119
318.5	1.084	1980.5	0.8829
319.	1.13	1981.	0.9777
319.5	1.084	1981.5	1.061
320.	0.8344	1982.	1.04
320.5	1.033	1982.5	0.9014
321.	1.028	1983.	1.012
321.5	0.9338	1983.5	0.9107
322.	1.156	1984.	1.172
322.5	1.202	1984.5	0.8668
323.	1.105	1985.	1.001
323.5	1.128	1985.5	0.98
324.	1.033	1986.	1.109
324.5	1.125	1986.5	0.7351
325.	1.047	1987.	1.035
325.5	1.112	1987.5	1.017
326.	1.153	1988.	0.9384
326.5	1.005	1988.5	1.017
327.	1.195	1989.	1.149

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
327.5	0.9938	1989.5	0.9107
328.	1.109	1990.	0.9499
328.5	1.313	1990.5	1.387
329.	1.211	1991.	1.146
329.5	0.9037	1991.5	1.202
330.	1.084	1992.	1.012
330.5	1.008	1992.5	1.22
331.	1.112	1993.	1.017
331.5	0.9153	1993.5	1.139
332.	0.7929	1994.	1.135
332.5	1.091	1994.5	1.22
333.	1.026	1995.	1.172
333.5	1.151	1995.5	1.012
334.	0.9915	1996.	1.34
334.5	0.9938	1996.5	1.077
335.	1.241	1997.	1.137
335.5	0.8853	1997.5	1.149
336.	1.195	1998.	0.9084
336.5	1.259	1998.5	1.093
337.	1.047	1999.	1.001
337.5	1.128	1999.5	1.098
338.	1.169	2000.	0.9707
338.5	1.223	2000.5	1.093
339.	0.9938	2001.	1.068
339.5	1.084	2001.5	0.9315
340.	0.9453	2002.	1.112
340.5	1.156	2002.5	0.8829
341.	1.216	2003.	1.202
341.5	1.035	2003.5	0.8853
342.	0.9522	2004.	1.266
342.5	1.089	2004.5	1.139
343.	1.313	2005.	1.015
343.5	1.199	2005.5	1.061
344.	1.199	2006.	0.98
344.5	1.008	2006.5	1.056
345.	0.9846	2007.	0.9753
345.5	0.973	2007.5	1.338
346.	1.213	2008.	0.9222
346.5	1.13	2008.5	0.9107
347.	0.9753	2009.	0.9384
347.5	1.068	2009.5	1.017
348.	1.137	2010.	1.132
348.5	1.153	2010.5	0.9037
349.	1.008	2011.	1.077
349.5	1.169	2011.5	0.9684
350.	1.144	2012.	1.093
350.5	1.345	2012.5	1.077
351.	1.091	2013.	0.8829
351.5	1.105	2013.5	1.077
352.	1.125	2014.	1.135
352.5	1.278	2014.5	1.072
353.	1.243	2015.	1.07
353.5	1.169	2015.5	1.149

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
354.	1.008	2016.	0.9522
354.5	0.8668	2016.5	1.001
355.	1.093	2017.	1.32
355.5	0.9707	2017.5	1.054
356.	1.112	2018.	0.9499
356.5	0.9522	2018.5	0.9892
357.	1.112	2019.	0.8645
357.5	0.9546	2019.5	1.169
358.	1.07	2020.	1.146
358.5	1.142	2020.5	1.093
359.	1.102	2021.	1.22
359.5	1.153	2021.5	1.209
360.	1.153	2022.	1.232
360.5	1.28	2022.5	1.012
361.	1.128	2023.	1.266
361.5	1.102	2023.5	1.112
362.	1.142	2024.	1.132
362.5	0.9938	2024.5	1.149
363.	1.084	2025.	0.973
363.5	1.072	2025.5	1.042
364.	1.125	2026.	1.098
364.5	1.109	2026.5	1.137
365.	1.213	2027.	0.973
365.5	1.162	2027.5	1.075
366.	0.973	2028.	1.017
366.5	1.091	2028.5	1.114
367.	1.322	2029.	1.017
367.5	0.9938	2029.5	1.146
368.	1.035	2030.	1.119
368.5	1.199	2030.5	1.038
369.	1.07	2031.	1.287
369.5	1.41	2031.5	0.9315
370.	1.195	2032.	0.9984
370.5	1.232	2032.5	1.072
371.	1.213	2033.	1.149
371.5	1.172	2033.5	0.9522
372.	1.105	2034.	0.9499
372.5	1.317	2034.5	1.077
373.	1.052	2035.	0.9522
373.5	0.9823	2035.5	0.9915
374.	0.9707	2036.	1.172
374.5	1.008	2036.5	1.209
375.	0.9615	2037.	1.061
375.5	1.287	2037.5	1.017
376.	1.109	2038.	1.079
376.5	1.128	2038.5	1.019
377.	1.162	2039.	1.188
377.5	1.361	2039.5	1.149
378.	1.028	2040.	1.091
378.5	1.259	2040.5	0.9522
379.	1.202	2041.	1.135
379.5	1.005	2041.5	1.179
380.	1.01	2042.	1.098

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
380.5	0.8737	2042.5	1.035
381.	1.253	2043.	1.137
381.5	1.084	2043.5	1.135
382.	1.125	2044.	0.9407
382.5	0.943	2044.5	1.16
383.	1.259	2045.	0.9707
383.5	1.132	2045.5	1.012
384.	1.112	2046.	1.042
384.5	1.169	2046.5	1.248
385.	1.091	2047.	1.061
385.5	1.112	2047.5	1.072
386.	1.093	2048.	1.038
386.5	1.047	2048.5	1.16
387.	1.333	2049.	1.149
387.5	1.172	2049.5	1.162
388.	1.142	2050.	1.313
388.5	1.008	2050.5	1.012
389.	0.943	2051.	1.017
389.5	1.213	2051.5	1.003
390.	1.028	2052.	1.132
390.5	1.271	2052.5	0.9892
391.	1.22	2053.	1.391
391.5	1.008	2053.5	1.003
392.	1.181	2054.	1.033
392.5	1.232	2054.5	1.241
393.	1.153	2055.	1.209
393.5	1.093	2055.5	1.035
394.	1.012	2056.	0.9615
394.5	0.8598	2056.5	1.19
395.	1.035	2057.	1.098
395.5	1.199	2057.5	0.9499
396.	1.008	2058.	1.098
396.5	1.13	2058.5	1.017
397.	1.031	2059.	1.035
397.5	0.9846	2059.5	1.209
398.	1.292	2060.	1.146
398.5	1.151	2060.5	1.033
399.	1.091	2061.	1.199
399.5	1.174	2061.5	1.259
400.	1.202	2062.	1.13
400.5	1.125	2062.5	1.204
401.	1.271	2063.	1.04
401.5	1.162	2063.5	0.8829
402.	0.9153	2064.	0.9915
402.5	1.112	2064.5	1.077
403.	0.9615	2065.	1.188
403.5	1.065	2065.5	1.162
404.	1.241	2066.	1.077
404.5	1.068	2066.5	1.098
405.	1.01	2067.	1.116
405.5	0.9915	2067.5	0.9592
406.	1.172	2068.	0.9222
406.5	1.13	2068.5	1.042

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
407.	1.241	2069.	1.209
407.5	0.9037	2069.5	1.091
408.	0.9315	2070.	1.229
408.5	0.9823	2070.5	1.132
409.	1.07	2071.	1.13
409.5	1.204	2071.5	0.9014
410.	1.028	2072.	1.109
410.5	1.065	2072.5	1.098
411.	1.202	2073.	1.112
411.5	1.257	2073.5	0.9707
412.	1.054	2074.	0.9107
412.5	1.125	2074.5	1.121
413.	1.202	2075.	0.9107
413.5	1.195	2075.5	1.162
414.	1.13	2076.	0.8506
414.5	0.9638	2076.5	1.035
415.	1.211	2077.	1.172
415.5	1.181	2077.5	1.359
416.	1.181	2078.	1.04
416.5	1.273	2078.5	0.9777
417.	1.065	2079.	1.054
417.5	1.105	2079.5	1.059
418.	1.091	2080.	1.017
418.5	1.162	2080.5	1.075
419.	0.9638	2081.	1.003
419.5	1.063	2081.5	1.001
420.	1.271	2082.	1.061
420.5	1.234	2082.5	1.181
421.	1.028	2083.	1.054
421.5	1.225	2083.5	1.077
422.	1.07	2084.	0.9522
422.5	1.142	2084.5	0.9915
423.	1.306	2085.	0.8229
423.5	0.9476	2085.5	1.017
424.	1.128	2086.	1.13
424.5	1.105	2086.5	1.19
425.	1.153	2087.	1.137
425.5	1.144	2087.5	1.25
426.	1.035	2088.	1.135
426.5	1.197	2088.5	1.093
427.	1.202	2089.	1.356
427.5	1.232	2089.5	1.093
428.	1.125	2090.	0.9315
428.5	0.9037	2090.5	1.079
429.	1.336	2091.	0.9037
429.5	1.031	2091.5	1.061
430.	1.139	2092.	1.059
430.5	1.114	2092.5	1.232
431.	1.142	2093.	0.9892
431.5	1.054	2093.5	0.9107
432.	1.202	2094.	1.015
432.5	1.239	2094.5	1.077
433.	1.125	2095.	1.061

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
433.5	1.144	2095.5	1.149
434.	1.225	2096.	1.162
434.5	1.144	2096.5	0.9638
435.	1.243	2097.	1.033
435.5	1.165	2097.5	1.077
436.	1.112	2098.	0.9707
436.5	1.114	2098.5	1.172
437.	1.213	2099.	1.22
437.5	1.112	2099.5	1.162
438.	1.047	2100.	0.9569
438.5	1.216	2100.5	0.9915
439.	0.9961	2101.	1.061
439.5	1.068	2101.5	0.9522
440.	1.084	2102.	1.19
440.5	0.9522	2102.5	1.061
441.	0.9153	2103.	0.9938
441.5	1.114	2103.5	1.07
442.	1.054	2104.	1.017
442.5	1.195	2104.5	0.8853
443.	1.241	2105.	1.132
443.5	1.005	2105.5	1.121
444.	1.153	2106.	1.324
444.5	0.8991	2106.5	1.162
445.	1.112	2107.	0.9915
445.5	0.9938	2107.5	1.098
446.	1.012	2108.	0.98
446.5	1.091	2108.5	1.162
447.	1.156	2109.	1.112
447.5	1.093	2109.5	0.9107
448.	1.174	2110.	0.98
448.5	1.125	2110.5	0.9199
449.	1.091	2111.	1.07
449.5	0.7374	2111.5	1.209
450.	1.089	2112.	0.9638
450.5	1.183	2112.5	1.146
451.	0.9476	2113.	1.042
451.5	1.153	2113.5	1.146
452.	1.084	2114.	1.075
452.5	0.9361	2114.5	1.139
453.	1.176	2115.	1.015
453.5	1.105	2115.5	1.119
454.	0.9245	2116.	0.8991
454.5	1.363	2116.5	1.038
455.	1.262	2117.	1.035
455.5	1.109	2117.5	1.015
456.	1.181	2118.	1.112
456.5	1.13	2118.5	0.9684
457.	1.035	2119.	0.8829
457.5	1.183	2119.5	0.8414
458.	1.202	2120.	1.042
458.5	1.25	2120.5	1.003
459.	1.033	2121.	0.8552
459.5	1.054	2121.5	1.114

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
460.	1.065	2122.	1.093
460.5	0.9938	2122.5	1.19
461.	1.142	2123.	1.038
461.5	1.165	2123.5	1.116
462.	1.082	2124.	1.042
462.5	1.234	2124.5	1.421
463.	0.9846	2125.	1.132
463.5	0.876	2125.5	1.162
464.	1.223	2126.	0.913
464.5	1.052	2126.5	1.109
465.	1.028	2127.	1.059
465.5	1.068	2127.5	1.1
466.	0.9153	2128.	1.098
466.5	1.112	2128.5	1.211
467.	1.313	2129.	1.077
467.5	1.114	2129.5	0.9707
468.	1.28	2130.	0.9915
468.5	0.943	2130.5	1.149
469.	1.112	2131.	0.9546
469.5	1.109	2131.5	1.34
470.	1.183	2132.	1.209
470.5	1.072	2132.5	1.229
471.	1.054	2133.	1.16
471.5	1.091	2133.5	1.054
472.	1.105	2134.	0.9892
472.5	1.287	2134.5	1.017
473.	1.072	2135.	0.9499
473.5	1.093	2135.5	1.119
474.	1.084	2136.	1.139
474.5	0.9014	2136.5	1.116
475.	1.181	2137.	1.035
475.5	1.033	2137.5	1.04
476.	1.112	2138.	1.042
476.5	1.102	2138.5	1.137
477.	1.352	2139.	1.135
477.5	1.031	2139.5	0.8113
478.	1.153	2140.	1.017
478.5	1.125	2140.5	1.172
479.	1.052	2141.	1.22
479.5	1.07	2141.5	1.135
480.	1.202	2142.	1.169
480.5	1.303	2142.5	0.9199
481.	1.045	2143.	1.077
481.5	1.13	2143.5	1.137
482.	0.9638	2144.	0.9707
482.5	1.181	2144.5	1.19
483.	0.9522	2145.	0.8922
483.5	1.093	2145.5	1.172
484.	1.195	2146.	0.9222
484.5	1.172	2146.5	1.093
485.	1.008	2147.	1.22
485.5	1.114	2147.5	0.9407
486.	0.9915	2148.	1.202

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
486.5	1.091	2148.5	1.112
487.	1.197	2149.	0.9615
487.5	1.197	2149.5	1.322
488.	1.253	2150.	1.248
488.5	1.072	2150.5	1.19
489.	1.204	2151.	0.8645
489.5	1.162	2151.5	1.162
490.	0.9846	2152.	1.019
490.5	1.232	2152.5	1.054
491.	1.086	2153.	0.7651
491.5	1.105	2153.5	1.098
492.	0.9961	2154.	1.017
492.5	1.169	2154.5	0.8229
493.	0.7836	2155.	1.001
493.5	1.082	2155.5	0.9915
494.	1.398	2156.	1.015
494.5	0.9222	2156.5	1.137
495.	1.301	2157.	0.98
495.5	0.7651	2157.5	1.32
496.	0.9938	2158.	1.017
496.5	1.028	2158.5	0.876
497.	1.054	2159.	1.1
497.5	1.047	2159.5	1.179
498.	0.9338	2160.	1.174
498.5	1.102	2160.5	1.13
499.	1.132	2161.	1.017
499.5	1.139	2161.5	1.232
500.	0.8575	2162.	1.139
500.5	1.162	2162.5	0.9615
501.	1.195	2163.	1.059
501.5	1.052	2163.5	1.033
502.	1.012	2164.	1.061
502.5	1.028	2164.5	1.181
503.	1.125	2165.	1.248
503.5	1.162	2165.5	1.162
504.	1.105	2166.	1.211
504.5	1.262	2166.5	1.001
505.	1.283	2167.	1.001
505.5	1.01	2167.5	1.017
506.	1.07	2168.	0.9522
506.5	1.028	2168.5	1.054
507.	1.234	2169.	1.061
507.5	1.07	2169.5	1.017
508.	1.054	2170.	0.9522
508.5	1.033	2170.5	1.137
509.	1.065	2171.	1.079
509.5	0.9707	2171.5	1.232
510.	1.144	2172.	1.109
510.5	1.089	2172.5	1.001
511.	0.8483	2173.	1.28
511.5	1.093	2173.5	1.239
512.	1.049	2174.	0.9522
512.5	1.315	2174.5	0.8437

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
513.	1.225	2175.	0.9499
513.5	0.9014	2175.5	1.31
514.	0.8575	2176.	0.9338
514.5	1.033	2176.5	1.019
515.	1.195	2177.	1.072
515.5	1.223	2177.5	1.179
516.	1.012	2178.	1.003
516.5	1.125	2178.5	0.8945
517.	1.047	2179.	1.135
517.5	1.033	2179.5	1.172
518.	0.9361	2180.	1.137
518.5	1.049	2180.5	1.229
519.	1.125	2181.	1.075
519.5	1.065	2181.5	1.13
520.	1.144	2182.	1.019
520.5	1.25	2182.5	1.209
521.	1.033	2183.	1.19
521.5	1.07	2183.5	0.876
522.	1.315	2184.	0.876
522.5	1.008	2184.5	0.8783
523.	0.9153	2185.	0.9014
523.5	1.068	2185.5	1.149
524.	1.132	2186.	0.9915
524.5	1.125	2186.5	1.19
525.	0.9222	2187.	0.9315
525.5	1.197	2187.5	1.116
526.	1.105	2188.	1.137
526.5	1.072	2188.5	1.121
527.	0.8437	2189.	1.017
527.5	1.008	2189.5	1.132
528.	1.054	2190.	1.135
528.5	1.091	2190.5	1.162
529.	0.9938	2191.	1.248
529.5	1.012	2191.5	0.98
530.	1.241	2192.	1.172
530.5	1.223	2192.5	1.017
531.	1.068	2193.	1.223
531.5	1.271	2193.5	1.056
532.	1.047	2194.	1.001
532.5	1.313	2194.5	1.077
533.	1.183	2195.	1.137
533.5	1.035	2195.5	0.9222
534.	1.105	2196.	1.199
534.5	1.259	2196.5	0.9522
535.	1.333	2197.	1.259
535.5	1.132	2197.5	1.042
536.	0.9222	2198.	0.9407
536.5	1.333	2198.5	1.054
537.	1.142	2199.	1.109
537.5	1.273	2199.5	1.072
538.	0.9823	2200.	1.119
538.5	1.271	2200.5	1.352
539.	1.202	2201.	1.012

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
539.5	1.072	2201.5	1.112
540.	1.01	2202.	1.172
540.5	1.107	2202.5	1.079
541.	1.271	2203.	1.098
541.5	1.183	2203.5	1.176
542.	1.165	2204.	1.019
542.5	1.225	2204.5	1.012
543.	1.165	2205.	0.8206
543.5	1.091	2205.5	1.017
544.	1.072	2206.	1.176
544.5	1.234	2206.5	0.9522
545.	0.846	2207.	1.169
545.5	1.195	2207.5	0.9546
546.	0.876	2208.	1.061
546.5	1.211	2208.5	1.054
547.	1.28	2209.	0.8321
547.5	1.202	2209.5	1.017
548.	1.026	2210.	1.017
548.5	1.052	2210.5	1.015
549.	1.165	2211.	1.132
549.5	1.333	2211.5	1.119
550.	1.202	2212.	1.102
550.5	1.084	2212.5	0.9407
551.	0.7836	2213.	1.054
551.5	1.202	2213.5	0.8113
552.	1.01	2214.	0.9615
552.5	0.8575	2214.5	1.019
553.	1.105	2215.	1.202
553.5	1.008	2215.5	1.322
554.	1.072	2216.	0.973
554.5	1.232	2216.5	1.077
555.	1.41	2217.	1.017
555.5	1.035	2217.5	0.9777
556.	1.262	2218.	1.035
556.5	1.033	2218.5	1.001
557.	1.112	2219.	1.13
557.5	0.9707	2219.5	0.9384
558.	0.9361	2220.	1.31
558.5	1.125	2220.5	1.072
559.	1.183	2221.	1.169
559.5	1.114	2221.5	0.9707
560.	1.165	2222.	0.98
560.5	1.243	2222.5	1.149
561.	0.9938	2223.	1.098
561.5	1.045	2223.5	1.151
562.	1.072	2224.	1.202
562.5	0.9869	2224.5	1.061
563.	0.9938	2225.	1.135
563.5	1.089	2225.5	1.093
564.	1.197	2226.	1.112
564.5	1.112	2226.5	0.8945
565.	1.213	2227.	1.162
565.5	1.223	2227.5	1.119

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
566.	1.112	2228.	1.035
566.5	1.035	2228.5	1.017
567.	1.054	2229.	0.8829
567.5	1.181	2229.5	1.079
568.	1.333	2230.	1.015
568.5	1.225	2230.5	1.179
569.	1.028	2231.	1.266
569.5	0.9476	2231.5	1.119
570.	1.25	2232.	0.8645
570.5	1.052	2232.5	1.102
571.	1.091	2233.	0.8853
571.5	1.153	2233.5	1.239
572.	1.172	2234.	1.179
572.5	1.049	2234.5	1.137
573.	1.162	2235.	1.112
573.5	1.054	2235.5	0.9615
574.	1.033	2236.	0.973
574.5	1.153	2236.5	1.098
575.	0.9476	2237.	1.093
575.5	1.01	2237.5	0.9915
576.	1.052	2238.	0.9522
576.5	1.153	2238.5	1.061
577.	1.315	2239.	1.079
577.5	1.093	2239.5	1.077
578.	1.033	2240.	1.202
578.5	1.035	2240.5	0.876
579.	0.9869	2241.	0.9107
579.5	1.197	2241.5	1.162
580.	1.052	2242.	1.112
580.5	1.07	2242.5	1.223
581.	1.183	2243.	0.8737
581.5	0.9245	2243.5	1.209
582.	1.259	2244.	0.7259
582.5	1.223	2244.5	1.248
583.	1.195	2245.	1.075
583.5	1.322	2245.5	1.072
584.	1.156	2246.	1.123
584.5	1.008	2246.5	1.003
585.	1.084	2247.	1.135
585.5	1.243	2247.5	1.149
586.	1.105	2248.	0.9315
586.5	1.091	2248.5	1.098
587.	0.9869	2249.	1.322
587.5	0.9453	2249.5	1.001
588.	1.105	2250.	1.056
588.5	1.262	2250.5	0.9615
589.	1.273	2251.	1.146
589.5	1.105	2251.5	1.162
590.	1.167	2252.	1.077
590.5	1.093	2252.5	0.9384
591.	1.218	2253.	0.9615
591.5	0.7397	2253.5	1.098
592.	1.29	2254.	1.042

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
592.5	1.132	2254.5	1.135
593.	1.204	2255.	1.077
593.5	1.172	2255.5	0.913
594.	1.223	2256.	1.035
594.5	1.174	2256.5	0.973
595.	0.913	2257.	1.121
595.5	1.105	2257.5	0.9915
596.	1.084	2258.	0.8552
596.5	1.223	2258.5	1.054
597.	1.093	2259.	0.7674
597.5	0.8252	2259.5	1.132
598.	1.072	2260.	0.98
598.5	1.421	2260.5	1.017
599.	0.9476	2261.	1.061
599.5	1.234	2261.5	1.072
600.	0.9522	2262.	1.033
600.5	1.243	2262.5	1.299
601.	1.13	2263.	1.098
601.5	1.054	2263.5	0.9615
602.	1.035	2264.	1.121
602.5	1.273	2264.5	1.296
603.	0.9638	2265.	1.137
603.5	1.243	2265.5	1.077
604.	0.9961	2266.	1.035
604.5	1.091	2266.5	1.093
605.	0.9546	2267.	1.093
605.5	1.086	2267.5	1.017
606.	1.223	2268.	1.112
606.5	0.973	2268.5	0.8506
607.	1.068	2269.	1.239
607.5	1.234	2269.5	1.331
608.	0.9037	2270.	1.239
608.5	0.9638	2270.5	0.8783
609.	1.273	2271.	0.9522
609.5	0.9961	2271.5	1.042
610.	1.202	2272.	1.077
610.5	1.174	2272.5	1.015
611.	1.232	2273.	1.042
611.5	0.8367	2273.5	0.9199
612.	1.049	2274.	1.093
612.5	1.234	2274.5	0.9777
613.	0.8783	2275.	0.9222
613.5	0.9546	2275.5	1.04
614.	0.8067	2276.	1.121
614.5	1.232	2276.5	0.8437
615.	1.095	2277.	1.109
615.5	1.089	2277.5	0.7859
616.	1.033	2278.	0.8853
616.5	0.8991	2278.5	0.9892
617.	1.234	2279.	0.8645
617.5	1.223	2279.5	1.135
618.	1.197	2280.	1.204
618.5	1.156	2280.5	1.019

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
619.	0.8783	2281.	0.7859
619.5	0.9938	2281.5	1.19
620.	1.012	2282.	0.9638
620.5	1.393	2282.5	1.019
621.	1.033	2283.	0.9707
621.5	0.9707	2283.5	1.269
622.	1.264	2284.	1.149
622.5	1.167	2284.5	1.121
623.	1.01	2285.	1.121
623.5	1.262	2285.5	0.9707
624.	1.052	2286.	0.9315
624.5	0.8183	2286.5	0.9915
625.	1.345	2287.	1.181
625.5	1.112	2287.5	1.003
626.	1.13	2288.	1.16
626.5	1.144	2288.5	1.119
627.	1.306	2289.	1.19
627.5	1.008	2289.5	1.119
628.	0.9153	2290.	0.9037
628.5	1.028	2290.5	1.202
629.	1.123	2291.	1.061
629.5	1.091	2291.5	1.25
630.	0.9707	2292.	1.162
630.5	1.197	2292.5	1.31
631.	1.112	2293.	1.296
631.5	1.105	2293.5	0.8206
632.	1.176	2294.	1.28
632.5	1.054	2294.5	1.042
633.	1.172	2295.	1.054
633.5	1.202	2295.5	1.232
634.	0.9961	2296.	1.091
634.5	1.255	2296.5	1.172
635.	1.195	2297.	0.98
635.5	1.29	2297.5	1.015
636.	1.008	2298.	0.9268
636.5	1.015	2298.5	1.266
637.	1.072	2299.	0.8506
637.5	1.07	2299.5	1.001
638.	1.234	2300.	1.098
638.5	1.105	2300.5	0.9315
639.	1.065	2301.	1.035
639.5	1.105	2301.5	1.223
640.	1.01	2302.	1.017
640.5	1.13	2302.5	1.169
641.	1.333	2303.	1.162
641.5	1.132	2303.5	1.059
642.	0.9869	2304.	1.042
642.5	1.072	2304.5	1.322
643.	1.366	2305.	0.9384
643.5	1.181	2305.5	0.98
644.	1.012	2306.	1.042
644.5	1.012	2306.5	1.003
645.	1.144	2307.	0.8968

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
645.5	0.9638	2307.5	1.181
646.	1.153	2308.	1.172
646.5	0.9037	2308.5	1.077
647.	1.241	2309.	1.368
647.5	1.139	2309.5	0.9615
648.	1.259	2310.	0.9777
648.5	1.052	2310.5	1.072
649.	1.125	2311.	0.8529
649.5	0.9546	2311.5	1.119
650.	1.167	2312.	1.015
650.5	1.225	2312.5	1.132
651.	1.232	2313.	1.352
651.5	1.218	2313.5	0.98
652.	1.114	2314.	0.98
652.5	1.072	2314.5	1.149
653.	0.9638	2315.	1.077
653.5	0.9361	2315.5	1.135
654.	1.008	2316.	0.98
654.5	1.183	2316.5	0.98
655.	1.158	2317.	1.1
655.5	0.9361	2317.5	1.112
656.	1.035	2318.	1.042
656.5	1.216	2318.5	0.9707
657.	1.132	2319.	1.059
657.5	0.9522	2319.5	0.9777
658.	1.105	2320.	1.13
658.5	1.132	2320.5	1.34
659.	1.146	2321.	1.098
659.5	1.068	2321.5	1.017
660.	1.283	2322.	0.9915
660.5	1.072	2322.5	1.243
661.	1.072	2323.	0.9107
661.5	1.028	2323.5	1.04
662.	1.25	2324.	1.079
662.5	1.093	2324.5	1.098
663.	0.9638	2325.	0.98
663.5	1.153	2325.5	1.001
664.	0.8668	2326.	1.015
664.5	1.086	2326.5	1.112
665.	1.225	2327.	1.059
665.5	0.9984	2327.5	0.9707
666.	1.241	2328.	1.162
666.5	0.9569	2328.5	0.973
667.	1.091	2329.	1.077
667.5	0.9268	2329.5	1.1
668.	1.13	2330.	1.112
668.5	1.054	2330.5	1.001
669.	1.195	2331.	0.9615
669.5	1.144	2331.5	1.114
670.	1.176	2332.	1.112
670.5	1.07	2332.5	0.8229
671.	1.225	2333.	1.181
671.5	1.086	2333.5	1.149

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
672.	1.253	2334.	0.9615
672.5	1.047	2334.5	1.093
673.	1.232	2335.	1.259
673.5	1.068	2335.5	0.9569
674.	1.165	2336.	1.001
674.5	0.9753	2336.5	0.9315
675.	0.9037	2337.	1.202
675.5	0.8668	2337.5	1.035
676.	0.7189	2338.	1.093
676.5	1.144	2338.5	1.015
677.	1.093	2339.	0.9384
677.5	1.144	2339.5	1.172
678.	0.9638	2340.	1.294
678.5	0.8021	2340.5	1.137
679.	0.973	2341.	1.248
679.5	1.174	2341.5	0.9638
680.	1.086	2342.	1.098
680.5	1.167	2342.5	0.9638
681.	1.183	2343.	1.093
681.5	1.132	2343.5	0.98
682.	1.202	2344.	0.9892
682.5	0.9037	2344.5	1.052
683.	1.052	2345.	1.19
683.5	1.144	2345.5	0.9107
684.	0.8044	2346.	0.8783
684.5	1.315	2346.5	1.061
685.	1.165	2347.	0.9037
685.5	1.146	2347.5	1.121
686.	1.105	2348.	1.16
686.5	1.132	2348.5	1.112
687.	1.37	2349.	1.149
687.5	1.197	2349.5	1.056
688.	1.232	2350.	1.093
688.5	1.135	2350.5	1.015
689.	1.183	2351.	1.172
689.5	1.322	2351.5	1.112
690.	0.9338	2352.	0.9037
690.5	0.8067	2352.5	1.389
691.	1.183	2353.	1.098
691.5	1.183	2353.5	1.149
692.	1.333	2354.	1.061
692.5	1.033	2354.5	0.9592
693.	1.504	2355.	1.003
693.5	1.204	2355.5	1.149
694.	1.01	2356.	0.9107
694.5	1.276	2356.5	1.091
695.	1.259	2357.	1.035
695.5	1.089	2357.5	1.209
696.	0.9961	2358.	0.9615
696.5	1.075	2358.5	1.061
697.	1.146	2359.	1.188
697.5	1.105	2359.5	1.019
698.	1.204	2360.	0.9707

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
698.5	1.511	2360.5	0.9938
699.	0.9661	2361.	1.061
699.5	1.181	2361.5	1.054
700.	1.054	2362.	1.179
700.5	1.361	2362.5	1.054
701.	1.174	2363.	1.132
701.5	0.9176	2363.5	0.8552
702.	1.146	2364.	0.9638
702.5	1.093	2364.5	0.7721
703.	1.028	2365.	0.906
703.5	1.135	2365.5	1.149
704.	0.9961	2366.	0.8968
704.5	1.028	2366.5	1.151
705.	1.186	2367.	1.098
705.5	1.093	2367.5	1.172
706.	1.202	2368.	1.112
706.5	1.089	2368.5	1.017
707.	1.174	2369.	1.054
707.5	1.012	2369.5	0.9291
708.	1.07	2370.	1.109
708.5	1.107	2370.5	0.8321
709.	0.9892	2371.	1.209
709.5	0.9638	2371.5	0.9037
710.	1.068	2372.	1.19
710.5	1.105	2372.5	1.075
711.	1.156	2373.	0.8853
711.5	0.9869	2373.5	0.8853
712.	1.259	2374.	0.9315
712.5	0.8275	2374.5	1.061
713.	1.204	2375.	1.22
713.5	1.125	2375.5	1.25
714.	0.9453	2376.	1.13
714.5	1.197	2376.5	1.296
715.	1.068	2377.	1.13
715.5	1.049	2377.5	1.056
716.	1.162	2378.	1.077
716.5	0.9961	2378.5	1.112
717.	0.9869	2379.	1.052
717.5	1.324	2379.5	0.9037
718.	1.153	2380.	1.19
718.5	1.015	2380.5	0.98
719.	1.028	2381.	1.169
719.5	1.195	2381.5	0.9522
720.	1.068	2382.	1.019
720.5	1.059	2382.5	1.149
721.	1.156	2383.	1.042
721.5	1.165	2383.5	0.7859
722.	0.8899	2384.	0.9684
722.5	1.072	2384.5	1.003
723.	1.197	2385.	1.061
723.5	1.13	2385.5	0.9222
724.	1.174	2386.	0.913
724.5	1.174	2386.5	1.135

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
725.	0.8783	2387.	1.017
725.5	1.049	2387.5	1.015
726.	1.384	2388.	1.061
726.5	1.012	2388.5	1.232
727.	1.052	2389.	0.8968
727.5	1.227	2389.5	0.98
728.	1.028	2390.	1.017
728.5	1.054	2390.5	0.8853
729.	1.052	2391.	1.229
729.5	1.144	2391.5	1.162
730.	1.086	2392.	1.28
730.5	1.162	2392.5	1.017
731.	0.9153	2393.	0.98
731.5	1.028	2393.5	1.072
732.	1.162	2394.	1.054
732.5	1.243	2394.5	0.9037
733.	0.846	2395.	1.035
733.5	1.033	2395.5	1.139
734.	1.306	2396.	1.151
734.5	1.276	2396.5	1.072
735.	1.012	2397.	1.052
735.5	0.9522	2397.5	1.017
736.	1.072	2398.	1.001
736.5	0.9869	2398.5	1.232
737.	1.236	2399.	1.061
737.5	1.038	2399.5	1.172
738.	1.105	2400.	1.093
738.5	1.028	2400.5	1.017
739.	1.225	2401.	1.204
739.5	1.056	2401.5	1.091
740.	1.174	2402.	0.9915
740.5	1.144	2402.5	0.9707
741.	1.012	2403.	0.9615
741.5	1.396	2403.5	0.8737
742.	0.9892	2404.	0.98
742.5	1.031	2404.5	1.112
743.	1.072	2405.	1.151
743.5	1.038	2405.5	1.285
744.	1.243	2406.	0.9315
744.5	0.9753	2406.5	0.9707
745.	1.068	2407.	1.061
745.5	1.114	2407.5	1.033
746.	1.132	2408.	1.211
746.5	0.9961	2408.5	1.017
747.	1.227	2409.	0.98
747.5	1.072	2409.5	0.8645
748.	1.218	2410.	1.13
748.5	1.105	2410.5	0.8829
749.	1.015	2411.	1.19
749.5	1.128	2411.5	1.061
750.	1.01	2412.	1.077
750.5	1.012	2412.5	0.7674
751.	0.9961	2413.	1.19

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
751.5	1.197	2413.5	1.052
752.	0.9638	2414.	1.361
752.5	1.012	2414.5	1.259
753.	1.218	2415.	1.259
753.5	1.049	2415.5	1.017
754.	1.183	2416.	1.001
754.5	0.8252	2416.5	1.223
755.	0.9869	2417.	1.1
755.5	1.075	2417.5	1.172
756.	1.165	2418.	0.906
756.5	1.234	2418.5	1.296
757.	1.112	2419.	1.015
757.5	0.9661	2419.5	1.172
758.	1.363	2420.	1.093
758.5	0.8806	2420.5	1.29
759.	1.202	2421.	1.162
759.5	0.9245	2421.5	1.172
760.	1.197	2422.	0.8113
760.5	0.8806	2422.5	1.017
761.	1.086	2423.	1.035
761.5	1.068	2423.5	1.019
762.	1.246	2424.	1.359
762.5	0.8899	2424.5	0.9915
763.	1.086	2425.	0.846
763.5	1.158	2425.5	1.095
764.	1.132	2426.	1.22
764.5	1.174	2426.5	1.098
765.	0.9638	2427.	1.179
765.5	0.973	2427.5	1.077
766.	1.033	2428.	0.913
766.5	1.188	2428.5	0.8829
767.	1.13	2429.	0.9546
767.5	1.012	2429.5	1.001
768.	0.8367	2430.	1.015
768.5	1.162	2430.5	0.9915
769.	1.012	2431.	1.015
769.5	1.015	2431.5	1.098
770.	1.031	2432.	1.151
770.5	1.056	2432.5	0.8552
771.	0.8691	2433.	0.943
771.5	1.012	2433.5	1.015
772.	1.125	2434.	1.093
772.5	1.218	2434.5	1.003
773.	1.105	2435.	1.038
773.5	0.9037	2435.5	1.149
774.	1.017	2436.	0.9938
774.5	1.345	2436.5	0.98
775.	0.9546	2437.	1.162
775.5	1.165	2437.5	0.8945
776.	0.9453	2438.	1.146
776.5	1.054	2438.5	0.9037
777.	1.035	2439.	1.19
777.5	0.9753	2439.5	1.121

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
778.	1.412	2440.	0.9638
778.5	1.038	2440.5	1.209
779.	1.035	2441.	0.9245
779.5	0.973	2441.5	1.019
780.	1.132	2442.	1.098
780.5	1.033	2442.5	1.012
781.	1.165	2443.	0.9892
781.5	1.241	2443.5	1.052
782.	1.105	2444.	1.139
782.5	1.165	2444.5	1.162
783.	1.012	2445.	0.98
783.5	0.9153	2445.5	1.112
784.	1.373	2446.	0.8737
784.5	1.153	2446.5	0.8321
785.	0.9869	2447.	1.135
785.5	1.396	2447.5	1.042
786.	1.183	2448.	1.213
786.5	1.186	2448.5	1.098
787.	1.144	2449.	1.042
787.5	1.125	2449.5	1.352
788.	1.253	2450.	0.9522
788.5	1.253	2450.5	1.232
789.	1.056	2451.	1.033
789.5	0.8622	2451.5	1.179
790.	1.246	2452.	1.072
790.5	1.105	2452.5	1.077
791.	1.144	2453.	1.098
791.5	1.183	2453.5	1.211
792.	1.132	2454.	1.017
792.5	1.091	2454.5	0.8529
793.	1.068	2455.	1.017
793.5	0.973	2455.5	1.28
794.	1.128	2456.	1.119
794.5	1.072	2456.5	0.9315
795.	1.197	2457.	0.9707
795.5	1.089	2457.5	1.162
796.	1.264	2458.	0.9546
796.5	1.107	2458.5	1.042
797.	1.031	2459.	1.149
797.5	1.165	2459.5	0.7905
798.	1.114	2460.	1.017
798.5	1.015	2460.5	1.28
799.	1.167	2461.	1.1
799.5	1.105	2461.5	1.135
800.	1.052	2462.	1.294
800.5	1.012	2462.5	1.038
801.	1.264	2463.	0.8321
801.5	1.072	2463.5	0.9707
802.	0.9176	2464.	1.266
802.5	1.049	2464.5	1.202
803.	0.9961	2465.	0.9315
803.5	0.9153	2465.5	1.132
804.	0.9638	2466.	0.9084

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
804.5	0.9199	2466.5	1.209
805.	1.204	2467.	1.038
805.5	1.049	2467.5	1.162
806.	1.202	2468.	1.04
806.5	1.227	2468.5	0.8829
807.	1.012	2469.	1.098
807.5	1.028	2469.5	1.098
808.	1.225	2470.	0.9638
808.5	1.345	2470.5	1.232
809.	0.9546	2471.	1.232
809.5	1.038	2471.5	1.132
810.	0.846	2472.	0.9245
810.5	1.165	2472.5	0.876
811.	1.012	2473.	0.8829
811.5	0.9846	2473.5	0.913
812.	1.183	2474.	0.8968
812.5	0.8367	2474.5	1.259
813.	1.225	2475.	1.017
813.5	1.317	2475.5	0.973
814.	1.347	2476.	0.9707
814.5	1.165	2476.5	1.174
815.	1.054	2477.	1.082
815.5	0.8252	2477.5	1.003
816.	0.9476	2478.	1.162
816.5	0.9777	2478.5	0.9684
817.	1.135	2479.	1.042
817.5	0.9661	2479.5	1.114
818.	1.306	2480.	1.093
818.5	1.188	2480.5	1.135
819.	1.038	2481.	1.017
819.5	1.086	2481.5	1.033
820.	0.8252	2482.	1.077
820.5	0.9153	2482.5	1.119
821.	1.146	2483.	1.188
821.5	1.089	2483.5	1.172
822.	0.809	2484.	1.015
822.5	1.035	2484.5	1.1
823.	1.068	2485.	0.9522
823.5	0.9846	2485.5	1.093
824.	0.9638	2486.	1.061
824.5	1.125	2486.5	0.9707
825.	1.144	2487.	1.035
825.5	1.384	2487.5	1.017
826.	1.125	2488.	1.019
826.5	1.283	2488.5	1.077
827.	1.054	2489.	1.137
827.5	1.236	2489.5	0.9984
828.	0.9961	2490.	1.172
828.5	1.333	2490.5	1.015
829.	1.091	2491.	1.015
829.5	1.086	2491.5	0.9823
830.	1.236	2492.	1.202
830.5	1.012	2492.5	1.132

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
831.	1.033	2493.	1.003
831.5	1.012	2493.5	1.34
832.	1.052	2494.	1.093
832.5	1.144	2494.5	0.8021
833.	1.156	2495.	1.082
833.5	1.315	2495.5	1.042
834.	0.9176	2496.	1.137
834.5	1.248	2496.5	1.061
835.	1.028	2497.	1.139
835.5	1.197	2497.5	0.8229
836.	1.156	2498.	1.04
836.5	1.135	2498.5	1.056
837.	0.9638	2499.	1.139
837.5	1.068	2499.5	0.8829
838.	1.068	2500.	1.075
838.5	0.9661	2500.5	0.9522
839.	1.068	2501.	1.042
839.5	1.255	2501.5	0.8945
840.	1.135	2502.	0.846
840.5	1.241	2502.5	1.151
841.	1.125	2503.	1.015
841.5	1.262	2503.5	1.001
842.	0.7882	2504.	1.017
842.5	1.421	2504.5	0.9245
843.	1.156	2505.	1.34
843.5	1.075	2505.5	1.017
844.	0.7282	2506.	1.003
844.5	1.156	2506.5	1.16
845.	1.068	2507.	1.248
845.5	1.086	2507.5	1.054
846.	1.077	2508.	1.054
846.5	1.089	2508.5	1.179
847.	1.243	2509.	1.093
847.5	1.07	2509.5	1.077
848.	1.239	2510.	1.054
848.5	1.186	2510.5	1.052
849.	1.107	2511.	0.913
849.5	1.283	2511.5	0.8229
850.	1.197	2512.	1.172
850.5	0.9892	2512.5	0.98
851.	0.8367	2513.	1.137
851.5	1.197	2513.5	0.9915
852.	0.9384	2514.	0.9315
852.5	1.031	2514.5	1.137
853.	1.031	2515.	1.28
853.5	0.7605	2515.5	1.072
854.	0.9961	2516.	1.114
854.5	1.054	2516.5	0.9407
855.	0.9984	2517.	1.079
855.5	1.015	2517.5	1.132
856.	0.8391	2518.	0.9107
856.5	1.273	2518.5	1.162
857.	1.128	2519.	1.223

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
857.5	1.144	2519.5	1.151
858.	1.035	2520.	1.248
858.5	1.052	2520.5	1.137
859.	1.047	2521.	1.042
859.5	1.038	2521.5	1.019
860.	1.421	2522.	1.056
860.5	1.225	2522.5	1.259
861.	0.8806	2523.	1.119
861.5	1.158	2523.5	0.9707
862.	1.176	2524.	1.045
862.5	1.169	2524.5	1.003
863.	1.156	2525.	1.313
863.5	1.01	2525.5	0.9546
864.	1.158	2526.	1.035
864.5	1.156	2526.5	1.033
865.	1.015	2527.	1.015
865.5	1.262	2527.5	1.16
866.	1.264	2528.	1.114
866.5	1.292	2528.5	1.077
867.	0.9661	2529.	1.169
867.5	1.225	2529.5	1.056
868.	1.257	2530.	1.035
868.5	1.169	2530.5	1.042
869.	1.146	2531.	1.151
869.5	1.109	2531.5	1.075
870.	1.176	2532.	0.9315
870.5	0.973	2532.5	0.98
871.	0.7443	2533.	1.019
871.5	0.8991	2533.5	0.7859
872.	1.114	2534.	1.162
872.5	0.8829	2534.5	1.172
873.	1.068	2535.	1.229
873.5	1.176	2535.5	1.017
874.	0.9961	2536.	1.135
874.5	1.07	2536.5	1.132
875.	1.098	2537.	1.172
875.5	1.012	2537.5	1.061
876.	1.146	2538.	1.128
876.5	1.197	2538.5	1.239
877.	1.354	2539.	1.038
877.5	0.9661	2539.5	1.042
878.	1.01	2540.	0.9315
878.5	1.095	2540.5	1.172
879.	1.234	2541.	1.093
879.5	1.028	2541.5	1.137
880.	1.135	2542.	1.121
880.5	1.038	2542.5	0.9315
881.	0.9176	2543.	1.038
881.5	0.9961	2543.5	0.9707
882.	1.052	2544.	0.973
882.5	0.9638	2544.5	1.093
883.	1.146	2545.	1.017
883.5	1.227	2545.5	1.042

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
884.	1.144	2546.	1.017
884.5	0.9453	2546.5	1.003
885.	1.012	2547.	0.9499
885.5	1.01	2547.5	1.077
886.	0.9476	2548.	1.331
886.5	1.075	2548.5	1.042
887.	0.9638	2549.	0.9638
887.5	1.204	2549.5	1.072
888.	1.095	2550.	0.98
888.5	1.077	2550.5	1.209
889.	1.107	2551.	1.098
889.5	1.091	2551.5	1.045
890.	1.183	2552.	1.137
890.5	1.156	2552.5	0.8829
891.	0.9476	2553.	1.075
891.5	1.16	2553.5	0.9522
892.	1.116	2554.	0.9222
892.5	1.306	2554.5	1.266
893.	1.183	2555.	1.072
893.5	0.9661	2555.5	1.119
894.	1.283	2556.	1.114
894.5	1.197	2556.5	1.035
895.	1.01	2557.	1.061
895.5	1.132	2557.5	1.172
896.	1.038	2558.	1.149
896.5	1.218	2558.5	1.137
897.	1.095	2559.	1.172
897.5	1.086	2559.5	1.149
898.	1.107	2560.	1.149
898.5	1.236	2560.5	1.132
899.	1.107	2561.	1.098
899.5	0.9476	2561.5	0.8645
900.	1.128	2562.	0.9407
900.5	1.049	2562.5	1.123
901.	1.363	2563.	1.056
901.5	1.255	2563.5	1.061
902.	1.112	2564.	1.017
902.5	1.156	2564.5	1.162
903.	1.028	2565.	0.9915
903.5	1.186	2565.5	0.9107
904.	1.156	2566.	1.098
904.5	1.414	2566.5	1.061
905.	1.22	2567.	0.9407
905.5	1.095	2567.5	1.019
906.	1.317	2568.	1.266
906.5	1.206	2568.5	1.135
907.	1.146	2569.	1.077
907.5	0.8991	2569.5	0.9638
908.	0.9245	2570.	1.061
908.5	0.9569	2570.5	1.015
909.	0.9753	2571.	0.8829
909.5	0.9153	2571.5	1.075
910.	1.218	2572.	1.072

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
910.5	0.9037	2572.5	0.9777
911.	1.015	2573.	1.072
911.5	0.8991	2573.5	1.061
912.	1.206	2574.	1.139
912.5	1.114	2574.5	0.8529
913.	0.9869	2575.	0.9222
913.5	1.146	2575.5	1.075
914.	1.114	2576.	1.098
914.5	0.9476	2576.5	1.052
915.	1.158	2577.	0.9938
915.5	1.463	2577.5	1.232
916.	1.176	2578.	1.019
916.5	0.9199	2578.5	1.098
917.	1.167	2579.	1.093
917.5	1.273	2579.5	1.181
918.	1.144	2580.	1.296
918.5	1.114	2580.5	1.077
919.	1.176	2581.	0.98
919.5	1.049	2581.5	1.151
920.	1.144	2582.	1.162
920.5	0.9661	2582.5	1.139
921.	1.091	2583.	1.045
921.5	1.128	2583.5	0.7467
922.	1.142	2584.	1.278
922.5	1.366	2584.5	1.269
923.	1.156	2585.	1.079
923.5	1.098	2585.5	1.132
924.	1.114	2586.	0.8552
924.5	1.052	2586.5	1.239
925.	0.9661	2587.	1.19
925.5	1.322	2587.5	1.038
926.	1.128	2588.	1.232
926.5	1.22	2588.5	1.137
927.	1.128	2589.	1.077
927.5	1.052	2589.5	1.149
928.	1.146	2590.	0.7513
928.5	1.197	2590.5	1.149
929.	0.9638	2591.	0.9546
929.5	1.114	2591.5	1.075
930.	0.8275	2592.	1.093
930.5	1.038	2592.5	1.114
931.	1.135	2593.	1.204
931.5	0.9245	2593.5	0.9915
932.	1.008	2594.	1.232
932.5	0.9892	2594.5	1.035
933.	0.876	2595.	0.7143
933.5	1.028	2595.5	1.017
934.	1.125	2596.	1.204
934.5	1.128	2596.5	1.174
935.	1.095	2597.	1.34
935.5	1.095	2597.5	0.9615
936.	1.373	2598.	0.9522
936.5	1.403	2598.5	0.9037

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
937.	0.8783	2599.	0.9753
937.5	0.9291	2599.5	1.079
938.	1.114	2600.	0.9291
938.5	0.9638	2600.5	1.061
939.	1.017	2601.	1.1
939.5	1.049	2601.5	0.9384
940.	1.262	2602.	0.8044
940.5	1.29	2602.5	1.061
941.	1.183	2603.	1.098
941.5	0.9892	2603.5	1.079
942.	0.9961	2604.	1.042
942.5	1.158	2604.5	0.8968
943.	1.031	2605.	1.116
943.5	0.9268	2605.5	1.017
944.	1.253	2606.	1.093
944.5	1.052	2606.5	1.137
945.	1.174	2607.	0.906
945.5	1.031	2607.5	0.9245
946.	1.107	2608.	1.072
946.5	1.167	2608.5	1.038
947.	0.9546	2609.	1.179
947.5	1.167	2609.5	1.059
948.	1.218	2610.	1.112
948.5	1.156	2610.5	0.9546
949.	1.176	2611.	1.017
949.5	1.188	2611.5	1.022
950.	0.9892	2612.	1.174
950.5	1.229	2612.5	1.172
951.	1.13	2613.	0.9615
951.5	1.158	2613.5	1.114
952.	1.128	2614.	1.179
952.5	1.052	2614.5	1.019
953.	0.9753	2615.	1.112
953.5	1.033	2615.5	0.98
954.	1.125	2616.	1.139
954.5	1.174	2616.5	0.9753
955.	1.158	2617.	1.054
955.5	1.167	2617.5	1.098
956.	1.128	2618.	1.022
956.5	1.234	2618.5	1.061
957.	1.107	2619.	1.015
957.5	1.033	2619.5	1.183
958.	1.091	2620.	1.119
958.5	0.8275	2620.5	0.8668
959.	1.093	2621.	1.119
959.5	1.158	2621.5	1.114
960.	1.142	2622.	0.9892
960.5	0.9361	2622.5	1.151
961.	0.9869	2623.	1.075
961.5	1.114	2623.5	0.9592
962.	1.197	2624.	1.035
962.5	1.012	2624.5	1.038
963.	1.303	2625.	1.204

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
963.5	1.135	2625.5	1.135
964.	1.236	2626.	1.054
964.5	1.038	2626.5	0.9245
965.	1.176	2627.	1.042
965.5	1.095	2627.5	1.188
966.	1.015	2628.	1.162
966.5	1.075	2628.5	1.017
967.	1.114	2629.	1.098
967.5	1.052	2629.5	1.077
968.	1.01	2630.	0.876
968.5	1.197	2630.5	1.114
969.	0.9361	2631.	1.135
969.5	0.8737	2631.5	0.8737
970.	1.135	2632.	0.9707
970.5	1.146	2632.5	1.112
971.	0.9153	2633.	1.19
971.5	1.167	2633.5	1.077
972.	1.093	2634.	0.9107
972.5	0.8714	2634.5	0.973
973.	1.052	2635.	1.209
973.5	0.9384	2635.5	1.259
974.	1.012	2636.	0.7929
974.5	1.072	2636.5	1.017
975.	1.086	2637.	1.149
975.5	0.9961	2637.5	0.9638
976.	1.072	2638.	1.015
976.5	1.035	2638.5	1.121
977.	1.116	2639.	1.001
977.5	0.9569	2639.5	0.973
978.	1.068	2640.	1.179
978.5	1.068	2640.5	1.135
979.	0.9753	2641.	1.063
979.5	1.236	2641.5	1.072
980.	1.283	2642.	0.8113
980.5	0.9499	2642.5	0.973
981.	0.906	2643.	1.4
981.5	0.9961	2643.5	1.211
982.	1.038	2644.	0.7651
982.5	1.012	2644.5	1.209
983.	1.246	2645.	1.142
983.5	1.128	2645.5	1.061
984.	1.197	2646.	1.042
984.5	1.354	2646.5	1.241
985.	1.012	2647.	1.019
985.5	1.146	2647.5	1.093
986.	1.075	2648.	1.061
986.5	1.146	2648.5	1.038
987.	0.9892	2649.	1.121
987.5	1.105	2649.5	0.8252
988.	1.209	2650.	1.102
988.5	1.075	2650.5	1.061
989.	1.158	2651.	1.075
989.5	0.9546	2651.5	1.072

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
990.	1.049	2652.	0.9245
990.5	1.176	2652.5	0.8829
991.	1.246	2653.	1.287
991.5	1.114	2653.5	1.061
992.	1.095	2654.	1.042
992.5	1.167	2654.5	0.9546
993.	1.077	2655.	1.001
993.5	1.107	2655.5	1.098
994.	1.068	2656.	1.017
994.5	1.227	2656.5	0.98
995.	1.32	2657.	0.8783
995.5	0.9753	2657.5	1.042
996.	1.292	2658.	1.077
996.5	1.345	2658.5	1.061
997.	0.9499	2659.	1.04
997.5	1.089	2659.5	1.162
998.	1.169	2660.	0.7374
998.5	0.7859	2660.5	1.005
999.	1.128	2661.	1.075
999.5	1.209	2661.5	1.082
1000.	0.9153	2662.	0.9084
1000.5	1.049	2662.5	1.017
1001.	1.317	2663.	0.9315
1001.5	1.308	2663.5	0.9915
1002.	1.186	2664.	0.9546
1002.5	1.199	2664.5	1.04
1003.	1.031	2665.	1.061
1003.5	1.13	2665.5	1.038
1004.	1.176	2666.	1.223
1004.5	1.315	2666.5	1.038
1005.	1.068	2667.	0.8552
1005.5	1.105	2667.5	1.162
1006.	1.125	2668.	1.001
1006.5	0.9892	2668.5	1.19
1007.	1.095	2669.	1.232
1007.5	1.012	2669.5	1.04
1008.	0.8806	2670.	1.146
1008.5	1.114	2670.5	1.162
1009.	1.107	2671.	1.038
1009.5	1.169	2671.5	0.9546
1010.	0.9268	2672.	0.9107
1010.5	1.255	2672.5	0.9938
1011.	0.8899	2673.	0.8206
1011.5	1.059	2673.5	1.061
1012.	1.015	2674.	0.973
1012.5	1.114	2674.5	1.28
1013.	1.241	2675.	1.132
1013.5	1.206	2675.5	0.9245
1014.	1.146	2676.	1.19
1014.5	0.9961	2676.5	1.137
1015.	0.9084	2677.	1.095
1015.5	1.017	2677.5	1.153
1016.	0.973	2678.	1.232

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1016.5	1.077	2678.5	1.176
1017.	1.16	2679.	1.125
1017.5	0.9961	2679.5	0.973
1018.	1.095	2680.	1.172
1018.5	1.114	2680.5	0.9938
1019.	0.9892	2681.	0.9407
1019.5	1.186	2681.5	1.093
1020.	1.072	2682.	0.9823
1020.5	1.012	2682.5	0.9892
1021.	1.128	2683.	1.093
1021.5	0.9384	2683.5	0.8783
1022.	0.906	2684.	0.9407
1022.5	1.068	2684.5	1.114
1023.	0.973	2685.	1.019
1023.5	1.086	2685.5	1.059
1024.	1.072	2686.	1.093
1024.5	0.9291	2686.5	1.061
1025.	1.049	2687.	1.149
1025.5	1.038	2687.5	1.356
1026.	0.9569	2688.	0.9915
1026.5	0.9892	2688.5	1.137
1027.	1.132	2689.	0.9915
1027.5	1.167	2689.5	1.135
1028.	1.227	2690.	1.121
1028.5	1.326	2690.5	0.906
1029.	1.035	2691.	1.132
1029.5	0.9684	2691.5	0.9037
1030.	1.086	2692.	1.16
1030.5	1.135	2692.5	1.038
1031.	1.262	2693.	0.7674
1031.5	1.146	2693.5	0.9222
1032.	1.056	2694.	0.8853
1032.5	1.246	2694.5	1.181
1033.	1.128	2695.	1.077
1033.5	1.218	2695.5	1.213
1034.	1.054	2696.	0.9915
1034.5	1.146	2696.5	1.079
1035.	1.077	2697.	1.162
1035.5	1.095	2697.5	0.9638
1036.	1.28	2698.	1.075
1036.5	0.9291	2698.5	1.061
1037.	1.306	2699.	1.001
1037.5	1.315	2699.5	1.079
1038.	1.052	2700.	1.035
1038.5	1.197	2700.5	0.906
1039.	0.9014	2701.	1.079
1039.5	1.114	2701.5	1.132
1040.	1.132	2702.	0.98
1040.5	1.206	2702.5	0.9107
1041.	1.227	2703.	1.324
1041.5	1.16	2703.5	0.9915
1042.	1.257	2704.	1.139
1042.5	1.075	2704.5	1.202

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1043.	1.13	2705.	1.079
1043.5	1.012	2705.5	1.019
1044.	0.8275	2706.	1.151
1044.5	0.8991	2706.5	1.093
1045.	1.158	2707.	0.9546
1045.5	1.086	2707.5	1.19
1046.	1.128	2708.	1.343
1046.5	0.9569	2708.5	0.8991
1047.	1.144	2709.	1.017
1047.5	1.089	2709.5	1.079
1048.	1.197	2710.	1.054
1048.5	1.107	2710.5	1.116
1049.	0.9569	2711.	0.9546
1049.5	1.095	2711.5	0.943
1050.	1.206	2712.	1.1
1050.5	1.135	2712.5	1.077
1051.	0.9777	2713.	1.223
1051.5	1.206	2713.5	1.146
1052.	1.206	2714.	1.151
1052.5	1.015	2714.5	0.9407
1053.	1.056	2715.	1.017
1053.5	1.052	2715.5	1.035
1054.	0.8622	2716.	1.061
1054.5	0.9384	2716.5	1.114
1055.	1.038	2717.	1.015
1055.5	1.015	2717.5	1.28
1056.	0.9499	2718.	1.112
1056.5	1.04	2718.5	1.082
1057.	1.114	2719.	1.001
1057.5	1.086	2719.5	1.199
1058.	1.107	2720.	1.183
1058.5	1.146	2720.5	1.038
1059.	1.028	2721.	1.017
1059.5	0.9892	2721.5	1.172
1060.	1.264	2722.	1.079
1060.5	0.8691	2722.5	0.8783
1061.	1.012	2723.	1.038
1061.5	0.9961	2723.5	1.038
1062.	1.158	2724.	1.149
1062.5	0.9961	2724.5	1.093
1063.	1.105	2725.	0.98
1063.5	0.9961	2725.5	0.9107
1064.	1.273	2726.	1.019
1064.5	1.236	2726.5	1.095
1065.	1.16	2727.	1.075
1065.5	1.135	2727.5	1.28
1066.	0.9153	2728.	1.077
1066.5	1.29	2728.5	1.174
1067.	0.9961	2729.	1.204
1067.5	1.077	2729.5	1.119
1068.	1.068	2730.	1.248
1068.5	1.093	2730.5	0.8853
1069.	1.093	2731.	1.259

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1069.5	0.8829	2731.5	0.9315
1070.	1.038	2732.	0.913
1070.5	1.234	2732.5	1.162
1071.	0.9315	2733.	0.9961
1071.5	1.049	2733.5	1.061
1072.	1.105	2734.	1.012
1072.5	1.077	2734.5	1.149
1073.	1.229	2735.	1.223
1073.5	1.144	2735.5	1.04
1074.	1.347	2736.	1.052
1074.5	1.135	2736.5	0.98
1075.	0.7305	2737.	0.8968
1075.5	1.236	2737.5	0.8252
1076.	0.8714	2738.	0.846
1076.5	0.8067	2738.5	1.063
1077.	0.9569	2739.	1.093
1077.5	1.095	2739.5	1.179
1078.	0.9476	2740.	1.035
1078.5	0.9961	2740.5	1.061
1079.	1.052	2741.	1.114
1079.5	0.9199	2741.5	1.135
1080.	1.176	2742.	0.9638
1080.5	1.188	2742.5	1.199
1081.	0.9153	2743.	0.98
1081.5	0.9753	2743.5	1.017
1082.	1.114	2744.	0.9707
1082.5	1.114	2744.5	1.017
1083.	1.114	2745.	1.093
1083.5	0.8206	2745.5	1.079
1084.	1.183	2746.	1.056
1084.5	1.107	2746.5	1.232
1085.	0.9291	2747.	0.98
1085.5	1.158	2747.5	0.8853
1086.	1.068	2748.	1.269
1086.5	1.107	2748.5	1.112
1087.	1.29	2749.	1.232
1087.5	1.317	2749.5	1.042
1088.	0.9384	2750.	1.1
1088.5	1.052	2750.5	0.9707
1089.	0.8899	2751.	1.135
1089.5	1.04	2751.5	1.017
1090.	1.176	2752.	1.299
1090.5	0.9222	2752.5	0.9245
1091.	1.158	2753.	1.017
1091.5	1.146	2753.5	1.269
1092.	1.169	2754.	1.202
1092.5	0.9661	2754.5	1.19
1093.	0.8183	2755.	0.8783
1093.5	1.132	2755.5	0.9777
1094.	1.347	2756.	1.017
1094.5	1.135	2756.5	0.9915
1095.	0.9661	2757.	0.8783
1095.5	1.114	2757.5	1.296

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1096.	1.091	2758.	1.098
1096.5	1.052	2758.5	0.9638
1097.	0.9961	2759.	1.114
1097.5	1.354	2759.5	1.112
1098.	1.054	2760.	1.135
1098.5	1.209	2760.5	1.042
1099.	1.114	2761.	1.019
1099.5	1.306	2761.5	0.8252
1100.	1.114	2762.	0.9638
1100.5	0.9753	2762.5	1.172
1101.	0.9684	2763.	1.139
1101.5	0.9499	2763.5	0.98
1102.	0.8183	2764.	0.9338
1102.5	1.176	2764.5	1.102
1103.	0.9984	2765.	1.149
1103.5	1.052	2765.5	1.093
1104.	1.236	2766.	1.061
1104.5	0.9199	2766.5	1.243
1105.	1.186	2767.	0.98
1105.5	1.07	2767.5	0.8968
1106.	1.012	2768.	0.9615
1106.5	1.056	2768.5	1.151
1107.	0.9753	2769.	0.9615
1107.5	0.9569	2769.5	1.114
1108.	0.8483	2770.	1.266
1108.5	0.8737	2770.5	0.9615
1109.	1.373	2771.	1.017
1109.5	1.186	2771.5	1.07
1110.	1.246	2772.	1.132
1110.5	0.9476	2772.5	1.1
1111.	1.07	2773.	1.093
1111.5	0.8806	2773.5	1.017
1112.	1.109	2774.	1.033
1112.5	0.8483	2774.5	1.211
1113.	1.015	2775.	0.9546
1113.5	1.077	2775.5	0.9315
1114.	0.9961	2776.	1.119
1114.5	1.495	2776.5	1.135
1115.	1.033	2777.	0.98
1115.5	1.125	2777.5	1.149
1116.	1.375	2778.	1.22
1116.5	1.093	2778.5	0.8853
1117.	0.9291	2779.	0.98
1117.5	1.22	2779.5	1.114
1118.	1.089	2780.	1.257
1118.5	1.229	2780.5	1.241
1119.	1.199	2781.	0.9915
1119.5	1.329	2781.5	1.112
1120.	0.9476	2782.	0.9245
1120.5	1.246	2782.5	0.9222
1121.	0.9592	2783.	1.135
1121.5	1.072	2783.5	1.077
1122.	1.363	2784.	1.038

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1122.5	1.167	2784.5	1.299
1123.	1.098	2785.	1.232
1123.5	1.031	2785.5	1.142
1124.	1.059	2786.	1.139
1124.5	1.054	2786.5	1.056
1125.	1.206	2787.	1.211
1125.5	1.283	2787.5	1.093
1126.	1.114	2788.	1.188
1126.5	0.9777	2788.5	0.9938
1127.	0.9153	2789.	1.017
1127.5	1.209	2789.5	0.9222
1128.	1.059	2790.	1.035
1128.5	1.146	2790.5	0.9638
1129.	1.07	2791.	1.017
1129.5	1.22	2791.5	1.181
1130.	1.04	2792.	1.121
1130.5	1.049	2792.5	1.241
1131.	1.01	2793.	1.091
1131.5	1.075	2793.5	0.9453
1132.	0.906	2794.	0.8853
1132.5	1.276	2794.5	1.056
1133.	0.9892	2795.	0.8344
1133.5	1.146	2795.5	0.9407
1134.	1.246	2796.	1.017
1134.5	1.098	2796.5	1.174
1135.	1.176	2797.	1.003
1135.5	1.125	2797.5	0.973
1136.	1.146	2798.	1.181
1136.5	1.095	2798.5	1.149
1137.	1.015	2799.	1.061
1137.5	1.264	2799.5	1.075
1138.	1.049	2800.	1.259
1138.5	0.9892	2800.5	1.114
1139.	1.278	2801.	1.162
1139.5	1.017	2801.5	1.042
1140.	1.183	2802.	1.132
1140.5	0.8899	2802.5	1.139
1141.	1.091	2803.	1.19
1141.5	0.8275	2803.5	0.906
1142.	1.324	2804.	1.269
1142.5	1.209	2804.5	1.061
1143.	1.015	2805.	1.001
1143.5	1.197	2805.5	1.28
1144.	1.059	2806.	1.022
1144.5	1.033	2806.5	1.204
1145.	1.107	2807.	1.093
1145.5	1.246	2807.5	1.075
1146.	1.089	2808.	1.093
1146.5	1.176	2808.5	0.9569
1147.	1.197	2809.	0.913
1147.5	0.8321	2809.5	1.017
1148.	0.9592	2810.	0.9245
1148.5	1.095	2810.5	0.8922

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1149.	0.9892	2811.	1.015
1149.5	1.158	2811.5	0.9569
1150.	0.9915	2812.	1.121
1150.5	0.9476	2812.5	1.059
1151.	1.012	2813.	1.172
1151.5	1.068	2813.5	1.017
1152.	0.8829	2814.	1.241
1152.5	1.077	2814.5	0.9546
1153.	1.052	2815.	1.241
1153.5	0.9915	2815.5	1.059
1154.	0.9499	2816.	1.035
1154.5	1.197	2816.5	0.9522
1155.	1.072	2817.	0.9522
1155.5	0.8899	2817.5	1.072
1156.	1.095	2818.	1.079
1156.5	1.356	2818.5	1.038
1157.	1.017	2819.	0.9546
1157.5	1.186	2819.5	0.9615
1158.	1.257	2820.	0.98
1158.5	1.052	2820.5	0.9037
1159.	1.109	2821.	1.204
1159.5	1.262	2821.5	1.137
1160.	1.056	2822.	0.7998
1160.5	1.176	2822.5	1.038
1161.	1.236	2823.	0.98
1161.5	0.9638	2823.5	0.7328
1162.	0.973	2824.	0.9615
1162.5	1.107	2824.5	1.119
1163.	1.091	2825.	1.266
1163.5	1.146	2825.5	1.061
1164.	1.077	2826.	1.232
1164.5	1.107	2826.5	0.9638
1165.	1.075	2827.	1.038
1165.5	1.095	2827.5	1.151
1166.	1.068	2828.	0.9938
1166.5	0.9707	2828.5	1.121
1167.	0.8645	2829.	0.9222
1167.5	1.197	2829.5	1.003
1168.	1.015	2830.	1.061
1168.5	0.9384	2830.5	0.9638
1169.	1.128	2831.	1.1
1169.5	1.162	2831.5	1.072
1170.	0.9592	2832.	1.056
1170.5	1.317	2832.5	1.061
1171.	1.114	2833.	1.162
1171.5	1.146	2833.5	1.172
1172.	1.086	2834.	1.093
1172.5	1.116	2834.5	1.151
1173.	1.107	2835.	0.913
1173.5	1.098	2835.5	1.033
1174.	1.204	2836.	1.038
1174.5	1.07	2836.5	1.072
1175.	0.9014	2837.	1.056

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1175.5	1.146	2837.5	0.9315
1176.	0.9961	2838.	1.137
1176.5	1.015	2838.5	1.135
1177.	1.345	2839.	1.181
1177.5	1.038	2839.5	0.9522
1178.	1.276	2840.	1.042
1178.5	1.13	2840.5	1.077
1179.	0.8922	2841.	1.206
1179.5	1.248	2841.5	1.283
1180.	1.125	2842.	1.137
1180.5	1.116	2842.5	1.232
1181.	1.188	2843.	0.9245
1181.5	1.174	2843.5	1.13
1182.	1.199	2844.	1.232
1182.5	0.9384	2844.5	1.142
1183.	1.052	2845.	0.7674
1183.5	1.186	2845.5	0.8321
1184.	1.056	2846.	1.035
1184.5	1.22	2846.5	1.114
1185.	1.035	2847.	0.9569
1185.5	1.089	2847.5	0.9245
1186.	1.095	2848.	0.906
1186.5	1.015	2848.5	1.1
1187.	1.306	2849.	1.142
1187.5	1.128	2849.5	1.061
1188.	1.13	2850.	1.162
1188.5	1.158	2850.5	0.9915
1189.	1.077	2851.	1.121
1189.5	0.9892	2851.5	0.9638
1190.	1.264	2852.	1.259
1190.5	1.017	2852.5	0.9546
1191.	1.107	2853.	1.114
1191.5	1.056	2853.5	1.135
1192.	0.8899	2854.	0.8829
1192.5	1.068	2854.5	0.913
1193.	1.13	2855.	1.211
1193.5	1.031	2855.5	1.079
1194.	1.188	2856.	1.054
1194.5	1.176	2856.5	1.061
1195.	1.257	2857.	0.9569
1195.5	1.218	2857.5	1.045
1196.	1.031	2858.	0.906
1196.5	1.07	2858.5	1.075
1197.	0.9592	2859.	0.9638
1197.5	1.393	2859.5	0.8552
1198.	1.095	2860.	1.061
1198.5	1.068	2860.5	1.056
1199.	1.033	2861.	1.042
1199.5	1.169	2861.5	1.259
1200.	1.098	2862.	0.906
1200.5	1.167	2862.5	1.075
1201.	1.135	2863.	1.223
1201.5	0.9777	2863.5	1.079

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1202.	1.091	2864.	0.8113
1202.5	1.176	2864.5	0.9222
1203.	1.033	2865.	1.331
1203.5	1.038	2865.5	1.098
1204.	1.186	2866.	0.8344
1204.5	1.326	2866.5	0.8853
1205.	1.015	2867.	1.061
1205.5	0.8737	2867.5	0.7859
1206.	1.236	2868.	1.165
1206.5	0.9892	2868.5	1.098
1207.	1.186	2869.	1.181
1207.5	1.056	2869.5	1.003
1208.	0.9476	2870.	1.241
1208.5	1.218	2870.5	1.19
1209.	1.169	2871.	1.172
1209.5	1.093	2871.5	1.005
1210.	1.017	2872.	1.003
1210.5	1.229	2872.5	0.8853
1211.	1.218	2873.	1.093
1211.5	1.146	2873.5	0.9315
1212.	1.119	2874.	0.7721
1212.5	1.218	2874.5	0.9315
1213.	1.015	2875.	0.973
1213.5	0.9476	2875.5	1.209
1214.	1.158	2876.	1.038
1214.5	1.017	2876.5	1.1
1215.	1.255	2877.	0.9938
1215.5	1.186	2877.5	1.181
1216.	0.9984	2878.	0.8783
1216.5	1.13	2878.5	1.095
1217.	1.167	2879.	1.038
1217.5	1.052	2879.5	0.8991
1218.	1.116	2880.	0.8783
1218.5	1.259	2880.5	0.9938
1219.	1.384	2881.	1.1
1219.5	1.285	2881.5	1.017
1220.	1.031	2882.	1.137
1220.5	1.098	2882.5	1.162
1221.	0.9499	2883.	1.054
1221.5	1.169	2883.5	1.315
1222.	1.098	2884.	0.9938
1222.5	1.197	2884.5	0.8783
1223.	0.9476	2885.	1.123
1223.5	1.031	2885.5	1.22
1224.	0.9546	2886.	1.017
1224.5	1.068	2886.5	1.259
1225.	1.033	2887.	1.072
1225.5	1.056	2887.5	1.25
1226.	1.128	2888.	1.119
1226.5	0.9753	2888.5	0.9615
1227.	1.204	2889.	0.98
1227.5	0.9569	2889.5	1.061
1228.	0.8321	2890.	1.042

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1228.5	0.9592	2890.5	1.042
1229.	0.9638	2891.	1.165
1229.5	0.8067	2891.5	1.075
1230.	1.158	2892.	1.077
1230.5	1.16	2892.5	1.137
1231.	1.089	2893.	0.913
1231.5	1.264	2893.5	1.056
1232.	1.197	2894.	1.054
1232.5	0.8391	2894.5	1.061
1233.	0.9176	2895.	1.19
1233.5	1.135	2895.5	1.003
1234.	0.7975	2896.	1.241
1234.5	1.253	2896.5	1.259
1235.	0.9268	2897.	1.162
1235.5	1.04	2897.5	0.9638
1236.	1.031	2898.	1.079
1236.5	1.098	2898.5	0.906
1237.	1.04	2899.	1.042
1237.5	0.8899	2899.5	1.059
1238.	1.068	2900.	1.061
1238.5	1.317	2900.5	1.015
1239.	1.056	2901.	0.98
1239.5	1.095	2901.5	1.192
1240.	0.9499	2902.	1.137
1240.5	1.32	2902.5	1.225
1241.	1.209	2903.	1.054
1241.5	0.9476	2903.5	1.509
1242.	1.112	2904.	1.095
1242.5	0.9684	2904.5	0.9823
1243.	1.068	2905.	0.943
1243.5	1.052	2905.5	1.001
1244.	0.809	2906.	1.137
1244.5	0.7905	2906.5	1.042
1245.	1.052	2907.	1.29
1245.5	0.9892	2907.5	1.121
1246.	1.012	2908.	0.98
1246.5	0.8622	2908.5	1.19
1247.	1.146	2909.	0.9915
1247.5	1.169	2909.5	0.8113
1248.	1.075	2910.	1.253
1248.5	1.112	2910.5	1.077
1249.	0.9753	2911.	0.9522
1249.5	0.9384	2911.5	1.121
1250.	1.128	2912.	1.181
1250.5	1.255	2912.5	0.6635
1251.	1.248	2913.	1.259
1251.5	1.188	2913.5	1.172
1252.	1.229	2914.	0.846
1252.5	1.012	2914.5	0.98
1253.	1.031	2915.	1.121
1253.5	0.9684	2915.5	1.042
1254.	0.9777	2916.	1.22
1254.5	1.216	2916.5	1.033

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1255.	0.9569	2917.	1.045
1255.5	1.306	2917.5	1.202
1256.	1.206	2918.	1.005
1256.5	0.8483	2918.5	1.266
1257.	1.206	2919.	0.8968
1257.5	1.227	2919.5	1.038
1258.	1.035	2920.	0.9315
1258.5	1.07	2920.5	0.9638
1259.	1.278	2921.	1.123
1259.5	1.089	2921.5	1.019
1260.	1.255	2922.	1.015
1260.5	1.135	2922.5	1.135
1261.	1.135	2923.	1.239
1261.5	1.017	2923.5	0.9915
1262.	1.128	2924.	1.25
1262.5	1.324	2924.5	0.98
1263.	1.16	2925.	1.407
1263.5	1.015	2925.5	1.093
1264.	0.9384	2926.	1.061
1264.5	0.9892	2926.5	1.082
1265.	1.158	2927.	1.098
1265.5	1.068	2927.5	1.098
1266.	0.9684	2928.	0.7998
1266.5	1.135	2928.5	0.9638
1267.	0.9084	2929.	1.042
1267.5	1.038	2929.5	1.135
1268.	1.16	2930.	1.042
1268.5	1.206	2930.5	0.9823
1269.	1.128	2931.	1.13
1269.5	1.188	2931.5	1.1
1270.	0.9984	2932.	1.075
1270.5	0.9984	2932.5	0.9315
1271.	1.075	2933.	1.195
1271.5	1.13	2933.5	1.1
1272.	1.176	2934.	1.1
1272.5	0.9014	2934.5	1.093
1273.	0.876	2935.	1.095
1273.5	1.012	2935.5	1.056
1274.	0.8645	2936.	1.19
1274.5	1.188	2936.5	1.174
1275.	0.9176	2937.	1.075
1275.5	0.9892	2937.5	1.114
1276.	1.202	2938.	0.943
1276.5	1.206	2938.5	0.98
1277.	1.128	2939.	1.162
1277.5	1.093	2939.5	1.195
1278.	0.9892	2940.	1.082
1278.5	1.114	2940.5	1.211
1279.	0.9592	2941.	0.9546
1279.5	1.068	2941.5	1.017
1280.	1.07	2942.	0.8991
1280.5	1.188	2942.5	1.259
1281.	1.098	2943.	0.9707

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1281.5	1.107	2943.5	1.137
1282.	1.209	2944.	1.223
1282.5	0.9984	2944.5	1.075
1283.	1.098	2945.	0.9915
1283.5	1.186	2945.5	1.042
1284.	0.9661	2946.	0.9915
1284.5	1.158	2946.5	1.202
1285.	0.9499	2947.	0.8668
1285.5	1.089	2947.5	0.8645
1286.	1.375	2948.	1.042
1286.5	0.9268	2948.5	0.7929
1287.	0.8783	2949.	1.017
1287.5	0.9961	2949.5	0.913
1288.	1.068	2950.	0.9546
1288.5	1.075	2950.5	1.121
1289.	1.091	2951.	1.042
1289.5	1.061	2951.5	1.093
1290.	1.128	2952.	0.9915
1290.5	1.095	2952.5	1.1
1291.	0.9176	2953.	1.139
1291.5	0.9291	2953.5	1.017
1292.	1.236	2954.	0.8991
1292.5	1.059	2954.5	1.095
1293.	1.091	2955.	1.165
1293.5	1.294	2955.5	1.077
1294.	1.13	2956.	1.162
1294.5	1.042	2956.5	0.9245
1295.	1.017	2957.	1.269
1295.5	1.077	2957.5	0.98
1296.	1.135	2958.	1.243
1296.5	1.169	2958.5	1.019
1297.	1.167	2959.	0.8968
1297.5	1.135	2959.5	0.8691
1298.	1.015	2960.	1.123
1298.5	1.199	2960.5	1.061
1299.	1.135	2961.	1.042
1299.5	0.9753	2961.5	1.091
1300.	0.8645	2962.	1.098
1300.5	1.188	2962.5	1.079
1301.	0.8829	2963.	1.142
1301.5	1.158	2963.5	0.9315
1302.	1.22	2964.	1.137
1302.5	1.031	2964.5	0.973
1303.	0.8783	2965.	1.137
1303.5	0.9892	2965.5	0.9915
1304.	1.29	2966.	0.913
1304.5	1.052	2966.5	1.042
1305.	0.9384	2967.	0.98
1305.5	1.107	2967.5	1.017
1306.	1.246	2968.	0.9638
1306.5	0.8829	2968.5	0.9938
1307.	1.075	2969.	1.151
1307.5	1.146	2969.5	1.042

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1308.	1.146	2970.	1.056
1308.5	1.165	2970.5	0.9107
1309.	1.128	2971.	0.906
1309.5	1.04	2971.5	1.174
1310.	1.052	2972.	0.8853
1310.5	1.135	2972.5	0.943
1311.	1.199	2973.	0.943
1311.5	1.015	2973.5	1.181
1312.	0.8899	2974.	1.056
1312.5	0.7882	2974.5	1.192
1313.	1.107	2975.	1.162
1313.5	0.9984	2975.5	1.012
1314.	1.246	2976.	1.183
1314.5	1.033	2976.5	1.019
1315.	1.199	2977.	1.241
1315.5	0.9869	2977.5	1.183
1316.	1.186	2978.	1.015
1316.5	0.9084	2978.5	1.162
1317.	1.095	2979.	0.8876
1317.5	0.8922	2979.5	0.9938
1318.	1.35	2980.	1.34
1318.5	0.9222	2980.5	1.079
1319.	0.8391	2981.	0.9823
1319.5	0.9661	2981.5	0.9707
1320.	0.9084	2982.	1.139
1320.5	1.089	2982.5	1.112
1321.	0.8275	2983.	1.211
1321.5	1.109	2983.5	1.098
1322.	1.248	2984.	1.181
1322.5	1.16	2984.5	1.056
1323.	0.9084	2985.	1.1
1323.5	1.031	2985.5	1.077
1324.	1.176	2986.	1.001
1324.5	1.116	2986.5	1.153
1325.	0.9592	2987.	1.223
1325.5	1.188	2987.5	1.139
1326.	1.257	2988.	0.9315
1326.5	1.283	2988.5	0.8691
1327.	1.031	2989.	0.8968
1327.5	1.052	2989.5	1.017
1328.	1.07	2990.	0.8968
1328.5	1.017	2990.5	1.035
1329.	1.089	2991.	1.102
1329.5	1.093	2991.5	1.061
1330.	1.158	2992.	1.179
1330.5	1.017	2992.5	1.25
1331.	0.9291	2993.	0.9407
1331.5	1.033	2993.5	0.9846
1332.	1.229	2994.	1.061
1332.5	1.095	2994.5	1.183
1333.	1.098	2995.	1.001
1333.5	1.095	2995.5	1.017
1334.	1.059	2996.	0.8229

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1334.5	0.9014	2996.5	0.9753
1335.	1.017	2997.	1.003
1335.5	1.098	2997.5	0.9638
1336.	1.095	2998.	1.116
1336.5	1.176	2998.5	1.139
1337.	1.22	2999.	1.038
1337.5	1.209	2999.5	1.139
1338.	1.202	3000.	1.162
1338.5	1.091	3000.5	1.054
1339.	1.149	3001.	1.017
1339.5	1.197	3001.5	1.135
1340.	1.098	3002.	1.151
1340.5	1.206	3002.5	1.119
1341.	1.176	3003.	1.075
1341.5	1.091	3003.5	1.142
1342.	1.229	3004.	0.9615
1342.5	0.9569	3004.5	0.9315
1343.	0.9176	3005.	1.204
1343.5	0.8737	3005.5	1.017
1344.	1.167	3006.	1.054
1344.5	1.169	3006.5	1.019
1345.	1.176	3007.	1.125
1345.5	1.033	3007.5	1.077
1346.	1.031	3008.	1.022
1346.5	0.7905	3008.5	1.019
1347.	1.114	3009.	1.017
1347.5	0.9384	3009.5	1.056
1348.	1.135	3010.	1.123
1348.5	1.169	3010.5	1.022
1349.	1.042	3011.	1.063
1349.5	1.204	3011.5	0.876
1350.	1.285	3012.	1.204
1350.5	1.135	3012.5	0.943
1351.	1.001	3013.	0.98
1351.5	1.038	3013.5	1.121
1352.	1.248	3014.	1.017
1352.5	1.109	3014.5	1.054
1353.	1.306	3015.	1.079
1353.5	1.095	3015.5	1.098
1354.	1.276	3016.	1.054
1354.5	0.9707	3016.5	1.259
1355.	1.068	3017.	1.253
1355.5	1.012	3017.5	0.9315
1356.	1.056	3018.	0.9915
1356.5	1.107	3018.5	1.093
1357.	1.068	3019.	1.093
1357.5	1.072	3019.5	1.072
1358.	0.9245	3020.	1.162
1358.5	1.056	3020.5	0.913
1359.	0.8922	3021.	0.9638
1359.5	0.8645	3021.5	1.075
1360.	1.012	3022.	1.116
1360.5	1.116	3022.5	0.973

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1361.	1.197	3023.	1.056
1361.5	1.059	3023.5	1.135
1362.	1.186	3024.	1.232
1362.5	0.9892	3024.5	0.9245
1363.	1.188	3025.	0.7559
1363.5	1.07	3025.5	1.467
1364.	1.146	3026.	1.4
1364.5	0.9222	3026.5	1.223
1365.	1.218	3027.	0.9753
1365.5	0.9592	3027.5	0.9499
1366.	0.9199	3028.	0.8945
1366.5	0.9014	3028.5	0.9199
1367.	1.176	3029.	1.25
1367.5	1.089	3029.5	0.9984
1368.	1.306	3030.	1.019
1368.5	1.149	3030.5	1.176
1369.	0.9499	3031.	1.165
1369.5	0.9892	3031.5	1.259
1370.	1.095	3032.	1.181
1370.5	1.031	3032.5	0.9915
1371.	1.135	3033.	1.038
1371.5	1.075	3033.5	1.1
1372.	1.199	3034.	0.8252
1372.5	0.9892	3034.5	1.017
1373.	1.07	3035.	1.001
1373.5	1.072	3035.5	1.098
1374.	1.197	3036.	1.243
1374.5	0.9892	3036.5	1.121
1375.	1.135	3037.	1.162
1375.5	1.015	3037.5	1.082
1376.	0.9199	3038.	0.9245
1376.5	1.089	3038.5	0.8783
1377.	0.8414	3039.	1.19
1377.5	1.146	3039.5	0.9084
1378.	1.052	3040.	1.075
1378.5	1.059	3040.5	1.181
1379.	1.054	3041.	1.239
1379.5	1.158	3041.5	1.093
1380.	0.9499	3042.	1.077
1380.5	1.077	3042.5	1.123
1381.	0.9014	3043.	1.241
1381.5	1.095	3043.5	1.241
1382.	1.059	3044.	0.943
1382.5	1.22	3044.5	0.98
1383.	1.089	3045.	0.9569
1383.5	1.19	3045.5	1.093
1384.	1.13	3046.	0.9638
1384.5	1.218	3046.5	1.137
1385.	1.017	3047.	1.22
1385.5	1.146	3047.5	0.9315
1386.	1.137	3048.	1.313
1386.5	0.9892	3048.5	1.139
1387.	0.9291	3049.	1.095

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1387.5	1.052	3049.5	0.8344
1388.	1.13	3050.	1.137
1388.5	0.9961	3050.5	0.8229
1389.	1.077	3051.	0.9315
1389.5	1.061	3051.5	1.162
1390.	1.031	3052.	1.015
1390.5	1.109	3052.5	1.241
1391.	1.001	3053.	0.943
1391.5	0.9407	3053.5	0.9245
1392.	1.049	3054.	1.063
1392.5	1.158	3054.5	1.135
1393.	1.091	3055.	1.324
1393.5	1.031	3055.5	1.035
1394.	1.077	3056.	1.135
1394.5	1.056	3056.5	0.9638
1395.	0.9777	3057.	1.162
1395.5	1.206	3057.5	0.98
1396.	1.266	3058.	0.906
1396.5	0.9707	3058.5	1.098
1397.	1.135	3059.	1.015
1397.5	0.9615	3059.5	1.093
1398.	1.13	3060.	1.132
1398.5	1.135	3060.5	0.8991
1399.	1.209	3061.	0.943
1399.5	1.387	3061.5	1.119
1400.	1.167	3062.	0.9107
1400.5	1.172	3062.5	1.116
1401.	1.04	3063.	0.8853
1401.5	1.077	3063.5	1.135
1402.	0.9199	3064.	1.162
1402.5	0.8483	3064.5	1.139
1403.	1.091	3065.	1.001
1403.5	1.054	3065.5	0.9107
1404.	1.264	3066.	0.9222
1404.5	0.9753	3066.5	0.9823
1405.	0.9661	3067.	0.8991
1405.5	0.9384	3067.5	1.061
1406.	1.116	3068.	1.038
1406.5	1.283	3068.5	0.876
1407.	1.107	3069.	1.324
1407.5	1.259	3069.5	1.105
1408.	0.9569	3070.	1.079
1408.5	1.116	3070.5	0.9638
1409.	1.248	3071.	1.035
1409.5	1.13	3071.5	1.1
1410.	1.188	3072.	0.9315
1410.5	1.098	3072.5	1.142
1411.	1.22	3073.	0.9938
1411.5	1.199	3073.5	1.063
1412.	1.116	3074.	1.056
1412.5	1.056	3074.5	0.9222
1413.	1.308	3075.	1.056
1413.5	0.9384	3075.5	1.077

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1414.	0.9199	3076.	1.038
1414.5	1.135	3076.5	1.204
1415.	0.7651	3077.	1.137
1415.5	1.146	3077.5	0.913
1416.	1.052	3078.	0.9245
1416.5	1.109	3078.5	1.135
1417.	1.012	3079.	1.056
1417.5	0.8922	3079.5	1.015
1418.	1.091	3080.	1.135
1418.5	1.091	3080.5	1.019
1419.	1.322	3081.	0.9107
1419.5	1.114	3081.5	1.119
1420.	1.167	3082.	1.121
1420.5	1.16	3082.5	1.042
1421.	1.236	3083.	1.116
1421.5	0.906	3083.5	1.056
1422.	1.188	3084.	0.846
1422.5	1.167	3084.5	0.876
1423.	1.098	3085.	0.9222
1423.5	0.9984	3085.5	1.077
1424.	1.176	3086.	0.9569
1424.5	1.146	3086.5	1.019
1425.	1.209	3087.	1.077
1425.5	1.059	3087.5	1.121
1426.	1.229	3088.	0.9915
1426.5	1.052	3088.5	1.269
1427.	1.091	3089.	0.7467
1427.5	0.9892	3089.5	0.9569
1428.	1.377	3090.	1.25
1428.5	1.188	3090.5	1.003
1429.	0.8529	3091.	1.153
1429.5	1.172	3091.5	1.059
1430.	1.16	3092.	1.042
1430.5	1.158	3092.5	0.8899
1431.	1.206	3093.	1.056
1431.5	1.22	3093.5	1.102
1432.	0.9961	3094.	1.259
1432.5	0.9199	3094.5	1.059
1433.	1.146	3095.	1.299
1433.5	1.068	3095.5	1.038
1434.	0.9499	3096.	1.019
1434.5	1.158	3096.5	1.102
1435.	1.075	3097.	1.211
1435.5	1.056	3097.5	0.943
1436.	0.9984	3098.	1.035
1436.5	1.091	3098.5	1.125
1437.	0.9777	3099.	1.116
1437.5	0.9915	3099.5	1.204
1438.	1.135	3100.	1.061
1438.5	1.017	3100.5	1.061
1439.	0.906	3101.	1.093
1439.5	1.146	3101.5	1.038
1440.	1.13	3102.	1.054

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1440.5	0.9892	3102.5	1.061
1441.	1.209	3103.	1.123
1441.5	1.239	3103.5	1.19
1442.	1.135	3104.	1.1
1442.5	1.017	3104.5	1.162
1443.	1.308	3105.	1.232
1443.5	1.149	3105.5	1.079
1444.	1.16	3106.	0.7351
1444.5	0.9777	3106.5	1.114
1445.	1.077	3107.	1.017
1445.5	1.075	3107.5	1.204
1446.	1.135	3108.	0.6658
1446.5	1.07	3108.5	1.209
1447.	0.9892	3109.	0.943
1447.5	0.9892	3109.5	0.8668
1448.	1.179	3110.	1.072
1448.5	0.9615	3110.5	1.079
1449.	1.059	3111.	1.001
1449.5	1.112	3111.5	1.123
1450.	1.017	3112.	0.9453
1450.5	1.089	3112.5	0.7859
1451.	1.012	3113.	0.7674
1451.5	0.9384	3113.5	1.035
1452.	1.146	3114.	1.065
1452.5	1.035	3114.5	1.093
1453.	1.285	3115.	1.075
1453.5	0.9892	3115.5	0.9153
1454.	1.015	3116.	0.7559
1454.5	1.209	3116.5	1.098
1455.	1.146	3117.	0.8668
1455.5	1.336	3117.5	0.7859
1456.	1.091	3118.	1.162
1456.5	1.278	3118.5	1.061
1457.	0.8529	3119.	0.9222
1457.5	1.056	3119.5	0.9245
1458.	0.8922	3120.	1.019
1458.5	1.146	3120.5	1.042
1459.	1.22	3121.	0.9938
1459.5	1.264	3121.5	1.054
1460.	1.091	3122.	1.116
1460.5	1.017	3122.5	1.077
1461.	1.202	3123.	0.8668
1461.5	1.197	3123.5	1.082
1462.	1.095	3124.	1.095
1462.5	1.052	3124.5	0.7975
1463.	1.07	3125.	0.9961
1463.5	1.017	3125.5	0.8876
1464.	1.278	3126.	1.098
1464.5	1.04	3126.5	1.017
1465.	1.333	3127.	0.9338
1465.5	0.8506	3127.5	0.8829
1466.	1.257	3128.	1.165
1466.5	1.077	3128.5	1.22

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1467.	1.095	3129.	0.9546
1467.5	1.017	3129.5	1.112
1468.	1.075	3130.	1.114
1468.5	0.9291	3130.5	1.132
1469.	1.033	3131.	1.095
1469.5	1.229	3131.5	1.063
1470.	0.9037	3132.	1.093
1470.5	1.209	3132.5	0.9315
1471.	0.9661	3133.	1.123
1471.5	1.052	3133.5	1.075
1472.	0.7836	3134.	0.9315
1472.5	1.176	3134.5	1.162
1473.	1.229	3135.	0.8136
1473.5	0.9777	3135.5	1.003
1474.	1.091	3136.	0.9522
1474.5	1.329	3136.5	1.116
1475.	1.229	3137.	1.082
1475.5	1.091	3137.5	1.259
1476.	1.255	3138.	0.9245
1476.5	1.16	3138.5	0.906
1477.	1.209	3139.	1.063
1477.5	0.8737	3139.5	1.162
1478.	1.199	3140.	1.139
1478.5	1.19	3140.5	1.176
1479.	1.278	3141.	1.232
1479.5	1.077	3141.5	1.153
1480.	1.246	3142.	0.9938
1480.5	1.179	3142.5	1.019
1481.	0.9384	3143.	0.9638
1481.5	1.052	3143.5	1.137
1482.	1.077	3144.	0.9638
1482.5	1.089	3144.5	0.9315
1483.	1.077	3145.	1.056
1483.5	1.061	3145.5	0.8783
1484.	1.199	3146.	0.8853
1484.5	1.07	3146.5	0.98
1485.	1.239	3147.	1.093
1485.5	1.012	3147.5	1.139
1486.	0.9384	3148.	1.139
1486.5	1.264	3148.5	1.095
1487.	1.146	3149.	1.075
1487.5	1.109	3149.5	1.121
1488.	1.366	3150.	1.181
1488.5	0.9984	3150.5	1.151
1489.	1.146	3151.	1.072
1489.5	0.9014	3151.5	1.137
1490.	0.8737	3152.	1.095
1490.5	1.012	3152.5	1.075
1491.	1.169	3153.	1.206
1491.5	0.9199	3153.5	1.015
1492.	1.098	3154.	1.1
1492.5	1.149	3154.5	1.139
1493.	1.31	3155.	0.906

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1493.5	1.042	3155.5	1.042
1494.	1.326	3156.	1.045
1494.5	1.276	3156.5	1.172
1495.	1.114	3157.	0.7929
1495.5	1.146	3157.5	0.8021
1496.	1.07	3158.	1.045
1496.5	0.9684	3158.5	1.035
1497.	0.9222	3159.	1.135
1497.5	0.8506	3159.5	1.239
1498.	0.8183	3160.	1.003
1498.5	0.7698	3160.5	0.9222
1499.	0.9315	3161.	1.063
1499.5	1.146	3161.5	1.059
1500.	1.128	3162.	1.017
1500.5	1.098	3162.5	1.223
1501.	1.017	3163.	0.7744
1501.5	1.146	3163.5	1.114
1502.	0.9592	3164.	1.211
1502.5	1.116	3164.5	1.017
1503.	1.162	3165.	0.9315
1503.5	1.128	3165.5	1.1
1504.	1.296	3166.	1.183
1504.5	0.8367	3166.5	1.114
1505.	1.169	3167.	0.8552
1505.5	0.8829	3167.5	1.017
1506.	1.202	3168.	1.202
1506.5	0.9199	3168.5	1.042
1507.	1.052	3169.	1.082
1507.5	1.04	3169.5	1.093
1508.	1.179	3170.	1.123
1508.5	1.423	3170.5	0.8529
1509.	1.257	3171.	0.8668
1509.5	1.077	3171.5	0.8021
1510.	1.119	3172.	0.906
1510.5	1.283	3172.5	1.045
1511.	1.146	3173.	1.075
1511.5	1.146	3173.5	1.059
1512.	1.13	3174.	1.121
1512.5	1.294	3174.5	1.354
1513.	1.119	3175.	1.1
1513.5	1.04	3175.5	1.1
1514.	0.9291	3176.	0.9753
1514.5	0.8922	3176.5	1.093
1515.	1.052	3177.	1.361
1515.5	1.132	3177.5	1.075
1516.	1.169	3178.	0.9037
1516.5	1.072	3178.5	0.9546
1517.	1.16	3179.	0.9638
1517.5	1.059	3179.5	1.151
1518.	1.031	3180.	1.003
1518.5	1.056	3180.5	0.943
1519.	1.015	3181.	1.038
1519.5	1.172	3181.5	1.017

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1520.	1.035	3182.	1.232
1520.5	1.264	3182.5	1.061
1521.	1.248	3183.	0.8552
1521.5	1.107	3183.5	0.9638
1522.	1.13	3184.	1.299
1522.5	1.038	3184.5	1.045
1523.	1.135	3185.	0.9245
1523.5	0.9407	3185.5	0.98
1524.	1.257	3186.	0.9315
1524.5	0.9499	3186.5	1.04
1525.	1.098	3187.	0.913
1525.5	1.095	3187.5	0.8044
1526.	1.091	3188.	0.98
1526.5	1.038	3188.5	0.7998
1527.	1.091	3189.	1.042
1527.5	1.017	3189.5	1.116
1528.	0.9084	3190.	0.9961
1528.5	1.209	3190.5	1.038
1529.	1.033	3191.	0.9315
1529.5	0.9661	3191.5	1.093
1530.	1.07	3192.	0.9961
1530.5	0.9499	3192.5	1.232
1531.	0.9753	3193.	1.003
1531.5	0.9892	3193.5	1.241
1532.	1.287	3194.	1.253
1532.5	0.9592	3194.5	1.259
1533.	0.9984	3195.	1.042
1533.5	1.089	3195.5	0.9823
1534.	1.098	3196.	0.9546
1534.5	0.9291	3196.5	1.223
1535.	1.075	3197.	0.9638
1535.5	1.229	3197.5	0.9546
1536.	0.9707	3198.	1.343
1536.5	1.068	3198.5	0.98
1537.	1.052	3199.	1.075
1537.5	0.9684	3199.5	1.038
1538.	1.22	3200.	1.056
1538.5	1.162	3200.5	1.042
1539.	1.091	3201.	0.973
1539.5	1.072	3201.5	1.139
1540.	1.158	3202.	1.243
1540.5	1.109	3202.5	1.1
1541.	0.8806	3203.	0.8321
1541.5	0.8737	3203.5	1.102
1542.	1.135	3204.	1.019
1542.5	0.9569	3204.5	0.943
1543.	0.9707	3205.	1.123
1543.5	0.9707	3205.5	0.9245
1544.	1.16	3206.	1.019
1544.5	1.257	3206.5	0.913
1545.	1.209	3207.	0.98
1545.5	0.9384	3207.5	1.181
1546.	1.197	3208.	1.174

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1546.5	1.033	3208.5	0.9753
1547.	0.9892	3209.	0.9892
1547.5	0.9199	3209.5	0.9915
1548.	1.04	3210.	1.019
1548.5	1.248	3210.5	1.139
1549.	0.9892	3211.	1.022
1549.5	1.199	3211.5	1.047
1550.	0.98	3212.	1.061
1550.5	1.151	3212.5	1.093
1551.	0.9707	3213.	1.017
1551.5	1.001	3213.5	1.015
1552.	1.049	3214.	1.137
1552.5	1.095	3214.5	1.1
1553.	0.9661	3215.	0.8252
1553.5	1.329	3215.5	1.354
1554.	1.266	3216.	1.019
1554.5	1.308	3216.5	1.121
1555.	1.22	3217.	1.019
1555.5	0.9407	3217.5	0.8645
1556.	0.9984	3218.	1.121
1556.5	1.176	3218.5	1.179
1557.	1.264	3219.	1.165
1557.5	1.248	3219.5	0.7998
1558.	1.068	3220.	0.9615
1558.5	0.9384	3220.5	1.061
1559.	1.077	3221.	1.28
1559.5	1.16	3221.5	0.8321
1560.	0.9684	3222.	1.054
1560.5	1.116	3222.5	1.121
1561.	1.16	3223.	1.093
1561.5	1.22	3223.5	1.077
1562.	1.149	3224.	0.9938
1562.5	1.061	3224.5	1.015
1563.	0.9984	3225.	1.137
1563.5	1.146	3225.5	0.8968
1564.	1.116	3226.	1.132
1564.5	1.052	3226.5	0.9569
1565.	1.033	3227.	1.114
1565.5	1.052	3227.5	0.9823
1566.	0.9984	3228.	0.9823
1566.5	1.012	3228.5	1.022
1567.	1.012	3229.	0.9546
1567.5	1.232	3229.5	1.162
1568.	1.089	3230.	1.038
1568.5	0.9407	3230.5	0.9753
1569.	1.278	3231.	1.075
1569.5	1.1	3231.5	1.28
1570.	0.9684	3232.	0.7374
1570.5	1.033	3232.5	1.061
1571.	1.179	3233.	1.061
1571.5	1.162	3233.5	1.114
1572.	1.114	3234.	1.142
1572.5	1.033	3234.5	0.7929

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1573.	1.202	3235.	1.075
1573.5	0.9777	3235.5	1.151
1574.	1.162	3236.	1.093
1574.5	1.255	3236.5	1.019
1575.	1.077	3237.	1.001
1575.5	1.07	3237.5	0.9407
1576.	1.16	3238.	1.28
1576.5	0.9707	3238.5	1.038
1577.	1.04	3239.	1.019
1577.5	1.012	3239.5	1.079
1578.	1.089	3240.	1.142
1578.5	1.017	3240.5	0.7259
1579.	0.8922	3241.	1.001
1579.5	1.146	3241.5	1.137
1580.	1.012	3242.	1.112
1580.5	1.22	3242.5	0.8229
1581.	1.146	3243.	1.135
1581.5	0.9291	3243.5	0.8552
1582.	0.9499	3244.	0.846
1582.5	1.077	3244.5	1.077
1583.	0.9615	3245.	0.8552
1583.5	1.162	3245.5	1.209
1584.	1.264	3246.	0.9707
1584.5	1.054	3246.5	0.8945
1585.	1.109	3247.	0.913
1585.5	0.9315	3247.5	1.239
1586.	1.109	3248.	0.9315
1586.5	1.146	3248.5	1.192
1587.	1.149	3249.	1.121
1587.5	1.176	3249.5	1.056
1588.	0.9892	3250.	1.075
1588.5	1.091	3250.5	1.137
1589.	1.105	3251.	1.19
1589.5	0.8922	3251.5	0.9938
1590.	1.068	3252.	1.019
1590.5	1.068	3252.5	1.156
1591.	1.375	3253.	0.9753
1591.5	0.9777	3253.5	1.102
1592.	1.035	3254.	1.151
1592.5	1.13	3254.5	1.038
1593.	1.209	3255.	0.8945
1593.5	0.9892	3255.5	0.7952
1594.	1.146	3256.	1.209
1594.5	1.061	3256.5	1.25
1595.	1.059	3257.	1.114
1595.5	1.135	3257.5	1.135
1596.	1.107	3258.	0.9938
1596.5	1.109	3258.5	1.038
1597.	1.033	3259.	0.9315
1597.5	1.308	3259.5	0.98
1598.	1.146	3260.	0.9938
1598.5	0.9245	3260.5	0.9522
1599.	1.13	3261.	0.7374

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1599.5	0.8437	3261.5	0.906
1600.	0.9707	3262.	0.7998
1600.5	1.292	3262.5	1.005
1601.	0.8899	3263.	1.003
1601.5	1.22	3263.5	1.142
1602.	1.052	3264.	1.077
1602.5	1.188	3264.5	1.132
1603.	1.098	3265.	1.054
1603.5	0.9522	3265.5	0.9315
1604.	0.9199	3266.	1.003
1604.5	0.9984	3266.5	0.913
1605.	1.229	3267.	1.112
1605.5	1.283	3267.5	0.9915
1606.	1.031	3268.	0.9938
1606.5	0.9984	3268.5	1.098
1607.	1.052	3269.	1.098
1607.5	0.9707	3269.5	1.153
1608.	1.091	3270.	1.123
1608.5	1.017	3270.5	1.248
1609.	1.015	3271.	1.19
1609.5	1.137	3271.5	1.022
1610.	1.091	3272.	1.132
1610.5	1.158	3272.5	0.9569
1611.	0.9777	3273.	1.061
1611.5	0.9777	3273.5	1.151
1612.	1.077	3274.	0.9638
1612.5	1.296	3274.5	1.061
1613.	1.248	3275.	0.9961
1613.5	1.206	3275.5	1.121
1614.	1.033	3276.	0.7674
1614.5	1.218	3276.5	1.139
1615.	0.9199	3277.	1.079
1615.5	0.9753	3277.5	1.123
1616.	1.077	3278.	1.243
1616.5	1.091	3278.5	0.906
1617.	1.077	3279.	0.906
1617.5	0.9592	3279.5	1.019
1618.	1.329	3280.	1.017
1618.5	1.112	3280.5	0.9338
1619.	1.072	3281.	1.061
1619.5	0.9315	3281.5	1.019
1620.	1.188	3282.	1.003
1620.5	1.218	3282.5	0.9245
1621.	1.072	3283.	1.142
1621.5	0.9638	3283.5	1.34
1622.	1.07	3284.	0.9938
1622.5	1.059	3284.5	0.9315
1623.	1.146	3285.	0.9546
1623.5	1.146	3285.5	1.299
1624.	1.077	3286.	1.211
1624.5	1.116	3286.5	1.112
1625.	0.876	3287.	1.042
1625.5	1.116	3287.5	1.005

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1626.	1.218	3288.	1.003
1626.5	1.28	3288.5	1.075
1627.	1.052	3289.	1.077
1627.5	1.162	3289.5	1.061
1628.	1.091	3290.	0.9453
1628.5	1.068	3290.5	0.9638
1629.	1.033	3291.	0.8645
1629.5	1.287	3291.5	0.943
1630.	0.9592	3292.	1.056
1630.5	1.22	3292.5	1.075
1631.	1.135	3293.	1.077
1631.5	1.278	3293.5	0.9546
1632.	1.052	3294.	1.202
1632.5	1.059	3294.5	1.077
1633.	1.162	3295.	1.063
1633.5	1.149	3295.5	1.079
1634.	0.9661	3296.	0.8783
1634.5	1.135	3296.5	1.056
1635.	1.052	3297.	0.9938
1635.5	1.077	3297.5	0.9546
1636.	1.257	3298.	0.6843
1636.5	1.017	3298.5	1.209
1637.	0.8922	3299.	1.114
1637.5	1.059	3299.5	1.142
1638.	1.017	3300.	0.906
1638.5	1.119	3300.5	0.9938
1639.	1.052	3301.	1.082
1639.5	1.091	3301.5	1.181
1640.	1.137	3302.	1.079
1640.5	0.9199	3302.5	0.9546
1641.	0.9915	3303.	1.167
1641.5	1.264	3303.5	1.158
1642.	1.259	3304.	1.077
1642.5	1.042	3304.5	0.8853
1643.	1.052	3305.	1.299
1643.5	1.116	3305.5	0.846
1644.	1.287	3306.	1.056
1644.5	1.13	3306.5	1.121
1645.	1.135	3307.	1.045
1645.5	0.9499	3307.5	1.075
1646.	1.07	3308.	1.121
1646.5	0.973	3308.5	1.153
1647.	1.13	3309.	1.035
1647.5	1.07	3309.5	1.269
1648.	1.077	3310.	0.9569
1648.5	1.169	3310.5	1.259
1649.	1.017	3311.	1.123
1649.5	1.091	3311.5	0.846
1650.	1.07	3312.	1.216
1650.5	1.109	3312.5	0.943
1651.	1.188	3313.	1.061
1651.5	1.033	3313.5	0.9753
1652.	0.9291	3314.	0.8437

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1652.5	1.188	3314.5	1.29
1653.	0.9592	3315.	0.98
1653.5	0.9176	3315.5	0.8252
1654.	1.259	3316.	1.139
1654.5	1.435	3316.5	0.8968
1655.	0.9522	3317.	1.075
1655.5	1.16	3317.5	0.7767
1656.	1.054	3318.	1.225
1656.5	1.07	3318.5	0.9546
1657.	1.149	3319.	0.8529
1657.5	0.8829	3319.5	1.151
1658.	0.8645	3320.	0.8991
1658.5	1.04	3320.5	1.135
1659.	0.876	3321.	1.038
1659.5	1.167	3321.5	0.846
1660.	1.135	3322.	0.9315
1660.5	0.9522	3322.5	1.061
1661.	1.015	3323.	0.8668
1661.5	1.017	3323.5	0.8783

SOLUTION

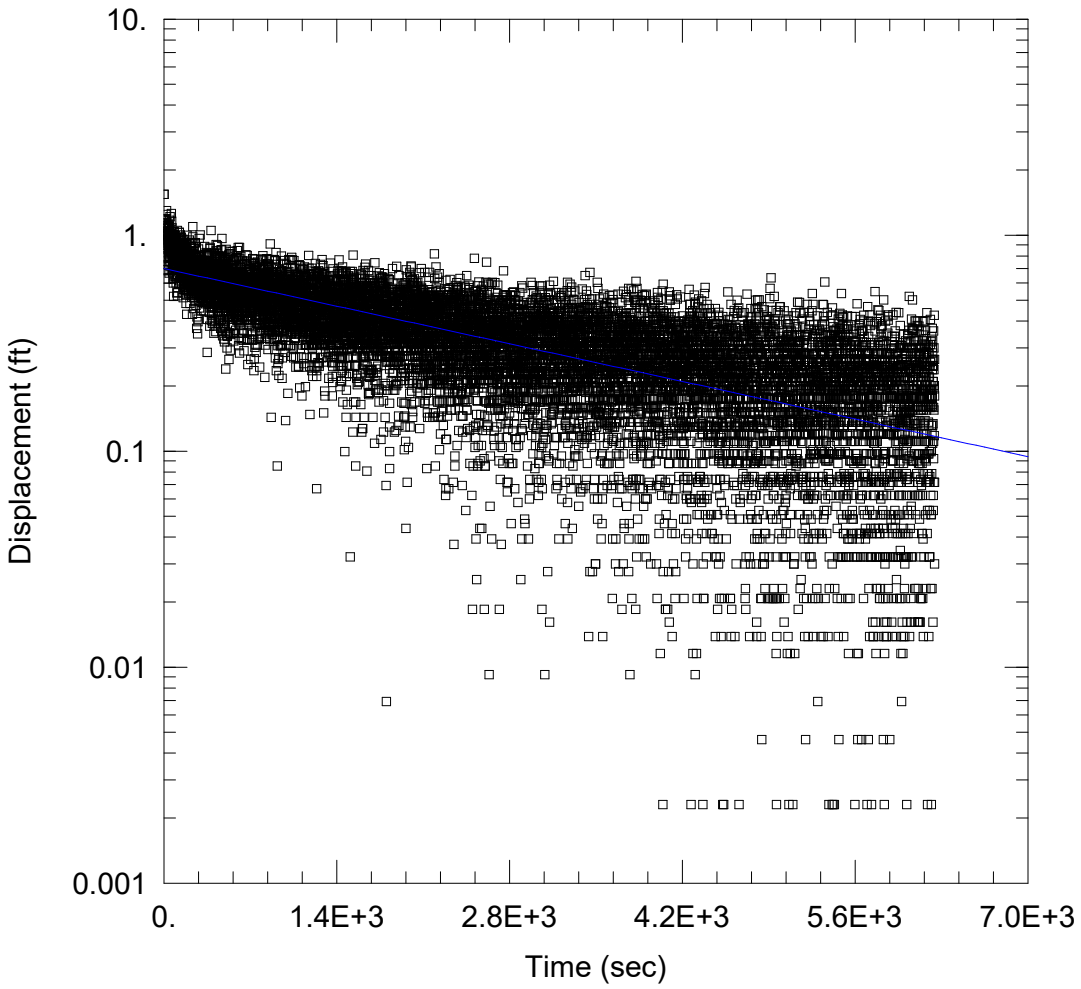
Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.268

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.00433	ft/day
y0	1.121	ft

K = 1.527E-6 cm/sec
T = K*b = 0.02641 ft²/day (0.000284 sq. cm/sec)



WELL TEST ANALYSIS

Data Set: C:\...\MW-102-SLUG-IN.aqt
Date: 10/19/26 Time: 16:32:27

PROJECT INFORMATION

Company: WSP
Client: SIPC
Test Well: MW-102
Test Date: 9/22/2026

AQUIFER DATA

Saturated Thickness: 10.25 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-102)

Initial Displacement: 1.545 ft
Total Well Penetration Depth: 10.7 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 10.25 ft
Screen Length: 5. ft
Well Radius: 0.08333 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.06216 ft/day
y0 = 0.6999 ft

Data Set: C:\Users\USJV703850\WSP O365\GLD-21467997,SIPC Operating Permit Application IL - 5 Technical W
Date: 10/19/26
Time: 16:32:41

PROJECT INFORMATION

Company: WSP
Client: SIPC
Test Date: 9/22/2026
Test Well: MW-102

AQUIFER DATA

Saturated Thickness: 10.25 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-102

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 1.545 ft
Static Water Column Height: 10.25 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 1. ft
Screen Length: 5. ft
Total Well Penetration Depth: 10.7 ft

No. of Observations: 12491

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	1.545	3123.	0.5036
0.5	0.8177	3123.5	0.3442
1.	1.014	3124.	0.4435
1.5	1.076	3124.5	0.5867
2.	1.132	3125.	0.01617
2.5	1.09	3125.5	0.365
3.	0.827	3126.	0.3858
3.5	0.924	3126.5	0.4204
4.	1.109	3127.	0.1502
4.5	0.8755	3127.5	0.1732
5.	0.8362	3128.	0.2818
5.5	1.18	3128.5	0.2772
6.	0.9309	3129.	0.2264
6.5	1.033	3129.5	0.1709
7.	0.7923	3130.	0.3188
7.5	0.9725	3130.5	0.358
8.	0.8755	3131.	0.2425
8.5	0.8917	3131.5	0.395
9.	0.7923	3132.	0.4551

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
9.5	1.102	3132.5	0.4343
10.	1.049	3133.	0.5429
10.5	1.044	3133.5	0.5267
11.	1.169	3134.	0.2287
11.5	1.021	3134.5	0.2541
12.	1.042	3135.	0.3835
12.5	1.109	3135.5	0.3211
13.	1.07	3136.	0.2772
13.5	0.9009	3136.5	0.2749
14.	1.012	3137.	0.1894
14.5	0.9402	3137.5	0.134
15.	1.19	3138.	0.3049
15.5	1.012	3138.5	0.3442
16.	1.141	3139.	0.261
16.5	1.187	3139.5	0.2541
17.	0.8986	3140.	0.1478
17.5	1.245	3140.5	0.1478
18.	1.097	3141.	0.335
18.5	0.9633	3141.5	0.4043
19.	0.8616	3142.	0.3442
19.5	0.9818	3142.5	0.3049
20.	1.106	3143.	0.3673
20.5	0.6907	3143.5	0.2957
21.	1.298	3144.	0.1871
21.5	0.9194	3144.5	0.2957
22.	1.13	3145.	0.2079
22.5	1.03	3145.5	0.1363
23.	0.9194	3146.	0.4181
23.5	0.626	3146.5	0.3211
24.	0.991	3147.	0.4043
24.5	0.7808	3147.5	0.1686
25.	1.139	3148.	0.2449
25.5	0.9933	3148.5	0.3442
26.	0.8986	3149.	0.4366
26.5	0.991	3149.5	0.2079
27.	0.6907	3150.	0.2056
27.5	1.067	3150.5	0.3927
28.	1.03	3151.	0.1525
28.5	0.9078	3151.5	0.2333
29.	1.113	3152.	0.1756
29.5	0.961	3152.5	0.4204
30.	0.6907	3153.	0.2079
30.5	1.086	3153.5	0.2148
31.	0.8016	3154.	0.2287
31.5	0.961	3154.5	0.2449
32.	0.8616	3155.	0.4227
32.5	0.8709	3155.5	0.2333
33.	1.009	3156.	0.3072
33.5	0.73	3156.5	0.6098
34.	0.9471	3157.	0.3858
34.5	0.9979	3157.5	0.4343
35.	0.9979	3158.	0.4135
35.5	0.9194	3158.5	0.09702

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
36.	1.076	3159.	0.4343
36.5	1.125	3159.5	0.2541
37.	1.028	3160.	0.3927
37.5	1.009	3160.5	0.1571
38.	0.7277	3161.	0.3742
38.5	0.8524	3161.5	0.1571
39.	1.097	3162.	0.2079
39.5	0.8108	3162.5	0.3811
40.	0.887	3163.	0.2449
40.5	0.9887	3163.5	0.1063
41.	0.9194	3164.	0.2449
41.5	0.6676	3164.5	0.3049
42.	0.8986	3165.	0.2472
42.5	0.8593	3165.5	0.462
43.	0.9379	3166.	0.2633
43.5	1.046	3166.5	0.3858
44.	1.009	3167.	0.3835
44.5	0.9979	3167.5	0.365
45.	1.173	3168.	0.335
45.5	0.7669	3168.5	0.2079
46.	1.007	3169.	0.1732
46.5	0.7877	3169.5	0.1756
47.	0.8801	3170.	0.1155
47.5	0.9055	3170.5	0.1732
48.	0.9286	3171.	0.1964
48.5	0.8801	3171.5	0.2795
49.	1.086	3172.	0.2818
49.5	1.019	3172.5	0.365
50.	0.7207	3173.	0.2287
50.5	0.9448	3173.5	0.365
51.	0.9309	3174.	0.1155
51.5	1.215	3174.5	0.3165
52.	0.8478	3175.	0.3442
52.5	0.9587	3175.5	0.2633
53.	1.005	3176.	0.3049
53.5	0.8662	3176.5	0.2957
54.	0.9148	3177.	0.5429
54.5	0.991	3177.5	0.1732
55.	0.9471	3178.	0.2657
55.5	0.9148	3178.5	0.06699
56.	0.9448	3179.	0.395
56.5	0.8963	3179.5	0.4874
57.	0.9864	3180.	0.2171
57.5	0.8478	3180.5	0.3072
58.	0.8177	3181.	0.2287
58.5	0.9818	3181.5	0.1756
59.	1.014	3182.	0.3188
59.5	0.8986	3182.5	0.08778
60.	0.8478	3183.	0.4043
60.5	0.8455	3183.5	0.2772
61.	0.6884	3184.	0.298
61.5	1.259	3184.5	0.1155
62.	0.9148	3185.	0.2934

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
62.5	1.037	3185.5	0.2957
63.	0.8408	3186.	0.07392
63.5	0.9402	3186.5	0.3095
64.	1.162	3187.	0.3442
64.5	0.887	3187.5	0.2657
65.	0.9171	3188.	0.3211
65.5	0.9009	3188.5	0.4158
66.	1.081	3189.	0.1894
66.5	0.9956	3189.5	0.3442
67.	0.8293	3190.	0.3604
67.5	0.887	3190.5	0.0693
68.	0.8408	3191.	0.298
68.5	0.9332	3191.5	0.4135
69.	0.8986	3192.	0.3673
69.5	0.8547	3192.5	0.3211
70.	0.7415	3193.	0.3742
70.5	0.6699	3193.5	0.2449
71.	0.7138	3194.	0.194
71.5	0.8755	3194.5	0.298
72.	0.7854	3195.	0.1917
72.5	0.6884	3195.5	0.1709
73.	0.7669	3196.	0.2818
73.5	0.6283	3196.5	0.365
74.	1.035	3197.	0.2957
74.5	0.8524	3197.5	0.3188
75.	0.8478	3198.	0.4158
75.5	0.857	3198.5	0.3211
76.	0.991	3199.	0.2449
76.5	0.6006	3199.5	0.3996
77.	0.7138	3200.	0.03927
77.5	0.7715	3200.5	0.2795
78.	0.7623	3201.	0.1709
78.5	0.7808	3201.5	0.4435
79.	0.5198	3202.	0.4043
79.5	0.6884	3202.5	0.4343
80.	0.8639	3203.	0.1502
80.5	0.9748	3203.5	0.3927
81.	0.8039	3204.	0.3211
81.5	0.9009	3204.5	0.08778
82.	0.6283	3205.	0.4019
82.5	0.9332	3205.5	0.2657
83.	0.8062	3206.	0.462
83.5	0.7946	3206.5	0.2795
84.	0.8639	3207.	0.2287
84.5	1.035	3207.5	0.3049
85.	0.924	3208.	0.5221
85.5	1.005	3208.5	0.2449
86.	0.8524	3209.	0.358
86.5	0.9217	3209.5	0.365
87.	0.8824	3210.	0.1964
87.5	0.7669	3210.5	0.3419
88.	0.8732	3211.	0.2795
88.5	0.8801	3211.5	0.1709

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
89.	0.7392	3212.	0.2541
89.5	0.8662	3212.5	0.1732
90.	0.8455	3213.	0.4435
90.5	0.9124	3213.5	0.358
91.	0.7923	3214.	0.3765
91.5	0.723	3214.5	0.3234
92.	0.7923	3215.	0.5128
92.5	0.6445	3215.5	0.3927
93.	0.9725	3216.	0.2957
93.5	0.9933	3216.5	0.2795
94.	0.7046	3217.	0.3373
94.5	0.8247	3217.5	0.2125
95.	0.723	3218.	0.2449
95.5	0.8639	3218.5	0.4181
96.	0.7831	3219.	0.2657
96.5	0.7646	3219.5	0.2795
97.	0.8062	3220.	0.1548
97.5	0.8154	3220.5	0.09471
98.	0.8154	3221.	0.1571
98.5	0.7115	3221.5	0.1478
99.	0.7646	3222.	0.3049
99.5	0.9702	3222.5	0.5244
100.	0.6006	3223.	0.06006
100.5	0.8732	3223.5	0.1271
101.	0.8131	3224.	0.2795
101.5	0.7808	3224.5	0.4759
102.	0.6329	3225.	0.5429
102.5	0.8339	3225.5	0.395
103.	0.8639	3226.	0.2633
103.5	0.6953	3226.5	0.3211
104.	0.9309	3227.	0.1732
104.5	0.5405	3227.5	0.1571
105.	0.924	3228.	0.1732
105.5	0.6583	3228.5	0.2657
106.	0.8524	3229.	0.1594
106.5	0.9101	3229.5	0.1987
107.	0.924	3230.	0.1964
107.5	0.7692	3230.5	0.1155
108.	0.6583	3231.	0.3442
108.5	0.9217	3231.5	0.2287
109.	0.8709	3232.	0.3673
109.5	0.8917	3232.5	0.358
110.	0.5244	3233.	0.2818
110.5	0.6329	3233.5	0.1871
111.	1.051	3234.	0.3973
111.5	0.9078	3234.5	0.1779
112.	0.5429	3235.	0.3604
112.5	0.7715	3235.5	0.1732
113.	0.8732	3236.	0.2264
113.5	0.8709	3236.5	0.2449
114.	0.656	3237.	0.194
114.5	0.79	3237.5	0.3442
115.	0.723	3238.	0.432

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
115.5	0.7993	3238.5	0.3373
116.	0.8316	3239.	0.3188
116.5	0.8917	3239.5	0.5336
117.	0.6815	3240.	0.2333
117.5	0.7623	3240.5	0.3373
118.	0.79	3241.	0.2772
118.5	0.7115	3241.5	0.298
119.	0.7623	3242.	0.2425
119.5	0.73	3242.5	0.3188
120.	0.79	3243.	0.3373
120.5	0.9794	3243.5	0.358
121.	0.596	3244.	0.2148
121.5	0.723	3244.5	0.2772
122.	0.8639	3245.	0.2287
122.5	0.9217	3245.5	0.1987
123.	0.79	3246.	0.365
123.5	0.7484	3246.5	0.1709
124.	0.8154	3247.	0.3049
124.5	0.8478	3247.5	0.3442
125.	0.9078	3248.	0.4966
125.5	0.6999	3248.5	0.462
126.	1.03	3249.	0.1155
126.5	0.8016	3249.5	0.1155
127.	1.03	3250.	0.2657
127.5	0.6145	3250.5	0.3627
128.	0.6953	3251.	0.3557
128.5	0.9725	3251.5	0.1317
129.	0.7669	3252.	0.2287
129.5	0.7484	3252.5	0.07161
130.	0.7692	3253.	0.0462
130.5	0.8108	3253.5	0.2287
131.	0.8593	3254.	0.3858
131.5	0.7392	3254.5	0.1363
132.	0.5983	3255.	0.3095
132.5	0.7323	3255.5	0.3534
133.	0.693	3256.	0.134
133.5	1.	3256.5	0.4782
134.	0.7022	3257.	0.2818
134.5	0.9379	3257.5	0.2356
135.	0.8408	3258.	0.2657
135.5	0.7115	3258.5	0.4458
136.	0.7785	3259.	0.2564
136.5	0.7785	3259.5	0.1732
137.	0.6329	3260.	0.3442
137.5	0.8709	3260.5	0.1964
138.	0.7369	3261.	0.365
138.5	0.79	3261.5	0.3373
139.	0.8616	3262.	0.1502
139.5	0.6422	3262.5	0.3604
140.	0.9794	3263.	0.2472
140.5	0.7253	3263.5	0.4043
141.	0.8893	3264.	0.3211
141.5	0.7253	3264.5	0.2148

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
142.	0.7508	3265.	0.1294
142.5	0.82	3265.5	0.3811
143.	0.9124	3266.	0.2957
143.5	0.6537	3266.5	0.358
144.	0.887	3267.	0.3211
144.5	0.7277	3267.5	0.298
145.	0.7207	3268.	0.2125
145.5	0.7438	3268.5	0.5521
146.	0.656	3269.	0.2125
146.5	0.8986	3269.5	0.05775
147.	0.7785	3270.	0.6052
147.5	0.8616	3270.5	0.1502
148.	0.7692	3271.	0.4181
148.5	0.7461	3271.5	0.2957
149.	0.7022	3272.	0.3673
149.5	0.8131	3272.5	0.1478
150.	0.7277	3273.	0.2079
150.5	0.76	3273.5	0.1086
151.	0.6399	3274.	0.03927
151.5	0.9078	3274.5	0.2079
152.	0.7277	3275.	0.3211
152.5	0.7346	3275.5	0.2795
153.	0.8501	3276.	0.3765
153.5	0.7623	3276.5	0.3026
154.	0.7092	3277.	0.2934
154.5	0.6306	3277.5	0.2541
155.	0.5405	3278.	0.2749
155.5	0.656	3278.5	0.4574
156.	0.5128	3279.	-0.00231
156.5	0.8408	3279.5	0.462
157.	0.8778	3280.	0.4966
157.5	0.9379	3280.5	0.2541
158.	0.5613	3281.	0.2818
158.5	0.596	3281.5	0.3442
159.	0.6376	3282.	0.2287
159.5	0.894	3282.5	0.1964
160.	0.7092	3283.	0.2356
160.5	0.7692	3283.5	0.2795
161.	0.5613	3284.	0.3996
161.5	0.6098	3284.5	0.1594
162.	0.76	3285.	0.3442
162.5	0.663	3285.5	0.3742
163.	0.7877	3286.	0.1271
163.5	0.7692	3286.5	0.2633
164.	0.5752	3287.	0.08778
164.5	0.5914	3287.5	0.2287
165.	0.887	3288.	0.3049
165.5	0.7577	3288.5	0.1894
166.	0.6168	3289.	0.1271
166.5	0.954	3289.5	0.4458
167.	0.82	3290.	0.5914
167.5	0.6121	3290.5	0.2818
168.	0.7877	3291.	0.395

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
168.5	0.5752	3291.5	0.07392
169.	0.6815	3292.	0.1594
169.5	0.9078	3292.5	0.3419
170.	0.5683	3293.	0.2957
170.5	0.6537	3293.5	0.1571
171.	0.6098	3294.	0.2633
171.5	0.5567	3294.5	0.3673
172.	0.6376	3295.	0.2425
172.5	0.7253	3295.5	0.2079
173.	0.7854	3296.	0.2934
173.5	0.589	3296.5	0.2957
174.	0.7161	3297.	0.358
174.5	0.887	3297.5	0.2264
175.	0.7277	3298.	0.5429
175.5	0.7415	3298.5	0.3072
176.	0.8662	3299.	0.3211
176.5	0.6999	3299.5	0.06699
177.	0.6722	3300.	0.3396
177.5	0.7438	3300.5	0.1178
178.	0.6884	3301.	0.2818
178.5	0.663	3301.5	0.2818
179.	0.6768	3302.	0.3049
179.5	0.5567	3302.5	0.2795
180.	0.7369	3303.	0.2957
180.5	0.4828	3303.5	0.5752
181.	0.5983	3304.	0.1894
181.5	0.5313	3304.5	0.1709
182.	0.924	3305.	0.4782
182.5	0.5613	3305.5	0.4043
183.	0.9055	3306.	0.2287
183.5	0.7577	3306.5	0.1571
184.	0.6999	3307.	0.3442
184.5	0.6376	3307.5	0.2287
185.	0.6537	3308.	0.1987
185.5	0.6191	3308.5	0.4204
186.	0.4297	3309.	0.1571
186.5	0.6098	3309.5	0.2287
187.	0.7438	3310.	0.04389
187.5	0.6768	3310.5	0.4574
188.	0.9979	3311.	0.2287
188.5	0.6999	3311.5	0.2541
189.	0.8385	3312.	0.1709
189.5	0.7669	3312.5	0.3165
190.	0.82	3313.	0.3604
190.5	0.6999	3313.5	0.3973
191.	0.7438	3314.	0.08547
191.5	0.6098	3314.5	0.3188
192.	0.8455	3315.	0.2079
192.5	0.6075	3315.5	0.1917
193.	0.7669	3316.	0.4435
193.5	0.596	3316.5	0.2541
194.	0.6999	3317.	0.4043
194.5	0.6791	3317.5	0.3396

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
195.	0.7669	3319.	0.3234
195.5	0.6999	3319.1	0.4297
196.	0.5729	3319.2	0.2587
196.5	0.7762	3319.5	0.5036
197.	0.7415	3320.	0.2079
197.5	0.5475	3320.5	0.1964
198.	0.7277	3321.	0.1155
198.5	0.7739	3321.5	0.2541
199.	0.5475	3322.	0.2795
199.5	0.5567	3322.5	0.1478
200.	0.7577	3323.	0.3003
200.5	0.6976	3323.5	0.365
201.	0.7762	3324.	0.335
201.5	0.5382	3324.5	0.1363
202.	0.797	3325.	0.2957
202.5	0.589	3325.5	0.2079
203.	0.6537	3326.	0.1964
203.5	0.7831	3326.5	0.1964
204.	0.6283	3327.	0.3072
204.5	0.6999	3327.5	0.2287
205.	0.6168	3328.	0.3835
205.5	0.6607	3328.5	0.09471
206.	0.6699	3329.	0.2772
206.5	0.9471	3329.5	0.1016
207.	0.8293	3330.	0.3003
207.5	0.7346	3330.5	0.5521
208.	0.626	3331.	0.4966
208.5	0.6884	3331.5	0.1756
209.	0.589	3332.	0.3373
209.5	0.5914	3332.5	0.3835
210.	0.9263	3333.	0.1594
210.5	0.6768	3333.5	0.4066
211.	0.7346	3334.	0.4043
211.5	0.6514	3334.5	0.1894
212.	0.7877	3335.	0.298
212.5	0.4828	3335.5	0.3211
213.	0.6768	3336.	0.1987
213.5	0.6999	3336.5	0.462
214.	0.8177	3337.	0.2795
214.5	0.6168	3337.5	0.2657
215.	0.7323	3338.	0.2287
215.5	0.797	3338.5	0.09471
216.	0.5914	3339.	0.1894
216.5	0.7669	3339.5	0.4043
217.	0.887	3340.	0.2795
217.5	0.5729	3340.5	0.2795
218.	0.723	3341.	0.3072
218.5	0.6976	3341.5	0.2449
219.	0.6768	3342.	0.3742
219.5	0.6699	3342.5	0.2148
220.	0.6237	3343.	0.07392
220.5	0.626	3343.5	0.1571
221.	0.7854	3344.	0.1271

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
221.5	0.8755	3344.5	0.2564
222.	0.6283	3345.	0.3858
222.5	0.6514	3345.5	0.1894
223.	0.797	3346.	0.1594
223.5	0.7554	3346.5	0.2795
224.	0.887	3347.	0.2772
224.5	0.8478	3347.5	0.3072
225.	0.6514	3348.	0.3049
225.5	0.5683	3348.5	0.4043
226.	0.7161	3349.	0.2633
226.5	0.7323	3349.5	0.358
227.	0.5567	3350.	0.2148
227.5	0.5567	3350.5	0.1732
228.	0.6583	3351.	0.3165
228.5	0.6052	3351.5	0.2818
229.	0.5359	3352.	0.3442
229.5	0.7323	3352.5	0.2102
230.	0.559	3353.	0.3049
230.5	0.5151	3353.5	0.1987
231.	0.6237	3354.	0.2564
231.5	0.7646	3354.5	0.2356
232.	0.7253	3355.	0.3442
232.5	0.4297	3355.5	0.358
233.	0.7253	3356.	0.3604
233.5	1.095	3356.5	0.09471
234.	0.8385	3357.	0.4043
234.5	0.9124	3357.5	0.2079
235.	0.9818	3358.	0.134
235.5	0.5729	3358.5	0.2772
236.	0.8847	3359.	0.1502
236.5	0.7022	3359.5	0.4019
237.	0.6075	3360.	0.2795
237.5	0.6976	3360.5	0.1594
238.	0.7138	3361.	0.1063
238.5	0.8177	3361.5	0.2287
239.	0.7669	3362.	0.4435
239.5	0.7623	3362.5	0.05544
240.	0.7115	3363.	0.4874
240.5	0.626	3363.5	0.4528
241.	0.5937	3364.	0.3835
241.5	0.5128	3364.5	0.2795
242.	0.4574	3365.	0.2079
242.5	0.797	3365.5	0.3765
243.	0.6607	3366.	0.1271
243.5	0.7669	3366.5	0.2795
244.	0.6607	3367.	0.2449
244.5	0.529	3367.5	0.134
245.	0.6583	3368.	0.2541
245.5	0.6145	3368.5	0.3858
246.	0.6168	3369.	0.4227
246.5	0.5567	3369.5	0.2425
247.	0.6514	3370.	0.2957
247.5	0.6884	3370.5	0.2772

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
248.	0.5729	3371.	0.298
248.5	0.8662	3371.5	0.2079
249.	0.9171	3372.	0.358
249.5	0.5128	3372.5	0.3442
250.	0.6376	3373.	0.3165
250.5	0.7438	3373.5	0.3142
251.	0.723	3374.	0.365
251.5	0.6607	3374.5	0.358
252.	0.5475	3375.	0.1917
252.5	0.7415	3375.5	0.2564
253.	0.8085	3376.	0.4458
253.5	0.5544	3376.5	0.3049
254.	0.492	3377.	0.06468
254.5	0.6583	3377.5	0.3442
255.	0.924	3378.	0.3835
255.5	0.7577	3378.5	0.2356
256.	0.5521	3379.	0.1502
256.5	0.7854	3379.5	0.06699
257.	0.73	3380.	0.1178
257.5	0.6075	3380.5	0.2287
258.	0.6399	3381.	0.2541
258.5	0.7069	3381.5	0.462
259.	0.7554	3382.	0.358
259.5	0.5382	3382.5	0.201
260.	0.4736	3383.	0.2287
260.5	0.7577	3383.5	0.2772
261.	0.6514	3384.	0.432
261.5	0.6376	3384.5	0.3072
262.	0.7415	3385.	0.3973
262.5	0.529	3385.5	0.1894
263.	0.6583	3386.	0.3072
263.5	0.596	3386.5	0.3211
264.	0.5937	3387.	0.2287
264.5	0.7715	3387.5	0.1571
265.	0.5752	3388.	0.2171
265.5	0.7415	3388.5	0.1132
266.	0.3696	3389.	0.2472
266.5	0.6976	3389.5	0.4204
267.	0.6884	3390.	0.1594
267.5	0.5659	3390.5	0.2472
268.	0.4181	3391.	0.5636
268.5	0.6145	3391.5	0.3973
269.	0.6075	3392.	0.2957
269.5	0.5359	3392.5	0.3003
270.	0.6098	3393.	0.462
270.5	0.5683	3393.5	0.2472
271.	0.7207	3394.	0.06699
271.5	0.7762	3394.5	0.2333
272.	0.73	3395.	0.3765
272.5	0.589	3395.5	0.2079
273.	0.5521	3396.	0.134
273.5	0.7346	3396.5	0.3765
274.	0.6768	3397.	0.1502

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
274.5	0.3488	3397.5	0.3765
275.	0.3973	3398.	0.3188
275.5	0.7415	3398.5	0.1594
276.	0.5544	3399.	0.2333
276.5	0.5359	3399.5	0.3719
277.	0.6237	3400.	0.3835
277.5	0.7554	3400.5	0.1294
278.	0.6884	3401.	0.3072
278.5	0.4089	3401.5	0.2795
279.	0.529	3402.	0.2079
279.5	0.6237	3402.5	0.2818
280.	0.7323	3403.	0.298
280.5	0.8616	3403.5	0.298
281.	0.5359	3404.	0.4135
281.5	0.7138	3404.5	0.1178
282.	0.5475	3405.	0.4043
282.5	0.6514	3405.5	0.3442
283.	0.6676	3406.	0.1964
283.5	0.6376	3406.5	0.2957
284.	0.6075	3407.	0.3858
284.5	0.7046	3407.5	0.3673
285.	0.4966	3408.	0.2657
285.5	0.9656	3408.5	0.1086
286.	0.7138	3409.	0.2287
286.5	0.5267	3409.5	0.5036
287.	0.5659	3410.	0.2356
287.5	0.797	3410.5	0.4574
288.	0.7692	3411.	0.2079
288.5	0.7022	3411.5	0.2287
289.	0.5452	3412.	0.6491
289.5	0.8039	3412.5	0.4043
290.	0.4597	3413.	0.365
290.5	0.5267	3413.5	0.2472
291.	0.6676	3414.	0.2795
291.5	0.5729	3414.5	0.4227
292.	0.5937	3415.	0.3604
292.5	0.8039	3415.5	0.395
293.	0.6376	3416.	0.0693
293.5	0.6352	3416.5	0.4666
294.	0.6583	3417.	0.1987
294.5	1.	3417.5	0.3673
295.	0.7323	3418.	0.1594
295.5	0.4966	3418.5	0.231
296.	0.7115	3419.	0.1871
296.5	0.73	3419.5	0.1155
297.	0.5544	3420.	0.298
297.5	0.6583	3420.5	0.2148
298.	0.6491	3421.	0.298
298.5	0.5452	3421.5	0.3973
299.	0.7323	3422.	0.3188
299.5	0.7253	3422.5	0.5521
300.	0.656	3423.	0.1178
300.5	0.5683	3423.5	0.2772

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
301.	0.4458	3424.	0.07392
301.5	0.5105	3424.5	0.2079
302.	0.6376	3425.	0.2795
302.5	0.7646	3425.5	0.2171
303.	0.5659	3426.	0.3211
303.5	0.5914	3426.5	0.2079
304.	0.7946	3427.	0.5313
304.5	0.6376	3427.5	0.2171
305.	0.7046	3428.	0.1155
305.5	0.7415	3428.5	0.2079
306.	0.7739	3429.	0.462
306.5	0.5174	3429.5	0.2079
307.	0.6075	3430.	0.08778
307.5	0.5659	3430.5	0.1917
308.	0.529	3431.	0.4759
308.5	0.5937	3431.5	0.1478
309.	0.529	3432.	0.3396
309.5	0.723	3432.5	0.1178
310.	0.656	3433.	0.3673
310.5	0.529	3433.5	0.231
311.	0.589	3434.	0.2287
311.5	0.6491	3434.5	0.4574
312.	0.4874	3435.	0.3188
312.5	0.7554	3435.5	0.3211
313.	0.656	3436.	0.335
313.5	0.7438	3436.5	0.3973
314.	0.6745	3437.	0.4343
314.5	0.5729	3437.5	0.2472
315.	0.6745	3438.	0.4343
315.5	0.6514	3438.5	0.1594
316.	0.6145	3439.	0.2934
316.5	0.5336	3439.5	0.3858
317.	0.6884	3440.	0.2079
317.5	0.6676	3440.5	0.1964
318.	0.7415	3441.	0.01386
318.5	0.6884	3441.5	0.2472
319.	0.5659	3442.	0.2795
319.5	0.5151	3442.5	0.2148
320.	0.6052	3443.	0.2957
320.5	0.6168	3443.5	0.3049
321.	0.6583	3444.	0.4597
321.5	0.7046	3444.5	0.3396
322.	0.5105	3445.	0.2356
322.5	0.4458	3445.5	0.2818
323.	0.7138	3446.	0.1779
323.5	0.656	3446.5	0.3396
324.	0.5544	3447.	0.3742
324.5	0.6583	3447.5	0.3188
325.	0.6145	3448.	0.2587
325.5	0.6676	3448.5	0.1294
326.	0.4897	3449.	0.2379
326.5	0.5937	3449.5	0.1732
327.	0.7554	3450.	0.5059

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
327.5	0.589	3450.5	0.298
328.	0.6676	3451.	0.3442
328.5	0.5729	3451.5	0.6722
329.	0.7646	3452.	0.02772
329.5	0.8847	3452.5	0.1917
330.	0.8131	3453.	0.2541
330.5	0.5659	3453.5	0.3072
331.	0.6329	3454.	0.1478
331.5	0.6052	3454.5	0.4782
332.	0.6676	3455.	0.2379
332.5	0.5267	3455.5	0.3234
333.	0.6237	3456.	0.3188
333.5	0.5521	3456.5	0.1247
334.	0.5475	3457.	0.1178
334.5	0.4966	3457.5	0.2287
335.	0.7022	3458.	0.2795
335.5	0.6976	3458.5	0.2633
336.	0.5359	3459.	0.2171
336.5	0.4966	3459.5	0.2287
337.	0.4897	3460.	0.3973
337.5	0.693	3460.5	0.3072
338.	0.6376	3461.	0.2957
338.5	0.656	3461.5	0.2079
339.	0.6953	3462.	0.2772
339.5	0.4805	3462.5	0.2148
340.	0.5475	3463.	0.3373
340.5	0.6491	3463.5	0.1571
341.	0.6768	3464.	0.3673
341.5	0.7138	3464.5	0.2633
342.	0.5082	3465.	0.2633
342.5	0.4966	3465.5	0.104
343.	0.6514	3466.	0.3396
343.5	0.8293	3466.5	0.3673
344.	0.6352	3467.	0.5059
344.5	0.6352	3467.5	0.231
345.	0.7415	3468.	0.2818
345.5	0.7323	3468.5	0.4551
346.	0.6145	3469.	0.3973
346.5	0.5729	3469.5	0.3211
347.	0.5937	3470.	0.4043
347.5	0.8154	3470.5	0.1917
348.	0.6676	3471.	0.2079
348.5	0.5105	3471.5	0.02772
349.	0.6075	3472.	0.3234
349.5	0.6699	3472.5	0.3188
350.	0.4966	3473.	0.4597
350.5	0.7415	3473.5	0.3927
351.	0.2864	3474.	0.3373
351.5	0.4897	3474.5	0.3072
352.	0.8224	3475.	0.4227
352.5	0.6145	3475.5	-0.08085
353.	0.5128	3476.	0.1709
353.5	0.723	3476.5	0.2079

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
354.	0.6052	3477.	0.1294
354.5	0.4066	3477.5	0.4043
355.	0.5521	3478.	0.1548
355.5	0.8039	3478.5	0.2195
356.	0.7161	3479.	0.2287
356.5	0.5082	3479.5	0.06699
357.	0.656	3480.	0.4343
357.5	0.6214	3480.5	0.2425
358.	0.6976	3481.	0.1686
358.5	0.7138	3481.5	0.1732
359.	0.5937	3482.	0.1571
359.5	0.4805	3482.5	0.3835
360.	0.6607	3483.	0.2633
360.5	0.7115	3483.5	0.4343
361.	0.6884	3484.	0.2449
361.5	0.6491	3484.5	0.2541
362.	0.5082	3485.	0.1756
362.5	0.76	3485.5	0.2633
363.	0.6075	3486.	0.1317
363.5	0.6884	3486.5	0.2079
364.	0.8085	3487.	0.2333
364.5	0.6168	3487.5	0.2818
365.	0.6352	3488.	0.09702
365.5	0.5082	3488.5	0.06006
366.	0.7138	3489.	0.2356
366.5	0.5659	3489.5	0.07392
367.	0.4389	3490.	0.4043
367.5	0.8154	3490.5	0.3165
368.	0.7253	3491.	0.395
368.5	0.6376	3491.5	0.3165
369.	0.6583	3492.	0.3835
369.5	0.6491	3492.5	0.2587
370.	0.6768	3493.	-0.02079
370.5	0.589	3493.5	0.2079
371.	0.5567	3494.	0.1594
371.5	0.589	3494.5	0.4574
372.	0.3788	3495.	0.1178
372.5	0.7415	3495.5	0.03003
373.	0.7253	3496.	0.1502
373.5	0.8662	3496.5	0.2079
374.	0.4874	3497.	0.2541
374.5	0.656	3497.5	0.3742
375.	0.6237	3498.	0.1964
375.5	0.8755	3498.5	0.4204
376.	0.4966	3499.	0.03003
376.5	0.5567	3499.5	0.4043
377.	0.7022	3500.	0.1964
377.5	0.4966	3500.5	0.3973
378.	0.4597	3501.	0.2564
378.5	0.5729	3501.5	0.3765
379.	0.5752	3502.	0.2287
379.5	0.5706	3502.5	0.1732
380.	0.5914	3503.	0.1594

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
380.5	0.5313	3503.5	0.1894
381.	0.6768	3504.	0.3188
381.5	0.5729	3504.5	0.2818
382.	0.5174	3505.	0.3188
382.5	0.7022	3505.5	0.1294
383.	0.5267	3506.	0.1478
383.5	1.051	3506.5	0.3742
384.	0.589	3507.	0.2472
384.5	0.4043	3507.5	0.2657
385.	0.8247	3508.	-0.00231
385.5	0.6768	3508.5	0.3996
386.	0.4874	3509.	0.2449
386.5	0.656	3509.5	0.4643
387.	0.4389	3510.	0.2795
387.5	0.6745	3510.5	0.2772
388.	0.4274	3511.	0.3442
388.5	0.4966	3511.5	0.6052
389.	0.4666	3512.	0.3742
389.5	0.529	3512.5	0.3765
390.	0.7253	3513.	0.06006
390.5	0.6676	3513.5	0.3396
391.	0.7577	3514.	-0.01848
391.5	0.656	3514.5	0.04851
392.	0.6676	3515.	0.4458
392.5	0.5914	3515.5	0.1894
393.	0.3904	3516.	0.5659
393.5	0.589	3516.5	0.1502
394.	0.6329	3517.	0.1571
394.5	0.7046	3517.5	0.1709
395.	0.5937	3518.	0.4366
395.5	0.3973	3518.5	0.2772
396.	0.5937	3519.	0.3211
396.5	0.6583	3519.5	0.134
397.	0.6999	3520.	0.1525
397.5	0.73	3520.5	0.2425
398.	0.4597	3521.	0.1525
398.5	0.6583	3521.5	0.395
399.	0.5475	3522.	0.3188
399.5	0.5105	3522.5	0.4782
400.	0.529	3523.	0.298
400.5	0.596	3523.5	0.2425
401.	0.4458	3524.	0.1756
401.5	0.589	3524.5	0.1756
402.	0.5475	3525.	0.3211
402.5	0.7022	3525.5	0.3234
403.	0.5729	3526.	0.1732
403.5	0.7253	3526.5	0.4158
404.	0.5544	3527.	0.3627
404.5	0.6884	3527.5	0.3442
405.	0.3511	3528.	0.3049
405.5	0.6768	3528.5	0.1502
406.	0.4805	3529.	0.3072
406.5	0.5937	3529.5	0.3765

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
407.	0.5151	3530.	0.2356
407.5	0.8247	3530.5	0.5059
408.	0.6976	3531.	0.2333
408.5	0.8177	3531.5	0.2772
409.	0.6168	3532.	0.
409.5	0.3996	3532.5	0.1155
410.	0.6168	3533.	0.3673
410.5	0.4597	3533.5	0.1478
411.	0.6098	3534.	0.3095
411.5	0.5659	3534.5	0.3835
412.	0.6676	3535.	0.3165
412.5	0.529	3535.5	0.1594
413.	0.626	3536.	0.2772
413.5	0.3788	3536.5	0.4158
414.	0.6376	3537.	0.2541
414.5	0.6514	3537.5	0.3211
415.	0.4874	3538.	0.3026
415.5	0.6583	3538.5	0.09009
416.	0.8039	3539.	0.1363
416.5	0.797	3539.5	0.3211
417.	0.6168	3540.	-0.00231
417.5	0.6884	3540.5	0.1917
418.	0.5082	3541.	0.2818
418.5	0.7554	3541.5	0.03927
419.	0.6999	3542.	0.3604
419.5	0.5359	3542.5	0.3604
420.	0.7854	3543.	0.1594
420.5	0.358	3543.5	0.3442
421.	0.4874	3544.	0.1363
421.5	0.7554	3544.5	0.2564
422.	0.5683	3545.	0.2795
422.5	0.5359	3545.5	0.1987
423.	0.6121	3546.	0.3211
423.5	0.9032	3546.5	0.2633
424.	0.5752	3547.	0.432
424.5	0.5105	3547.5	0.09471
425.	0.8455	3548.	0.4043
425.5	0.462	3548.5	0.2633
426.	0.7253	3549.	0.2633
426.5	0.5683	3549.5	0.09702
427.	0.5128	3550.	0.1779
427.5	0.6352	3550.5	0.0462
428.	0.6514	3551.	0.3858
428.5	0.529	3551.5	0.3095
429.	0.797	3552.	0.06006
429.5	0.6768	3552.5	0.2633
430.	0.596	3553.	0.3442
430.5	0.7831	3553.5	0.2356
431.	0.8455	3554.	0.1964
431.5	0.5475	3554.5	0.06699
432.	0.5498	3555.	0.4204
432.5	0.5683	3555.5	0.01386
433.	0.6075	3556.	0.1502

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
433.5	0.7253	3556.5	0.2657
434.	0.4458	3557.	0.2356
434.5	0.5105	3557.5	0.5151
435.	0.5544	3558.	0.2957
435.5	0.894	3558.5	0.2449
436.	0.6098	3559.	0.3604
436.5	0.6699	3559.5	0.3188
437.	0.4966	3560.	0.2657
437.5	0.6976	3560.5	0.07392
438.	0.492	3561.	0.1709
438.5	0.8062	3561.5	0.3442
439.	0.4574	3562.	0.2056
439.5	0.5683	3562.5	0.2541
440.	0.4181	3563.	0.5336
440.5	0.5174	3563.5	0.3442
441.	0.4412	3564.	0.1779
441.5	0.4712	3564.5	0.2518
442.	0.5313	3565.	0.2564
442.5	0.3927	3565.5	0.395
443.	0.5475	3566.	0.1063
443.5	0.7046	3566.5	0.2079
444.	0.4389	3567.	0.1363
444.5	0.7184	3567.5	0.1987
445.	0.5475	3568.	-0.03927
445.5	0.626	3568.5	0.2287
446.	0.6768	3569.	0.4343
446.5	0.5475	3569.5	0.1594
447.	0.4066	3570.	0.2472
447.5	0.797	3570.5	0.298
448.	0.7161	3571.	0.1964
448.5	0.7046	3571.5	0.4643
449.	0.5914	3572.	0.08778
449.5	0.797	3572.5	0.134
450.	0.5683	3573.	0.2541
450.5	0.7046	3573.5	0.3673
451.	0.797	3574.	0.4043
451.5	0.6583	3574.5	0.3211
452.	0.7046	3575.	0.4597
452.5	0.6376	3575.5	0.358
453.	0.7138	3576.	0.2333
453.5	0.6168	3576.5	0.3442
454.	0.6283	3577.	0.2449
454.5	0.4019	3577.5	0.1732
455.	0.6514	3578.	0.2148
455.5	0.626	3578.5	0.358
456.	0.462	3579.	0.4435
456.5	0.6514	3579.5	0.1894
457.	0.596	3580.	0.3858
457.5	0.5544	3580.5	0.2472
458.	0.4736	3581.	0.2287
458.5	0.797	3581.5	0.1363
459.	0.7069	3582.	0.2171
459.5	0.7415	3582.5	0.4204

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
460.	0.3696	3583.	0.2356
460.5	0.529	3583.5	0.3604
461.	0.6283	3584.	0.2818
461.5	0.5452	3584.5	0.395
462.	0.596	3585.	0.3742
462.5	0.8547	3585.5	0.1571
463.	0.7762	3586.	0.4851
463.5	0.5475	3586.5	0.1917
464.	0.7253	3587.	0.2079
464.5	0.5128	3587.5	0.2449
465.	0.6168	3588.	0.2287
465.5	0.6907	3588.5	0.08778
466.	0.4066	3589.	0.4666
466.5	0.5659	3589.5	0.1987
467.	0.5683	3590.	0.2795
467.5	0.4805	3590.5	0.3072
468.	0.857	3591.	0.1732
468.5	0.6191	3591.5	0.0693
469.	0.6768	3592.	0.3742
469.5	0.6075	3592.5	0.4343
470.	0.358	3593.	0.1964
470.5	0.9633	3593.5	0.1086
471.	0.5683	3594.	0.2333
471.5	0.5729	3594.5	0.4043
472.	0.6607	3595.	0.3165
472.5	0.358	3595.5	0.1271
473.	0.7692	3596.	0.1987
473.5	0.626	3596.5	0.1502
474.	0.6537	3597.	0.3858
474.5	0.5151	3597.5	0.1363
475.	0.723	3598.	0.08778
475.5	0.6607	3598.5	0.2356
476.	0.6121	3599.	0.231
476.5	0.3419	3599.5	0.1317
477.	0.7762	3600.	0.2472
477.5	0.6098	3600.5	0.3165
478.	0.7577	3601.	0.2472
478.5	0.5382	3601.5	0.3211
479.	0.5475	3602.	0.4066
479.5	0.6884	3602.5	0.2657
480.	0.3996	3603.	0.1155
480.5	0.5937	3603.5	0.1502
481.	0.5382	3604.	0.2564
481.5	0.5313	3604.5	0.3211
482.	0.3881	3605.	0.4181
482.5	0.5937	3605.5	0.1756
483.	0.6191	3606.	0.3396
483.5	0.6098	3606.5	0.08778
484.	0.4805	3607.	0.2148
484.5	0.6607	3607.5	0.1548
485.	0.7554	3608.	0.3188
485.5	0.589	3608.5	0.2333
486.	0.3303	3609.	0.462

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
486.5	0.4458	3609.5	0.3211
487.	0.5567	3610.	0.5244
487.5	0.6607	3610.5	0.2449
488.	0.3927	3611.	0.3396
488.5	0.5914	3611.5	0.3049
489.	0.3788	3612.	0.1294
489.5	0.7646	3612.5	0.1917
490.	0.6145	3613.	0.2079
490.5	0.7253	3613.5	0.1894
491.	0.6191	3614.	0.3188
491.5	0.6676	3614.5	0.1917
492.	0.6098	3615.	0.3765
492.5	0.3211	3615.5	0.09471
493.	0.3811	3616.	0.3211
493.5	0.7253	3616.5	0.3396
494.	0.596	3617.	0.2125
494.5	0.6098	3617.5	0.1917
495.	0.3996	3618.	0.3211
495.5	0.5128	3618.5	0.2472
496.	0.5105	3619.	0.134
496.5	0.5752	3619.5	0.1363
497.	0.7762	3620.	0.3396
497.5	0.7554	3620.5	0.4874
498.	0.5105	3621.	0.3765
498.5	0.492	3621.5	0.2657
499.	0.6052	3622.	0.3442
499.5	0.4458	3622.5	0.2287
500.	0.7161	3623.	0.2633
500.5	0.2402	3623.5	0.2564
501.	0.358	3624.	0.2957
501.5	0.4481	3624.5	0.06699
502.	0.7554	3625.	0.2841
502.5	0.6098	3625.5	0.1686
503.	0.8593	3626.	0.3049
503.5	0.6999	3626.5	0.2818
504.	0.492	3627.	0.4204
504.5	0.5105	3627.5	0.2079
505.	0.499	3628.	0.2564
505.5	0.559	3628.5	0.395
506.	0.5013	3629.	0.2333
506.5	0.596	3629.5	0.4874
507.	0.5706	3630.	0.1132
507.5	0.4759	3630.5	0.2287
508.	0.559	3631.	0.1732
508.5	0.3442	3631.5	0.2749
509.	0.5498	3632.	0.0693
509.5	0.4759	3632.5	0.4458
510.	0.7346	3633.	0.1294
510.5	0.6514	3633.5	0.2587
511.	0.4712	3634.	0.02079
511.5	0.3003	3634.5	0.1709
512.	0.6884	3635.	0.2657
512.5	0.4643	3635.5	0.2287

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
513.	0.6999	3636.	0.1478
513.5	0.4204	3636.5	0.3396
514.	0.6514	3637.	0.03927
514.5	0.596	3637.5	0.5267
515.	0.3396	3638.	0.3442
515.5	0.6098	3638.5	0.5036
516.	0.7046	3639.	0.3003
516.5	0.4828	3639.5	0.4066
517.	0.492	3640.	0.2818
517.5	0.5683	3640.5	0.1155
518.	0.5567	3641.	0.1732
518.5	0.797	3641.5	0.2564
519.	0.5567	3642.	0.1709
519.5	0.5151	3642.5	0.1502
520.	0.4851	3643.	0.3049
520.5	0.6699	3643.5	0.2079
521.	0.7346	3644.	0.201
521.5	0.6884	3644.5	0.1109
522.	0.5382	3645.	0.3396
522.5	0.5013	3645.5	0.298
523.	0.5359	3646.	0.3072
523.5	0.3511	3646.5	0.3442
524.	0.4181	3647.	0.2356
524.5	0.8085	3647.5	0.07392
525.	0.6768	3648.	0.2449
525.5	0.5498	3648.5	0.1732
526.	0.4736	3649.	0.1987
526.5	0.5683	3649.5	0.1294
527.	0.2657	3650.	0.3188
527.5	0.5683	3650.5	0.2079
528.	0.4643	3651.	0.3396
528.5	0.5683	3651.5	0.1294
529.	0.6376	3652.	0.1502
529.5	0.5983	3652.5	0.2795
530.	0.4597	3653.	0.4135
530.5	0.6098	3653.5	0.2356
531.	0.5683	3654.	0.3095
531.5	0.4828	3654.5	0.3442
532.	0.3511	3655.	0.1502
532.5	0.6768	3655.5	0.2079
533.	0.8177	3656.	0.1594
533.5	0.4089	3656.5	0.4435
534.	0.5683	3657.	0.2657
534.5	0.5937	3657.5	0.1594
535.	0.4805	3658.	0.3604
535.5	0.492	3658.5	0.3165
536.	0.5267	3659.	0.03003
536.5	0.5683	3659.5	0.2079
537.	0.8408	3660.	0.2564
537.5	0.5105	3660.5	0.2449
538.	0.7762	3661.	0.3211
538.5	0.2934	3661.5	0.3835
539.	0.6121	3662.	0.3188

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
539.5	0.3465	3662.5	0.03927
540.	0.559	3663.	0.2795
540.5	0.4828	3663.5	0.3049
541.	0.6607	3664.	0.2333
541.5	0.8177	3664.5	0.2287
542.	0.5752	3665.	0.3373
542.5	0.6514	3665.5	0.1917
543.	0.6768	3666.	0.2541
543.5	0.4412	3666.5	0.09702
544.	0.4712	3667.	0.1363
544.5	0.7346	3667.5	0.2449
545.	0.4481	3668.	0.1987
545.5	0.3811	3668.5	0.2657
546.	0.6098	3669.	0.2287
546.5	0.4297	3669.5	-0.0924
547.	0.6791	3670.	0.4227
547.5	0.5914	3670.5	0.2472
548.	0.6376	3671.	0.1155
548.5	0.5405	3671.5	0.3003
549.	0.432	3672.	0.1964
549.5	0.7253	3672.5	0.2795
550.	0.6884	3673.	0.2287
550.5	0.5683	3673.5	-0.00231
551.	0.4897	3674.	0.05775
551.5	0.6999	3674.5	0.3211
552.	0.7253	3675.	0.2287
552.5	0.5475	3675.5	0.3742
553.	0.693	3676.	0.3049
553.5	0.7277	3676.5	0.3419
554.	0.492	3677.	0.2657
554.5	0.8385	3677.5	0.1732
555.	0.5498	3678.	0.2795
555.5	0.4412	3678.5	0.3742
556.	0.6399	3679.	0.5336
556.5	0.5174	3679.5	0.4066
557.	0.6791	3680.	0.1571
557.5	0.6607	3680.5	0.3072
558.	0.6815	3681.	0.2079
558.5	0.4089	3681.5	0.3211
559.	0.6607	3682.	0.3442
559.5	0.5498	3682.5	0.2564
560.	0.3511	3683.	0.1964
560.5	0.5567	3683.5	0.07623
561.	0.4227	3684.	0.4435
561.5	0.7253	3684.5	0.1779
562.	0.5128	3685.	0.02772
562.5	0.5198	3685.5	0.3858
563.	0.5937	3686.	0.2356
563.5	0.7669	3686.5	0.3049
564.	0.5475	3687.	0.09471
564.5	0.5567	3687.5	0.2633
565.	0.6768	3688.	0.3373
565.5	0.5221	3688.5	0.07392

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
566.	0.3511	3689.	0.2657
566.5	0.3811	3689.5	0.134
567.	0.4759	3690.	0.2957
567.5	0.3234	3690.5	0.1063
568.	0.499	3691.	0.2333
568.5	0.5983	3691.5	0.1732
569.	0.5313	3692.	0.06699
569.5	0.529	3692.5	0.1363
570.	0.4181	3693.	0.1732
570.5	0.6607	3693.5	0.2449
571.	0.76	3694.	0.08778
571.5	0.5752	3694.5	0.365
572.	0.5105	3695.	0.3442
572.5	0.6514	3695.5	0.3765
573.	0.5752	3696.	0.1709
573.5	0.6976	3696.5	0.4343
574.	0.6399	3697.	0.3858
574.5	0.5683	3697.5	0.2633
575.	0.5128	3698.	0.3557
575.5	0.432	3698.5	0.298
576.	0.492	3699.	0.2333
576.5	0.7762	3699.5	-0.01848
577.	0.4851	3700.	0.3673
577.5	0.6514	3700.5	0.3442
578.	0.7092	3701.	0.2472
578.5	0.5798	3701.5	0.1086
579.	0.6376	3702.	0.2657
579.5	0.6791	3702.5	0.3604
580.	0.4851	3703.	0.261
580.5	0.5683	3703.5	0.2079
581.	0.492	3704.	0.2287
581.5	0.6699	3704.5	0.1732
582.	0.3627	3705.	0.3442
582.5	0.6607	3705.5	0.2633
583.	0.5221	3706.	0.2795
583.5	0.6699	3706.5	0.2195
584.	0.4089	3707.	0.3396
584.5	0.492	3707.5	0.4343
585.	0.5013	3708.	0.3211
585.5	0.6283	3708.5	0.2171
586.	0.5983	3709.	0.2333
586.5	0.6537	3709.5	0.298
587.	0.4297	3710.	0.06699
587.5	0.7854	3710.5	0.4158
588.	0.5475	3711.	0.4897
588.5	0.5498	3711.5	0.4043
589.	0.462	3712.	0.3211
589.5	0.6098	3712.5	0.01848
590.	0.4458	3713.	0.3604
590.5	0.7877	3713.5	0.2079
591.	0.4481	3714.	0.3673
591.5	0.6098	3714.5	0.2957
592.	0.5174	3715.	0.3211

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
592.5	0.4019	3715.5	0.1732
593.	0.4181	3716.	0.2472
593.5	0.7046	3716.5	0.2818
594.	0.589	3717.	0.3211
594.5	0.499	3717.5	0.4158
595.	0.4204	3718.	0.1594
595.5	0.6098	3718.5	0.3211
596.	0.8478	3719.	0.2148
596.5	0.5198	3719.5	0.2587
597.	0.5174	3720.	0.2541
597.5	0.4043	3720.5	0.2541
598.	0.5937	3721.	0.2657
598.5	0.6283	3721.5	0.03003
599.	0.6607	3722.	0.3072
599.5	0.4297	3722.5	0.09702
600.	0.4412	3723.	0.4043
600.5	0.5174	3723.5	0.5498
601.	0.5198	3724.	0.1756
601.5	0.5013	3724.5	0.3835
602.	0.4089	3725.	0.1917
602.5	0.4274	3725.5	0.1756
603.	0.8755	3726.	0.1987
603.5	0.4851	3726.5	-0.03927
604.	0.5798	3727.	0.2356
604.5	0.4666	3727.5	0.2795
605.	0.4089	3728.	0.1363
605.5	0.3072	3728.5	0.1363
606.	0.6399	3729.	0.2818
606.5	0.432	3729.5	0.0462
607.	0.5405	3730.	0.2356
607.5	0.4297	3730.5	0.04389
608.	0.3927	3731.	0.3373
608.5	0.4736	3731.5	0.1086
609.	0.596	3732.	0.4181
609.5	0.499	3732.5	0.1987
610.	0.5313	3733.	0.3373
610.5	0.5128	3733.5	0.365
611.	0.6376	3734.	0.2333
611.5	0.3303	3734.5	0.2356
612.	0.5914	3735.	0.1756
612.5	0.5983	3735.5	0.3211
613.	0.2841	3736.	0.1917
613.5	0.8778	3736.5	0.2633
614.	0.559	3737.	0.1502
614.5	0.6306	3737.5	0.1964
615.	0.596	3738.	0.3072
615.5	0.5382	3738.5	0.1363
616.	0.4435	3739.	0.3396
616.5	0.7762	3739.5	0.5128
617.	0.5313	3740.	0.2657
617.5	0.492	3740.5	-0.01848
618.	0.6514	3741.	0.358
618.5	0.492	3741.5	0.2541

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
619.	0.7161	3742.	0.4227
619.5	0.7069	3742.5	0.1709
620.	0.4019	3743.	0.4343
620.5	0.5475	3743.5	0.3442
621.	0.6191	3744.	0.3396
621.5	0.5937	3744.5	0.3396
622.	0.3811	3745.	0.2449
622.5	0.5405	3745.5	0.1594
623.	0.5151	3746.	0.1987
623.5	0.6191	3746.5	0.5313
624.	0.797	3747.	0.3165
624.5	0.492	3747.5	0.1756
625.	0.5405	3748.	0.1201
625.5	0.4712	3748.5	0.4204
626.	0.3326	3749.	0.3211
626.5	0.6376	3749.5	0.2356
627.	0.5382	3750.	0.05544
627.5	0.5198	3750.5	0.3673
628.	0.6607	3751.	0.3211
628.5	0.6699	3751.5	0.2633
629.	0.5683	3752.	0.2472
629.5	0.7346	3752.5	0.298
630.	0.5405	3753.	0.2818
630.5	0.3511	3753.5	0.2449
631.	0.596	3754.	0.1779
631.5	0.4643	3754.5	0.2795
632.	0.4412	3755.	0.2795
632.5	0.5752	3755.5	0.2148
633.	0.4227	3756.	0.3604
633.5	0.4412	3756.5	0.4043
634.	0.6607	3757.	0.1086
634.5	0.5683	3757.5	0.2564
635.	0.4227	3758.	0.3188
635.5	0.76	3758.5	0.3234
636.	0.4204	3759.	0.1917
636.5	0.6537	3759.5	0.3165
637.	0.5683	3760.	0.2171
637.5	0.6075	3760.5	0.2841
638.	0.462	3761.	0.1502
638.5	0.6791	3761.5	0.07161
639.	0.3511	3762.	0.2195
639.5	0.5405	3762.5	0.499
640.	0.5752	3763.	0.2148
640.5	0.5683	3763.5	0.1478
641.	0.5198	3764.	0.1201
641.5	0.4666	3764.5	0.1732
642.	0.4759	3765.	0.02772
642.5	0.5105	3765.5	0.1756
643.	0.5752	3766.	0.3765
643.5	0.6376	3766.5	0.2957
644.	0.5313	3767.	0.5659
644.5	0.6537	3767.5	0.358
645.	0.3257	3768.	0.03927

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
645.5	0.5313	3768.5	0.201
646.	0.5105	3769.	0.2171
646.5	0.5336	3769.5	0.4782
647.	0.3627	3770.	0.3095
647.5	0.5151	3770.5	0.365
648.	0.492	3771.	0.3211
648.5	0.559	3771.5	0.0462
649.	0.4412	3772.	0.4043
649.5	0.596	3772.5	0.1294
650.	0.6098	3773.	0.3211
650.5	0.2911	3773.5	0.2657
651.	0.4043	3774.	0.3165
651.5	0.6306	3774.5	0.2287
652.	0.499	3775.	0.3211
652.5	0.4435	3775.5	0.4043
653.	0.5198	3776.	0.3973
653.5	0.6329	3776.5	0.00924
654.	0.7346	3777.	0.0693
654.5	0.5706	3777.5	0.3673
655.	0.6399	3778.	0.3742
655.5	0.5729	3778.5	0.2657
656.	0.4528	3779.	0.1917
656.5	0.5983	3779.5	0.2633
657.	0.4481	3780.	0.1594
657.5	0.5174	3780.5	0.3188
658.	0.4643	3781.	0.1987
658.5	0.5567	3781.5	0.4158
659.	0.5174	3782.	0.1363
659.5	0.5151	3782.5	0.2633
660.	0.6098	3783.	0.298
660.5	0.4643	3783.5	0.4343
661.	0.5336	3784.	0.1571
661.5	0.4412	3784.5	0.2472
662.	0.4435	3785.	0.1363
662.5	0.4828	3785.5	0.4066
663.	0.5613	3786.	0.5636
663.5	0.5013	3786.5	0.2356
664.	0.5706	3787.	0.1686
664.5	0.596	3787.5	0.298
665.	0.5613	3788.	0.3858
665.5	0.8108	3788.5	0.3719
666.	0.6722	3789.	0.2818
666.5	0.7369	3789.5	0.3604
667.	0.5914	3790.	0.3095
667.5	0.5405	3790.5	0.1732
668.	0.6907	3791.	0.3211
668.5	0.6537	3791.5	0.298
669.	0.7577	3792.	0.02079
669.5	0.6745	3792.5	0.3072
670.	0.6191	3793.	0.2795
670.5	0.4435	3793.5	0.2818
671.	0.4089	3794.	0.4343
671.5	0.5983	3794.5	0.06699

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
672.	0.5775	3795.	0.3234
672.5	0.7184	3795.5	0.2657
673.	0.492	3796.	0.1732
673.5	0.328	3796.5	0.3396
674.	0.7577	3797.	0.1594
674.5	0.4089	3797.5	0.3442
675.	0.5013	3798.	0.298
675.5	0.3534	3798.5	0.2449
676.	0.8062	3799.	0.2356
676.5	0.328	3799.5	0.3211
677.	0.5221	3800.	0.2472
677.5	0.6191	3800.5	0.07392
678.	0.4204	3801.	0.1155
678.5	0.4043	3801.5	0.1709
679.	0.4343	3802.	0.07392
679.5	0.5613	3802.5	0.3396
680.	0.6399	3803.	0.2818
680.5	0.4851	3803.5	0.3973
681.	0.5036	3804.	0.2541
681.5	0.2518	3804.5	0.1709
682.	0.5937	3805.	0.09702
682.5	0.4851	3805.5	0.3442
683.	0.6191	3806.	-0.1016
683.5	0.5775	3806.5	0.2934
684.	0.693	3807.	0.5174
684.5	0.4828	3807.5	0.2657
685.	0.492	3808.	0.5521
685.5	0.5105	3808.5	0.2957
686.	0.6399	3809.	0.2564
686.5	0.5105	3809.5	0.2818
687.	0.4019	3810.	0.0924
687.5	0.5567	3810.5	0.3211
688.	0.5567	3811.	0.3765
688.5	0.6768	3811.5	0.1178
689.	0.5174	3812.	0.3165
689.5	0.5498	3812.5	0.365
690.	0.6121	3813.	0.2657
690.5	0.596	3813.5	0.1709
691.	0.4851	3814.	0.1525
691.5	0.5983	3814.5	0.3396
692.	0.6999	3815.	0.4366
692.5	0.5798	3815.5	0.3858
693.	0.5475	3816.	0.4874
693.5	0.5105	3816.5	0.365
694.	0.3811	3817.	0.3858
694.5	0.3303	3817.5	0.2356
695.	0.6999	3818.	0.0693
695.5	0.5198	3818.5	0.3973
696.	0.4759	3819.	0.1109
696.5	0.4343	3819.5	0.06006
697.	0.4343	3820.	0.1709
697.5	0.5221	3820.5	-0.1132
698.	0.6999	3821.	0.4897

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
698.5	0.6191	3821.5	0.3003
699.	0.5405	3822.	0.1964
699.5	0.656	3822.5	0.499
700.	0.4643	3823.	0.01848
700.5	0.5013	3823.5	0.2171
701.	0.4089	3824.	0.3072
701.5	0.6121	3824.5	0.6098
702.	0.5914	3825.	0.07392
702.5	0.5405	3825.5	0.2079
703.	0.5313	3826.	0.3881
703.5	0.4736	3826.5	0.1987
704.	0.4227	3827.	0.07392
704.5	0.2657	3827.5	0.3419
705.	0.5983	3828.	0.2171
705.5	0.4227	3828.5	0.4597
706.	0.7369	3829.	0.2356
706.5	0.5198	3829.5	0.03234
707.	0.6791	3830.	0.3673
707.5	0.6121	3830.5	0.1086
708.	0.7392	3831.	0.09471
708.5	0.5128	3831.5	0.1732
709.	0.4851	3832.	0.2541
709.5	0.596	3832.5	0.2287
710.	0.3604	3833.	0.2795
710.5	0.5567	3833.5	0.5659
711.	0.6075	3834.	0.2079
711.5	0.5498	3834.5	0.2795
712.	0.5198	3835.	0.2287
712.5	0.6191	3835.5	-0.03465
713.	0.5983	3836.	0.2633
713.5	0.6399	3836.5	0.3188
714.	0.6191	3837.	0.1964
714.5	0.5036	3837.5	0.3973
715.	0.4227	3838.	0.1363
715.5	0.5775	3838.5	0.1917
716.	0.5706	3839.	0.3419
716.5	0.3257	3839.5	0.04851
717.	0.5706	3840.	0.1917
717.5	0.5405	3840.5	0.499
718.	0.596	3841.	0.1617
718.5	0.3465	3841.5	0.3604
719.	0.7785	3842.	0.231
719.5	0.5313	3842.5	0.2333
720.	0.4435	3843.	0.298
720.5	0.492	3843.5	0.1987
721.	0.5128	3844.	0.1478
721.5	0.7022	3844.5	0.1756
722.	0.5798	3845.	0.1779
722.5	0.6191	3845.5	0.3604
723.	0.5013	3846.	0.2772
723.5	0.5128	3846.5	0.1964
724.	0.6399	3847.	0.2795
724.5	0.5174	3847.5	0.2449

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
725.	0.5013	3848.	0.1363
725.5	0.492	3848.5	0.3072
726.	0.7369	3849.	0.07392
726.5	0.6399	3849.5	0.2541
727.	0.492	3850.	0.1917
727.5	0.6098	3850.5	0.3858
728.	0.4643	3851.	0.03927
728.5	0.5706	3851.5	0.1917
729.	0.2356	3852.	-0.03927
729.5	0.5798	3852.5	0.1548
730.	0.328	3853.	0.1732
730.5	0.5198	3853.5	-0.00924
731.	0.7184	3854.	0.1917
731.5	0.5798	3854.5	0.4597
732.	0.5937	3855.	0.1294
732.5	0.7739	3855.5	0.1917
733.	0.268	3856.	0.2079
733.5	0.7253	3856.5	0.07392
734.	0.6121	3857.	0.1294
734.5	0.4435	3857.5	0.06699
735.	0.5729	3858.	0.1525
735.5	0.6098	3858.5	0.3373
736.	0.559	3859.	0.499
736.5	0.6537	3859.5	0.2657
737.	0.7461	3860.	0.1178
737.5	0.6815	3860.5	0.2564
738.	0.3026	3861.	0.4759
738.5	0.4643	3861.5	0.2079
739.	0.5775	3862.	0.2818
739.5	0.4828	3862.5	0.3765
740.	0.3719	3863.	0.09471
740.5	0.4043	3863.5	0.1063
741.	0.5221	3864.	0.3973
741.5	0.5128	3864.5	0.298
742.	0.5313	3865.	0.1063
742.5	0.6722	3865.5	0.09702
743.	0.4227	3866.	0.3973
743.5	0.6376	3866.5	0.3465
744.	0.4851	3867.	0.1756
744.5	0.5036	3867.5	0.4204
745.	0.5613	3868.	0.1709
745.5	0.5405	3868.5	0.3788
746.	0.6884	3869.	0.1063
746.5	0.3095	3869.5	0.3973
747.	0.5752	3870.	0.1502
747.5	0.5405	3870.5	0.231
748.	0.5405	3871.	0.3188
748.5	0.2864	3871.5	0.2818
749.	0.4043	3872.	0.3049
749.5	0.4851	3872.5	0.2541
750.	0.3881	3873.	0.2079
750.5	0.4435	3873.5	0.201
751.	0.6306	3874.	0.3095

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
751.5	0.5937	3874.5	0.1709
752.	0.4181	3875.	0.2195
752.5	0.6006	3875.5	0.4966
753.	0.693	3876.	0.5313
753.5	0.6306	3876.5	0.03927
754.	0.5174	3877.	0.06699
754.5	0.3904	3877.5	0.1178
755.	0.6121	3878.	0.1987
755.5	0.5313	3878.5	0.3095
756.	0.5013	3879.	0.3211
756.5	0.559	3879.5	0.2356
757.	0.596	3880.	0.1756
757.5	0.5405	3880.5	0.3742
758.	0.5498	3881.	0.3188
758.5	0.7484	3881.5	0.2379
759.	0.3095	3882.	0.3765
759.5	0.5405	3882.5	0.2287
760.	0.6191	3883.	0.3396
760.5	0.5521	3883.5	0.2564
761.	0.5013	3884.	0.1063
761.5	0.4643	3884.5	0.2472
762.	0.4227	3885.	0.1987
762.5	0.5983	3885.5	0.298
763.	0.5151	3886.	0.4574
763.5	0.4528	3886.5	0.05544
764.	0.6329	3887.	0.201
764.5	0.5729	3887.5	0.2079
765.	0.6607	3888.	0.2333
765.5	0.3835	3888.5	0.1086
766.	0.5336	3889.	0.2564
766.5	0.5983	3889.5	0.2449
767.	0.4528	3890.	0.3673
767.5	0.5798	3890.5	0.2795
768.	0.5429	3891.	0.2472
768.5	0.5313	3891.5	0.1363
769.	0.596	3892.	0.3188
769.5	0.5198	3892.5	0.2287
770.	0.596	3893.	0.5244
770.5	0.4759	3893.5	0.3396
771.	0.5128	3894.	0.3858
771.5	0.3927	3894.5	0.4458
772.	0.5983	3895.	0.3095
772.5	0.663	3895.5	0.03927
773.	0.4759	3896.	0.3996
773.5	0.7161	3896.5	0.3765
774.	0.328	3897.	0.2564
774.5	0.4759	3897.5	0.1732
775.	0.3326	3898.	0.1109
775.5	0.3858	3898.5	0.2171
776.	0.2449	3899.	0.298
776.5	0.6237	3899.5	0.2079
777.	0.432	3900.	0.2079
777.5	0.5128	3900.5	0.3049

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
778.	0.462	3901.	0.4966
778.5	0.5798	3901.5	0.3072
779.	0.4089	3902.	0.06006
779.5	0.5221	3902.5	0.06006
780.	0.6214	3903.	0.3442
780.5	0.5775	3903.5	0.2472
781.	0.5405	3904.	0.1756
781.5	0.4505	3904.5	0.2657
782.	0.3811	3905.	0.5267
782.5	0.6121	3905.5	0.2287
783.	0.5798	3906.	0.1756
783.5	0.4759	3906.5	0.3996
784.	0.5313	3907.	0.1294
784.5	0.5544	3907.5	0.5336
785.	0.6722	3908.	0.3396
785.5	0.6537	3908.5	0.2818
786.	0.3488	3909.	0.03234
786.5	0.5036	3909.5	0.2633
787.	0.5544	3910.	0.2449
787.5	0.7692	3910.5	0.1571
788.	0.5151	3911.	0.1086
788.5	0.462	3911.5	0.1086
789.	0.3326	3912.	0.3442
789.5	0.5128	3912.5	0.3858
790.	0.4851	3913.	0.1756
790.5	0.6907	3913.5	0.3373
791.	0.5336	3914.	0.3442
791.5	0.5036	3914.5	0.1178
792.	0.5983	3915.	0.08778
792.5	0.6306	3915.5	0.06006
793.	0.5729	3916.	0.3072
793.5	0.492	3916.5	0.2472
794.	0.5706	3917.	0.2657
794.5	0.4874	3917.5	0.3673
795.	0.3719	3918.	0.1502
795.5	0.6283	3918.5	0.1964
796.	0.656	3919.	0.4181
796.5	0.6537	3919.5	0.2079
797.	0.5013	3920.	0.08778
797.5	0.4943	3920.5	0.1201
798.	0.6006	3921.	0.3996
798.5	0.7762	3921.5	0.3188
799.	0.5105	3922.	0.1363
799.5	0.4851	3922.5	0.1964
800.	0.3858	3923.	0.3673
800.5	0.6907	3923.5	0.3211
801.	0.4412	3924.	0.2587
801.5	0.4297	3924.5	0.2795
802.	0.5405	3925.	0.3604
802.5	0.8016	3925.5	0.2287
803.	0.76	3926.	0.0693
803.5	0.4897	3926.5	0.2171
804.	0.4759	3927.	0.1086

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
804.5	0.5151	3927.5	0.2657
805.	0.5914	3928.	0.1571
805.5	0.6999	3928.5	0.1455
806.	0.693	3929.	-0.00231
806.5	0.5405	3929.5	0.2333
807.	0.4297	3930.	0.2195
807.5	0.6399	3930.5	0.09471
808.	0.4458	3931.	0.2564
808.5	0.4435	3931.5	0.1756
809.	0.6422	3932.	0.07161
809.5	0.4505	3932.5	0.4343
810.	0.7277	3933.	0.1987
810.5	0.693	3933.5	0.3211
811.	0.6214	3934.	0.1917
811.5	0.596	3934.5	0.3396
812.	0.492	3935.	0.3188
812.5	0.4528	3935.5	0.1294
813.	0.492	3936.	0.2472
813.5	0.6607	3936.5	0.1964
814.	0.5613	3937.	0.3373
814.5	0.3927	3937.5	0.4966
815.	0.3858	3938.	0.2772
815.5	0.5221	3938.5	0.2171
816.	0.6191	3939.	0.2795
816.5	0.5613	3939.5	0.2379
817.	0.4066	3940.	0.2171
817.5	0.7115	3940.5	0.08778
818.	0.3927	3941.	0.3604
818.5	0.6191	3941.5	0.3211
819.	0.2195	3942.	0.201
819.5	0.3835	3942.5	0.1178
820.	0.3095	3943.	0.2657
820.5	0.4227	3943.5	0.1594
821.	0.4528	3944.	0.1756
821.5	0.3326	3944.5	0.3442
822.	0.4528	3945.	0.03003
822.5	0.663	3945.5	0.09702
823.	0.5336	3946.	0.2195
823.5	0.663	3946.5	0.3673
824.	0.5405	3947.	0.2472
824.5	0.3742	3947.5	0.298
825.	0.4736	3948.	0.1964
825.5	0.4643	3948.5	0.462
826.	0.3488	3949.	0.3442
826.5	0.492	3949.5	0.1294
827.	0.4528	3950.	0.1317
827.5	0.7207	3950.5	0.2171
828.	0.6191	3951.	0.2333
828.5	0.5405	3951.5	0.3003
829.	0.5683	3952.	0.06699
829.5	0.5937	3952.5	0.2795
830.	0.5221	3953.	0.3396
830.5	0.6329	3953.5	0.2818

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
831.	0.5983	3954.	0.3396
831.5	0.4112	3954.5	0.1594
832.	0.4505	3955.	0.2171
832.5	0.3326	3955.5	0.3234
833.	0.6145	3956.	0.1594
833.5	0.7785	3956.5	0.2171
834.	0.492	3957.	0.3211
834.5	0.4943	3957.5	0.2472
835.	0.5336	3958.	0.298
835.5	0.6722	3958.5	0.2356
836.	0.5405	3959.	0.4435
836.5	0.5405	3959.5	0.2564
837.	0.432	3960.	0.3373
837.5	0.5036	3960.5	-0.09702
838.	0.492	3961.	0.2079
838.5	0.5798	3961.5	0.1732
839.	0.3627	3962.	0.3188
839.5	0.492	3962.5	0.4066
840.	0.425	3963.	0.1363
840.5	0.3858	3963.5	-0.03927
841.	0.7092	3964.	0.3604
841.5	0.5405	3964.5	0.2079
842.	0.7207	3965.	0.1571
842.5	0.7369	3965.5	0.4043
843.	0.4066	3966.	0.3765
843.5	0.2957	3966.5	0.1732
844.	0.5498	3967.	-0.00693
844.5	0.4505	3967.5	0.2195
845.	0.3927	3968.	0.1502
845.5	0.3627	3968.5	0.1594
846.	0.7323	3969.	0.1571
846.5	0.6722	3969.5	0.1756
847.	0.5729	3970.	0.2356
847.5	0.365	3970.5	0.4574
848.	0.5937	3971.	0.1779
848.5	0.7115	3971.5	0.2564
849.	0.5174	3972.	0.3442
849.5	0.5336	3972.5	0.1964
850.	0.5313	3973.	0.3095
850.5	0.4343	3973.5	0.4158
851.	0.3858	3974.	0.1964
851.5	0.3534	3974.5	0.3396
852.	0.5405	3975.	0.1363
852.5	0.6745	3975.5	0.3095
853.	0.5405	3976.	0.3442
853.5	0.6907	3976.5	0.2472
854.	0.663	3977.	0.2102
854.5	0.4343	3977.5	0.1086
855.	0.4943	3978.	0.3604
855.5	0.7692	3978.5	0.4874
856.	0.5198	3979.	0.1594
856.5	0.4481	3979.5	0.4782
857.	0.3927	3980.	0.3003

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
857.5	0.3835	3980.5	0.1502
858.	0.4643	3981.	0.1478
858.5	0.328	3981.5	0.2472
859.	0.6006	3982.	0.3026
859.5	0.4089	3982.5	0.1594
860.	0.3719	3983.	0.1178
860.5	0.4643	3983.5	0.2772
861.	0.9101	3984.	0.1502
861.5	0.4227	3984.5	0.2333
862.	0.4089	3985.	0.1294
862.5	0.559	3985.5	0.3858
863.	0.5336	3986.	0.1917
863.5	0.5683	3986.5	0.2564
864.	0.4412	3987.	0.1363
864.5	0.5798	3987.5	0.09009
865.	0.4943	3988.	0.3373
865.5	0.4227	3988.5	0.2564
866.	0.5174	3989.	0.3072
866.5	0.5613	3989.5	0.231
867.	0.4551	3990.	0.4043
867.5	0.5336	3990.5	0.2079
868.	0.4112	3991.	0.03003
868.5	0.6306	3991.5	0.0693
869.	0.6791	3992.	0.2195
869.5	0.1432	3992.5	0.1987
870.	0.4643	3993.	0.2079
870.5	0.4227	3993.5	0.2171
871.	0.365	3994.	0.4343
871.5	0.5336	3994.5	0.1363
872.	0.4066	3995.	0.2287
872.5	0.6422	3995.5	0.02079
873.	0.4874	3996.	0.4181
873.5	0.5636	3996.5	0.1594
874.	0.5336	3997.	0.2356
874.5	0.5336	3997.5	0.1917
875.	0.6329	3998.	0.298
875.5	0.4089	3998.5	0.3003
876.	0.3719	3999.	0.1363
876.5	0.4528	3999.5	0.3188
877.	0.4874	4000.	0.5429
877.5	0.7692	4000.5	0.09702
878.	0.6722	4001.	0.201
878.5	0.3465	4001.5	0.1917
879.	0.5128	4002.	0.5151
879.5	0.4759	4002.5	0.3604
880.	0.3465	4003.	0.2171
880.5	0.6399	4003.5	0.2633
881.	0.5313	4004.	0.2148
881.5	0.6329	4004.5	0.2102
882.	0.492	4005.	-0.01848
882.5	0.5752	4005.5	0.3881
883.	0.5313	4006.	0.499
883.5	0.5359	4006.5	0.1363

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
884.	0.5706	4007.	0.2564
884.5	0.4943	4007.5	0.4043
885.	0.6607	4008.	0.2795
885.5	0.5798	4008.5	0.0693
886.	0.4759	4009.	0.3165
886.5	0.4227	4009.5	0.2657
887.	0.5198	4010.	0.1478
887.5	0.5521	4010.5	0.2333
888.	0.5036	4011.	0.3072
888.5	0.5221	4011.5	0.134
889.	0.5151	4012.	0.3211
889.5	0.5798	4012.5	0.04158
890.	0.5405	4013.	0.4204
890.5	0.6745	4013.5	0.1294
891.	0.5521	4014.	0.04851
891.5	0.6537	4014.5	0.2657
892.	0.4227	4015.	0.3095
892.5	0.7323	4015.5	0.3604
893.	0.5983	4016.	0.07392
893.5	0.3858	4016.5	0.3442
894.	0.4135	4017.	0.3604
894.5	0.4874	4017.5	0.298
895.	0.5128	4018.	0.1271
895.5	0.5983	4018.5	0.1178
896.	0.7692	4019.	0.2657
896.5	0.6399	4019.5	0.2795
897.	0.3719	4020.	0.4458
897.5	0.4112	4020.5	0.2818
898.	0.328	4021.	0.298
898.5	0.5521	4021.5	0.1086
899.	0.2957	4022.	0.01155
899.5	0.4528	4022.5	0.2657
900.	0.5336	4023.	0.201
900.5	0.5798	4023.5	0.1132
901.	0.5752	4024.	0.2287
901.5	0.6145	4024.5	0.2541
902.	0.6306	4025.	0.2102
902.5	0.3557	4025.5	0.4597
903.	0.2703	4026.	0.3373
903.5	0.4135	4026.5	0.07392
904.	0.7623	4027.	0.4204
904.5	0.4874	4027.5	0.5059
905.	0.5983	4028.	0.1363
905.5	0.6745	4028.5	-0.02079
906.	0.5498	4029.	0.1732
906.5	0.4782	4029.5	0.2657
907.	0.5937	4030.	0.2795
907.5	0.6329	4030.5	0.3765
908.	0.5729	4031.	0.1756
908.5	0.4158	4031.5	0.2287
909.	0.6145	4032.	0.1709
909.5	0.8316	4032.5	0.3049
910.	0.7115	4033.	0.1502

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
910.5	0.6745	4033.5	0.06237
911.	0.6329	4034.	0.2818
911.5	0.2356	4034.5	0.1779
912.	0.4874	4035.	0.1594
912.5	0.3326	4035.5	0.3211
913.	0.6745	4036.	0.2795
913.5	0.5613	4036.5	0.09702
914.	0.6145	4037.	0.3881
914.5	0.5128	4037.5	-0.06006
915.	0.656	4038.	0.5521
915.5	0.5059	4038.5	0.2056
916.	0.4505	4039.	0.1178
916.5	0.6399	4039.5	0.2818
917.	0.6329	4040.	0.2287
917.5	0.4481	4040.5	0.2818
918.	0.5706	4041.	0.09702
918.5	0.656	4041.5	0.2333
919.	0.328	4042.	0.00231
919.5	0.4366	4042.5	0.3003
920.	0.08547	4043.	0.1063
920.5	0.365	4043.5	0.1178
921.	0.6445	4044.	0.3973
921.5	0.5775	4044.5	0.02772
922.	0.4874	4045.	0.5914
922.5	0.3557	4045.5	0.1964
923.	0.6006	4046.	0.4458
923.5	0.2541	4046.5	0.1779
924.	0.3627	4047.	0.2541
924.5	0.3072	4047.5	0.2818
925.	0.3673	4048.	0.3765
925.5	0.4666	4048.5	0.3442
926.	0.559	4049.	0.1271
926.5	0.5036	4049.5	0.4343
927.	0.6145	4050.	0.2472
927.5	0.5128	4050.5	0.3442
928.	0.6006	4051.	0.2287
928.5	0.5706	4051.5	0.3604
929.	0.3627	4052.	0.395
929.5	0.4943	4052.5	0.2079
930.	0.5036	4053.	0.2864
930.5	0.2657	4053.5	0.2657
931.	0.5036	4054.	0.4343
931.5	0.5521	4054.5	0.3788
932.	0.2703	4055.	0.1756
932.5	0.4066	4055.5	0.4019
933.	0.2241	4056.	0.2795
933.5	0.4759	4056.5	0.0462
934.	0.4943	4057.	0.3072
934.5	0.4643	4057.5	0.4204
935.	0.5544	4058.	0.3858
935.5	0.5128	4058.5	0.3604
936.	0.3742	4059.	0.1594
936.5	0.5429	4059.5	0.231

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
937.	0.596	4060.	0.3072
937.5	0.3858	4060.5	0.298
938.	0.6237	4061.	0.1363
938.5	0.693	4061.5	0.365
939.	0.4943	4062.	0.3003
939.5	0.4874	4062.5	0.1756
940.	0.328	4063.	0.2587
940.5	0.395	4063.5	0.2472
941.	0.4666	4064.	0.2657
941.5	0.4112	4064.5	0.01848
942.	0.3095	4065.	0.07161
942.5	0.4966	4065.5	0.3003
943.	0.6745	4066.	0.2356
943.5	0.4666	4066.5	0.1987
944.	0.5359	4067.	0.01848
944.5	0.3072	4067.5	0.1917
945.	0.4112	4068.	0.2171
945.5	0.6283	4068.5	0.05082
946.	0.4528	4069.	0.09702
946.5	0.5521	4069.5	0.1317
947.	0.5983	4070.	0.1779
947.5	0.492	4070.5	0.2195
948.	0.3072	4071.	0.3858
948.5	0.5151	4071.5	0.1109
949.	0.3835	4072.	0.4366
949.5	0.6653	4072.5	0.3858
950.	0.4551	4073.	0.3211
950.5	0.5775	4073.5	0.1987
951.	0.5613	4074.	0.2772
951.5	0.5221	4074.5	0.1478
952.	0.3927	4075.	0.2472
952.5	0.6768	4075.5	0.1247
953.	0.4759	4076.	0.3211
953.5	0.7993	4076.5	0.09702
954.	0.596	4077.	0.2379
954.5	0.596	4077.5	0.3881
955.	0.6838	4078.	0.3211
955.5	0.6815	4078.5	0.2449
956.	0.3095	4079.	0.3396
956.5	0.5613	4079.5	0.1779
957.	0.5036	4080.	0.3211
957.5	0.3095	4080.5	0.1779
958.	0.2171	4081.	0.01848
958.5	0.3719	4081.5	0.2795
959.	0.4343	4082.	0.1756
959.5	0.2703	4082.5	0.06237
960.	0.3765	4083.	0.2079
960.5	0.5729	4083.5	0.1525
961.	0.365	4084.	0.2171
961.5	0.3696	4084.5	0.2379
962.	0.3858	4085.	0.1109
962.5	0.4666	4085.5	0.3396
963.	0.4528	4086.	0.3396

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
963.5	0.4458	4086.5	0.1779
964.	0.328	4087.	0.1201
964.5	0.6214	4087.5	0.2079
965.	0.4943	4088.	0.2148
965.5	0.4135	4088.5	0.06699
966.	0.5429	4089.	0.02772
966.5	0.6422	4089.5	0.08778
967.	0.5983	4090.	0.08778
967.5	0.6168	4090.5	0.1756
968.	0.5983	4091.	0.4181
968.5	0.5405	4091.5	0.1917
969.	0.4505	4092.	0.3072
969.5	0.4966	4092.5	0.3072
970.	0.5405	4093.	0.4343
970.5	0.4943	4093.5	0.2818
971.	0.596	4094.	0.01617
971.5	0.5937	4094.5	0.1917
972.	0.3627	4095.	0.5452
972.5	0.395	4095.5	0.3881
973.	0.559	4096.	0.08778
973.5	0.4666	4096.5	0.1917
974.	0.6214	4097.	0.1732
974.5	0.5983	4097.5	0.2633
975.	0.7392	4098.	0.2171
975.5	0.5174	4098.5	0.1917
976.	0.6145	4099.	0.5244
976.5	0.5151	4099.5	-0.07161
977.	0.4759	4100.	0.2587
977.5	0.4227	4100.5	0.2657
978.	0.4943	4101.	0.395
978.5	0.5983	4101.5	0.2864
979.	0.7623	4102.	0.499
979.5	0.4851	4102.5	0.2171
980.	0.6329	4103.	-0.00693
980.5	0.2864	4103.5	0.4043
981.	0.6214	4104.	0.1917
981.5	0.4551	4104.5	0.1987
982.	0.425	4105.	0.5059
982.5	0.5036	4105.5	0.365
983.	0.3858	4106.	0.1987
983.5	0.5244	4106.5	0.07392
984.	0.4227	4107.	0.1732
984.5	0.5382	4107.5	0.2356
985.	0.5429	4108.	0.1201
985.5	0.5983	4108.5	0.1178
986.	0.3257	4109.	0.3003
986.5	0.4089	4109.5	0.1271
987.	0.3858	4110.	0.4181
987.5	0.1386	4110.5	0.1964
988.	0.4966	4111.	0.3095
988.5	0.5359	4111.5	0.298
989.	0.5151	4112.	0.1709
989.5	0.4112	4112.5	0.3072

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
990.	0.5036	4113.	0.1756
990.5	0.365	4113.5	0.1732
991.	0.6445	4114.	0.1756
991.5	0.4481	4114.5	0.04158
992.	0.5036	4115.	0.2841
992.5	0.5221	4115.5	0.2795
993.	0.3557	4116.	0.1756
993.5	0.5706	4116.5	0.3049
994.	0.3072	4117.	0.3211
994.5	0.7323	4117.5	0.3095
995.	0.7022	4118.	0.0462
995.5	0.5983	4118.5	0.2472
996.	0.4435	4119.	0.2287
996.5	0.3488	4119.5	0.01386
997.	0.395	4120.	0.3396
997.5	0.4135	4120.5	0.2079
998.	0.5151	4121.	0.06006
998.5	0.3927	4121.5	0.3604
999.	0.4759	4122.	0.1502
999.5	0.5729	4122.5	0.2079
1000.	0.4481	4123.	0.1109
1000.5	0.4089	4123.5	0.2587
1001.	0.4227	4124.	0.3396
1001.5	0.5313	4124.5	0.2657
1002.	0.4458	4125.	0.3095
1002.5	0.6745	4125.5	0.1571
1003.	0.4227	4126.	0.2449
1003.5	0.4043	4126.5	0.1548
1004.	0.1848	4127.	0.2818
1004.5	0.4112	4127.5	0.03003
1005.	0.5613	4128.	0.1363
1005.5	0.4551	4128.5	0.3072
1006.	0.5244	4129.	0.2472
1006.5	0.4782	4129.5	0.2379
1007.	0.5429	4130.	0.2633
1007.5	0.6445	4130.5	0.231
1008.	0.5729	4131.	0.2795
1008.5	0.5521	4131.5	0.1917
1009.	0.4366	4132.	0.3858
1009.5	0.4227	4132.5	0.1779
1010.	0.5983	4133.	0.2171
1010.5	0.3095	4133.5	0.3072
1011.	0.4227	4134.	0.1756
1011.5	0.5706	4134.5	-0.1178
1012.	0.6791	4135.	0.2587
1012.5	0.7692	4135.5	0.1894
1013.	0.5128	4136.	0.3442
1013.5	0.3858	4136.5	0.2472
1014.	0.4458	4137.	0.201
1014.5	0.656	4137.5	0.3373
1015.	0.5405	4138.	0.06006
1015.5	0.5059	4138.5	0.2564
1016.	0.5359	4139.	0.1732

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1016.5	0.6329	4139.5	0.2287
1017.	0.3719	4140.	0.1917
1017.5	0.425	4140.5	0.4181
1018.	0.4759	4141.	0.2841
1018.5	0.4782	4141.5	0.2425
1019.	0.3742	4142.	0.02079
1019.5	0.5729	4142.5	0.1294
1020.	0.5128	4143.	0.3973
1020.5	0.5983	4143.5	0.4782
1021.	0.5544	4144.	0.09702
1021.5	0.5359	4144.5	0.1502
1022.	0.4366	4145.	0.1894
1022.5	0.7715	4145.5	0.04158
1023.	0.3488	4146.	0.02772
1023.5	0.4135	4146.5	0.3442
1024.	0.5174	4147.	0.298
1024.5	0.3072	4147.5	0.3673
1025.	0.5174	4148.	0.231
1025.5	0.425	4148.5	-0.00924
1026.	0.4481	4149.	0.3095
1026.5	0.4343	4149.5	0.3973
1027.	0.6607	4150.	0.06699
1027.5	0.3072	4150.5	0.1917
1028.	0.4943	4151.	0.3442
1028.5	0.6145	4151.5	0.2795
1029.	0.4458	4152.	0.2587
1029.5	0.7115	4152.5	0.2472
1030.	0.492	4153.	0.2772
1030.5	0.5221	4153.5	0.3742
1031.	0.4874	4154.	0.1363
1031.5	0.499	4154.5	0.2472
1032.	0.3488	4155.	0.529
1032.5	0.5036	4155.5	0.2841
1033.	0.4112	4156.	0.3234
1033.5	0.5359	4156.5	0.
1034.	0.2749	4157.	0.2333
1034.5	0.4551	4157.5	0.3373
1035.	0.7877	4158.	0.2287
1035.5	0.5429	4158.5	0.3396
1036.	0.4666	4159.	0.5059
1036.5	0.4274	4159.5	0.2564
1037.	0.3742	4160.	0.2171
1037.5	0.5221	4160.5	0.2772
1038.	0.4343	4161.	0.2472
1038.5	0.4782	4161.5	0.2102
1039.	0.4227	4162.	0.3604
1039.5	0.6006	4162.5	0.2195
1040.	0.425	4163.	0.2102
1040.5	0.7669	4163.5	0.2356
1041.	0.492	4164.	0.365
1041.5	0.6306	4164.5	0.1363
1042.	0.4227	4165.	0.2287
1042.5	0.3557	4165.5	0.1178

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1043.	0.4481	4166.	0.2818
1043.5	0.395	4166.5	0.09702
1044.	0.4089	4167.	0.1732
1044.5	0.5036	4167.5	0.
1045.	0.3765	4168.	0.08778
1045.5	0.3881	4168.5	0.3881
1046.	0.4089	4169.	0.3996
1046.5	0.3927	4169.5	0.2818
1047.	0.3765	4170.	0.3165
1047.5	0.4366	4170.5	0.2379
1048.	0.4389	4171.	0.1317
1048.5	0.6121	4171.5	0.2657
1049.	0.5798	4172.	0.07623
1049.5	0.298	4172.5	0.2795
1050.	0.6191	4173.	0.3604
1050.5	0.6168	4173.5	0.3396
1051.	0.5336	4174.	0.1525
1051.5	0.2703	4174.5	0.1894
1052.	0.5567	4175.	0.1917
1052.5	0.5729	4175.5	0.1964
1053.	0.3788	4176.	0.2287
1053.5	0.5798	4176.5	-0.03696
1054.	0.4274	4177.	0.3811
1054.5	0.7623	4177.5	0.1502
1055.	0.5151	4178.	0.3442
1055.5	0.4089	4178.5	0.2472
1056.	0.4666	4179.	0.3095
1056.5	0.328	4179.5	0.
1057.	0.365	4180.	0.1571
1057.5	0.4227	4180.5	0.2102
1058.	0.4759	4181.	0.2079
1058.5	0.6214	4181.5	0.3442
1059.	0.6006	4182.	0.2472
1059.5	0.5429	4182.5	0.3188
1060.	0.4897	4183.	0.2356
1060.5	0.6145	4183.5	0.3211
1061.	0.5798	4184.	0.1502
1061.5	0.5336	4184.5	0.5174
1062.	0.335	4185.	0.09702
1062.5	0.3765	4185.5	0.3234
1063.	0.596	4186.	0.1987
1063.5	0.4066	4186.5	0.2841
1064.	0.3927	4187.	0.1363
1064.5	0.5544	4187.5	0.
1065.	0.3326	4188.	0.3211
1065.5	0.335	4188.5	0.1201
1066.	0.656	4189.	0.3211
1066.5	0.3719	4189.5	0.1732
1067.	0.6214	4190.	0.231
1067.5	0.5336	4190.5	0.2195
1068.	0.2726	4191.	0.3996
1068.5	0.2449	4191.5	0.134
1069.	0.3557	4192.	0.09702

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1069.5	0.5151	4192.5	0.2449
1070.	0.5729	4193.	0.3234
1070.5	0.3488	4193.5	0.1178
1071.	0.6168	4194.	0.2818
1071.5	0.6445	4194.5	0.3442
1072.	0.4666	4195.	0.09702
1072.5	0.4897	4195.5	0.1271
1073.	0.5244	4196.	0.2472
1073.5	0.4343	4196.5	0.2125
1074.	0.5544	4197.	0.231
1074.5	0.3488	4197.5	0.2587
1075.	0.3765	4198.	0.1109
1075.5	0.4227	4198.5	0.2472
1076.	0.4666	4199.	0.2818
1076.5	0.4112	4199.5	0.1987
1077.	0.4666	4200.	0.3442
1077.5	0.4666	4200.5	0.1987
1078.	0.4874	4201.	0.1917
1078.5	0.4366	4201.5	0.3188
1079.	0.4481	4202.	0.4227
1079.5	0.4366	4202.5	0.231
1080.	0.5636	4203.	0.2587
1080.5	0.5174	4203.5	0.2472
1081.	0.5983	4204.	0.1917
1081.5	0.492	4204.5	0.2171
1082.	0.5452	4205.	0.3188
1082.5	0.5221	4205.5	0.2287
1083.	0.4943	4206.	0.2541
1083.5	0.6214	4206.5	0.1363
1084.	0.656	4207.	0.08778
1084.5	0.425	4207.5	0.2333
1085.	0.3881	4208.	0.2079
1085.5	0.5198	4208.5	0.2287
1086.	0.3858	4209.	0.3396
1086.5	0.4089	4209.5	0.2795
1087.	0.4089	4210.	0.1271
1087.5	0.3719	4210.5	0.07392
1088.	0.4897	4211.	0.1109
1088.5	0.3673	4211.5	0.04851
1089.	0.4135	4212.	0.298
1089.5	0.5429	4212.5	0.3095
1090.	0.2472	4213.	0.2356
1090.5	0.5244	4213.5	0.2472
1091.	0.5405	4214.	0.3973
1091.5	0.5636	4214.5	0.02079
1092.	0.2449	4215.	0.1086
1092.5	0.5244	4215.5	0.3188
1093.	0.6422	4216.	0.3049
1093.5	0.6329	4216.5	0.08778
1094.	0.5359	4217.	0.1294
1094.5	0.5429	4217.5	0.3396
1095.	0.4966	4218.	0.09702
1095.5	0.5174	4218.5	0.2841

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1096.	0.6168	4219.	0.3742
1096.5	0.3488	4219.5	0.3442
1097.	0.4089	4220.	0.2564
1097.5	0.5221	4220.5	0.1594
1098.	0.73	4221.	0.201
1098.5	0.5059	4221.5	0.1756
1099.	0.4481	4222.	0.07392
1099.5	0.4759	4222.5	0.1317
1100.	0.1964	4223.	0.09702
1100.5	0.5405	4223.5	0.1894
1101.	0.5983	4224.	0.1917
1101.5	0.6006	4224.5	0.2818
1102.	0.5636	4225.	0.1917
1102.5	0.425	4225.5	0.3396
1103.	0.723	4226.	0.03927
1103.5	0.6953	4226.5	-0.03465
1104.	0.5174	4227.	0.1502
1104.5	0.298	4227.5	0.03234
1105.	0.4782	4228.	0.3072
1105.5	0.5198	4228.5	0.1594
1106.	0.5336	4229.	0.2218
1106.5	0.4481	4229.5	0.3858
1107.	0.395	4230.	0.1917
1107.5	0.7022	4230.5	0.2356
1108.	0.5198	4231.	0.2518
1108.5	0.6006	4231.5	0.1987
1109.	0.499	4232.	0.2818
1109.5	0.4643	4232.5	0.06237
1110.	0.5429	4233.	0.1178
1110.5	0.6468	4233.5	0.1363
1111.	0.6006	4234.	0.06006
1111.5	0.4666	4234.5	0.2795
1112.	0.3881	4235.	0.2287
1112.5	0.4066	4235.5	0.2356
1113.	0.365	4236.	0.04851
1113.5	0.4666	4236.5	0.1732
1114.	0.4227	4237.	0.3396
1114.5	0.4066	4237.5	0.3188
1115.	0.6815	4238.	0.2079
1115.5	0.2726	4238.5	0.2356
1116.	0.4135	4239.	0.2148
1116.5	0.5059	4239.5	0.2287
1117.	0.5059	4240.	0.2379
1117.5	0.5244	4240.5	0.1756
1118.	0.1802	4241.	0.2818
1118.5	0.4782	4241.5	0.1294
1119.	0.4897	4242.	0.2795
1119.5	0.5198	4242.5	0.2287
1120.	0.4782	4243.	0.06699
1120.5	0.6168	4243.5	0.3188
1121.	0.5798	4244.	0.07623
1121.5	0.3927	4244.5	0.08778
1122.	0.5706	4245.	0.07392

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1122.5	0.5429	4245.5	0.358
1123.	0.4343	4246.	0.4043
1123.5	0.3488	4246.5	0.3165
1124.	0.6006	4247.	0.1294
1124.5	0.5636	4247.5	0.2195
1125.	0.693	4248.	0.1363
1125.5	0.3557	4248.5	0.3765
1126.	0.3095	4249.	0.1917
1126.5	0.5359	4249.5	0.04158
1127.	0.5983	4250.	0.1594
1127.5	0.4782	4250.5	0.2472
1128.	0.4366	4251.	0.2795
1128.5	0.3742	4251.5	0.1594
1129.	0.4389	4252.	0.395
1129.5	0.6953	4252.5	-0.03696
1130.	0.4782	4253.	0.2795
1130.5	0.3557	4253.5	0.2795
1131.	0.6329	4254.	0.3234
1131.5	0.6468	4254.5	0.2795
1132.	0.3673	4255.	0.5613
1132.5	0.6006	4255.5	0.1594
1133.	0.4897	4256.	0.2379
1133.5	0.3742	4256.5	0.2449
1134.	0.5636	4257.	0.2079
1134.5	0.4112	4257.5	0.3973
1135.	0.5174	4258.	0.1802
1135.5	0.2541	4258.5	0.4181
1136.	0.4874	4259.	0.2171
1136.5	0.5174	4259.5	0.3211
1137.	0.3765	4260.	0.2472
1137.5	0.6352	4260.5	0.06006
1138.	0.3881	4261.	0.4782
1138.5	0.4135	4261.5	0.4343
1139.	0.7115	4262.	0.2633
1139.5	0.6006	4262.5	0.1294
1140.	0.4227	4263.	0.2564
1140.5	0.4089	4263.5	0.4043
1141.	0.395	4264.	0.2818
1141.5	0.5636	4264.5	0.3765
1142.	0.3765	4265.	0.1363
1142.5	0.4227	4265.5	0.2587
1143.	0.5174	4266.	0.2472
1143.5	0.2449	4266.5	0.298
1144.	0.6583	4267.	0.4782
1144.5	0.3095	4267.5	0.3604
1145.	0.4643	4268.	0.3234
1145.5	0.4759	4268.5	0.1363
1146.	0.4966	4269.	0.06006
1146.5	0.1987	4269.5	0.1109
1147.	0.328	4270.	0.00231
1147.5	0.5752	4270.5	0.1709
1148.	0.6445	4271.	0.1917
1148.5	0.358	4271.5	0.07392

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1149.	0.5983	4272.	0.2079
1149.5	0.5983	4272.5	0.1917
1150.	0.3557	4273.	0.05775
1150.5	0.3095	4273.5	-0.01848
1151.	0.5059	4274.	0.08778
1151.5	0.3095	4274.5	0.3188
1152.	0.5059	4275.	0.1502
1152.5	0.4343	4275.5	0.2633
1153.	0.4943	4276.	0.1363
1153.5	0.4874	4276.5	0.3396
1154.	0.4343	4277.	0.2657
1154.5	0.3119	4277.5	0.1594
1155.	0.2703	4278.	0.2795
1155.5	0.4366	4278.5	0.2795
1156.	0.3788	4279.	0.4227
1156.5	0.395	4279.5	0.1917
1157.	0.4551	4280.	0.2795
1157.5	0.499	4280.5	0.1917
1158.	0.4366	4281.	0.2356
1158.5	0.6329	4281.5	0.3072
1159.	0.3557	4282.	0.1502
1159.5	0.4089	4282.5	0.3604
1160.	0.6029	4283.	0.4458
1160.5	0.4366	4283.5	-0.02079
1161.	0.3303	4284.	0.1894
1161.5	0.4666	4284.5	0.1594
1162.	0.5082	4285.	-0.01617
1162.5	0.4366	4285.5	0.1502
1163.	0.5221	4286.	0.2472
1163.5	0.5221	4286.5	0.01155
1164.	0.4528	4287.	0.03003
1164.5	0.4759	4287.5	0.2657
1165.	0.4897	4288.	0.2841
1165.5	0.3881	4288.5	0.2171
1166.	0.4759	4289.	0.4043
1166.5	0.4089	4289.5	0.3788
1167.	0.663	4290.	0.3973
1167.5	0.4274	4290.5	0.2818
1168.	0.4897	4291.	0.1594
1168.5	0.3927	4291.5	0.3442
1169.	0.328	4292.	0.2402
1169.5	0.6422	4292.5	0.3072
1170.	0.4666	4293.	0.2841
1170.5	0.4089	4293.5	0.1732
1171.	0.6168	4294.	0.1779
1171.5	0.3488	4294.5	0.1294
1172.	0.4874	4295.	0.3211
1172.5	0.3488	4295.5	0.2657
1173.	0.8039	4296.	0.2472
1173.5	0.4089	4296.5	0.5267
1174.	0.3881	4297.	0.1294
1174.5	0.4874	4297.5	0.4204
1175.	0.3557	4298.	0.3673

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1175.5	0.5636	4298.5	0.1363
1176.	0.7022	4299.	0.2102
1176.5	0.3673	4299.5	0.2795
1177.	0.3765	4300.	0.2333
1177.5	0.4666	4300.5	0.1571
1178.	0.6006	4301.	0.1756
1178.5	0.395	4301.5	0.2287
1179.	0.3095	4302.	0.4782
1179.5	0.4366	4302.5	0.2171
1180.	0.395	4303.	0.201
1180.5	0.4966	4303.5	0.2934
1181.	0.2472	4304.	0.00924
1181.5	0.4551	4304.5	0.395
1182.	0.492	4305.	0.4805
1182.5	0.1478	4305.5	0.2102
1183.	0.4274	4306.	0.06006
1183.5	0.5382	4306.5	0.1779
1184.	0.3557	4307.	0.1294
1184.5	0.328	4307.5	0.2195
1185.	0.5405	4308.	0.4897
1185.5	0.3788	4308.5	0.1964
1186.	0.5429	4309.	0.08778
1186.5	0.4551	4309.5	0.1917
1187.	0.4666	4310.	0.2356
1187.5	0.3673	4310.5	0.3234
1188.	0.5405	4311.	0.3465
1188.5	0.5221	4311.5	0.1732
1189.	0.328	4312.	0.1964
1189.5	0.3488	4312.5	0.298
1190.	0.4389	4313.	0.2564
1190.5	0.3326	4313.5	0.1756
1191.	0.6237	4314.	0.07392
1191.5	0.5244	4314.5	0.03927
1192.	0.3765	4315.	0.3072
1192.5	0.5405	4315.5	0.1756
1193.	0.656	4316.	0.01155
1193.5	0.6815	4316.5	0.2818
1194.	0.4481	4317.	0.3973
1194.5	0.3488	4317.5	0.4366
1195.	0.4528	4318.	0.3211
1195.5	0.4066	4318.5	0.3095
1196.	0.499	4319.	0.3858
1196.5	0.3072	4319.5	0.1086
1197.	0.4782	4320.	0.02079
1197.5	0.3119	4320.5	0.3604
1198.	0.7022	4321.	0.05082
1198.5	0.5567	4321.5	0.3211
1199.	0.3858	4322.	0.1525
1199.5	0.5521	4322.5	0.1294
1200.	0.2356	4323.	0.3673
1200.5	0.6029	4323.5	0.2657
1201.	0.3119	4324.	0.3858
1201.5	0.5151	4324.5	0.1987

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1202.	0.2726	4325.	0.07161
1202.5	0.663	4325.5	0.1894
1203.	0.4805	4326.	0.2171
1203.5	0.2749	4326.5	0.4643
1204.	0.3881	4327.	0.201
1204.5	0.5198	4327.5	0.07161
1205.	0.4551	4328.	0.2356
1205.5	0.298	4328.5	0.1594
1206.	0.3881	4329.	0.2772
1206.5	0.3858	4329.5	0.2795
1207.	0.5983	4330.	0.1779
1207.5	0.2218	4330.5	0.3604
1208.	0.3119	4331.	0.1502
1208.5	0.6445	4331.5	0.3003
1209.	0.5567	4332.	0.2379
1209.5	0.3095	4332.5	0.5059
1210.	0.6168	4333.	0.1317
1210.5	0.5636	4333.5	0.4204
1211.	0.4874	4334.	0.3604
1211.5	0.5174	4334.5	0.1732
1212.	0.6653	4335.	0.2472
1212.5	0.5082	4335.5	0.2333
1213.	0.5059	4336.	0.2795
1213.5	0.5429	4336.5	0.2795
1214.	0.3765	4337.	0.3858
1214.5	0.4943	4337.5	0.2795
1215.	0.5429	4338.	0.2472
1215.5	0.5336	4338.5	0.2841
1216.	0.3142	4339.	0.05082
1216.5	0.4366	4339.5	0.2587
1217.	0.4343	4340.	0.3788
1217.5	0.4666	4340.5	0.07623
1218.	0.335	4341.	0.2818
1218.5	0.3488	4341.5	0.4343
1219.	0.3326	4342.	0.3673
1219.5	0.4089	4342.5	0.1917
1220.	0.5244	4343.	0.06006
1220.5	0.3488	4343.5	0.1502
1221.	0.4135	4344.	0.1155
1221.5	0.5382	4344.5	0.09702
1222.	0.3511	4345.	0.3881
1222.5	0.6422	4345.5	0.3396
1223.	0.5983	4346.	0.3604
1223.5	0.3095	4346.5	0.07623
1224.	0.2449	4347.	0.4181
1224.5	0.335	4347.5	0.2287
1225.	0.4135	4348.	0.298
1225.5	0.3119	4348.5	0.3396
1226.	0.5174	4349.	0.07392
1226.5	0.2703	4349.5	0.4204
1227.	0.365	4350.	0.2287
1227.5	0.7392	4350.5	0.2587
1228.	0.328	4351.	0.1964

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1228.5	0.4943	4351.5	0.2657
1229.	0.4551	4352.	0.1917
1229.5	0.3326	4352.5	0.1732
1230.	0.425	4353.	0.1294
1230.5	0.4551	4353.5	0.06237
1231.	0.4551	4354.	0.3996
1231.5	0.4366	4354.5	0.231
1232.	0.6768	4355.	0.134
1232.5	0.4274	4355.5	0.09702
1233.	0.3927	4356.	0.1964
1233.5	0.4089	4356.5	0.2657
1234.	0.3557	4357.	0.1917
1234.5	0.5198	4357.5	0.05775
1235.	0.5174	4358.	0.4966
1235.5	0.5798	4358.5	0.1294
1236.	0.3326	4359.	0.3072
1236.5	0.3858	4359.5	0.08778
1237.	0.06699	4360.	0.201
1237.5	0.3095	4360.5	0.04158
1238.	0.2356	4361.	0.1201
1238.5	0.4366	4361.5	0.134
1239.	0.2218	4362.	0.3442
1239.5	0.2472	4362.5	0.1201
1240.	0.3696	4363.	0.2818
1240.5	0.3673	4363.5	0.1201
1241.	0.3881	4364.	0.2379
1241.5	0.4966	4364.5	0.2287
1242.	0.3557	4365.	0.2657
1242.5	0.358	4365.5	0.1987
1243.	0.4782	4366.	0.3765
1243.5	0.4389	4366.5	0.4089
1244.	0.4551	4367.	0.00231
1244.5	0.4966	4367.5	0.2564
1245.	0.6653	4368.	0.08778
1245.5	0.4689	4368.5	0.3396
1246.	0.4782	4369.	0.2287
1246.5	0.6653	4369.5	0.194
1247.	0.5521	4370.	0.2495
1247.5	0.3465	4370.5	0.03003
1248.	0.4389	4371.	0.1363
1248.5	0.3119	4371.5	0.07392
1249.	0.3927	4372.	0.2287
1249.5	0.2564	4372.5	0.02079
1250.	0.4966	4373.	0.3858
1250.5	0.5151	4373.5	0.2356
1251.	0.3534	4374.	0.4574
1251.5	0.4366	4374.5	0.3858
1252.	0.492	4375.	0.1917
1252.5	0.3557	4375.5	0.02079
1253.	0.4574	4376.	0.1987
1253.5	0.3557	4376.5	0.2657
1254.	0.4089	4377.	0.2472
1254.5	0.6838	4377.5	0.2657

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1255.	0.6445	4378.	0.2079
1255.5	0.328	4378.5	0.2541
1256.	0.596	4379.	0.2356
1256.5	0.4666	4379.5	0.3765
1257.	0.3788	4380.	0.06006
1257.5	0.2541	4380.5	0.5359
1258.	0.5151	4381.	0.3234
1258.5	0.6468	4381.5	0.2818
1259.	0.5567	4382.	0.07161
1259.5	0.2472	4382.5	0.1756
1260.	0.5983	4383.	0.2287
1260.5	0.3904	4383.5	0.09702
1261.	0.3673	4384.	0.1987
1261.5	0.3119	4384.5	0.5729
1262.	0.3696	4385.	-0.06237
1262.5	0.3119	4385.5	0.1802
1263.	0.4782	4386.	0.3673
1263.5	0.492	4386.5	0.3765
1264.	0.4551	4387.	0.1317
1264.5	0.6006	4387.5	0.1709
1265.	0.3904	4388.	0.05082
1265.5	0.5452	4388.5	0.2171
1266.	0.3696	4389.	0.3973
1266.5	0.328	4389.5	0.2841
1267.	0.3557	4390.	0.1502
1267.5	0.5244	4390.5	0.3673
1268.	0.328	4391.	0.3211
1268.5	0.5244	4391.5	0.3003
1269.	0.5798	4392.	0.1594
1269.5	0.5174	4392.5	0.1779
1270.	0.7323	4393.	0.3049
1270.5	0.5798	4393.5	0.2587
1271.	0.5198	4394.	0.1756
1271.5	0.4551	4394.5	0.2472
1272.	0.4689	4395.	0.03234
1272.5	0.3996	4395.5	0.2472
1273.	0.4481	4396.	0.2333
1273.5	0.5429	4396.5	0.04158
1274.	0.626	4397.	0.1756
1274.5	0.328	4397.5	0.1917
1275.	0.5452	4398.	-0.07392
1275.5	0.5521	4398.5	0.09702
1276.	0.3765	4399.	0.2079
1276.5	0.4089	4399.5	-0.07623
1277.	0.4551	4400.	0.2356
1277.5	0.4389	4400.5	0.06237
1278.	0.3673	4401.	0.06006
1278.5	0.3142	4401.5	0.358
1279.	0.4943	4402.	0.4782
1279.5	0.4966	4402.5	0.3211
1280.	0.5036	4403.	0.2195
1280.5	0.2703	4403.5	0.1294
1281.	0.5983	4404.	0.1086

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1281.5	0.3511	4404.5	0.4343
1282.	0.4782	4405.	0.04851
1282.5	0.6352	4405.5	0.2356
1283.	0.7715	4406.	0.1178
1283.5	0.4528	4406.5	0.1987
1284.	0.4966	4407.	0.1987
1284.5	0.6445	4407.5	0.1756
1285.	0.656	4408.	0.2818
1285.5	0.4481	4408.5	0.07392
1286.	0.3673	4409.	0.2587
1286.5	0.3511	4409.5	0.3211
1287.	0.4505	4410.	0.1317
1287.5	0.2726	4410.5	0.201
1288.	0.5059	4411.	0.2472
1288.5	0.4481	4411.5	0.2818
1289.	0.4089	4412.	-0.1132
1289.5	0.4897	4412.5	0.2079
1290.	0.6168	4413.	0.1201
1290.5	0.5336	4413.5	0.09702
1291.	0.723	4414.	0.3373
1291.5	0.6006	4414.5	0.2795
1292.	0.6237	4415.	0.2657
1292.5	0.335	4415.5	0.2795
1293.	0.328	4416.	0.1363
1293.5	0.4666	4416.5	0.3604
1294.	0.5082	4417.	0.2195
1294.5	0.6653	4417.5	0.2657
1295.	0.663	4418.	0.1917
1295.5	0.1502	4418.5	0.4574
1296.	0.4782	4419.	0.1594
1296.5	0.3557	4419.5	0.3442
1297.	0.5775	4420.	0.2079
1297.5	0.395	4420.5	0.3396
1298.	0.499	4421.	0.1917
1298.5	0.4689	4421.5	0.3095
1299.	0.3142	4422.	0.1917
1299.5	0.6237	4422.5	-0.00924
1300.	0.4551	4423.	0.3003
1300.5	0.425	4423.5	0.298
1301.	0.6006	4424.	0.1756
1301.5	0.328	4424.5	0.1732
1302.	0.1894	4425.	0.2657
1302.5	0.4897	4425.5	0.1155
1303.	0.492	4426.	0.2079
1303.5	0.6745	4426.5	0.2795
1304.	0.3095	4427.	0.1109
1304.5	0.3696	4427.5	0.3211
1305.	0.1802	4428.	-0.01155
1305.5	0.5636	4428.5	0.1294
1306.	0.3072	4429.	0.425
1306.5	0.5544	4429.5	0.4366
1307.	0.5636	4430.	0.05082
1307.5	0.5636	4430.5	0.2079

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1308.	0.4481	4431.	0.1502
1308.5	0.5452	4431.5	0.2356
1309.	0.3904	4432.	0.261
1309.5	0.3119	4432.5	0.1756
1310.	0.5452	4433.	0.2079
1310.5	0.425	4433.5	0.1594
1311.	0.2888	4434.	0.4181
1311.5	0.3696	4434.5	0.1317
1312.	0.492	4435.	0.3003
1312.5	0.5636	4435.5	0.1756
1313.	0.3119	4436.	0.2472
1313.5	0.6445	4436.5	0.1178
1314.	0.4782	4437.	0.3234
1314.5	0.3373	4437.5	0.1178
1315.	0.3373	4438.	0.2795
1315.5	0.4689	4438.5	0.05082
1316.	0.5082	4439.	0.1201
1316.5	0.365	4439.5	0.04158
1317.	0.5336	4440.	0.3049
1317.5	0.5821	4440.5	0.2657
1318.	0.5174	4441.	0.2449
1318.5	0.5382	4441.5	0.1594
1319.	0.2587	4442.	0.2472
1319.5	0.4666	4442.5	0.04158
1320.	0.499	4443.	0.1594
1320.5	0.4366	4443.5	0.2287
1321.	0.5429	4444.	0.2171
1321.5	0.4481	4444.5	0.2449
1322.	0.3765	4445.	0.3396
1322.5	0.4689	4445.5	0.2472
1323.	0.4666	4446.	0.3881
1323.5	0.5382	4446.5	0.2472
1324.	0.3373	4447.	0.2841
1324.5	0.4528	4447.5	0.2795
1325.	0.3511	4448.	0.1502
1325.5	0.425	4448.5	0.3049
1326.	0.5636	4449.	0.1756
1326.5	0.4666	4449.5	-0.00924
1327.	0.4274	4450.	0.3396
1327.5	0.499	4450.5	0.1732
1328.	0.5382	4451.	0.2195
1328.5	0.3673	4451.5	0.1756
1329.	0.2726	4452.	0.2657
1329.5	0.5752	4452.5	0.2287
1330.	0.5429	4453.	0.1109
1330.5	0.4666	4453.5	0.2472
1331.	0.4389	4454.	0.2818
1331.5	0.6168	4454.5	0.1294
1332.	0.395	4455.	0.09009
1332.5	0.425	4455.5	0.3604
1333.	0.6168	4456.	0.3835
1333.5	0.4966	4456.5	0.3742
1334.	0.335	4457.	0.2218

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1334.5	0.2864	4457.5	0.03927
1335.	0.499	4458.	0.2125
1335.5	0.5983	4458.5	0.1363
1336.	0.4782	4459.	0.09702
1336.5	0.3788	4459.5	0.3211
1337.	0.2171	4460.	0.1594
1337.5	0.4389	4460.5	0.3742
1338.	0.3488	4461.	0.1987
1338.5	0.4551	4461.5	0.2171
1339.	0.4389	4462.	0.3858
1339.5	0.358	4462.5	0.1594
1340.	0.3095	4463.	0.2472
1340.5	0.335	4463.5	0.2079
1341.	0.5221	4464.	-0.01617
1341.5	0.5636	4464.5	0.1987
1342.	0.5244	4465.	0.1709
1342.5	0.5613	4465.5	0.1917
1343.	0.3673	4466.	-0.03465
1343.5	0.328	4466.5	0.2818
1344.	0.6468	4467.	0.1271
1344.5	0.4158	4467.5	0.3003
1345.	0.5174	4468.	0.07392
1345.5	0.5775	4468.5	0.01386
1346.	0.5429	4469.	0.1201
1346.5	0.5775	4469.5	0.4574
1347.	0.6168	4470.	-0.01848
1347.5	0.5821	4470.5	0.1779
1348.	0.298	4471.	0.3904
1348.5	0.7415	4471.5	0.1294
1349.	0.4666	4472.	0.1917
1349.5	0.4528	4472.5	0.1294
1350.	0.3119	4473.	0.2841
1350.5	0.3696	4473.5	0.2287
1351.	0.4897	4474.	0.1502
1351.5	0.3095	4474.5	0.03234
1352.	0.395	4475.	0.2472
1352.5	0.3881	4475.5	0.2541
1353.	0.3881	4476.	0.03234
1353.5	0.3119	4476.5	0.3396
1354.	0.3881	4477.	0.
1354.5	0.4112	4477.5	0.3211
1355.	0.3119	4478.	0.1363
1355.5	0.5752	4478.5	0.3072
1356.	0.3488	4479.	0.231
1356.5	0.4158	4479.5	0.3858
1357.	0.4966	4480.	0.2657
1357.5	0.499	4480.5	0.06699
1358.	0.4135	4481.	0.1756
1358.5	0.5452	4481.5	0.05082
1359.	0.2564	4482.	0.3604
1359.5	0.3696	4482.5	0.1756
1360.	0.3696	4483.	0.1732
1360.5	0.3557	4483.5	0.3881

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1361.	0.3119	4484.	0.1363
1361.5	0.298	4484.5	0.1294
1362.	0.3373	4485.	0.3049
1362.5	0.4828	4485.5	0.01848
1363.	0.3788	4486.	0.2818
1363.5	0.3765	4486.5	0.05082
1364.	0.4551	4487.	0.2171
1364.5	0.1802	4487.5	0.2102
1365.	0.358	4488.	0.2795
1365.5	0.2218	4488.5	0.1964
1366.	0.4481	4489.	0.2379
1366.5	0.4366	4489.5	0.1363
1367.	0.2079	4490.	0.3072
1367.5	0.2472	4490.5	0.2657
1368.	0.3673	4491.	0.1086
1368.5	0.358	4491.5	0.425
1369.	0.6468	4492.	0.03927
1369.5	0.5082	4492.5	0.1756
1370.	0.2749	4493.	0.0924
1370.5	0.425	4493.5	-0.03234
1371.	0.6976	4494.	0.231
1371.5	0.3858	4494.5	0.03003
1372.	0.3326	4495.	0.09702
1372.5	0.5429	4495.5	0.2195
1373.	0.4481	4496.	0.2772
1373.5	0.2564	4496.5	0.09009
1374.	0.4666	4497.	0.365
1374.5	0.492	4497.5	0.2171
1375.	0.2911	4498.	0.4389
1375.5	0.6237	4498.5	0.231
1376.	0.2911	4499.	0.3996
1376.5	0.4089	4499.5	0.2795
1377.	0.3373	4500.	0.3095
1377.5	0.6168	4500.5	0.2818
1378.	0.358	4501.	0.2472
1378.5	0.4089	4501.5	0.1086
1379.	0.5082	4502.	0.3072
1379.5	0.3303	4502.5	0.09471
1380.	0.4158	4503.	0.02079
1380.5	0.3673	4503.5	0.3396
1381.	0.5567	4504.	0.09702
1381.5	0.2749	4504.5	0.3095
1382.	0.5798	4505.	0.06237
1382.5	0.5244	4505.5	0.07392
1383.	0.4481	4506.	0.03234
1383.5	0.4158	4506.5	0.231
1384.	0.4274	4507.	0.1917
1384.5	0.4481	4507.5	-0.1756
1385.	0.358	4508.	0.1594
1385.5	0.2726	4508.5	0.2564
1386.	0.4481	4509.	-0.01617
1386.5	0.4782	4509.5	0.07392
1387.	0.4089	4510.	0.2818

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1387.5	0.3511	4510.5	0.1201
1388.	0.4689	4511.	0.2657
1388.5	0.626	4511.5	0.1478
1389.	0.492	4512.	0.3442
1389.5	0.3788	4512.5	0.1086
1390.	0.3557	4513.	0.1594
1390.5	0.499	4513.5	0.3211
1391.	0.3557	4514.	0.1317
1391.5	0.5775	4514.5	0.3072
1392.	0.5798	4515.	0.01386
1392.5	0.3095	4515.5	0.1363
1393.	0.3927	4516.	0.1917
1393.5	0.3696	4516.5	0.05775
1394.	0.5752	4517.	0.1155
1394.5	0.5013	4517.5	0.3072
1395.	0.6168	4518.	0.02079
1395.5	0.5359	4518.5	0.1756
1396.	0.4481	4519.	0.1917
1396.5	0.2218	4519.5	0.2472
1397.	0.3973	4520.	0.1502
1397.5	0.4481	4520.5	0.3072
1398.	0.3488	4521.	0.1201
1398.5	0.4481	4521.5	0.08778
1399.	0.4689	4522.	0.2195
1399.5	0.4966	4522.5	-0.00924
1400.	0.2911	4523.	0.3211
1400.5	0.4089	4523.5	0.2841
1401.	0.5244	4524.	0.1594
1401.5	0.3119	4524.5	0.1779
1402.	0.2749	4525.	0.1525
1402.5	0.4759	4525.5	0.09702
1403.	0.499	4526.	0.134
1403.5	0.3765	4526.5	0.1109
1404.	0.499	4527.	0.2587
1404.5	0.3373	4527.5	0.1917
1405.	0.3696	4528.	0.00231
1405.5	0.5752	4528.5	0.3234
1406.	0.492	4529.	0.4204
1406.5	0.6607	4529.5	0.2379
1407.	0.3488	4530.	0.3095
1407.5	0.5405	4530.5	0.1594
1408.	0.3488	4531.	0.1478
1408.5	0.3904	4531.5	0.1294
1409.	0.4158	4532.	0.365
1409.5	0.4274	4532.5	0.2171
1410.	0.6237	4533.	0.09009
1410.5	0.5244	4533.5	0.1917
1411.	0.6861	4534.	0.1294
1411.5	0.2472	4534.5	0.2472
1412.	0.3604	4535.	0.1201
1412.5	0.395	4535.5	0.231
1413.	0.5567	4536.	0.2587
1413.5	0.4066	4536.5	0.00231

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1414.	0.3119	4537.	0.1987
1414.5	0.5798	4537.5	0.2356
1415.	0.3488	4538.	0.3881
1415.5	0.3373	4538.5	0.3673
1416.	0.2888	4539.	0.231
1416.5	0.3119	4539.5	0.1594
1417.	0.3904	4540.	0.3095
1417.5	0.5244	4540.5	0.2495
1418.	0.4089	4541.	0.05313
1418.5	0.5359	4541.5	0.2102
1419.	0.4181	4542.	0.02079
1419.5	0.7669	4542.5	0.0693
1420.	0.2911	4543.	0.2102
1420.5	0.2726	4543.5	0.3211
1421.	0.6653	4544.	0.2171
1421.5	0.5382	4544.5	0.2356
1422.	0.492	4545.	0.1502
1422.5	0.5382	4545.5	0.1294
1423.	0.6791	4546.	0.07392
1423.5	0.3095	4546.5	0.1594
1424.	0.4089	4547.	0.1917
1424.5	0.492	4547.5	0.09702
1425.	0.3165	4548.	0.2841
1425.5	0.5359	4548.5	0.3465
1426.	0.2472	4549.	0.1063
1426.5	0.5567	4549.5	0.2356
1427.	0.4112	4550.	0.3465
1427.5	0.1987	4550.5	0.2287
1428.	0.4551	4551.	0.2957
1428.5	0.4366	4551.5	0.1756
1429.	0.3696	4552.	0.3003
1429.5	0.4112	4552.5	0.231
1430.	0.4089	4553.	-0.1502
1430.5	0.4551	4553.5	0.2564
1431.	0.5636	4554.	0.2287
1431.5	0.6168	4554.5	0.3396
1432.	0.5082	4555.	0.1109
1432.5	0.2726	4555.5	0.1894
1433.	0.3511	4556.	0.1317
1433.5	0.5752	4556.5	0.1363
1434.	0.5082	4557.	0.3604
1434.5	0.5244	4557.5	0.03927
1435.	0.3511	4558.	0.2079
1435.5	0.5267	4558.5	-0.01617
1436.	0.4481	4559.	0.201
1436.5	0.2472	4559.5	0.231
1437.	0.4089	4560.	-0.03927
1437.5	0.6791	4560.5	0.2102
1438.	0.2125	4561.	0.1178
1438.5	0.2749	4561.5	0.2657
1439.	0.4759	4562.	0.3188
1439.5	0.2102	4562.5	0.1732
1440.	0.3557	4563.	0.3396

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1440.5	0.365	4563.5	0.2587
1441.	0.5636	4564.	0.3673
1441.5	0.3303	4564.5	0.2818
1442.	0.2472	4565.	0.3788
1442.5	0.298	4565.5	0.2541
1443.	0.6838	4566.	0.201
1443.5	0.3557	4566.5	0.2333
1444.	0.3973	4567.	0.2472
1444.5	0.5221	4567.5	0.3673
1445.	0.2356	4568.	0.2287
1445.5	0.2726	4568.5	0.5452
1446.	0.3696	4569.	0.2195
1446.5	0.4297	4569.5	0.3858
1447.	0.6768	4570.	0.08778
1447.5	0.6445	4570.5	0.08778
1448.	0.268	4571.	0.1548
1448.5	0.7115	4571.5	0.08778
1449.	0.4551	4572.	0.09702
1449.5	0.5382	4572.5	0.4066
1450.	0.6029	4573.	0.1086
1450.5	0.4528	4573.5	0.1109
1451.	0.3973	4574.	0.2472
1451.5	0.1686	4574.5	0.1732
1452.	0.5059	4575.	0.1525
1452.5	0.5382	4575.5	0.2171
1453.	0.3604	4576.	0.1987
1453.5	0.4343	4576.5	0.3604
1454.	0.4158	4577.	0.1756
1454.5	0.4112	4577.5	0.2818
1455.	0.328	4578.	0.2587
1455.5	0.2472	4578.5	0.1756
1456.	0.5244	4579.	0.1802
1456.5	0.3696	4579.5	0.3604
1457.	0.4274	4580.	0.2079
1457.5	0.3373	4580.5	-0.03696
1458.	0.5798	4581.	0.2564
1458.5	0.3003	4581.5	0.2195
1459.	0.6676	4582.	0.2125
1459.5	0.4689	4582.5	0.1363
1460.	0.6168	4583.	0.3673
1460.5	0.6006	4583.5	0.2587
1461.	0.5636	4584.	0.3211
1461.5	0.395	4584.5	0.2287
1462.	0.3373	4585.	0.2564
1462.5	0.5082	4585.5	0.1779
1463.	0.3373	4586.	0.4043
1463.5	0.3604	4586.5	0.3396
1464.	0.4828	4587.	0.2379
1464.5	0.5267	4587.5	0.1732
1465.	0.5382	4588.	0.268
1465.5	0.09933	4588.5	0.1363
1466.	0.4481	4589.	0.02079
1466.5	0.4389	4589.5	0.05082

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1467.	0.3119	4590.	0.02079
1467.5	0.3973	4590.5	0.09009
1468.	0.559	4591.	0.2772
1468.5	0.328	4591.5	0.1917
1469.	0.4551	4592.	0.3673
1469.5	0.6237	4592.5	0.2171
1470.	0.4689	4593.	0.2195
1470.5	0.3788	4593.5	0.1525
1471.	0.4089	4594.	0.1917
1471.5	0.5659	4594.5	0.4782
1472.	0.4782	4595.	0.2402
1472.5	0.3142	4595.5	0.3811
1473.	0.6676	4596.	0.01386
1473.5	0.5821	4596.5	0.2633
1474.	0.5636	4597.	0.1732
1474.5	0.6791	4597.5	0.2841
1475.	0.4089	4598.	0.1294
1475.5	0.6676	4598.5	0.2818
1476.	0.4551	4599.	0.1201
1476.5	0.1432	4599.5	0.1756
1477.	0.5082	4600.	0.01848
1477.5	0.395	4600.5	0.1756
1478.	0.3765	4601.	0.194
1478.5	0.2218	4601.5	0.
1479.	0.1917	4602.	0.04851
1479.5	0.5729	4602.5	0.1917
1480.	0.3095	4603.	0.3396
1480.5	0.298	4603.5	0.3673
1481.	0.5082	4604.	0.2841
1481.5	0.4366	4604.5	0.1525
1482.	0.559	4605.	-0.03927
1482.5	0.2472	4605.5	0.3095
1483.	0.5659	4606.	0.09009
1483.5	0.4782	4606.5	-0.01617
1484.	0.2472	4607.	0.201
1484.5	0.626	4607.5	0.1502
1485.	0.5452	4608.	0.1894
1485.5	0.4481	4608.5	0.298
1486.	0.3534	4609.	0.2195
1486.5	0.4089	4609.5	0.2356
1487.	0.164	4610.	0.2795
1487.5	0.4274	4610.5	0.09702
1488.	0.4112	4611.	0.3396
1488.5	0.4089	4611.5	0.2818
1489.	0.3696	4612.	0.2657
1489.5	0.2726	4612.5	0.1201
1490.	0.4481	4613.	0.1525
1490.5	0.3142	4613.5	0.2102
1491.	0.5336	4614.	0.1917
1491.5	0.4666	4614.5	0.2657
1492.	0.4689	4615.	0.1594
1492.5	0.2957	4615.5	0.2472
1493.	0.4966	4616.	0.4204

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1493.5	0.492	4616.5	0.1086
1494.	0.3142	4617.	0.07161
1494.5	0.6468	4617.5	0.1987
1495.	0.3165	4618.	0.3396
1495.5	0.2726	4618.5	0.3419
1496.	0.6029	4619.	0.2472
1496.5	0.6029	4619.5	0.1109
1497.	0.3904	4620.	0.1779
1497.5	0.3904	4620.5	0.4481
1498.	0.4805	4621.	0.0693
1498.5	0.3927	4621.5	0.1525
1499.	0.3696	4622.	0.1594
1499.5	0.4089	4622.5	0.1201
1500.	0.3511	4623.	0.2472
1500.5	0.2287	4623.5	-0.03927
1501.	0.5798	4624.	0.2841
1501.5	0.3904	4624.5	0.09702
1502.	0.3696	4625.	0.1317
1502.5	0.3511	4625.5	0.2171
1503.	0.3904	4626.	0.1109
1503.5	0.4274	4626.5	0.01386
1504.	0.298	4627.	0.2472
1504.5	0.2472	4627.5	0.3211
1505.	0.5452	4628.	0.3396
1505.5	0.358	4628.5	0.194
1506.	0.2287	4629.	0.3234
1506.5	0.3696	4629.5	0.3742
1507.	0.4689	4630.	-0.07161
1507.5	0.5267	4630.5	0.1317
1508.	0.3788	4631.	0.1594
1508.5	0.3003	4631.5	0.1363
1509.	0.4274	4632.	0.1317
1509.5	0.4089	4632.5	0.3696
1510.	0.3904	4633.	0.2564
1510.5	0.03234	4633.5	0.2472
1511.	0.6791	4634.	0.06006
1511.5	0.4689	4634.5	0.1987
1512.	0.3696	4635.	0.2079
1512.5	0.4343	4635.5	0.1571
1513.	0.6029	4636.	0.3396
1513.5	0.4389	4636.5	0.3396
1514.	0.5752	4637.	0.03003
1514.5	0.3511	4637.5	0.1525
1515.	0.6329	4638.	0.231
1515.5	0.3973	4638.5	0.1917
1516.	0.5244	4639.	0.1525
1516.5	0.3488	4639.5	0.2587
1517.	0.5244	4640.	0.1594
1517.5	0.4158	4640.5	0.1294
1518.	0.328	4641.	0.3396
1518.5	0.4481	4641.5	0.2472
1519.	0.3326	4642.	0.231
1519.5	0.3696	4642.5	0.1917

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1520.	0.6168	4643.	0.0693
1520.5	0.3696	4643.5	0.1294
1521.	0.3003	4644.	0.1756
1521.5	0.5082	4644.5	0.499
1522.	0.5382	4645.	0.09009
1522.5	0.2911	4645.5	0.3072
1523.	0.5267	4646.	0.3465
1523.5	0.5636	4646.5	0.08778
1524.	0.4135	4647.	0.4458
1524.5	0.3303	4647.5	0.4343
1525.	0.663	4648.	0.134
1525.5	0.5636	4648.5	0.3095
1526.	0.3788	4649.	0.2102
1526.5	0.6791	4649.5	0.2148
1527.	0.3881	4650.	0.09702
1527.5	0.4112	4650.5	0.2472
1528.	0.395	4651.	0.3211
1528.5	0.2287	4651.5	0.1732
1529.	0.4135	4652.	-0.01848
1529.5	0.6191	4652.5	0.2195
1530.	0.3904	4653.	0.1732
1530.5	0.3996	4653.5	0.2472
1531.	0.1224	4654.	0.2333
1531.5	0.3119	4654.5	0.1178
1532.	0.4297	4655.	-0.01848
1532.5	0.2749	4655.5	0.1201
1533.	0.5382	4656.	0.09009
1533.5	0.6006	4656.5	0.4597
1534.	0.4574	4657.	0.1756
1534.5	0.8085	4657.5	0.3072
1535.	0.4158	4658.	0.3188
1535.5	0.3373	4658.5	0.1917
1536.	0.4551	4659.	0.00231
1536.5	0.4158	4659.5	0.3604
1537.	0.5429	4660.	0.3072
1537.5	0.1686	4660.5	0.1525
1538.	0.4551	4661.	0.1109
1538.5	0.6445	4661.5	0.1756
1539.	0.6352	4662.	0.1317
1539.5	0.335	4662.5	0.04851
1540.	0.3765	4663.	0.2472
1540.5	0.4066	4663.5	0.1594
1541.	0.3396	4664.	0.08778
1541.5	0.5082	4664.5	0.1987
1542.	0.3373	4665.	0.1363
1542.5	0.3604	4665.5	0.298
1543.	0.5267	4666.	0.1594
1543.5	0.4112	4666.5	0.201
1544.	0.6006	4667.	0.2079
1544.5	0.4782	4667.5	0.231
1545.	0.6283	4668.	0.06006
1545.5	0.3973	4668.5	0.1294
1546.	0.5221	4669.	-0.07392

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1546.5	0.3396	4669.5	0.1732
1547.	0.2472	4670.	0.1779
1547.5	0.2472	4670.5	0.3858
1548.	0.3788	4671.	0.2564
1548.5	0.4551	4671.5	0.05775
1549.	0.3557	4672.	0.1201
1549.5	0.5013	4672.5	0.201
1550.	0.4689	4673.	0.1987
1550.5	0.5475	4673.5	0.1917
1551.	0.4805	4674.	0.1917
1551.5	0.5544	4674.5	0.1502
1552.	0.5752	4675.	0.4366
1552.5	0.4481	4675.5	0.2171
1553.	0.4966	4676.	0.2287
1553.5	0.08547	4676.5	0.3396
1554.	0.3904	4677.	0.2333
1554.5	0.1686	4677.5	0.1525
1555.	0.5244	4678.	0.1987
1555.5	0.2726	4678.5	0.2148
1556.	0.358	4679.	0.2472
1556.5	0.4389	4679.5	0.1525
1557.	0.4158	4680.	0.1086
1557.5	0.1432	4680.5	0.298
1558.	0.5198	4681.	0.3604
1558.5	0.335	4681.5	0.201
1559.	0.4112	4682.	-0.09933
1559.5	0.4551	4682.5	0.3188
1560.	0.2495	4683.	0.1502
1560.5	0.3904	4683.5	0.1917
1561.	0.2241	4684.	0.09702
1561.5	0.5775	4684.5	0.201
1562.	0.4481	4685.	0.4043
1562.5	0.2171	4685.5	0.2541
1563.	0.5429	4686.	0.2102
1563.5	0.5013	4686.5	0.1594
1564.	0.4366	4687.	0.1502
1564.5	0.4389	4687.5	-0.08085
1565.	0.3326	4688.	0.2449
1565.5	0.4782	4688.5	0.1525
1566.	0.4181	4689.	0.09702
1566.5	0.3534	4689.5	0.2472
1567.	0.4689	4690.	0.2171
1567.5	0.2911	4690.5	0.07392
1568.	0.5082	4691.	0.2957
1568.5	0.2033	4691.5	0.07854
1569.	0.3142	4692.	0.1964
1569.5	0.3788	4692.5	0.2195
1570.	0.3973	4693.	0.1363
1570.5	0.5198	4693.5	0.1594
1571.	0.5221	4694.	0.1756
1571.5	0.3765	4694.5	0.1086
1572.	0.5752	4695.	0.2379
1572.5	0.4828	4695.5	0.09702

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1573.	0.425	4696.	0.06237
1573.5	0.4389	4696.5	0.1178
1574.	0.4297	4697.	0.2102
1574.5	0.3165	4697.5	0.2795
1575.	0.2079	4698.	0.1201
1575.5	0.425	4698.5	-0.00462
1576.	0.298	4699.	0.1363
1576.5	0.3719	4699.5	0.3604
1577.	0.3396	4700.	0.3442
1577.5	0.4551	4700.5	0.2102
1578.	0.3003	4701.	0.3811
1578.5	0.3396	4701.5	0.4366
1579.	0.3904	4702.	0.1109
1579.5	0.3373	4702.5	0.2287
1580.	0.492	4703.	0.1502
1580.5	0.3673	4703.5	0.231
1581.	0.492	4704.	0.1917
1581.5	0.499	4704.5	0.2841
1582.	0.3095	4705.	0.2795
1582.5	0.5544	4705.5	0.2818
1583.	0.2102	4706.	0.1178
1583.5	0.4897	4706.5	0.1987
1584.	0.6607	4707.	0.3604
1584.5	0.4551	4707.5	0.3673
1585.	0.4181	4708.	0.2841
1585.5	0.3811	4708.5	0.1525
1586.	0.4805	4709.	0.3396
1586.5	0.4389	4709.5	0.02079
1587.	0.3511	4710.	0.03003
1587.5	0.559	4710.5	0.08778
1588.	0.5244	4711.	0.0231
1588.5	0.4481	4711.5	0.08778
1589.	0.5844	4712.	0.1917
1589.5	0.3927	4712.5	0.2657
1590.	0.5382	4713.	0.0693
1590.5	0.3119	4713.5	0.298
1591.	0.4805	4714.	0.1086
1591.5	0.298	4714.5	0.1294
1592.	0.3119	4715.	0.01848
1592.5	0.3973	4715.5	0.2171
1593.	0.5059	4716.	0.1756
1593.5	0.3604	4716.5	0.2657
1594.	0.4505	4717.	0.1502
1594.5	0.3373	4717.5	0.2818
1595.	0.6376	4718.	0.03234
1595.5	0.3696	4718.5	0.1756
1596.	0.358	4719.	0.2818
1596.5	0.164	4719.5	0.07392
1597.	0.298	4720.	0.08778
1597.5	0.3696	4720.5	0.3396
1598.	0.5382	4721.	0.07623
1598.5	0.5405	4721.5	0.2356
1599.	0.499	4722.	0.1594

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1599.5	0.3488	4722.5	0.09009
1600.	0.4666	4723.	0.1294
1600.5	0.3973	4723.5	0.201
1601.	0.499	4724.	0.5336
1601.5	0.6583	4724.5	0.2287
1602.	0.5659	4725.	0.1201
1602.5	0.3696	4725.5	0.2171
1603.	0.3604	4726.	0.2472
1603.5	0.6006	4726.5	0.2657
1604.	0.4481	4727.	0.1779
1604.5	0.1224	4727.5	0.2287
1605.	0.4158	4728.	0.1917
1605.5	0.5382	4728.5	0.09471
1606.	0.5221	4729.	0.231
1606.5	0.3142	4729.5	0.1732
1607.	0.3142	4730.	0.231
1607.5	0.1271	4730.5	0.2379
1608.	0.3904	4731.	0.3858
1608.5	0.5567	4731.5	0.2818
1609.	0.2402	4732.	0.1109
1609.5	0.5983	4732.5	0.3396
1610.	0.1271	4733.	0.3881
1610.5	0.328	4733.5	0.04851
1611.	0.298	4734.	0.2195
1611.5	0.4089	4734.5	0.2657
1612.	0.492	4735.	0.2102
1612.5	0.2749	4735.5	0.
1613.	0.3696	4736.	0.1732
1613.5	0.5636	4736.5	0.2079
1614.	0.6861	4737.	0.3788
1614.5	0.4181	4737.5	0.231
1615.	0.499	4738.	0.2102
1615.5	0.3696	4738.5	0.1386
1616.	0.4689	4739.	0.298
1616.5	0.3373	4739.5	-0.07854
1617.	0.4574	4740.	0.2472
1617.5	0.2772	4740.5	0.07392
1618.	0.2518	4741.	0.07161
1618.5	0.3557	4741.5	0.2818
1619.	0.4481	4742.	0.2795
1619.5	0.3373	4742.5	0.03234
1620.	0.4481	4743.	0.1294
1620.5	0.2911	4743.5	0.3396
1621.	0.2726	4744.	0.2287
1621.5	0.1432	4744.5	0.1363
1622.	0.3373	4745.	0.1178
1622.5	0.4597	4745.5	0.201
1623.	0.6006	4746.	0.01386
1623.5	0.2749	4746.5	0.3604
1624.	0.5198	4747.	0.2587
1624.5	0.2726	4747.5	0.1363
1625.	0.335	4748.	0.3996
1625.5	0.492	4748.5	0.3442

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1626.	0.5798	4749.	0.2818
1626.5	0.626	4749.5	0.3673
1627.	0.3095	4750.	0.1525
1627.5	0.358	4750.5	0.3026
1628.	0.4505	4751.	0.09702
1628.5	0.6676	4751.5	0.2402
1629.	0.2495	4752.	0.3095
1629.5	0.3904	4752.5	0.03003
1630.	0.7092	4753.	0.05082
1630.5	0.5844	4753.5	0.1502
1631.	0.298	4754.	0.08778
1631.5	0.3696	4754.5	-0.03696
1632.	0.3973	4755.	0.4204
1632.5	0.4389	4755.5	0.1317
1633.	0.4158	4756.	0.2171
1633.5	0.2749	4756.5	-0.07392
1634.	0.7346	4757.	0.4574
1634.5	0.3696	4757.5	0.09009
1635.	0.4712	4758.	0.06006
1635.5	0.3142	4758.5	0.3257
1636.	0.231	4759.	0.3234
1636.5	0.559	4759.5	0.3858
1637.	0.3373	4760.	0.1386
1637.5	0.2587	4760.5	0.3604
1638.	0.4828	4761.	0.4181
1638.5	0.3811	4761.5	0.3765
1639.	0.3904	4762.	0.3465
1639.5	0.3557	4762.5	0.2102
1640.	0.5267	4763.	0.3742
1640.5	0.6006	4763.5	0.1732
1641.	0.3696	4764.	0.3211
1641.5	0.3326	4764.5	0.3003
1642.	0.358	4765.	0.04851
1642.5	0.3303	4765.5	0.2102
1643.	0.3326	4766.	0.1063
1643.5	0.358	4766.5	0.2657
1644.	0.492	4767.	0.09702
1644.5	0.5844	4767.5	0.3604
1645.	0.08085	4768.	0.1363
1645.5	0.4551	4768.5	0.07623
1646.	0.4574	4769.	0.1317
1646.5	0.2472	4769.5	0.2195
1647.	0.3119	4770.	0.06237
1647.5	0.5244	4770.5	0.3211
1648.	0.4089	4771.	0.1201
1648.5	0.4112	4771.5	0.1294
1649.	0.5775	4772.	0.2795
1649.5	0.3303	4772.5	0.2287
1650.	0.5798	4773.	0.1317
1650.5	0.2911	4773.5	0.1294
1651.	0.3973	4774.	0.3095
1651.5	0.5752	4774.5	0.1779
1652.	0.3557	4775.	0.1294

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1652.5	0.3534	4775.5	0.3696
1653.	0.5244	4776.	0.1063
1653.5	0.529	4776.5	0.2472
1654.	0.4158	4777.	0.2472
1654.5	0.559	4777.5	0.1756
1655.	0.3326	4778.	0.1594
1655.5	0.2379	4778.5	0.2218
1656.	0.6191	4779.	0.1917
1656.5	0.2033	4779.5	0.2633
1657.	0.2241	4780.	0.201
1657.5	0.1848	4780.5	0.3396
1658.	0.4089	4781.	0.3604
1658.5	0.6861	4781.5	0.1917
1659.	0.4805	4782.	0.2356
1659.5	0.5082	4782.5	0.1756
1660.	0.3165	4783.	0.07623
1660.5	0.1825	4783.5	0.2287
1661.	0.2749	4784.	0.2287
1661.5	0.3396	4784.5	0.1502
1662.	0.358	4785.	-0.00693
1662.5	0.3904	4785.5	0.08778
1663.	0.4181	4786.	0.3627
1663.5	0.1848	4786.5	0.03927
1664.	0.5452	4787.	0.3881
1664.5	0.3996	4787.5	0.1917
1665.	0.2379	4788.	0.2657
1665.5	0.3811	4788.5	0.3003
1666.	0.4389	4789.	0.1478
1666.5	0.4966	4789.5	0.4574
1667.	0.5798	4790.	0.1917
1667.5	0.2195	4790.5	0.1917
1668.	0.2749	4791.	0.3095
1668.5	0.4181	4791.5	0.201
1669.	0.3119	4792.	0.08778
1669.5	0.6168	4792.5	0.2587
1670.	0.3765	4793.	0.06237
1670.5	0.2356	4793.5	0.2171
1671.	0.3303	4794.	0.499
1671.5	0.4204	4794.5	0.1086
1672.	0.1871	4795.	0.1917
1672.5	0.6029	4795.5	0.2195
1673.	0.4366	4796.	0.3465
1673.5	0.4181	4796.5	0.1917
1674.	0.4551	4797.	0.4043
1674.5	0.4274	4797.5	0.4505
1675.	0.4574	4798.	0.09009
1675.5	0.4112	4798.5	0.06237
1676.	0.2287	4799.	0.03003
1676.5	0.4966	4799.5	0.4204
1677.	0.298	4800.	0.09702
1677.5	0.4389	4800.5	0.2657
1678.	0.3696	4801.	0.2171
1678.5	0.3396	4801.5	0.0924

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1679.	0.4551	4802.	0.1317
1679.5	0.529	4802.5	0.01386
1680.	0.5775	4803.	0.1987
1680.5	0.3119	4803.5	0.1917
1681.	0.5659	4804.	0.01617
1681.5	0.3811	4804.5	0.3188
1682.	0.6491	4805.	0.1802
1682.5	0.2356	4805.5	0.04851
1683.	0.4505	4806.	0.2657
1683.5	0.4274	4806.5	0.3026
1684.	0.5798	4807.	0.09702
1684.5	0.3165	4807.5	0.04851
1685.	0.4481	4808.	0.09009
1685.5	0.2379	4808.5	0.04158
1686.	0.2772	4809.	0.03927
1686.5	0.4805	4809.5	0.4597
1687.	0.3142	4810.	0.3211
1687.5	0.4181	4810.5	0.5013
1688.	0.5221	4811.	0.1756
1688.5	0.3142	4811.5	0.1779
1689.	0.4274	4812.	0.2841
1689.5	0.3373	4812.5	-0.03465
1690.	0.3142	4813.	0.1917
1690.5	0.3696	4813.5	0.3072
1691.	0.3511	4814.	0.1594
1691.5	0.3142	4814.5	0.2171
1692.	0.358	4815.	0.1594
1692.5	0.3303	4815.5	0.1525
1693.	0.1432	4816.	0.2841
1693.5	0.2033	4816.5	0.1732
1694.	0.4089	4817.	0.3765
1694.5	0.3904	4817.5	0.3211
1695.	0.3326	4818.	0.3026
1695.5	0.3904	4818.5	0.4366
1696.	0.4366	4819.	0.09471
1696.5	0.2772	4819.5	0.3072
1697.	0.5267	4820.	0.05313
1697.5	0.3904	4820.5	0.1201
1698.	0.2287	4821.	0.2795
1698.5	0.4297	4821.5	0.1386
1699.	0.5544	4822.	0.1363
1699.5	0.5267	4822.5	0.2356
1700.	0.4528	4823.	0.1409
1700.5	0.3326	4823.5	0.1271
1701.	0.5775	4824.	0.5013
1701.5	0.492	4824.5	-0.1109
1702.	0.3026	4825.	0.1525
1702.5	0.425	4825.5	0.1732
1703.	0.4089	4826.	0.1756
1703.5	0.358	4826.5	0.07161
1704.	0.5452	4827.	0.1178
1704.5	0.5983	4827.5	0.1363
1705.	0.358	4828.	-0.03003

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1705.5	0.3373	4828.5	0.03927
1706.	0.4297	4829.	0.3742
1706.5	0.3003	4829.5	0.298
1707.	0.1086	4830.	-0.09471
1707.5	0.3511	4830.5	-0.1732
1708.	0.358	4831.	0.1779
1708.5	0.5198	4831.5	0.2818
1709.	0.5844	4832.	0.2841
1709.5	0.5082	4832.5	0.2657
1710.	0.7438	4833.	0.09009
1710.5	0.3165	4833.5	0.1594
1711.	0.2125	4834.	0.298
1711.5	0.3788	4834.5	0.2795
1712.	0.5082	4835.	0.07392
1712.5	0.298	4835.5	0.201
1713.	0.3904	4836.	0.02079
1713.5	0.4158	4836.5	0.2195
1714.	0.4805	4837.	0.1917
1714.5	0.492	4837.5	0.1294
1715.	0.4089	4838.	0.01386
1715.5	0.3511	4838.5	0.3396
1716.	0.1917	4839.	0.1756
1716.5	0.492	4839.5	0.1617
1717.	0.2402	4840.	0.2079
1717.5	0.5798	4840.5	-0.06006
1718.	0.2125	4841.	0.2587
1718.5	0.358	4841.5	0.02079
1719.	0.3119	4842.	0.2795
1719.5	0.3026	4842.5	0.2287
1720.	0.4112	4843.	0.08778
1720.5	0.3326	4843.5	0.2841
1721.	0.3719	4844.	0.4666
1721.5	0.4158	4844.5	0.00462
1722.	0.3419	4845.	0.0693
1722.5	0.2749	4845.5	0.3673
1723.	0.4828	4846.	0.1271
1723.5	0.2934	4846.5	0.2564
1724.	0.4112	4847.	0.1363
1724.5	0.4274	4847.5	0.2287
1725.	0.4158	4848.	0.201
1725.5	0.3927	4848.5	0.2171
1726.	0.231	4849.	0.2472
1726.5	0.4274	4849.5	0.07161
1727.	0.4158	4850.	0.1756
1727.5	0.3904	4850.5	0.1756
1728.	0.4805	4851.	0.2472
1728.5	0.5498	4851.5	0.03003
1729.	0.3973	4852.	0.2287
1729.5	0.5082	4852.5	-0.01617
1730.	0.2749	4853.	0.201
1730.5	0.2241	4853.5	0.2587
1731.	0.2888	4854.	0.3188
1731.5	0.3696	4854.5	0.1987

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1732.	0.5221	4855.	0.1201
1732.5	0.3003	4855.5	0.07392
1733.	0.4481	4856.	0.1201
1733.5	0.2472	4856.5	0.05082
1734.	0.298	4857.	0.3604
1734.5	0.3788	4857.5	0.1109
1735.	0.2911	4858.	0.2356
1735.5	0.358	4858.5	0.1756
1736.	0.3604	4859.	0.1201
1736.5	0.5405	4859.5	0.1779
1737.	0.6468	4860.	0.09009
1737.5	0.4481	4860.5	0.1386
1738.	0.1871	4861.	0.1109
1738.5	0.4274	4861.5	0.201
1739.	0.5267	4862.	0.2356
1739.5	0.3904	4862.5	0.231
1740.	0.3119	4863.	0.03234
1740.5	0.4574	4863.5	0.2587
1741.	0.5082	4864.	0.03003
1741.5	0.3973	4864.5	0.4505
1742.	0.6006	4865.	0.3604
1742.5	0.5405	4865.5	0.03234
1743.	0.4689	4866.	0.1363
1743.5	0.1686	4866.5	0.2472
1744.	0.194	4867.	0.04158
1744.5	0.492	4867.5	0.2125
1745.	0.6699	4868.	0.298
1745.5	0.3811	4868.5	0.3881
1746.	0.4274	4869.	-0.07854
1746.5	0.492	4869.5	0.0693
1747.	0.6006	4870.	0.4019
1747.5	0.3604	4870.5	0.1109
1748.	0.2772	4871.	0.0231
1748.5	0.3904	4871.5	0.298
1749.	0.492	4872.	0.1086
1749.5	0.5567	4872.5	0.3234
1750.	0.335	4873.	0.1502
1750.5	0.492	4873.5	0.2102
1751.	0.298	4874.	0.2472
1751.5	0.3604	4874.5	0.04158
1752.	0.3119	4875.	-0.03234
1752.5	0.4574	4875.5	0.2079
1753.	0.4712	4876.	0.1086
1753.5	0.4204	4876.5	0.1594
1754.	0.4181	4877.	0.1756
1754.5	0.6052	4877.5	0.1086
1755.	0.3326	4878.	0.3211
1755.5	0.2911	4878.5	0.194
1756.	0.4389	4879.	0.2841
1756.5	0.6283	4879.5	-0.1109
1757.	0.5452	4880.	0.4066
1757.5	0.6006	4880.5	0.2079
1758.	0.1132	4881.	0.2657

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1758.5	0.4481	4881.5	0.2472
1759.	0.3326	4882.	0.2841
1759.5	0.6006	4882.5	0.2171
1760.	0.3396	4883.	0.09702
1760.5	0.6399	4883.5	0.2818
1761.	0.6052	4884.	0.1779
1761.5	0.4389	4884.5	0.09009
1762.	0.6006	4885.	0.4204
1762.5	0.4551	4885.5	0.1525
1763.	0.3904	4886.	0.2287
1763.5	0.5405	4886.5	0.4204
1764.	0.4666	4887.	0.1594
1764.5	0.492	4887.5	0.1594
1765.	0.298	4888.	0.1987
1765.5	0.3119	4888.5	0.2472
1766.	0.3488	4889.	0.3765
1766.5	0.1917	4889.5	0.07161
1767.	0.358	4890.	0.2402
1767.5	0.4805	4890.5	0.3858
1768.	0.4297	4891.	0.02079
1768.5	0.4274	4891.5	0.3072
1769.	0.4574	4892.	0.1109
1769.5	0.5405	4892.5	0.1756
1770.	0.6029	4893.	0.0693
1770.5	0.3927	4893.5	-0.03003
1771.	0.4297	4894.	-0.1363
1771.5	0.6376	4894.5	0.1917
1772.	0.3165	4895.	0.1594
1772.5	0.3142	4895.5	0.1363
1773.	0.2749	4896.	0.06006
1773.5	0.4712	4896.5	0.2818
1774.	0.6352	4897.	0.07161
1774.5	0.5244	4897.5	0.1917
1775.	0.3003	4898.	0.1109
1775.5	0.3303	4898.5	0.3604
1776.	0.6006	4899.	0.2795
1776.5	0.492	4899.5	0.2379
1777.	0.499	4900.	0.3396
1777.5	0.2911	4900.5	0.02079
1778.	0.4712	4901.	0.09009
1778.5	0.4389	4901.5	0.4043
1779.	0.5082	4902.	0.2171
1779.5	0.3303	4902.5	-0.01848
1780.	0.1709	4903.	0.03234
1780.5	0.1224	4903.5	0.2195
1781.	0.5636	4904.	0.134
1781.5	0.4112	4904.5	0.1178
1782.	0.3904	4905.	0.4043
1782.5	0.4505	4905.5	0.1109
1783.	0.3534	4906.	0.3211
1783.5	0.5775	4906.5	0.2379
1784.	0.4135	4907.	0.2472
1784.5	0.5013	4907.5	0.09702

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1785.	0.4389	4908.	0.5082
1785.5	0.5082	4908.5	0.2472
1786.	0.5036	4909.	0.3604
1786.5	0.3904	4909.5	0.3465
1787.	0.663	4910.	0.2195
1787.5	0.4389	4910.5	0.5659
1788.	0.5382	4911.	0.02079
1788.5	0.3696	4911.5	0.03927
1789.	0.4112	4912.	0.1756
1789.5	0.4089	4912.5	0.1732
1790.	0.2495	4913.	0.07392
1790.5	0.5475	4913.5	0.05082
1791.	0.4181	4914.	0.07623
1791.5	0.4389	4914.5	0.3396
1792.	0.4274	4915.	0.201
1792.5	0.5659	4915.5	0.2818
1793.	0.4505	4916.	0.2171
1793.5	0.201	4916.5	0.1525
1794.	0.1432	4917.	0.2587
1794.5	0.2056	4917.5	0.2818
1795.	0.5036	4918.	0.2587
1795.5	0.2749	4918.5	0.358
1796.	0.5198	4919.	0.1525
1796.5	0.5198	4919.5	0.1917
1797.	0.3119	4920.	0.6352
1797.5	0.3326	4920.5	-0.01848
1798.	0.4712	4921.	0.2356
1798.5	0.4551	4921.5	-0.01848
1799.	0.6191	4922.	0.2564
1799.5	0.5567	4922.5	0.2472
1800.	0.4574	4923.	0.4481
1800.5	0.358	4923.5	0.1178
1801.	0.3696	4924.	0.07161
1801.5	0.0693	4924.5	0.2472
1802.	0.2587	4925.	-0.1317
1802.5	0.5082	4925.5	0.2564
1803.	0.00693	4926.	0.2495
1803.5	0.4551	4926.5	0.3211
1804.	0.298	4927.	0.1363
1804.5	0.2749	4927.5	-0.09009
1805.	0.3811	4928.	0.3765
1805.5	0.5498	4928.5	0.1594
1806.	0.4805	4929.	0.1732
1806.5	0.4112	4929.5	0.1917
1807.	0.4389	4930.	0.2472
1807.5	0.5267	4930.5	0.02079
1808.	0.4158	4931.	0.1594
1808.5	0.201	4931.5	0.3003
1809.	0.3003	4932.	0.07623
1809.5	0.492	4932.5	0.2472
1810.	0.2726	4933.	0.04851
1810.5	0.4481	4933.5	0.2657
1811.	0.2911	4934.	0.1502

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1811.5	0.4805	4934.5	0.2287
1812.	0.4274	4935.	0.
1812.5	0.3488	4935.5	0.2587
1813.	0.4158	4936.	0.3188
1813.5	0.1917	4936.5	0.3188
1814.	-0.01386	4937.	0.06237
1814.5	0.492	4937.5	0.1917
1815.	0.2587	4938.	0.09009
1815.5	0.4389	4938.5	0.3234
1816.	0.3026	4939.	0.02079
1816.5	0.4297	4939.5	0.1109
1817.	0.6306	4940.	0.1363
1817.5	0.3396	4940.5	0.1109
1818.	0.4389	4941.	0.3673
1818.5	0.358	4941.5	-0.1571
1819.	0.3811	4942.	-0.00693
1819.5	0.3534	4942.5	0.0231
1820.	0.3604	4943.	0.1594
1820.5	0.4019	4943.5	0.07623
1821.	0.4389	4944.	0.06237
1821.5	0.4389	4944.5	0.1756
1822.	0.3534	4945.	0.3996
1822.5	0.3604	4945.5	0.2472
1823.	0.3557	4946.	0.5198
1823.5	0.2772	4946.5	0.
1824.	0.3788	4947.	0.2633
1824.5	0.3627	4947.5	0.1109
1825.	0.3973	4948.	0.2379
1825.5	0.2749	4948.5	0.1363
1826.	0.6214	4949.	0.2079
1826.5	0.6214	4949.5	-0.0924
1827.	0.2726	4950.	0.3396
1827.5	0.4112	4950.5	0.1109
1828.	0.1663	4951.	0.09702
1828.5	0.1294	4951.5	-0.03234
1829.	0.09933	4952.	0.3881
1829.5	0.2402	4952.5	0.08778
1830.	0.08316	4953.	0.2841
1830.5	0.432	4953.5	0.02079
1831.	0.3604	4954.	0.1178
1831.5	0.559	4954.5	0.201
1832.	0.5405	4955.	0.09702
1832.5	0.4181	4955.5	-0.09933
1833.	0.3996	4956.	0.3604
1833.5	0.2587	4956.5	0.4043
1834.	0.2726	4957.	0.1109
1834.5	0.3119	4957.5	0.1178
1835.	0.3973	4958.	0.09471
1835.5	0.5082	4958.5	0.1109
1836.	0.3511	4959.	0.2079
1836.5	0.2749	4959.5	0.2333
1837.	0.3996	4960.	0.01155
1837.5	0.4181	4960.5	0.231

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1838.	0.4112	4961.	0.03234
1838.5	0.3904	4961.5	0.2287
1839.	0.3373	4962.	0.4481
1839.5	0.3696	4962.5	0.00231
1840.	0.4389	4963.	0.201
1840.5	0.2587	4963.5	0.02079
1841.	0.4389	4964.	0.04851
1841.5	0.3119	4964.5	0.2564
1842.	0.4574	4965.	0.09702
1842.5	0.4389	4965.5	0.1756
1843.	0.2125	4966.	0.2818
1843.5	0.3996	4966.5	0.01386
1844.	0.4181	4967.	0.1756
1844.5	0.4089	4967.5	0.1317
1845.	0.4805	4968.	0.2287
1845.5	0.4297	4968.5	0.02079
1846.	0.4551	4969.	-0.07161
1846.5	0.3534	4969.5	0.1594
1847.	0.529	4970.	0.134
1847.5	0.3373	4970.5	0.1756
1848.	0.3696	4971.	0.2102
1848.5	0.4181	4971.5	0.1709
1849.	0.4712	4972.	0.2379
1849.5	0.5082	4972.5	0.1594
1850.	0.5659	4973.	0.1525
1850.5	0.5221	4973.5	0.3188
1851.	0.4505	4974.	0.1386
1851.5	0.6999	4974.5	0.1317
1852.	0.3788	4975.	0.134
1852.5	0.3604	4975.5	0.2841
1853.	0.2287	4976.	0.3211
1853.5	0.2749	4976.5	0.298
1854.	0.3142	4977.	0.2495
1854.5	0.559	4977.5	0.4366
1855.	0.3811	4978.	0.2564
1855.5	0.4712	4978.5	0.2472
1856.	0.6006	4979.	0.1779
1856.5	0.335	4979.5	0.07161
1857.	0.3557	4980.	0.2841
1857.5	0.4851	4980.5	0.1109
1858.	0.1917	4981.	0.3858
1858.5	0.3811	4981.5	0.2818
1859.	0.2587	4982.	0.1502
1859.5	0.4158	4982.5	0.201
1860.	0.231	4983.	0.06006
1860.5	0.4019	4983.5	-0.06237
1861.	0.3165	4984.	0.2587
1861.5	0.3511	4984.5	0.1779
1862.	0.4181	4985.	0.04158
1862.5	0.4112	4985.5	0.1732
1863.	0.2772	4986.	0.1363
1863.5	0.4597	4986.5	-0.1109
1864.	0.358	4987.	0.02079

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1864.5	0.3996	4987.5	0.2795
1865.	0.3396	4988.	0.2125
1865.5	0.4574	4988.5	0.2356
1866.	0.5405	4989.	0.231
1866.5	0.3119	4989.5	0.1502
1867.	0.4089	4990.	0.4666
1867.5	0.4828	4990.5	0.231
1868.	0.1224	4991.	0.3858
1868.5	0.2518	4991.5	0.3003
1869.	0.3396	4992.	0.1178
1869.5	0.1917	4992.5	0.07392
1870.	0.3026	4993.	0.2657
1870.5	0.2726	4993.5	0.07161
1871.	0.3419	4994.	0.201
1871.5	0.4389	4994.5	0.4643
1872.	0.4158	4995.	0.3234
1872.5	0.3811	4995.5	0.1594
1873.	0.3788	4996.	0.07392
1873.5	0.4135	4996.5	0.2472
1874.	0.2495	4997.	0.1964
1874.5	0.4181	4997.5	0.201
1875.	0.3303	4998.	0.2356
1875.5	0.3604	4998.5	0.1294
1876.	0.492	4999.	0.1363
1876.5	0.3719	4999.5	0.05082
1877.	0.3604	5000.	0.1917
1877.5	0.2033	5000.5	0.2657
1878.	0.2911	5001.	0.194
1878.5	0.4297	5001.5	0.2079
1879.	0.3719	5002.	0.07392
1879.5	0.3396	5002.5	0.1201
1880.	0.492	5003.	-0.00924
1880.5	0.4274	5003.5	-0.06237
1881.	0.2772	5004.	0.201
1881.5	0.1247	5004.5	0.3072
1882.	0.3326	5005.	0.1779
1882.5	0.261	5005.5	0.2472
1883.	0.3996	5006.	0.1109
1883.5	0.3119	5006.5	0.1756
1884.	0.5221	5007.	0.3234
1884.5	0.2102	5007.5	0.07623
1885.	0.2726	5008.	0.08778
1885.5	0.2772	5008.5	0.03927
1886.	0.201	5009.	0.3604
1886.5	0.7161	5009.5	0.1525
1887.	0.4389	5010.	0.2287
1887.5	0.3788	5010.5	0.1987
1888.	0.3419	5011.	0.3396
1888.5	0.5013	5011.5	0.3026
1889.	0.4112	5012.	0.2171
1889.5	0.559	5012.5	0.0231
1890.	0.3003	5013.	0.134
1890.5	0.432	5013.5	0.1201

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1891.	0.3165	5014.	0.201
1891.5	0.2587	5014.5	0.2495
1892.	0.3119	5015.	0.1109
1892.5	0.3696	5015.5	0.05313
1893.	0.2749	5016.	0.07161
1893.5	0.5267	5016.5	0.268
1894.	0.4181	5017.	0.2195
1894.5	0.5475	5017.5	0.03234
1895.	0.4297	5018.	0.2356
1895.5	0.4112	5018.5	-0.00924
1896.	0.2056	5019.	0.2864
1896.5	0.2934	5019.5	0.3234
1897.	0.4089	5020.	0.1502
1897.5	0.3904	5020.5	0.0693
1898.	0.3696	5021.	0.1363
1898.5	0.3511	5021.5	0.1917
1899.	0.5013	5022.	0.1294
1899.5	0.4851	5022.5	0.2171
1900.	0.2587	5023.	0.05313
1900.5	0.2772	5023.5	0.07392
1901.	0.4389	5024.	-0.08085
1901.5	0.3326	5024.5	-0.03234
1902.	0.1455	5025.	0.3072
1902.5	0.4712	5025.5	0.4458
1903.	0.1317	5026.	0.01617
1903.5	0.6491	5026.5	0.3072
1904.	0.3904	5027.	0.2795
1904.5	0.2518	5027.5	0.3072
1905.	0.4019	5028.	0.2195
1905.5	0.4528	5028.5	0.1617
1906.	0.3811	5029.	0.1063
1906.5	0.335	5029.5	0.1109
1907.	0.2726	5030.	0.02079
1907.5	0.3326	5030.5	0.1525
1908.	0.4505	5031.	0.231
1908.5	0.4689	5031.5	0.1917
1909.	0.559	5032.	0.1109
1909.5	0.4412	5032.5	0.06006
1910.	0.3142	5033.	0.2472
1910.5	0.3788	5033.5	0.2472
1911.	0.529	5034.	0.0693
1911.5	0.3396	5034.5	0.1756
1912.	0.5429	5035.	0.3257
1912.5	0.335	5035.5	0.03234
1913.	0.4019	5036.	0.05775
1913.5	0.3811	5036.5	0.2379
1914.	0.2772	5037.	0.2379
1914.5	0.2495	5037.5	0.2657
1915.	0.4528	5038.	0.3996
1915.5	0.3604	5038.5	0.1756
1916.	0.4828	5039.	0.04158
1916.5	0.3396	5039.5	0.09702
1917.	0.2772	5040.	0.3026

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1917.5	0.559	5040.5	0.09009
1918.	0.3904	5041.	0.03234
1918.5	0.3188	5041.5	0.2657
1919.	0.5082	5042.	0.06237
1919.5	0.3996	5042.5	0.231
1920.	0.4943	5043.	0.09702
1920.5	0.3811	5043.5	0.0462
1921.	0.3396	5044.	0.2171
1921.5	0.3165	5044.5	0.1756
1922.	0.492	5045.	0.1756
1922.5	0.358	5045.5	0.1802
1923.	0.3326	5046.	0.2102
1923.5	0.2518	5046.5	0.07161
1924.	0.3396	5047.	0.1363
1924.5	0.4828	5047.5	0.3442
1925.	0.231	5048.	0.3072
1925.5	0.3326	5048.5	0.1317
1926.	0.2125	5049.	-0.05313
1926.5	0.4712	5049.5	0.2079
1927.	0.2218	5050.	0.2818
1927.5	0.1686	5050.5	0.1987
1928.	0.5475	5051.	0.3604
1928.5	0.5082	5051.5	0.2657
1929.	0.231	5052.	0.01155
1929.5	0.3511	5052.5	0.1201
1930.	0.3604	5053.	0.2841
1930.5	0.6006	5053.5	0.3003
1931.	0.4181	5054.	0.07623
1931.5	0.5013	5054.5	0.2795
1932.	0.4089	5055.	0.3881
1932.5	0.3627	5055.5	0.3396
1933.	0.3142	5056.	0.01386
1933.5	0.2911	5056.5	0.1756
1934.	0.2749	5057.	0.2587
1934.5	0.4204	5057.5	0.3211
1935.	0.3811	5058.	0.2102
1935.5	0.3419	5058.5	0.1802
1936.	0.4204	5059.	0.4227
1936.5	0.335	5059.5	0.4066
1937.	0.4597	5060.	0.3396
1937.5	0.5798	5060.5	0.07392
1938.	0.4389	5061.	0.1594
1938.5	0.3326	5061.5	0.1502
1939.	0.4112	5062.	0.2287
1939.5	0.2379	5062.5	0.1709
1940.	0.4112	5063.	0.09009
1940.5	0.559	5063.5	0.3211
1941.	0.5867	5064.	0.00231
1941.5	0.3165	5064.5	0.1732
1942.	0.3811	5065.	0.231
1942.5	0.2402	5065.5	0.3465
1943.	0.1432	5066.	-0.1502
1943.5	0.4019	5066.5	0.298

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1944.	0.3003	5067.	0.1109
1944.5	0.4574	5067.5	0.2587
1945.	0.2749	5068.	0.194
1945.5	0.5013	5068.5	0.2356
1946.	0.3303	5069.	0.1756
1946.5	0.5683	5069.5	0.1525
1947.	0.1663	5070.	0.2379
1947.5	0.1016	5070.5	0.07392
1948.	0.3904	5071.	0.1363
1948.5	0.5036	5071.5	0.1756
1949.	0.3142	5072.	0.1525
1949.5	0.529	5072.5	0.1386
1950.	0.3396	5073.	0.1201
1950.5	0.2125	5073.5	0.3881
1951.	0.4712	5074.	0.01155
1951.5	0.3973	5074.5	0.1732
1952.	0.3719	5075.	0.05082
1952.5	0.5405	5075.5	0.06699
1953.	0.1455	5076.	0.2449
1953.5	0.6006	5076.5	0.05082
1954.	0.4181	5077.	0.1363
1954.5	0.2218	5077.5	0.04158
1955.	0.3835	5078.	0.1917
1955.5	0.1294	5078.5	0.1525
1956.	0.2287	5079.	0.2102
1956.5	0.3811	5079.5	0.07854
1957.	0.1663	5080.	0.1363
1957.5	0.4112	5080.5	0.1525
1958.	0.5683	5081.	-0.03003
1958.5	0.3419	5081.5	0.09702
1959.	0.1109	5082.	0.2287
1959.5	0.4181	5082.5	0.2657
1960.	0.3326	5083.	0.1201
1960.5	0.4389	5083.5	0.3211
1961.	0.04389	5084.	0.3604
1961.5	0.5382	5084.5	-0.1363
1962.	0.3996	5085.	0.07392
1962.5	0.6029	5085.5	0.09702
1963.	0.6907	5086.	0.09702
1963.5	0.4181	5086.5	0.2841
1964.	0.2772	5087.	0.1386
1964.5	0.5498	5087.5	-0.03696
1965.	0.3165	5088.	0.1201
1965.5	0.4135	5088.5	-0.00693
1966.	0.5405	5089.	0.2379
1966.5	0.3927	5089.5	0.0924
1967.	0.4828	5090.	0.3396
1967.5	0.3373	5090.5	0.2818
1968.	0.5221	5091.	0.1502
1968.5	0.4274	5091.5	0.3465
1969.	0.2911	5092.	0.2841
1969.5	0.492	5092.5	0.3211
1970.	0.3627	5093.	0.1987

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1970.5	0.07161	5093.5	0.07623
1971.	0.6422	5094.	0.2102
1971.5	0.2911	5094.5	0.00231
1972.	0.5636	5095.	0.1802
1972.5	0.3788	5095.5	0.2195
1973.	0.492	5096.	0.1779
1973.5	0.4481	5096.5	0.1732
1974.	0.3719	5097.	0.2472
1974.5	0.3026	5097.5	0.2841
1975.	0.5013	5098.	0.1109
1975.5	0.4112	5098.5	0.3026
1976.	0.5244	5099.	0.1363
1976.5	0.3396	5099.5	0.1756
1977.	0.3904	5100.	0.2356
1977.5	0.4574	5100.5	0.2657
1978.	0.4551	5101.	0.1548
1978.5	0.5082	5101.5	0.1109
1979.	0.4828	5102.	0.1201
1979.5	0.3165	5102.5	0.03003
1980.	0.3326	5103.	0.2472
1980.5	0.4574	5103.5	0.2171
1981.	0.5405	5104.	0.1525
1981.5	0.3396	5104.5	0.1525
1982.	0.104	5105.	0.231
1982.5	0.4181	5105.5	0.03003
1983.	0.3557	5106.	-0.0924
1983.5	0.2125	5106.5	0.4227
1984.	0.3696	5107.	0.2818
1984.5	0.4112	5107.5	0.2818
1985.	0.3719	5108.	0.3419
1985.5	0.4389	5108.5	0.1109
1986.	0.2425	5109.	0.2379
1986.5	0.4943	5109.5	0.2287
1987.	0.3696	5110.	0.2864
1987.5	0.2425	5110.5	0.1109
1988.	0.3904	5111.	0.231
1988.5	0.3996	5111.5	0.07623
1989.	0.4851	5112.	0.03234
1989.5	0.4158	5112.5	0.01155
1990.	0.492	5113.	0.201
1990.5	0.2056	5113.5	0.3234
1991.	0.529	5114.	0.2079
1991.5	0.6722	5114.5	0.0693
1992.	0.3811	5115.	0.3881
1992.5	0.4574	5115.5	0.1294
1993.	0.1848	5116.	0.2841
1993.5	0.2402	5116.5	0.231
1994.	0.3373	5117.	0.1594
1994.5	0.3188	5117.5	0.1502
1995.	0.1294	5118.	0.201
1995.5	0.3165	5118.5	0.2402
1996.	0.3627	5119.	0.2195
1996.5	0.529	5119.5	0.1109

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1997.	0.3557	5120.	0.09009
1997.5	0.6006	5120.5	0.2587
1998.	0.4597	5121.	0.08547
1998.5	0.6376	5121.5	-0.1178
1999.	0.6399	5122.	0.1178
1999.5	0.3811	5122.5	0.4366
2000.	0.4297	5123.	0.3673
2000.5	0.3188	5123.5	-0.00693
2001.	0.3811	5124.	-0.00924
2001.5	0.3419	5124.5	0.1802
2002.	0.4851	5125.	0.2195
2002.5	0.3003	5125.5	0.0924
2003.	0.4712	5126.	0.2657
2003.5	0.7184	5126.5	0.3465
2004.	0.335	5127.	0.1201
2004.5	0.7115	5127.5	0.2587
2005.	0.2934	5128.	0.2657
2005.5	0.4297	5128.5	0.1525
2006.	0.164	5129.	0.08778
2006.5	0.4135	5129.5	0.1201
2007.	0.3119	5130.	0.2472
2007.5	0.3927	5130.5	0.2195
2008.	0.3119	5131.	0.09702
2008.5	0.1894	5131.5	0.1594
2009.	0.3396	5132.	0.201
2009.5	0.4851	5132.5	0.2818
2010.	0.2125	5133.	0.3095
2010.5	0.3188	5133.5	0.4897
2011.	0.3326	5134.	0.2472
2011.5	0.6191	5134.5	0.3765
2012.	0.3557	5135.	0.06237
2012.5	0.6214	5135.5	0.3095
2013.	0.2749	5136.	0.2564
2013.5	0.4274	5136.5	0.2333
2014.	0.4574	5137.	0.09009
2014.5	0.2495	5137.5	0.3211
2015.	0.2241	5138.	0.3188
2015.5	0.1525	5138.5	0.2841
2016.	0.3119	5139.	0.01848
2016.5	0.1432	5139.5	0.134
2017.	0.4712	5140.	0.298
2017.5	0.5821	5140.5	0.1594
2018.	0.3396	5141.	0.1502
2018.5	0.2056	5141.5	0.1617
2019.	0.3119	5142.	0.2564
2019.5	0.6029	5142.5	0.3211
2020.	0.4297	5143.	0.1756
2020.5	0.5082	5143.5	0.2472
2021.	0.3557	5144.	0.1317
2021.5	0.3326	5144.5	0.2795
2022.	0.3904	5145.	0.1294
2022.5	0.3927	5145.5	0.2657
2023.	0.4736	5146.	0.1732

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2023.5	0.6052	5146.5	0.3188
2024.	0.2425	5147.	0.2587
2024.5	0.4481	5147.5	0.08778
2025.	0.3904	5148.	0.2171
2025.5	0.3142	5148.5	0.05082
2026.	0.4574	5149.	0.2841
2026.5	0.3373	5149.5	0.2587
2027.	0.2957	5150.	0.231
2027.5	0.4805	5150.5	0.4874
2028.	0.3165	5151.	0.2587
2028.5	0.3003	5151.5	0.1317
2029.	0.6283	5152.	0.1363
2029.5	0.3904	5152.5	0.201
2030.	0.4943	5153.	0.3234
2030.5	0.5798	5153.5	0.3072
2031.	0.5475	5154.	0.4343
2031.5	0.3003	5154.5	0.1363
2032.	0.2772	5155.	0.05082
2032.5	0.5382	5155.5	0.2195
2033.	0.1686	5156.	0.1294
2033.5	0.5105	5156.5	0.0231
2034.	0.5036	5157.	0.2102
2034.5	0.5844	5157.5	0.2795
2035.	0.4297	5158.	0.1756
2035.5	0.2587	5158.5	0.1802
2036.	0.559	5159.	0.1756
2036.5	0.4089	5159.5	0.1109
2037.	0.4181	5160.	-0.06237
2037.5	0.2772	5160.5	0.1363
2038.	0.3811	5161.	0.2495
2038.5	0.2379	5161.5	0.3419
2039.	0.492	5162.	0.02541
2039.5	0.4297	5162.5	0.2795
2040.	0.4389	5163.	0.07392
2040.5	0.2495	5163.5	0.2657
2041.	0.2402	5164.	0.2472
2041.5	0.231	5164.5	0.194
2042.	0.4481	5165.	0.1594
2042.5	0.4112	5165.5	0.1594
2043.	0.2772	5166.	0.08778
2043.5	0.6006	5166.5	0.2379
2044.	0.3811	5167.	0.194
2044.5	0.3003	5167.5	0.2195
2045.	0.559	5168.	0.08778
2045.5	0.3442	5168.5	0.07623
2046.	0.2056	5169.	0.2795
2046.5	0.2911	5169.5	0.1086
2047.	0.4712	5170.	0.07392
2047.5	0.4204	5170.5	0.1594
2048.	0.335	5171.	0.1525
2048.5	0.4943	5171.5	0.4089
2049.	0.2425	5172.	0.04158
2049.5	0.3719	5172.5	0.2379

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2050.	0.2934	5173.	0.07161
2050.5	0.4712	5173.5	0.1294
2051.	0.3142	5174.	0.07161
2051.5	0.5221	5174.5	0.1363
2052.	0.2587	5175.	0.1525
2052.5	0.4736	5175.5	0.3788
2053.	0.1964	5176.	0.1317
2053.5	0.4297	5176.5	0.1594
2054.	0.3165	5177.	0.06237
2054.5	0.4297	5177.5	0.2841
2055.	0.529	5178.	0.06237
2055.5	0.5798	5178.5	0.1594
2056.	0.6052	5179.	0.07623
2056.5	-0.104	5179.5	0.2356
2057.	0.2772	5180.	0.201
2057.5	0.3119	5180.5	0.2864
2058.	0.2749	5181.	0.1525
2058.5	0.2241	5181.5	-0.0924
2059.	0.4204	5182.	0.07623
2059.5	0.3165	5182.5	0.2287
2060.	0.432	5183.	0.
2060.5	0.2056	5183.5	0.4389
2061.	0.492	5184.	0.1779
2061.5	0.3396	5184.5	0.1756
2062.	0.3719	5185.	0.02079
2062.5	0.2587	5185.5	0.03927
2063.	0.3534	5186.	0.4389
2063.5	0.2772	5186.5	0.1363
2064.	0.3696	5187.	-0.09471
2064.5	0.4389	5187.5	0.3257
2065.	0.3696	5188.	0.3257
2065.5	0.3026	5188.5	0.1201
2066.	0.2934	5189.	0.134
2066.5	0.4712	5189.5	0.2495
2067.	0.5567	5190.	0.06237
2067.5	0.335	5190.5	0.1502
2068.	0.5105	5191.	0.04851
2068.5	0.3026	5191.5	0.01386
2069.	0.6699	5192.	0.1294
2069.5	0.3788	5192.5	0.2841
2070.	0.5221	5193.	0.201
2070.5	0.3904	5193.5	-0.1109
2071.	0.3326	5194.	0.06237
2071.5	0.335	5194.5	0.3396
2072.	0.1686	5195.	0.1756
2072.5	0.4505	5195.5	0.1756
2073.	0.2379	5196.	0.04389
2073.5	0.3119	5196.5	0.1201
2074.	0.1271	5197.	0.2587
2074.5	0.5105	5197.5	0.3396
2075.	0.4112	5198.	0.03234
2075.5	0.335	5198.5	0.2818
2076.	0.4389	5199.	0.1201

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2076.5	0.1871	5199.5	0.1732
2077.	0.4574	5200.	0.00462
2077.5	0.5036	5200.5	0.1363
2078.	0.4689	5201.	0.1525
2078.5	0.3996	5201.5	0.1917
2079.	0.3557	5202.	0.1201
2079.5	0.3811	5202.5	0.0693
2080.	0.5798	5203.	0.1594
2080.5	0.2033	5203.5	0.07161
2081.	0.335	5204.	0.1548
2081.5	0.3604	5204.5	0.1594
2082.	0.4712	5205.	0.1317
2082.5	0.2772	5205.5	0.3465
2083.	0.5221	5206.	0.2657
2083.5	0.335	5206.5	0.07623
2084.	0.2772	5207.	0.02079
2084.5	0.5659	5207.5	0.1363
2085.	0.5013	5208.	0.201
2085.5	0.6999	5208.5	0.2818
2086.	0.4181	5209.	0.3095
2086.5	0.5405	5209.5	0.231
2087.	0.3026	5210.	0.3026
2087.5	0.4712	5210.5	-0.05313
2088.	0.2056	5211.	-0.1132
2088.5	0.5429	5211.5	-0.06006
2089.	0.5683	5212.	-0.09933
2089.5	0.4158	5212.5	0.4782
2090.	0.3419	5213.	0.3442
2090.5	0.4828	5213.5	0.05082
2091.	0.3188	5214.	0.1917
2091.5	0.559	5214.5	0.1201
2092.	0.432	5215.	0.3465
2092.5	0.5036	5215.5	0.1594
2093.	0.5221	5216.	0.2587
2093.5	0.298	5216.5	0.2102
2094.	0.3927	5217.	0.1201
2094.5	0.3165	5217.5	-0.01848
2095.	0.365	5218.	-0.08778
2095.5	0.3326	5218.5	0.06006
2096.	0.4505	5219.	0.01386
2096.5	0.3904	5219.5	0.2587
2097.	0.2241	5220.	0.1756
2097.5	0.4389	5220.5	0.06006
2098.	0.2911	5221.	0.1525
2098.5	0.4435	5221.5	-0.1294
2099.	0.3811	5222.	0.03927
2099.5	0.4135	5222.5	0.1201
2100.	0.4828	5223.	0.3673
2100.5	0.2033	5223.5	0.08778
2101.	0.3904	5224.	-0.01155
2101.5	0.5405	5224.5	0.194
2102.	0.2587	5225.	0.1802
2102.5	0.4759	5225.5	0.2195

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2103.	0.5521	5226.	0.2102
2103.5	0.4043	5226.5	-0.1363
2104.	0.4274	5227.	0.4366
2104.5	0.3534	5227.5	0.2587
2105.	0.4135	5228.	0.194
2105.5	0.3188	5228.5	0.06237
2106.	0.2772	5229.	0.2356
2106.5	0.4874	5229.5	0.1386
2107.	0.4874	5230.	0.2171
2107.5	0.231	5230.5	0.4204
2108.	0.335	5231.	0.3858
2108.5	0.358	5231.5	0.2818
2109.	0.3927	5232.	0.1363
2109.5	0.3419	5232.5	0.0924
2110.	0.3742	5233.	0.201
2110.5	0.3211	5233.5	0.3996
2111.	0.4574	5234.	0.03234
2111.5	0.2495	5234.5	0.2195
2112.	0.2495	5235.	0.1779
2112.5	0.5082	5235.5	0.1732
2113.	0.6722	5236.	-0.00693
2113.5	0.3927	5236.5	0.1594
2114.	0.3996	5237.	0.1594
2114.5	0.4574	5237.5	0.09933
2115.	0.1663	5238.	0.1386
2115.5	0.5405	5238.5	0.2148
2116.	0.3396	5239.	0.1617
2116.5	0.1709	5239.5	0.07623
2117.	0.4204	5240.	0.2379
2117.5	0.5128	5240.5	0.1594
2118.	0.3534	5241.	0.09702
2118.5	0.2518	5241.5	0.06237
2119.	0.4135	5242.	0.09702
2119.5	0.2425	5242.5	0.0693
2120.	0.4712	5243.	-0.1294
2120.5	0.3165	5243.5	0.04851
2121.	0.2241	5244.	0.03234
2121.5	0.2749	5244.5	0.1086
2122.	0.2934	5245.	0.1594
2122.5	0.4181	5245.5	0.09702
2123.	0.2911	5246.	0.09702
2123.5	0.5036	5246.5	0.201
2124.	0.4828	5247.	-0.1363
2124.5	0.3742	5247.5	-0.1502
2125.	0.1848	5248.	0.1478
2125.5	0.3003	5248.5	0.1201
2126.	0.2749	5249.	0.3003
2126.5	0.3211	5249.5	0.2587
2127.	0.2402	5250.	0.1201
2127.5	0.2911	5250.5	0.194
2128.	0.4597	5251.	0.3211
2128.5	0.2772	5251.5	0.03003
2129.	0.08316	5252.	0.4458

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2129.5	0.2449	5252.5	0.3095
2130.	0.3419	5253.	0.2587
2130.5	0.3419	5253.5	0.2195
2131.	0.3165	5254.	0.1779
2131.5	0.3627	5254.5	0.2795
2132.	0.492	5255.	0.5359
2132.5	0.2772	5255.5	0.02079
2133.	0.3419	5256.	0.3396
2133.5	0.4412	5256.5	0.3396
2134.	0.4089	5257.	-0.1363
2134.5	0.3326	5257.5	0.2195
2135.	0.261	5258.	0.2356
2135.5	0.1502	5258.5	0.2472
2136.	0.3627	5259.	0.1016
2136.5	0.4297	5259.5	0.4782
2137.	0.358	5260.	0.2818
2137.5	0.2264	5260.5	0.0924
2138.	0.1432	5261.	0.1964
2138.5	0.3811	5261.5	0.07623
2139.	0.2772	5262.	0.03927
2139.5	0.4412	5262.5	0.06006
2140.	0.3927	5263.	0.01386
2140.5	0.3026	5263.5	0.3835
2141.	0.4597	5264.	0.09702
2141.5	0.529	5264.5	0.2218
2142.	0.3742	5265.	0.2564
2142.5	0.3396	5265.5	0.2333
2143.	0.1917	5266.	0.07161
2143.5	0.2495	5266.5	0.2818
2144.	0.3026	5267.	0.07161
2144.5	0.2125	5267.5	0.2795
2145.	0.3557	5268.	0.09702
2145.5	0.1709	5268.5	0.09702
2146.	0.3165	5269.	0.201
2146.5	0.3719	5269.5	0.04158
2147.	0.2264	5270.	0.3627
2147.5	0.559	5270.5	0.1363
2148.	0.2495	5271.	0.06237
2148.5	0.6376	5271.5	0.1201
2149.	0.3696	5272.	0.1109
2149.5	0.2541	5272.5	0.06237
2150.	0.3904	5273.	0.1917
2150.5	0.231	5273.5	0.2102
2151.	0.4135	5274.	0.08778
2151.5	0.3003	5274.5	0.1594
2152.	0.6722	5275.	0.1548
2152.5	0.4389	5275.5	0.1917
2153.	0.2772	5276.	0.09702
2153.5	0.4297	5276.5	0.2102
2154.	0.1432	5277.	0.02079
2154.5	0.3396	5277.5	0.1201
2155.	0.5082	5278.	0.3396
2155.5	0.5082	5278.5	0.2333

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2156.	0.3119	5279.	0.231
2156.5	0.5429	5279.5	0.1917
2157.	0.4019	5280.	0.1386
2157.5	0.3904	5280.5	0.201
2158.	0.2934	5281.	0.1317
2158.5	0.2056	5281.5	0.1548
2159.	0.2402	5282.	0.1317
2159.5	0.2772	5282.5	0.3488
2160.	0.2241	5283.	0.04158
2160.5	0.5221	5283.5	0.2818
2161.	0.2911	5284.	0.2379
2161.5	0.4574	5284.5	0.2449
2162.	0.2056	5285.	0.2657
2162.5	0.1917	5285.5	0.09702
2163.	0.2402	5286.	0.1917
2163.5	0.2425	5286.5	0.2841
2164.	0.2749	5287.	0.1363
2164.5	0.2056	5287.5	0.2218
2165.	0.2518	5288.	0.2102
2165.5	0.4828	5288.5	0.2472
2166.	0.5221	5289.	0.1363
2166.5	0.3003	5289.5	0.06237
2167.	0.3511	5290.	0.1779
2167.5	0.3419	5290.5	0.0231
2168.	0.5221	5291.	0.2195
2168.5	0.3904	5291.5	0.1363
2169.	0.2287	5292.	0.4227
2169.5	0.261	5292.5	0.2218
2170.	0.5475	5293.	0.1317
2170.5	0.4435	5293.5	0.194
2171.	0.2241	5294.	-0.09471
2171.5	0.3119	5294.5	0.2587
2172.	0.4089	5295.	0.2102
2172.5	0.3419	5295.5	0.05082
2173.	0.3696	5296.	0.1201
2173.5	0.4112	5296.5	0.3604
2174.	0.3326	5297.	-0.1317
2174.5	0.4297	5297.5	0.3188
2175.	0.5082	5298.	0.00693
2175.5	0.5221	5298.5	0.1201
2176.	0.3326	5299.	0.1779
2176.5	0.2749	5299.5	0.3095
2177.	0.3373	5300.	0.07161
2177.5	0.3534	5300.5	0.1917
2178.	0.4135	5301.	0.1756
2178.5	0.1432	5301.5	0.2125
2179.	0.5244	5302.	0.02079
2179.5	0.2125	5302.5	0.2657
2180.	0.3142	5303.	0.2587
2180.5	0.3996	5303.5	0.1317
2181.	0.3557	5304.	0.1525
2181.5	0.2402	5304.5	0.1201
2182.	0.4828	5305.	0.1109

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2182.5	0.4505	5305.5	0.1363
2183.	0.4435	5306.	0.1109
2183.5	0.1502	5306.5	0.07623
2184.	0.2541	5307.	-0.09009
2184.5	0.335	5307.5	0.231
2185.	0.335	5308.	0.3673
2185.5	0.4135	5308.5	0.3211
2186.	0.4112	5309.	0.3396
2186.5	0.3811	5309.5	-0.03465
2187.	0.5105	5310.	0.2587
2187.5	0.4389	5310.5	0.3026
2188.	0.231	5311.	0.1732
2188.5	0.432	5311.5	0.2079
2189.	0.4943	5312.	0.04158
2189.5	0.3419	5312.5	0.1548
2190.	0.5221	5313.	0.1502
2190.5	0.5105	5313.5	0.3627
2191.	0.1432	5314.	0.1594
2191.5	0.4112	5314.5	0.2472
2192.	0.3396	5315.	0.1086
2192.5	0.3996	5315.5	0.2218
2193.	0.82	5316.	-0.00693
2193.5	0.5036	5316.5	0.1525
2194.	0.2449	5317.	0.194
2194.5	0.432	5317.5	0.2079
2195.	0.6306	5318.	0.1317
2195.5	0.4874	5318.5	0.1594
2196.	0.432	5319.	0.2657
2196.5	0.2125	5319.5	0.2657
2197.	0.5036	5320.	0.1363
2197.5	0.2495	5320.5	0.1917
2198.	0.2518	5321.	0.1917
2198.5	0.4412	5321.5	0.1525
2199.	0.08547	5322.	0.3488
2199.5	0.3119	5322.5	0.2818
2200.	0.1502	5323.	0.201
2200.5	0.4297	5323.5	0.1317
2201.	0.3142	5324.	0.2587
2201.5	0.3719	5324.5	0.2379
2202.	0.3188	5325.	0.01386
2202.5	0.2587	5325.5	-0.07161
2203.	0.5498	5326.	0.3072
2203.5	0.4597	5326.5	0.1779
2204.	0.4135	5327.	0.09933
2204.5	0.3719	5327.5	0.201
2205.	0.4297	5328.	0.2841
2205.5	0.4943	5328.5	0.2171
2206.	0.7115	5329.	0.1386
2206.5	0.4204	5329.5	0.04158
2207.	0.5683	5330.	-0.05082
2207.5	0.2148	5330.5	0.1548
2208.	0.3534	5331.	0.3188
2208.5	0.3927	5331.5	0.09702

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2209.	0.4135	5332.	-0.2033
2209.5	0.3604	5332.5	0.2472
2210.	0.3604	5333.	0.09933
2210.5	0.1871	5333.5	0.2795
2211.	0.358	5334.	0.3858
2211.5	0.231	5334.5	0.3788
2212.	0.4158	5335.	0.2102
2212.5	0.2241	5335.5	0.03927
2213.	0.3811	5336.	0.1363
2213.5	0.4389	5336.5	0.3095
2214.	0.4112	5337.	0.2356
2214.5	0.4874	5337.5	0.2795
2215.	0.3165	5338.	0.07623
2215.5	0.2056	5338.5	0.07623
2216.	0.2587	5339.	0.1756
2216.5	0.2056	5339.5	0.4782
2217.	0.3419	5340.	0.1224
2217.5	0.3326	5340.5	-0.1294
2218.	0.2772	5341.	0.2841
2218.5	0.6376	5341.5	0.07161
2219.	0.1686	5342.	0.09702
2219.5	0.3119	5342.5	0.3026
2220.	0.3811	5343.	0.01386
2220.5	0.2749	5343.5	0.04851
2221.	0.529	5344.	0.4204
2221.5	0.2957	5344.5	0.4759
2222.	0.3003	5345.	0.2195
2222.5	0.2125	5345.5	0.1109
2223.	0.4389	5346.	0.1109
2223.5	0.1455	5346.5	0.2102
2224.	0.2911	5347.	0.1917
2224.5	0.3511	5347.5	0.1917
2225.	0.4412	5348.	0.1502
2225.5	0.2125	5348.5	0.09702
2226.	0.5244	5349.	0.3881
2226.5	0.4158	5349.5	0.2795
2227.	0.4736	5350.	0.1732
2227.5	0.4966	5350.5	0.05313
2228.	0.4597	5351.	0.05082
2228.5	0.2934	5351.5	0.1594
2229.	0.5105	5352.	0.3996
2229.5	0.4574	5352.5	0.1548
2230.	0.261	5353.	-0.00693
2230.5	0.2033	5353.5	0.09933
2231.	0.6029	5354.	0.2818
2231.5	0.1686	5354.5	0.1987
2232.	0.663	5355.	0.2657
2232.5	0.1016	5355.5	0.2195
2233.	0.2033	5356.	0.6075
2233.5	0.3604	5356.5	0.0924
2234.	0.3835	5357.	0.3211
2234.5	0.4551	5357.5	0.0924
2235.	0.3119	5358.	0.02079

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2235.5	0.5221	5358.5	0.3188
2236.	0.1709	5359.	0.2125
2236.5	0.2148	5359.5	0.3419
2237.	0.1894	5360.	0.06006
2237.5	0.2934	5360.5	0.1317
2238.	0.5105	5361.	0.1917
2238.5	0.3627	5361.5	0.231
2239.	0.2125	5362.	0.3211
2239.5	0.3026	5362.5	0.1109
2240.	0.4574	5363.	0.09009
2240.5	0.2772	5363.5	0.1617
2241.	0.3119	5364.	0.1756
2241.5	0.4736	5364.5	0.0693
2242.	0.1201	5365.	0.09702
2242.5	0.4597	5365.5	0.3072
2243.	0.2056	5366.	0.2195
2243.5	0.5567	5366.5	0.2587
2244.	0.4297	5367.	-0.03465
2244.5	0.3627	5367.5	0.1086
2245.	0.5429	5368.	0.2195
2245.5	0.3627	5368.5	-0.00693
2246.	0.4019	5369.	0.1386
2246.5	0.1432	5369.5	0.2587
2247.	0.2911	5370.	0.201
2247.5	0.3396	5370.5	0.04158
2248.	0.1525	5371.	0.2125
2248.5	0.4043	5371.5	0.05313
2249.	0.3996	5372.	0.3003
2249.5	0.261	5372.5	0.2402
2250.	0.5013	5373.	0.231
2250.5	0.3811	5373.5	0.1756
2251.	0.3557	5374.	0.09009
2251.5	0.4528	5374.5	0.2102
2252.	0.4874	5375.	0.4389
2252.5	0.2264	5375.5	0.2379
2253.	0.2772	5376.	0.2657
2253.5	0.5013	5376.5	0.3465
2254.	0.2749	5377.	0.2102
2254.5	0.5128	5377.5	0.2587
2255.	0.4412	5378.	0.1917
2255.5	0.3326	5378.5	0.2472
2256.	0.2125	5379.	0.2495
2256.5	0.3419	5379.5	0.1548
2257.	0.2287	5380.	0.1594
2257.5	0.2749	5380.5	0.01386
2258.	0.1686	5381.	0.2079
2258.5	0.2056	5381.5	0.1756
2259.	0.3811	5382.	0.06237
2259.5	0.2911	5382.5	0.07854
2260.	0.3442	5383.	0.09933
2260.5	0.3165	5383.5	0.231
2261.	0.2934	5384.	0.0924
2261.5	0.2148	5384.5	0.3234

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2262.	0.2749	5385.	0.07392
2262.5	0.4297	5385.5	-0.07854
2263.	0.3026	5386.	-0.06006
2263.5	0.1317	5386.5	0.2818
2264.	0.5013	5387.	0.1201
2264.5	0.2633	5387.5	0.09009
2265.	0.231	5388.	0.1317
2265.5	0.3557	5388.5	0.00231
2266.	0.4966	5389.	0.09702
2266.5	0.2264	5389.5	0.1317
2267.	0.231	5390.	0.1525
2267.5	0.4505	5390.5	0.03234
2268.	0.2749	5391.	0.2587
2268.5	0.3326	5391.5	0.1802
2269.	0.3696	5392.	0.0231
2269.5	0.07392	5392.5	0.2472
2270.	0.4851	5393.	0.09702
2270.5	0.3534	5393.5	0.07161
2271.	0.1709	5394.	0.1917
2271.5	0.2449	5394.5	0.3072
2272.	0.4135	5395.	0.3257
2272.5	0.261	5395.5	0.2841
2273.	0.2772	5396.	0.07392
2273.5	0.2218	5396.5	0.3442
2274.	0.4828	5397.	0.3211
2274.5	0.395	5397.5	0.1756
2275.	0.2749	5398.	0.1063
2275.5	0.2518	5398.5	0.06237
2276.	0.3904	5399.	0.3234
2276.5	0.492	5399.5	0.2795
2277.	0.4135	5400.	0.1756
2277.5	0.3627	5400.5	0.1548
2278.	0.3026	5401.	0.1779
2278.5	0.4389	5401.5	-0.00462
2279.	0.2518	5402.	0.2218
2279.5	0.3996	5402.5	0.06237
2280.	0.3373	5403.	0.1594
2280.5	0.261	5403.5	0.3396
2281.	0.3119	5404.	-0.07854
2281.5	0.3419	5404.5	0.425
2282.	0.06237	5405.	0.1756
2282.5	0.4597	5405.5	0.201
2283.	0.3627	5406.	0.2818
2283.5	0.2425	5406.5	0.3095
2284.	0.3142	5407.	-0.1732
2284.5	0.06699	5407.5	0.3095
2285.	0.1132	5408.	0.1502
2285.5	0.4505	5408.5	0.3465
2286.	0.6168	5409.	0.1779
2286.5	0.2495	5409.5	0.2657
2287.	0.1132	5410.	0.07161
2287.5	0.4204	5410.5	0.2102
2288.	0.4181	5411.	0.1525

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2288.5	0.5475	5411.5	0.1502
2289.	0.2749	5412.	0.2195
2289.5	0.4851	5412.5	0.2125
2290.	0.2934	5413.	0.3211
2290.5	0.3742	5413.5	0.1363
2291.	0.1132	5414.	-0.1525
2291.5	0.3165	5414.5	0.03003
2292.	0.3026	5415.	0.00231
2292.5	0.2911	5415.5	0.09702
2293.	0.3026	5416.	0.2564
2293.5	0.2749	5416.5	0.4274
2294.	0.432	5417.	0.298
2294.5	0.4112	5417.5	0.4597
2295.	0.2264	5418.	0.1201
2295.5	0.395	5418.5	0.2472
2296.	0.2056	5419.	0.1317
2296.5	0.4851	5419.5	0.1917
2297.	0.3742	5420.	0.1525
2297.5	0.5313	5420.5	0.1917
2298.	0.3026	5421.	0.1987
2298.5	0.1455	5421.5	0.1756
2299.	0.3627	5422.	0.2841
2299.5	0.3719	5422.5	0.00231
2300.	0.3996	5423.	0.3765
2300.5	0.3303	5423.5	0.1756
2301.	0.261	5424.	0.1756
2301.5	0.3326	5424.5	0.1386
2302.	0.3188	5425.	0.1363
2302.5	0.3026	5425.5	0.3604
2303.	0.3719	5426.	-0.05082
2303.5	0.1871	5426.5	0.1732
2304.	0.194	5427.	0.1802
2304.5	0.3373	5427.5	0.2472
2305.	0.3326	5428.	0.3627
2305.5	0.231	5428.5	0.2402
2306.	0.3557	5429.	0.201
2306.5	0.529	5429.5	0.2587
2307.	0.2425	5430.	0.2079
2307.5	0.3696	5430.5	0.134
2308.	0.231	5431.	0.1363
2308.5	0.5244	5431.5	0.00231
2309.	0.3419	5432.	0.2287
2309.5	0.06699	5432.5	0.1201
2310.	0.231	5433.	0.09702
2310.5	0.261	5433.5	0.1317
2311.	0.1894	5434.	0.2195
2311.5	0.2957	5434.5	0.2587
2312.	0.559	5435.	0.1617
2312.5	0.201	5435.5	0.0231
2313.	0.2749	5436.	-0.01617
2313.5	0.1686	5436.5	0.2379
2314.	0.3419	5437.	0.1317
2314.5	0.4181	5437.5	0.1779

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2315.	-0.09702	5438.	0.1363
2315.5	0.2425	5438.5	0.3419
2316.	0.5036	5439.	0.3627
2316.5	0.3557	5439.5	0.2472
2317.	0.3442	5440.	0.3604
2317.5	0.3026	5440.5	0.1756
2318.	0.4019	5441.	0.1917
2318.5	0.4181	5441.5	0.1756
2319.	0.3026	5442.	0.2102
2319.5	0.6237	5442.5	0.2633
2320.	0.4412	5443.	0.2218
2320.5	0.4112	5443.5	0.1201
2321.	0.2587	5444.	0.2195
2321.5	0.4828	5444.5	-0.1109
2322.	0.3719	5445.	0.05544
2322.5	0.2425	5445.5	0.2195
2323.	0.2772	5446.	0.1917
2323.5	0.2264	5446.5	0.1525
2324.	0.3188	5447.	0.3211
2324.5	0.4736	5447.5	0.2841
2325.	0.2518	5448.	0.3072
2325.5	0.1548	5448.5	-0.1363
2326.	0.3557	5449.	0.1178
2326.5	0.4736	5449.5	0.2079
2327.	0.3188	5450.	0.1363
2327.5	0.1709	5450.5	0.1732
2328.	0.5151	5451.	0.268
2328.5	0.1548	5451.5	0.3234
2329.	0.2148	5452.	0.09702
2329.5	0.2333	5452.5	0.1109
2330.	0.4135	5453.	0.1917
2330.5	0.3165	5453.5	-0.1756
2331.	0.2541	5454.	0.3673
2331.5	0.3396	5454.5	0.09702
2332.	0.5267	5455.	0.07161
2332.5	0.3049	5455.5	0.2657
2333.	0.3326	5456.	0.2333
2333.5	0.5221	5456.5	0.02079
2334.	0.4297	5457.	0.04389
2334.5	0.3419	5457.5	0.2587
2335.	0.2033	5458.	0.2864
2335.5	0.3557	5458.5	0.1201
2336.	0.492	5459.	0.2841
2336.5	0.3811	5459.5	0.1178
2337.	0.3927	5460.	0.3396
2337.5	0.2102	5460.5	0.2564
2338.	0.4204	5461.	0.2587
2338.5	0.3719	5461.5	0.2587
2339.	0.365	5462.	0.268
2339.5	0.335	5462.5	0.08778
2340.	0.1848	5463.	0.201
2340.5	0.3326	5463.5	0.1525
2341.	0.2749	5464.	0.4089

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2341.5	0.4019	5464.5	0.01386
2342.	0.2633	5465.	0.03234
2342.5	0.2518	5465.5	0.231
2343.	0.3627	5466.	0.1363
2343.5	0.5036	5466.5	0.1201
2344.	0.5429	5467.	0.1917
2344.5	0.07161	5467.5	0.09702
2345.	0.5706	5468.	0.3604
2345.5	0.4389	5468.5	0.1317
2346.	0.2264	5469.	0.2472
2346.5	0.3419	5469.5	-0.09009
2347.	0.4943	5470.	0.00462
2347.5	0.3165	5470.5	0.3003
2348.	0.261	5471.	0.09702
2348.5	0.3188	5471.5	0.201
2349.	0.2772	5472.	0.2841
2349.5	0.03696	5472.5	0.3881
2350.	0.3142	5473.	0.3095
2350.5	0.492	5473.5	0.1317
2351.	0.4481	5474.	0.3234
2351.5	0.4412	5474.5	0.3095
2352.	0.5105	5475.	0.07623
2352.5	0.4851	5475.5	0.3673
2353.	0.3719	5476.	0.3234
2353.5	0.3142	5476.5	0.09933
2354.	0.3904	5477.	0.4343
2354.5	0.335	5477.5	-0.1548
2355.	0.4943	5478.	0.06237
2355.5	0.1871	5478.5	0.231
2356.	0.3557	5479.	0.1917
2356.5	0.3396	5479.5	0.1594
2357.	0.4943	5480.	0.03234
2357.5	0.09471	5480.5	0.06237
2358.	0.08547	5481.	0.1363
2358.5	0.1709	5481.5	0.3696
2359.	0.194	5482.	0.201
2359.5	0.3442	5482.5	0.3442
2360.	0.3627	5483.	0.09702
2360.5	0.2287	5483.5	0.1525
2361.	0.3557	5484.	0.1779
2361.5	0.1548	5484.5	0.3442
2362.	0.4135	5485.	0.07623
2362.5	0.2749	5485.5	0.231
2363.	0.3026	5486.	0.2818
2363.5	0.2541	5486.5	0.1201
2364.	0.3534	5487.	0.05082
2364.5	0.3927	5487.5	0.02079
2365.	0.2125	5488.	-0.00462
2365.5	0.5844	5488.5	0.2495
2366.	0.5313	5489.	0.1594
2366.5	0.2425	5489.5	0.2587
2367.	0.3627	5490.	0.2657
2367.5	0.4389	5490.5	0.5359

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2368.	0.261	5491.	0.09702
2368.5	0.4412	5491.5	0.1802
2369.	0.2772	5492.	0.231
2369.5	0.3211	5492.5	0.2195
2370.	0.4597	5493.	-0.06006
2370.5	0.3142	5493.5	0.03234
2371.	0.2795	5494.	0.2102
2371.5	0.2772	5494.5	0.4204
2372.	0.4966	5495.	0.1987
2372.5	0.5683	5495.5	0.07392
2373.	0.2518	5496.	0.2841
2373.5	0.529	5496.5	0.3465
2374.	0.6029	5497.	0.3858
2374.5	0.2333	5497.5	0.2818
2375.	0.1709	5498.	0.2102
2375.5	0.2911	5498.5	0.4274
2376.	0.5706	5499.	0.2472
2376.5	0.559	5499.5	0.1201
2377.	0.1063	5500.	0.04851
2377.5	0.3396	5500.5	0.1201
2378.	0.3719	5501.	0.1594
2378.5	0.2911	5501.5	0.1732
2379.	0.3142	5502.	0.1109
2379.5	0.2772	5502.5	0.4158
2380.	0.2079	5503.	0.06237
2380.5	0.2449	5503.5	0.03234
2381.	0.3627	5504.	0.3788
2381.5	0.1894	5504.5	0.04158
2382.	0.4019	5505.	0.268
2382.5	0.3326	5505.5	0.06237
2383.	0.3003	5506.	0.2171
2383.5	0.1848	5506.5	0.3188
2384.	0.4874	5507.	-0.00693
2384.5	0.3719	5507.5	0.201
2385.	0.1709	5508.	0.01386
2385.5	0.3904	5508.5	0.1594
2386.	0.2934	5509.	0.04158
2386.5	0.3696	5509.5	0.1525
2387.	0.5128	5510.	-0.08085
2387.5	0.5706	5510.5	0.1109
2388.	0.2495	5511.	0.07854
2388.5	0.2056	5511.5	0.2472
2389.	0.1709	5512.	0.3673
2389.5	0.3049	5512.5	-0.01617
2390.	0.1247	5513.	0.194
2390.5	0.4135	5513.5	0.2287
2391.	0.432	5514.	0.3211
2391.5	0.4158	5514.5	0.1363
2392.	0.3419	5515.	0.1987
2392.5	0.2033	5515.5	0.07161
2393.	0.5082	5516.	0.07623
2393.5	0.4528	5516.5	-0.06006
2394.	0.4597	5517.	0.231

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2394.5	0.3742	5517.5	0.231
2395.	0.2495	5518.	0.1386
2395.5	0.4043	5518.5	0.06237
2396.	0.4019	5519.	0.268
2396.5	0.4204	5519.5	0.3257
2397.	0.2818	5520.	0.1502
2397.5	0.4204	5520.5	0.09933
2398.	0.4759	5521.	0.201
2398.5	0.6306	5521.5	0.1594
2399.	0.3142	5522.	0.1779
2399.5	0.1732	5522.5	0.03234
2400.	0.3142	5523.	0.194
2400.5	0.3142	5523.5	0.3003
2401.	0.432	5524.	0.3442
2401.5	0.529	5524.5	0.2472
2402.	0.3026	5525.	0.07623
2402.5	0.2518	5525.5	0.07623
2403.	0.5405	5526.	0.04158
2403.5	0.3927	5526.5	0.3072
2404.	0.4412	5527.	0.1802
2404.5	0.3026	5527.5	0.2287
2405.	0.358	5528.	-0.09702
2405.5	0.3026	5528.5	0.06006
2406.	0.1455	5529.	0.268
2406.5	0.358	5529.5	0.3234
2407.	0.4966	5530.	0.05082
2407.5	0.4851	5530.5	0.2102
2408.	0.2749	5531.	-0.01617
2408.5	0.3811	5531.5	0.3095
2409.	0.2911	5532.	0.1756
2409.5	0.4528	5532.5	0.3788
2410.	0.2772	5533.	0.1363
2410.5	0.365	5533.5	0.03234
2411.	0.4297	5534.	0.06237
2411.5	0.1848	5534.5	0.07392
2412.	0.1825	5535.	0.1756
2412.5	0.3719	5535.5	0.1201
2413.	0.4019	5536.	0.3673
2413.5	0.2264	5536.5	0.2171
2414.	0.3142	5537.	-0.03696
2414.5	0.3142	5537.5	0.05082
2415.	0.3049	5538.	0.2402
2415.5	0.2541	5538.5	0.1756
2416.	0.5036	5539.	0.2218
2416.5	0.0693	5539.5	0.4227
2417.	0.2934	5540.	0.1178
2417.5	0.4528	5540.5	0.2841
2418.	0.1964	5541.	0.03927
2418.5	0.2749	5541.5	0.06237
2419.	0.1455	5542.	0.194
2419.5	0.1224	5542.5	0.02079
2420.	0.4551	5543.	0.2333
2420.5	0.3696	5543.5	0.1987

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2421.	0.4019	5544.	0.09702
2421.5	0.5036	5544.5	0.2379
2422.	0.3996	5545.	-0.03003
2422.5	0.1709	5545.5	0.09702
2423.	0.3419	5546.	0.1525
2423.5	0.1455	5546.5	0.3788
2424.	0.3627	5547.	0.01155
2424.5	0.4435	5547.5	0.03234
2425.	0.231	5548.	0.2102
2425.5	0.3696	5548.5	0.07392
2426.	0.5221	5549.	0.2102
2426.5	0.2079	5549.5	0.09702
2427.	0.335	5550.	0.0693
2427.5	0.5221	5550.5	0.3396
2428.	0.3442	5551.	0.1571
2428.5	0.2425	5551.5	-0.01386
2429.	0.2264	5552.	0.268
2429.5	0.2957	5552.5	0.03927
2430.	0.3811	5553.	0.2102
2430.5	0.3811	5553.5	0.1363
2431.	0.4528	5554.	-0.09702
2431.5	0.2333	5554.5	0.07161
2432.	0.3627	5555.	0.07854
2432.5	0.4505	5555.5	0.2379
2433.	0.395	5556.	-0.01386
2433.5	0.3442	5556.5	0.09009
2434.	0.4204	5557.	0.1917
2434.5	0.1732	5557.5	0.3095
2435.	0.3165	5558.	0.2402
2435.5	0.4966	5558.5	0.05082
2436.	0.2402	5559.	0.1732
2436.5	0.5105	5559.5	0.02079
2437.	0.3627	5560.	-0.03003
2437.5	0.2772	5560.5	0.2657
2438.	0.3188	5561.	0.2287
2438.5	0.3165	5561.5	-0.05313
2439.	0.5798	5562.	0.3095
2439.5	0.3165	5562.5	0.1756
2440.	0.4736	5563.	0.2171
2440.5	0.1686	5563.5	0.1109
2441.	0.231	5564.	0.231
2441.5	0.4574	5564.5	0.2333
2442.	0.231	5565.	0.2125
2442.5	0.5683	5565.5	0.194
2443.	0.3142	5566.	0.2472
2443.5	0.3719	5566.5	0.04158
2444.	0.4158	5567.	0.201
2444.5	0.4135	5567.5	0.231
2445.	0.2125	5568.	0.09009
2445.5	0.3696	5568.5	0.2495
2446.	0.3419	5569.	0.3026
2446.5	0.05313	5569.5	0.1594
2447.	0.1871	5570.	0.2841

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2447.5	0.3003	5570.5	0.09009
2448.	0.1155	5571.	0.06237
2448.5	0.2772	5571.5	0.2472
2449.	0.5013	5572.	0.1109
2449.5	0.4551	5572.5	0.2472
2450.	0.3419	5573.	0.1502
2450.5	0.2749	5573.5	0.1109
2451.	0.3442	5574.	0.1317
2451.5	0.2287	5574.5	0.
2452.	0.365	5575.	0.4204
2452.5	0.4412	5575.5	0.04851
2453.	0.6491	5576.	0.201
2453.5	0.5429	5576.5	0.1917
2454.	0.1548	5577.	0.05313
2454.5	0.2402	5577.5	0.07623
2455.	0.4343	5578.	0.03927
2455.5	0.1548	5578.5	-0.04851
2456.	0.2079	5579.	0.05082
2456.5	0.2125	5579.5	0.2218
2457.	0.2125	5580.	0.1294
2457.5	0.1732	5580.5	0.04158
2458.	0.3927	5581.	0.2379
2458.5	0.432	5581.5	0.1386
2459.	0.3627	5582.	-0.09702
2459.5	0.3003	5582.5	0.1802
2460.	0.3811	5583.	0.3234
2460.5	0.3811	5583.5	0.2195
2461.	0.4574	5584.	0.201
2461.5	0.2264	5584.5	-0.03234
2462.	0.1271	5585.	0.2079
2462.5	0.3627	5585.5	-0.00462
2463.	0.4135	5586.	0.3465
2463.5	0.4043	5586.5	0.04851
2464.	0.3696	5587.	0.2818
2464.5	0.3419	5587.5	0.1756
2465.	0.3742	5588.	0.0693
2465.5	0.2333	5588.5	0.1802
2466.	0.2633	5589.	0.1525
2466.5	0.3419	5589.5	0.1363
2467.	0.261	5590.	0.1109
2467.5	0.3627	5590.5	0.3673
2468.	0.3627	5591.	0.2818
2468.5	0.3557	5591.5	0.08778
2469.	0.335	5592.	0.03234
2469.5	0.2587	5592.5	0.2102
2470.	0.3373	5593.	0.1502
2470.5	0.1871	5593.5	0.2402
2471.	0.5706	5594.	0.2795
2471.5	0.3419	5594.5	0.2195
2472.	0.5867	5595.	0.07623
2472.5	0.3811	5595.5	0.2841
2473.	0.4019	5596.	-0.1271
2473.5	0.261	5596.5	0.268

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2474.	0.559	5597.	0.3095
2474.5	0.2795	5597.5	-0.1109
2475.	0.5221	5598.	0.2195
2475.5	0.4204	5598.5	0.1802
2476.	0.194	5599.	0.1109
2476.5	0.261	5599.5	0.00231
2477.	0.462	5600.	0.4204
2477.5	0.3419	5600.5	-0.01386
2478.	0.1247	5601.	0.3211
2478.5	0.3003	5601.5	0.2657
2479.	0.3419	5602.	0.2171
2479.5	0.432	5602.5	0.1109
2480.	0.08778	5603.	0.1363
2480.5	0.4528	5603.5	-0.07854
2481.	0.4135	5604.	0.09702
2481.5	0.2264	5604.5	0.3095
2482.	0.358	5605.	0.2587
2482.5	0.3696	5605.5	0.07623
2483.	0.2056	5606.	-0.09009
2483.5	0.3696	5606.5	0.3234
2484.	0.2749	5607.	0.1525
2484.5	0.3604	5607.5	0.0924
2485.	0.261	5608.	-0.03234
2485.5	0.3719	5608.5	0.2102
2486.	0.2287	5609.	0.3211
2486.5	0.3026	5609.5	0.1594
2487.	0.3373	5610.	0.3604
2487.5	0.5105	5610.5	0.2171
2488.	0.2449	5611.	-0.04851
2488.5	0.4851	5611.5	0.04158
2489.	0.3396	5612.	0.1363
2489.5	0.2125	5612.5	0.2841
2490.	0.4158	5613.	0.09702
2490.5	0.2449	5613.5	0.07623
2491.	0.3742	5614.	0.09009
2491.5	0.261	5614.5	0.2818
2492.	0.2449	5615.	0.1756
2492.5	0.462	5615.5	0.201
2493.	0.3049	5616.	0.03234
2493.5	0.2934	5616.5	0.4805
2494.	0.2772	5617.	0.0924
2494.5	0.3165	5617.5	0.03234
2495.	0.2056	5618.	0.01155
2495.5	0.2495	5618.5	0.1594
2496.	0.06237	5619.	0.1201
2496.5	0.3211	5619.5	0.
2497.	0.5036	5620.	0.2195
2497.5	0.5036	5620.5	0.2356
2498.	0.3119	5621.	0.2587
2498.5	0.4204	5621.5	0.2102
2499.	0.2125	5622.	0.09009
2499.5	0.3326	5622.5	0.1502
2500.	0.3188	5623.	0.00462

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2500.5	0.4712	5623.5	0.268
2501.	0.01848	5624.	0.2195
2501.5	0.4135	5624.5	0.1756
2502.	0.2957	5625.	0.2102
2502.5	0.3673	5625.5	0.2864
2503.	0.3811	5626.	0.231
2503.5	0.3604	5626.5	0.1201
2504.	0.2125	5627.	0.1525
2504.5	0.2125	5627.5	0.
2505.	0.432	5628.	0.1779
2505.5	0.3211	5628.5	0.01155
2506.	0.08547	5629.	-0.1178
2506.5	0.3373	5629.5	0.2102
2507.	0.2795	5630.	0.2333
2507.5	0.1294	5630.5	0.2657
2508.	0.2125	5631.	0.1617
2508.5	0.4019	5631.5	0.2795
2509.	0.3811	5632.	-0.03003
2509.5	0.3719	5632.5	0.3811
2510.	0.261	5633.	0.2472
2510.5	0.3026	5633.5	0.201
2511.	0.1917	5634.	0.04158
2511.5	0.2148	5634.5	0.2587
2512.	0.261	5635.	0.3488
2512.5	0.3742	5635.5	0.03927
2513.	0.358	5636.	0.1386
2513.5	0.4943	5636.5	0.3095
2514.	0.2749	5637.	0.2495
2514.5	0.2056	5637.5	-0.03234
2515.	0.7808	5638.	0.3881
2515.5	0.4204	5638.5	0.201
2516.	0.3396	5639.	-0.1016
2516.5	0.3026	5639.5	-0.07623
2517.	0.358	5640.	0.1317
2517.5	0.3119	5640.5	-0.03696
2518.	0.3534	5641.	0.2495
2518.5	0.3026	5641.5	0.04158
2519.	0.3627	5642.	0.1594
2519.5	0.395	5642.5	-0.03003
2520.	0.194	5643.	0.1756
2520.5	0.104	5643.5	0.06006
2521.	0.2633	5644.	0.4066
2521.5	0.4597	5644.5	0.2102
2522.	0.5475	5645.	0.1363
2522.5	0.2079	5645.5	0.03234
2523.	0.5521	5646.	0.1802
2523.5	0.1871	5646.5	-0.1571
2524.	0.3927	5647.	0.09009
2524.5	0.2056	5647.5	0.06237
2525.	0.2402	5648.	0.08778
2525.5	0.3835	5648.5	0.1732
2526.	0.5128	5649.	0.201
2526.5	0.1317	5649.5	0.3604

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2527.	0.1294	5650.	0.04158
2527.5	0.1155	5650.5	0.1525
2528.	0.432	5651.	0.1201
2528.5	0.03927	5651.5	0.268
2529.	0.2934	5652.	0.00462
2529.5	0.2495	5652.5	0.2402
2530.	0.5221	5653.	0.3026
2530.5	0.5475	5653.5	0.1756
2531.	0.3835	5654.	0.09009
2531.5	0.3742	5654.5	0.1779
2532.	0.4597	5655.	0.1201
2532.5	0.231	5655.5	0.2402
2533.	0.1478	5656.	-0.03003
2533.5	0.231	5656.5	0.07161
2534.	0.2772	5657.	0.06237
2534.5	0.2056	5657.5	0.2102
2535.	0.02541	5658.	0.1502
2535.5	0.432	5658.5	0.06237
2536.	0.3419	5659.	0.1756
2536.5	0.2333	5659.5	0.1594
2537.	0.1709	5660.	0.3211
2537.5	0.335	5660.5	0.3604
2538.	-0.07623	5661.	-0.1478
2538.5	0.2772	5661.5	0.3604
2539.	0.4043	5662.	0.2333
2539.5	0.3026	5662.5	0.2495
2540.	0.3326	5663.	0.1109
2540.5	0.3142	5663.5	0.3604
2541.	0.4435	5664.	0.1917
2541.5	0.5821	5664.5	-0.00693
2542.	0.1709	5665.	0.07854
2542.5	0.1709	5665.5	0.1201
2543.	0.08547	5666.	-0.09009
2543.5	0.432	5666.5	0.2402
2544.	0.2772	5667.	0.05313
2544.5	0.4851	5667.5	0.02079
2545.	0.08778	5668.	0.2195
2545.5	0.335	5668.5	0.1386
2546.	0.3927	5669.	-0.05775
2546.5	0.5105	5669.5	0.1917
2547.	0.529	5670.	0.03234
2547.5	0.2795	5670.5	0.425
2548.	0.462	5671.	0.3996
2548.5	0.1063	5671.5	0.1779
2549.	0.134	5672.	0.2195
2549.5	0.4158	5672.5	0.09009
2550.	0.1964	5673.	0.2379
2550.5	0.2772	5673.5	0.194
2551.	0.4158	5674.	0.3396
2551.5	0.2518	5674.5	0.1201
2552.	0.6075	5675.	0.1779
2552.5	0.529	5675.5	0.1756
2553.	0.4574	5676.	-0.07623

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2553.5	0.5128	5676.5	0.05082
2554.	0.2148	5677.	0.07623
2554.5	0.3165	5677.5	0.07623
2555.	0.4759	5678.	0.1917
2555.5	0.4019	5678.5	0.3072
2556.	0.3927	5679.	0.201
2556.5	0.2818	5679.5	0.04158
2557.	0.5313	5680.	0.1178
2557.5	0.358	5680.5	0.2402
2558.	0.2633	5681.	0.1363
2558.5	0.3188	5681.5	0.07854
2559.	0.3811	5682.	0.1917
2559.5	0.04389	5682.5	0.07161
2560.	0.2402	5683.	0.07623
2560.5	0.261	5683.5	0.1109
2561.	0.335	5684.	0.03927
2561.5	0.3557	5684.5	0.2218
2562.	0.4412	5685.	0.04389
2562.5	0.2772	5685.5	0.2657
2563.	0.2056	5686.	0.2841
2563.5	0.4204	5686.5	0.2218
2564.	0.09009	5687.	0.1594
2564.5	0.3996	5687.5	0.2379
2565.	0.2287	5688.	0.3095
2565.5	0.2287	5688.5	0.2818
2566.	0.4597	5689.	0.07161
2566.5	0.3627	5689.5	0.2657
2567.	0.3419	5690.	0.2102
2567.5	0.1478	5690.5	0.09702
2568.	0.2449	5691.	0.07161
2568.5	0.5521	5691.5	0.04158
2569.	0.3119	5692.	0.1617
2569.5	0.2749	5692.5	0.1201
2570.	0.2425	5693.	0.3188
2570.5	0.4019	5693.5	0.06237
2571.	0.432	5694.	-0.00693
2571.5	0.2749	5694.5	0.231
2572.	0.5267	5695.	0.09702
2572.5	0.5613	5695.5	0.1594
2573.	0.1063	5696.	0.00231
2573.5	0.4343	5696.5	0.09009
2574.	0.4943	5697.	0.1294
2574.5	0.5429	5697.5	0.03234
2575.	0.4158	5698.	-0.07854
2575.5	0.3442	5698.5	0.201
2576.	0.04389	5699.	0.07623
2576.5	0.358	5699.5	0.1201
2577.	0.5313	5700.	0.1917
2577.5	0.2749	5700.5	0.231
2578.	0.1871	5701.	0.05082
2578.5	0.2749	5701.5	0.4666
2579.	0.3973	5702.	0.1525
2579.5	0.2264	5702.5	0.2125

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2580.	0.2564	5703.	0.2818
2580.5	0.2264	5703.5	0.07623
2581.	0.2518	5704.	0.1317
2581.5	0.3835	5704.5	0.2841
2582.	0.1247	5705.	0.04158
2582.5	0.3188	5705.5	0.2818
2583.	0.5221	5706.	0.134
2583.5	0.2957	5706.5	0.1386
2584.	0.395	5707.	0.00462
2584.5	0.2772	5707.5	0.07161
2585.	0.1964	5708.	0.3996
2585.5	0.2287	5708.5	0.2102
2586.	0.2449	5709.	0.3396
2586.5	0.261	5709.5	0.194
2587.	0.4551	5710.	0.1756
2587.5	0.261	5710.5	0.2864
2588.	0.2772	5711.	0.1594
2588.5	0.261	5711.5	0.1548
2589.	0.5798	5712.	0.201
2589.5	0.462	5712.5	0.0231
2590.	0.3719	5713.	0.2587
2590.5	0.4389	5713.5	0.2218
2591.	0.2125	5714.	0.268
2591.5	0.2633	5714.5	0.2425
2592.	0.3188	5715.	0.2402
2592.5	0.4343	5715.5	0.1917
2593.	0.358	5716.	0.231
2593.5	0.1709	5716.5	0.1109
2594.	0.0924	5717.	0.1594
2594.5	0.5429	5717.5	0.2472
2595.	0.2056	5718.	0.05313
2595.5	0.2333	5718.5	0.1363
2596.	0.01848	5719.	0.01386
2596.5	0.3165	5719.5	0.2841
2597.	0.4759	5720.	-0.01617
2597.5	0.4505	5720.5	-0.06006
2598.	0.2772	5721.	0.1363
2598.5	0.3927	5721.5	0.4274
2599.	0.1455	5722.	0.1594
2599.5	0.2957	5722.5	0.1802
2600.	0.1709	5723.	-0.03927
2600.5	0.08547	5723.5	0.2079
2601.	0.2287	5724.	0.09702
2601.5	0.358	5724.5	0.3811
2602.	0.2795	5725.	0.2472
2602.5	0.3419	5725.5	0.03234
2603.	0.08547	5726.	0.1201
2603.5	0.3811	5726.5	0.2102
2604.	0.3557	5727.	0.3973
2604.5	0.1709	5727.5	0.2195
2605.	0.3788	5728.	0.03234
2605.5	0.4736	5728.5	0.3188
2606.	0.4019	5729.	0.04389

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2606.5	0.2449	5729.5	0.1756
2607.	0.3627	5730.	0.03234
2607.5	0.231	5730.5	-0.00231
2608.	0.3165	5731.	0.201
2608.5	0.3742	5731.5	0.04158
2609.	0.1247	5732.	0.1109
2609.5	0.6052	5732.5	0.07392
2610.	0.432	5733.	0.07161
2610.5	0.2125	5733.5	0.2195
2611.	0.2818	5734.	0.00231
2611.5	0.4712	5734.5	0.09702
2612.	0.1686	5735.	0.1363
2612.5	0.3211	5735.5	0.1756
2613.	0.3165	5736.	0.1109
2613.5	0.358	5736.5	0.3003
2614.	0.7484	5737.	0.3095
2614.5	0.4874	5737.5	-0.1109
2615.	0.3927	5738.	0.1594
2615.5	0.3026	5738.5	0.04158
2616.	0.231	5739.	0.1617
2616.5	0.3188	5739.5	0.1779
2617.	0.5313	5740.	0.1802
2617.5	0.3742	5740.5	0.09702
2618.	0.2934	5741.	0.1201
2618.5	0.2518	5741.5	0.1525
2619.	0.335	5742.	-0.1363
2619.5	0.1294	5742.5	0.2472
2620.	0.2934	5743.	0.1363
2620.5	0.365	5743.5	0.1756
2621.	0.3211	5744.	0.05082
2621.5	0.1455	5744.5	0.1548
2622.	0.3142	5745.	0.01617
2622.5	0.3627	5745.5	0.01386
2623.	0.3188	5746.	-0.07854
2623.5	0.2795	5746.5	0.05082
2624.	0.1317	5747.	0.2657
2624.5	0.3696	5747.5	0.2379
2625.	0.4019	5748.	0.1109
2625.5	0.3557	5748.5	0.194
2626.	0.6006	5749.	0.06237
2626.5	0.3627	5749.5	-0.06006
2627.	0.4551	5750.	0.01386
2627.5	0.2264	5750.5	0.2333
2628.	0.3211	5751.	0.201
2628.5	0.2148	5751.5	0.1086
2629.	0.5914	5752.	0.1109
2629.5	0.2957	5752.5	0.2818
2630.	0.231	5753.	0.07623
2630.5	0.5105	5753.5	0.2657
2631.	0.3188	5754.	0.1594
2631.5	0.1663	5754.5	0.1779
2632.	0.231	5755.	0.06237
2632.5	0.3026	5755.5	0.2518

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2633.	0.4343	5756.	0.1086
2633.5	0.2657	5756.5	0.3881
2634.	0.3811	5757.	0.1594
2634.5	0.00924	5757.5	0.2472
2635.	0.2333	5758.	0.06237
2635.5	0.3049	5758.5	0.3095
2636.	0.3557	5759.	0.2587
2636.5	0.3927	5759.5	0.1917
2637.	0.1686	5760.	0.1317
2637.5	0.3373	5760.5	0.1109
2638.	0.5429	5761.	0.3604
2638.5	0.2957	5761.5	0.08778
2639.	0.3927	5762.	0.5475
2639.5	0.2287	5762.5	0.2102
2640.	0.2125	5763.	0.05082
2640.5	0.4943	5763.5	0.01617
2641.	0.4204	5764.	0.04389
2641.5	0.2241	5764.5	0.2402
2642.	0.05544	5765.	0.1201
2642.5	0.2633	5765.5	0.2033
2643.	0.3973	5766.	0.08778
2643.5	0.358	5766.5	0.07161
2644.	0.2541	5767.	0.07161
2644.5	0.3026	5767.5	0.2818
2645.	0.2472	5768.	0.2402
2645.5	0.09471	5768.5	0.164
2646.	0.462	5769.	0.01155
2646.5	0.395	5769.5	0.1594
2647.	0.3557	5770.	0.1109
2647.5	0.3326	5770.5	0.03234
2648.	0.4597	5771.	0.1756
2648.5	0.3419	5771.5	0.3973
2649.	0.3835	5772.	0.2587
2649.5	0.1548	5772.5	0.2472
2650.	0.1709	5773.	0.08085
2650.5	0.1732	5773.5	0.0231
2651.	0.3719	5774.	0.1617
2651.5	0.2333	5774.5	0.09933
2652.	0.5914	5775.	0.2218
2652.5	0.2402	5775.5	0.03234
2653.	0.261	5776.	0.2472
2653.5	0.3442	5776.5	0.03234
2654.	0.2818	5777.	0.04158
2654.5	0.4759	5777.5	0.2125
2655.	0.2541	5778.	0.0231
2655.5	0.365	5778.5	0.2333
2656.	0.3442	5779.	0.1779
2656.5	0.4435	5779.5	0.1109
2657.	0.03927	5780.	0.1594
2657.5	0.4736	5780.5	0.231
2658.	0.432	5781.	0.2818
2658.5	0.194	5781.5	0.2472
2659.	0.3835	5782.	0.231

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2659.5	0.432	5782.5	0.09702
2660.	0.2518	5783.	0.1548
2660.5	0.3142	5783.5	0.1779
2661.	0.2264	5784.	-0.1086
2661.5	0.6052	5784.5	0.4505
2662.	0.261	5785.	0.3072
2662.5	0.2079	5785.5	0.2379
2663.	0.2449	5786.	0.2841
2663.5	0.2749	5786.5	0.1756
2664.	0.261	5787.	0.04389
2664.5	0.1709	5787.5	0.1201
2665.	0.1894	5788.	0.2195
2665.5	0.5013	5788.5	0.2102
2666.	0.4736	5789.	0.07161
2666.5	0.194	5789.5	0.3188
2667.	0.2079	5790.	0.1525
2667.5	0.4204	5790.5	-0.04851
2668.	0.2633	5791.	-0.1294
2668.5	0.3142	5791.5	0.07161
2669.	0.2957	5792.	0.07161
2669.5	0.3973	5792.5	0.4481
2670.	0.3557	5793.	0.2218
2670.5	0.2333	5793.5	0.194
2671.	0.2287	5794.	0.01386
2671.5	0.4412	5794.5	0.09009
2672.	0.3165	5795.	0.07623
2672.5	0.335	5795.5	0.2472
2673.	0.1132	5796.	0.2102
2673.5	0.4158	5796.5	0.1224
2674.	0.4043	5797.	0.06237
2674.5	0.358	5797.5	0.1363
2675.	0.3419	5798.	0.02079
2675.5	0.365	5798.5	0.07161
2676.	0.1247	5799.	0.04158
2676.5	0.3835	5799.5	0.2587
2677.	0.462	5800.	0.02079
2677.5	0.3719	5800.5	0.1917
2678.	0.4828	5801.	0.2195
2678.5	0.2633	5801.5	0.04158
2679.	0.1063	5802.	0.2657
2679.5	0.1709	5802.5	0.3257
2680.	0.3026	5803.	0.2102
2680.5	0.3835	5803.5	0.03234
2681.	0.6029	5804.	0.05082
2681.5	0.1548	5804.5	0.1386
2682.	0.4019	5805.	0.4089
2682.5	0.1871	5805.5	0.3095
2683.	0.3211	5806.	0.0231
2683.5	0.4019	5806.5	0.425
2684.	0.2541	5807.	0.03234
2684.5	0.3765	5807.5	0.06006
2685.	0.3673	5808.	0.3673
2685.5	0.2148	5808.5	0.2125

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2686.	0.2264	5809.	0.1548
2686.5	-0.01155	5809.5	-0.07161
2687.	0.3604	5810.	0.2818
2687.5	0.3165	5810.5	-0.06237
2688.	0.5151	5811.	0.2841
2688.5	0.2934	5811.5	-0.1478
2689.	0.3627	5812.	0.07161
2689.5	0.3165	5812.5	0.2841
2690.	0.2333	5813.	0.2472
2690.5	0.5429	5813.5	0.2402
2691.	0.4736	5814.	-0.04851
2691.5	0.3165	5814.5	0.3788
2692.	0.3165	5815.	0.3396
2692.5	0.4158	5815.5	0.1201
2693.	0.3211	5816.	-0.1478
2693.5	0.2333	5816.5	0.1617
2694.	0.2079	5817.	0.07623
2694.5	0.3442	5817.5	0.1386
2695.	0.432	5818.	0.3811
2695.5	0.4851	5818.5	0.2864
2696.	0.3165	5819.	0.2472
2696.5	0.1294	5819.5	0.1594
2697.	0.1732	5820.	0.2287
2697.5	0.231	5820.5	0.201
2698.	0.4043	5821.	0.2657
2698.5	0.4597	5821.5	0.3211
2699.	0.3604	5822.	0.2102
2699.5	0.4019	5822.5	0.08778
2700.	0.2056	5823.	0.2125
2700.5	0.2449	5823.5	0.3095
2701.	0.4597	5824.	0.03234
2701.5	0.2449	5824.5	0.06237
2702.	0.2148	5825.	0.05313
2702.5	0.4435	5825.5	-0.05775
2703.	0.1894	5826.	0.04389
2703.5	0.1548	5826.5	0.02079
2704.	0.3142	5827.	0.09702
2704.5	0.5867	5827.5	0.09702
2705.	0.2749	5828.	0.04389
2705.5	0.358	5828.5	0.00462
2706.	0.4043	5829.	0.07161
2706.5	0.358	5829.5	0.1201
2707.	0.4204	5830.	0.201
2707.5	0.3419	5830.5	0.1201
2708.	0.2033	5831.	0.06237
2708.5	0.3927	5831.5	0.1294
2709.	0.2333	5832.	0.5013
2709.5	0.1571	5832.5	0.05082
2710.	0.3442	5833.	0.2218
2710.5	0.3419	5833.5	0.09702
2711.	0.5036	5834.	0.01386
2711.5	0.3835	5834.5	0.3234
2712.	0.365	5835.	0.2472

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2712.5	0.3165	5835.5	0.0924
2713.	0.4135	5836.	0.07392
2713.5	0.1663	5836.5	0.231
2714.	0.2633	5837.	0.00231
2714.5	0.2356	5837.5	0.1756
2715.	0.09009	5838.	0.201
2715.5	0.2148	5838.5	-0.00462
2716.	0.4966	5839.	0.01155
2716.5	0.3049	5839.5	0.2218
2717.	0.3996	5840.	0.09933
2717.5	0.4043	5840.5	0.
2718.	0.1155	5841.	0.04158
2718.5	0.4551	5841.5	0.03003
2719.	0.1871	5842.	0.01617
2719.5	0.01848	5842.5	0.07161
2720.	0.3719	5843.	0.2472
2720.5	0.2749	5843.5	0.09702
2721.	0.3026	5844.	0.03234
2721.5	0.2079	5844.5	0.2564
2722.	0.4043	5845.	0.1917
2722.5	0.1455	5845.5	-0.01617
2723.	0.3419	5846.	0.0924
2723.5	0.1894	5846.5	0.09702
2724.	0.3673	5847.	0.1363
2724.5	0.1709	5847.5	0.02079
2725.	0.365	5848.	0.231
2725.5	0.3627	5848.5	0.3996
2726.	0.1063	5849.	0.05082
2726.5	0.1548	5849.5	0.2864
2727.	0.07392	5850.	-0.03003
2727.5	0.3742	5850.5	0.03234
2728.	0.4851	5851.	-0.02772
2728.5	0.3049	5851.5	0.1594
2729.	0.4181	5852.	-0.05775
2729.5	0.2541	5852.5	0.07623
2730.	0.3557	5853.	0.3442
2730.5	0.2472	5853.5	0.01386
2731.	0.134	5854.	0.2102
2731.5	0.2749	5854.5	0.06237
2732.	0.2772	5855.	0.01386
2732.5	0.4158	5855.5	0.1317
2733.	0.4227	5856.	0.2818
2733.5	0.2772	5856.5	0.194
2734.	0.03696	5857.	0.2495
2734.5	0.1548	5857.5	0.1201
2735.	0.4343	5858.	0.2287
2735.5	0.2079	5858.5	-0.07161
2736.	0.3142	5859.	0.01617
2736.5	0.4412	5859.5	0.1917
2737.	0.3396	5860.	0.2102
2737.5	0.4019	5860.5	-0.04851
2738.	0.4966	5861.	0.1317
2738.5	0.2079	5861.5	0.03234

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2739.	-0.01386	5862.	-0.03003
2739.5	0.335	5862.5	0.2841
2740.	0.3811	5863.	0.1201
2740.5	0.104	5863.5	0.2102
2741.	0.3026	5864.	0.2379
2741.5	0.2079	5864.5	0.1802
2742.	-0.03465	5865.	0.02079
2742.5	0.1709	5865.5	0.1779
2743.	0.2772	5866.	0.2818
2743.5	0.2425	5866.5	0.3511
2744.	0.3742	5867.	0.4204
2744.5	0.2772	5867.5	0.4043
2745.	0.5036	5868.	-0.0924
2745.5	0.2148	5868.5	0.0231
2746.	0.3026	5869.	0.4274
2746.5	0.4874	5869.5	0.
2747.	0.08778	5870.	0.201
2747.5	0.1455	5870.5	0.231
2748.	0.395	5871.	-0.1525
2748.5	0.2518	5871.5	0.201
2749.	0.3188	5872.	0.1201
2749.5	0.3026	5872.5	0.201
2750.	0.5151	5873.	-0.02772
2750.5	0.3165	5873.5	0.
2751.	0.6838	5874.	0.
2751.5	0.2587	5874.5	-0.1155
2752.	0.5267	5875.	0.1201
2752.5	0.3049	5875.5	0.2333
2753.	0.4966	5876.	-0.04851
2753.5	0.3835	5876.5	0.0693
2754.	0.2633	5877.	0.2841
2754.5	0.2287	5877.5	0.2102
2755.	0.2449	5878.	0.2472
2755.5	0.3419	5878.5	0.1201
2756.	0.3927	5879.	0.2195
2756.5	0.2795	5879.5	0.1548
2757.	0.4043	5880.	0.00462
2757.5	0.2772	5880.5	0.1917
2758.	0.4343	5881.	0.1201
2758.5	0.3419	5881.5	-0.00462
2759.	0.3211	5882.	0.07854
2759.5	0.365	5882.5	0.1779
2760.	0.3742	5883.	0.2657
2760.5	0.1571	5883.5	0.2587
2761.	0.2957	5884.	0.2818
2761.5	0.3557	5884.5	0.07161
2762.	0.1917	5885.	0.2495
2762.5	0.4551	5885.5	-0.1663
2763.	0.3927	5886.	0.1201
2763.5	0.3142	5886.5	0.05082
2764.	0.4689	5887.	0.2333
2764.5	0.3858	5887.5	-0.2633
2765.	0.1709	5888.	0.03234

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2765.5	0.358	5888.5	0.231
2766.	0.529	5889.	0.1802
2766.5	0.529	5889.5	-0.1086
2767.	0.2333	5890.	0.2795
2767.5	0.4851	5890.5	0.1386
2768.	0.4043	5891.	0.09009
2768.5	0.4343	5891.5	0.04851
2769.	0.2079	5892.	0.07854
2769.5	0.335	5892.5	0.1779
2770.	0.395	5893.	-0.1178
2770.5	0.1756	5893.5	0.2102
2771.	0.3604	5894.	0.1802
2771.5	0.134	5894.5	-0.01617
2772.	0.4204	5895.	0.2102
2772.5	0.2749	5895.5	-0.05082
2773.	0.4943	5896.	0.01617
2773.5	0.2333	5896.5	0.09933
2774.	0.2125	5897.	0.298
2774.5	0.2287	5897.5	-0.03465
2775.	0.5244	5898.	0.2125
2775.5	0.395	5898.5	0.3396
2776.	0.3719	5899.	-0.1294
2776.5	0.1155	5899.5	0.1756
2777.	0.3627	5900.	0.2287
2777.5	0.3142	5900.5	0.3211
2778.	0.3373	5901.	0.04158
2778.5	0.4135	5901.5	0.2472
2779.	0.2287	5902.	-0.00462
2779.5	0.1779	5902.5	0.2102
2780.	0.3373	5903.	0.01386
2780.5	0.4412	5903.5	0.04389
2781.	0.2657	5904.	0.09009
2781.5	0.07161	5904.5	0.2587
2782.	0.4759	5905.	0.03234
2782.5	0.06468	5905.5	-0.00462
2783.	0.261	5906.	0.2795
2783.5	0.2425	5906.5	0.4274
2784.	0.3211	5907.	0.2218
2784.5	0.2518	5907.5	0.1525
2785.	0.3442	5908.	-0.03003
2785.5	0.3442	5908.5	0.2587
2786.	0.3627	5909.	0.1779
2786.5	0.2287	5909.5	0.02079
2787.	0.3026	5910.	0.134
2787.5	0.1271	5910.5	0.1178
2788.	0.3858	5911.	0.231
2788.5	0.4019	5911.5	0.1917
2789.	0.3211	5912.	0.09009
2789.5	0.07161	5912.5	-0.03003
2790.	0.1363	5913.	0.2379
2790.5	0.1756	5913.5	0.05082
2791.	0.1871	5914.	0.09933
2791.5	-0.02079	5914.5	0.3003

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2792.	0.1964	5915.	0.2218
2792.5	0.3742	5915.5	0.07854
2793.	0.0924	5916.	0.1201
2793.5	0.3904	5916.5	0.1917
2794.	0.3442	5917.	-0.05082
2794.5	0.3188	5917.5	0.1386
2795.	0.1987	5918.	0.3072
2795.5	0.365	5918.5	0.1779
2796.	0.3419	5919.	0.3211
2796.5	0.4551	5919.5	0.194
2797.	0.4782	5920.	-0.01386
2797.5	0.4112	5920.5	0.3396
2798.	0.3188	5921.	0.06237
2798.5	0.1894	5921.5	0.3396
2799.	0.4019	5922.	0.05313
2799.5	0.08778	5922.5	0.2633
2800.	0.2934	5923.	0.07854
2800.5	0.358	5923.5	0.1756
2801.	0.1686	5924.	-0.03003
2801.5	0.1964	5924.5	0.3604
2802.	0.1894	5925.	0.2218
2802.5	0.1502	5925.5	0.04389
2803.	0.3742	5926.	0.1617
2803.5	0.4851	5926.5	-0.03234
2804.	0.4528	5927.	0.1294
2804.5	0.3442	5927.5	0.2102
2805.	0.3557	5928.	0.134
2805.5	0.529	5928.5	0.1086
2806.	0.3049	5929.	0.04851
2806.5	0.2541	5929.5	-0.01617
2807.	0.365	5930.	-0.05082
2807.5	0.3419	5930.5	0.2657
2808.	0.2633	5931.	0.2818
2808.5	0.365	5931.5	0.03234
2809.	0.231	5932.	0.01386
2809.5	0.5244	5932.5	0.1386
2810.	0.3442	5933.	0.4389
2810.5	0.335	5933.5	0.04158
2811.	0.2957	5934.	0.07623
2811.5	0.4874	5934.5	0.02541
2812.	0.3211	5935.	0.2402
2812.5	0.3211	5935.5	0.2125
2813.	0.3419	5936.	0.07623
2813.5	0.4597	5936.5	0.1594
2814.	0.231	5937.	0.2102
2814.5	0.3142	5937.5	0.1548
2815.	0.0462	5938.	0.02079
2815.5	0.194	5938.5	0.1756
2816.	0.4204	5939.	0.07854
2816.5	0.1964	5939.5	0.07854
2817.	0.358	5940.	0.1109
2817.5	0.2125	5940.5	0.2195
2818.	0.4874	5941.	0.09933

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2818.5	0.2333	5941.5	0.09702
2819.	0.395	5942.	0.1525
2819.5	0.08778	5942.5	0.03234
2820.	0.1732	5943.	0.1386
2820.5	0.1871	5943.5	-0.07854
2821.	0.4135	5944.	-0.07161
2821.5	0.2772	5944.5	0.231
2822.	0.4043	5945.	-0.01617
2822.5	0.4435	5945.5	0.04158
2823.	0.3165	5946.	0.07854
2823.5	0.5429	5946.5	0.05082
2824.	0.1709	5947.	0.2864
2824.5	0.1894	5947.5	0.1917
2825.	0.1917	5948.	0.2195
2825.5	0.2333	5948.5	0.134
2826.	0.3072	5949.	-0.09702
2826.5	0.08778	5949.5	0.2472
2827.	0.5429	5950.	0.07161
2827.5	0.2633	5950.5	0.03234
2828.	0.261	5951.	0.2402
2828.5	0.1247	5951.5	0.1109
2829.	0.3188	5952.	0.1756
2829.5	0.2564	5952.5	0.2587
2830.	0.3557	5953.	0.2472
2830.5	0.2957	5953.5	0.201
2831.	0.3211	5954.	0.1594
2831.5	0.3811	5954.5	0.4366
2832.	0.2356	5955.	0.06237
2832.5	0.3835	5955.5	0.05082
2833.	0.261	5956.	-0.01848
2833.5	0.2795	5956.5	0.08778
2834.	0.5452	5957.	0.1201
2834.5	0.2749	5957.5	0.09702
2835.	0.2287	5958.	0.2195
2835.5	0.2749	5958.5	0.1802
2836.	0.2541	5959.	0.3003
2836.5	0.134	5959.5	0.1363
2837.	0.1709	5960.	0.1363
2837.5	0.2934	5960.5	0.1201
2838.	0.365	5961.	0.1201
2838.5	0.4158	5961.5	0.02079
2839.	0.2472	5962.	0.06237
2839.5	0.2125	5962.5	0.2472
2840.	0.1455	5963.	0.07623
2840.5	0.3742	5963.5	0.07161
2841.	0.3373	5964.	0.05082
2841.5	0.5036	5964.5	0.201
2842.	0.3049	5965.	0.1756
2842.5	0.2449	5965.5	-0.1271
2843.	0.06699	5966.	0.1363
2843.5	0.2633	5966.5	0.3811
2844.	0.1686	5967.	0.03465
2844.5	0.4412	5967.5	0.3026

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2845.	0.3835	5968.	0.04158
2845.5	0.231	5968.5	0.3095
2846.	0.2772	5969.	-0.03927
2846.5	0.4204	5969.5	0.1502
2847.	0.1594	5970.	0.09009
2847.5	0.3373	5970.5	0.1779
2848.	0.4943	5971.	0.02079
2848.5	0.335	5971.5	0.2195
2849.	0.2749	5972.	0.2495
2849.5	0.2171	5972.5	0.01155
2850.	0.4736	5973.	0.1409
2850.5	0.5244	5973.5	0.1594
2851.	0.2518	5974.	-0.00462
2851.5	0.365	5974.5	0.01386
2852.	0.1132	5975.	0.07161
2852.5	0.104	5975.5	0.06237
2853.	0.2541	5976.	0.201
2853.5	0.2056	5976.5	0.194
2854.	0.1132	5977.	0.3072
2854.5	0.2772	5977.5	0.03234
2855.	0.1132	5978.	0.00693
2855.5	0.2287	5978.5	0.2518
2856.	0.2079	5979.	0.1802
2856.5	0.2079	5979.5	0.1201
2857.	0.2333	5980.	0.1525
2857.5	0.2541	5980.5	0.2657
2858.	0.3673	5981.	0.1317
2858.5	0.3026	5981.5	-0.04851
2859.	0.4181	5982.	0.01617
2859.5	0.4043	5982.5	0.2333
2860.	0.2148	5983.	0.1363
2860.5	0.3188	5983.5	0.268
2861.	0.3927	5984.	0.1732
2861.5	0.1709	5984.5	0.04158
2862.	0.4435	5985.	0.1917
2862.5	0.2633	5985.5	0.07623
2863.	0.365	5986.	0.1109
2863.5	0.3165	5986.5	0.1756
2864.	0.3049	5987.	0.1779
2864.5	0.3442	5987.5	0.01155
2865.	0.3142	5988.	0.201
2865.5	0.3165	5988.5	-0.05775
2866.	0.1709	5989.	0.2472
2866.5	0.1871	5989.5	0.1109
2867.	0.2541	5990.	0.01386
2867.5	0.3211	5990.5	0.1756
2868.	0.3419	5991.	0.2125
2868.5	0.4574	5991.5	0.04389
2869.	0.05775	5992.	0.09702
2869.5	0.2541	5992.5	0.1317
2870.	0.3049	5993.	0.2218
2870.5	0.4943	5993.5	0.09933
2871.	0.1663	5994.	0.08778

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2871.5	0.4204	5994.5	0.2195
2872.	0.3373	5995.	0.03234
2872.5	0.2541	5995.5	0.3465
2873.	0.1063	5996.	0.1525
2873.5	0.4551	5996.5	0.3003
2874.	0.358	5997.	0.03234
2874.5	0.395	5997.5	0.05082
2875.	0.4851	5998.	-0.01617
2875.5	0.2264	5998.5	0.1548
2876.	0.2749	5999.	0.1617
2876.5	0.2356	5999.5	0.1617
2877.	0.4528	6000.	-0.09009
2877.5	0.2472	6000.5	0.0231
2878.	0.3419	6001.	0.1756
2878.5	0.4435	6001.5	0.2841
2879.	0.3811	6002.	0.01386
2879.5	0.365	6002.5	0.1132
2880.	0.3026	6003.	0.3026
2880.5	0.358	6003.5	0.1594
2881.	0.1779	6004.	0.03003
2881.5	0.3534	6004.5	0.1502
2882.	0.2795	6005.	0.231
2882.5	0.358	6005.5	0.1201
2883.	0.5429	6006.	0.2518
2883.5	0.3627	6006.5	-0.05082
2884.	0.4782	6007.	0.1363
2884.5	0.2449	6007.5	0.201
2885.	0.4343	6008.	0.03234
2885.5	0.3211	6008.5	0.231
2886.	0.261	6009.	0.02079
2886.5	0.2079	6009.5	0.1756
2887.	0.2541	6010.	0.1756
2887.5	0.4736	6010.5	0.2818
2888.	0.1155	6011.	0.2657
2888.5	0.2541	6011.5	0.3234
2889.	0.3211	6012.	0.04158
2889.5	0.1709	6012.5	0.2818
2890.	0.2333	6013.	0.06237
2890.5	0.3049	6013.5	0.07392
2891.	0.194	6014.	0.1502
2891.5	0.2079	6014.5	0.2587
2892.	0.02541	6015.	0.09933
2892.5	0.261	6015.5	0.07854
2893.	0.395	6016.	0.1386
2893.5	0.3927	6016.5	0.1386
2894.	0.261	6017.	0.03234
2894.5	0.3835	6017.5	0.3003
2895.	0.2425	6018.	0.1386
2895.5	0.2148	6018.5	0.1109
2896.	0.4204	6019.	0.00231
2896.5	0.1571	6019.5	0.1525
2897.	0.3419	6020.	0.1548
2897.5	0.3811	6020.5	0.1802

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2898.	0.3165	6021.	-0.01386
2898.5	0.2633	6021.5	0.01617
2899.	0.3627	6022.	0.1086
2899.5	0.5821	6022.5	0.0924
2900.	0.1756	6023.	0.07392
2900.5	0.1271	6023.5	0.2171
2901.	0.03927	6024.	0.06237
2901.5	0.1894	6024.5	0.2495
2902.	0.2795	6025.	0.05313
2902.5	0.365	6025.5	0.134
2903.	0.2633	6026.	0.3419
2903.5	0.2841	6026.5	0.1294
2904.	0.1247	6027.	0.3211
2904.5	0.335	6027.5	0.1756
2905.	0.194	6028.	-0.06006
2905.5	0.4528	6028.5	0.03234
2906.	0.3049	6029.	0.1109
2906.5	0.5683	6029.5	0.3488
2907.	0.261	6030.	0.04158
2907.5	0.3927	6030.5	0.1756
2908.	0.298	6031.	0.201
2908.5	0.2287	6031.5	-0.0924
2909.	0.4458	6032.	0.1756
2909.5	0.3211	6032.5	0.1617
2910.	0.2287	6033.	0.2495
2910.5	0.3811	6033.5	-0.00462
2911.	0.2148	6034.	0.1109
2911.5	0.3165	6034.5	0.1502
2912.	0.2541	6035.	0.1363
2912.5	0.4759	6035.5	0.2402
2913.	0.2541	6036.	-0.03003
2913.5	0.2148	6036.5	0.1802
2914.	0.2772	6037.	0.1617
2914.5	0.1571	6037.5	0.3627
2915.	0.2957	6038.	0.05082
2915.5	0.2957	6038.5	0.5198
2916.	0.1756	6039.	0.09471
2916.5	0.1894	6039.5	0.2379
2917.	0.3835	6040.	0.1525
2917.5	0.2795	6040.5	0.2125
2918.	0.2957	6041.	0.01386
2918.5	0.3165	6041.5	0.07623
2919.	0.3835	6042.	0.1617
2919.5	0.134	6042.5	0.07161
2920.	0.4435	6043.	0.1594
2920.5	0.2287	6043.5	0.1548
2921.	0.3165	6044.	0.1317
2921.5	0.1894	6044.5	0.3003
2922.	0.3373	6045.	0.1109
2922.5	0.04851	6045.5	0.2333
2923.	0.2633	6046.	-0.1363
2923.5	0.4135	6046.5	0.1109
2924.	0.2749	6047.	0.1109

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2924.5	0.2425	6047.5	0.04389
2925.	0.0462	6048.	-0.03696
2925.5	0.3049	6048.5	0.1617
2926.	0.395	6049.	-0.2264
2926.5	0.2148	6049.5	0.2841
2927.	0.1964	6050.	0.1525
2927.5	0.4158	6050.5	0.2402
2928.	0.2934	6051.	0.1109
2928.5	0.2425	6051.5	0.3211
2929.	0.2287	6052.	0.2379
2929.5	0.2333	6052.5	0.02079
2930.	0.3211	6053.	-0.05082
2930.5	0.1432	6053.5	0.2657
2931.	0.194	6054.	0.03234
2931.5	0.3534	6054.5	0.09009
2932.	0.2818	6055.	0.05313
2932.5	0.1571	6055.5	0.05544
2933.	0.3072	6056.	0.01617
2933.5	0.2079	6056.5	0.1756
2934.	0.1894	6057.	0.03234
2934.5	0.1709	6057.5	0.4089
2935.	0.2957	6058.	0.3003
2935.5	0.2264	6058.5	-0.09009
2936.	0.2795	6059.	0.1779
2936.5	0.2125	6059.5	0.1802
2937.	0.3373	6060.	0.2333
2937.5	0.3211	6060.5	-0.03465
2938.	0.1709	6061.	0.06237
2938.5	0.4435	6061.5	0.2841
2939.	0.4874	6062.	0.3673
2939.5	0.2934	6062.5	0.3696
2940.	0.3765	6063.	0.1917
2940.5	0.1709	6063.5	0.1548
2941.	0.2633	6064.	0.1109
2941.5	0.1709	6064.5	0.5013
2942.	0.2934	6065.	0.2587
2942.5	0.2079	6065.5	0.194
2943.	0.4227	6066.	0.2195
2943.5	0.3742	6066.5	0.1548
2944.	0.2795	6067.	0.1617
2944.5	0.3211	6067.5	0.1756
2945.	0.2541	6068.	0.3627
2945.5	0.2333	6068.5	0.09009
2946.	0.08547	6069.	-0.09009
2946.5	0.4158	6069.5	0.2102
2947.	0.2772	6070.	0.3604
2947.5	0.365	6070.5	0.201
2948.	0.1478	6071.	0.1224
2948.5	0.2148	6071.5	0.2402
2949.	0.3165	6072.	0.2102
2949.5	0.3765	6072.5	0.2195
2950.	0.2957	6073.	-0.03003
2950.5	0.358	6073.5	0.04158

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2951.	0.2056	6074.	0.09009
2951.5	0.2287	6074.5	0.1386
2952.	0.2079	6075.	0.2195
2952.5	0.3373	6075.5	-0.0693
2953.	0.03927	6076.	-0.164
2953.5	0.3765	6076.5	0.134
2954.	0.194	6077.	0.3234
2954.5	0.3165	6077.5	-0.00693
2955.	0.4135	6078.	0.1779
2955.5	0.2633	6078.5	0.1594
2956.	0.4019	6079.	0.3673
2956.5	0.2633	6079.5	0.09702
2957.	0.2148	6080.	0.01617
2957.5	0.3742	6080.5	0.194
2958.	0.1478	6081.	-0.03927
2958.5	0.4043	6081.5	0.3234
2959.	0.2541	6082.	-0.05082
2959.5	0.4551	6082.5	0.2657
2960.	0.3557	6083.	0.0231
2960.5	0.3211	6083.5	0.1386
2961.	0.3604	6084.	0.1779
2961.5	0.3719	6084.5	0.06237
2962.	0.4019	6085.	0.2218
2962.5	0.3742	6085.5	0.134
2963.	0.06006	6086.	-0.01386
2963.5	0.2633	6086.5	0.1109
2964.	0.4736	6087.	0.3996
2964.5	0.4204	6087.5	0.2818
2965.	0.07392	6088.	0.2333
2965.5	0.3973	6088.5	0.2402
2966.	0.06699	6089.	0.1201
2966.5	0.1548	6089.5	0.2495
2967.	0.4181	6090.	0.07623
2967.5	0.2564	6090.5	0.2587
2968.	0.2795	6091.	0.3095
2968.5	0.2264	6091.5	0.05082
2969.	0.194	6092.	0.2379
2969.5	0.3557	6092.5	0.2402
2970.	0.3442	6093.	0.3996
2970.5	0.4874	6093.5	0.0231
2971.	0.4135	6094.	0.1617
2971.5	0.2795	6094.5	0.3257
2972.	0.1571	6095.	0.1756
2972.5	0.2449	6095.5	-0.04851
2973.	0.2079	6096.	-0.1525
2973.5	0.2957	6096.5	0.201
2974.	0.3419	6097.	0.09702
2974.5	0.3742	6097.5	0.2587
2975.	0.6052	6098.	0.1109
2975.5	0.2934	6098.5	0.2841
2976.	-0.00231	6099.	0.07854
2976.5	0.2079	6099.5	0.2402
2977.	0.3742	6100.	-0.03234

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2977.5	0.2772	6100.5	0.09009
2978.	0.4874	6101.	0.1617
2978.5	0.3835	6101.5	-0.0924
2979.	0.3211	6102.	0.1756
2979.5	0.1178	6102.5	0.2841
2980.	0.2472	6103.	0.3811
2980.5	0.1917	6103.5	0.06237
2981.	0.3188	6104.	0.194
2981.5	0.2079	6104.5	-0.01386
2982.	0.2541	6105.	0.201
2982.5	0.2079	6105.5	-0.07854
2983.	0.3165	6106.	0.201
2983.5	0.1871	6106.5	0.07161
2984.	0.2449	6107.	0.2472
2984.5	0.3442	6107.5	0.2518
2985.	0.5036	6108.	0.134
2985.5	0.5844	6108.5	0.3996
2986.	0.1571	6109.	0.07161
2986.5	0.1732	6109.5	0.1201
2987.	0.3026	6110.	0.01617
2987.5	0.3373	6110.5	0.3234
2988.	0.2148	6111.	0.2379
2988.5	0.1502	6111.5	0.3026
2989.	0.2079	6112.	0.0231
2989.5	0.3719	6112.5	0.01617
2990.	0.2287	6113.	0.1594
2990.5	0.09702	6113.5	0.2195
2991.	0.2795	6114.	0.06237
2991.5	0.4874	6114.5	0.09702
2992.	0.4204	6115.	0.09702
2992.5	0.358	6115.5	0.08778
2993.	0.3742	6116.	0.1386
2993.5	0.4435	6116.5	-0.03003
2994.	0.3811	6117.	0.3788
2994.5	0.5429	6117.5	-0.06006
2995.	0.3811	6118.	0.2102
2995.5	0.2541	6118.5	0.1756
2996.	0.395	6119.	0.2818
2996.5	0.3373	6119.5	0.3604
2997.	0.3858	6120.	0.1917
2997.5	0.2587	6120.5	0.01617
2998.	0.1317	6121.	-0.04851
2998.5	0.2425	6121.5	0.2587
2999.	0.2287	6122.	0.04851
2999.5	0.2818	6122.5	0.2795
3000.	0.3811	6123.	-0.07854
3000.5	0.4343	6123.5	0.2657
3001.	0.1548	6124.	0.3003
3001.5	0.3026	6124.5	0.09702
3002.	0.2079	6125.	-0.09471
3002.5	0.2264	6125.5	0.08778
3003.	0.2795	6126.	0.08778
3003.5	0.3835	6126.5	0.02079

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
3004.	0.2033	6127.	0.01617
3004.5	0.3049	6127.5	0.2795
3005.	0.3442	6128.	0.1779
3005.5	0.2079	6128.5	0.1779
3006.	0.08316	6129.	0.06237
3006.5	0.4019	6129.5	0.1594
3007.	0.3927	6130.	0.3003
3007.5	0.1571	6130.5	0.1363
3008.	0.2356	6131.	-0.00693
3008.5	0.2287	6131.5	-0.07161
3009.	0.2772	6132.	0.1548
3009.5	0.231	6132.5	0.03234
3010.	0.2772	6133.	0.02079
3010.5	0.1063	6133.5	0.07392
3011.	0.365	6134.	0.2102
3011.5	0.4043	6134.5	0.3003
3012.	0.2033	6135.	0.2587
3012.5	0.3765	6135.5	0.1548
3013.	0.5059	6136.	0.1756
3013.5	0.1756	6136.5	0.2818
3014.	0.2079	6137.	0.0693
3014.5	0.1271	6137.5	0.02079
3015.	0.1155	6138.	0.2472
3015.5	0.5221	6138.5	0.1756
3016.	0.4458	6139.	0.1779
3016.5	0.1709	6139.5	0.1201
3017.	0.4412	6140.	0.3095
3017.5	0.1732	6140.5	0.3604
3018.	0.1964	6141.	0.1917
3018.5	0.3396	6141.5	0.04158
3019.	0.2148	6142.	0.08778
3019.5	0.2425	6142.5	0.2333
3020.	0.07392	6143.	0.2102
3020.5	0.3858	6143.5	0.1917
3021.	0.4204	6144.	0.1109
3021.5	0.2564	6144.5	0.04158
3022.	0.1294	6145.	0.1732
3022.5	0.2772	6145.5	-0.03003
3023.	0.2333	6146.	0.1779
3023.5	0.2772	6146.5	0.06237
3024.	0.2449	6147.	0.2564
3024.5	0.4158	6147.5	0.02079
3025.	0.4019	6148.	0.1917
3025.5	0.5128	6148.5	0.09702
3026.	0.298	6149.	0.3234
3026.5	0.3742	6149.5	0.2587
3027.	0.134	6150.	0.03927
3027.5	0.3973	6150.5	0.1617
3028.	0.231	6151.	0.3973
3028.5	0.3188	6151.5	0.07854
3029.	0.395	6152.	-0.01617
3029.5	0.3211	6152.5	0.2218
3030.	0.3211	6153.	0.1548

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
3030.5	0.1478	6153.5	0.01386
3031.	0.395	6154.	-0.05544
3031.5	0.3811	6154.5	0.2795
3032.	0.2957	6155.	-0.09702
3032.5	0.2148	6155.5	-0.1455
3033.	0.3604	6156.	0.1917
3033.5	0.06237	6156.5	0.1201
3034.	0.2795	6157.	-0.00924
3034.5	0.4551	6157.5	0.1802
3035.	0.194	6158.	-0.1732
3035.5	0.3165	6158.5	0.134
3036.	0.3419	6159.	0.3442
3036.5	0.07161	6159.5	0.03234
3037.	0.3442	6160.	0.09702
3037.5	0.462	6160.5	0.1317
3038.	0.08778	6161.	0.2379
3038.5	0.2264	6161.5	0.1779
3039.	0.2356	6162.	0.231
3039.5	0.5128	6162.5	0.0924
3040.	0.1686	6163.	0.231
3040.5	0.4019	6163.5	0.3026
3041.	0.09702	6164.	0.194
3041.5	0.365	6164.5	0.1109
3042.	0.2287	6165.	-0.01617
3042.5	0.4435	6165.5	0.2495
3043.	0.08778	6166.	0.1386
3043.5	0.2633	6166.5	0.4019
3044.	0.1063	6167.	0.2795
3044.5	0.3835	6167.5	0.1201
3045.	0.3188	6168.	0.2195
3045.5	0.5798	6168.5	0.3095
3046.	0.3927	6169.	0.201
3046.5	0.3396	6169.5	0.1917
3047.	0.4043	6170.	-0.2379
3047.5	0.3188	6170.5	-0.2564
3048.	0.5429	6171.	0.3627
3048.5	0.395	6171.5	-0.03003
3049.	0.3835	6172.	0.05082
3049.5	0.2287	6172.5	0.0924
3050.	0.4227	6173.	0.1594
3050.5	0.1686	6173.5	0.1917
3051.	0.4343	6174.	0.0231
3051.5	0.4181	6174.5	-0.03003
3052.	0.5128	6175.	-0.1502
3052.5	0.3419	6175.5	0.09702
3053.	0.134	6176.	0.1109
3053.5	0.2148	6176.5	0.201
3054.	0.432	6177.	0.09009
3054.5	0.2148	6177.5	0.1109
3055.	0.2148	6178.	0.2888
3055.5	0.2472	6178.5	0.2472
3056.	0.1894	6179.	0.3234
3056.5	0.3742	6179.5	0.2703

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
3057.	0.2079	6180.	0.2195
3057.5	0.2795	6180.5	0.1548
3058.	0.07392	6181.	0.07161
3058.5	0.2148	6181.5	0.2472
3059.	0.3165	6182.	0.1201
3059.5	0.3442	6182.5	0.4366
3060.	0.104	6183.	0.1756
3060.5	0.2356	6183.5	0.2472
3061.	0.4458	6184.	0.1617
3061.5	0.3719	6184.5	0.04158
3062.	0.01848	6185.	-0.06006
3062.5	0.5521	6185.5	0.07854
3063.	0.4874	6186.	0.1779
3063.5	0.231	6186.5	0.05313
3064.	0.4204	6187.	0.07161
3064.5	0.4574	6187.5	0.201
3065.	0.432	6188.	-0.2241
3065.5	0.2449	6188.5	0.00231
3066.	0.06699	6189.	-0.00924
3066.5	0.3049	6189.5	0.2425
3067.	0.5821	6190.	0.09702
3067.5	0.231	6190.5	0.2841
3068.	0.1732	6191.	-0.03003
3068.5	0.2056	6191.5	0.3095
3069.	0.1709	6192.	0.07854
3069.5	0.2587	6192.5	0.1109
3070.	0.1086	6193.	0.1109
3070.5	0.2957	6193.5	0.3026
3071.	0.2957	6194.	0.1363
3071.5	0.3049	6194.5	0.1917
3072.	0.2356	6195.	-0.1548
3072.5	0.4874	6195.5	0.1617
3073.	0.1155	6196.	0.07392
3073.5	0.4043	6196.5	0.01386
3074.	0.1894	6197.	0.1317
3074.5	0.4435	6197.5	0.09702
3075.	0.2795	6198.	0.2218
3075.5	0.2657	6198.5	0.1617
3076.	-0.00231	6199.	0.2472
3076.5	0.2633	6199.5	0.2818
3077.	0.2633	6200.	0.1779
3077.5	0.4759	6200.5	0.07161
3078.	0.2795	6201.	0.07161
3078.5	0.4435	6201.5	0.09933
3079.	0.4043	6202.	0.1802
3079.5	0.2079	6202.5	0.05313
3080.	0.1224	6203.	0.03234
3080.5	0.4551	6203.5	0.03234
3081.	0.3835	6204.	0.2195
3081.5	0.4135	6204.5	0.1917
3082.	0.1686	6205.	0.201
3082.5	0.3211	6205.5	0.1756
3083.	0.3442	6206.	0.03234

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
3083.5	0.2056	6206.5	0.07623
3084.	0.2056	6207.	-0.07854
3084.5	0.4574	6207.5	0.1594
3085.	0.2934	6208.	0.2472
3085.5	0.3165	6208.5	0.1109
3086.	0.2772	6209.	0.07161
3086.5	0.4227	6209.5	0.2587
3087.	0.2957	6210.	0.3119
3087.5	0.00924	6210.5	0.1917
3088.	0.3373	6211.	0.4066
3088.5	0.3049	6211.5	-0.0924
3089.	0.1871	6212.	-0.01848
3089.5	-0.03234	6212.5	0.1756
3090.	0.2541	6213.	0.0231
3090.5	0.2541	6213.5	0.1594
3091.	0.3858	6214.	0.06237
3091.5	0.5128	6214.5	0.3211
3092.	0.1132	6215.	-0.00231
3092.5	0.2957	6215.5	-0.00462
3093.	0.4204	6216.	0.05082
3093.5	0.3211	6216.5	0.201
3094.	0.1502	6217.	0.09933
3094.5	0.2264	6217.5	0.00231
3095.	0.2102	6218.	0.1317
3095.5	0.2333	6218.5	0.05082
3096.	0.09471	6219.	0.1016
3096.5	0.1271	6219.5	-0.08778
3097.	0.1317	6220.	0.3396
3097.5	0.1732	6220.5	0.1917
3098.	0.1271	6221.	0.1756
3098.5	0.365	6221.5	0.07854
3099.	0.395	6222.	0.1917
3099.5	0.4181	6222.5	0.2657
3100.	0.3442	6223.	0.1779
3100.5	0.4966	6223.5	0.0231
3101.	0.3165	6224.	0.164
3101.5	0.2287	6224.5	0.1201
3102.	0.1732	6225.	0.2379
3102.5	0.3373	6225.5	0.3696
3103.	0.3719	6226.	0.1802
3103.5	0.1317	6226.5	0.1617
3104.	0.2148	6227.	0.3026
3104.5	0.2772	6227.5	0.1086
3105.	0.3373	6228.	0.1317
3105.5	0.298	6228.5	0.2841
3106.	0.2772	6229.	0.3234
3106.5	0.4158	6229.5	0.2472
3107.	0.1709	6230.	0.2102
3107.5	0.3742	6230.5	0.2657
3108.	0.2934	6231.	0.134
3108.5	0.3858	6231.5	0.2633
3109.	0.3049	6232.	0.01617
3109.5	0.02772	6232.5	-0.07854

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
3110.	0.4759	6233.	0.2472
3110.5	0.395	6233.5	0.2102
3111.	0.4204	6234.	0.06237
3111.5	0.395	6234.5	0.05313
3112.	0.2657	6235.	0.2495
3112.5	0.2934	6235.5	-0.03003
3113.	0.1964	6236.	0.0924
3113.5	0.2957	6236.5	0.3604
3114.	0.2934	6237.	0.1109
3114.5	0.2079	6237.5	0.1594
3115.	0.358	6238.	0.07161
3115.5	0.3604	6238.5	0.1548
3116.	0.5313	6239.	0.3003
3116.5	0.3627	6239.5	0.2379
3117.	0.395	6240.	0.201
3117.5	0.1709	6240.5	-0.00924
3118.	0.2633	6241.	0.201
3118.5	0.0924	6241.5	0.1178
3119.	0.395	6242.	0.194
3119.5	0.09009	6242.5	0.425
3120.	0.3211	6243.	0.07161
3120.5	0.4343	6243.5	0.2657
3121.	0.2333	6244.	0.1802
3121.5	0.4966	6244.5	-0.0924
3122.	0.2287	6245.	0.03003
3122.5	0.3211		

SOLUTION

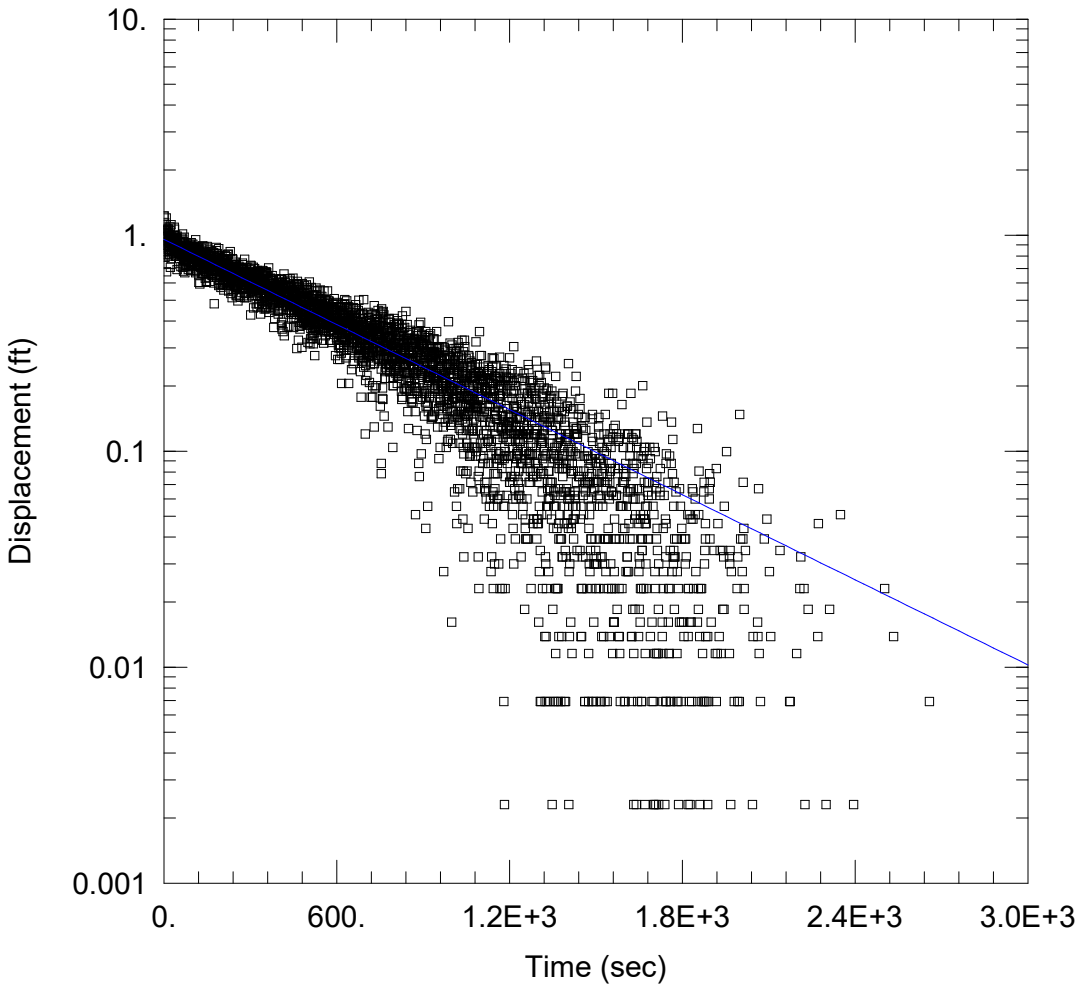
Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.618

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.06216	ft/day
y0	0.6999	ft

K = 2.193E-5 cm/sec
T = K*b = 0.6371 ft²/day (0.006851 sq. cm/sec)



WELL TEST ANALYSIS

Data Set: C:\...\MW-103-SLUG-IN.aqt
Date: 10/19/26 Time: 16:32:53

PROJECT INFORMATION

Company: WSP
Client: SIPC
Test Well: MW-103
Test Date: 9/22/2026

AQUIFER DATA

Saturated Thickness: 5. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-103)

Initial Displacement: 1.227 ft
Total Well Penetration Depth: 5. ft
Casing Radius: 0.08333 ft
Static Water Column Height: 5. ft
Screen Length: 5. ft
Well Radius: 0.08333 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.2849 ft/day y0 = 0.9556 ft

Data Set: C:\Users\USJV703850\WSP O365\GLD-21467997,SIPC Operating Permit Application IL - 5 Technical W
Date: 10/19/26
Time: 16:33:00

PROJECT INFORMATION

Company: WSP
Client: SIPC
Test Date: 9/22/2026
Test Well: MW-103

AQUIFER DATA

Saturated Thickness: 5. ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-103

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 1.227 ft
Static Water Column Height: 5. ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 1. ft
Screen Length: 5. ft
Total Well Penetration Depth: 5. ft

No. of Observations: 3313

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	1.227	828.5	0.4227
0.5	1.016	829.	0.3696
1.	1.026	829.5	0.2818
1.5	0.9355	830.	0.3095
2.	1.053	830.5	0.2518
2.5	0.924	831.	0.2841
3.	1.146	831.5	0.3257
3.5	0.79	832.	0.2541
4.	1.044	832.5	0.3165
4.5	1.049	833.	0.3419
5.	1.009	833.5	0.2333
5.5	0.8801	834.	0.1964
6.	1.081	834.5	0.2495
6.5	1.053	835.	0.2864
7.	1.06	835.5	0.3142
7.5	1.021	836.	0.2518
8.	1.201	836.5	0.3742
8.5	0.9032	837.	0.194
9.	0.6768	837.5	0.2934

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
9.5	0.8431	838.	0.3026
10.	1.065	838.5	0.2287
10.5	0.9887	839.	0.2495
11.	0.9887	839.5	0.2772
11.5	0.8917	840.	0.2703
12.	0.8639	840.5	0.3026
12.5	1.033	841.	0.4435
13.	0.9841	841.5	0.2449
13.5	0.8801	842.	0.1894
14.	0.8154	842.5	0.3326
14.5	1.07	843.	0.2287
15.	1.053	843.5	0.194
15.5	0.8963	844.	0.194
16.	0.7993	844.5	0.2657
16.5	0.9517	845.	0.3858
17.	0.9448	845.5	0.3211
17.5	0.9887	846.	0.2287
18.	1.009	846.5	0.3257
18.5	0.8385	847.	0.1525
19.	0.8593	847.5	0.3465
19.5	0.8478	848.	0.2125
20.	0.9194	848.5	0.2125
20.5	0.8108	849.	0.3326
21.	0.9402	849.5	0.1271
21.5	1.049	850.	0.3026
22.	1.093	850.5	0.2495
22.5	0.7092	851.	0.2703
23.	0.9355	851.5	0.3257
23.5	0.924	852.	0.268
24.	0.9448	852.5	0.201
24.5	0.8917	853.	0.2171
25.	0.9887	853.5	0.2818
25.5	1.118	854.	0.3534
26.	0.8963	854.5	0.2125
26.5	0.7785	855.	0.2287
27.	0.8478	855.5	0.2402
27.5	0.9355	856.	0.3627
28.	0.9563	856.5	0.3326
28.5	0.9563	857.	0.261
29.	0.8963	857.5	0.1894
29.5	0.9032	858.	0.3049
30.	0.9263	858.5	0.261
30.5	0.961	859.	0.2056
31.	0.9517	859.5	0.1686
31.5	0.8963	860.	0.1732
32.	0.887	860.5	0.3049
32.5	0.9124	861.	0.261
33.	0.9402	861.5	0.3142
33.5	0.9448	862.	0.1756
34.	0.8755	862.5	0.3188
34.5	0.8224	863.	0.261
35.	0.924	863.5	0.3188
35.5	0.9933	864.	0.261

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
36.	1.088	864.5	0.1686
36.5	0.8478	865.	0.2657
37.	1.065	865.5	0.3303
37.5	0.8801	866.	0.2402
38.	0.9794	866.5	0.2287
38.5	0.8478	867.	0.2864
39.	0.827	867.5	0.2287
39.5	0.8778	868.	0.2495
40.	1.	868.5	0.3188
40.5	0.9078	869.	0.2449
41.	0.7993	869.5	0.3257
41.5	0.9679	870.	0.2518
42.	0.7993	870.5	0.2171
42.5	0.9448	871.	0.3326
43.	0.8639	871.5	0.2056
43.5	0.9425	872.	0.1964
44.	0.8593	872.5	0.3026
44.5	0.9587	873.	0.1525
45.	0.9679	873.5	0.2287
45.5	0.9448	874.	0.05082
46.	0.9887	874.5	0.358
46.5	0.693	875.	0.2703
47.	0.9355	875.5	0.261
47.5	0.8547	876.	0.3049
48.	0.887	876.5	0.1964
48.5	0.9286	877.	0.2934
49.	0.8501	877.5	0.2333
49.5	0.8917	878.	0.358
50.	0.8385	878.5	0.1894
50.5	0.827	879.	0.2818
51.	0.8385	879.5	0.1247
51.5	0.8431	880.	0.2864
52.	0.7415	880.5	0.3419
52.5	0.887	881.	0.1848
53.	0.8385	881.5	0.2379
53.5	0.8593	882.	0.2703
54.	0.827	882.5	0.2864
54.5	0.8709	883.	0.2379
55.	0.8478	883.5	0.2864
55.5	0.8431	884.	0.3142
56.	0.8593	884.5	0.358
56.5	0.9194	885.	0.3511
57.	0.9355	885.5	0.08778
57.5	0.9194	886.	0.3835
58.	0.8963	886.5	0.1964
58.5	0.8593	887.	0.07623
59.	0.7138	887.5	0.2495
59.5	0.8154	888.	0.3211
60.	0.887	888.5	0.298
60.5	0.797	889.	0.2657
61.	0.7993	889.5	0.2772
61.5	0.8154	890.	0.2287
62.	0.9679	890.5	0.2333

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
62.5	0.9194	891.	0.1732
63.	0.8801	891.5	0.2772
63.5	0.9355	892.	0.395
64.	0.8963	892.5	0.2726
64.5	1.012	893.	0.1894
65.	0.7993	893.5	0.09702
65.5	0.8478	894.	0.2241
66.	0.7092	894.5	0.3465
66.5	0.8224	895.	0.3095
67.	0.9355	895.5	0.3188
67.5	0.8154	896.	0.3419
68.	0.6815	896.5	0.3095
68.5	0.7623	897.	0.2287
69.	0.7623	897.5	0.2379
69.5	0.79	898.	0.1779
70.	0.8316	898.5	0.3142
70.5	0.8316	899.	0.201
71.	0.9771	899.5	0.3257
71.5	0.8062	900.	0.3026
72.	0.7739	900.5	0.3049
72.5	0.8963	901.	0.2449
73.	0.6699	901.5	0.3095
73.5	0.8639	902.	0.261
74.	0.8709	902.5	0.261
74.5	0.7577	903.	0.3095
75.	0.8639	903.5	0.1848
75.5	0.7184	904.	0.2703
76.	0.8963	904.5	0.1455
76.5	0.8801	905.	0.3419
77.	0.7669	905.5	0.1848
77.5	0.7253	906.	0.2333
78.	0.8431	906.5	0.3257
78.5	0.8431	907.	0.2379
79.	0.8709	907.5	0.1201
79.5	0.8385	908.	0.2564
80.	0.8755	908.5	0.1686
80.5	0.8316	909.	0.04389
81.	0.8662	909.5	0.358
81.5	0.8963	910.	0.1617
82.	0.9101	910.5	0.1894
82.5	0.7739	911.	0.3095
83.	0.8385	911.5	0.1132
83.5	0.8154	912.	0.1779
84.	0.8431	912.5	0.2888
84.5	0.8431	913.	0.2495
85.	0.7531	913.5	0.2541
85.5	0.693	914.	0.2888
86.	0.8639	914.5	0.2079
86.5	0.7993	915.	0.1617
87.	0.7346	915.5	0.2218
87.5	0.7993	916.	0.298
88.	0.8154	916.5	0.05544
88.5	0.8293	917.	0.2171

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
89.	0.7831	917.5	0.335
89.5	0.8316	918.	0.1525
90.	0.8709	918.5	0.2218
90.5	0.8154	919.	0.2379
91.	0.8639	919.5	0.2125
91.5	0.7946	920.	0.2864
92.	0.9078	920.5	0.2125
92.5	0.8963	921.	0.3419
93.	0.6861	921.5	0.3257
93.5	0.7577	922.	0.1802
94.	0.8801	922.5	0.2287
94.5	0.8801	923.	0.1779
95.	0.8755	923.5	0.2864
95.5	0.924	924.	0.2541
96.	0.7415	924.5	0.3049
96.5	0.7739	925.	0.2726
97.	0.7184	925.5	0.2218
97.5	0.8593	926.	0.268
98.	0.7138	926.5	0.3488
98.5	0.8547	927.	0.1848
99.	0.8385	927.5	0.2218
99.5	0.79	928.	0.1409
100.	0.9078	928.5	0.2333
100.5	0.8224	929.	0.2864
101.	0.7253	929.5	0.2818
101.5	0.8108	930.	0.1432
102.	0.797	930.5	0.1455
102.5	0.8755	931.	0.2541
103.	0.8154	931.5	0.2864
103.5	0.7461	932.	0.201
104.	0.8385	932.5	0.2518
104.5	0.8062	933.	0.2772
105.	0.7739	933.5	0.298
105.5	0.8108	934.	0.2564
106.	0.887	934.5	0.1455
106.5	0.8755	935.	0.2171
107.	0.7577	935.5	0.3303
107.5	0.8385	936.	0.2171
108.	0.7253	936.5	0.2379
108.5	0.8316	937.	0.2841
109.	0.8639	937.5	0.2241
109.5	0.6815	938.	0.2888
110.	0.6699	938.5	0.3303
110.5	0.9517	939.	0.2171
111.	0.8062	939.5	0.2818
111.5	0.7993	940.	0.1964
112.	0.8062	940.5	0.1525
112.5	0.7831	941.	0.194
113.	0.7577	941.5	0.194
113.5	0.8547	942.	0.1894
114.	0.8547	942.5	0.268
114.5	0.6861	943.	0.2171
115.	0.8224	943.5	0.2287

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
115.5	0.8755	944.	0.2218
116.	0.8062	944.5	0.2287
116.5	0.6976	945.	0.2818
117.	0.8593	945.5	0.2379
117.5	0.7993	946.	0.2726
118.	0.8616	946.5	0.3049
118.5	0.887	947.	0.358
119.	0.8709	947.5	0.1617
119.5	0.7577	948.	0.2287
120.	0.7623	948.5	0.2841
120.5	0.7253	949.	0.2171
121.	0.7461	949.5	0.2241
121.5	0.6052	950.	0.1294
122.	0.6537	950.5	0.201
122.5	0.827	951.	0.298
123.	0.7184	951.5	0.3026
123.5	0.7946	952.	0.2402
124.	0.8385	952.5	0.194
124.5	0.8547	953.	0.2772
125.	0.7623	953.5	0.1571
125.5	0.5937	954.	0.2171
126.	0.7854	954.5	0.0924
126.5	0.8224	955.	0.2125
127.	0.8154	955.5	0.2449
127.5	0.7993	956.	0.2864
128.	0.7092	956.5	0.2287
128.5	0.7369	957.	0.3003
129.	0.79	957.5	0.2703
129.5	0.8709	958.	0.2402
130.	0.8154	958.5	0.1686
130.5	0.8154	959.	0.104
131.	0.8431	959.5	0.2449
131.5	0.8224	960.	0.1686
132.	0.6653	960.5	0.1779
132.5	0.827	961.	0.1732
133.	0.7577	961.5	0.268
133.5	0.7692	962.	0.1409
134.	0.7739	962.5	0.1617
134.5	0.6653	963.	0.1894
135.	0.8917	963.5	0.2657
135.5	0.7415	964.	0.2333
136.	0.827	964.5	0.201
136.5	0.7577	965.	0.2495
137.	0.7346	965.5	0.2333
137.5	0.7785	966.	0.3049
138.	0.7369	966.5	0.261
138.5	0.7623	967.	0.194
139.	0.887	967.5	0.201
139.5	0.7831	968.	0.1478
140.	0.693	968.5	0.2125
140.5	0.7092	969.	0.1894
141.	0.7461	969.5	0.1617
141.5	0.6976	970.	0.1294

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
142.	0.8339	970.5	0.2333
142.5	0.7461	971.	0.201
143.	0.7022	971.5	0.02772
143.5	0.8224	972.	0.2171
144.	0.6329	972.5	0.1802
144.5	0.8177	973.	0.2056
145.	0.797	973.5	0.2703
145.5	0.79	974.	0.3003
146.	0.6768	974.5	0.2171
146.5	0.6768	975.	0.2287
147.	0.7461	975.5	0.2772
147.5	0.6052	976.	0.2934
148.	0.6098	976.5	0.2772
148.5	0.6768	977.	0.2079
149.	0.8709	977.5	0.1363
149.5	0.7415	978.	0.2171
150.	0.887	978.5	0.201
150.5	0.7184	979.	0.2056
151.	0.7346	979.5	0.2056
151.5	0.7346	980.	0.194
152.	0.7323	980.5	0.1848
152.5	0.797	981.	0.104
153.	0.7461	981.5	0.1732
153.5	0.8062	982.	0.2518
154.	0.7484	982.5	0.2657
154.5	0.6376	983.	0.201
155.	0.73	983.5	0.2541
155.5	0.6607	984.	0.1571
156.	0.797	984.5	0.1109
156.5	0.7785	985.	0.1571
157.	0.7346	985.5	0.1848
157.5	0.7993	986.	0.164
158.	0.7161	986.5	0.1409
158.5	0.7184	987.	0.1132
159.	0.6098	987.5	0.1894
159.5	0.7739	988.	0.1732
160.	0.7253	988.5	0.3973
160.5	0.8547	989.	0.2541
161.	0.6815	989.5	0.2287
161.5	0.8224	990.	0.2772
162.	0.7161	990.5	0.201
162.5	0.7253	991.	0.2703
163.	0.8385	991.5	0.2218
163.5	0.7993	992.	0.1686
164.	0.7692	992.5	0.1964
164.5	0.6815	993.	0.2079
165.	0.6537	993.5	0.1525
165.5	0.6699	994.	0.3165
166.	0.8385	994.5	0.2449
166.5	0.6653	995.	0.1132
167.	0.7346	995.5	0.2703
167.5	0.7138	996.	0.1317
168.	0.6861	996.5	0.2402

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
168.5	0.7531	997.	0.1964
169.	0.6491	997.5	0.2171
169.5	0.7253	998.	0.2888
170.	0.6653	998.5	0.1363
170.5	0.7577	999.	0.1686
171.	0.7508	999.5	0.01617
171.5	0.7461	1000.	0.3095
172.	0.7415	1000.5	0.1525
172.5	0.797	1001.	0.1894
173.	0.8316	1001.5	0.2541
173.5	0.6006	1002.	0.1732
174.	0.7323	1002.5	0.1409
174.5	0.4805	1003.	0.1086
175.	0.693	1003.5	0.194
175.5	0.79	1004.	0.1732
176.	0.693	1004.5	0.1525
176.5	0.8224	1005.	0.2379
177.	0.6861	1005.5	0.2287
177.5	0.693	1006.	0.1779
178.	0.7739	1006.5	0.2287
178.5	0.7092	1007.	0.298
179.	0.6815	1007.5	0.201
179.5	0.7184	1008.	0.2518
180.	0.7508	1008.5	0.261
180.5	0.693	1009.	0.2379
181.	0.7184	1009.5	0.06468
181.5	0.8755	1010.	0.261
182.	0.8224	1010.5	0.1455
182.5	0.6376	1011.	0.1756
183.	0.8478	1011.5	0.1686
183.5	0.6861	1012.	0.2079
184.	0.6815	1012.5	0.2657
184.5	0.7669	1013.	0.1525
185.	0.693	1013.5	0.2818
185.5	0.6861	1014.	0.1756
186.	0.8177	1014.5	0.1779
186.5	0.693	1015.	0.298
187.	0.7346	1015.5	0.2449
187.5	0.7323	1016.	0.1848
188.	0.7739	1016.5	0.05544
188.5	0.8062	1017.	0.2888
189.	0.6815	1017.5	0.0462
189.5	0.7138	1018.	0.1848
190.	0.8662	1018.5	0.2402
190.5	0.79	1019.	0.1478
191.	0.5844	1019.5	0.194
191.5	0.6168	1020.	0.1432
192.	0.7323	1020.5	0.2449
192.5	0.7484	1021.	0.06699
193.	0.7831	1021.5	0.2287
193.5	0.6861	1022.	0.3188
194.	0.656	1022.5	0.2726
194.5	0.5914	1023.	0.2056

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
195.	0.6214	1023.5	0.2541
195.5	0.7854	1024.	0.2449
196.	0.7461	1024.5	0.3026
196.5	0.6491	1025.	0.1363
197.	0.6491	1025.5	0.2333
197.5	0.693	1026.	0.1271
198.	0.5729	1026.5	0.1086
198.5	0.7623	1027.	0.06699
199.	0.7415	1027.5	0.194
199.5	0.7092	1028.	0.1525
200.	0.6976	1028.5	0.1802
200.5	0.693	1029.	0.1917
201.	0.7346	1029.5	0.1617
201.5	0.7253	1030.	0.1964
202.	0.7785	1030.5	0.2541
202.5	0.7785	1031.	0.08085
203.	0.6768	1031.5	0.1247
203.5	0.7739	1032.	0.201
204.	0.589	1032.5	0.2171
204.5	0.7207	1033.	0.1525
205.	0.6491	1033.5	0.1802
205.5	0.5937	1034.	0.2726
206.	0.7623	1034.5	0.1802
206.5	0.6006	1035.	0.2171
207.	0.6607	1035.5	0.3257
207.5	0.7785	1036.	0.1409
208.	0.6214	1036.5	0.2333
208.5	0.5567	1037.	0.2287
209.	0.73	1037.5	0.1201
209.5	0.7739	1038.	0.2241
210.	0.6075	1038.5	0.04851
210.5	0.7184	1039.	0.104
211.	0.6491	1039.5	0.08085
211.5	0.7461	1040.	0.2449
212.	0.7369	1040.5	0.2888
212.5	0.6168	1041.	0.1525
213.	0.7346	1041.5	0.03234
213.5	0.693	1042.	0.09702
214.	0.8016	1042.5	0.2125
214.5	0.6537	1043.	0.2218
215.	0.6376	1043.5	0.1455
215.5	0.6283	1044.	0.3257
216.	0.7692	1044.5	0.3049
216.5	0.7253	1045.	0.1848
217.	0.7022	1045.5	0.1478
217.5	0.6768	1046.	0.2079
218.	0.7946	1046.5	0.1617
218.5	0.6653	1047.	0.2287
219.	0.7785	1047.5	0.1363
219.5	0.7508	1048.	0.1617
220.	0.589	1048.5	0.07854
220.5	0.6399	1049.	0.1779
221.	0.5844	1049.5	0.268

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
221.5	0.7415	1050.	0.1686
222.	0.8131	1050.5	0.1732
222.5	0.7092	1051.	0.1247
223.	0.73	1051.5	0.1086
223.5	0.8154	1052.	0.1455
224.	0.6399	1052.5	0.1779
224.5	0.6006	1053.	0.08085
225.	0.5521	1053.5	0.1363
225.5	0.6121	1054.	0.2241
226.	0.6214	1054.5	0.1802
226.5	0.7184	1055.	0.1525
227.	0.7138	1055.5	0.2449
227.5	0.6491	1056.	0.04389
228.	0.6491	1056.5	0.104
228.5	0.6399	1057.	0.1478
229.	0.6537	1057.5	0.1802
229.5	0.7138	1058.	0.2772
230.	0.8385	1058.5	0.164
230.5	0.6607	1059.	0.2726
231.	0.6052	1059.5	0.201
231.5	0.7138	1060.	0.104
232.	0.5937	1060.5	0.1964
232.5	0.693	1061.	0.1247
233.	0.5359	1061.5	0.1732
233.5	0.6168	1062.	0.09471
234.	0.6283	1062.5	0.09471
234.5	0.6768	1063.	0.261
235.	0.7184	1063.5	0.2449
235.5	0.693	1064.	0.09702
236.	0.73	1064.5	0.1917
236.5	0.6722	1065.	0.1571
237.	0.5128	1065.5	0.164
237.5	0.7022	1066.	0.2449
238.	0.7785	1066.5	0.07161
238.5	0.6376	1067.	0.1756
239.	0.6098	1067.5	0.2171
239.5	0.7669	1068.	0.1247
240.	0.7346	1068.5	0.2564
240.5	0.6006	1069.	0.1848
241.	0.6861	1069.5	0.2218
241.5	0.6815	1070.	0.1363
242.	0.5521	1070.5	0.104
242.5	0.7138	1071.	0.2495
243.	0.5937	1071.5	0.1247
243.5	0.6376	1072.	0.201
244.	0.6445	1072.5	0.1802
244.5	0.6815	1073.	0.06468
245.	0.73	1073.5	0.1594
245.5	0.6283	1074.	0.1271
246.	0.6768	1074.5	0.1201
246.5	0.5798	1075.	0.1894
247.	0.6491	1075.5	0.2218
247.5	0.6445	1076.	0.1409

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
248.	0.559	1076.5	0.104
248.5	0.7484	1077.	0.1132
249.	0.6653	1077.5	0.2287
249.5	0.693	1078.	0.1686
250.	0.6168	1078.5	0.2125
250.5	0.7092	1079.	0.104
251.	0.5683	1079.5	0.2218
251.5	0.5244	1080.	0.1617
252.	0.529	1080.5	0.2449
252.5	0.7138	1081.	0.104
253.	0.589	1081.5	0.2171
253.5	0.5844	1082.	0.2518
254.	0.6006	1082.5	0.09471
254.5	0.6283	1083.	0.1617
255.	0.6653	1083.5	0.1594
255.5	0.589	1084.	0.3211
256.	0.6329	1084.5	0.1363
256.5	0.5729	1085.	0.2218
257.	0.4966	1085.5	0.09933
257.5	0.589	1086.	0.1594
258.	0.6445	1086.5	0.1525
258.5	0.6653	1087.	0.1247
259.	0.6768	1087.5	0.164
259.5	0.7022	1088.	0.2518
260.	0.6607	1088.5	0.1594
260.5	0.7161	1089.	0.2056
261.	0.6537	1089.5	0.1571
261.5	0.6768	1090.	0.1848
262.	0.6098	1090.5	0.1732
262.5	0.6168	1091.	0.2287
263.	0.5244	1091.5	0.07623
263.5	0.6329	1092.	0.03234
264.	0.6052	1092.5	0.2287
264.5	0.6699	1093.	0.1756
265.	0.6768	1093.5	0.2218
265.5	0.6607	1094.	0.0231
266.	0.5151	1094.5	0.1964
266.5	0.6653	1095.	0.08085
267.	0.5613	1095.5	0.2333
267.5	0.693	1096.	0.358
268.	0.6653	1096.5	0.2333
268.5	0.6884	1097.	0.1455
269.	0.7022	1097.5	0.2772
269.5	0.6768	1098.	0.06699
270.	0.693	1098.5	0.1571
270.5	0.6607	1099.	0.1732
271.	0.6098	1099.5	0.1086
271.5	0.6376	1100.	0.09471
272.	0.5683	1100.5	0.1779
272.5	0.73	1101.	0.2218
273.	0.7415	1102.	0.2241
273.5	0.6445	1102.5	0.1848
274.	0.5683	1103.	0.2772

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
274.5	0.6699	1103.5	0.1525
275.	0.6168	1104.	0.1964
275.5	0.6607	1104.5	0.2125
276.	0.6976	1105.	0.2171
276.5	0.6329	1105.5	0.1732
277.	0.6329	1106.5	0.1917
277.5	0.693	1107.	0.2125
278.	0.6768	1107.5	0.08778
278.5	0.6768	1108.	0.1432
279.	0.5244	1109.	0.2171
279.5	0.6329	1109.5	0.2449
280.	0.6653	1110.	0.1201
280.5	0.7739	1110.5	0.2171
281.	0.5128	1111.	0.0924
281.5	0.5405	1111.5	0.2333
282.	0.6815	1112.	0.1525
282.5	0.5405	1112.5	0.04851
283.	0.6283	1113.	0.1525
283.5	0.589	1113.5	0.06699
284.	0.6006	1114.	0.1964
284.5	0.6329	1114.5	0.1363
285.	0.5683	1115.	0.1086
285.5	0.5359	1115.5	0.07161
286.	0.6168	1116.	0.2171
286.5	0.6976	1116.5	0.1964
287.	0.589	1117.	0.06468
287.5	0.5128	1117.5	0.1848
288.	0.6052	1118.	0.1917
288.5	0.7092	1118.5	0.104
289.	0.6098	1119.	0.06006
289.5	0.6098	1119.5	0.1525
290.	0.5729	1120.	0.1201
290.5	0.6699	1120.5	0.1917
291.	0.6537	1121.	0.1247
291.5	0.6329	1121.5	0.2287
292.	0.6052	1122.	0.07161
292.5	0.5405	1122.5	0.1525
293.	0.6376	1123.	0.1848
293.5	0.6445	1123.5	0.2079
294.	0.6214	1124.	0.1109
294.5	0.589	1124.5	0.2171
295.	0.5683	1125.	0.08778
295.5	0.6445	1126.	0.2333
296.	0.6699	1126.5	0.2495
296.5	0.6006	1127.	0.1132
297.	0.5613	1127.5	0.1779
297.5	0.6399	1128.	0.08778
298.	0.6329	1129.	0.2379
298.5	0.5844	1129.5	0.2171
299.	0.6445	1130.	0.05544
299.5	0.6052	1130.5	0.2079
300.	0.5475	1131.	0.1617
300.5	0.693	1131.5	0.1363

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
301.	0.6607	1132.	0.194
301.5	0.4274	1132.5	0.2056
302.	0.7253	1133.	0.1317
302.5	0.7207	1133.5	0.06006
303.	0.6168	1134.	0.164
303.5	0.5775	1134.5	0.1363
304.	0.5613	1135.	0.104
304.5	0.6329	1135.5	0.1779
305.	0.6168	1136.	0.02772
305.5	0.5244	1136.5	0.194
306.	0.6399	1137.	0.09702
306.5	0.5452	1137.5	0.1109
307.	0.5683	1138.	0.2125
307.5	0.6768	1138.5	0.03234
308.	0.5405	1139.	0.1732
308.5	0.6006	1139.5	0.2333
309.	0.6283	1140.	0.0462
309.5	0.5613	1140.5	0.1756
310.	0.7092	1141.	0.2703
310.5	0.6006	1141.5	0.1779
311.	0.5683	1142.	0.2449
311.5	0.4597	1142.5	0.1294
312.	0.6283	1143.	0.06468
312.5	0.6445	1143.5	0.2056
313.	0.6006	1144.	0.0231
313.5	0.6653	1144.5	0.06237
314.	0.6121	1145.	0.08778
314.5	0.589	1145.5	0.05544
315.	0.6999	1146.	0.268
315.5	0.5567	1146.5	0.07854
316.	0.656	1147.	0.1732
316.5	0.5521	1147.5	0.1848
317.	0.589	1148.	0.1455
317.5	0.6537	1148.5	0.03003
318.	0.6653	1149.	0.2218
318.5	0.6329	1149.5	0.06699
319.	0.6699	1150.	0.1478
319.5	0.6168	1150.5	0.2171
320.	0.559	1151.	0.1525
320.5	0.5244	1151.5	0.07854
321.	0.4805	1152.	0.2218
321.5	0.6214	1152.5	0.1201
322.	0.6214	1153.	0.1594
322.5	0.6329	1153.5	0.0924
323.	0.5914	1154.	0.09933
323.5	0.4643	1154.5	0.1409
324.	0.6768	1155.	0.2171
324.5	0.6329	1155.5	0.2495
325.	0.6861	1156.	0.1409
325.5	0.6283	1156.5	0.0924
326.	0.5267	1157.	0.1132
326.5	0.6283	1157.5	0.06006
327.	0.6283	1158.	0.07854

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
327.5	0.6006	1158.5	0.08778
328.	0.5937	1159.	0.1132
328.5	0.6768	1159.5	0.06006
329.	0.6006	1160.	0.1686
329.5	0.4805	1160.5	0.164
330.	0.6168	1161.	0.2218
330.5	0.5775	1161.5	0.1594
331.	0.6237	1162.	0.1294
331.5	0.6491	1162.5	0.09702
332.	0.4805	1163.	0.03003
332.5	0.6722	1163.5	0.1917
333.	0.5567	1164.	0.1802
333.5	0.5729	1164.5	0.1964
334.	0.5198	1165.	0.2125
334.5	0.5775	1165.5	0.0924
335.	0.5937	1166.	0.2726
335.5	0.6006	1166.5	0.2287
336.	0.432	1167.	0.06237
336.5	0.6168	1167.5	0.0231
337.	0.6237	1168.	0.1802
337.5	0.6098	1168.5	0.2171
338.	0.6214	1169.	0.201
338.5	0.5082	1169.5	0.03927
339.	0.5914	1170.	0.09933
339.5	0.5683	1170.5	0.2125
340.	0.4966	1171.	0.1686
340.5	0.656	1171.5	0.1455
341.	0.4643	1172.	0.1271
341.5	0.6861	1172.5	0.1917
342.	0.5359	1173.	0.1294
342.5	0.6329	1173.5	0.1294
343.	0.4782	1174.	0.08316
343.5	0.6006	1174.5	0.1247
344.	0.5844	1175.	0.0924
344.5	0.6168	1175.5	0.0231
345.	0.6815	1176.	0.1525
345.5	0.5683	1176.5	0.1455
346.	0.5405	1177.	0.1848
346.5	0.6214	1177.5	0.1455
347.	0.6699	1178.	0.1155
347.5	0.492	1178.5	0.1363
348.	0.4551	1179.	0.201
348.5	0.6075	1179.5	0.05544
349.	0.5359	1180.	0.1363
349.5	0.5198	1180.5	0.00693
350.	0.5151	1181.	0.2495
350.5	0.6699	1181.5	0.2333
351.	0.6699	1182.	0.0924
351.5	0.6653	1182.5	0.00231
352.	0.5082	1183.	0.09471
352.5	0.5244	1183.5	0.104
353.	0.529	1184.	0.05544
353.5	0.4551	1184.5	0.09933

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
354.	0.6445	1185.	0.07623
354.5	0.4597	1185.5	0.0231
355.	0.6768	1186.	0.1201
355.5	0.4643	1186.5	0.2125
356.	0.6653	1187.	0.1455
356.5	0.5429	1187.5	0.1317
357.	0.5198	1188.	0.09471
357.5	0.6699	1188.5	0.2402
358.	0.5683	1189.	0.2218
358.5	0.6283	1190.	0.1271
359.	0.4874	1190.5	0.1894
359.5	0.5729	1191.	0.2171
360.	0.5683	1191.5	0.06237
360.5	0.5683	1192.	0.1132
361.	0.6491	1192.5	0.08778
361.5	0.4966	1193.	0.1571
362.	0.6376	1193.5	0.1201
362.5	0.5844	1194.	0.1779
363.	0.5683	1194.5	0.1363
363.5	0.7046	1195.5	0.1363
364.	0.5452	1196.	0.1317
364.5	0.5613	1196.5	0.1478
365.	0.4389	1197.	0.2125
365.5	0.6283	1197.5	0.2171
366.	0.5752	1198.	0.1109
366.5	0.5844	1198.5	0.09471
367.	0.5359	1199.	0.1363
367.5	0.5429	1200.	0.07161
368.	0.5452	1200.5	0.1294
368.5	0.5198	1201.	0.2703
369.	0.4759	1202.	0.07161
369.5	0.6329	1202.5	0.1109
370.	0.5844	1203.	0.201
370.5	0.5405	1203.5	0.1432
371.	0.4805	1204.5	0.2287
371.5	0.5452	1205.	0.2125
372.	0.462	1205.5	0.07623
372.5	0.5567	1206.	0.09471
373.	0.5521	1207.	0.1848
373.5	0.529	1207.5	0.1294
374.	0.5198	1208.	0.1247
374.5	0.6168	1208.5	0.07623
375.	0.5729	1209.	0.1756
375.5	0.6168	1209.5	0.2379
376.	0.6491	1210.	0.104
376.5	0.5683	1210.5	0.05082
377.	0.5521	1211.	0.2125
377.5	0.4805	1211.5	0.07161
378.	0.5359	1212.	0.06006
378.5	0.529	1212.5	0.04389
379.	0.4874	1213.	0.1363
379.5	0.6168	1213.5	0.1894
380.	0.6006	1214.	0.1594

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
380.5	0.5798	1214.5	0.3049
381.	0.5521	1215.	0.1617
381.5	0.5198	1215.5	0.03003
382.	0.3742	1216.	0.1848
382.5	0.4643	1216.5	0.2079
383.	0.5775	1217.	0.1617
383.5	0.5567	1218.	0.06699
384.	0.5405	1218.5	0.07623
384.5	0.5752	1219.	0.1201
385.	0.4112	1220.	0.08085
385.5	0.4712	1220.5	0.201
386.	0.492	1221.	0.03927
386.5	0.4551	1221.5	0.1294
387.	0.5683	1222.	0.1109
387.5	0.5775	1222.5	0.1455
388.	0.5036	1223.	0.06006
388.5	0.5752	1223.5	0.1247
389.	0.5036	1224.	0.0924
389.5	0.5683	1224.5	0.09471
390.	0.5244	1225.	0.09702
390.5	0.5359	1225.5	0.0924
391.	0.6283	1226.	0.1525
391.5	0.5775	1226.5	0.1571
392.	0.5775	1227.	0.104
392.5	0.5567	1227.5	0.1432
393.	0.5244	1228.	0.1201
393.5	0.5128	1228.5	0.09702
394.	0.5405	1229.	0.1132
394.5	0.6006	1229.5	0.2333
395.	0.5567	1230.	0.09933
395.5	0.5405	1230.5	0.1756
396.	0.4551	1231.	0.07161
396.5	0.5914	1231.5	0.08085
397.	0.5036	1232.	0.06237
397.5	0.432	1232.5	0.2171
398.	0.6075	1233.	0.1201
398.5	0.5128	1233.5	0.1247
399.	0.4435	1234.	0.06699
399.5	0.4481	1234.5	0.1409
400.	0.589	1235.	0.1409
400.5	0.4805	1235.5	0.1201
401.	0.6214	1236.	0.1109
401.5	0.5844	1236.5	0.06237
402.	0.5244	1237.	0.1409
402.5	0.5567	1237.5	0.1086
403.	0.5128	1238.	0.1432
403.5	0.5636	1238.5	0.1247
404.	0.5359	1239.	0.08778
404.5	0.5244	1239.5	0.1432
405.	0.6283	1240.	0.1201
405.5	0.4874	1240.5	0.0924
406.	0.5198	1241.	0.03234
406.5	0.5683	1241.5	0.1686

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
407.	0.5244	1242.	0.164
407.5	0.6006	1242.5	0.06006
408.	0.3835	1243.	0.08778
408.5	0.6214	1244.	0.1201
409.	0.395	1244.5	0.2171
409.5	0.5521	1245.	0.1201
410.	0.5844	1245.5	0.104
410.5	0.589	1246.	0.08778
411.	0.3673	1246.5	0.05082
411.5	0.4874	1247.	0.1201
412.	0.4966	1247.5	0.05544
412.5	0.5521	1249.	0.1132
413.	0.6006	1249.5	0.1247
413.5	0.358	1250.	0.09933
414.	0.5729	1250.5	0.2287
414.5	0.5729	1251.5	0.1848
415.	0.5729	1252.	0.1317
415.5	0.4135	1252.5	0.01848
416.	0.5729	1253.	0.164
416.5	0.5683	1253.5	0.194
417.	0.4966	1254.	0.2125
417.5	0.6607	1254.5	0.04389
418.	0.5036	1255.	0.04851
418.5	0.3419	1255.5	0.07623
419.	0.5452	1256.	0.03927
419.5	0.5844	1256.5	0.1201
420.	0.529	1257.	0.0924
420.5	0.5128	1258.	0.09933
421.	0.4874	1258.5	0.09933
421.5	0.6052	1259.	0.1201
422.	0.5752	1260.	0.06006
422.5	0.5405	1260.5	0.1271
423.	0.5405	1261.	0.03927
423.5	0.5429	1261.5	0.08778
424.	0.492	1262.	0.1478
424.5	0.4712	1262.5	0.03927
425.	0.4943	1263.	0.1848
425.5	0.4505	1263.5	0.08316
426.	0.5683	1264.	0.1848
426.5	0.5313	1264.5	0.1525
427.	0.5798	1265.	0.2518
427.5	0.5198	1265.5	0.1247
428.	0.3742	1266.	0.1155
428.5	0.5036	1266.5	0.1686
429.	0.6283	1267.	0.09702
429.5	0.4966	1267.5	0.2379
430.	0.492	1268.	0.1756
430.5	0.5521	1268.5	0.07161
431.	0.529	1269.	0.08778
431.5	0.589	1269.5	0.2125
432.	0.4643	1270.	0.08778
432.5	0.5267	1270.5	0.09702
433.	0.432	1271.	0.1455

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
433.5	0.5729	1271.5	0.07161
434.	0.3788	1272.	0.1964
434.5	0.5313	1273.	0.08085
435.	0.5244	1273.5	0.09702
435.5	0.5244	1274.	0.1086
436.	0.4759	1275.	0.0231
436.5	0.5036	1275.5	0.1894
437.	0.4481	1276.	0.1432
437.5	0.4805	1276.5	0.2079
438.	0.6283	1277.	0.1848
438.5	0.5036	1277.5	0.1363
439.	0.6121	1278.	0.1617
439.5	0.4389	1279.	0.09702
440.	0.4805	1279.5	0.104
440.5	0.4712	1280.5	0.2125
441.	0.5844	1281.	0.07623
441.5	0.499	1281.5	0.08085
442.	0.4828	1282.	0.0462
442.5	0.4874	1283.	0.07623
443.	0.5036	1283.5	0.04851
443.5	0.4805	1284.	0.1525
444.	0.4481	1284.5	0.1201
444.5	0.5313	1285.	0.04851
445.	0.5452	1285.5	0.1201
445.5	0.4759	1286.5	0.1525
446.	0.5359	1287.	0.1848
446.5	0.5521	1287.5	0.1363
447.	0.5198	1288.	0.1964
447.5	0.529	1288.5	0.1756
448.	0.6329	1289.	0.1201
448.5	0.5036	1289.5	0.1201
449.	0.4805	1290.	0.08778
449.5	0.492	1290.5	0.1432
450.	0.5452	1291.	0.08778
450.5	0.4297	1291.5	0.1802
451.	0.3742	1292.	0.1732
451.5	0.4112	1292.5	0.09702
452.	0.596	1293.	0.1271
452.5	0.5036	1293.5	0.104
453.	0.4643	1294.	0.261
453.5	0.4712	1294.5	0.03927
454.	0.4712	1295.	0.07623
454.5	0.4389	1295.5	0.04851
455.	0.4389	1296.	0.1201
455.5	0.5567	1296.5	0.08778
456.	0.492	1297.	0.0462
456.5	0.5405	1297.5	0.1247
457.	0.5082	1298.	0.1432
457.5	0.5359	1298.5	0.04851
458.	0.4943	1299.	0.2241
458.5	0.5036	1299.5	0.08316
459.	0.4158	1300.	0.0462
459.5	0.589	1300.5	0.1525

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
460.	0.5267	1301.	0.1525
460.5	0.5244	1301.5	0.01617
461.	0.589	1302.	0.1525
461.5	0.4712	1302.5	0.201
462.	0.298	1303.	0.07161
462.5	0.4759	1303.5	0.05544
463.	0.4551	1304.	0.02772
463.5	0.6098	1304.5	0.2241
464.	0.4782	1305.5	0.1686
464.5	0.5937	1306.	0.1155
465.	0.5729	1307.	0.03465
465.5	0.4389	1307.5	0.00693
466.	0.5636	1308.	0.07854
466.5	0.5036	1309.	0.00693
467.	0.3257	1309.5	0.1132
467.5	0.5359	1310.	0.2079
468.	0.5683	1311.	0.1086
468.5	0.4551	1311.5	0.1086
469.	0.4712	1312.	0.05082
469.5	0.395	1312.5	0.1201
470.	0.5521	1313.	0.08085
470.5	0.3788	1313.5	0.06468
471.	0.5775	1314.	0.1779
471.5	0.3788	1314.5	0.0924
472.	0.4274	1315.	0.0231
472.5	0.3673	1315.5	0.1848
473.	0.5359	1316.	0.1247
473.5	0.4551	1316.5	0.1109
474.	0.5198	1318.	0.09933
474.5	0.4759	1318.5	0.07854
475.	0.5567	1319.	0.1432
475.5	0.4389	1319.5	0.08778
476.	0.4759	1320.	0.1964
476.5	0.5151	1320.5	0.1363
477.	0.3835	1321.	0.1201
477.5	0.5359	1321.5	0.104
478.	0.395	1322.	0.1594
478.5	0.4389	1322.5	0.1455
479.	0.5198	1323.	0.01386
479.5	0.3026	1323.5	0.164
480.	0.4643	1324.	0.00693
480.5	0.596	1324.5	0.09471
481.	0.5405	1325.	0.03234
481.5	0.4135	1325.5	0.2449
482.	0.4551	1326.	0.2402
482.5	0.559	1326.5	0.03003
483.	0.492	1327.	0.01386
483.5	0.3996	1327.5	0.1363
484.	0.4759	1328.	0.1917
484.5	0.432	1328.5	0.0231
485.	0.4481	1329.5	0.05544
485.5	0.4112	1330.	0.05082
486.	0.3904	1330.5	0.09702

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
486.5	0.4943	1331.	0.00693
487.	0.492	1332.	0.1294
487.5	0.3996	1332.5	0.06699
488.	0.5844	1333.	0.07161
488.5	0.5105	1333.5	0.194
489.	0.5036	1334.	0.1409
489.5	0.4274	1334.5	0.05544
490.	0.4112	1335.	0.06006
490.5	0.4112	1335.5	0.08085
491.	0.4274	1336.	0.02772
491.5	0.5198	1337.	0.06006
492.	0.4551	1337.5	0.08085
492.5	0.4019	1338.	0.1363
493.	0.4966	1338.5	0.1686
493.5	0.4112	1339.	0.1525
494.	0.4066	1339.5	0.06699
494.5	0.4389	1340.	0.00693
495.	0.589	1340.5	0.06006
495.5	0.3835	1341.	0.1802
496.	0.4435	1342.	0.07161
496.5	0.4389	1342.5	0.1086
497.	0.4874	1343.	0.1432
497.5	0.5198	1343.5	0.07161
498.	0.5105	1344.	0.1363
498.5	0.559	1345.5	0.09702
499.	0.5683	1346.	0.1756
499.5	0.5405	1346.5	0.04851
500.	0.5128	1347.	0.1894
500.5	0.3188	1347.5	0.1247
501.	0.4712	1348.	0.07161
501.5	0.3835	1348.5	0.00231
502.	0.4389	1349.	0.1247
502.5	0.4874	1349.5	0.1086
503.	0.4112	1350.	0.01848
503.5	0.3835	1352.	0.0924
504.	0.4227	1352.5	0.09702
504.5	0.4112	1353.	0.04389
505.	0.6075	1353.5	0.06468
505.5	0.4943	1354.	0.05544
506.	0.4343	1354.5	0.00693
506.5	0.499	1355.5	0.1802
507.	0.4458	1356.	0.05544
507.5	0.3142	1356.5	0.1525
508.	0.4759	1357.	0.104
508.5	0.3973	1357.5	0.0924
509.	0.3303	1358.	0.05544
509.5	0.395	1358.5	0.06237
510.	0.3696	1359.	0.06699
510.5	0.4481	1359.5	0.1317
511.	0.492	1360.	0.2218
511.5	0.3326	1360.5	0.01155
512.	0.5729	1361.	0.0231
512.5	0.4458	1361.5	0.0231

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
513.	0.5082	1362.	0.00693
513.5	0.4389	1363.	0.104
514.	0.4227	1363.5	0.1525
514.5	0.4227	1364.	0.1686
515.	0.5267	1364.5	0.09471
515.5	0.5105	1365.	0.04389
516.	0.3511	1366.	0.0231
516.5	0.3326	1366.5	0.1086
517.	0.3742	1367.5	0.08778
517.5	0.529	1368.	0.0231
518.	0.4181	1368.5	0.1432
518.5	0.3419	1369.	0.00693
519.	0.3904	1369.5	0.0924
519.5	0.3142	1370.5	0.1409
520.	0.4597	1371.	0.0462
520.5	0.4597	1371.5	0.03927
521.	0.4481	1372.	0.01386
521.5	0.5521	1372.5	0.08316
522.	0.3534	1373.	0.08778
522.5	0.3696	1373.5	0.1594
523.	0.395	1374.	0.1201
523.5	0.5244	1374.5	0.06699
524.	0.2772	1375.	0.05082
524.5	0.3742	1376.	0.1155
525.	0.4066	1376.5	0.1155
525.5	0.4712	1377.	0.03927
526.	0.4158	1377.5	0.06237
526.5	0.4112	1378.	0.104
527.	0.4227	1378.5	0.00693
527.5	0.3788	1379.5	0.1409
528.	0.365	1380.	0.1525
528.5	0.5683	1380.5	0.03927
529.	0.529	1381.	0.1201
529.5	0.432	1382.	0.01386
530.	0.4389	1382.5	0.03234
530.5	0.4343	1383.	0.08316
531.	0.4274	1383.5	0.08316
531.5	0.4759	1384.	0.1802
532.	0.4066	1384.5	0.09471
532.5	0.4551	1385.	0.07623
533.	0.3303	1385.5	0.03234
533.5	0.5521	1386.	0.1848
534.	0.3858	1386.5	0.104
534.5	0.4435	1387.	0.08316
535.	0.432	1387.5	0.08778
535.5	0.4805	1389.	0.09702
536.	0.4759	1389.5	0.06468
536.5	0.3627	1390.	0.1525
537.	0.3788	1390.5	0.0462
537.5	0.4158	1391.	0.05544
538.	0.499	1391.5	0.1363
538.5	0.3904	1392.	0.00693
539.	0.4274	1392.5	0.1109

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
539.5	0.3788	1393.	0.1317
540.	0.4828	1393.5	0.06468
540.5	0.4966	1394.	0.03465
541.	0.4805	1395.	0.1201
541.5	0.5082	1395.5	0.00693
542.	0.3904	1396.	0.08778
542.5	0.5567	1396.5	0.08316
543.	0.4551	1397.5	0.03234
543.5	0.492	1398.	0.1109
544.	0.3673	1398.5	0.06699
544.5	0.4274	1399.	0.1155
545.	0.432	1399.5	0.1617
545.5	0.492	1400.	0.05082
546.	0.4551	1401.	0.0462
546.5	0.4389	1401.5	0.1617
547.	0.4712	1402.	0.1132
547.5	0.3904	1402.5	0.09933
548.	0.5198	1403.	0.06006
548.5	0.5036	1404.	0.05082
549.	0.4759	1404.5	0.1201
549.5	0.3627	1405.	0.2541
550.	0.3257	1405.5	0.04389
550.5	0.4227	1406.	0.00231
551.	0.4828	1406.5	0.05544
551.5	0.4643	1407.	0.02772
552.	0.4805	1407.5	0.08778
552.5	0.4666	1408.	0.06006
553.	0.4712	1408.5	0.01386
553.5	0.4158	1409.	0.03003
554.	0.4066	1409.5	0.06468
554.5	0.4666	1410.	0.1109
555.	0.3627	1410.5	0.06237
555.5	0.3165	1411.	0.1686
556.	0.3858	1411.5	0.09933
556.5	0.5521	1412.5	0.01617
557.	0.4597	1413.	0.1571
557.5	0.4274	1413.5	0.0462
558.	0.4805	1414.	0.09471
558.5	0.3696	1415.	0.08085
559.	0.358	1415.5	0.04389
559.5	0.4389	1416.5	0.07854
560.	0.5036	1417.5	0.01155
560.5	0.4505	1418.5	0.08778
561.	0.3419	1420.	0.1363
561.5	0.462	1420.5	0.09933
562.	0.3904	1421.	0.05544
562.5	0.4135	1421.5	0.08085
563.	0.4966	1422.	0.04851
563.5	0.3835	1422.5	0.1571
564.	0.4158	1423.	0.03927
564.5	0.4158	1423.5	0.1294
565.	0.3835	1424.	0.03234
565.5	0.4227	1424.5	0.1201

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
566.	0.4551	1425.	0.06237
566.5	0.4066	1425.5	0.04851
567.	0.432	1427.	0.06468
567.5	0.4874	1427.5	0.1201
568.	0.3904	1428.	0.06006
568.5	0.5521	1428.5	0.09702
569.	0.4019	1429.	0.1894
569.5	0.4227	1429.5	0.05544
570.	0.4666	1430.	0.1201
570.5	0.4966	1431.	0.05544
571.	0.3904	1431.5	0.1271
571.5	0.4389	1432.	0.2218
572.	0.4435	1432.5	0.1271
572.5	0.3858	1433.	0.07161
573.	0.358	1433.5	0.104
573.5	0.3835	1434.	0.1201
574.	0.4943	1434.5	0.03465
574.5	0.4643	1436.	0.1155
575.	0.4435	1436.5	0.1201
575.5	0.4274	1437.	0.08085
576.	0.4066	1437.5	0.09471
576.5	0.3257	1439.5	0.1478
577.	0.3788	1440.5	0.07623
577.5	0.3904	1442.5	0.104
578.	0.3257	1443.5	0.07623
578.5	0.3627	1444.5	0.03465
579.	0.4019	1445.	0.1756
579.5	0.365	1445.5	0.1571
580.	0.4135	1446.5	0.04851
580.5	0.462	1448.	0.01386
581.	0.4112	1448.5	0.05544
581.5	0.4551	1449.5	0.0231
582.	0.4505	1450.5	0.01386
582.5	0.3835	1451.	0.1294
583.	0.4643	1451.5	0.0231
583.5	0.3188	1452.	0.1432
584.	0.3742	1453.	0.0231
584.5	0.4597	1454.5	0.07161
585.	0.4666	1455.	0.03234
585.5	0.395	1456.	0.06237
586.	0.4782	1456.5	0.1271
586.5	0.4551	1457.5	0.05082
587.	0.3835	1458.	0.08085
587.5	0.3996	1458.5	0.06699
588.	0.4643	1460.5	0.09471
588.5	0.4135	1461.5	0.00693
589.	0.3627	1462.	0.00693
589.5	0.4343	1463.	0.1432
590.	0.4782	1463.5	0.07161
590.5	0.4759	1464.	0.06468
591.	0.3835	1464.5	0.03234
591.5	0.5082	1465.	0.1247
592.	0.4227	1469.	0.0231

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
592.5	0.3904	1470.	0.07161
593.	0.3465	1471.	0.09471
593.5	0.3904	1471.5	0.07161
594.	0.4135	1472.	0.07623
594.5	0.3788	1472.5	0.09933
595.	0.4481	1473.	0.07161
595.5	0.3788	1473.5	0.06006
596.	0.2772	1474.5	0.01155
596.5	0.3742	1475.	0.00693
597.	0.395	1475.5	0.0924
597.5	0.4066	1476.	0.04389
598.	0.4828	1476.5	0.08316
598.5	0.3742	1477.	0.07161
599.	0.4112	1477.5	0.03003
599.5	0.335	1478.	0.07623
600.	0.4505	1478.5	0.05082
600.5	0.3257	1479.	0.02772
601.	0.4274	1480.	0.08778
601.5	0.4874	1481.5	0.03465
602.	0.4458	1482.5	0.03927
602.5	0.3742	1483.	0.0924
603.	0.3858	1483.5	0.05544
603.5	0.2657	1484.	0.05544
604.	0.3534	1484.5	0.07854
604.5	0.4666	1485.	0.03927
605.	0.3696	1485.5	0.06468
605.5	0.3996	1486.	0.0231
606.	0.3095	1486.5	0.00693
606.5	0.3696	1487.	0.1155
607.	0.395	1487.5	0.1409
607.5	0.3627	1488.5	0.1478
608.	0.395	1489.	0.1109
608.5	0.3003	1490.	0.07161
609.	0.3904	1491.5	0.00693
609.5	0.3511	1492.5	0.06699
610.	0.3996	1493.	0.01617
610.5	0.3095	1493.5	0.07161
611.	0.2657	1494.	0.03003
611.5	0.4112	1494.5	0.03003
612.	0.365	1496.	0.09702
612.5	0.3465	1496.5	0.06699
613.	0.4274	1497.	0.09702
613.5	0.3003	1497.5	0.03927
614.	0.3858	1498.5	0.08778
614.5	0.462	1499.	0.03003
615.	0.4597	1499.5	0.03465
615.5	0.462	1501.	0.00693
616.	0.2841	1501.5	0.03234
616.5	0.3257	1502.	0.0231
617.	0.2056	1503.	0.08778
617.5	0.335	1503.5	0.03003
618.	0.432	1504.5	0.07161
618.5	0.3465	1506.	0.08085

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
619.	0.4135	1507.5	0.05544
619.5	0.4759	1508.5	0.06237
620.	0.3696	1509.	0.07161
620.5	0.3373	1509.5	0.1294
621.	0.4389	1510.	0.1201
621.5	0.335	1510.5	0.1432
622.	0.335	1511.	0.0231
622.5	0.3303	1512.	0.0924
623.	0.3996	1513.	0.1086
623.5	0.3095	1513.5	0.06237
624.	0.4343	1514.5	0.03927
624.5	0.3188	1515.	0.0924
625.	0.3026	1515.5	0.06006
625.5	0.2934	1516.	0.08778
626.	0.4759	1516.5	0.00693
626.5	0.3811	1517.	0.0924
627.	0.4458	1517.5	0.03234
627.5	0.4112	1518.	0.00693
628.	0.5036	1519.	0.07854
628.5	0.4805	1520.5	0.01386
629.	0.3257	1521.5	0.03234
629.5	0.4066	1522.	0.104
630.	0.4135	1523.5	0.05544
630.5	0.358	1524.5	0.07854
631.	0.4112	1527.	0.0231
631.5	0.4019	1527.5	0.01386
632.	0.3465	1528.	0.1201
632.5	0.2772	1528.5	0.07161
633.	0.2703	1529.	0.09933
633.5	0.3835	1529.5	0.08316
634.	0.3257	1530.	0.03003
634.5	0.2934	1530.5	0.03927
635.	0.4597	1531.5	0.00693
635.5	0.4966	1532.	0.07161
636.	0.4666	1532.5	0.1478
636.5	0.395	1533.5	0.03927
637.	0.3996	1534.5	0.06699
637.5	0.4597	1535.	0.02772
638.	0.3742	1536.5	0.09702
638.5	0.3904	1538.	0.104
639.	0.3303	1539.	0.00693
639.5	0.3996	1539.5	0.07623
640.	0.4227	1540.	0.07161
640.5	0.4389	1541.	0.1132
641.	0.3465	1542.	0.03927
641.5	0.2056	1542.5	0.03927
642.	0.4643	1543.	0.04389
642.5	0.4158	1543.5	0.0231
643.	0.4158	1544.5	0.1109
643.5	0.3095	1545.	0.1848
644.	0.365	1546.	0.06237
644.5	0.3373	1547.	0.06006
645.	0.3488	1547.5	0.01386

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
645.5	0.3973	1548.	0.07161
646.	0.3419	1548.5	0.08778
646.5	0.3673	1549.	0.1201
647.	0.3904	1550.	0.08316
647.5	0.3627	1551.	0.08085
648.	0.4135	1552.	0.03003
648.5	0.3488	1552.5	0.104
649.	0.4551	1553.5	0.06468
649.5	0.3627	1554.	0.08778
650.	0.3142	1554.5	0.0231
650.5	0.3904	1555.	0.0231
651.	0.3904	1555.5	0.06468
651.5	0.3904	1558.	0.1848
652.	0.2379	1558.5	0.01155
652.5	0.2934	1559.	0.1155
653.	0.3188	1560.	0.06237
653.5	0.4066	1561.5	0.01617
654.	0.3303	1562.	0.1271
654.5	0.4112	1563.	0.01617
655.	0.3858	1563.5	0.01617
655.5	0.4227	1564.	0.02772
656.	0.3326	1565.5	0.04851
656.5	0.365	1566.	0.0231
657.	0.3465	1566.5	0.03927
657.5	0.2541	1567.	0.1317
658.	0.462	1567.5	0.08316
658.5	0.3742	1568.5	0.03927
659.	0.3627	1570.	0.06237
659.5	0.3188	1571.5	0.1201
660.	0.3835	1572.	0.06237
660.5	0.3003	1574.	0.01848
661.	0.261	1576.	0.07854
661.5	0.3419	1578.	0.08316
662.	0.358	1578.5	0.1109
662.5	0.4112	1579.	0.01386
663.	0.3742	1579.5	0.1155
663.5	0.4274	1580.	0.0231
664.	0.3788	1581.	0.1132
664.5	0.4135	1581.5	0.01386
665.	0.4551	1582.	0.03927
665.5	0.358	1583.	0.01155
666.	0.4389	1584.5	0.00693
666.5	0.4759	1585.	0.05544
667.	0.3465	1586.5	0.05544
667.5	0.3696	1587.	0.06699
668.	0.298	1587.5	0.05544
668.5	0.4551	1590.	0.164
669.	0.3049	1590.5	0.05544
669.5	0.3973	1591.	0.0231
670.	0.3534	1592.5	0.07161
670.5	0.3303	1593.5	0.04389
671.	0.3788	1594.	0.05544
671.5	0.3188	1594.5	0.104

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
672.	0.3488	1595.	0.08316
672.5	0.3811	1596.5	0.104
673.	0.3973	1597.	0.07854
673.5	0.4112	1597.5	0.07161
674.	0.3811	1598.	0.03927
674.5	0.4481	1598.5	0.07161
675.	0.2772	1599.	0.00693
675.5	0.3673	1600.5	0.1201
676.	0.2934	1601.	0.04389
676.5	0.3811	1602.	0.00693
677.	0.2703	1603.5	0.07623
677.5	0.499	1604.	0.08778
678.	0.4343	1605.5	0.02772
678.5	0.2772	1606.5	0.05544
679.	0.298	1608.5	0.03234
679.5	0.3303	1609.	0.06006
680.	0.3511	1609.5	0.03234
680.5	0.3326	1610.	0.1201
681.	0.298	1610.5	0.06468
681.5	0.3095	1611.	0.02772
682.	0.3049	1613.5	0.02772
682.5	0.2333	1614.	0.1201
683.	0.2934	1615.5	0.0462
683.5	0.3788	1618.	0.09471
684.	0.4297	1618.5	0.03927
684.5	0.2818	1619.	0.104
685.	0.1779	1619.5	0.06468
685.5	0.335	1620.5	0.06699
686.	0.3165	1621.5	0.1848
686.5	0.395	1623.5	0.01386
687.	0.3627	1624.	0.00693
687.5	0.3788	1624.5	0.01386
688.	0.261	1625.	0.1155
688.5	0.3742	1627.5	0.03927
689.	0.3835	1628.	0.08778
689.5	0.4343	1628.5	0.01848
690.	0.3142	1629.	0.06006
690.5	0.3257	1629.5	0.07854
691.	0.261	1630.	0.06699
691.5	0.3303	1631.	0.1132
692.	0.2726	1631.5	0.01155
692.5	0.3858	1632.	0.00231
693.	0.4112	1632.5	0.08316
693.5	0.5036	1635.	0.04851
694.	0.2449	1636.	0.06006
694.5	0.3303	1636.5	0.01848
695.	0.2703	1637.	0.1201
695.5	0.3257	1638.	0.05082
696.	0.3673	1639.5	0.1201
696.5	0.3049	1640.	0.00231
697.	0.3488	1640.5	0.08778
697.5	0.4274	1641.5	0.104
698.	0.3811	1642.5	0.1109

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
698.5	0.3095	1643.5	0.06699
699.	0.2864	1645.	0.00693
699.5	0.1201	1647.5	0.09471
700.	0.2125	1648.	0.01386
700.5	0.3095	1649.	0.02772
701.	0.2495	1649.5	0.0462
701.5	0.3904	1650.	0.01848
702.	0.365	1651.	0.03234
702.5	0.3026	1652.	0.06699
703.	0.2564	1653.	0.03003
703.5	0.358	1653.5	0.01617
704.	0.3696	1654.	0.06006
704.5	0.2241	1654.5	0.0231
705.	0.2818	1655.	0.04851
705.5	0.3534	1655.5	0.05082
706.	0.3188	1657.	0.09471
706.5	0.3742	1658.	0.0231
707.	0.3419	1658.5	0.00693
707.5	0.3742	1659.	0.00693
708.	0.2888	1659.5	0.03927
708.5	0.3095	1660.5	0.03465
709.	0.4389	1661.	0.03465
709.5	0.298	1662.	0.03927
710.	0.3003	1662.5	0.201
710.5	0.2703	1663.5	0.0924
711.	0.4158	1664.5	0.05082
711.5	0.2934	1666.	0.0231
712.	0.4135	1667.5	0.09933
712.5	0.2772	1668.	0.07161
713.	0.2772	1668.5	0.104
713.5	0.3257	1669.	0.04851
714.	0.2079	1669.5	0.04851
714.5	0.3303	1670.	0.00231
715.	0.2841	1670.5	0.104
715.5	0.3996	1671.5	0.01155
716.	0.3904	1672.	0.0462
716.5	0.3303	1672.5	0.05544
717.	0.2518	1674.	0.03003
717.5	0.3257	1674.5	0.0462
718.	0.3534	1675.	0.0231
718.5	0.3257	1676.	0.08316
719.	0.261	1677.5	0.1363
719.5	0.1779	1678.5	0.05544
720.	0.3534	1679.	0.06468
720.5	0.335	1680.5	0.07161
721.	0.395	1681.	0.03927
721.5	0.3419	1681.5	0.06237
722.	0.4297	1682.	0.08778
722.5	0.2864	1683.	0.03927
723.	0.3696	1685.5	0.07161
723.5	0.3188	1687.5	0.104
724.	0.2818	1689.	0.0924
724.5	0.201	1689.5	0.01386

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
725.	0.298	1694.	0.06237
725.5	0.1779	1695.	0.00693
726.	0.3026	1695.5	0.01617
726.5	0.2888	1698.5	0.05544
727.	0.358	1699.	0.00693
727.5	0.3511	1700.5	0.00231
728.	0.3003	1702.	0.05082
728.5	0.3627	1702.5	0.00231
729.	0.3257	1703.	0.104
729.5	0.2541	1704.	0.07161
730.	0.4297	1704.5	0.02772
730.5	0.4712	1705.5	0.01155
731.	0.1294	1706.	0.09933
731.5	0.2541	1707.	0.0231
732.	0.3696	1708.5	0.00231
732.5	0.3858	1710.	0.01155
733.	0.4066	1710.5	0.03927
733.5	0.3811	1711.	0.06699
734.	0.1964	1711.5	0.01155
734.5	0.3142	1712.	0.07623
735.	0.3788	1713.	0.04389
735.5	0.4227	1713.5	0.03465
736.	0.3026	1717.	0.01155
736.5	0.3673	1717.5	0.01848
737.	0.201	1718.	0.00231
737.5	0.358	1718.5	0.03003
738.	0.3973	1722.5	0.06468
738.5	0.3419	1723.	0.06237
739.	0.3142	1724.	0.08316
739.5	0.3465	1730.	0.01386
740.	0.3211	1730.5	0.01617
740.5	0.3049	1731.5	0.1455
741.	0.3511	1732.5	0.00693
741.5	0.4066	1733.	0.01155
742.	0.3696	1733.5	0.04389
742.5	0.335	1734.	0.0231
743.	0.298	1734.5	0.02772
743.5	0.4481	1737.	0.06237
744.	0.2703	1739.	0.00231
744.5	0.268	1741.5	0.04851
745.	0.358	1742.5	0.03234
745.5	0.2657	1743.	0.00693
746.	0.3326	1743.5	0.08778
746.5	0.2772	1744.	0.0462
747.	0.3973	1744.5	0.00693
747.5	0.3419	1745.5	0.09702
748.	0.3026	1751.	0.07161
748.5	0.3165	1751.5	0.01617
749.	0.3788	1753.	0.0231
749.5	0.3742	1753.5	0.01155
750.	0.335	1755.5	0.01155
750.5	0.395	1756.5	0.09471
751.	0.298	1757.5	0.0231

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
751.5	0.2888	1758.	0.03465
752.	0.1617	1758.5	0.00693
752.5	0.3211	1760.5	0.00693
753.	0.432	1762.	0.08778
753.5	0.358	1762.5	0.1363
754.	0.3811	1765.	0.02772
754.5	0.2402	1766.	0.07854
755.	0.08778	1767.	0.1132
755.5	0.07854	1768.	0.03234
756.	0.2934	1769.	0.03003
756.5	0.4551	1770.	0.03465
757.	0.261	1770.5	0.05544
757.5	0.2818	1772.	0.07161
758.	0.4389	1772.5	0.03234
758.5	0.3188	1773.	0.01848
759.	0.1964	1773.5	0.03927
759.5	0.1756	1775.5	0.03234
760.	0.4112	1778.5	0.06468
760.5	0.4181	1780.	0.03927
761.	0.1732	1781.5	0.01155
761.5	0.4435	1782.	0.00693
762.	0.3257	1783.	0.02772
762.5	0.2657	1784.5	0.00693
763.	0.3788	1786.	0.0231
763.5	0.2703	1787.	0.00231
764.	0.4274	1790.	0.06699
764.5	0.2657	1790.5	0.01617
765.	0.1455	1794.	0.05544
765.5	0.2934	1796.	0.00693
766.	0.3049	1797.	0.01617
766.5	0.3534	1797.5	0.03927
767.	0.2171	1798.	0.04389
767.5	0.3049	1805.	0.01617
768.	0.3303	1806.	0.01386
768.5	0.2333	1808.	0.03927
769.	0.2449	1811.	0.03003
769.5	0.2171	1812.	0.03927
770.	0.3165	1813.5	0.03234
770.5	0.3696	1819.5	0.05082
771.	0.2518	1820.	0.0231
771.5	0.2657	1820.5	0.00231
772.	0.2541	1821.	0.01386
772.5	0.2934	1821.5	0.0231
773.	0.298	1825.	0.05082
773.5	0.3095	1825.5	0.00693
774.	0.2402	1827.5	0.00231
774.5	0.3627	1829.	0.01617
775.	0.335	1830.5	0.04851
775.5	0.3188	1831.	0.01617
776.	0.3049	1832.5	0.00693
776.5	0.3696	1835.5	0.06699
777.	0.3419	1837.	0.06468
777.5	0.298	1837.5	0.04851

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
778.	0.2703	1839.	0.0231
778.5	0.1294	1844.5	0.05082
779.	0.3095	1845.5	0.06006
779.5	0.2541	1847.	0.02772
780.	0.4066	1852.5	0.1271
780.5	0.395	1853.	0.01617
781.	0.2703	1853.5	0.00693
781.5	0.2518	1856.	0.0231
782.	0.3326	1856.5	0.01848
782.5	0.4112	1857.	0.05082
783.	0.335	1858.5	0.08085
783.5	0.2333	1860.5	0.01386
784.	0.3303	1862.	0.00231
784.5	0.2495	1864.	0.0231
785.	0.395	1867.5	0.0231
785.5	0.3511	1868.5	0.00693
786.	0.2934	1871.	0.01155
786.5	0.2333	1874.5	0.00693
787.	0.2449	1875.5	0.06468
787.5	0.2171	1876.	0.07161
788.	0.3257	1877.	0.03003
788.5	0.3696	1878.	0.00693
789.	0.3303	1878.5	0.03465
789.5	0.2518	1880.	0.03927
790.	0.3742	1880.5	0.0462
790.5	0.3165	1881.5	0.01386
791.	0.3095	1884.5	0.00693
791.5	0.2657	1888.	0.00231
792.	0.3095	1888.5	0.01386
792.5	0.2864	1892.	0.00693
793.	0.358	1893.5	0.06006
793.5	0.261	1894.	0.06699
794.	0.2772	1895.5	0.07854
794.5	0.2726	1896.5	0.03927
795.	0.104	1897.5	0.07161
795.5	0.298	1901.	0.01617
796.	0.201	1911.	0.03465
796.5	0.268	1915.	0.01155
797.	0.2171	1918.	0.00693
797.5	0.201	1918.5	0.08316
798.	0.2402	1921.5	0.01155
798.5	0.3142	1924.	0.0462
799.	0.4112	1928.5	0.01386
799.5	0.2333	1931.5	0.03465
800.	0.3858	1935.	0.01155
800.5	0.365	1940.	0.01848
801.	0.2703	1940.5	0.03465
801.5	0.2818	1943.5	0.03234
802.	0.268	1945.	0.01848
802.5	0.2541	1946.5	0.05544
803.	0.2726	1954.	0.09933
803.5	0.2657	1963.5	0.03234
804.	0.3188	1964.	0.01155

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
804.5	0.3326	1964.5	0.03003
805.	0.2379	1966.5	0.03465
805.5	0.2934	1968.5	0.00231
806.	0.2287	1971.	0.02772
806.5	0.2934	1980.	0.00693
807.	0.2772	1990.	0.0231
807.5	0.3858	1992.5	0.00693
808.	0.3534	1993.	0.03234
808.5	0.3904	1998.5	0.00693
809.	0.2449	1999.5	0.1478
809.5	0.3465	2003.	0.03927
810.	0.2056	2008.	0.02772
810.5	0.3003	2010.	0.03927
811.	0.2541	2011.5	0.07161
811.5	0.4019	2013.5	0.04389
812.	0.2171	2014.5	0.0231
812.5	0.2888	2015.	0.01848
813.	0.3742	2019.5	0.03465
813.5	0.3303	2044.	0.00231
814.	0.3904	2046.5	0.01386
814.5	0.2218	2061.5	0.01617
815.	0.3095	2062.5	0.01386
815.5	0.3488	2065.	0.06699
816.	0.2333	2067.5	0.01155
816.5	0.2333	2071.5	0.00693
817.	0.261	2085.5	0.03927
817.5	0.3835	2094.	0.04851
818.	0.3419	2103.	0.02772
818.5	0.3257	2107.5	0.01386
819.	0.2703	2139.5	0.03465
819.5	0.2449	2172.5	0.00693
820.	0.268	2175.5	0.00693
820.5	0.2287	2197.	0.01155
821.	0.2934	2208.5	0.0231
821.5	0.3419	2211.5	0.03234
822.	0.2726	2222.5	0.0231
822.5	0.2772	2226.	0.00231
823.	0.2657	2237.	0.01848
823.5	0.2934	2270.5	0.01386
824.	0.3095	2273.	0.0462
824.5	0.1894	2299.5	0.00231
825.	0.358	2312.	0.01848
825.5	0.2818	2349.	0.05082
826.	0.3858	2395.5	0.00231
826.5	0.1732	2502.5	0.0231
827.	0.2772	2534.	0.01386
827.5	0.3188	2658.	0.00693
828.	0.1779		

SOLUTION

Slug Test
Aquifer Model: Unconfined

Solution Method: Bouwer-Rice
ln(Re/rw): 3.14

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.2849	ft/day
y0	0.9556	ft

K = 0.0001005 cm/sec
T = K*b = 1.424 ft²/day (0.01532 sq. cm/sec)

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	Approx. C.I.	t-Ratio	
K	0.2849	0.002019	+/- 0.003959	141.1	ft/day
y0	0.9556	0.004042	+/- 0.007927	236.4	ft

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
Estimation window: 0 to 1200 sec

K = 0.0001005 cm/sec
T = K*b = 1.424 ft²/day (0.01532 sq. cm/sec)

Parameter Correlations

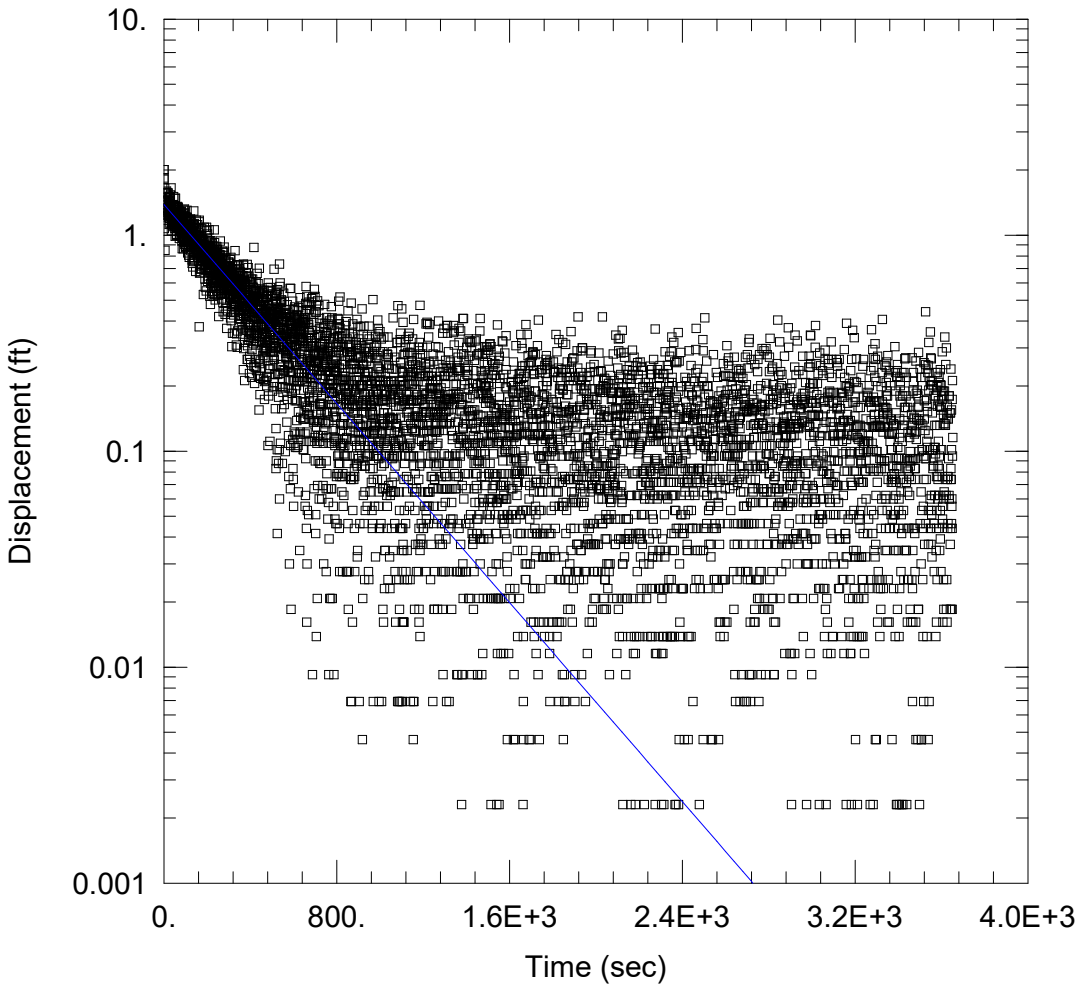
	K	y0
K	1.00	0.75
y0	0.75	1.00

Residual Statistics

for weighted residuals

Sum of Squares. . . 10.93 ft^2
Variance . . . . . 0.004572 ft^2
Std. Deviation . . . . . 0.06762 ft
Mean . . . . . -0.0009801 ft
No. of Residuals . . 2392
No. of Estimates . . 2

Estimation window from 0 to 1200 sec.



WELL TEST ANALYSIS

Data Set: C:\...\MW-104-SLUG-IN.aqt
Date: 10/19/26 Time: 16:33:07

PROJECT INFORMATION

Company: WSP
Client: SIPC
Test Well: MW-104
Test Date: 9/24/2026

AQUIFER DATA

Saturated Thickness: 15.7 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-104)

Initial Displacement: 2.012 ft
Total Well Penetration Depth: 17. ft
Casing Radius: 0.08333 ft
Static Water Column Height: 15.7 ft
Screen Length: 5. ft
Well Radius: 0.08333 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.6202 ft/day
y0 = 1.387 ft

Data Set: C:\Users\USJV703850\WSP O365\GLD-21467997,SIPC Operating Permit Application IL - 5 Technical W
Date: 10/19/26
Time: 16:33:16

PROJECT INFORMATION

Company: WSP
Client: SIPC
Test Date: 9/24/2026
Test Well: MW-104

AQUIFER DATA

Saturated Thickness: 15.7 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-104

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 2.012 ft
Static Water Column Height: 15.7 ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 1. ft
Screen Length: 5. ft
Total Well Penetration Depth: 17. ft

No. of Observations: 5478

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	2.012	1504.	0.07854
0.5	1.813	1504.5	0.1987
1.	1.836	1505.	0.03927
1.5	1.074	1505.5	0.06006
2.	1.379	1506.	0.1386
2.5	1.213	1507.	0.07854
3.	1.649	1507.5	0.04851
3.5	1.252	1508.	0.1686
4.	1.437	1508.5	0.05544
4.5	0.8501	1509.	0.3119
5.	1.307	1510.	0.3142
5.5	1.416	1510.5	0.08778
6.	1.582	1511.5	0.06006
6.5	1.448	1512.	0.1201
7.	1.428	1512.5	0.05082
7.5	1.395	1513.	0.02079
8.	1.488	1514.	0.1294
8.5	1.377	1515.	0.3049
9.	1.416	1515.5	0.00231

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
9.5	1.301	1516.	0.1455
10.	1.453	1516.5	0.1663
10.5	1.448	1517.	0.1871
11.	1.573	1517.5	0.2633
11.5	1.319	1518.	0.1409
12.	1.601	1518.5	0.1178
12.5	1.328	1519.5	0.02772
13.	1.562	1520.	0.06699
13.5	1.416	1520.5	0.06006
14.	1.307	1521.	0.2264
14.5	1.386	1522.	0.07854
15.	1.388	1522.5	0.05775
15.5	1.573	1523.	0.1363
16.	1.495	1523.5	0.1086
16.5	1.34	1524.	0.2518
17.	1.34	1524.5	0.0693
17.5	1.331	1525.	0.09702
18.	1.234	1526.5	0.02079
18.5	1.331	1527.	0.2356
19.	1.252	1527.5	0.1594
19.5	1.234	1528.	0.1386
20.	1.564	1530.	0.2241
20.5	1.273	1531.	0.07854
21.	1.43	1531.5	0.1201
21.5	1.289	1532.	0.05082
22.	1.28	1533.	0.2541
22.5	1.337	1533.5	0.1571
23.	1.506	1534.	0.0693
23.5	1.224	1535.	0.02079
24.	1.12	1536.	0.1363
24.5	1.395	1536.5	0.04158
25.	1.488	1537.	0.07623
25.5	1.197	1538.5	0.03003
26.	1.273	1539.	0.2171
26.5	1.303	1539.5	0.05775
27.	1.485	1540.	0.04158
27.5	1.231	1540.5	0.1502
28.	1.444	1541.5	0.00231
28.5	1.137	1542.	0.1155
29.	1.435	1542.5	0.05775
29.5	1.497	1543.	0.07854
30.	1.536	1544.	0.1086
30.5	1.321	1544.5	0.01155
31.	1.386	1545.	0.3835
31.5	1.291	1545.5	0.2449
32.	1.342	1546.	0.02079
32.5	1.234	1546.5	0.1294
33.	1.363	1547.	0.2957
33.5	1.331	1548.5	0.03003
34.	1.652	1549.	0.02079
34.5	1.046	1550.	0.164
35.	1.289	1550.5	0.2633
35.5	1.254	1551.	0.1109

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
36.	1.331	1551.5	0.00231
36.5	1.143	1552.	0.1086
37.	1.379	1553.	0.1779
37.5	1.155	1554.	0.2749
38.	1.116	1555.	0.06006
38.5	1.155	1555.5	0.2056
39.	1.259	1557.	0.2171
39.5	1.25	1557.5	0.02079
40.	1.116	1558.	0.0693
40.5	1.123	1558.5	0.02079
41.	1.178	1560.	0.1178
41.5	1.173	1560.5	0.1386
42.	1.231	1561.	0.01155
42.5	1.194	1561.5	0.1502
43.	1.34	1562.	0.0693
43.5	1.167	1563.	0.1294
44.	1.386	1563.5	0.07854
44.5	1.31	1564.	0.1109
45.	1.506	1564.5	0.06006
45.5	1.173	1566.	0.04851
46.	1.365	1566.5	0.09933
46.5	1.139	1567.	0.3234
47.	1.095	1567.5	0.05082
47.5	1.231	1568.	0.1409
48.	1.143	1568.5	0.1571
48.5	1.349	1569.	0.09009
49.	1.34	1570.	0.3211
49.5	1.104	1570.5	0.0693
50.	1.222	1571.	0.06006
50.5	1.478	1572.	0.2264
51.	1.116	1572.5	0.01155
51.5	1.076	1573.	0.07161
52.	1.213	1573.5	0.0462
52.5	0.9887	1574.	0.1478
53.	1.365	1574.5	0.06237
53.5	1.173	1575.	0.07854
54.	1.481	1575.5	0.1455
54.5	1.095	1576.5	0.04851
55.	1.19	1577.	0.1016
55.5	1.24	1578.	0.2841
56.	1.301	1578.5	0.02079
56.5	1.307	1579.	0.1571
57.	1.178	1579.5	0.1294
57.5	1.18	1580.	0.04158
58.	1.337	1581.	0.1409
58.5	0.9979	1581.5	0.1987
59.	1.347	1582.	0.1478
59.5	1.097	1582.5	0.06006
60.	1.007	1583.	0.0693
60.5	1.143	1583.5	0.09933
61.	1.171	1584.	0.3419
61.5	1.201	1584.5	0.1063
62.	1.349	1585.	0.2379

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
62.5	1.074	1585.5	0.1109
63.	1.141	1586.	0.1964
63.5	1.328	1587.	0.1571
64.	1.358	1587.5	0.03927
64.5	1.22	1588.	0.06006
65.	1.173	1588.5	0.1502
65.5	1.173	1589.	0.05082
66.	1.21	1589.5	0.03234
66.5	1.201	1590.	0.02772
67.	1.134	1591.	0.00462
67.5	1.18	1591.5	0.1109
68.	1.337	1592.5	0.05082
68.5	1.116	1593.	0.1016
69.	1.134	1593.5	0.05082
69.5	1.072	1594.	0.1779
70.	1.289	1594.5	0.1178
70.5	1.15	1595.	0.1271
71.	1.213	1595.5	0.07854
71.5	1.042	1596.5	0.01155
72.	1.173	1598.	0.04851
72.5	0.9656	1599.	0.1294
73.	1.222	1600.	0.1686
73.5	0.9887	1600.5	0.1294
74.	1.065	1601.	0.1455
74.5	1.076	1602.5	0.0231
75.	1.28	1603.	0.02079
75.5	1.04	1604.	0.09933
76.	1.213	1605.	0.1178
76.5	1.199	1606.	0.09009
77.	1.22	1608.	0.2079
77.5	1.28	1608.5	0.06699
78.	1.199	1609.	0.1109
78.5	1.053	1609.5	0.05082
79.	1.141	1610.	0.2102
79.5	0.9887	1612.	0.1178
80.	1.289	1613.	0.2264
80.5	1.24	1613.5	0.05082
81.	1.072	1614.	0.1894
81.5	1.153	1614.5	0.1386
82.	1.19	1615.	0.06699
82.5	1.028	1616.5	0.05313
83.	1.023	1617.	0.1871
83.5	0.9379	1618.	0.00462
84.	1.102	1618.5	0.201
84.5	0.8662	1619.	0.2587
85.	1.063	1619.5	0.1155
85.5	1.072	1620.	0.1686
86.	1.113	1621.	0.1779
86.5	0.9725	1621.5	0.0924
87.	1.063	1622.	0.00924
87.5	1.086	1623.	0.07854
88.	1.257	1623.5	0.1478
88.5	0.9725	1624.	0.00462

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
89.	1.307	1624.5	0.0231
89.5	1.086	1625.	0.164
90.	1.213	1625.5	0.09933
90.5	0.8662	1627.	0.1178
91.	1.229	1627.5	0.07854
91.5	0.9563	1628.	0.1386
92.	1.06	1629.	0.0924
92.5	0.9748	1630.	0.3072
93.	1.12	1630.5	0.08085
93.5	0.9263	1631.	0.04851
94.	1.266	1631.5	0.07161
94.5	1.053	1632.	0.164
95.	1.086	1633.	0.09009
95.5	0.9286	1634.	0.1294
96.	1.319	1635.	0.06237
96.5	0.9055	1635.5	0.1201
97.	1.21	1636.	0.03465
97.5	1.097	1636.5	0.0693
98.	1.217	1637.	0.07854
98.5	1.051	1637.5	0.01386
99.	0.9956	1638.	0.04158
99.5	0.8778	1638.5	0.1178
100.	1.023	1639.	0.2102
100.5	0.9448	1639.5	0.08085
101.	1.12	1640.	0.1294
101.5	0.8847	1640.5	0.07161
102.	1.063	1641.	0.2148
102.5	0.8847	1642.	0.1848
103.	1.21	1643.5	0.1502
103.5	1.042	1644.	0.1386
104.	1.113	1644.5	0.2287
104.5	1.042	1646.	0.07854
105.	1.208	1646.5	0.02079
105.5	0.9656	1647.5	0.05082
106.	1.19	1648.5	0.2287
106.5	0.9355	1649.	0.04158
107.	1.303	1650.	0.1987
107.5	0.9055	1651.	0.05082
108.	1.072	1652.	0.3465
108.5	1.072	1653.	0.1016
109.	1.21	1653.5	0.04158
109.5	1.063	1654.5	0.1294
110.	1.178	1655.	0.2171
110.5	0.827	1656.	0.2356
111.	1.04	1656.5	0.08085
111.5	0.9055	1657.	0.3165
112.	1.113	1658.	0.0924
112.5	0.9933	1658.5	0.1201
113.	0.9633	1659.	0.298
113.5	1.093	1660.	0.2472
114.	0.9633	1661.5	0.03465
114.5	1.051	1662.	0.09009
115.	0.9217	1662.5	0.05313

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
115.5	0.8085	1663.	0.00231
116.	0.9055	1663.5	0.05313
116.5	0.8963	1664.5	0.00693
117.	1.014	1665.	0.01386
117.5	0.7877	1665.5	0.00462
118.	1.176	1666.	0.1779
118.5	1.06	1666.5	0.201
119.	1.157	1667.	0.09471
119.5	1.12	1667.5	0.2218
120.	1.081	1668.	0.1317
120.5	1.15	1669.	0.1871
121.	1.169	1669.5	0.08085
121.5	1.051	1670.	0.1224
122.	1.06	1670.5	0.1594
122.5	1.176	1671.	0.1109
123.	1.148	1671.5	0.2495
123.5	1.04	1672.	0.1871
124.	1.19	1673.	0.02541
124.5	1.021	1673.5	0.03003
125.	0.9148	1675.	0.05313
125.5	0.8478	1675.5	0.07161
126.	0.9425	1676.	0.3858
126.5	1.	1676.5	0.2102
127.	0.9633	1677.	0.02541
127.5	1.003	1678.	0.1802
128.	1.042	1679.	0.1663
128.5	1.033	1680.	0.05313
129.	0.8778	1681.	0.03003
129.5	1.125	1682.	0.3465
130.	0.9448	1682.5	0.08085
130.5	0.7669	1683.	0.1294
131.	0.9933	1684.	0.1571
131.5	0.7392	1685.	0.1201
132.	1.051	1686.	0.2772
132.5	1.033	1687.	0.1478
133.	1.012	1687.5	0.04158
133.5	1.04	1688.	0.2495
134.	1.12	1690.	0.1802
134.5	0.7115	1691.	0.00462
135.	1.03	1691.5	0.06006
135.5	0.7877	1692.	0.1016
136.	1.012	1692.5	0.1686
136.5	0.9702	1693.	0.1894
137.	1.109	1693.5	0.1178
137.5	0.7877	1694.	0.0693
138.	1.296	1694.5	0.04851
138.5	0.7554	1695.	0.2564
139.	1.051	1696.	0.00462
139.5	0.8431	1697.	0.03003
140.	0.8108	1698.	0.08085
140.5	0.9425	1699.	0.1502
141.	1.127	1699.5	0.05313
141.5	0.7669	1700.	0.01617

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
142.	0.9517	1700.5	0.1779
142.5	0.9841	1701.	0.2564
143.	1.09	1702.	0.2587
143.5	0.8847	1703.	0.1502
144.	1.003	1705.	0.1409
144.5	0.8339	1705.5	0.1132
145.	1.076	1706.	0.2772
145.5	0.9217	1706.5	0.04158
146.	0.9009	1707.	0.2841
146.5	0.9587	1707.5	0.0231
147.	0.9933	1708.5	0.1409
147.5	0.6791	1709.	0.2888
148.	0.9217	1709.5	0.1294
148.5	0.8616	1710.	0.2356
149.	1.076	1711.	0.2841
149.5	0.8616	1711.5	0.2287
150.	1.079	1712.	0.06468
150.5	0.8847	1712.5	0.01617
151.	1.171	1713.	0.1294
151.5	0.9933	1714.	0.1109
152.	0.9032	1715.5	0.01386
152.5	1.003	1716.	0.2264
153.	1.003	1717.	0.1201
153.5	0.8547	1717.5	0.0231
154.	0.8732	1718.	0.1894
154.5	0.9309	1718.5	0.04389
155.	0.8847	1719.	0.1178
155.5	0.954	1719.5	0.2795
156.	0.8154	1720.	0.03234
156.5	0.8732	1720.5	0.05544
157.	1.116	1721.	0.1894
157.5	0.827	1721.5	0.05082
158.	0.8431	1722.	0.07161
158.5	0.9841	1723.	0.01155
159.	0.8455	1723.5	0.03465
159.5	0.827	1724.	0.1478
160.	0.7554	1724.5	0.07392
160.5	0.8455	1725.5	0.04158
161.	0.8431	1726.	0.1409
161.5	0.961	1727.	0.07161
162.	0.8431	1728.5	0.04158
162.5	0.9448	1729.	0.3072
163.	1.173	1730.	0.04158
163.5	0.3765	1731.	0.1201
164.	1.153	1732.	0.1201
164.5	0.6676	1732.5	0.00924
165.	0.9679	1733.	0.2587
165.5	0.9887	1733.5	0.1178
166.	1.081	1734.	0.4043
166.5	0.6976	1734.5	0.1709
167.	0.9055	1735.	0.09471
167.5	0.961	1736.5	0.01617
168.	0.7831	1737.	0.1502

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
168.5	0.961	1738.	0.06468
169.	0.8732	1738.5	0.05313
169.5	0.6699	1739.	0.00462
170.	0.8547	1739.5	0.231
170.5	0.8062	1741.	0.04158
171.	0.9517	1742.	0.0924
171.5	0.6976	1742.5	0.09471
172.	0.9679	1743.	0.1502
172.5	0.9887	1744.5	0.0231
173.	0.7831	1745.	0.07161
173.5	0.9979	1745.5	0.1502
174.	0.7184	1746.	0.1178
174.5	0.6976	1746.5	0.05313
175.	1.067	1747.	0.1109
175.5	0.8062	1748.	0.2379
176.	0.9425	1748.5	0.09471
176.5	0.8847	1749.	0.1294
177.	0.9309	1750.5	0.1409
177.5	0.7993	1751.	0.1016
178.	0.8524	1751.5	0.1825
178.5	0.961	1752.	0.2379
179.	0.8709	1752.5	0.164
179.5	0.7854	1753.	0.04158
180.	0.8085	1754.	0.06468
180.5	0.9101	1754.5	0.201
181.	0.8917	1755.5	0.03234
181.5	0.8339	1756.	0.03234
182.	0.9402	1756.5	0.08547
182.5	0.9009	1757.	0.1686
183.	0.8824	1757.5	0.01617
183.5	0.5313	1759.	0.09471
184.	0.8062	1759.5	0.04158
184.5	0.8431	1760.	0.1317
185.	0.9494	1760.5	0.08316
185.5	0.8316	1761.	0.07392
186.	0.8709	1761.5	0.1802
186.5	0.7554	1762.	0.1525
187.	0.7946	1762.5	0.01386
187.5	0.7277	1763.	0.2495
188.	1.086	1763.5	0.08316
188.5	0.8062	1764.	0.1317
189.	0.8154	1766.	0.2287
189.5	0.8316	1766.5	0.1132
190.	0.6283	1768.	0.1594
190.5	0.6953	1769.	0.2657
191.	0.7762	1769.5	0.04389
191.5	0.5729	1770.	0.03234
192.	0.7253	1770.5	0.07392
192.5	0.7069	1771.	0.2772
193.	0.8732	1771.5	0.2102
193.5	0.7762	1772.	0.201
194.	0.8039	1773.	0.1779
194.5	0.7253	1773.5	0.2402

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
195.	0.8917	1774.	0.2495
195.5	0.8616	1774.5	0.03234
196.	0.5521	1775.	0.2102
196.5	0.6953	1775.5	0.09933
197.	0.8917	1777.	0.2564
197.5	0.7577	1777.5	0.1178
198.	1.086	1778.	0.1432
198.5	0.7623	1779.	0.06468
199.	1.046	1780.	0.1317
199.5	0.8247	1781.	0.1432
200.	0.9679	1782.	0.1201
200.5	0.693	1782.5	0.01617
201.	0.8062	1784.	0.04158
201.5	0.6098	1785.	0.1201
202.	1.012	1785.5	0.01155
202.5	0.9009	1786.	0.01386
203.	0.7092	1786.5	0.09471
203.5	0.7438	1787.	0.261
204.	0.7808	1787.5	0.00693
204.5	0.6468	1788.	0.03234
205.	0.7854	1788.5	0.02541
205.5	0.8824	1789.	0.1432
206.	0.7369	1790.	0.1109
206.5	0.6283	1791.	0.1294
207.	0.8709	1792.	0.04158
207.5	0.6768	1792.5	0.08316
208.	0.9425	1793.5	0.05313
208.5	0.6953	1794.	0.1132
209.	0.9402	1794.5	0.09933
209.5	0.6953	1795.5	0.07161
210.	1.058	1797.	0.1732
210.5	0.6953	1797.5	0.1132
211.	0.8431	1798.	0.1132
211.5	0.8154	1799.	0.104
212.	0.8917	1800.	0.08085
212.5	0.5221	1800.5	0.01617
213.	0.8709	1801.	0.104
213.5	0.6861	1802.	0.1686
214.	0.9286	1803.	0.231
214.5	0.6699	1804.	0.2587
215.	0.6699	1805.5	0.1016
215.5	0.4782	1806.	0.03465
216.	0.8709	1808.	0.05544
216.5	0.9425	1808.5	0.2333
217.	0.8247	1809.5	0.07161
217.5	0.5983	1811.	0.09471
218.	0.8709	1812.	0.04389
218.5	0.7554	1813.	0.03234
219.	0.8224	1814.	0.231
219.5	0.6861	1814.5	0.1409
220.	0.7253	1815.	0.1525
220.5	0.7415	1816.	0.3465
221.	0.5706	1817.	0.1686

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
221.5	0.7946	1818.	0.06468
222.	0.8431	1819.	0.1294
222.5	0.6976	1819.5	0.01386
223.	0.6191	1820.	0.2888
223.5	0.6399	1820.5	0.01617
224.	0.9101	1822.	0.1594
224.5	0.5498	1823.	0.1502
225.	0.8131	1823.5	0.1132
225.5	0.6283	1824.	0.2195
226.	0.6168	1825.	0.1063
226.5	0.626	1825.5	0.06468
227.	0.797	1827.	0.1409
227.5	0.5382	1828.	0.2425
228.	0.8917	1828.5	0.00693
228.5	0.5198	1829.	0.328
229.	0.8293	1830.	0.07161
229.5	0.7808	1830.5	0.01617
230.	0.7438	1831.	0.05544
230.5	0.7946	1831.5	0.194
231.	0.5683	1832.	0.1848
231.5	0.7323	1833.	0.1016
232.	0.6075	1834.	0.02541
232.5	0.8408	1834.5	0.201
233.	1.058	1835.	0.1201
233.5	0.596	1836.	0.201
234.	0.7253	1837.	0.1132
234.5	0.5313	1837.5	0.134
235.	0.9217	1838.	0.2195
235.5	0.8431	1838.5	0.02541
236.	0.6075	1839.	0.1525
236.5	0.6745	1840.	0.2379
237.	0.8801	1841.	0.231
237.5	0.8108	1841.5	0.01617
238.	0.6052	1842.	0.05544
238.5	0.5013	1843.	0.1502
239.	0.5798	1843.5	0.201
239.5	0.7046	1844.	0.09471
240.	0.6861	1844.5	0.00924
240.5	0.7323	1845.	0.07161
241.	0.8247	1845.5	0.07623
241.5	0.5659	1846.	0.3188
242.	0.6953	1847.5	0.1917
242.5	0.6283	1848.	0.05775
243.	0.8224	1848.5	0.194
243.5	0.8039	1849.	0.00462
244.	0.6283	1851.	0.05544
244.5	0.5567	1852.5	0.03234
245.	0.887	1854.	0.1317
245.5	0.626	1854.5	0.00924
246.	0.8593	1855.	0.07623
246.5	0.529	1855.5	0.00693
247.	0.6838	1857.	0.02541
247.5	0.6052	1857.5	0.00693

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
248.	0.7531	1858.5	0.02541
248.5	0.857	1859.	0.2402
249.	0.8293	1859.5	0.3119
249.5	0.7253	1860.	0.1617
250.	0.7785	1860.5	0.07392
250.5	0.7346	1861.5	0.04158
251.	0.79	1862.	0.1224
251.5	0.6676	1863.	0.05775
252.	0.6514	1863.5	0.231
252.5	0.5267	1864.	0.1825
253.	0.76	1864.5	0.05313
253.5	0.656	1865.5	0.02772
254.	0.5867	1866.	0.02772
254.5	0.4204	1866.5	0.1525
255.	0.656	1867.	0.2587
255.5	0.6537	1867.5	0.1247
256.	0.79	1868.	0.2195
256.5	0.6468	1869.	0.1016
257.	0.7623	1870.	0.1825
257.5	0.7022	1871.	0.01848
258.	0.7739	1871.5	0.07392
258.5	0.76	1872.	0.1294
259.	0.8131	1873.	0.1502
259.5	0.723	1874.	0.02541
260.	0.6052	1875.	0.09471
260.5	0.7993	1876.	0.2125
261.	0.6468	1876.5	0.07392
261.5	0.626	1877.	0.1525
262.	0.9402	1877.5	0.09471
262.5	0.8085	1878.	0.1548
263.	0.5382	1878.5	0.231
263.5	0.6537	1879.	0.07392
264.	0.6514	1879.5	0.03003
264.5	0.6745	1880.	0.1155
265.	0.5659	1882.	0.2218
265.5	0.6052	1882.5	0.01848
266.	0.693	1883.5	0.04389
266.5	0.6168	1884.	0.1109
267.	0.6537	1885.	0.358
267.5	0.5059	1885.5	0.03465
268.	0.6283	1886.	0.2402
268.5	0.7323	1887.	0.1432
269.	0.6861	1887.5	0.06468
269.5	0.596	1888.	0.2587
270.	0.7138	1890.	0.1548
270.5	0.73	1890.5	0.05775
271.	0.7022	1891.	0.01617
271.5	0.8431	1892.	0.1594
272.	0.7808	1893.	0.268
272.5	0.6168	1894.	0.1548
273.	0.6191	1894.5	0.1363
273.5	0.4874	1895.	0.0231
274.	0.7346	1895.5	0.2125

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
274.5	0.4412	1896.	0.09471
275.	0.6168	1896.5	0.06006
275.5	0.6329	1897.	0.07392
276.	0.8293	1898.5	0.2703
276.5	0.5867	1899.5	0.06468
277.	0.6722	1900.	0.04389
277.5	0.5567	1900.5	0.08316
278.	0.6838	1902.	0.1432
278.5	0.5659	1902.5	0.09702
279.	0.8801	1903.	0.00924
279.5	0.5452	1903.5	0.00693
280.	0.8408	1904.	0.1155
280.5	0.5359	1906.	0.2195
281.	0.6352	1907.	0.02772
281.5	0.6838	1908.	0.1294
282.	0.76	1908.5	0.02772
282.5	0.5867	1909.	0.194
283.	0.5937	1909.5	0.05775
283.5	0.4297	1911.	0.08547
284.	0.723	1911.5	0.07623
284.5	0.4874	1912.	0.1548
285.	0.693	1912.5	0.03696
285.5	0.6445	1913.	0.2911
286.	0.7831	1913.5	0.134
286.5	0.663	1914.	0.03696
287.	0.7808	1915.5	0.09471
287.5	0.4574	1916.5	0.02772
288.	0.6653	1917.	0.2425
288.5	0.6537	1917.5	0.07392
289.	0.7207	1918.	0.4181
289.5	0.559	1919.	0.05775
290.	0.693	1919.5	0.03696
290.5	0.5544	1920.	0.07623
291.	0.3696	1920.5	0.02772
291.5	0.693	1922.	0.09471
292.	0.5752	1923.	0.02541
292.5	0.4874	1924.	0.1063
293.	0.596	1924.5	0.1617
293.5	0.6168	1925.	0.09702
294.	0.5336	1926.	0.2148
294.5	0.6537	1927.	0.0693
295.	0.626	1928.	0.08547
295.5	0.4458	1928.5	0.201
296.	0.6537	1929.	0.06699
296.5	0.626	1930.	0.231
297.	0.656	1930.5	0.2911
297.5	0.5544	1931.	0.03465
298.	0.7484	1931.5	0.03465
298.5	0.5544	1932.	0.2125
299.	0.6329	1933.	0.1732
299.5	0.6514	1933.5	0.05775
300.	0.5752	1934.	0.194
300.5	0.626	1934.5	0.00924

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
301.	0.7508	1937.	0.3003
301.5	0.5336	1938.	0.2218
302.	0.6907	1938.5	0.3003
302.5	0.5775	1940.5	0.08085
303.	0.7207	1941.	0.07623
303.5	0.6029	1942.	0.04389
304.	0.7392	1942.5	0.02541
304.5	0.5059	1943.	0.0693
305.	0.7207	1943.5	0.05544
305.5	0.7046	1944.	0.1548
306.	0.6422	1944.5	0.1432
306.5	0.5336	1945.	0.1917
307.	0.7715	1946.	0.05775
307.5	0.5544	1947.	0.08316
308.	0.5267	1947.5	0.1548
308.5	0.5174	1948.5	0.02772
309.	0.5452	1949.5	0.06468
309.5	0.4135	1950.	0.1155
310.	0.5659	1951.5	0.1155
310.5	0.5174	1952.	0.134
311.	0.79	1952.5	0.00693
311.5	0.4019	1953.5	0.02772
312.	0.5313	1954.	0.201
312.5	0.5775	1955.	0.104
313.	0.6422	1956.	0.104
313.5	0.4689	1957.	0.1848
314.	0.4389	1957.5	0.104
314.5	0.4412	1958.	0.1732
315.	0.6699	1959.	0.164
315.5	0.3049	1959.5	0.2218
316.	0.5752	1960.	0.01155
316.5	0.6514	1960.5	0.1155
317.	0.6999	1961.	0.08547
317.5	0.3511	1961.5	0.03927
318.	0.6907	1963.	0.0462
318.5	0.7207	1963.5	0.1063
319.	0.5867	1964.	0.1247
319.5	0.4759	1965.	0.164
320.	0.5036	1965.5	0.03696
320.5	0.596	1967.	0.1732
321.	0.5059	1968.	0.1271
321.5	0.5174	1969.	0.04389
322.	0.6029	1970.	0.01617
322.5	0.5336	1971.	0.2125
323.	0.6306	1971.5	0.07623
323.5	0.4274	1972.	0.03696
324.	0.6306	1972.5	0.08316
324.5	0.4759	1973.	0.231
325.	0.4851	1973.5	0.09933
325.5	0.5059	1974.	0.06468
326.	0.6399	1974.5	0.0462
326.5	0.3511	1975.	0.1086
327.	0.5729	1976.	0.2449

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
327.5	0.4666	1977.	0.2841
328.	0.5659	1978.	0.164
328.5	0.5821	1978.5	0.03696
329.	0.6329	1979.	0.2911
329.5	0.6145	1979.5	0.03696
330.	0.8478	1980.	0.1363
330.5	0.5752	1981.	0.1732
331.	0.4943	1981.5	0.06699
331.5	0.4389	1983.	0.07854
332.	0.4943	1983.5	0.01617
332.5	0.7207	1984.	0.194
333.	0.6029	1984.5	0.0693
333.5	0.5336	1985.	0.01848
334.	0.5752	1985.5	0.0693
334.5	0.6029	1986.	0.0462
335.	0.6514	1987.	0.1732
335.5	0.3095	1988.	0.1063
336.	0.5867	1988.5	0.03696
336.5	0.3488	1989.	0.02772
337.	0.6907	1990.	0.0462
337.5	0.5174	1991.	0.03696
338.	0.73	1992.	0.2518
338.5	0.5151	1992.5	0.02079
339.	0.5659	1993.	0.07623
339.5	0.3026	1993.5	0.02772
340.	0.73	1994.	0.2333
340.5	0.5151	1995.	0.1155
341.	0.6306	1995.5	0.09702
341.5	0.3604	1996.	0.03696
342.	0.5036	1996.5	0.07392
342.5	0.5613	1997.	0.194
343.	0.5521	1998.	0.03696
343.5	0.6191	1998.5	0.02079
344.	0.5914	1999.	0.09702
344.5	0.4528	1999.5	0.164
345.	0.6699	2000.	0.1317
345.5	0.6121	2000.5	0.07623
346.	0.7277	2003.5	0.08547
346.5	0.4458	2004.	0.0693
347.	0.6214	2005.	0.1732
347.5	0.3858	2005.5	0.09471
348.	0.5636	2006.	0.08778
348.5	0.6214	2007.5	0.02772
349.	0.6999	2008.	0.1548
349.5	0.6607	2010.	0.02772
350.	0.4712	2010.5	0.03696
350.5	0.4112	2011.	0.06699
351.	0.5844	2012.	0.2333
351.5	0.5244	2012.5	0.06006
352.	0.6791	2013.	0.06699
352.5	0.4528	2014.	0.194
353.	0.5613	2014.5	0.2841
353.5	0.425	2015.	0.1271

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
354.	0.5844	2015.5	0.04851
354.5	0.5313	2016.	0.1109
355.	0.6283	2016.5	0.06699
355.5	0.6676	2017.	0.07854
356.	0.4066	2018.	0.1432
356.5	0.5429	2018.5	0.1917
357.	0.6491	2019.	0.0693
357.5	0.5313	2020.	0.06699
358.	0.5821	2021.5	0.1871
358.5	0.4551	2022.	0.1478
359.	0.6121	2022.5	0.2356
359.5	0.3765	2023.	0.1917
360.	0.5036	2023.5	0.06699
360.5	0.4828	2024.	0.1363
361.	0.5521	2024.5	0.08547
361.5	0.6491	2025.	0.2333
362.	0.4643	2026.5	0.1548
362.5	0.4666	2027.	0.1178
363.	0.5844	2028.	0.1247
363.5	0.5844	2029.	0.06006
364.	0.5521	2030.	0.4181
364.5	0.365	2030.5	0.1871
365.	0.5128	2031.	0.0462
365.5	0.4458	2032.	0.0462
366.	0.6191	2032.5	0.01848
366.5	0.3396	2033.	0.08547
367.	0.6491	2034.	0.201
367.5	0.2379	2036.	0.2125
368.	0.7346	2037.	0.09702
368.5	0.4343	2037.5	0.09933
369.	0.425	2038.	0.1455
369.5	0.298	2038.5	0.02079
370.	0.7253	2039.5	0.01848
370.5	0.5821	2040.	0.2171
371.	0.5313	2040.5	0.02541
371.5	0.5036	2041.	0.06699
372.	0.5128	2042.	0.1525
372.5	0.4528	2042.5	0.02772
373.	0.5729	2043.	0.03927
373.5	0.2125	2043.5	0.07854
374.	0.4643	2044.	0.02541
374.5	0.3188	2045.	0.1917
375.	0.5914	2046.	0.04851
375.5	0.5706	2046.5	0.05082
376.	0.5036	2047.5	0.01848
376.5	0.3835	2048.	0.1964
377.	0.6006	2049.	0.2125
377.5	0.4943	2049.5	0.08547
378.	0.4712	2050.5	0.03003
378.5	0.4066	2051.	0.03927
379.	0.4712	2051.5	0.1432
379.5	0.4343	2052.	0.0693
380.	0.5914	2053.	0.06699

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
380.5	0.492	2053.5	0.1455
381.	0.4943	2055.	0.08547
381.5	0.6676	2055.5	0.0231
382.	0.6676	2056.	0.1432
382.5	0.4066	2057.	0.261
383.	0.4551	2058.	0.2056
383.5	0.432	2059.	0.03003
384.	0.4412	2059.5	0.04851
384.5	0.3627	2060.5	0.06468
385.	0.5914	2061.	0.04851
385.5	0.2657	2061.5	0.0693
386.	0.7323	2062.	0.02772
386.5	0.4643	2062.5	0.00924
387.	0.4528	2063.5	0.06006
387.5	0.3072	2064.	0.06006
388.	0.6399	2064.5	0.1063
388.5	0.2657	2065.	0.07623
389.	0.5174	2065.5	0.07623
389.5	0.4828	2066.	0.03003
390.	0.7069	2067.	0.2241
390.5	0.3835	2068.5	0.05775
391.	0.3927	2069.	0.1247
391.5	0.328	2069.5	0.08778
392.	0.529	2070.	0.05082
392.5	0.3742	2070.5	0.07623
393.	0.6399	2071.	0.1271
393.5	0.499	2071.5	0.1732
394.	0.425	2073.	0.1871
394.5	0.4943	2073.5	0.06006
395.	0.499	2074.5	0.08085
395.5	0.3373	2075.	0.07854
396.	0.4528	2076.	0.1548
396.5	0.2287	2076.5	0.1756
397.	0.3534	2077.	0.1848
397.5	0.2749	2078.	0.09702
398.	0.6098	2078.5	0.08778
398.5	0.4412	2079.	0.02079
399.	0.4135	2079.5	0.07161
399.5	0.4435	2080.	0.1964
400.	0.5221	2081.	0.2818
400.5	0.6098	2083.	0.09702
401.	0.3835	2084.	0.2125
401.5	0.3811	2085.	0.1016
402.	0.6052	2086.	0.07392
402.5	0.2564	2087.	0.0693
403.	0.3257	2087.5	0.1201
403.5	0.5013	2088.	0.0693
404.	0.559	2088.5	0.08778
404.5	0.626	2089.	0.09702
405.	0.4897	2089.5	0.03696
405.5	0.3511	2090.	0.0693
406.	0.3627	2090.5	0.04851
406.5	0.3465	2091.	0.03696

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
407.	0.2195	2092.	0.1178
407.5	0.2957	2092.5	0.1571
408.	0.4389	2093.	0.3442
408.5	0.4897	2093.5	0.1571
409.	0.4966	2095.	0.1455
409.5	0.492	2095.5	0.1016
410.	0.4897	2096.	0.1363
410.5	0.4528	2096.5	0.02079
411.	0.626	2097.	0.1178
411.5	0.4597	2097.5	0.01155
412.	0.5752	2098.	0.1732
412.5	0.5498	2098.5	0.1363
413.	0.4782	2099.	0.1247
413.5	0.3142	2100.	0.1455
414.	0.5174	2101.	0.2425
414.5	0.4712	2102.	0.06468
415.	0.5683	2103.	0.1548
415.5	0.4412	2104.	0.01848
416.	0.5174	2104.5	0.2056
416.5	0.5082	2105.	0.3303
417.	0.8778	2105.5	0.2911
417.5	0.2472	2106.	0.03927
418.	0.4204	2107.	0.1848
418.5	0.3511	2108.	0.1871
419.	0.3326	2109.	0.2171
419.5	0.5267	2109.5	0.01386
420.	0.2056	2110.	0.1086
420.5	0.5059	2111.	0.1363
421.	0.4966	2111.5	0.1871
421.5	0.5174	2112.	0.04851
422.	0.5382	2112.5	0.3326
422.5	0.2657	2113.	0.1478
423.	0.5452	2114.	0.06468
423.5	0.2449	2114.5	0.2264
424.	0.5498	2115.	0.03927
424.5	0.3627	2115.5	0.08316
425.	0.4782	2116.	0.1086
425.5	0.5382	2117.	0.2841
426.	0.4204	2118.	0.1455
426.5	0.3095	2118.5	0.06237
427.	0.3234	2119.	0.0693
427.5	0.3742	2119.5	0.1871
428.	0.6052	2120.5	0.05775
428.5	0.2356	2121.5	0.09933
429.	0.5636	2122.	0.3627
429.5	0.2449	2122.5	0.06006
430.	0.3442	2123.	0.01386
430.5	0.3211	2123.5	0.02079
431.	0.4343	2124.	0.03003
431.5	0.3511	2124.5	0.03003
432.	0.6653	2125.5	0.00231
432.5	0.5105	2126.	0.1086
433.	0.4366	2126.5	0.08085

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
433.5	0.4689	2127.	0.1964
434.	0.5059	2129.	0.2864
434.5	0.4505	2130.	0.1455
435.	0.4897	2130.5	0.03927
435.5	0.3788	2131.	0.134
436.	0.596	2132.	0.2726
436.5	0.4112	2133.	0.03234
437.	0.5498	2135.5	0.1871
437.5	0.2218	2136.	0.1871
438.	0.3765	2137.	0.03927
438.5	0.3627	2137.5	0.164
439.	0.4782	2138.	0.07854
439.5	0.2657	2139.	0.00924
440.	0.1548	2140.	0.04851
440.5	0.4066	2140.5	0.1178
441.	0.3396	2142.	0.04851
441.5	0.4204	2142.5	0.1571
442.	0.7022	2143.	0.1848
442.5	0.5359	2143.5	0.02079
443.	0.2218	2144.	0.2379
443.5	0.2541	2145.	0.1732
444.	0.4343	2145.5	0.03927
444.5	0.4666	2146.5	0.02079
445.	0.5636	2147.	0.1086
445.5	0.1825	2147.5	0.2264
446.	0.261	2148.	0.2171
446.5	0.4089	2150.5	0.1478
447.	0.4759	2151.	0.04851
447.5	0.2171	2151.5	0.03696
448.	0.4181	2152.	0.1271
448.5	0.4736	2152.5	0.1871
449.	0.4966	2153.5	0.04158
449.5	0.3881	2154.	0.1756
450.	0.4274	2155.	0.2472
450.5	0.4574	2155.5	0.1594
451.	0.3788	2156.	0.1201
451.5	0.4759	2157.	0.03927
452.	0.3488	2158.	0.2148
452.5	0.3211	2158.5	0.164
453.	0.4343	2159.	0.164
453.5	0.3881	2159.5	0.06237
454.	0.3788	2160.5	0.01386
454.5	0.4112	2161.	0.1802
455.	0.4274	2162.	0.1016
455.5	0.5544	2162.5	0.00231
456.	0.5221	2163.	0.2056
456.5	0.3373	2164.5	0.1386
457.	0.4089	2165.	0.06237
457.5	0.3211	2165.5	0.1178
458.	0.3719	2166.	0.1571
458.5	0.2772	2167.	0.2241
459.	0.5429	2168.	0.1756
459.5	0.4274	2168.5	0.1086

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
460.	0.4274	2169.	0.2356
460.5	0.2934	2169.5	0.2934
461.	0.4943	2171.	0.07854
461.5	0.2148	2172.	0.02079
462.	0.4943	2172.5	0.1155
462.5	0.3881	2173.5	0.01155
463.	0.5174	2174.	0.164
463.5	0.3488	2175.	0.1178
464.	0.5544	2176.	0.1455
464.5	0.298	2177.	0.2726
465.	0.5313	2178.	0.01386
465.5	0.1732	2179.5	0.05082
466.	0.3396	2180.	0.1756
466.5	0.2102	2181.	0.1571
467.	0.3996	2182.	0.07854
467.5	0.4666	2183.	0.01155
468.	0.2703	2183.5	0.00231
468.5	0.298	2184.5	0.04158
469.	0.328	2185.	0.1201
469.5	0.3511	2186.5	0.2472
470.	0.298	2187.	0.1271
470.5	0.4343	2188.5	0.01386
471.	0.3003	2189.	0.1294
471.5	0.3488	2191.	0.06237
472.	0.4458	2191.5	0.08085
472.5	0.2125	2192.	0.02772
473.	0.2911	2193.	0.06237
473.5	0.2888	2194.	0.2564
474.	0.5221	2195.	0.1871
474.5	0.3072	2196.	0.2264
475.	0.3188	2196.5	0.09702
475.5	0.4135	2197.	0.2148
476.	0.4551	2198.	0.1756
476.5	0.201	2198.5	0.04158
477.	0.5198	2199.	0.1016
477.5	0.2218	2199.5	0.1086
478.	0.5336	2200.	0.1063
478.5	0.3188	2201.	0.1455
479.	0.5036	2201.5	0.04158
479.5	0.335	2202.	0.03927
480.	0.3211	2203.	0.104
480.5	0.4712	2203.5	0.02079
481.	0.4759	2204.	0.01386
481.5	0.1063	2205.	0.1063
482.	0.5706	2205.5	0.2587
482.5	0.2633	2206.	0.03234
483.	0.6006	2207.	0.03927
483.5	0.3742	2209.	0.04158
484.	0.5521	2209.5	0.0693
484.5	0.1802	2210.	0.0231
485.	0.3257	2210.5	0.0693
485.5	0.2402	2211.	0.2449
486.	0.3973	2211.5	0.05082

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
486.5	0.3765	2212.	0.05082
487.	0.3973	2213.	0.2449
487.5	0.3742	2214.	0.1109
488.	0.4343	2215.	0.03696
488.5	0.3557	2215.5	0.08085
489.	0.3465	2216.	0.2356
489.5	0.328	2217.5	0.1964
490.	0.2402	2218.	0.07854
490.5	0.1109	2219.	0.1987
491.	0.4227	2219.5	0.1663
491.5	0.3072	2220.	0.06237
492.	0.2888	2221.	0.03003
492.5	0.2495	2221.5	0.1756
493.	0.5729	2222.	0.134
493.5	0.335	2222.5	0.07854
494.	0.4551	2223.	0.08085
494.5	0.432	2224.	0.1271
495.	0.4551	2224.5	0.05082
495.5	0.298	2225.	0.00231
496.	0.5544	2226.	0.06006
496.5	0.358	2227.	0.1571
497.	0.3858	2228.5	0.2079
497.5	0.4412	2229.	0.1478
498.	0.4551	2230.	0.1571
498.5	0.3835	2231.	0.07161
499.	0.4135	2232.	0.08316
499.5	0.2911	2234.	0.09009
500.	0.3072	2234.5	0.02079
500.5	0.4112	2235.5	0.1294
501.	0.3673	2236.	0.0231
501.5	0.4112	2237.	0.07161
502.	0.4343	2237.5	0.01386
502.5	0.1894	2238.	0.1571
503.	0.5336	2239.	0.1571
503.5	0.4066	2240.5	0.0924
504.	0.3996	2241.	0.1802
504.5	0.4412	2243.	0.2079
505.	0.3996	2243.5	0.0693
505.5	0.425	2244.5	0.1964
506.	0.4805	2245.5	0.1386
506.5	0.2495	2246.	0.1571
507.	0.3072	2246.5	0.1663
507.5	0.1987	2247.	0.03003
508.	0.2864	2247.5	0.03927
508.5	0.3165	2248.	0.1478
509.	0.3973	2248.5	0.08085
509.5	0.2772	2249.	0.06006
510.	0.4297	2249.5	0.0693
510.5	0.4135	2250.	0.1109
511.	0.6953	2250.5	0.06468
511.5	0.2079	2251.	0.2472
512.	0.2657	2252.	0.2264
512.5	0.4274	2252.5	0.07161

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
513.	0.5198	2253.	0.1155
513.5	0.3442	2253.5	0.01386
514.	0.4412	2254.	0.2264
514.5	0.2264	2254.5	0.08085
515.	0.2264	2255.	0.1663
515.5	0.4505	2256.	0.1271
516.	0.1571	2256.5	0.1987
516.5	0.3858	2257.	0.1271
517.	0.5082	2257.5	0.0231
517.5	0.3858	2258.	0.2264
518.	0.3049	2259.	0.2379
518.5	0.298	2259.5	0.01386
519.	0.08316	2260.	0.1178
519.5	0.1271	2261.	0.03234
520.	0.5405	2261.5	0.0231
520.5	0.09009	2262.	0.05082
521.	0.499	2262.5	0.1224
521.5	0.4805	2263.	0.03234
522.	0.5382	2264.	0.1363
522.5	0.4135	2264.5	0.03465
523.	0.492	2265.	0.04158
523.5	0.1987	2265.5	0.04851
524.	0.4297	2266.	0.1871
524.5	0.04158	2266.5	0.07161
525.	0.4297	2267.	0.2657
525.5	0.1016	2267.5	0.06237
526.	0.4597	2269.	0.1109
526.5	0.2264	2270.	0.1386
527.	0.559	2271.	0.1386
527.5	0.4505	2272.	0.1871
528.	0.4389	2272.5	0.08316
528.5	0.3627	2273.	0.0924
529.	0.3742	2273.5	0.1271
529.5	0.395	2274.	0.06237
530.	0.3696	2274.5	0.00231
530.5	0.1779	2275.	0.3673
531.	0.4112	2276.	0.01155
531.5	0.08778	2276.5	0.09009
532.	0.2287	2277.	0.07854
532.5	0.3188	2277.5	0.1363
533.	0.3026	2278.	0.1109
533.5	0.1016	2278.5	0.1478
534.	0.529	2279.	0.1871
534.5	0.3534	2280.5	0.07161
535.	0.7346	2281.	0.04158
535.5	0.06006	2281.5	0.0924
536.	0.4227	2282.	0.01155
536.5	0.4366	2283.	0.1178
537.	0.5775	2283.5	0.08778
537.5	0.1987	2284.	0.06006
538.	0.2449	2284.5	0.1663
538.5	0.2287	2285.	0.2379
539.	0.6006	2285.5	0.1987

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
539.5	0.3419	2286.	0.1224
540.	0.4897	2286.5	0.03234
540.5	0.1086	2287.	0.2287
541.	0.4597	2288.	0.1271
541.5	0.2518	2289.	0.1201
542.	0.2749	2289.5	0.01386
542.5	0.3026	2290.	0.06237
543.	0.5013	2290.5	0.1109
543.5	0.4297	2291.	0.0231
544.	0.4874	2292.	0.03465
544.5	0.3419	2292.5	0.08316
545.	0.3049	2293.	0.2195
545.5	0.1571	2294.	0.2171
546.	0.499	2295.	0.1756
546.5	0.335	2296.	0.1756
547.	0.3326	2296.5	0.1271
547.5	0.3234	2297.	0.2495
548.	0.2148	2297.5	0.0231
548.5	0.08778	2299.	0.03465
549.	0.4019	2299.5	0.1386
549.5	0.3696	2300.	0.0231
550.	0.4089	2301.5	0.1201
550.5	0.1987	2302.	0.06237
551.	0.4089	2303.	0.07161
551.5	0.1871	2303.5	0.1109
552.	0.3142	2304.	0.01155
552.5	0.2379	2305.	0.00231
553.	0.3627	2305.5	0.07854
553.5	0.2957	2306.	0.07161
554.	0.3049	2306.5	0.02079
554.5	0.4297	2307.	0.1386
555.	0.5382	2308.5	0.01386
555.5	0.3627	2309.	0.03927
556.	0.3396	2310.	0.01155
556.5	0.3996	2310.5	0.06237
557.	0.3465	2311.	0.2264
557.5	0.3026	2311.5	0.0231
558.	0.2356	2312.	0.1732
558.5	0.164	2312.5	0.1271
559.	0.4505	2313.5	0.0231
559.5	0.3049	2314.	0.01386
560.	0.3511	2314.5	0.00231
560.5	0.3604	2315.	0.2287
561.	0.4297	2315.5	0.0231
561.5	0.3396	2316.	0.08085
562.	0.1964	2317.5	0.05082
562.5	0.09933	2318.5	0.1109
563.	0.2841	2319.	0.03234
563.5	0.2841	2319.5	0.1571
564.	0.4181	2320.	0.2888
564.5	0.4505	2320.5	0.1478
565.	0.4204	2321.	0.03465
565.5	0.2726	2322.5	0.1317

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
566.	0.4528	2323.5	0.1594
566.5	0.2703	2324.	0.1779
567.	0.3465	2324.5	0.06237
567.5	0.3511	2325.	0.08085
568.	0.4389	2326.	0.1825
568.5	0.4343	2326.5	0.1502
569.	0.3026	2327.	0.1317
569.5	0.1363	2328.	0.08778
570.	0.2888	2328.5	0.1571
570.5	0.3696	2329.	0.1224
571.	0.4759	2329.5	0.1894
571.5	0.2703	2330.	0.1109
572.	0.2911	2330.5	0.01386
572.5	0.1732	2331.	0.2495
573.	0.3234	2332.5	0.0231
573.5	0.2518	2333.	0.06006
574.	0.2425	2333.5	0.104
574.5	0.2449	2334.	0.1871
575.	0.3996	2335.	0.08085
575.5	0.2911	2335.5	0.07161
576.	0.3673	2336.	0.2379
576.5	0.1178	2337.	0.1987
577.	0.2125	2338.	0.1779
577.5	0.2125	2338.5	0.02541
578.	0.07623	2340.	0.2079
578.5	0.3673	2340.5	0.1663
579.	0.2495	2341.	0.1016
579.5	0.1964	2342.	0.2749
580.	0.2125	2343.	0.09009
580.5	0.2333	2344.	0.09009
581.	0.4297	2345.	0.01386
581.5	0.03003	2346.	0.01386
582.	0.4089	2347.	0.08085
582.5	0.3904	2348.	0.07161
583.	0.3973	2348.5	0.1016
583.5	0.3303	2349.	0.02541
584.	0.4181	2349.5	0.2888
584.5	0.2911	2350.5	0.04158
585.	0.5659	2351.	0.06237
585.5	0.2333	2351.5	0.01386
586.	0.3095	2352.	0.2079
586.5	0.06699	2352.5	0.3373
587.	0.3904	2353.	0.2195
587.5	0.1063	2353.5	0.01386
588.	0.5659	2354.5	0.03465
588.5	0.01848	2355.	0.06237
589.	0.3881	2355.5	0.0924
589.5	0.3811	2356.	0.1109
590.	0.194	2356.5	0.08085
590.5	0.358	2357.5	0.0231
591.	0.2795	2358.	0.1594
591.5	0.3003	2359.	0.07161
592.	0.3211	2359.5	0.1201

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
592.5	0.231	2360.5	0.3188
593.	0.3996	2361.	0.06237
593.5	0.3488	2361.5	0.04158
594.	0.3234	2363.	0.01386
594.5	0.2818	2364.	0.03465
595.	0.1732	2364.5	0.1686
595.5	0.1848	2365.	0.2587
596.	0.2587	2365.5	0.05313
596.5	0.1132	2366.	0.1386
597.	0.4943	2366.5	0.06237
597.5	0.08316	2367.	0.00231
598.	0.3788	2368.5	0.1294
598.5	0.2125	2369.	0.1478
599.	0.231	2370.	0.05313
599.5	0.07392	2371.	0.00231
600.	0.4181	2371.5	0.0924
600.5	0.05544	2372.	0.04389
601.	0.2795	2373.	0.1779
601.5	0.1086	2374.	0.2564
602.	0.2125	2374.5	0.104
602.5	0.328	2375.	0.1224
603.	0.4528	2376.	0.261
603.5	0.2125	2377.	0.0924
604.	0.1224	2379.5	0.0924
604.5	0.3326	2381.	0.3534
605.	0.4551	2382.	0.04389
605.5	0.4643	2382.5	0.00231
606.	0.4066	2383.	0.1894
606.5	0.358	2384.	0.1571
607.	0.3095	2385.5	0.1409
607.5	0.1201	2386.	0.261
608.	0.1709	2386.5	0.00462
608.5	0.3373	2387.	0.07161
609.	0.1917	2388.	0.03003
609.5	0.104	2389.	0.01617
610.	0.2795	2390.	0.1571
610.5	0.2587	2390.5	0.01386
611.	0.3673	2391.5	0.01386
611.5	0.365	2392.	0.1987
612.	0.425	2393.	0.2864
612.5	0.2864	2393.5	0.08778
613.	0.3996	2394.	0.05082
613.5	0.2102	2395.	0.06237
614.	0.201	2395.5	0.0231
614.5	0.3095	2396.	0.08085
615.	0.1386	2397.	0.1987
615.5	0.2125	2398.	0.05082
616.	0.1709	2400.	0.04158
616.5	0.328	2400.5	0.09009
617.	0.4458	2401.	0.1294
617.5	0.104	2401.5	0.0231
618.	0.3465	2402.	0.0231
618.5	0.4274	2403.	0.07392

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
619.	0.3881	2404.	0.04389
619.5	0.4089	2405.	0.1109
620.	0.3765	2405.5	0.0231
620.5	0.2495	2406.5	0.104
621.	0.3858	2407.5	0.1063
621.5	0.1132	2408.	0.04158
622.	0.1063	2409.5	0.00462
622.5	0.1525	2410.	0.1409
623.	0.231	2411.	0.07161
623.5	0.06468	2412.	0.1016
624.	0.462	2412.5	0.06468
624.5	0.3488	2413.	0.2195
625.	0.395	2414.	0.08316
625.5	0.2102	2414.5	0.05082
626.	0.3373	2415.	0.1686
626.5	0.335	2416.5	0.09702
627.	0.4135	2417.5	0.1409
627.5	0.231	2418.	0.1409
628.	0.358	2419.5	0.1594
628.5	0.03465	2420.	0.2102
629.	0.2587	2421.	0.1224
629.5	0.2195	2421.5	0.1432
630.	0.5128	2422.	0.07161
630.5	0.1201	2423.	0.03696
631.	0.2125	2423.5	0.03465
631.5	0.1224	2424.	0.1502
632.	0.3465	2424.5	0.07392
633.	0.3257	2425.	0.07392
633.5	0.1432	2425.5	0.03465
634.	0.2957	2426.	0.08085
634.5	0.3788	2426.5	0.01386
635.	0.358	2427.	0.00462
635.5	0.3765	2428.	0.05313
636.	0.4458	2429.	0.1432
636.5	0.231	2430.	0.07161
637.	0.2657	2431.	0.1871
637.5	0.2657	2431.5	0.01386
638.	0.3627	2432.	0.1109
638.5	0.3373	2432.5	0.2911
639.	0.395	2433.	0.06237
639.5	0.2888	2434.	0.1201
640.	0.2587	2435.	0.04389
640.5	0.2495	2436.	0.08316
641.	0.1686	2437.	0.1987
641.5	0.3904	2439.	0.1109
642.	0.3165	2439.5	0.1502
642.5	0.3211	2440.	0.2495
643.	0.4066	2440.5	0.01386
643.5	0.1409	2442.	0.1594
644.	0.3257	2442.5	0.05313
644.5	0.2495	2443.	0.2171
645.	0.358	2443.5	0.08316
645.5	0.1016	2444.	0.1825

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
646.	0.4043	2445.	0.1016
646.5	0.1917	2445.5	0.1132
647.	0.3973	2446.	0.1802
647.5	0.1409	2448.	0.04389
648.	0.2195	2448.5	0.04389
648.5	0.1016	2449.	0.00693
649.	0.3072	2450.	0.1386
649.5	0.1502	2450.5	0.08316
650.	0.1686	2451.5	0.08085
650.5	0.1409	2452.	0.06468
651.	0.2402	2453.	0.1478
651.5	0.231	2455.	0.2102
652.	0.4158	2456.5	0.0231
652.5	0.3049	2457.	0.1478
653.	0.395	2458.	0.1478
653.5	0.1201	2459.	0.06237
654.	0.2495	2459.5	0.03465
654.5	0.05544	2461.	0.1571
655.	0.3927	2462.5	0.231
655.5	0.06237	2463.	0.2957
656.	0.1686	2464.	0.3696
656.5	0.4828	2464.5	0.02541
657.	0.4043	2465.	0.1271
657.5	0.0924	2465.5	0.04389
658.	0.5775	2466.	0.07392
658.5	0.1617	2467.	0.1894
659.	0.3049	2467.5	0.07161
659.5	0.04389	2468.	0.1709
660.	0.2102	2468.5	0.1224
660.5	0.4505	2469.5	0.1409
661.	0.5198	2470.5	0.03465
661.5	0.01617	2471.	0.2402
662.	0.2195	2472.	0.1686
662.5	0.03003	2473.	0.1409
663.	0.2587	2473.5	0.1109
663.5	0.1224	2474.	0.08316
664.	0.4736	2474.5	0.08316
664.5	0.1594	2475.	0.08085
665.	0.05313	2475.5	0.1987
665.5	0.1964	2476.	0.1109
666.	0.268	2477.	0.08316
666.5	0.3142	2477.5	0.07392
667.	0.3927	2478.	0.02541
667.5	0.1478	2479.5	0.00231
668.	0.2772	2481.	0.08316
668.5	0.3234	2483.	0.0231
669.	0.335	2483.5	0.03465
669.5	0.1109	2484.	0.07161
670.	0.3858	2484.5	0.1063
670.5	0.05082	2485.	0.1409
671.	0.3719	2487.	0.1063
671.5	0.1779	2487.5	0.1617
672.	0.4897	2488.	0.1247

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
672.5	0.1478	2490.	0.1224
673.	0.4528	2491.	0.2102
673.5	0.1409	2491.5	0.08316
674.	0.3534	2492.	0.1201
674.5	0.1686	2492.5	0.08316
675.	0.1571	2493.	0.1409
675.5	0.1871	2494.	0.1409
676.	0.2171	2495.	0.328
676.5	0.3442	2496.	0.1502
677.	0.1109	2497.	0.2911
677.5	0.2264	2497.5	0.00462
678.	0.3049	2498.	0.03465
678.5	0.2495	2498.5	0.2195
679.	0.2171	2499.	0.04389
679.5	0.2264	2499.5	0.1063
680.	0.2633	2500.5	0.06468
680.5	0.2472	2501.	0.07392
681.	0.335	2502.	0.201
681.5	0.3165	2503.	0.1779
682.	0.4505	2503.5	0.1201
682.5	0.3049	2504.	0.104
683.	0.5082	2505.	0.4135
683.5	0.4897	2507.5	0.1063
684.	0.2633	2508.	0.1409
684.5	0.2195	2509.	0.1502
685.	0.335	2509.5	0.07392
685.5	0.395	2510.	0.1109
686.	0.3234	2511.	0.04389
686.5	0.2264	2512.	0.09471
687.	0.1109	2513.	0.261
687.5	0.1987	2513.5	0.0462
688.	0.3627	2514.	0.06237
688.5	0.00924	2514.5	0.06237
689.	0.2079	2515.	0.1294
689.5	0.3072	2516.	0.07623
690.	0.5174	2516.5	0.1109
690.5	0.2795	2517.	0.1987
691.	0.2749	2517.5	0.08316
692.	0.1779	2519.	0.201
692.5	0.2472	2519.5	0.0231
693.	0.1363	2521.	0.1016
693.5	0.1756	2521.5	0.05313
694.	0.4297	2522.	0.1825
694.5	0.1386	2522.5	0.05313
695.	0.2818	2523.	0.03696
695.5	0.2356	2527.	0.1271
696.	0.06699	2529.	0.05544
696.5	0.1109	2530.	0.1663
697.	0.5613	2530.5	0.05544
697.5	0.2379	2531.	0.03696
698.	0.335	2531.5	0.1709
698.5	0.2841	2532.	0.09009
699.	0.2633	2533.	0.03234

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
699.5	0.1155	2534.	0.09702
700.	0.5198	2534.5	0.00462
700.5	0.1386	2535.	0.1502
701.	0.2911	2535.5	0.07161
701.5	0.09009	2536.	0.09471
702.	0.2633	2537.5	0.06699
703.	0.05082	2539.	0.104
703.5	0.04158	2539.5	0.1686
704.	0.4412	2540.	0.00462
704.5	0.2171	2540.5	0.1294
705.	0.4389	2541.	0.06237
705.5	0.2541	2543.	0.04389
706.	0.3049	2544.	0.2795
706.5	0.01386	2544.5	0.134
707.	0.1478	2545.	0.09471
707.5	0.1294	2545.5	0.104
708.	0.2356	2546.	0.1132
708.5	0.1086	2547.	0.09471
709.	0.2841	2547.5	0.08316
709.5	0.1363	2548.	0.1686
710.	0.2264	2549.	0.02541
710.5	0.1871	2549.5	0.02541
711.	0.02079	2550.	0.1409
711.5	0.2633	2550.5	0.04389
712.	0.4966	2552.	0.0462
712.5	0.0693	2553.	0.1502
713.	0.1964	2554.	0.1132
713.5	0.1178	2555.5	0.1247
714.	0.2541	2556.	0.1525
714.5	0.2564	2556.5	0.07392
715.	0.09009	2557.5	0.04389
715.5	0.1178	2558.	0.231
716.	0.3465	2559.	0.02541
716.5	0.2449	2560.	0.164
717.	0.2818	2561.	0.1594
717.5	0.4712	2563.	0.2195
718.	0.2772	2566.	0.0231
718.5	0.1386	2566.5	0.05775
719.	0.1386	2567.	0.1594
719.5	0.06006	2567.5	0.00462
720.	0.3696	2568.	0.05544
720.5	0.4112	2569.	0.1432
721.	0.1109	2569.5	0.07161
721.5	0.164	2570.	0.1802
722.	0.1663	2570.5	0.01617
722.5	0.08778	2571.	0.08316
723.	0.1987	2573.	0.03696
723.5	0.2241	2573.5	0.1432
724.	0.164	2575.	0.0462
724.5	0.1663	2575.5	0.01386
725.	0.3142	2576.	0.07392
725.5	0.3442	2577.	0.1294
726.	0.1478	2577.5	0.01617

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
726.5	0.1178	2578.	0.1525
727.	0.3049	2580.	0.1894
727.5	0.1548	2580.5	0.1155
728.	0.164	2582.	0.1432
728.5	0.08778	2583.5	0.1224
729.	0.1756	2584.	0.06237
729.5	0.1756	2584.5	0.02541
730.	0.2934	2585.	0.1455
730.5	0.2818	2586.	0.1686
731.	0.2356	2587.	0.1709
731.5	0.06006	2587.5	0.07623
732.	0.3904	2588.	0.1109
732.5	0.3142	2589.5	0.02541
733.	0.164	2590.	0.2541
733.5	0.1964	2591.5	0.1317
734.	0.2772	2592.	0.2218
734.5	0.2148	2594.	0.01386
735.	0.1386	2594.5	0.1756
735.5	0.1178	2595.	0.1617
736.	0.3119	2596.	0.02541
736.5	0.2749	2596.5	0.09471
737.5	0.0693	2598.	0.01617
738.	0.2633	2599.	0.02541
738.5	0.164	2599.5	0.06699
739.	0.1086	2600.	0.1825
739.5	0.03003	2600.5	0.104
740.	0.3719	2601.	0.2241
740.5	0.1247	2602.	0.104
741.	0.2841	2602.5	0.07392
741.5	0.2472	2603.	0.1247
742.	0.2472	2605.	0.09471
742.5	0.2449	2606.	0.01617
743.	0.3234	2606.5	0.1432
744.	0.4782	2607.	0.3072
744.5	0.3326	2608.	0.1917
745.	0.3211	2609.	0.0462
745.5	0.3904	2610.5	0.09471
746.	0.3534	2611.	0.09702
746.5	0.3142	2611.5	0.1155
747.	0.1964	2612.	0.2218
747.5	0.1363	2613.	0.261
748.	0.2749	2614.	0.2703
749.	0.2518	2615.	0.2495
750.	0.134	2616.	0.1132
750.5	0.1155	2617.	0.1455
751.	0.3419	2618.	0.2218
751.5	0.06699	2619.	0.1502
752.	0.09009	2619.5	0.09471
752.5	0.02772	2620.5	0.06699
753.	0.3419	2621.	0.1063
753.5	0.1964	2621.5	0.1247
754.	0.4158	2624.	0.05313
754.5	0.2356	2625.5	0.08316

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
755.	0.1525	2626.	0.1317
755.5	0.07854	2626.5	0.2102
756.	0.2818	2627.5	0.1825
756.5	0.3026	2628.5	0.1294
757.	0.3511	2629.	0.08547
757.5	0.2749	2630.	0.07392
758.	0.2356	2630.5	0.1063
758.5	0.1502	2631.5	0.201
759.	0.2033	2632.	0.1709
759.5	0.04851	2633.	0.09471
760.	0.3881	2634.	0.1132
760.5	0.06699	2634.5	0.1271
761.	0.2911	2635.	0.1224
761.5	0.05775	2637.	0.1825
762.	0.2818	2637.5	0.1271
763.	0.00924	2638.	0.0693
763.5	0.1363	2638.5	0.02772
764.	0.2356	2639.	0.01848
764.5	0.2056	2639.5	0.0462
765.	0.1086	2640.	0.03696
765.5	0.03927	2640.5	0.08316
766.	0.3996	2641.	0.2726
766.5	0.2148	2642.5	0.1455
767.	0.1848	2643.	0.09702
767.5	0.02079	2643.5	0.00924
768.	0.2333	2645.5	0.09471
768.5	0.194	2647.	0.00693
769.	0.164	2647.5	0.194
769.5	0.2449	2648.	0.1525
770.	0.3303	2649.	0.164
770.5	0.2125	2650.	0.1063
771.	0.2888	2651.	0.2402
771.5	0.3026	2652.	0.1132
772.	0.3511	2653.	0.1825
772.5	0.02079	2653.5	0.02541
773.	0.2241	2655.	0.09471
773.5	0.06699	2655.5	0.03696
774.	0.2518	2656.	0.07161
774.5	0.1086	2657.	0.0462
775.	0.4666	2658.	0.1732
775.5	0.1848	2658.5	0.09702
776.	0.1871	2660.	0.134
776.5	0.06699	2661.	0.2356
777.	0.4066	2661.5	0.2218
777.5	0.3811	2662.	0.1132
778.	0.4135	2663.	0.07392
778.5	0.2148	2664.	0.1409
779.	0.2125	2665.	0.1432
779.5	0.02079	2665.5	0.08547
780.5	0.1732	2666.	0.07623
781.	0.2888	2667.	0.00693
782.	0.1525	2668.	0.1271
782.5	0.2633	2669.	0.1432

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
783.	0.2056	2669.5	0.02772
784.	0.05544	2670.	0.201
784.5	0.1271	2671.	0.06468
785.	0.1455	2671.5	0.2402
785.5	0.1848	2672.	0.2287
786.	0.2241	2673.5	0.1132
786.5	0.2356	2674.	0.0462
787.	0.2449	2674.5	0.104
787.5	0.164	2675.5	0.00924
788.	0.00924	2676.	0.08547
788.5	0.1155	2676.5	0.07392
789.	0.335	2677.	0.1063
789.5	0.1109	2678.	0.1848
790.	0.3604	2680.	0.0462
790.5	0.1525	2681.	0.2171
791.	0.2333	2682.	0.1525
791.5	0.04851	2683.	0.06468
792.	0.1063	2684.	0.05544
792.5	0.2726	2684.5	0.1063
793.	0.1732	2685.	0.1732
793.5	0.1432	2685.5	0.03696
794.	0.1247	2686.5	0.07854
794.5	0.2356	2687.	0.05544
795.	0.2333	2687.5	0.1063
795.5	0.2633	2688.	0.1617
796.	0.261	2689.	0.164
796.5	0.1132	2689.5	0.00693
797.	0.0462	2690.	0.1917
797.5	0.2772	2691.	0.0462
798.	0.3119	2691.5	0.1917
798.5	0.194	2692.	0.2726
799.	0.1432	2693.	0.1063
799.5	0.07623	2694.	0.02772
800.	0.231	2694.5	0.02772
800.5	0.2449	2695.	0.1617
801.	0.164	2696.	0.0462
801.5	0.07854	2696.5	0.1525
802.	0.3049	2697.	0.00693
802.5	0.0462	2697.5	0.2033
803.	0.3396	2698.5	0.05544
804.	0.3326	2699.	0.1063
804.5	0.2148	2699.5	0.1548
805.	0.4112	2700.	0.1525
805.5	0.09471	2701.	0.2795
806.	0.3673	2701.5	0.02541
806.5	0.1964	2702.5	0.02772
807.	0.3188	2704.	0.08547
807.5	0.08778	2705.	0.2425
808.	0.2934	2706.5	0.0462
808.5	0.07854	2707.5	0.0462
809.	0.3026	2708.	0.1548
809.5	0.4066	2708.5	0.08316
810.	0.4943	2709.	0.3188

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
810.5	0.09702	2710.	0.1132
811.	0.3881	2710.5	0.00924
811.5	0.2125	2711.	0.3303
812.	0.2425	2713.	0.1571
812.5	0.04389	2713.5	0.164
813.	0.3881	2714.	0.00924
813.5	0.02772	2714.5	0.01617
814.	0.08778	2716.	0.02541
814.5	0.3419	2716.5	0.05775
815.	0.5174	2717.	0.00693
815.5	0.07623	2718.	0.1317
816.	0.3696	2718.5	0.07392
816.5	0.1086	2719.	0.2657
817.	0.1247	2720.	0.0462
817.5	0.164	2721.	0.1548
818.	0.1917	2722.	0.00924
818.5	0.134	2723.	0.1825
819.	0.1063	2723.5	0.08316
819.5	0.1756	2724.	0.1063
820.	0.194	2724.5	0.06699
820.5	0.2148	2725.	0.1548
821.	0.1063	2725.5	0.09471
821.5	0.164	2726.5	0.1525
822.	0.2518	2727.	0.05775
823.	0.3049	2727.5	0.03696
823.5	0.3303	2728.	0.06468
824.	0.2518	2729.	0.1317
824.5	0.07623	2730.	0.1317
825.	0.06468	2731.	0.1732
825.5	0.134	2731.5	0.1155
826.	0.231	2732.	0.1548
826.5	0.1086	2732.5	0.01617
827.	0.2125	2733.	0.0462
827.5	0.02772	2733.5	0.1155
828.	0.3511	2735.	0.2518
829.	0.1825	2736.	0.01848
829.5	0.07854	2736.5	0.01617
830.	0.3095	2737.	0.134
830.5	0.1432	2738.	0.07392
831.	0.05544	2739.	0.08547
831.5	0.2518	2740.	0.05775
832.	0.1317	2741.	0.1063
832.5	0.1063	2742.	0.1594
833.	0.09702	2744.	0.1271
833.5	0.2218	2745.	0.02541
834.	0.06237	2746.	0.1663
834.5	0.2033	2747.	0.08316
835.	0.2888	2748.5	0.02079
835.5	0.1432	2749.	0.2333
836.	0.201	2749.5	0.194
836.5	0.2148	2750.	0.02541
837.	0.2033	2751.	0.2657
837.5	0.1132	2751.5	0.06699

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
838.	0.1063	2754.	0.134
838.5	0.09471	2754.5	0.00693
839.	0.2218	2756.	0.02541
839.5	0.194	2757.	0.03696
840.	0.3811	2757.5	0.02079
840.5	0.261	2758.	0.2795
841.	0.3511	2758.5	0.1432
841.5	0.2218	2759.	0.02772
842.	0.1825	2759.5	0.09471
842.5	0.1709	2760.	0.0462
843.	0.3973	2762.	0.08547
843.5	0.1732	2762.5	0.1478
844.	0.1825	2763.	0.201
844.5	0.1132	2764.5	0.02772
845.	0.1132	2765.	0.00924
845.5	0.02772	2766.	0.1617
846.	0.1155	2766.5	0.1617
846.5	0.02772	2767.	0.164
847.	0.164	2768.	0.1271
847.5	0.09471	2768.5	0.08547
848.	0.08778	2769.	0.1617
848.5	0.3303	2770.	0.298
849.	0.2749	2770.5	0.06699
849.5	0.1825	2772.	0.05775
850.	0.02772	2772.5	0.134
851.	0.134	2773.	0.1548
851.5	0.2888	2773.5	0.01848
852.	0.4458	2774.	0.05775
852.5	0.0462	2774.5	0.06699
853.	0.1525	2775.	0.1317
853.5	0.01848	2776.	0.08547
854.	0.104	2778.	0.06468
854.5	0.194	2778.5	0.06699
855.	0.1732	2779.	0.2911
856.	0.3095	2779.5	0.02079
857.	0.2125	2780.	0.08316
857.5	0.02772	2781.	0.164
858.	0.1571	2781.5	0.1155
858.5	0.2033	2782.	0.01848
859.	0.3488	2783.	0.1525
859.5	0.2703	2786.5	0.00924
860.	0.2888	2787.	0.1271
860.5	0.1732	2788.	0.298
861.	0.2726	2788.5	0.09702
861.5	0.1732	2790.	0.1063
862.	0.2795	2790.5	0.2056
862.5	0.3026	2791.	0.09702
863.	0.3119	2791.5	0.06468
863.5	0.07623	2792.	0.1178
864.	0.07392	2793.	0.2795
864.5	0.1247	2794.	0.03696
865.	0.07623	2794.5	0.03696
865.5	0.00693	2795.	0.1917

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
866.	0.2518	2796.	0.01848
866.5	0.2125	2797.5	0.0462
867.	0.4851	2799.	0.164
867.5	0.2125	2800.	0.09702
868.	0.2888	2801.	0.1548
868.5	0.07392	2801.5	0.07854
869.	0.2888	2802.	0.09702
869.5	0.00693	2802.5	0.01848
870.	0.1709	2803.	0.2726
870.5	0.1132	2804.	0.2333
871.	0.1617	2804.5	0.02541
871.5	0.134	2805.	0.1063
872.	0.2033	2805.5	0.07854
872.5	0.1732	2806.	0.3326
873.	0.3511	2806.5	0.1178
873.5	0.164	2807.	0.1363
874.	0.01617	2808.	0.1732
874.5	0.05313	2808.5	0.1294
875.	0.3881	2810.	0.06468
875.5	0.2541	2813.	0.05775
876.5	0.2402	2814.	0.1063
877.	0.3373	2815.	0.2402
877.5	0.07623	2816.	0.02772
878.	0.2033	2816.5	0.08778
878.5	0.09471	2818.	0.2449
879.	0.1502	2818.5	0.02079
879.5	0.07392	2819.	0.1825
880.	0.2402	2819.5	0.02079
880.5	0.1917	2820.	0.164
881.	0.1294	2820.5	0.2033
881.5	0.08316	2821.	0.1732
882.	0.1709	2821.5	0.1732
882.5	0.04389	2822.	0.09471
883.	0.2125	2822.5	0.04158
883.5	0.07623	2823.	0.2033
884.	0.02772	2824.	0.00924
884.5	0.1109	2824.5	0.01617
885.	0.1502	2825.	0.07392
885.5	0.2518	2825.5	0.00924
886.5	0.1224	2828.5	0.0462
887.	0.1825	2829.	0.03696
887.5	0.194	2829.5	0.07623
888.	0.3119	2830.	0.07623
889.	0.1617	2831.	0.06699
889.5	0.2818	2831.5	0.01617
890.5	0.2125	2833.	0.04851
891.	0.3188	2835.	0.1363
891.5	0.2218	2836.	0.1917
892.	0.2402	2836.5	0.1247
892.5	0.08778	2837.	0.1663
893.	0.1063	2837.5	0.03696
894.	0.4066	2838.	0.1779
895.	0.08547	2838.5	0.06699

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
895.5	0.03234	2839.	0.2541
896.	0.1409	2839.5	0.1271
896.5	0.03465	2842.	0.4043
897.	0.2703	2842.5	0.05544
897.5	0.1617	2843.	0.1155
898.	0.298	2844.	0.05544
898.5	0.09471	2845.	0.0924
899.	0.3788	2846.	0.2241
899.5	0.2726	2847.	0.06468
900.	0.2333	2849.5	0.05775
900.5	0.1224	2850.	0.06699
901.	0.0924	2850.5	0.1964
901.5	0.1409	2851.	0.3211
902.	0.134	2852.5	0.02079
902.5	0.3303	2854.5	0.1548
903.	0.1802	2855.	0.1571
904.	0.00693	2855.5	0.1086
905.	0.1132	2856.	0.2333
905.5	0.194	2858.	0.05775
906.	0.2402	2858.5	0.201
907.	0.298	2859.5	0.03696
907.5	0.0462	2860.	0.02772
908.	0.104	2861.	0.2264
908.5	0.1063	2861.5	0.1271
909.	0.3765	2863.	0.1294
909.5	0.1317	2863.5	0.05544
910.	0.2703	2864.	0.08547
911.	0.2703	2864.5	0.03927
911.5	0.2772	2865.	0.06699
912.	0.2033	2865.5	0.1294
913.	0.201	2866.5	0.1063
913.5	0.1132	2867.	0.134
914.	0.1224	2867.5	0.1848
914.5	0.1525	2869.	0.08778
915.	0.3072	2870.	0.1294
915.5	0.08547	2871.	0.1432
916.	0.1502	2871.5	0.05775
917.	0.164	2872.	0.09702
918.	0.1294	2872.5	0.1363
918.5	0.4551	2873.	0.1086
919.	0.201	2874.	0.2749
919.5	0.00462	2874.5	0.08547
920.	0.1709	2875.	0.134
920.5	0.02079	2875.5	0.01155
921.	0.2495	2876.	0.1271
921.5	0.2033	2876.5	0.1155
922.	0.09009	2877.	0.1756
922.5	0.2587	2877.5	0.09009
923.	0.1617	2878.	0.1178
923.5	0.06237	2878.5	0.1848
924.	0.3465	2879.	0.1155
924.5	0.1224	2879.5	0.1178
925.	0.2518	2880.5	0.03003

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
925.5	0.1224	2882.	0.1455
926.	0.3788	2882.5	0.06699
926.5	0.0462	2883.	0.1178
927.	0.1109	2884.	0.03696
928.	0.2888	2885.	0.194
928.5	0.1825	2886.5	0.07623
929.	0.2333	2887.	0.07854
929.5	0.02541	2887.5	0.03696
930.	0.2287	2888.	0.09702
930.5	0.06468	2890.	0.05544
931.	0.08547	2890.5	0.03927
931.5	0.08547	2891.	0.3719
932.	0.09702	2891.5	0.1063
932.5	0.05313	2892.	0.3026
933.	0.1825	2892.5	0.05775
933.5	0.2218	2893.	0.05775
934.	0.298	2894.	0.1571
934.5	0.1502	2894.5	0.09702
935.	0.1201	2895.	0.1779
935.5	0.1317	2895.5	0.0462
936.	0.1617	2896.	0.1294
936.5	0.164	2897.	0.0693
937.	0.1732	2897.5	0.1294
937.5	0.1224	2898.	0.134
938.	0.261	2899.	0.01155
939.	0.2125	2899.5	0.164
939.5	0.201	2900.5	0.05775
940.	0.1709	2901.	0.1964
940.5	0.1224	2902.	0.07623
941.	0.3396	2902.5	0.0693
941.5	0.09471	2903.	0.1155
942.	0.05544	2904.	0.1455
942.5	0.231	2905.	0.01155
943.	0.201	2905.5	0.1178
943.5	0.09471	2906.5	0.00231
944.	0.2125	2907.	0.00924
944.5	0.1063	2908.	0.2056
946.	0.2888	2910.	0.05775
946.5	0.3026	2910.5	0.0693
947.	0.2703	2911.	0.03927
947.5	0.2333	2911.5	0.06006
948.	0.02772	2912.5	0.08547
949.	0.02541	2913.	0.07854
950.	0.3303	2913.5	0.02079
950.5	0.09702	2915.	0.1732
951.	0.3788	2916.	0.03927
952.	0.1109	2917.	0.134
953.	0.1709	2917.5	0.1178
953.5	0.1201	2918.5	0.02079
954.	0.2888	2920.	0.08778
954.5	0.2125	2920.5	0.01155
955.	0.06468	2921.	0.2449
955.5	0.08316	2922.	0.1271

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
956.	0.1478	2922.5	0.3442
956.5	0.1779	2923.	0.1294
957.	0.1825	2923.5	0.09009
958.	0.2703	2924.	0.1455
958.5	0.164	2925.	0.04158
959.	0.3165	2926.	0.2264
959.5	0.1317	2926.5	0.07854
960.	0.1617	2927.	0.1386
960.5	0.134	2928.	0.09009
961.	0.07161	2928.5	0.08547
961.5	0.2056	2929.	0.1086
962.	0.2102	2929.5	0.06699
963.	0.05313	2930.	0.1686
963.5	0.134	2931.	0.134
964.	0.1502	2931.5	0.03927
964.5	0.04389	2932.	0.3234
965.	0.1525	2932.5	0.03003
965.5	0.1063	2933.	0.08778
966.	0.2818	2933.5	0.09471
966.5	0.1478	2934.	0.1294
967.	0.0462	2936.	0.164
967.5	0.08316	2936.5	0.1294
968.	0.5036	2937.	0.03696
969.	0.1709	2938.5	0.1271
969.5	0.07392	2940.	0.2356
970.	0.00693	2941.	0.134
970.5	0.1063	2942.	0.1571
971.	0.09471	2944.	0.07623
971.5	0.1247	2946.	0.04851
972.	0.1224	2947.	0.1571
972.5	0.2218	2949.5	0.08778
973.	0.09471	2950.	0.1548
973.5	0.1201	2951.	0.1779
974.	0.1732	2953.	0.164
975.	0.05544	2954.	0.1386
975.5	0.2888	2955.	0.04158
976.	0.1247	2956.	0.1732
976.5	0.1709	2956.5	0.02079
977.	0.1317	2957.	0.1363
977.5	0.3026	2957.5	0.2749
978.	0.1409	2958.	0.2264
978.5	0.2102	2959.	0.04158
979.	0.1548	2959.5	0.1848
979.5	0.03234	2960.5	0.01386
980.	0.1294	2961.	0.05775
980.5	0.3396	2962.5	0.06006
981.5	0.2033	2963.	0.1663
982.	0.2703	2963.5	0.04158
983.	0.1894	2966.	0.1363
983.5	0.1894	2967.	0.1848
984.5	0.3072	2968.	0.06699
985.	0.3165	2969.	0.07854
985.5	0.09471	2970.	0.1732

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
986.	0.2703	2970.5	0.04158
986.5	0.104	2971.	0.2079
987.	0.1247	2972.5	0.07854
987.5	0.1825	2973.	0.09702
988.	0.2125	2973.5	0.05775
988.5	0.2472	2974.	0.05775
989.5	0.07392	2975.	0.00231
990.	0.4043	2975.5	0.0693
990.5	0.1825	2976.	0.04851
991.	0.2772	2976.5	0.03003
991.5	0.194	2978.	0.1294
992.	0.3488	2979.	0.03003
992.5	0.09471	2980.	0.03696
993.	0.3673	2980.5	0.09009
993.5	0.05544	2981.	0.06006
994.	0.2425	2981.5	0.0693
994.5	0.1063	2983.	0.03003
995.	0.0924	2984.	0.1594
995.5	0.1709	2985.5	0.2449
996.	0.1109	2986.	0.08778
996.5	0.00693	2987.	0.2749
997.	0.2218	2988.	0.1317
997.5	0.06468	2989.	0.1294
998.	0.2402	2990.	0.1294
998.5	0.04389	2990.5	0.1178
999.	0.2102	2991.	0.1964
999.5	0.04389	2991.5	0.01155
1000.	0.358	2992.	0.2449
1000.5	0.1109	2993.	0.3442
1001.	0.1247	2994.5	0.2541
1002.	0.2888	2995.	0.3419
1002.5	0.2125	2995.5	0.2056
1003.	0.201	2996.	0.1663
1003.5	0.201	2996.5	0.08778
1004.5	0.2333	2997.	0.1455
1005.	0.1709	2999.	0.00924
1005.5	0.0462	2999.5	0.03927
1006.	0.1409	3000.	0.1478
1006.5	0.1201	3001.	0.1686
1007.	0.3303	3002.	0.0693
1007.5	0.1917	3003.	0.2056
1008.	0.08547	3003.5	0.1063
1008.5	0.00693	3004.	0.1663
1009.	0.1224	3005.	0.2056
1010.	0.1409	3005.5	0.1455
1010.5	0.1409	3006.5	0.2056
1011.	0.07392	3007.	0.06699
1012.	0.134	3008.	0.02079
1012.5	0.06699	3008.5	0.1224
1013.	0.1709	3009.	0.1871
1013.5	0.01848	3010.5	0.06006
1014.	0.2888	3011.	0.1178
1015.	0.134	3011.5	0.03003

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1015.5	0.06699	3012.	0.03927
1016.	0.1709	3013.5	0.06006
1016.5	0.1502	3014.5	0.04851
1017.	0.01617	3015.	0.1455
1018.	0.3373	3016.	0.3026
1018.5	0.134	3016.5	0.05775
1019.	0.1086	3017.	0.3811
1019.5	0.08778	3017.5	0.09933
1020.	0.08778	3018.	0.03927
1020.5	0.1502	3018.5	0.1663
1021.	0.1825	3019.	0.134
1022.	0.0231	3020.	0.2541
1022.5	0.1709	3021.	0.1594
1023.	0.134	3021.5	0.08547
1023.5	0.03465	3023.	0.1825
1024.	0.03465	3026.	0.2056
1024.5	0.09471	3029.	0.2287
1025.	0.1132	3029.5	0.09009
1025.5	0.06699	3030.	0.1478
1026.	0.2218	3030.5	0.1455
1026.5	0.164	3031.	0.07161
1027.	0.2125	3031.5	0.0462
1027.5	0.2102	3032.	0.04851
1028.	0.09702	3032.5	0.0231
1028.5	0.1894	3034.5	0.00231
1029.	0.1825	3035.	0.1109
1030.5	0.2518	3035.5	0.05082
1031.	0.1063	3036.	0.2841
1032.	0.1732	3036.5	0.1756
1032.5	0.06237	3037.	0.1178
1033.	0.2818	3037.5	0.1178
1033.5	0.04389	3038.	0.0231
1034.	0.104	3039.	0.06006
1034.5	0.1317	3040.	0.2495
1035.	0.1109	3041.	0.05082
1035.5	0.05544	3041.5	0.08778
1036.	0.2795	3044.	0.05082
1036.5	0.1502	3045.	0.09702
1037.	0.1409	3047.5	0.03003
1037.5	0.2079	3048.	0.08085
1038.	0.3373	3049.	0.2356
1038.5	0.02541	3049.5	0.04851
1039.	0.2703	3050.	0.1455
1040.	0.0693	3051.	0.2241
1041.	0.2495	3051.5	0.1271
1042.	0.2033	3052.5	0.1686
1043.	0.1432	3053.	0.09471
1043.5	0.09471	3053.5	0.08085
1044.	0.2425	3054.5	0.0231
1044.5	0.03234	3056.	0.06006
1045.	0.1317	3058.	0.01386
1045.5	0.09471	3059.	0.1709
1046.5	0.1109	3060.	0.0231

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1047.	0.0231	3061.	0.2934
1048.	0.1432	3061.5	0.1571
1048.5	0.06237	3062.	0.2657
1049.	0.06468	3063.5	0.01848
1050.	0.1802	3065.5	0.1363
1051.	0.1247	3066.5	0.00231
1051.5	0.2102	3068.	0.03003
1052.	0.1686	3068.5	0.07161
1052.5	0.1825	3069.	0.02079
1053.	0.2102	3069.5	0.07854
1054.	0.04389	3070.	0.08547
1054.5	0.2033	3070.5	0.09933
1055.	0.1409	3071.5	0.01155
1055.5	0.06468	3072.5	0.01617
1056.	0.2402	3074.	0.1779
1056.5	0.09471	3075.	0.06699
1057.	0.0924	3075.5	0.1871
1057.5	0.07161	3076.	0.2541
1058.	0.2888	3076.5	0.2657
1059.	0.1917	3078.	0.07854
1060.	0.194	3080.	0.2287
1061.	0.4135	3080.5	0.1686
1062.	0.03465	3081.5	0.1894
1062.5	0.1409	3082.	0.07854
1063.	0.1409	3082.5	0.06006
1063.5	0.1109	3083.	0.1178
1064.	0.1825	3083.5	0.05775
1064.5	0.09471	3085.	0.05082
1065.	0.06468	3085.5	0.1363
1066.	0.2125	3087.5	0.04158
1066.5	0.07623	3088.	0.01155
1067.	0.2033	3088.5	0.1848
1067.5	0.09471	3089.	0.3211
1068.	0.1224	3089.5	0.09009
1069.	0.0462	3090.	0.07161
1069.5	0.2726	3091.	0.1478
1070.	0.1086	3092.	0.2195
1070.5	0.02772	3093.	0.2657
1071.	0.08547	3093.5	0.1363
1071.5	0.06468	3094.	0.03927
1072.	0.1732	3095.5	0.01386
1072.5	0.1063	3097.	0.1178
1073.	0.1617	3097.5	0.01386
1073.5	0.01617	3098.	0.1871
1074.	0.194	3098.5	0.03234
1075.	0.2402	3099.	0.07161
1075.5	0.1409	3100.	0.1663
1076.	0.09471	3100.5	0.1294
1076.5	0.134	3101.	0.09933
1077.	0.1294	3102.	0.05082
1078.	0.02541	3102.5	0.1201
1078.5	0.104	3103.	0.1178
1079.	0.3188	3104.	0.03003

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1080.	0.1224	3104.5	0.1178
1081.	0.3188	3105.	0.09009
1081.5	0.00693	3106.5	0.1109
1083.	0.1825	3108.	0.07623
1084.	0.4712	3110.5	0.05082
1084.5	0.00693	3111.	0.06006
1085.5	0.1109	3113.	0.2657
1086.	0.1709	3115.	0.0693
1087.	0.1825	3116.	0.1571
1087.5	0.02541	3117.	0.1686
1088.	0.1617	3117.5	0.0693
1088.5	0.104	3118.	0.1594
1089.	0.2033	3118.5	0.2564
1090.	0.06468	3119.	0.2472
1090.5	0.00693	3120.	0.09009
1091.	0.05313	3120.5	0.0693
1091.5	0.01848	3121.	0.09009
1092.	0.1132	3122.	0.1201
1093.	0.1224	3123.	0.05775
1093.5	0.2102	3123.5	0.1109
1094.	0.328	3124.	0.0231
1094.5	0.04389	3125.5	0.1478
1095.	0.3511	3126.	0.2657
1095.5	0.1432	3127.	0.03927
1096.	0.2564	3127.5	0.1294
1096.5	0.04389	3128.	0.0231
1097.	0.2587	3130.	0.03927
1097.5	0.3188	3132.	0.1178
1098.	0.194	3132.5	0.2287
1098.5	0.1132	3133.	0.1571
1099.	0.00693	3135.	0.1294
1099.5	0.1917	3135.5	0.1201
1100.	0.2102	3137.	0.1871
1100.5	0.1617	3137.5	0.1848
1101.	0.04389	3138.	0.05082
1101.5	0.2425	3139.	0.01386
1102.	0.4551	3140.	0.1779
1102.5	0.02772	3141.	0.1109
1103.	0.2333	3142.	0.02541
1103.5	0.03465	3143.	0.1848
1104.	0.1709	3144.	0.1363
1104.5	0.00693	3144.5	0.09702
1105.	0.01617	3145.5	0.06237
1105.5	0.1063	3146.	0.1386
1106.	0.231	3147.	0.03003
1106.5	0.04389	3147.5	0.02541
1107.	0.231	3148.	0.0693
1107.5	0.03696	3148.5	0.01155
1108.	0.395	3149.	0.1386
1108.5	0.01617	3149.5	0.1779
1109.	0.01617	3150.	0.2957
1110.	0.201	3150.5	0.08085
1110.5	0.1271	3151.5	0.1386

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1111.	0.03465	3152.	0.2195
1111.5	0.07392	3154.	0.04158
1112.	0.2795	3155.	0.201
1112.5	0.01617	3156.	0.03927
1113.	0.02541	3156.5	0.03927
1113.5	0.104	3157.	0.04158
1114.	0.05313	3158.	0.09933
1114.5	0.1709	3159.	0.03234
1115.	0.08778	3159.5	0.00231
1115.5	0.1709	3160.	0.1132
1116.	0.2818	3161.	0.3904
1117.	0.104	3162.	0.1987
1117.5	0.2033	3163.	0.08085
1118.	0.164	3164.	0.03234
1118.5	0.3026	3165.	0.1478
1119.	0.09471	3166.	0.1201
1119.5	0.0462	3167.	0.1663
1120.	0.02772	3167.5	0.1386
1120.5	0.1317	3168.5	0.04851
1121.	0.328	3169.5	0.1894
1122.	0.1825	3170.	0.1386
1123.	0.1247	3170.5	0.1294
1123.5	0.07623	3171.	0.02079
1124.	0.06468	3171.5	0.01617
1125.5	0.1502	3173.	0.1964
1126.	0.104	3174.	0.2056
1126.5	0.104	3176.	0.09702
1127.	0.03465	3177.	0.09009
1128.	0.2218	3177.5	0.02541
1128.5	0.02541	3178.	0.09933
1129.	0.2864	3178.5	0.1386
1129.5	0.1732	3179.	0.01155
1130.	0.104	3179.5	0.01155
1130.5	0.1825	3180.	0.2356
1131.	0.1525	3180.5	0.05082
1131.5	0.3396	3181.	0.01386
1132.	0.1432	3181.5	0.07161
1132.5	0.07392	3182.5	0.00231
1133.	0.231	3184.	0.1178
1133.5	0.2056	3185.	0.2657
1134.	0.09471	3186.	0.0693
1135.	0.164	3187.5	0.0693
1135.5	0.2472	3189.	0.3627
1136.	0.1132	3189.5	0.02079
1136.5	0.1732	3190.	0.1178
1137.	0.3511	3191.	0.1686
1137.5	0.05544	3191.5	0.01386
1138.	0.1063	3192.	0.05082
1138.5	0.2864	3193.	0.03465
1139.5	0.2218	3194.5	0.05313
1140.	0.02541	3195.	0.1294
1140.5	0.09471	3196.	0.335
1141.	0.00693	3196.5	0.08085

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1142.	0.231	3197.	0.0231
1142.5	0.134	3198.	0.2102
1143.	0.1086	3199.	0.1455
1143.5	0.1709	3199.5	0.03234
1144.	0.2033	3200.	0.1686
1145.	0.2818	3201.	0.1779
1145.5	0.3026	3201.5	0.03234
1146.	0.2218	3202.	0.00462
1146.5	0.261	3203.	0.1294
1147.	0.1732	3204.	0.1201
1147.5	0.1271	3205.	0.08085
1148.	0.1709	3205.5	0.03465
1148.5	0.2218	3206.5	0.2079
1149.	0.261	3207.	0.268
1150.	0.2033	3208.5	0.1294
1150.5	0.1432	3209.5	0.01386
1151.	0.1271	3211.	0.1155
1151.5	0.06699	3211.5	0.00231
1152.	0.2518	3213.	0.1317
1152.5	0.3303	3213.5	0.1594
1154.	0.2333	3214.	0.1964
1154.5	0.09471	3214.5	0.02079
1155.	0.00693	3215.	0.07392
1155.5	0.00462	3216.	0.1132
1156.	0.09471	3217.	0.02079
1156.5	0.1709	3218.	0.04851
1157.	0.4066	3218.5	0.03234
1157.5	0.00693	3219.	0.07161
1158.	0.2218	3219.5	0.05082
1158.5	0.08547	3220.	0.01386
1159.	0.1224	3221.	0.09702
1160.	0.06468	3222.	0.09933
1160.5	0.01848	3223.	0.04389
1161.	0.1432	3223.5	0.1317
1161.5	0.05313	3224.	0.1594
1162.	0.194	3225.	0.09933
1163.	0.1247	3226.	0.05313
1164.	0.07854	3227.	0.2195
1165.	0.2518	3227.5	0.09009
1165.5	0.03696	3228.	0.08778
1166.	0.2102	3228.5	0.07161
1166.5	0.1455	3229.	0.09009
1167.	0.2402	3229.5	0.03234
1168.	0.1247	3230.	0.01386
1168.5	0.06468	3230.5	0.03234
1169.	0.06699	3232.	0.05775
1169.5	0.1363	3233.	0.1109
1170.	0.02772	3233.5	0.02541
1171.	0.1709	3234.	0.1201
1171.5	0.1825	3235.5	0.02541
1172.	0.1825	3236.	0.2472
1172.5	0.1825	3236.5	0.01386
1173.	0.2703	3237.	0.07161

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1174.	0.1525	3237.5	0.1779
1175.	0.1455	3238.	0.07161
1176.	0.1709	3238.5	0.04158
1176.5	0.03696	3239.	0.2657
1177.	0.2102	3239.5	0.1016
1178.	0.3026	3240.	0.1109
1178.5	0.1432	3240.5	0.0231
1179.	0.02772	3241.	0.02079
1179.5	0.134	3242.5	0.1086
1180.	0.2425	3244.	0.01155
1180.5	0.07392	3245.5	0.08085
1181.	0.01848	3246.5	0.1109
1181.5	0.04389	3248.	0.03234
1182.	0.01617	3249.	0.08085
1182.5	0.2218	3250.5	0.09009
1183.	0.3188	3251.	0.06006
1183.5	0.1132	3251.5	0.1409
1184.	0.1709	3252.	0.09933
1184.5	0.09471	3253.	0.1294
1185.	0.08547	3255.5	0.1802
1185.5	0.01386	3257.	0.1779
1186.	0.4736	3258.	0.1109
1186.5	0.03465	3259.	0.04158
1187.	0.2818	3260.	0.1871
1187.5	0.03696	3260.5	0.1016
1188.	0.2703	3262.	0.1178
1189.	0.2356	3262.5	0.1109
1190.5	0.03927	3263.	0.04851
1191.	0.2287	3264.	0.1294
1191.5	0.1432	3264.5	0.0231
1192.	0.0462	3266.	0.201
1192.5	0.08778	3268.	0.1686
1193.	0.1732	3270.	0.08316
1194.	0.1109	3270.5	0.00231
1194.5	0.2218	3271.	0.08316
1195.	0.1825	3271.5	0.09933
1195.5	0.03696	3272.	0.1686
1196.	0.1732	3273.	0.2356
1196.5	0.134	3275.	0.1386
1197.	0.1502	3276.	0.1594
1197.5	0.3026	3276.5	0.05313
1198.	0.2818	3277.	0.365
1198.5	0.2033	3278.5	0.02541
1199.	0.1317	3279.	0.1086
1200.	0.04389	3280.	0.1294
1201.	0.1825	3282.	0.2957
1201.5	0.04389	3282.5	0.04158
1202.	0.1224	3283.	0.1016
1203.	0.1617	3284.	0.00231
1203.5	0.1063	3284.5	0.2703
1204.	0.1525	3285.5	0.1779
1206.	0.05544	3286.	0.2449
1206.5	0.1917	3286.5	0.1294

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1208.	0.1063	3287.	0.05082
1208.5	0.164	3287.5	0.03465
1209.5	0.06468	3288.	0.1686
1210.	0.2218	3288.5	0.08085
1210.5	0.1063	3289.5	0.1478
1211.	0.2218	3290.	0.1478
1211.5	0.2449	3291.	0.2195
1212.5	0.02772	3291.5	0.1294
1213.	0.2541	3292.	0.3142
1213.5	0.05313	3292.5	0.03234
1214.	0.3881	3293.	0.1709
1215.	0.1502	3294.	0.2657
1215.5	0.04851	3294.5	0.00462
1216.	0.1525	3295.	0.03696
1216.5	0.1063	3296.5	0.1317
1217.	0.1247	3297.	0.2102
1218.	0.134	3297.5	0.06237
1218.5	0.1848	3298.	0.08316
1219.	0.395	3298.5	0.00462
1220.	0.3026	3299.5	0.09933
1220.5	0.05544	3300.5	0.1686
1221.	0.3881	3301.	0.02541
1221.5	0.1063	3302.	0.09933
1222.	0.06468	3303.	0.07161
1222.5	0.1132	3304.	0.2749
1223.	0.231	3304.5	0.01617
1223.5	0.06468	3306.	0.1317
1224.	0.08778	3307.	0.0231
1224.5	0.2241	3308.	0.02772
1225.	0.0462	3309.	0.08085
1225.5	0.06468	3310.	0.02541
1226.	0.3373	3311.	0.1478
1226.5	0.1317	3312.	0.1709
1227.	0.05544	3313.	0.1317
1227.5	0.2587	3314.	0.1294
1228.	0.1247	3314.5	0.0924
1229.	0.1432	3315.	0.1386
1230.	0.3858	3315.5	0.01386
1231.	0.2518	3317.5	0.1294
1231.5	0.06468	3318.	0.1294
1232.	0.1964	3318.5	0.0231
1233.	0.1825	3319.	0.1294
1234.	0.1502	3319.5	0.01848
1234.5	0.02541	3320.	0.08316
1235.	0.1732	3320.5	0.04389
1236.	0.09471	3321.	0.1987
1237.	0.1964	3322.	0.0924
1237.5	0.07623	3322.5	0.09009
1238.	0.03696	3323.	0.06006
1238.5	0.164	3324.5	0.02541
1239.	0.2218	3325.	0.231
1239.5	0.1247	3325.5	0.05313
1240.	0.2218	3326.5	0.4066

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1241.	0.1964	3327.	0.1686
1241.5	0.194	3329.	0.1224
1242.5	0.07623	3330.	0.1594
1243.	0.2125	3331.	0.0231
1243.5	0.1132	3332.	0.1409
1244.	0.2102	3333.	0.1502
1244.5	0.06699	3334.	0.1594
1245.	0.1848	3335.	0.09009
1245.5	0.00693	3336.	0.1294
1246.	0.2818	3337.	0.09009
1247.	0.1247	3338.	0.08316
1247.5	0.1478	3338.5	0.2495
1248.	0.09702	3340.5	0.03465
1249.	0.261	3341.	0.04389
1249.5	0.0462	3342.	0.1594
1250.	0.164	3342.5	0.06006
1250.5	0.05544	3343.	0.06237
1251.	0.08778	3344.	0.2449
1251.5	0.01848	3344.5	0.1802
1252.	0.07392	3345.	0.2079
1253.	0.01848	3346.	0.2587
1253.5	0.02772	3346.5	0.1894
1254.	0.07392	3347.	0.0924
1255.	0.1525	3347.5	0.03465
1255.5	0.1964	3348.	0.1571
1256.	0.09471	3349.	0.05313
1257.	0.134	3349.5	0.1502
1257.5	0.1224	3350.	0.1802
1258.	0.3049	3350.5	0.01617
1259.	0.2125	3351.	0.1478
1259.5	0.08547	3352.	0.2772
1260.	0.164	3352.5	0.1294
1260.5	0.1432	3353.5	0.02541
1261.	0.1825	3354.	0.07392
1262.	0.1247	3355.	0.2195
1263.	0.134	3356.	0.2195
1263.5	0.1502	3357.	0.1201
1264.	0.1063	3358.5	0.01617
1264.5	0.1224	3359.	0.2356
1265.	0.164	3359.5	0.04389
1266.	0.194	3360.	0.1201
1267.	0.01848	3361.	0.04389
1267.5	0.1432	3361.5	0.1109
1268.	0.2148	3364.	0.1409
1268.5	0.1086	3365.	0.201
1269.	0.1917	3366.	0.1016
1269.5	0.04851	3366.5	0.05082
1270.	0.06699	3367.5	0.07161
1271.	0.3026	3368.5	0.1386
1271.5	0.08778	3369.	0.1016
1272.	0.3996	3370.	0.07623
1273.	0.1825	3370.5	0.1224
1274.	0.2518	3371.	0.00462

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1274.5	0.03927	3372.	0.1201
1275.	0.1247	3373.	0.04851
1275.5	0.08778	3374.	0.07392
1276.5	0.1848	3374.5	0.08547
1277.	0.2218	3375.	0.07161
1277.5	0.1432	3376.5	0.06006
1278.	0.1617	3377.	0.1317
1279.	0.2749	3378.	0.05082
1279.5	0.03696	3378.5	0.0231
1280.	0.2333	3379.	0.134
1281.	0.1709	3379.5	0.03465
1282.	0.1525	3380.	0.1317
1282.5	0.1525	3381.	0.1201
1283.	0.1964	3382.	0.07854
1284.	0.134	3382.5	0.04389
1284.5	0.07623	3383.	0.05082
1285.	0.0462	3383.5	0.07392
1286.	0.05544	3384.	0.3049
1286.5	0.06699	3385.5	0.01386
1287.	0.02772	3386.	0.05082
1287.5	0.1363	3387.	0.1894
1289.	0.01848	3388.	0.231
1289.5	0.03696	3389.	0.03465
1290.	0.1617	3389.5	0.06237
1291.	0.3511	3390.	0.1317
1292.	0.2425	3390.5	0.07161
1292.5	0.00924	3391.	0.1502
1293.	0.06699	3391.5	0.00231
1293.5	0.1363	3392.	0.0924
1294.	0.1247	3393.	0.08547
1294.5	0.1432	3393.5	0.08316
1295.	0.164	3394.	0.2218
1295.5	0.02772	3395.	0.2356
1296.	0.1525	3395.5	0.00231
1297.	0.3696	3396.	0.2518
1298.	0.2218	3397.	0.01848
1298.5	0.2241	3398.	0.104
1299.	0.09702	3400.5	0.03465
1299.5	0.07854	3401.	0.0924
1300.	0.1756	3401.5	0.0924
1300.5	0.0462	3402.	0.05313
1301.	0.06699	3402.5	0.04389
1301.5	0.08778	3403.	0.01386
1302.	0.2218	3403.5	0.08316
1302.5	0.02772	3404.	0.06006
1303.	0.1732	3405.	0.00231
1303.5	0.05775	3406.	0.0231
1304.	0.2633	3406.5	0.1155
1304.5	0.2056	3407.	0.1409
1305.	0.1525	3408.	0.2195
1305.5	0.03927	3408.5	0.1802
1306.	0.07623	3409.	0.2102
1306.5	0.06699	3409.5	0.07392

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1307.	0.134	3410.	0.201
1307.5	0.164	3411.	0.1016
1308.	0.2425	3412.	0.1686
1308.5	0.1732	3412.5	0.02772
1309.	0.00693	3413.	0.06468
1309.5	0.1525	3413.5	0.0924
1310.	0.07623	3414.	0.05082
1311.	0.3811	3415.	0.00231
1312.	0.06699	3415.5	0.04158
1313.	0.3511	3417.	0.231
1314.	0.3811	3419.	0.1109
1315.	0.2333	3420.	0.1802
1315.5	0.1756	3421.	0.00231
1316.	0.164	3422.	0.1317
1316.5	0.1756	3423.	0.04389
1317.	0.09471	3424.	0.05313
1318.	0.2888	3425.	0.07392
1318.5	0.1825	3425.5	0.02541
1319.	0.1548	3426.5	0.231
1319.5	0.04389	3427.	0.1386
1320.	0.02772	3428.	0.1317
1320.5	0.00693	3429.	0.1594
1321.	0.2495	3430.	0.03465
1321.5	0.134	3430.5	0.268
1322.	0.09471	3431.	0.1894
1323.	0.1709	3433.5	0.1594
1324.	0.06699	3435.	0.2703
1326.	0.2218	3436.	0.1802
1327.	0.2587	3436.5	0.03465
1328.	0.1432	3437.5	0.07161
1328.5	0.04851	3438.	0.03465
1329.	0.1825	3438.5	0.2195
1329.5	0.2425	3439.5	0.00231
1330.	0.1732	3440.5	0.08316
1330.5	0.1247	3441.5	0.0924
1331.	0.0462	3442.5	0.01617
1332.	0.01848	3443.	0.1594
1332.5	0.05775	3443.5	0.06468
1334.	0.06699	3444.	0.02541
1335.	0.1132	3445.	0.1224
1336.	0.164	3445.5	0.04389
1336.5	0.231	3446.	0.08085
1337.	0.1178	3448.	0.02541
1339.	0.04851	3449.5	0.04389
1340.	0.1848	3450.	0.09009
1341.	0.3811	3451.	0.07623
1341.5	0.08778	3452.	0.06237
1342.	0.3534	3453.	0.1155
1342.5	0.2218	3455.	0.09933
1344.	0.3604	3455.5	0.08547
1345.	0.3095	3456.	0.01848
1346.	0.07854	3457.	0.1686
1347.	0.1756	3458.	0.1224

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1348.	0.09471	3458.5	0.09009
1349.	0.08778	3459.	0.01617
1350.	0.1363	3460.5	0.07392
1351.	0.06699	3461.5	0.1478
1352.	0.1848	3462.5	0.1247
1352.5	0.09702	3463.	0.02541
1353.	0.07623	3464.	0.1317
1353.5	0.2056	3465.	0.2703
1354.	0.06699	3465.5	0.00693
1355.	0.02772	3466.	0.0231
1356.	0.00924	3466.5	0.0924
1356.5	0.2356	3467.5	0.01617
1357.	0.2425	3468.	0.03465
1357.5	0.261	3469.	0.1894
1358.	0.02772	3469.5	0.04389
1358.5	0.08778	3470.	0.2102
1359.	0.1779	3470.5	0.231
1360.5	0.00924	3472.5	0.0924
1361.	0.2356	3473.	0.1432
1361.5	0.2726	3473.5	0.1409
1362.	0.1155	3474.	0.04389
1362.5	0.0462	3475.	0.1201
1363.5	0.1363	3476.	0.08316
1364.	0.07623	3477.	0.04158
1364.5	0.1825	3477.5	0.04389
1365.	0.2425	3478.	0.07392
1365.5	0.2356	3478.5	0.02772
1366.	0.3188	3479.	0.08316
1366.5	0.3696	3479.5	0.0924
1367.	0.04389	3480.	0.1224
1368.5	0.1086	3481.	0.01617
1369.5	0.1548	3482.	0.261
1370.	0.1732	3482.5	0.00462
1370.5	0.02772	3483.	0.1848
1371.	0.2356	3483.5	0.1132
1372.	0.02772	3485.	0.1409
1372.5	0.09471	3488.	0.1917
1373.	0.09702	3490.5	0.00462
1373.5	0.03696	3491.	0.1594
1374.	0.3604	3491.5	0.1802
1376.	0.1155	3492.5	0.01848
1376.5	0.164	3493.	0.1386
1377.	0.1525	3493.5	0.01848
1377.5	0.1132	3494.	0.2864
1378.	0.2818	3496.	0.1617
1378.5	0.00231	3497.	0.09933
1379.	0.2033	3498.	0.1386
1379.5	0.00924	3498.5	0.00231
1380.	0.1779	3501.5	0.0462
1381.	0.0693	3502.	0.2402
1381.5	0.00924	3504.5	0.134
1382.5	0.02772	3505.	0.2195
1383.	0.1294	3505.5	0.03003

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1383.5	0.164	3506.5	0.06468
1384.	0.1132	3507.	0.00462
1384.5	0.03003	3508.	0.00462
1385.	0.4112	3509.	0.05313
1385.5	0.1271	3510.	0.1016
1386.	0.1271	3512.	0.201
1386.5	0.02079	3512.5	0.1016
1387.5	0.1132	3513.	0.1317
1388.	0.4112	3514.	0.02541
1389.	0.2818	3515.	0.01386
1389.5	0.06006	3516.5	0.05544
1390.5	0.2033	3517.	0.04389
1391.	0.2633	3517.5	0.00693
1392.	0.1063	3518.	0.09471
1393.	0.2125	3519.	0.2564
1393.5	0.07854	3519.5	0.07392
1394.	0.1455	3520.	0.1709
1395.	0.2425	3521.	0.1409
1396.	0.07854	3522.	0.03696
1396.5	0.134	3523.	0.2195
1397.5	0.02772	3524.	0.1247
1398.5	0.0462	3525.	0.0924
1399.	0.1086	3526.	0.4412
1400.	0.02772	3527.	0.2518
1401.	0.06699	3527.5	0.0462
1401.5	0.1086	3528.	0.2402
1402.5	0.3026	3529.	0.07392
1403.	0.1779	3530.	0.0924
1403.5	0.2264	3531.	0.1732
1404.	0.1063	3532.	0.1109
1407.	0.2356	3533.	0.01386
1408.	0.2472	3534.	0.1617
1408.5	0.2241	3535.5	0.104
1409.	0.194	3536.	0.1525
1409.5	0.07854	3537.	0.231
1410.	0.3303	3538.	0.00462
1410.5	0.02079	3539.	0.2495
1411.	0.04851	3539.5	0.05313
1411.5	0.1548	3540.	0.1201
1413.	0.2749	3540.5	0.03696
1413.5	0.1086	3541.	0.1917
1415.	0.1063	3542.	0.3188
1416.	0.0462	3543.	0.00693
1416.5	0.1756	3545.	0.1016
1417.	0.3234	3547.5	0.06006
1417.5	0.02079	3548.	0.2102
1418.5	0.1455	3549.	0.3557
1419.	0.3188	3549.5	0.04389
1419.5	0.09933	3550.	0.2703
1420.	0.134	3551.	0.04389
1420.5	0.05082	3551.5	0.05313
1422.	0.1455	3552.	0.03696
1423.	0.1525	3553.	0.268

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1424.	0.2911	3553.5	0.06237
1425.5	0.00924	3554.5	0.05082
1426.	0.3211	3555.	0.2033
1427.	0.04158	3556.	0.03234
1428.	0.09702	3557.	0.2125
1428.5	0.09933	3558.5	0.1502
1429.	0.134	3559.	0.1016
1429.5	0.1455	3560.	0.08316
1430.	0.1548	3561.	0.0924
1430.5	0.03696	3562.	0.201
1431.	0.1825	3564.	0.08547
1431.5	0.03927	3564.5	0.0462
1432.	0.1132	3565.5	0.1802
1432.5	0.2056	3566.	0.02772
1433.	0.1178	3567.	0.104
1433.5	0.01848	3568.	0.06237
1434.	0.1964	3569.	0.06237
1435.	0.2356	3570.	0.1317
1435.5	0.03927	3571.	0.104
1436.	0.08778	3572.	0.09702
1436.5	0.02772	3573.	0.1802
1437.	0.06699	3573.5	0.01386
1438.	0.09702	3574.	0.231
1438.5	0.2633	3575.5	0.03465
1439.	0.1548	3576.5	0.07623
1440.	0.3234	3577.	0.01617
1440.5	0.05775	3577.5	0.04389
1441.	0.1271	3578.	0.1917
1442.	0.1271	3578.5	0.05313
1442.5	0.1086	3579.	0.1317
1443.	0.2056	3580.	0.1987
1444.	0.07854	3580.5	0.02541
1445.	0.08778	3581.	0.1617
1446.	0.3303	3582.	0.231
1446.5	0.0693	3582.5	0.07623
1447.	0.1363	3583.	0.06006
1447.5	0.04158	3584.	0.07392
1448.	0.2772	3585.	0.08547
1449.	0.07854	3586.	0.1109
1449.5	0.06699	3586.5	0.1709
1450.	0.04851	3587.	0.04389
1450.5	0.04158	3587.5	0.06237
1451.	0.1086	3588.	0.2079
1452.	0.2033	3589.	0.2218
1452.5	0.00924	3590.	0.09471
1453.	0.00924	3591.	0.08316
1453.5	0.09009	3591.5	0.03465
1454.	0.1478	3592.	0.1617
1454.5	0.04851	3594.	0.1317
1455.	0.2818	3594.5	0.03927
1457.	0.1155	3595.	0.2379
1458.	0.2818	3595.5	0.05313
1458.5	0.02079	3596.	0.1016

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1459.	0.1848	3596.5	0.1548
1459.5	0.09009	3597.	0.2033
1460.	0.05775	3598.	0.201
1462.	0.08778	3598.5	0.02772
1462.5	0.03927	3599.	0.1594
1463.	0.3604	3600.	0.1802
1463.5	0.05082	3601.	0.1016
1464.	0.4112	3602.	0.1894
1464.5	0.1086	3603.	0.1732
1465.	0.03003	3603.5	0.07623
1465.5	0.1294	3604.	0.2888
1466.	0.2056	3604.5	0.04851
1467.	0.1455	3605.	0.0462
1467.5	0.03927	3605.5	0.05544
1468.5	0.2333	3606.	0.01617
1469.	0.1825	3608.	0.1894
1469.5	0.09702	3609.	0.1478
1470.	0.2079	3609.5	0.02541
1471.	0.07623	3610.	0.06006
1471.5	0.00924	3610.5	0.01848
1472.5	0.1086	3611.	0.1802
1473.	0.2241	3611.5	0.134
1474.5	0.2841	3612.	0.06468
1475.	0.1086	3613.	0.06237
1476.	0.06006	3614.	0.1894
1476.5	0.01155	3616.	0.3373
1477.	0.1848	3617.5	0.134
1477.5	0.05544	3618.	0.07392
1478.	0.1455	3619.	0.1317
1479.	0.02079	3620.	0.2518
1479.5	0.2195	3622.	0.06237
1480.	0.03927	3623.	0.3003
1481.	0.1756	3623.5	0.01848
1481.5	0.05775	3624.	0.1409
1482.5	0.1294	3625.	0.02541
1483.	0.2518	3626.	0.1502
1483.5	0.1178	3626.5	0.01617
1484.5	0.2356	3627.	0.07392
1485.	0.3049	3627.5	0.1617
1485.5	0.09933	3629.	0.07623
1486.	0.07623	3629.5	0.04389
1486.5	0.1964	3630.	0.0462
1487.	0.1987	3631.	0.07623
1487.5	0.1987	3632.5	0.1409
1488.	0.08778	3633.	0.0924
1488.5	0.09702	3634.5	0.1802
1489.	0.1363	3635.5	0.06237
1489.5	0.1663	3636.	0.1802
1490.	0.2818	3637.	0.06006
1490.5	0.1871	3639.	0.1502
1491.	0.0693	3640.	0.01848
1492.	0.201	3640.5	0.03696
1493.	0.3026	3641.5	0.04389

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1494.	0.1779	3642.	0.1502
1495.	0.1848	3643.	0.08316
1495.5	0.1109	3643.5	0.2402
1496.	0.3049	3644.	0.07392
1496.5	0.04158	3645.	0.07392
1497.	0.1756	3645.5	0.01848
1497.5	0.05082	3646.	0.0462
1499.	0.2564	3646.5	0.1016
1499.5	0.02079	3647.	0.1548
1500.	0.2934	3647.5	0.06006
1500.5	0.1363	3648.	0.05544
1501.	0.2934	3649.	0.1732
1501.5	0.2264	3649.5	0.01848
1502.	0.1086	3650.	0.04389
1502.5	0.1756	3650.5	0.2125
1503.	0.2079	3651.	0.09471
1503.5	0.1271	3652.	0.1155

SOLUTION

Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.896

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.6588	ft/day
y0	1.489	ft

K = 0.0002324 cm/sec
T = K*b = 10.34 ft²/day (0.1112 sq. cm/sec)

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	Approx. C.I.	t-Ratio	
K	0.6202	0.006409	+/- 0.01257	96.77	ft/day
y0	1.387	0.009325	+/- 0.01829	148.8	ft

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
Estimation window: 0 to 900 sec

K = 0.0002188 cm/sec
T = K*b = 9.737 ft²/day (0.1047 sq. cm/sec)

Parameter Correlations

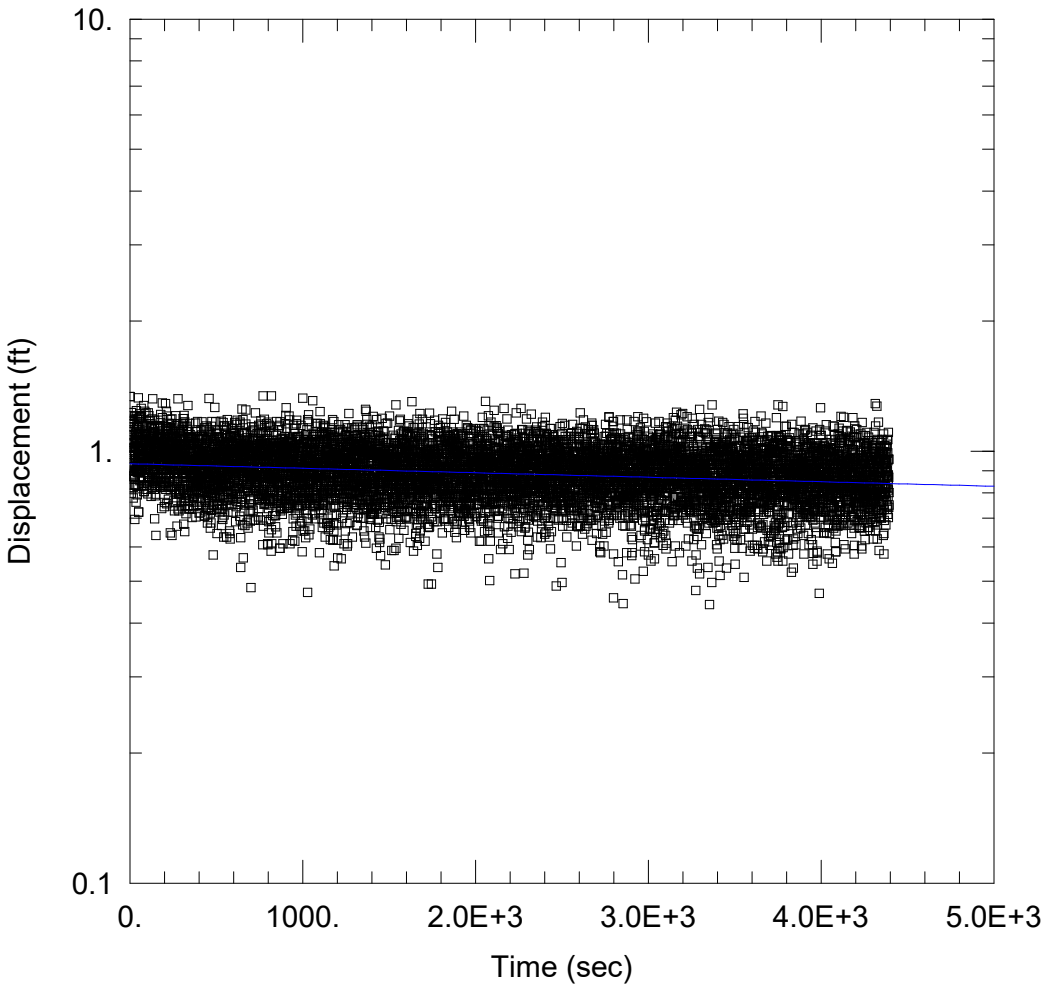
	K	y0
K	1.00	0.73
y0	0.73	1.00

Residual Statistics

for weighted residuals

Sum of Squares. . . 26.64 ft^2
Variance . . . . . 0.01501 ft^2
Std. Deviation . . . . . 0.1225 ft
Mean . . . . . 0.004221 ft
No. of Residuals . . 1777
No. of Estimates . . 2

Estimation window from 0 to 900 sec.



WELL TEST ANALYSIS

Data Set: C:\...\MW-105-SLUG-IN.aqt
Date: 10/19/26 Time: 16:33:26

PROJECT INFORMATION

Company: WSP
Client: SIPC
Test Well: MW-105
Test Date: 9/24/2026

AQUIFER DATA

Saturated Thickness: 5. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-105)

Initial Displacement: 1.337 ft
Total Well Penetration Depth: 5. ft
Casing Radius: 0.08333 ft
Static Water Column Height: 5. ft
Screen Length: 5. ft
Well Radius: 0.08333 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.004507 ft/day
y0 = 0.9347 ft

Data Set: C:\Users\USJV703850\WSP O365\GLD-21467997,SIPC Operating Permit Application IL - 5 Technical W
Date: 10/19/26
Time: 16:33:34

PROJECT INFORMATION

Company: WSP
Client: SIPC
Test Date: 9/24/2026
Test Well: MW-105

AQUIFER DATA

Saturated Thickness: 5. ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-105

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 1.337 ft
Static Water Column Height: 5. ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 1. ft
Screen Length: 5. ft
Total Well Penetration Depth: 5. ft

No. of Observations: 8788

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	1.337	2197.	0.9425
0.5	0.9379	2197.5	0.9725
1.	1.123	2198.	0.9148
1.5	1.162	2198.5	0.887
2.	1.113	2199.	0.9448
2.5	1.16	2199.5	0.924
3.	0.9263	2200.	0.6976
3.5	1.192	2200.5	1.049
4.	1.005	2201.	0.8732
4.5	1.183	2201.5	0.8316
5.	0.9818	2202.	0.7577
5.5	1.093	2202.5	0.8062
6.	1.171	2203.	0.7854
6.5	0.9194	2203.5	0.924
7.	0.9194	2204.	0.8639
7.5	0.7993	2204.5	0.9979
8.	1.044	2205.	0.9332
8.5	1.171	2205.5	0.8455
9.	1.229	2206.	1.021

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
9.5	1.083	2206.5	0.6491
10.	1.005	2207.	0.7854
10.5	0.9818	2207.5	1.093
11.	1.229	2208.	0.8154
11.5	0.9032	2208.5	0.9032
12.	1.056	2209.	0.8039
12.5	1.014	2209.5	0.8547
13.	1.09	2210.	0.9841
13.5	1.206	2210.5	0.8917
14.	0.9171	2211.	0.9101
14.5	1.208	2211.5	0.7646
15.	1.014	2212.	0.827
15.5	0.9032	2212.5	0.7623
16.	0.9933	2213.	0.9124
16.5	1.063	2213.5	0.7531
17.	1.021	2214.	0.8455
17.5	1.049	2214.5	0.7577
18.	1.088	2215.	0.8547
18.5	1.09	2215.5	0.8455
19.	1.	2216.	0.7669
19.5	0.7785	2216.5	1.003
20.	0.8247	2217.	0.6791
20.5	0.8847	2217.5	1.063
21.	1.157	2218.	0.6976
21.5	1.014	2218.5	0.8917
22.	0.9309	2219.	0.8247
22.5	1.137	2219.5	0.924
23.	0.8732	2220.	0.9656
23.5	0.8339	2220.5	0.7854
24.	0.991	2221.	0.7646
24.5	0.8755	2221.5	0.991
25.	1.019	2222.	0.8755
25.5	0.8732	2222.5	0.9032
26.	0.8801	2223.	1.012
26.5	0.8986	2223.5	1.033
27.	0.8616	2224.	0.9633
27.5	0.8362	2224.5	0.8639
28.	0.8616	2225.	0.7392
28.5	0.6953	2225.5	0.9448
29.	1.204	2226.	0.9818
29.5	0.9771	2226.5	1.09
30.	1.058	2227.	0.8339
30.5	0.9956	2227.5	0.8247
31.	0.9217	2228.	0.7184
31.5	1.028	2228.5	1.097
32.	0.961	2229.	0.5198
32.5	1.019	2229.5	1.021
33.	0.8339	2230.	0.887
33.5	1.1	2230.5	0.9332
34.	0.961	2231.	0.9425
34.5	0.8986	2231.5	0.8524
35.	1.026	2232.	1.012
35.5	0.7623	2232.5	0.7669

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
36.	1.042	2233.	0.8755
36.5	1.104	2233.5	1.06
37.	1.053	2234.	0.8917
37.5	0.9101	2234.5	1.06
38.	1.076	2235.	0.8755
38.5	1.24	2235.5	1.227
39.	0.8963	2236.	1.04
39.5	1.072	2236.5	0.9517
40.	1.058	2237.	0.8339
40.5	1.134	2237.5	0.9032
41.	0.8293	2238.	0.8455
41.5	0.9263	2238.5	0.7577
42.	1.162	2239.	0.9032
42.5	0.9101	2239.5	1.012
43.	1.183	2240.	0.7785
43.5	0.7923	2240.5	0.7369
44.	1.026	2241.	0.9448
44.5	0.9078	2241.5	1.1
45.	0.9448	2242.	0.7831
45.5	0.894	2242.5	0.961
46.	0.9748	2243.	0.887
46.5	0.8316	2243.5	0.7069
47.	1.093	2244.	0.8547
47.5	1.132	2244.5	1.04
48.	1.09	2245.	1.051
48.5	0.8917	2245.5	0.9633
49.	1.007	2246.	0.8293
49.5	1.328	2246.5	1.072
50.	1.171	2247.	0.8177
50.5	0.723	2247.5	0.9448
51.	0.723	2248.	0.8917
51.5	1.132	2248.5	0.9818
52.	0.9818	2249.	0.8917
52.5	0.9263	2249.5	0.6676
53.	0.9263	2250.	0.8362
53.5	0.9679	2250.5	1.021
54.	0.894	2251.	0.7554
54.5	1.192	2251.5	1.023
55.	1.	2252.	0.9124
55.5	0.9841	2252.5	1.
56.	1.093	2253.	0.9818
56.5	0.9148	2253.5	0.7369
57.	1.1	2254.	0.8917
57.5	1.111	2254.5	0.6884
58.	1.22	2255.	1.012
58.5	1.171	2255.5	0.9032
59.	0.8547	2256.	0.8547
59.5	0.9818	2256.5	0.8062
60.	1.063	2257.	0.7808
60.5	1.208	2257.5	0.8917
61.	0.8917	2258.	1.021
61.5	0.9448	2258.5	1.021
62.	1.197	2259.	0.827

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
62.5	1.042	2259.5	0.9217
63.	0.9448	2260.	0.8339
63.5	1.042	2260.5	1.
64.	1.1	2261.	0.797
64.5	0.9748	2261.5	0.954
65.	1.208	2262.	0.9448
65.5	1.051	2262.5	0.7369
66.	1.257	2263.	0.8062
66.5	0.857	2263.5	1.257
67.	0.954	2264.	0.9309
67.5	1.199	2264.5	0.9332
68.	0.9078	2265.	0.8455
68.5	1.051	2265.5	0.6514
69.	1.014	2266.	0.924
69.5	0.9148	2266.5	0.8154
70.	1.	2267.	0.924
70.5	0.9425	2267.5	1.
71.	0.9725	2268.	0.7877
71.5	0.9633	2268.5	1.123
72.	0.9078	2269.	0.8639
72.5	1.079	2269.5	0.9263
73.	0.9818	2270.	0.797
73.5	1.141	2270.5	0.8917
74.	1.076	2271.	1.081
74.5	1.148	2271.5	0.8547
75.	1.003	2272.	0.9309
75.5	1.012	2272.5	1.12
76.	0.9818	2273.	0.9148
76.5	0.8732	2273.5	0.8316
77.	0.924	2274.	0.961
77.5	0.961	2274.5	1.021
78.	0.8662	2275.	0.7646
78.5	0.8639	2275.5	0.9818
79.	0.954	2276.	0.894
79.5	1.028	2276.5	0.6999
80.	1.021	2277.	0.8062
80.5	0.9448	2277.5	0.9055
81.	1.275	2278.	0.8039
81.5	0.8293	2278.5	0.9124
82.	0.8062	2279.	0.7207
82.5	0.9309	2279.5	1.072
83.	0.8062	2280.	0.5221
83.5	0.8339	2280.5	0.8455
84.	0.9633	2281.	0.8455
84.5	1.097	2281.5	0.8917
85.	0.9055	2282.	0.9332
85.5	1.236	2282.5	0.9517
86.	1.06	2283.	0.7762
86.5	1.088	2283.5	1.021
87.	0.9425	2284.	0.7369
87.5	0.8917	2284.5	1.07
88.	1.058	2285.	0.8778
88.5	1.019	2285.5	1.021

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
89.	0.9124	2286.	0.8247
89.5	1.019	2286.5	0.7993
90.	1.116	2287.	0.663
90.5	0.9841	2287.5	1.1
91.	1.081	2288.	0.7669
91.5	1.106	2288.5	0.9263
92.	1.012	2289.	0.6676
92.5	0.9055	2289.5	1.051
93.	1.003	2290.	0.954
93.5	1.227	2290.5	0.9633
94.	1.06	2291.	0.7646
94.5	1.051	2291.5	0.894
95.	0.9124	2292.	0.6976
95.5	1.033	2292.5	0.8062
96.	0.9794	2293.	0.9332
96.5	1.1	2293.5	0.8154
97.	0.8339	2294.	0.9725
97.5	1.003	2294.5	1.187
98.	1.146	2295.	0.9332
98.5	1.137	2295.5	1.03
99.	0.954	2296.	0.8755
99.5	0.8154	2296.5	1.
100.	0.9332	2297.	1.003
100.5	1.	2297.5	0.9748
101.	0.9217	2298.	0.8085
101.5	1.051	2298.5	1.014
102.	0.9194	2299.	0.7669
102.5	0.8455	2299.5	0.9818
103.	0.8732	2300.	1.
103.5	1.021	2300.5	0.8177
104.	0.9725	2301.	0.8085
104.5	0.9702	2301.5	1.028
105.	0.797	2302.	0.6214
105.5	0.9217	2302.5	0.8755
106.	1.003	2303.	0.5752
106.5	0.9032	2303.5	1.023
107.	1.227	2304.	0.8085
107.5	1.003	2304.5	0.8755
108.	0.8639	2305.	1.118
108.5	0.8917	2305.5	0.991
109.	0.9794	2306.	0.6491
109.5	0.8732	2306.5	0.693
110.	1.208	2307.	1.1
110.5	0.9055	2307.5	0.8177
111.	1.009	2308.	0.7554
111.5	0.9725	2308.5	1.053
112.	1.137	2309.	0.9148
112.5	1.	2309.5	1.09
113.	0.8547	2310.	1.014
113.5	1.033	2310.5	1.042
114.	0.8339	2311.	0.8639
114.5	1.07	2311.5	0.7369
115.	1.042	2312.	0.5914

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
115.5	1.051	2312.5	0.8917
116.	0.9101	2313.	0.9124
116.5	1.012	2313.5	0.7554
117.	1.049	2314.	0.9818
117.5	1.07	2314.5	0.8547
118.	1.03	2315.	0.9818
118.5	1.176	2315.5	1.111
119.	0.9517	2316.	1.
119.5	0.9309	2316.5	0.7092
120.	1.058	2317.	0.9748
120.5	0.9725	2317.5	0.8339
121.	0.961	2318.	0.7392
121.5	1.157	2318.5	1.012
122.	0.991	2319.	0.9124
122.5	0.9517	2319.5	0.9725
123.	0.7854	2320.	1.012
123.5	0.9124	2320.5	0.8247
124.	0.8339	2321.	1.
124.5	1.04	2321.5	0.9332
125.	1.097	2322.	0.8455
125.5	1.13	2322.5	0.9471
126.	1.146	2323.	0.887
126.5	1.134	2323.5	1.217
127.	1.058	2324.	0.8639
127.5	1.051	2324.5	0.8524
128.	1.076	2325.	0.961
128.5	1.187	2325.5	0.9332
129.	0.9702	2326.	0.894
129.5	0.8247	2326.5	0.894
130.	1.058	2327.	0.7277
130.5	1.1	2327.5	0.8108
131.	1.139	2328.	0.9633
131.5	1.049	2328.5	1.051
132.	0.9379	2329.	0.8478
132.5	1.321	2329.5	0.8247
133.	0.8917	2330.	0.8478
133.5	0.9032	2330.5	0.8755
134.	1.076	2331.	0.8732
134.5	0.8455	2331.5	0.9148
135.	0.924	2332.	0.7692
135.5	1.058	2332.5	1.079
136.	0.8524	2333.	1.053
136.5	1.104	2333.5	0.7461
137.	0.9332	2334.	0.8455
137.5	1.	2334.5	0.8755
138.	1.097	2335.	0.8154
138.5	1.003	2335.5	0.9332
139.	0.8616	2336.	0.9563
139.5	1.104	2336.5	0.8339
140.	0.954	2337.	0.7069
140.5	0.9679	2337.5	0.9748
141.	0.8154	2338.	1.1
141.5	1.058	2338.5	0.9448

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
142.	0.9009	2339.	0.7993
142.5	1.148	2339.5	0.954
143.	0.6976	2340.	0.8478
143.5	1.178	2340.5	0.9055
144.	1.13	2341.	0.8755
144.5	1.109	2341.5	0.9748
145.	0.991	2342.	0.7484
145.5	0.9309	2342.5	0.9425
146.	0.8639	2343.	0.9841
146.5	0.9078	2343.5	0.9725
147.	0.7877	2344.	0.8755
147.5	0.8547	2344.5	1.003
148.	0.9379	2345.	0.7785
148.5	0.8639	2345.5	1.003
149.	0.8524	2346.	0.8085
149.5	0.8431	2346.5	1.118
150.	0.6376	2347.	0.8062
150.5	0.9818	2347.5	1.109
151.	0.7946	2348.	0.7092
151.5	0.9725	2348.5	0.7022
152.	0.9309	2349.	0.8755
152.5	1.049	2349.5	0.9332
153.	0.8316	2350.	0.887
153.5	1.021	2350.5	0.9332
154.	1.051	2351.	0.9517
154.5	1.033	2351.5	0.82
155.	0.9332	2352.	0.894
155.5	0.9309	2352.5	1.109
156.	1.07	2353.	0.8547
156.5	0.8709	2353.5	0.7277
157.	1.037	2354.	0.961
157.5	0.9702	2354.5	0.8455
158.	0.9702	2355.	1.137
158.5	1.	2355.5	0.8547
159.	1.076	2356.	0.8362
159.5	0.991	2356.5	0.8847
160.	1.134	2357.	1.063
160.5	1.042	2357.5	0.7877
161.	1.	2358.	0.8339
161.5	1.1	2358.5	1.005
162.	0.9702	2359.	0.6329
162.5	0.8524	2359.5	0.894
163.	0.9517	2360.	0.6884
163.5	0.8662	2360.5	0.8547
164.	1.178	2361.	1.
164.5	0.8824	2361.5	0.8547
165.	0.8662	2362.	0.7854
165.5	1.09	2362.5	1.1
166.	0.8824	2363.	0.924
166.5	1.076	2363.5	1.023
167.	1.042	2364.	0.9448
167.5	1.	2364.5	0.9425
168.	1.04	2365.	0.7646

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
168.5	1.07	2365.5	0.8062
169.	1.019	2366.	0.924
169.5	1.079	2366.5	1.03
170.	1.003	2367.	1.033
170.5	1.076	2367.5	0.9425
171.	1.139	2368.	0.924
171.5	0.9517	2368.5	0.827
172.	0.9217	2369.	0.954
172.5	0.9794	2369.5	0.9818
173.	1.106	2370.	0.9448
173.5	0.8316	2370.5	1.07
174.	0.8732	2371.	0.8917
174.5	0.9309	2371.5	0.9263
175.	0.9794	2372.	0.8847
175.5	1.116	2372.5	1.097
176.	0.9309	2373.	0.8339
176.5	0.8339	2373.5	0.8639
177.	0.9425	2374.	0.8755
177.5	1.146	2374.5	0.7669
178.	0.8917	2375.	0.961
178.5	0.8639	2375.5	1.1
179.	0.8247	2376.	0.7277
179.5	1.215	2376.5	0.9748
180.	0.9794	2377.	0.8062
180.5	1.019	2377.5	0.9425
181.	0.9725	2378.	0.6306
181.5	1.079	2378.5	0.7993
182.	0.8501	2379.	0.857
182.5	1.07	2379.5	0.8247
183.	0.9332	2380.	1.051
183.5	0.9032	2380.5	0.9933
184.	0.9055	2381.	1.033
184.5	0.7369	2381.5	0.6607
185.	0.954	2382.	0.8524
185.5	0.9679	2382.5	0.9841
186.	1.03	2383.	0.9517
186.5	1.049	2383.5	0.8639
187.	1.019	2384.	0.8177
187.5	1.294	2384.5	0.9124
188.	1.194	2385.	0.6791
188.5	0.9309	2385.5	1.053
189.	1.076	2386.	1.014
189.5	1.03	2386.5	1.137
190.	0.9725	2387.	0.9263
190.5	0.8316	2387.5	1.167
191.	0.9124	2388.	0.7508
191.5	1.04	2388.5	0.8247
192.	1.049	2389.	0.8755
192.5	1.03	2389.5	1.063
193.	1.019	2390.	0.7461
193.5	1.051	2390.5	0.8755
194.	0.9124	2391.	0.8917
194.5	0.8639	2391.5	0.8062

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
195.	0.8247	2392.	0.7854
195.5	1.	2392.5	0.8362
196.	0.924	2393.	0.9148
196.5	0.991	2393.5	0.8686
197.	1.03	2394.	0.8339
197.5	0.8455	2394.5	0.9148
198.	1.019	2395.	0.8339
198.5	0.9032	2395.5	0.954
199.	0.9078	2396.	0.8062
199.5	0.7438	2396.5	0.7554
200.	0.9979	2397.	0.8431
200.5	1.06	2397.5	1.097
201.	1.009	2398.	0.8177
201.5	0.9517	2398.5	0.8639
202.	1.06	2399.	0.827
202.5	1.003	2399.5	0.8085
203.	0.76	2400.	0.6422
203.5	1.049	2400.5	0.6999
204.	0.991	2401.	1.051
204.5	0.9725	2401.5	1.03
205.	0.9055	2402.	0.9425
205.5	0.8431	2402.5	1.063
206.	1.289	2403.	0.8154
206.5	1.139	2403.5	1.148
207.	0.9887	2404.	0.9633
207.5	0.8917	2404.5	1.197
208.	0.9818	2405.	1.04
208.5	0.8154	2405.5	0.8755
209.	1.13	2406.	0.7207
209.5	0.9055	2406.5	1.06
210.	1.13	2407.	0.7785
210.5	0.8339	2407.5	0.6491
211.	1.046	2408.	0.76
211.5	1.236	2408.5	0.8455
212.	0.9794	2409.	0.9032
212.5	0.9101	2409.5	1.1
213.	1.139	2410.	0.7115
213.5	0.7554	2410.5	0.8755
214.	1.06	2411.	0.7808
214.5	1.051	2411.5	0.8177
215.	1.206	2412.	0.8755
215.5	0.9517	2412.5	0.9032
216.	0.961	2413.	0.9332
216.5	1.097	2413.5	0.9841
217.	0.924	2414.	0.8524
217.5	1.03	2414.5	0.9332
218.	0.9032	2415.	0.8154
218.5	1.127	2415.5	1.072
219.	1.118	2416.	1.093
219.5	1.049	2416.5	0.8963
220.	0.9933	2417.	0.7669
220.5	0.827	2417.5	0.961
221.	1.16	2418.	1.081

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
221.5	0.9887	2418.5	0.894
222.	0.9517	2419.	0.8662
222.5	1.116	2419.5	0.6884
223.	0.7739	2420.	0.9217
223.5	0.954	2420.5	0.8755
224.	0.9332	2421.	0.9055
224.5	1.118	2421.5	0.7993
225.	0.8455	2422.	0.8917
225.5	1.067	2422.5	0.8847
226.	0.9124	2423.	1.003
226.5	1.033	2423.5	0.924
227.	0.9332	2424.	0.6722
227.5	1.003	2424.5	0.8662
228.	0.8524	2425.	0.7785
228.5	0.8917	2425.5	0.797
229.	1.009	2426.	0.7831
229.5	1.003	2426.5	0.961
230.	0.9101	2427.	0.8154
230.5	1.007	2427.5	0.9517
231.	1.051	2428.	0.8478
231.5	0.9032	2428.5	1.03
232.	0.924	2429.	0.6329
232.5	0.8293	2429.5	1.093
233.	0.9725	2430.	1.06
233.5	0.8662	2430.5	0.8547
234.	1.127	2431.	0.9748
234.5	0.6468	2431.5	0.8639
235.	0.8131	2432.	0.9263
235.5	1.042	2432.5	1.127
236.	1.185	2433.	0.8154
236.5	1.04	2433.5	0.7785
237.	0.9794	2434.	0.5937
237.5	0.9032	2434.5	0.9332
238.	0.8662	2435.	0.6999
238.5	1.127	2435.5	0.954
239.	0.9679	2436.	0.8085
239.5	0.9425	2436.5	0.8755
240.	1.088	2437.	0.9933
240.5	0.924	2437.5	0.954
241.	1.058	2438.	0.9032
241.5	0.9633	2438.5	1.127
242.	1.16	2439.	0.6514
242.5	1.04	2439.5	1.003
243.	1.187	2440.	0.8662
243.5	0.6376	2440.5	0.8478
244.	1.049	2441.	0.8547
244.5	1.1	2441.5	0.8755
245.	1.118	2442.	0.8339
245.5	1.076	2442.5	0.9471
246.	0.8247	2443.	0.8616
246.5	0.9494	2443.5	0.9263
247.	1.076	2444.	0.7415
247.5	1.076	2444.5	1.04

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
248.	0.8501	2445.	0.7646
248.5	0.9656	2445.5	1.09
249.	0.7461	2446.	0.954
249.5	0.9124	2446.5	0.7877
250.	0.9124	2447.	0.9656
250.5	1.1	2447.5	0.8755
251.	0.954	2448.	0.8847
251.5	0.827	2448.5	1.093
252.	0.9124	2449.	0.7277
252.5	1.076	2449.5	0.9933
253.	1.03	2450.	0.76
253.5	0.924	2450.5	1.053
254.	0.8917	2451.	0.887
254.5	0.8732	2451.5	0.8755
255.	0.9656	2452.	0.8085
255.5	0.7669	2452.5	1.081
256.	1.076	2453.	0.6999
256.5	0.9794	2453.5	0.8154
257.	1.005	2454.	0.9332
257.5	0.9633	2454.5	0.9841
258.	0.8917	2455.	0.7646
258.5	0.7277	2455.5	0.9864
259.	0.8547	2456.	0.8501
259.5	0.8662	2456.5	1.063
260.	0.8154	2457.	0.9055
260.5	0.991	2457.5	1.019
261.	0.8547	2458.	1.046
261.5	1.13	2458.5	0.887
262.	0.8917	2459.	0.7369
262.5	0.9332	2459.5	0.9818
263.	1.07	2460.	0.7277
263.5	0.76	2460.5	0.8963
264.	1.109	2461.	0.7785
264.5	1.	2461.5	0.9748
265.	1.03	2462.	0.8431
265.5	0.9032	2462.5	1.04
266.	1.208	2463.	0.7369
266.5	0.797	2463.5	0.9332
267.	0.9563	2464.	0.9494
267.5	1.06	2464.5	0.9055
268.	1.146	2465.	0.7508
268.5	1.016	2465.5	1.049
269.	0.8154	2466.	0.9933
269.5	1.021	2466.5	0.8177
270.	0.8062	2467.	0.9633
270.5	0.8824	2467.5	0.9286
271.	1.088	2468.	0.4874
271.5	0.827	2468.5	1.053
272.	0.9633	2469.	0.7508
272.5	0.8917	2469.5	0.7877
273.	0.9332	2470.	0.7577
273.5	0.6699	2470.5	0.9148
274.	1.109	2471.	0.8062

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
274.5	1.051	2471.5	0.9032
275.	1.033	2472.	1.014
275.5	0.8547	2472.5	0.9841
276.	0.8917	2473.	0.8062
276.5	1.157	2473.5	0.9078
277.	0.954	2474.	0.8755
277.5	1.042	2474.5	0.887
278.	0.7346	2475.	0.8847
278.5	0.9702	2475.5	0.9656
279.	1.012	2476.	0.827
279.5	1.321	2476.5	0.9748
280.	0.9263	2477.	0.8778
280.5	0.9124	2477.5	0.9309
281.	0.9818	2478.	0.9725
281.5	0.7993	2478.5	1.053
282.	0.9055	2479.	0.8686
282.5	0.9702	2479.5	0.693
283.	1.109	2480.	0.8062
283.5	0.9055	2480.5	0.9748
284.	1.03	2481.	0.8154
284.5	0.7277	2481.5	1.056
285.	1.053	2482.	0.8362
285.5	0.9702	2482.5	1.023
286.	1.033	2483.	0.6976
286.5	0.8131	2483.5	0.7993
287.	0.797	2484.	0.8963
287.5	1.03	2484.5	0.9425
288.	0.8062	2485.	0.9448
288.5	1.06	2485.5	0.924
289.	0.9725	2486.	0.8755
289.5	0.991	2486.5	0.7669
290.	0.9078	2487.	0.8847
290.5	0.9933	2487.5	1.003
291.	0.8131	2488.	0.9332
291.5	1.033	2488.5	0.8154
292.	0.8154	2489.	1.063
292.5	1.088	2489.5	1.139
293.	0.797	2490.	0.887
293.5	1.07	2490.5	0.9841
294.	1.003	2491.	0.7993
294.5	0.9124	2491.5	0.8755
295.	0.9217	2492.	0.8547
295.5	0.9979	2492.5	1.003
296.	0.961	2493.	0.8639
296.5	0.9818	2493.5	0.7669
297.	0.7646	2494.	0.8085
297.5	1.06	2494.5	0.9933
298.	0.954	2495.	0.9148
298.5	1.003	2495.5	0.9332
299.	0.9332	2496.	0.5521
299.5	0.9748	2496.5	0.9332
300.	0.954	2497.	0.7854
300.5	1.12	2497.5	0.82

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
301.	0.7461	2498.	0.7993
301.5	0.887	2498.5	0.924
302.	0.954	2499.	0.7369
302.5	0.9078	2499.5	0.7808
303.	0.954	2500.	0.7277
303.5	0.9725	2500.5	1.026
304.	1.148	2501.	0.4966
304.5	0.827	2501.5	1.1
305.	1.005	2502.	1.16
305.5	0.954	2502.5	0.9332
306.	1.021	2503.	0.7554
306.5	0.8732	2503.5	0.7277
307.	0.8154	2504.	0.8755
307.5	0.961	2504.5	0.9448
308.	0.9794	2505.	0.6699
308.5	1.118	2505.5	0.9055
309.	1.19	2506.	0.9332
309.5	0.9055	2506.5	1.063
310.	1.079	2507.	0.9286
310.5	1.109	2507.5	0.7484
311.	1.162	2508.	0.8177
311.5	0.887	2508.5	0.7785
312.	0.9725	2509.	0.6999
312.5	0.6768	2509.5	0.8686
313.	1.21	2510.	0.7854
313.5	0.8339	2510.5	0.8662
314.	1.19	2511.	0.7484
314.5	0.8177	2511.5	0.9148
315.	0.7346	2512.	0.8362
315.5	0.8455	2512.5	1.014
316.	1.	2513.	0.9933
316.5	0.9448	2513.5	0.7993
317.	0.9402	2514.	0.8362
317.5	0.6514	2514.5	0.8293
318.	1.169	2515.	0.8639
318.5	0.7669	2515.5	1.044
319.	1.035	2516.	1.04
319.5	0.8824	2516.5	0.9633
320.	1.033	2517.	0.73
320.5	0.7461	2517.5	0.9933
321.	0.9633	2518.	1.148
321.5	0.9148	2518.5	0.8085
322.	1.021	2519.	0.9933
322.5	1.014	2519.5	1.081
323.	0.8917	2520.	0.8478
323.5	0.7762	2520.5	0.991
324.	0.8547	2521.	0.8455
324.5	0.7161	2521.5	0.8662
325.	0.79	2522.	0.9263
325.5	0.9148	2522.5	0.8177
326.	0.9332	2523.	0.7508
326.5	0.9425	2523.5	0.9148
327.	0.9032	2524.	0.7277

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
327.5	0.9263	2524.5	0.9425
328.	0.7946	2525.	0.9933
328.5	0.954	2525.5	1.063
329.	0.8039	2526.	0.6907
329.5	1.012	2526.5	1.005
330.	0.8662	2527.	0.9818
330.5	1.141	2527.5	0.954
331.	0.8478	2528.	0.8339
331.5	0.9055	2528.5	0.7877
332.	0.8362	2529.	0.6329
332.5	1.109	2529.5	0.8547
333.	1.13	2530.	0.8755
333.5	0.9633	2530.5	1.012
334.	0.7438	2531.	0.797
334.5	0.924	2531.5	0.8478
335.	1.06	2532.	0.9956
335.5	1.275	2532.5	0.8755
336.	0.9448	2533.	0.8478
336.5	1.081	2533.5	0.8778
337.	1.12	2534.	0.8547
337.5	0.8316	2534.5	1.014
338.	0.7646	2535.	0.7877
338.5	1.072	2535.5	0.9286
339.	0.954	2536.	0.7808
339.5	1.033	2536.5	0.9748
340.	0.9032	2537.	1.083
340.5	1.109	2537.5	0.6699
341.	0.7346	2538.	0.7877
341.5	1.003	2538.5	0.7669
342.	1.03	2539.	0.797
342.5	1.051	2539.5	0.7415
343.	0.9148	2540.	0.79
343.5	0.8732	2540.5	0.887
344.	0.7785	2541.	0.8686
344.5	1.079	2541.5	0.9633
345.	0.7877	2542.	0.8478
345.5	0.954	2542.5	0.7854
346.	0.7369	2543.	0.9055
346.5	0.9425	2543.5	0.8455
347.	1.051	2544.	0.9725
347.5	1.16	2544.5	0.8154
348.	0.9425	2545.	0.9055
348.5	0.954	2545.5	0.8662
349.	1.093	2546.	0.7392
349.5	0.8847	2546.5	0.6999
350.	0.8547	2547.	0.8917
350.5	1.014	2547.5	0.9633
351.	0.954	2548.	0.7669
351.5	0.9725	2548.5	0.8478
352.	0.8847	2549.	0.8547
352.5	1.072	2549.5	1.063
353.	0.8362	2550.	0.8501
353.5	1.04	2550.5	1.097

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
354.	1.033	2551.	0.8085
354.5	0.8755	2551.5	0.8478
355.	0.8732	2552.	0.73
355.5	0.9078	2552.5	0.9355
356.	1.04	2553.	1.023
356.5	1.072	2553.5	0.8639
357.	0.9332	2554.	0.8755
357.5	1.072	2554.5	0.954
358.	0.9933	2555.	0.7577
358.5	0.9355	2555.5	0.9332
359.	0.8039	2556.	0.7692
359.5	0.887	2556.5	1.102
360.	0.8917	2557.	0.7392
360.5	0.7022	2557.5	1.042
361.	0.8362	2558.	0.887
361.5	0.8732	2558.5	0.7092
362.	0.8039	2559.	0.9055
362.5	1.07	2559.5	0.894
363.	0.8339	2560.	0.6815
363.5	0.7762	2560.5	0.9563
364.	0.8478	2561.	0.887
364.5	1.042	2561.5	1.153
365.	0.954	2562.	0.857
365.5	1.014	2562.5	1.023
366.	0.8662	2563.	1.
366.5	0.8455	2563.5	0.9864
367.	0.887	2564.	0.887
367.5	0.9933	2564.5	0.7461
368.	1.07	2565.	0.887
368.5	0.9425	2565.5	0.7854
369.	0.7484	2566.	0.9055
369.5	0.7461	2566.5	0.79
370.	0.7623	2567.	0.9517
370.5	0.991	2567.5	0.8639
371.	0.8062	2568.	0.8755
371.5	0.8293	2568.5	0.9148
372.	0.9055	2569.	0.82
372.5	1.042	2569.5	0.9933
373.	0.7854	2570.	0.7669
373.5	1.042	2570.5	0.9263
374.	0.9217	2571.	0.7277
374.5	0.8732	2571.5	0.9471
375.	0.9448	2572.	1.026
375.5	0.9355	2572.5	0.9933
376.	0.797	2573.	1.081
376.5	0.9587	2573.5	0.961
377.	0.8917	2574.	0.9148
377.5	0.827	2574.5	0.9355
378.	0.8662	2575.	1.072
378.5	0.9355	2575.5	0.991
379.	1.109	2576.	0.887
379.5	0.9517	2576.5	0.8085
380.	0.9563	2577.	0.9332

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
380.5	1.162	2577.5	0.9933
381.	0.954	2578.	0.82
381.5	0.827	2578.5	0.887
382.	0.7046	2579.	0.954
382.5	0.991	2579.5	0.76
383.	0.9055	2580.	0.9032
383.5	0.9148	2580.5	0.8662
384.	1.003	2581.	0.8154
384.5	0.8662	2581.5	0.9148
385.	0.827	2582.	0.9448
385.5	0.8478	2582.5	0.954
386.	0.954	2583.	0.857
386.5	0.8154	2583.5	0.8778
387.	0.8085	2584.	0.6029
387.5	1.014	2584.5	0.894
388.	0.8547	2585.	0.8547
388.5	1.079	2585.5	1.026
389.	0.7484	2586.	0.6699
389.5	0.857	2586.5	1.111
390.	0.8755	2587.	1.04
390.5	1.111	2587.5	0.7762
391.	1.014	2588.	0.7392
391.5	1.171	2588.5	0.7277
392.	0.9748	2589.	0.8755
392.5	0.9656	2589.5	0.8478
393.	0.8524	2590.	0.9725
393.5	0.9355	2590.5	0.924
394.	1.035	2591.	0.9124
394.5	0.857	2591.5	0.9841
395.	0.9587	2592.	0.6699
395.5	1.07	2592.5	0.954
396.	1.023	2593.	0.7092
396.5	0.8085	2593.5	0.9148
397.	0.8478	2594.	0.8154
397.5	1.007	2594.5	0.924
398.	0.8593	2595.	1.1
398.5	0.9332	2595.5	0.8177
399.	0.9818	2596.	0.6676
399.5	0.9563	2596.5	0.7808
400.	0.7184	2597.	0.8085
400.5	0.9656	2597.5	0.8385
401.	0.7669	2598.	0.7808
401.5	0.887	2598.5	0.827
402.	0.7438	2599.	1.081
402.5	0.9933	2599.5	0.9032
403.	1.005	2600.	0.9471
403.5	0.9448	2600.5	1.063
404.	0.9355	2601.	1.063
404.5	1.083	2601.5	1.023
405.	1.035	2602.	0.7669
405.5	0.9725	2602.5	0.9355
406.	0.9933	2603.	0.7484
406.5	0.8662	2603.5	1.074

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
407.	0.7207	2604.	1.023
407.5	0.9633	2604.5	0.8478
408.	0.7762	2605.	0.6699
408.5	0.8478	2605.5	1.13
409.	0.9148	2606.	0.9032
409.5	0.9448	2606.5	1.227
410.	0.9332	2607.	0.8755
410.5	0.9748	2607.5	0.8385
411.	0.8362	2608.	0.6722
411.5	0.9124	2608.5	0.9263
412.	1.118	2609.	0.857
412.5	0.8016	2609.5	0.9517
413.	1.042	2610.	0.8662
413.5	1.033	2610.5	0.8917
414.	0.7623	2611.	0.9956
414.5	0.8662	2611.5	0.894
415.	1.09	2612.	0.6999
415.5	0.9933	2612.5	0.8131
416.	0.8339	2613.	0.7877
416.5	0.9148	2613.5	0.8662
417.	1.169	2614.	0.7392
417.5	0.9563	2614.5	0.9933
418.	0.8732	2615.	0.9078
418.5	0.9078	2615.5	0.894
419.	0.9355	2616.	0.73
419.5	1.063	2616.5	0.9148
420.	1.079	2617.	0.7392
420.5	0.8662	2617.5	1.127
421.	0.9032	2618.	0.7554
421.5	0.9841	2618.5	0.9032
422.	0.9841	2619.	0.6422
422.5	1.023	2619.5	0.9656
423.	0.961	2620.	0.7207
423.5	0.8362	2620.5	0.7993
424.	0.8963	2621.	0.8362
424.5	0.954	2621.5	0.9448
425.	0.9448	2622.	0.9517
425.5	1.014	2622.5	0.797
426.	0.8847	2623.	0.8108
426.5	0.9841	2623.5	1.023
427.	1.07	2624.	0.6999
427.5	0.9725	2624.5	0.8177
428.	0.8385	2625.	0.9055
428.5	0.9656	2625.5	1.18
429.	0.8247	2626.	0.9332
429.5	1.12	2626.5	0.7115
430.	0.8893	2627.	0.7484
430.5	0.9748	2627.5	0.8547
431.	0.9148	2628.	0.9841
431.5	0.7069	2628.5	0.9818
432.	0.8085	2629.	0.9425
432.5	1.132	2629.5	0.9355
433.	0.9471	2630.	0.9448

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
433.5	1.026	2630.5	0.7808
434.	0.7715	2631.	1.033
434.5	0.82	2631.5	1.097
435.	0.7092	2632.	0.6607
435.5	0.9563	2632.5	0.8917
436.	0.8316	2633.	0.7277
436.5	0.9379	2633.5	0.961
437.	0.894	2634.	0.8755
437.5	0.8732	2634.5	0.9332
438.	0.8293	2635.	0.9332
438.5	0.8662	2635.5	0.9448
439.	0.7277	2636.	1.137
439.5	1.049	2636.5	1.014
440.	0.9078	2637.	0.9332
440.5	0.9355	2637.5	0.8293
441.	0.7669	2638.	0.9841
441.5	1.143	2638.5	0.9656
442.	0.7785	2639.	1.042
442.5	1.058	2639.5	0.9055
443.	0.9263	2640.	0.6699
443.5	1.012	2640.5	0.894
444.	0.8062	2641.	0.9078
444.5	0.7369	2641.5	0.8778
445.	1.06	2642.	0.7646
445.5	0.8385	2642.5	1.035
446.	0.8016	2643.	1.021
446.5	0.8917	2643.5	0.9148
447.	1.132	2644.	0.8154
447.5	0.9563	2644.5	0.887
448.	0.8455	2645.	0.9818
448.5	1.063	2645.5	0.9956
449.	0.6815	2646.	0.8362
449.5	0.9402	2646.5	1.035
450.	0.7022	2647.	0.6791
450.5	0.79	2647.5	0.894
451.	0.9078	2648.	0.8778
451.5	0.8501	2648.5	0.9841
452.	0.894	2649.	0.6999
452.5	0.894	2649.5	0.9286
453.	0.9956	2650.	0.7993
453.5	0.9587	2650.5	0.9355
454.	0.9194	2651.	0.827
454.5	0.8662	2651.5	0.9517
455.	0.9078	2652.	0.8247
455.5	1.074	2652.5	1.123
456.	0.7808	2653.	0.8686
456.5	0.8917	2653.5	0.9517
457.	0.82	2654.	0.8085
457.5	1.111	2654.5	0.9055
458.	0.8662	2655.	1.005
458.5	1.324	2655.5	0.8547
459.	0.8732	2656.	0.797
459.5	1.042	2656.5	0.6907

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
460.	0.9748	2657.	0.7484
460.5	0.8154	2657.5	1.023
461.	0.7415	2658.	0.797
461.5	0.8478	2658.5	0.9864
462.	0.9355	2659.	0.7808
462.5	0.9563	2659.5	0.8963
463.	0.7993	2660.	0.7877
463.5	0.9563	2660.5	0.9078
464.	0.9771	2661.	0.8732
464.5	1.102	2661.5	0.857
465.	0.663	2662.	1.003
465.5	0.991	2662.5	1.012
466.	0.7184	2663.	0.7854
466.5	0.887	2663.5	0.9656
467.	0.887	2664.	0.7993
467.5	0.9425	2664.5	0.9148
468.	0.7993	2665.	0.8455
468.5	0.8686	2665.5	1.026
469.	1.083	2666.	0.6907
469.5	0.9379	2666.5	1.1
470.	0.6815	2667.	0.8108
470.5	1.007	2667.5	0.9656
471.	0.73	2668.	0.9055
471.5	0.7808	2668.5	0.7669
472.	1.141	2669.	0.954
472.5	0.8893	2669.5	1.07
473.	0.73	2670.	0.8247
473.5	0.9841	2670.5	0.8362
474.	0.9101	2671.	0.693
474.5	0.9171	2671.5	1.12
475.	0.79	2672.	0.8478
475.5	1.171	2672.5	1.162
476.	0.9563	2673.	0.8547
476.5	0.8385	2673.5	1.148
477.	0.887	2674.	0.9471
477.5	0.7923	2674.5	1.148
478.	1.042	2675.	0.6214
478.5	0.8154	2675.5	1.093
479.	0.8016	2676.	0.9471
479.5	1.072	2676.5	0.9332
480.	0.7508	2677.	0.9148
480.5	0.9841	2677.5	1.014
481.	0.8662	2678.	0.9148
481.5	0.9656	2678.5	0.9563
482.	0.9933	2679.	0.8662
482.5	0.8847	2679.5	0.7808
483.	0.5752	2680.	0.8062
483.5	1.026	2680.5	0.693
484.	0.9355	2681.	0.8062
484.5	0.8362	2681.5	0.9425
485.	0.7484	2682.	1.056
485.5	1.007	2682.5	0.9841
486.	0.9679	2683.	0.9332

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
486.5	0.7923	2683.5	0.857
487.	1.065	2684.	0.8547
487.5	0.8893	2684.5	1.12
488.	0.7831	2685.	0.8339
488.5	0.8755	2685.5	1.026
489.	0.894	2686.	0.887
489.5	1.072	2686.5	0.887
490.	0.9587	2687.	0.961
490.5	0.887	2687.5	1.102
491.	0.9078	2688.	0.8547
491.5	1.261	2688.5	0.7993
492.	0.8316	2689.	0.8755
492.5	0.8686	2689.5	1.072
493.	0.7993	2690.	0.8247
493.5	0.8385	2690.5	0.9748
494.	0.9841	2691.	0.9425
494.5	0.9563	2691.5	0.9933
495.	1.042	2692.	0.9055
495.5	0.8686	2692.5	0.7438
496.	0.9748	2693.	1.044
496.5	1.113	2693.5	0.7115
497.	0.8686	2694.	0.8247
497.5	1.169	2694.5	0.7577
498.	0.8108	2695.	0.8547
498.5	0.9864	2695.5	1.023
499.	0.8847	2696.	0.8385
499.5	0.8963	2696.5	0.9563
500.	0.9864	2697.	1.003
500.5	0.8316	2697.5	0.9425
501.	0.9864	2698.	0.8639
501.5	0.9933	2698.5	0.8662
502.	0.7323	2699.	0.6722
502.5	0.7762	2699.5	0.954
503.	0.7346	2700.	0.7277
503.5	1.102	2700.5	0.954
504.	0.8593	2701.	0.6445
504.5	1.014	2701.5	0.9494
505.	0.7508	2702.	0.7392
505.5	0.6445	2702.5	0.7577
506.	0.7484	2703.	0.797
506.5	0.8686	2703.5	0.82
507.	1.1	2704.	0.9148
507.5	0.8408	2704.5	0.887
508.	0.8686	2705.	0.8847
508.5	0.9286	2705.5	0.9656
509.	0.857	2706.	0.7785
509.5	1.026	2706.5	0.7092
510.	1.014	2707.	0.9148
510.5	0.7508	2707.5	1.035
511.	0.8963	2708.	0.827
511.5	0.8362	2708.5	0.9517
512.	1.081	2709.	0.8478
512.5	0.9171	2709.5	0.8293

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
513.	0.9148	2710.	0.924
513.5	0.8662	2710.5	0.7692
514.	0.8316	2711.	0.9355
514.5	0.8177	2711.5	0.7092
515.	0.9748	2712.	1.
515.5	0.8316	2712.5	0.8662
516.	0.857	2713.	0.7808
516.5	1.074	2713.5	0.9332
517.	0.7508	2714.	0.9448
517.5	1.095	2714.5	1.014
518.	1.014	2715.	0.894
518.5	1.009	2715.5	0.8686
519.	1.076	2716.	0.8385
519.5	0.9563	2716.5	0.8778
520.	0.8085	2717.	0.7369
520.5	0.961	2717.5	0.8893
521.	0.723	2718.	0.8963
521.5	0.9771	2718.5	0.9679
522.	0.9355	2719.	0.5844
522.5	1.037	2719.5	0.9517
523.	0.7808	2720.	0.6029
523.5	0.857	2720.5	0.8478
524.	0.79	2721.	0.7993
524.5	0.8501	2721.5	0.7392
525.	0.9702	2722.	1.021
525.5	0.9587	2722.5	0.9148
526.	0.9171	2723.	0.7946
526.5	0.8755	2723.5	1.04
527.	1.026	2724.	0.8755
527.5	0.9679	2724.5	0.7669
528.	1.072	2725.	0.5821
528.5	0.9448	2725.5	0.9841
529.	0.7369	2726.	0.79
529.5	1.173	2726.5	0.8362
530.	0.894	2727.	0.7877
530.5	0.8362	2727.5	0.8778
531.	0.6722	2728.	0.9656
531.5	0.8408	2728.5	0.8686
532.	0.8616	2729.	0.7415
532.5	0.8686	2729.5	0.8085
533.	0.8224	2730.	0.79
533.5	0.7484	2730.5	0.9448
534.	0.8224	2731.	0.8755
534.5	0.9771	2731.5	1.033
535.	0.7022	2732.	0.6699
535.5	1.028	2732.5	0.9286
536.	0.7323	2733.	0.7415
536.5	0.9448	2733.5	1.014
537.	0.7923	2734.	0.8177
537.5	0.9587	2734.5	0.7392
538.	1.007	2735.	0.9471
538.5	0.6953	2735.5	0.9448
539.	0.8408	2736.	0.7993

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
539.5	0.9702	2736.5	0.9471
540.	0.8917	2737.	0.6422
540.5	1.164	2737.5	0.9263
541.	0.8362	2738.	0.8385
541.5	0.8478	2738.5	0.9864
542.	1.014	2739.	0.9471
542.5	0.9101	2739.5	0.8893
543.	0.6329	2740.	0.9841
543.5	1.143	2740.5	0.7993
544.	0.7808	2741.	0.8478
544.5	1.037	2741.5	0.7508
545.	1.053	2742.	0.827
545.5	0.7808	2742.5	0.9471
546.	0.7115	2743.	0.894
546.5	0.9471	2743.5	0.7877
547.	0.9101	2744.	0.6029
547.5	1.143	2744.5	1.081
548.	1.035	2745.	0.8847
548.5	1.016	2745.5	0.8963
549.	0.8778	2746.	0.9148
549.5	1.102	2746.5	1.021
550.	0.9194	2747.	0.9332
550.5	0.8339	2747.5	0.8085
551.	0.9864	2748.	0.6884
551.5	0.9864	2748.5	0.857
552.	0.9956	2749.	0.8108
552.5	1.016	2749.5	1.033
553.	1.026	2750.	0.9055
553.5	0.8593	2750.5	0.8177
554.	0.9448	2751.	0.9055
554.5	1.072	2751.5	0.8177
555.	0.8616	2752.	0.7092
555.5	0.8293	2752.5	0.924
556.	0.7923	2753.	0.8662
556.5	0.7715	2753.5	1.153
557.	0.7508	2754.	0.8963
557.5	0.9979	2754.5	1.083
558.	0.9171	2755.	0.9448
558.5	1.123	2755.5	0.9448
559.	0.961	2756.	0.6491
559.5	0.9771	2756.5	0.8893
560.	1.143	2757.	0.8686
560.5	0.8362	2757.5	0.9425
561.	0.6329	2758.	0.8478
561.5	0.9286	2758.5	0.8177
562.	0.9286	2759.	0.9956
562.5	1.044	2759.5	0.8986
563.	1.183	2760.	1.1
563.5	0.8824	2760.5	0.9078
564.	0.7715	2761.	0.7207
564.5	0.8085	2761.5	0.8847
565.	1.086	2762.	0.73
565.5	0.9171	2762.5	0.8686

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
566.	0.9148	2763.	0.8547
566.5	1.046	2763.5	1.003
567.	0.8963	2764.	0.9563
567.5	0.8616	2764.5	0.7669
568.	0.723	2765.	0.8478
568.5	0.8893	2765.5	0.8963
569.	0.9679	2766.	0.857
569.5	0.7785	2766.5	0.79
570.	0.8686	2767.	0.8662
570.5	0.7808	2767.5	1.014
571.	0.961	2768.	0.8385
571.5	0.9148	2768.5	0.8455
572.	0.7946	2769.	0.9332
572.5	0.9794	2769.5	0.8293
573.	0.8662	2770.	0.924
573.5	0.9587	2770.5	0.6999
574.	0.8316	2771.	0.6815
574.5	0.8963	2771.5	0.9656
575.	0.9309	2772.	0.7508
575.5	1.053	2772.5	1.03
576.	0.9587	2773.	1.201
576.5	0.6537	2773.5	1.197
577.	0.8408	2774.	0.9355
577.5	0.9194	2774.5	0.8362
578.	1.083	2775.	0.6907
578.5	1.007	2775.5	0.8986
579.	0.6445	2776.	0.954
579.5	1.009	2776.5	0.9078
580.	0.626	2777.	0.9633
580.5	1.076	2777.5	1.102
581.	0.7715	2778.	0.7484
581.5	1.074	2778.5	0.7831
582.	1.086	2779.	0.7993
582.5	0.9956	2779.5	1.063
583.	0.9101	2780.	0.894
583.5	0.9656	2780.5	0.924
584.	0.8709	2781.	0.8893
584.5	0.8085	2781.5	1.026
585.	0.8039	2782.	0.9148
585.5	0.991	2782.5	1.065
586.	1.014	2783.	0.9055
586.5	0.9286	2783.5	0.887
587.	1.113	2784.	0.73
587.5	0.9679	2784.5	1.063
588.	0.7946	2785.	0.8478
588.5	0.9171	2785.5	0.894
589.	0.9309	2786.	0.7115
589.5	0.9679	2786.5	0.9864
590.	0.7508	2787.	0.7993
590.5	1.023	2787.5	1.07
591.	1.13	2788.	1.003
591.5	0.8408	2788.5	0.954
592.	1.083	2789.	0.894

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
592.5	1.044	2789.5	0.7993
593.	0.9355	2790.	0.857
593.5	0.9101	2790.5	1.005
594.	0.797	2791.	0.9725
594.5	1.007	2791.5	0.9355
595.	0.9864	2792.	0.9933
595.5	0.8801	2792.5	1.035
596.	0.9124	2793.	0.9263
596.5	1.125	2793.5	0.9448
597.	0.723	2794.	1.005
597.5	0.8917	2794.5	1.141
598.	0.8108	2795.	0.9148
598.5	1.104	2795.5	1.083
599.	0.9355	2796.	0.7577
599.5	1.028	2796.5	1.171
600.	1.009	2797.	0.9725
600.5	0.9494	2797.5	0.9471
601.	0.9587	2798.	0.9032
601.5	0.9078	2798.5	0.5775
602.	0.9101	2799.	0.4574
602.5	0.8224	2799.5	1.171
603.	1.012	2800.	0.9771
603.5	0.9471	2800.5	0.827
604.	0.8293	2801.	0.8501
604.5	1.097	2801.5	0.9355
605.	0.8501	2802.	0.7092
605.5	1.007	2802.5	1.102
606.	0.8501	2803.	0.7877
606.5	1.164	2803.5	0.9563
607.	0.8963	2804.	0.8547
607.5	1.095	2804.5	0.9725
608.	0.9956	2805.	0.9148
608.5	1.079	2805.5	0.8686
609.	0.8686	2806.	0.7854
609.5	1.026	2806.5	1.074
610.	0.9587	2807.	0.9263
610.5	1.014	2807.5	1.072
611.	0.8062	2808.	0.7877
611.5	0.6861	2808.5	0.894
612.	0.8963	2809.	0.9332
612.5	0.9887	2809.5	0.7854
613.	0.9887	2810.	0.9956
613.5	0.8177	2810.5	1.035
614.	0.9771	2811.	0.7577
614.5	0.9332	2811.5	0.8778
615.	1.007	2812.	0.8547
615.5	0.9009	2812.5	0.7692
616.	1.04	2813.	1.035
616.5	0.7438	2813.5	1.04
617.	0.82	2814.	0.76
617.5	1.067	2814.5	0.7508
618.	0.9494	2815.	0.9471
618.5	1.153	2815.5	0.9471

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
619.	0.7646	2816.	0.76
619.5	0.9171	2816.5	1.1
620.	1.044	2817.	0.9771
620.5	1.178	2817.5	0.7692
621.	0.9101	2818.	0.8385
621.5	0.9309	2818.5	0.9864
622.	0.8408	2819.	0.8639
622.5	0.9194	2819.5	0.7115
623.	0.7923	2820.	0.7207
623.5	0.961	2820.5	1.014
624.	0.9771	2821.	0.9956
624.5	1.028	2821.5	0.954
625.	0.7531	2822.	0.9009
625.5	0.9263	2822.5	0.8755
626.	0.8431	2823.	0.9332
626.5	0.9124	2823.5	0.9055
627.	0.9702	2824.	0.7669
627.5	0.8986	2824.5	0.9841
628.	0.8917	2825.	0.894
628.5	1.07	2825.5	0.827
629.	0.8616	2826.	0.7993
629.5	1.014	2826.5	0.8755
630.	0.8801	2827.	0.5544
630.5	0.991	2827.5	0.7669
631.	0.9124	2828.	0.9933
631.5	1.009	2828.5	0.8455
632.	0.8986	2829.	0.9332
632.5	0.8408	2829.5	0.8686
633.	0.8616	2830.	0.8085
633.5	1.028	2830.5	0.8177
634.	1.088	2831.	0.961
634.5	1.065	2831.5	0.76
635.	0.7946	2832.	0.7392
635.5	1.016	2832.5	1.065
636.	0.7069	2833.	0.7993
636.5	0.9771	2833.5	0.8662
637.	1.037	2834.	1.074
637.5	1.155	2834.5	1.056
638.	1.014	2835.	0.8755
638.5	1.167	2835.5	1.023
639.	0.9979	2836.	0.7854
639.5	0.9702	2836.5	0.9332
640.	0.693	2837.	0.6999
640.5	0.7623	2837.5	0.8662
641.	0.6306	2838.	0.9355
641.5	1.028	2838.5	1.18
642.	0.5382	2839.	0.8085
642.5	0.9402	2839.5	1.026
643.	0.9309	2840.	0.8755
643.5	0.9309	2840.5	1.095
644.	0.7646	2841.	0.8893
644.5	0.8917	2841.5	1.063
645.	0.9494	2842.	0.9055

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
645.5	1.037	2842.5	0.857
646.	0.8501	2843.	0.8478
646.5	0.7739	2843.5	0.7854
647.	0.7831	2844.	0.7692
647.5	0.9494	2844.5	0.8662
648.	0.9148	2845.	0.8177
648.5	1.252	2845.5	0.8893
649.	1.	2846.	0.9771
649.5	0.9771	2846.5	0.8893
650.	0.8616	2847.	0.7092
650.5	0.9956	2847.5	0.894
651.	0.9402	2848.	0.9818
651.5	1.028	2848.5	1.
652.	0.82	2849.	0.9355
652.5	0.9194	2849.5	0.8385
653.	0.6745	2850.	0.5174
653.5	1.104	2850.5	0.82
654.	0.9679	2851.	0.7577
654.5	1.183	2851.5	0.887
655.	0.8593	2852.	0.9448
655.5	0.9309	2852.5	0.9286
656.	0.9171	2853.	0.6722
656.5	1.037	2853.5	0.9286
657.	0.5659	2854.	0.4435
657.5	0.9494	2854.5	0.8108
658.	1.028	2855.	0.9055
658.5	0.9979	2855.5	0.8385
659.	0.8501	2856.	0.7808
659.5	0.8039	2856.5	0.9124
660.	0.9009	2857.	0.8547
660.5	1.097	2857.5	0.857
661.	0.7253	2858.	0.8478
661.5	0.9702	2858.5	1.063
662.	0.8709	2859.	0.76
662.5	1.037	2859.5	0.8893
663.	0.7508	2860.	0.8547
663.5	1.04	2860.5	0.9864
664.	0.8709	2861.	0.79
664.5	1.095	2861.5	0.8662
665.	0.6722	2862.	0.8478
665.5	1.009	2862.5	0.79
666.	0.9194	2863.	0.7115
666.5	0.961	2863.5	0.9263
667.	0.8062	2864.	0.8547
667.5	1.012	2864.5	1.005
668.	0.9124	2865.	0.6699
668.5	1.014	2865.5	0.9286
669.	0.9148	2866.	0.9148
669.5	0.9771	2866.5	0.8917
670.	1.037	2867.	0.8085
670.5	1.155	2867.5	1.005
671.	1.037	2868.	0.9263
671.5	1.245	2868.5	1.072

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
672.	0.9956	2869.	0.7484
672.5	1.06	2869.5	0.9448
673.	0.9194	2870.	0.82
673.5	1.028	2870.5	1.053
674.	0.8339	2871.	0.8686
674.5	0.8224	2871.5	0.8778
675.	1.097	2872.	1.005
675.5	0.9494	2872.5	1.026
676.	0.8385	2873.	0.7831
676.5	1.016	2873.5	0.8755
677.	0.8224	2874.	0.8293
677.5	0.9309	2874.5	0.9517
678.	0.9009	2875.	0.5821
678.5	1.074	2875.5	0.79
679.	0.6815	2876.	1.037
679.5	0.8593	2876.5	1.18
680.	0.8917	2877.	0.8385
680.5	1.06	2877.5	0.8478
681.	0.8224	2878.	0.9355
681.5	0.9771	2878.5	1.123
682.	0.8339	2879.	0.8501
682.5	0.8131	2879.5	0.79
683.	1.028	2880.	0.7831
683.5	0.9101	2880.5	0.887
684.	0.663	2881.	0.7877
684.5	1.028	2881.5	0.8893
685.	0.8131	2882.	0.723
685.5	0.8917	2882.5	0.7993
686.	0.9309	2883.	0.9633
686.5	0.8986	2883.5	0.7392
687.	0.8131	2884.	0.7692
687.5	0.8986	2884.5	0.6999
688.	0.8917	2885.	0.8755
688.5	0.9702	2885.5	1.014
689.	0.8801	2886.	0.9355
689.5	0.8408	2886.5	1.081
690.	0.9887	2887.	0.8778
690.5	0.7277	2887.5	0.9818
691.	0.7554	2888.	0.7877
691.5	0.991	2888.5	0.7692
692.	1.016	2889.	0.79
692.5	1.049	2889.5	0.954
693.	0.8778	2890.	0.76
693.5	0.991	2890.5	0.8893
694.	0.9194	2891.	0.9864
694.5	0.9702	2891.5	1.046
695.	0.8732	2892.	0.9148
695.5	1.016	2892.5	0.8131
696.	0.9425	2893.	0.857
696.5	1.106	2893.5	0.8362
697.	0.7253	2894.	0.8963
697.5	0.9402	2894.5	0.9148
698.	0.6884	2895.	0.7993

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
698.5	0.9771	2895.5	0.6745
699.	0.7739	2896.	0.723
699.5	0.8917	2896.5	0.8455
700.	0.8709	2897.	1.014
700.5	0.7669	2897.5	0.9286
701.	0.4828	2898.	0.8177
701.5	0.9194	2898.5	0.79
702.	0.9171	2899.	0.9771
702.5	1.016	2899.5	0.8755
703.	0.9309	2900.	0.8478
703.5	0.9771	2900.5	0.8085
704.	0.8639	2901.	0.8177
704.5	0.9425	2901.5	1.028
705.	1.137	2902.	0.7993
705.5	0.9702	2902.5	0.6699
706.	0.8593	2903.	0.6329
706.5	0.8801	2903.5	0.9841
707.	0.7508	2904.	0.7993
707.5	0.8917	2904.5	0.8893
708.	0.961	2905.	0.5729
708.5	1.03	2905.5	0.8547
709.	0.9355	2906.	0.8385
709.5	1.067	2906.5	0.7808
710.	1.012	2907.	0.5821
710.5	0.9979	2907.5	0.954
711.	0.8824	2908.	0.6237
711.5	1.019	2908.5	0.8131
712.	1.118	2909.	0.9471
712.5	0.8224	2909.5	1.005
713.	1.06	2910.	0.8686
713.5	0.8801	2910.5	0.8893
714.	0.73	2911.	0.8662
714.5	0.9124	2911.5	0.7808
715.	1.076	2912.	0.8524
715.5	1.058	2912.5	1.072
716.	0.9101	2913.	0.7115
716.5	1.019	2913.5	0.894
717.	0.9101	2914.	0.7115
717.5	0.8893	2914.5	0.7577
718.	0.7739	2915.	0.7623
718.5	1.137	2915.5	0.7022
719.	1.03	2916.	0.8547
719.5	0.693	2916.5	0.7277
720.	0.8431	2917.	0.8478
720.5	1.016	2917.5	1.171
721.	0.8224	2918.	0.8662
721.5	0.961	2918.5	0.79
722.	0.8339	2919.	0.6999
722.5	1.118	2919.5	0.9748
723.	0.8224	2920.	0.887
723.5	1.03	2920.5	0.827
724.	0.8732	2921.	0.8662
724.5	0.8408	2921.5	0.8108

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
725.	0.8339	2922.	0.7669
725.5	0.961	2922.5	0.894
726.	0.9725	2923.	0.894
726.5	1.037	2923.5	0.9563
727.	1.	2924.	0.5059
727.5	1.227	2924.5	1.005
728.	1.019	2925.	0.827
728.5	0.9771	2925.5	0.8385
729.	0.693	2926.	0.8085
729.5	0.8709	2926.5	1.014
730.	0.8108	2927.	0.9471
730.5	0.9702	2927.5	1.014
731.	0.8501	2928.	0.8755
731.5	0.9702	2928.5	0.79
732.	1.028	2929.	0.8177
732.5	1.	2929.5	0.7508
733.	0.8593	2930.	0.7115
733.5	1.	2930.5	0.9448
734.	0.8131	2931.	1.056
734.5	0.8431	2931.5	0.7531
735.	0.8778	2932.	0.7207
735.5	1.028	2932.5	1.04
736.	0.8709	2933.	0.9355
736.5	1.04	2933.5	1.005
737.	1.097	2934.	0.8385
737.5	1.016	2934.5	0.9332
738.	0.8986	2935.	0.9148
738.5	0.9124	2935.5	1.093
739.	0.9217	2936.	0.8177
739.5	1.028	2936.5	0.991
740.	0.8501	2937.	0.8547
740.5	1.058	2937.5	1.113
741.	0.7946	2938.	0.8893
741.5	0.9309	2938.5	1.023
742.	0.9725	2939.	0.8478
742.5	0.8501	2939.5	0.9078
743.	0.7854	2940.	0.7785
743.5	1.067	2940.5	1.201
744.	0.7046	2941.	0.8177
744.5	1.148	2941.5	0.9656
745.	0.9494	2942.	0.8177
745.5	0.9194	2942.5	1.083
746.	0.8062	2943.	0.8362
746.5	0.8501	2943.5	1.102
747.	0.8917	2944.	0.9864
747.5	0.9124	2944.5	1.044
748.	0.7369	2945.	0.8847
748.5	1.016	2945.5	0.7692
749.	0.8339	2946.	0.7392
749.5	0.7762	2946.5	1.113
750.	0.8709	2947.	0.9055
750.5	1.04	2947.5	0.8547
751.	0.8339	2948.	0.8917

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
751.5	0.9148	2948.5	0.9355
752.	0.8824	2949.	0.8177
752.5	0.8062	2949.5	0.9148
753.	1.012	2950.	0.8385
753.5	0.8732	2950.5	0.9956
754.	0.961	2951.	0.7484
754.5	0.9402	2951.5	1.014
755.	1.	2952.	0.8593
755.5	1.1	2952.5	0.9956
756.	0.7946	2953.	0.8963
756.5	0.9402	2953.5	1.026
757.	0.693	2954.	0.8177
757.5	1.155	2954.5	0.8778
758.	0.9332	2955.	0.9864
758.5	1.044	2955.5	1.132
759.	1.176	2956.	0.6029
759.5	0.8662	2956.5	0.8293
760.	0.961	2957.	0.9355
760.5	0.9771	2957.5	0.9286
761.	1.058	2958.	0.6376
761.5	1.028	2958.5	0.9332
762.	0.9217	2959.	1.037
762.5	0.797	2959.5	0.7277
763.	1.106	2960.	0.9563
763.5	0.9725	2960.5	0.8963
764.	0.9124	2961.	0.8478
764.5	0.991	2961.5	0.7993
765.	0.7762	2962.	0.894
765.5	1.04	2962.5	0.8478
766.	0.8986	2963.	0.9148
766.5	0.7854	2963.5	1.072
767.	0.9887	2964.	0.9263
767.5	0.8917	2964.5	0.9633
768.	0.8709	2965.	0.79
768.5	0.8154	2965.5	0.9818
769.	0.6075	2966.	0.8593
769.5	0.9402	2966.5	0.9448
770.	1.037	2967.	0.693
770.5	1.012	2967.5	0.9055
771.	0.8339	2968.	0.8224
771.5	1.342	2968.5	0.73
772.	1.03	2969.	0.8247
772.5	1.012	2969.5	0.8686
773.	0.6699	2970.	1.005
773.5	1.09	2970.5	0.5267
774.	0.8131	2971.	0.9055
774.5	0.8801	2971.5	0.7831
775.	1.012	2972.	0.8478
775.5	0.7946	2972.5	0.9656
776.	0.7877	2973.	0.9471
776.5	0.7531	2973.5	1.192
777.	0.954	2974.	0.8963
777.5	0.9725	2974.5	1.063

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
778.	1.037	2975.	0.8085
778.5	1.185	2975.5	0.8547
779.	0.7577	2976.	0.7184
779.5	0.8986	2976.5	0.9771
780.	0.8339	2977.	0.7484
780.5	1.146	2977.5	1.111
781.	0.9148	2978.	0.5844
781.5	0.7762	2978.5	0.6537
782.	1.067	2979.	0.6583
782.5	0.9979	2979.5	0.9771
783.	1.012	2980.	0.7831
783.5	0.8847	2980.5	0.7277
784.	0.9494	2981.	0.9448
784.5	0.961	2981.5	0.9101
785.	0.8501	2982.	0.7022
785.5	0.9887	2982.5	0.9771
786.	0.7739	2983.	0.7277
786.5	0.7762	2983.5	0.887
787.	0.8501	2984.	0.7993
787.5	0.7554	2984.5	0.7993
788.	1.109	2985.	0.9355
788.5	1.037	2985.5	0.9448
789.	0.8039	2986.	0.8293
789.5	0.9217	2986.5	1.003
790.	0.693	2987.	0.693
790.5	0.9124	2987.5	1.005
791.	0.9771	2988.	0.8247
791.5	1.03	2988.5	0.8108
792.	0.9171	2989.	0.9355
792.5	1.157	2989.5	1.014
793.	0.961	2990.	0.9794
793.5	0.8154	2990.5	1.169
794.	0.9009	2991.	0.8362
794.5	0.9217	2991.5	0.7577
795.	1.07	2992.	0.7392
795.5	1.086	2992.5	1.053
796.	0.9887	2993.	0.8108
796.5	0.8893	2993.5	0.9864
797.	0.8431	2994.	0.9563
797.5	1.037	2994.5	0.9748
798.	0.6098	2995.	0.8293
798.5	0.8662	2995.5	1.044
799.	0.6075	2996.	0.6237
799.5	0.7739	2996.5	0.8778
800.	0.9794	2997.	0.8893
800.5	0.797	2997.5	0.9124
801.	0.8801	2998.	0.9171
801.5	1.167	2998.5	0.9933
802.	0.7369	2999.	0.723
802.5	0.9332	2999.5	0.9702
803.	0.9979	3000.	0.5752
803.5	1.042	3000.5	0.8917
804.	0.6468	3001.	0.9956

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
804.5	0.6861	3001.5	1.083
805.	0.7669	3002.	0.9563
805.5	0.961	3002.5	0.8893
806.	0.9194	3003.	0.9633
806.5	0.8662	3003.5	0.8293
807.	1.016	3004.	0.8362
807.5	0.8247	3004.5	0.9771
808.	0.9124	3005.	0.8847
808.5	1.148	3005.5	0.8801
809.	1.104	3006.	0.8108
809.5	0.827	3006.5	0.8755
810.	0.7508	3007.	0.8293
810.5	0.7646	3007.5	0.8662
811.	0.9933	3008.	0.8316
811.5	0.8154	3008.5	0.9332
812.	0.8709	3009.	0.8547
812.5	0.8917	3009.5	0.8755
813.	1.046	3010.	0.6607
813.5	1.137	3010.5	0.7854
814.	1.016	3011.	0.961
814.5	0.9794	3011.5	0.9656
815.	0.9771	3012.	0.663
815.5	0.8039	3012.5	1.056
816.	0.6953	3013.	0.9309
816.5	0.7739	3013.5	0.9471
817.	0.8732	3014.	0.827
817.5	0.9633	3014.5	0.9148
818.	0.9194	3015.	0.7808
818.5	0.5867	3015.5	0.6583
819.	0.6583	3016.	0.7993
819.5	1.342	3016.5	0.5567
820.	0.9332	3017.	0.9563
820.5	0.8455	3017.5	0.8085
821.	0.8824	3018.	0.857
821.5	0.8847	3018.5	1.04
822.	0.6098	3019.	0.76
822.5	0.9794	3019.5	0.9171
823.	0.8247	3020.	0.723
823.5	0.9425	3020.5	0.9633
824.	0.961	3021.	0.8893
824.5	0.9794	3021.5	1.014
825.	0.8039	3022.	0.8478
825.5	0.9517	3022.5	0.827
826.	0.8709	3023.	0.7692
826.5	0.8131	3023.5	0.9771
827.	0.7092	3024.	0.7993
827.5	0.9217	3024.5	1.074
828.	1.058	3025.	0.693
828.5	0.9217	3025.5	0.7092
829.	1.049	3026.	0.9355
829.5	1.	3026.5	1.056
830.	0.9517	3027.	0.8755
830.5	0.9032	3027.5	1.095

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
831.	1.021	3028.	0.9263
831.5	0.7762	3028.5	0.9563
832.	1.	3029.	0.9148
832.5	1.106	3029.5	0.9286
833.	0.7762	3030.	0.6745
833.5	0.8732	3030.5	0.7993
834.	0.8639	3031.	0.887
834.5	1.012	3031.5	0.723
835.	1.042	3032.	0.8085
835.5	0.9009	3032.5	1.028
836.	0.8547	3033.	0.693
836.5	0.8062	3033.5	0.8963
837.	0.8824	3034.	0.7877
837.5	1.028	3034.5	0.6121
838.	0.9725	3035.	0.8108
838.5	1.021	3035.5	0.8963
839.	0.7577	3036.	0.6145
839.5	0.8732	3036.5	0.8686
840.	0.7092	3037.	0.5636
840.5	0.8686	3037.5	0.8177
841.	0.8917	3038.	0.7877
841.5	1.003	3038.5	0.9563
842.	0.961	3039.	0.82
842.5	0.991	3039.5	1.065
843.	0.6676	3040.	0.8547
843.5	1.021	3040.5	0.9471
844.	0.7092	3041.	0.8177
844.5	1.021	3041.5	0.827
845.	0.8732	3042.	0.8686
845.5	0.9633	3042.5	1.162
846.	0.7253	3043.	0.6491
846.5	1.014	3043.5	0.9332
847.	0.9702	3044.	0.7277
847.5	1.012	3044.5	0.9286
848.	1.088	3045.	0.7115
848.5	0.9332	3045.5	1.063
849.	1.171	3046.	0.8547
849.5	0.9702	3046.5	1.076
850.	0.961	3047.	0.7277
850.5	0.8431	3047.5	0.9055
851.	0.6468	3048.	0.9471
851.5	1.012	3048.5	0.7115
852.	0.7669	3049.	0.9656
852.5	0.8917	3049.5	0.8778
853.	1.012	3050.	0.8108
853.5	0.8362	3050.5	0.8686
854.	0.8986	3051.	0.887
854.5	1.06	3051.5	0.887
855.	0.8455	3052.	0.6607
855.5	0.8362	3052.5	0.7022
856.	0.7692	3053.	0.7415
856.5	0.8431	3053.5	0.9656
857.	0.8709	3054.	1.074

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
857.5	0.8247	3054.5	0.7415
858.	0.8431	3055.	0.9148
858.5	0.7577	3055.5	0.8108
859.	0.8431	3056.	1.014
859.5	1.049	3056.5	0.7415
860.	0.7854	3057.	1.023
860.5	0.9748	3057.5	0.9355
861.	0.9217	3058.	0.7484
861.5	0.8917	3058.5	0.8893
862.	0.8131	3059.	0.8963
862.5	0.9702	3059.5	0.8547
863.	1.03	3060.	0.8963
863.5	0.9725	3060.5	1.111
864.	1.137	3061.	1.014
864.5	1.	3061.5	1.171
865.	1.148	3062.	0.8177
865.5	0.8293	3062.5	1.093
866.	0.8524	3063.	0.6815
866.5	1.049	3063.5	0.8293
867.	0.596	3064.	0.9563
867.5	1.049	3064.5	1.056
868.	0.9725	3065.	0.6815
868.5	0.8431	3065.5	1.09
869.	0.7346	3066.	1.003
869.5	1.169	3066.5	1.035
870.	0.596	3067.	0.9956
870.5	0.8917	3067.5	0.6699
871.	0.9818	3068.	0.79
871.5	0.7669	3068.5	0.8085
872.	0.7762	3069.	1.044
872.5	0.8847	3069.5	1.095
873.	0.7461	3070.	0.857
873.5	1.033	3070.5	0.9841
874.	0.7277	3071.	0.8478
874.5	0.9425	3071.5	0.8501
875.	1.003	3072.	0.6306
875.5	1.033	3072.5	0.8362
876.	0.8524	3073.	0.8501
876.5	0.9355	3073.5	1.023
877.	0.8085	3074.	1.014
877.5	1.07	3074.5	0.9771
878.	0.797	3075.	0.9656
878.5	1.016	3075.5	0.9332
879.	1.12	3076.	0.7692
879.5	0.7762	3076.5	0.9887
880.	0.7369	3077.	0.8501
880.5	0.79	3077.5	0.7692
881.	0.9009	3078.	0.9148
881.5	0.9448	3078.5	0.8362
882.	0.7138	3079.	0.7692
882.5	1.063	3079.5	1.003
883.	0.8639	3080.	0.8593
883.5	0.9148	3080.5	0.9355

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
884.	0.8339	3081.	0.723
884.5	0.8455	3081.5	0.9633
885.	0.991	3082.	0.8408
885.5	0.8824	3082.5	0.9471
886.	0.6098	3083.	0.6445
886.5	0.9725	3083.5	0.9748
887.	0.894	3084.	0.73
887.5	0.954	3084.5	1.023
888.	0.9009	3085.	0.827
888.5	0.9517	3085.5	0.9078
889.	0.9355	3086.	0.8893
889.5	1.	3086.5	0.9148
890.	1.003	3087.	0.6052
890.5	0.9494	3087.5	0.8686
891.	0.9148	3088.	0.8778
891.5	1.049	3088.5	0.8662
892.	0.8755	3089.	0.6537
892.5	1.012	3089.5	1.014
893.	0.924	3090.	0.9748
893.5	0.9633	3090.5	0.9771
894.	1.07	3091.	0.9864
894.5	0.7692	3091.5	0.9148
895.	0.7369	3092.	0.79
895.5	1.042	3092.5	0.954
896.	0.7438	3093.	0.8755
896.5	0.9355	3093.5	1.072
897.	0.7577	3094.	0.9032
897.5	1.081	3094.5	0.8963
898.	0.9425	3095.	0.723
898.5	1.021	3095.5	0.8755
899.	0.8455	3096.	0.7877
899.5	1.	3096.5	0.82
900.	0.9194	3097.	0.6907
900.5	0.954	3097.5	0.7993
901.	0.9933	3098.	1.033
901.5	0.9355	3098.5	0.9194
902.	0.8547	3099.	0.7277
902.5	1.157	3099.5	0.8686
903.	0.7854	3100.	1.074
903.5	1.21	3100.5	1.139
904.	0.9194	3101.	0.6376
904.5	1.051	3101.5	1.083
905.	0.8177	3102.	0.73
905.5	1.259	3102.5	0.9055
906.	0.7993	3103.	0.5937
906.5	0.9933	3103.5	0.9864
907.	0.7508	3104.	0.7993
907.5	1.003	3104.5	0.6121
908.	0.924	3105.	0.9633
908.5	1.13	3105.5	0.9471
909.	0.7392	3106.	0.9078
909.5	1.021	3106.5	0.8177
910.	0.9748	3107.	0.7508

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
910.5	0.9818	3107.5	0.7692
911.	0.8131	3108.	0.954
911.5	0.9818	3108.5	0.9148
912.	0.8755	3109.	0.723
912.5	0.7392	3109.5	0.7669
913.	0.7993	3110.	0.7993
913.5	0.9748	3110.5	1.162
914.	0.8085	3111.	0.9679
914.5	0.924	3111.5	1.083
915.	0.7854	3112.	0.8501
915.5	1.042	3112.5	1.132
916.	0.7577	3113.	0.7993
916.5	0.9009	3113.5	0.887
917.	0.9448	3114.	0.8778
917.5	0.7392	3114.5	1.081
918.	0.961	3115.	0.8385
918.5	1.07	3115.5	0.954
919.	1.	3116.	0.9078
919.5	1.06	3116.5	1.113
920.	0.954	3117.	0.8963
920.5	0.8847	3117.5	0.8893
921.	0.9887	3118.	0.723
921.5	1.206	3118.5	0.954
922.	1.014	3119.	0.857
922.5	0.8431	3119.5	0.9078
923.	0.8431	3120.	0.8362
923.5	0.827	3120.5	0.8362
924.	0.7554	3121.	0.7577
924.5	1.18	3121.5	0.8362
925.	0.8247	3122.	0.894
925.5	1.005	3122.5	0.8686
926.	0.797	3123.	0.827
926.5	1.014	3123.5	0.6815
927.	0.6098	3124.	0.8501
927.5	1.03	3124.5	0.9864
928.	0.9494	3125.	0.8917
928.5	1.049	3125.5	0.8247
929.	0.7877	3126.	0.857
929.5	0.7484	3126.5	1.056
930.	0.9933	3127.	0.8917
930.5	0.7877	3127.5	0.9078
931.	0.7877	3128.	0.8893
931.5	0.8755	3128.5	1.026
932.	0.7785	3129.	0.82
932.5	0.8824	3129.5	0.9286
933.	0.7669	3130.	0.9078
933.5	0.9448	3130.5	0.8893
934.	0.924	3131.	1.063
934.5	0.9818	3131.5	0.82
935.	1.014	3132.	0.9471
935.5	1.06	3132.5	0.8593
936.	1.049	3133.	0.9355
936.5	0.8963	3133.5	0.8893

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
937.	0.8154	3134.	0.857
937.5	0.9425	3134.5	1.132
938.	0.924	3135.	1.005
938.5	0.8847	3135.5	0.9471
939.	1.053	3136.	0.7392
939.5	0.991	3136.5	0.9864
940.	0.9332	3137.	1.072
940.5	1.042	3137.5	0.9148
941.	0.9725	3138.	0.5544
941.5	0.827	3138.5	0.9471
942.	1.074	3139.	1.028
942.5	0.6214	3139.5	0.8385
943.	0.827	3140.	0.9332
943.5	0.8732	3140.5	0.9933
944.	0.6514	3141.	0.6907
944.5	0.9448	3141.5	0.8385
945.	0.8824	3142.	0.894
945.5	0.9818	3142.5	1.12
946.	0.6976	3143.	0.7438
946.5	0.9448	3143.5	1.005
947.	1.148	3144.	0.7207
947.5	1.003	3144.5	0.9864
948.	0.7762	3145.	0.7831
948.5	1.019	3145.5	1.194
949.	0.9171	3146.	0.8293
949.5	1.1	3146.5	0.9933
950.	0.894	3147.	0.9148
950.5	1.014	3147.5	1.023
951.	0.8732	3148.	0.7092
951.5	1.003	3148.5	0.9148
952.	0.8917	3149.	0.8893
952.5	0.8085	3149.5	0.9286
953.	0.8755	3150.	0.7092
953.5	0.8362	3150.5	0.9055
954.	0.6191	3151.	0.8385
954.5	0.8755	3151.5	1.016
955.	0.9171	3152.	0.8293
955.5	1.13	3152.5	1.13
956.	0.7785	3153.	0.7808
956.5	0.9171	3153.5	0.9864
957.	1.014	3154.	0.8893
957.5	0.9171	3154.5	0.8686
958.	1.019	3155.	0.7323
958.5	0.8455	3155.5	0.8593
959.	0.7115	3156.	1.1
959.5	0.7877	3156.5	1.178
960.	0.9148	3157.	0.6029
960.5	1.074	3157.5	0.9355
961.	0.8801	3158.	0.8893
961.5	0.6699	3158.5	1.007
962.	0.9355	3159.	0.8986
962.5	0.9032	3159.5	0.7369
963.	0.8639	3160.	0.8524

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
963.5	0.924	3160.5	1.012
964.	0.8755	3161.	0.9078
964.5	1.157	3161.5	0.9494
965.	0.9171	3162.	0.9101
965.5	1.178	3162.5	1.014
966.	0.8917	3163.	0.857
966.5	0.8362	3163.5	1.231
967.	0.9171	3164.	1.093
967.5	0.7184	3164.5	0.8778
968.	0.7692	3165.	0.9633
968.5	0.7392	3165.5	0.8385
969.	0.954	3166.	0.8963
969.5	0.8662	3166.5	0.8362
970.	1.063	3167.	0.9286
970.5	1.079	3167.5	0.8801
971.	0.9448	3168.	0.7508
971.5	0.9032	3168.5	0.9956
972.	0.9379	3169.	0.7115
972.5	0.961	3169.5	1.141
973.	0.9748	3170.	0.9148
973.5	1.005	3170.5	1.014
974.	0.8362	3171.	0.8917
974.5	0.8662	3171.5	1.026
975.	0.7508	3172.	0.9101
975.5	1.081	3172.5	0.9656
976.	0.8686	3173.	0.7831
976.5	0.7993	3173.5	1.056
977.	0.9355	3174.	0.8362
977.5	0.9148	3174.5	0.894
978.	0.8362	3175.	0.7531
978.5	1.072	3175.5	1.095
979.	0.7993	3176.	0.9771
979.5	0.9725	3176.5	0.9148
980.	0.8662	3177.	0.6907
980.5	0.9517	3177.5	0.9286
981.	0.73	3178.	0.8385
981.5	1.033	3178.5	0.9656
982.	0.6699	3179.	0.9355
982.5	0.7484	3179.5	0.9148
983.	0.8455	3180.	0.9956
983.5	0.9032	3180.5	0.5821
984.	0.8431	3181.	0.8963
984.5	0.8824	3181.5	1.095
985.	0.8662	3182.	0.7508
985.5	0.7993	3182.5	0.9956
986.	0.9032	3183.	0.9471
986.5	0.9448	3183.5	0.8316
987.	0.6791	3184.	0.9263
987.5	0.8847	3184.5	0.8177
988.	0.8547	3185.	0.9956
988.5	1.021	3185.5	0.7415
989.	0.8847	3186.	0.7854
989.5	1.148	3186.5	0.9563

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
990.	1.035	3187.	0.7831
990.5	0.7461	3187.5	1.044
991.	0.7785	3188.	0.76
991.5	0.7692	3188.5	1.021
992.	0.8755	3189.	0.8362
992.5	1.014	3189.5	1.1
993.	0.8639	3190.	1.053
993.5	0.9956	3190.5	1.213
994.	0.7785	3191.	0.857
994.5	1.04	3191.5	1.026
995.	0.6884	3192.	0.76
995.5	0.924	3192.5	0.9933
996.	0.7993	3193.	0.7808
996.5	0.5844	3193.5	1.003
997.	0.8455	3194.	0.8662
997.5	0.7993	3194.5	0.9979
998.	0.8154	3195.	0.894
998.5	0.9748	3195.5	0.7207
999.	0.7508	3196.	0.9563
999.5	1.003	3196.5	0.9587
1000.	0.7785	3197.	0.7669
1000.5	1.326	3197.5	0.9171
1001.	0.7785	3198.	0.8385
1001.5	0.9148	3198.5	1.063
1002.	1.042	3199.	0.8501
1002.5	1.132	3199.5	1.222
1003.	0.6537	3200.	0.7508
1003.5	0.8847	3200.5	0.9841
1004.	1.005	3201.	0.7831
1004.5	1.065	3201.5	0.9101
1005.	0.8662	3202.	0.7115
1005.5	0.857	3202.5	0.9448
1006.	0.7877	3203.	0.723
1006.5	1.023	3203.5	1.102
1007.	1.051	3204.	0.7531
1007.5	0.7692	3204.5	0.8362
1008.	0.7785	3205.	1.023
1008.5	1.042	3205.5	0.8893
1009.	0.827	3206.	0.7692
1009.5	0.954	3206.5	0.9286
1010.	1.06	3207.	0.8385
1010.5	0.9748	3207.5	0.954
1011.	0.9009	3208.	0.8478
1011.5	0.8085	3208.5	1.13
1012.	0.6537	3209.	0.7993
1012.5	0.954	3209.5	0.76
1013.	0.9818	3210.	0.8501
1013.5	0.8547	3210.5	1.113
1014.	0.8085	3211.	0.8293
1014.5	0.8385	3211.5	0.9078
1015.	0.7554	3212.	0.8385
1015.5	0.8662	3212.5	0.9055
1016.	0.797	3213.	0.7993

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1016.5	0.924	3213.5	0.894
1017.	0.924	3214.	0.8177
1017.5	1.09	3214.5	0.7623
1018.	0.6306	3215.	0.9563
1018.5	0.9656	3215.5	0.8686
1019.	0.73	3216.	0.6999
1019.5	0.8847	3216.5	1.056
1020.	0.8154	3217.	0.723
1020.5	0.7161	3217.5	0.9656
1021.	0.7577	3218.	0.6029
1021.5	0.924	3218.5	0.9148
1022.	0.7785	3219.	0.7831
1022.5	0.954	3219.5	0.8362
1023.	0.9933	3220.	0.8478
1023.5	0.8847	3220.5	0.8085
1024.	1.053	3221.	0.9286
1024.5	1.12	3221.5	0.8686
1025.	0.954	3222.	0.7323
1025.5	0.8362	3222.5	0.9355
1026.	0.6999	3223.	0.8801
1026.5	1.093	3223.5	0.9563
1027.	0.9448	3224.	0.8108
1027.5	1.044	3224.5	0.9355
1028.	1.003	3225.	0.76
1028.5	1.183	3225.5	1.201
1029.	0.4712	3226.	0.7993
1029.5	0.9956	3226.5	0.6815
1030.	0.924	3227.	1.123
1030.5	0.9771	3227.5	0.954
1031.	1.063	3228.	0.8778
1031.5	0.9448	3228.5	0.9286
1032.	0.6976	3229.	1.046
1032.5	1.171	3229.5	0.9148
1033.	0.8154	3230.	0.8963
1033.5	1.213	3230.5	0.9286
1034.	0.954	3231.	0.9078
1034.5	0.8547	3231.5	0.7415
1035.	0.8963	3232.	0.7531
1035.5	0.7692	3232.5	0.626
1036.	0.6399	3233.	0.7508
1036.5	0.79	3233.5	1.026
1037.	0.894	3234.	0.7877
1037.5	0.9448	3234.5	0.9448
1038.	0.8963	3235.	0.8893
1038.5	0.894	3235.5	0.9148
1039.	0.8431	3236.	0.76
1039.5	0.7993	3236.5	0.827
1040.	0.7577	3237.	0.7831
1040.5	1.044	3237.5	0.9841
1041.	0.9448	3238.	0.7277
1041.5	0.8362	3238.5	1.044
1042.	0.6607	3239.	0.8778
1042.5	0.954	3239.5	1.081

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1043.	0.7508	3240.	0.9587
1043.5	0.9171	3240.5	0.7415
1044.	0.9563	3241.	0.857
1044.5	0.9448	3241.5	0.9633
1045.	0.8547	3242.	0.8593
1045.5	0.8686	3242.5	0.857
1046.	0.9355	3243.	0.8385
1046.5	1.014	3243.5	0.73
1047.	0.8847	3244.	0.7277
1047.5	1.044	3244.5	0.9078
1048.	0.857	3245.	0.7669
1048.5	0.9633	3245.5	0.723
1049.	0.8547	3246.	0.9148
1049.5	0.9933	3246.5	0.82
1050.	0.924	3247.	0.8917
1050.5	1.063	3247.5	0.9286
1051.	1.04	3248.	0.8385
1051.5	0.9355	3248.5	0.9494
1052.	0.8778	3249.	1.113
1052.5	0.8362	3249.5	1.083
1053.	1.003	3250.	0.8686
1053.5	0.9933	3250.5	0.9263
1054.	0.7877	3251.	0.8778
1054.5	0.8847	3251.5	0.9332
1055.	0.7785	3252.	0.8385
1055.5	1.037	3252.5	0.5567
1056.	0.7115	3253.	0.9101
1056.5	1.035	3253.5	0.9471
1057.	0.894	3254.	0.9078
1057.5	0.9032	3254.5	1.192
1058.	0.7508	3255.	0.8593
1058.5	1.307	3255.5	1.1
1059.	0.887	3256.	0.7831
1059.5	1.1	3256.5	0.857
1060.	1.081	3257.	0.9471
1060.5	0.8847	3257.5	0.8801
1061.	0.9448	3258.	0.9587
1061.5	0.894	3258.5	0.8709
1062.	0.8247	3259.	0.7993
1062.5	0.9194	3259.5	1.026
1063.	1.005	3260.	0.7877
1063.5	0.8455	3260.5	1.014
1064.	1.	3261.	0.8917
1064.5	0.9148	3261.5	1.026
1065.	1.033	3262.	0.8108
1065.5	0.7484	3262.5	0.9956
1066.	1.012	3263.	0.8547
1066.5	1.093	3263.5	0.7207
1067.	0.924	3264.	0.6237
1067.5	1.035	3264.5	0.7669
1068.	0.9794	3265.	0.8547
1068.5	0.9748	3265.5	1.153
1069.	0.9448	3266.	0.7715

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1069.5	0.9194	3266.5	0.9148
1070.	0.9818	3267.	0.8963
1070.5	0.7692	3267.5	0.8385
1071.	0.7577	3268.	0.7415
1071.5	1.083	3268.5	0.6676
1072.	0.6976	3269.	0.76
1072.5	1.053	3269.5	1.
1073.	0.7161	3270.	0.8686
1073.5	0.8085	3270.5	0.9633
1074.	0.7785	3271.	0.6722
1074.5	1.044	3271.5	0.7923
1075.	0.8662	3272.	0.7508
1075.5	0.9794	3272.5	0.8501
1076.	0.827	3273.	0.8963
1076.5	1.16	3273.5	0.9078
1077.	0.7877	3274.	0.8293
1077.5	0.7438	3274.5	0.4759
1078.	0.7715	3275.	0.8686
1078.5	1.141	3275.5	0.7484
1079.	0.8755	3276.	0.9471
1079.5	0.8108	3276.5	0.5752
1080.	0.9263	3277.	0.7323
1080.5	1.065	3277.5	0.9864
1081.	0.9194	3278.	0.9286
1081.5	0.8963	3278.5	0.663
1082.	0.7993	3279.	0.7692
1082.5	0.9748	3279.5	0.7253
1083.	0.8293	3280.	0.8963
1083.5	1.111	3280.5	0.82
1084.	0.9055	3281.	0.8986
1084.5	0.887	3281.5	0.9332
1085.	0.8385	3282.	1.005
1085.5	0.8293	3282.5	0.9332
1086.	0.8547	3283.	0.6607
1086.5	1.16	3283.5	0.6352
1087.	0.7785	3284.	0.9563
1087.5	0.954	3284.5	0.5359
1088.	0.9448	3285.	0.9679
1088.5	1.051	3285.5	0.961
1089.	0.9748	3286.	1.123
1089.5	0.8686	3286.5	0.8778
1090.	0.7877	3287.	0.9956
1090.5	0.9263	3287.5	1.081
1091.	0.8686	3288.	0.9471
1091.5	0.8362	3288.5	0.8408
1092.	0.9194	3289.	0.9148
1092.5	0.9032	3289.5	0.7415
1093.	0.7577	3290.	0.954
1093.5	0.857	3290.5	0.9563
1094.	0.894	3291.	1.083
1094.5	0.9818	3291.5	0.8547
1095.	1.021	3292.	0.8986
1095.5	0.7207	3292.5	0.7993

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1096.	0.9055	3293.	0.9263
1096.5	1.093	3293.5	0.6607
1097.	0.5821	3294.	0.9864
1097.5	1.042	3294.5	0.8986
1098.	0.7484	3295.	0.6722
1098.5	0.9656	3295.5	0.9286
1099.	0.887	3296.	0.894
1099.5	0.9032	3296.5	0.5198
1100.	0.8778	3297.	0.857
1100.5	1.083	3297.5	0.9101
1101.	0.8662	3298.	1.25
1101.5	1.234	3298.5	0.7877
1102.	0.9448	3299.	1.063
1102.5	1.157	3299.5	0.8316
1103.	0.9448	3300.	0.9563
1103.5	1.065	3300.5	0.7415
1104.	0.9563	3301.	0.7115
1104.5	0.8293	3301.5	0.9309
1105.	0.9032	3302.	0.9864
1105.5	0.8963	3302.5	0.9471
1106.	0.7993	3303.	0.954
1106.5	0.9748	3303.5	0.82
1107.	0.7323	3304.	1.072
1107.5	0.8778	3304.5	0.73
1108.	0.887	3305.	0.9355
1108.5	0.8108	3305.5	0.9101
1109.	0.8108	3306.	0.9055
1109.5	1.104	3306.5	0.7993
1110.	0.887	3307.	0.8893
1110.5	0.9448	3307.5	0.6075
1111.	0.9332	3308.	1.153
1111.5	1.053	3308.5	0.82
1112.	0.6976	3309.	0.8524
1112.5	0.9379	3309.5	0.9078
1113.	0.7554	3310.	0.9148
1113.5	0.79	3310.5	0.7831
1114.	0.6653	3311.	0.827
1114.5	0.9748	3311.5	0.6953
1115.	0.7692	3312.	0.894
1115.5	0.8755	3312.5	0.8224
1116.	0.7993	3313.	0.9078
1116.5	0.924	3313.5	0.8478
1117.	0.76	3314.	1.005
1117.5	0.9263	3314.5	0.7115
1118.	0.9448	3315.	0.7669
1118.5	0.9633	3315.5	0.8778
1119.	0.7484	3316.	0.7993
1119.5	1.148	3316.5	0.8662
1120.	0.7715	3317.	1.104
1120.5	1.132	3317.5	0.9286
1121.	1.021	3318.	0.9148
1121.5	0.9379	3318.5	0.8778
1122.	0.7993	3319.	0.7715

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1122.5	1.132	3319.5	0.9355
1123.	0.7484	3320.	0.7577
1123.5	1.065	3320.5	0.887
1124.	0.6815	3321.	0.9771
1124.5	0.8547	3321.5	0.924
1125.	0.857	3322.	0.82
1125.5	1.053	3322.5	0.8408
1126.	0.857	3323.	0.9055
1126.5	1.081	3323.5	0.8316
1127.	0.8847	3324.	0.8478
1127.5	0.9956	3324.5	0.8686
1128.	0.8177	3325.	0.7138
1128.5	1.141	3325.5	0.9864
1129.	0.8917	3326.	0.9124
1129.5	1.106	3326.5	0.7022
1130.	0.6329	3327.	1.125
1130.5	0.8662	3327.5	0.9563
1131.	0.7508	3328.	0.9148
1131.5	0.9841	3328.5	0.894
1132.	0.9355	3329.	0.8801
1132.5	1.003	3329.5	0.7923
1133.	0.9332	3330.	0.9148
1133.5	0.9171	3330.5	0.9379
1134.	0.9841	3331.	1.102
1134.5	0.9956	3331.5	0.8963
1135.	0.7923	3332.	1.014
1135.5	1.083	3332.5	0.8316
1136.	0.887	3333.	0.6722
1136.5	1.053	3333.5	0.7692
1137.	0.8963	3334.	1.035
1137.5	0.8547	3334.5	0.6999
1138.	0.9563	3335.	0.7415
1138.5	1.021	3335.5	0.6445
1139.	0.9633	3336.	0.8501
1139.5	1.014	3336.5	0.8593
1140.	1.063	3337.	1.003
1140.5	0.6791	3337.5	1.123
1141.	0.6815	3338.	1.095
1141.5	1.044	3338.5	0.9148
1142.	0.6791	3339.	0.7531
1142.5	1.051	3339.5	0.7022
1143.	0.8108	3340.	0.8662
1143.5	0.9194	3340.5	0.7993
1144.	1.003	3341.	0.7669
1144.5	0.7993	3341.5	0.7692
1145.	0.8108	3342.	0.9587
1145.5	1.104	3342.5	0.7022
1146.	0.8085	3343.	0.7993
1146.5	1.09	3343.5	0.8963
1147.	0.8755	3344.	0.857
1147.5	0.9956	3344.5	1.065
1148.	0.6999	3345.	0.9956
1148.5	0.9194	3345.5	0.5382

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1149.	0.6583	3346.	0.8755
1149.5	0.8085	3346.5	0.7115
1150.	0.9379	3347.	1.164
1150.5	1.007	3347.5	0.8131
1151.	0.6653	3348.	0.8293
1151.5	0.9656	3348.5	0.79
1152.	0.9933	3349.	0.8293
1152.5	0.8455	3349.5	0.7715
1153.	0.7785	3350.	1.194
1153.5	0.9748	3350.5	0.857
1154.	0.9194	3351.	0.9471
1154.5	0.9448	3351.5	0.6815
1155.	0.8778	3352.	0.8385
1155.5	1.067	3352.5	0.73
1156.	0.9656	3353.	0.8686
1156.5	0.8893	3353.5	0.8501
1157.	0.8686	3354.	0.9956
1157.5	1.104	3354.5	0.7392
1158.	0.8847	3355.	0.7831
1158.5	0.9263	3355.5	0.4412
1159.	1.014	3356.	0.9055
1159.5	0.6722	3356.5	1.026
1160.	0.6237	3357.	0.9332
1160.5	0.954	3357.5	0.9309
1161.	0.9956	3358.	0.8501
1161.5	0.7392	3358.5	0.7739
1162.	0.7993	3359.	0.9933
1162.5	1.093	3359.5	0.8893
1163.	0.827	3360.	0.7092
1163.5	0.8547	3360.5	0.9563
1164.	0.8478	3361.	0.9864
1164.5	1.06	3361.5	0.9078
1165.	0.8177	3362.	1.026
1165.5	1.037	3362.5	0.7323
1166.	0.7808	3363.	1.005
1166.5	0.9656	3363.5	0.7993
1167.	1.042	3364.	0.9355
1167.5	0.887	3364.5	0.723
1168.	1.123	3365.	0.9379
1168.5	1.072	3365.5	0.6907
1169.	0.8385	3366.	0.8547
1169.5	1.083	3366.5	0.8547
1170.	0.9794	3367.	0.9309
1170.5	0.9448	3367.5	0.7946
1171.	0.8108	3368.	0.4966
1171.5	0.8085	3368.5	0.8293
1172.	0.7138	3369.	0.9864
1172.5	0.9563	3369.5	0.7207
1173.	0.7993	3370.	1.28
1173.5	0.9379	3370.5	0.6999
1174.	1.183	3371.	0.8778
1174.5	0.9794	3371.5	0.9101
1175.	0.6214	3372.	0.9286

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1175.5	0.9355	3372.5	0.9263
1176.	0.6237	3373.	0.7415
1176.5	0.7692	3373.5	0.8108
1177.	0.8478	3374.	0.8662
1177.5	1.076	3374.5	0.9563
1178.	0.9171	3375.	0.6815
1178.5	0.8709	3375.5	0.82
1179.	0.6791	3376.	0.8893
1179.5	0.9771	3376.5	0.8709
1180.	0.6537	3377.	0.8293
1180.5	1.171	3377.5	0.7692
1181.	0.8963	3378.	0.7993
1181.5	1.026	3378.5	0.7115
1182.	0.5429	3379.	0.7484
1182.5	1.035	3379.5	0.7715
1183.	1.083	3380.	1.005
1183.5	1.014	3380.5	0.82
1184.	0.9656	3381.	0.9286
1184.5	0.9864	3381.5	0.8385
1185.	0.7993	3382.	0.827
1185.5	1.037	3382.5	0.6907
1186.	0.9379	3383.	0.827
1186.5	0.7415	3383.5	0.8108
1187.	1.104	3384.	0.9771
1187.5	0.9194	3384.5	0.7531
1188.	0.8293	3385.	1.046
1188.5	1.044	3385.5	0.8686
1189.	0.9771	3386.	0.9771
1189.5	1.014	3386.5	0.6861
1190.	0.79	3387.	0.76
1190.5	0.7715	3387.5	0.7277
1191.	0.79	3388.	0.9841
1191.5	0.7508	3388.5	0.8108
1192.	0.9771	3389.	1.053
1192.5	0.7785	3389.5	0.6838
1193.	0.8108	3390.	1.035
1193.5	0.9055	3390.5	1.102
1194.	0.9379	3391.	1.014
1194.5	0.9587	3391.5	0.8408
1195.	0.7138	3392.	1.014
1195.5	0.8478	3392.5	0.6953
1196.	0.6815	3393.	1.095
1196.5	0.8686	3393.5	0.7808
1197.	0.9771	3394.	0.9263
1197.5	1.007	3394.5	0.7669
1198.	0.6745	3395.	1.035
1198.5	0.7785	3395.5	0.6075
1199.	0.6214	3396.	0.79
1199.5	0.8455	3396.5	0.8293
1200.	0.8963	3397.	1.065
1200.5	0.9771	3397.5	0.9286
1201.	0.857	3398.	0.663
1201.5	0.8455	3398.5	0.9332

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1202.	0.894	3399.	0.8501
1202.5	0.8709	3399.5	0.5937
1203.	0.5659	3400.	1.123
1203.5	0.8847	3400.5	0.8016
1204.	0.8478	3401.	0.9471
1204.5	0.8963	3401.5	0.76
1205.	0.9379	3402.	1.035
1205.5	0.9771	3402.5	0.7022
1206.	0.8131	3403.	0.9794
1206.5	1.113	3403.5	0.7993
1207.	0.8986	3404.	0.9494
1207.5	0.8293	3404.5	0.79
1208.	0.9471	3405.	0.8385
1208.5	1.15	3405.5	0.82
1209.	0.9471	3406.	1.044
1209.5	0.9679	3406.5	0.663
1210.	0.8547	3407.	0.9656
1210.5	0.8154	3407.5	0.7022
1211.	0.8686	3408.	0.6399
1211.5	1.016	3408.5	0.9563
1212.	0.9171	3409.	1.173
1212.5	0.9448	3409.5	0.7022
1213.	0.924	3410.	0.5567
1213.5	0.8755	3410.5	0.9956
1214.	0.8686	3411.	1.026
1214.5	0.9841	3411.5	0.9355
1215.	0.8131	3412.	0.8524
1215.5	0.9194	3412.5	0.8293
1216.	0.7993	3413.	1.026
1216.5	1.035	3413.5	0.8316
1217.	0.9448	3414.	0.693
1217.5	1.065	3414.5	0.8362
1218.	0.9794	3415.	0.7715
1218.5	1.005	3415.5	0.6237
1219.	0.9448	3416.	0.5151
1219.5	0.9055	3416.5	0.7692
1220.	1.123	3417.	1.026
1220.5	0.9194	3417.5	0.857
1221.	0.857	3418.	0.6722
1221.5	1.023	3418.5	0.8385
1222.	1.007	3419.	0.8478
1222.5	0.9656	3419.5	0.7115
1223.	0.7785	3420.	0.9563
1223.5	0.9587	3420.5	1.005
1224.	0.5636	3421.	0.7808
1224.5	0.8293	3421.5	0.7438
1225.	0.8963	3422.	0.8293
1225.5	1.046	3422.5	0.9055
1226.	0.9563	3423.	0.8293
1226.5	0.7415	3423.5	0.8362
1227.	0.8478	3424.	1.037
1227.5	0.9379	3424.5	0.7508
1228.	0.9587	3425.	1.026

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1228.5	0.9656	3425.5	0.7253
1229.	0.9379	3426.	0.6376
1229.5	0.9448	3426.5	0.7993
1230.	1.067	3427.	0.9771
1230.5	1.111	3427.5	0.7415
1231.	0.6999	3428.	0.9309
1231.5	0.8501	3428.5	0.8963
1232.	0.7715	3429.	0.8478
1232.5	0.7993	3429.5	0.8893
1233.	0.8963	3430.	0.9355
1233.5	0.9864	3430.5	0.7415
1234.	0.9864	3431.	1.164
1234.5	0.8893	3431.5	0.9263
1235.	0.7207	3432.	1.046
1235.5	0.9818	3432.5	0.8293
1236.	0.8893	3433.	0.887
1236.5	1.023	3433.5	0.8108
1237.	0.8986	3434.	0.8801
1237.5	0.9379	3434.5	0.9563
1238.	0.76	3435.	1.014
1238.5	0.7785	3435.5	0.8316
1239.	0.6098	3436.	0.9956
1239.5	0.8686	3436.5	0.626
1240.	0.9055	3437.	0.8755
1240.5	1.076	3437.5	0.8385
1241.	0.9794	3438.	1.153
1241.5	0.9563	3438.5	0.9286
1242.	0.8316	3439.	0.9656
1242.5	0.9748	3439.5	0.8778
1243.	0.9286	3440.	0.7438
1243.5	0.8986	3440.5	0.9771
1244.	0.9656	3441.	0.8686
1244.5	1.15	3441.5	0.73
1245.	0.9956	3442.	0.7392
1245.5	1.063	3442.5	0.9355
1246.	0.9448	3443.	0.9563
1246.5	0.9587	3443.5	0.7508
1247.	0.857	3444.	1.056
1247.5	1.086	3444.5	0.8016
1248.	0.6537	3445.	1.005
1248.5	1.023	3445.5	0.7854
1249.	0.8177	3446.	1.035
1249.5	1.035	3446.5	0.8917
1250.	0.9841	3447.	0.7115
1250.5	1.093	3447.5	0.7715
1251.	0.7993	3448.	0.8778
1251.5	0.9956	3448.5	0.693
1252.	0.9587	3449.	0.8778
1252.5	1.111	3449.5	0.9148
1253.	0.7785	3450.	0.7508
1253.5	0.9864	3450.5	0.6953
1254.	0.7323	3451.	1.076
1254.5	1.086	3451.5	0.76

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1255.	0.7415	3452.	1.007
1255.5	1.023	3452.5	0.857
1256.	0.6791	3453.	0.9979
1256.5	0.8131	3453.5	0.5359
1257.	0.76	3454.	0.9148
1257.5	1.053	3454.5	0.8778
1258.	0.6029	3455.	0.76
1258.5	0.7415	3455.5	0.9656
1259.	0.9032	3456.	1.014
1259.5	1.132	3456.5	0.7046
1260.	0.6098	3457.	0.8593
1260.5	0.9379	3457.5	0.8385
1261.	0.7531	3458.	1.102
1261.5	1.065	3458.5	0.693
1262.	0.7785	3459.	1.095
1262.5	0.827	3459.5	0.7831
1263.	0.8478	3460.	0.9656
1263.5	0.9956	3460.5	0.9148
1264.	0.8893	3461.	1.014
1264.5	1.044	3461.5	0.8293
1265.	0.8686	3462.	0.887
1265.5	0.8108	3462.5	0.7831
1266.	0.9563	3463.	1.026
1266.5	0.9679	3463.5	0.8709
1267.	0.8177	3464.	0.8686
1267.5	0.8316	3464.5	0.8016
1268.	0.9286	3465.	0.8016
1268.5	1.222	3465.5	0.7415
1269.	0.8709	3466.	0.8824
1269.5	0.8963	3466.5	0.8016
1270.	0.9263	3467.	0.7831
1270.5	1.035	3467.5	0.9402
1271.	0.7739	3468.	1.139
1271.5	1.081	3468.5	0.7993
1272.	0.887	3469.	0.9563
1272.5	0.9587	3469.5	0.723
1273.	0.8408	3470.	0.9448
1273.5	0.8108	3470.5	0.8131
1274.	0.6838	3471.	1.065
1274.5	1.023	3471.5	0.9841
1275.	0.8709	3472.	0.8801
1275.5	0.9448	3472.5	1.014
1276.	0.7993	3473.	0.7046
1276.5	0.9471	3473.5	0.8686
1277.	0.9402	3474.	0.6537
1277.5	0.9864	3474.5	0.7877
1278.	1.033	3475.	0.9656
1278.5	0.8316	3475.5	0.73
1279.	0.8778	3476.	0.7831
1279.5	0.9032	3476.5	0.7438
1280.	0.9355	3477.	1.005
1280.5	0.8016	3477.5	0.7993
1281.	0.9263	3478.	0.9171

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1281.5	0.8362	3478.5	0.894
1282.	1.053	3479.	1.056
1282.5	0.9771	3479.5	0.7993
1283.	1.056	3480.	1.093
1283.5	1.014	3480.5	0.8501
1284.	0.7207	3481.	0.8501
1284.5	0.76	3481.5	0.8732
1285.	1.132	3482.	0.9979
1285.5	0.924	3482.5	0.9055
1286.	0.9263	3483.	0.8593
1286.5	0.9263	3483.5	0.6722
1287.	0.8316	3484.	1.021
1287.5	0.9402	3484.5	0.8686
1288.	0.6329	3485.	1.007
1288.5	0.8686	3485.5	0.8385
1289.	0.8478	3486.	0.6722
1289.5	0.7993	3486.5	0.8893
1290.	0.9194	3487.	0.8016
1290.5	0.8385	3487.5	0.8778
1291.	0.7415	3488.	1.014
1291.5	0.7715	3488.5	0.7138
1292.	0.9379	3489.	0.7993
1292.5	1.042	3489.5	0.9101
1293.	0.8709	3490.	1.1
1293.5	0.9841	3490.5	0.9171
1294.	0.9379	3491.	0.6537
1294.5	1.065	3491.5	0.9771
1295.	0.9841	3492.	0.8963
1295.5	0.8478	3492.5	0.73
1296.	1.005	3493.	0.9286
1296.5	0.7415	3493.5	0.6352
1297.	0.8293	3494.	0.8408
1297.5	0.9194	3494.5	0.8108
1298.	0.76	3495.	1.123
1298.5	1.023	3495.5	0.7946
1299.	0.8893	3496.	0.8801
1299.5	1.132	3496.5	0.7993
1300.	0.8385	3497.	1.072
1300.5	1.12	3497.5	0.8778
1301.	0.8593	3498.	0.9563
1301.5	0.9587	3498.5	0.7923
1302.	0.9679	3499.	0.8362
1302.5	1.067	3499.5	0.9748
1303.	0.887	3500.	0.596
1303.5	0.8385	3500.5	0.626
1304.	0.894	3501.	1.065
1304.5	0.9679	3501.5	0.8917
1305.	0.887	3502.	0.5475
1305.5	0.9702	3502.5	0.8408
1306.	1.026	3503.	0.8778
1306.5	1.005	3503.5	0.9494
1307.	0.8108	3504.	0.9263
1307.5	0.9379	3504.5	0.6838

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1308.	0.7715	3505.	1.014
1308.5	0.8709	3505.5	0.9679
1309.	0.9217	3506.	0.9656
1309.5	1.086	3506.5	0.6445
1310.	0.8016	3507.	1.076
1310.5	0.7531	3507.5	0.8501
1311.	0.9864	3508.	0.9379
1311.5	0.9379	3508.5	0.6745
1312.	1.035	3509.	0.9263
1312.5	0.8686	3509.5	0.9448
1313.	0.7346	3510.	0.7692
1313.5	1.067	3510.5	0.73
1314.	0.6722	3511.	0.7323
1314.5	1.067	3511.5	0.9656
1315.	0.6745	3512.	0.9148
1315.5	1.141	3512.5	0.6953
1316.	0.79	3513.	0.9887
1316.5	1.15	3513.5	0.6214
1317.	1.005	3514.	0.9563
1317.5	0.7022	3514.5	0.9032
1318.	0.9841	3515.	0.7993
1318.5	1.035	3515.5	0.8662
1319.	1.053	3516.	0.8963
1319.5	0.9286	3516.5	0.8801
1320.	0.9286	3517.	0.9355
1320.5	0.8293	3517.5	0.8778
1321.	0.9841	3518.	0.9379
1321.5	1.026	3518.5	0.7392
1322.	0.8709	3519.	0.9656
1322.5	1.053	3519.5	0.8709
1323.	0.7161	3520.	0.9124
1323.5	1.023	3520.5	0.8362
1324.	1.037	3521.	1.139
1324.5	1.033	3521.5	0.9286
1325.	0.9309	3522.	0.8893
1325.5	0.9656	3522.5	0.9563
1326.	0.8385	3523.	0.8778
1326.5	0.8662	3523.5	0.8524
1327.	0.9078	3524.	0.9771
1327.5	1.007	3524.5	1.026
1328.	0.8016	3525.	0.8593
1328.5	1.005	3525.5	0.6838
1329.	0.9771	3526.	0.9471
1329.5	0.79	3526.5	0.7138
1330.	0.9563	3527.	0.9148
1330.5	0.8108	3527.5	0.8085
1331.	0.7739	3528.	0.9148
1331.5	1.053	3528.5	0.7993
1332.	0.7623	3529.	0.8917
1332.5	0.9194	3529.5	0.76
1333.	0.8524	3530.	0.9471
1333.5	0.8177	3530.5	0.7508
1334.	0.8016	3531.	0.8293

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1334.5	0.8593	3531.5	1.076
1335.	1.076	3532.	0.7207
1335.5	0.9956	3532.5	0.8177
1336.	0.8293	3533.	0.9771
1336.5	0.8893	3533.5	0.6237
1337.	0.6999	3534.	0.8963
1337.5	0.8177	3534.5	0.9587
1338.	0.9402	3535.	0.9263
1338.5	1.014	3535.5	0.7138
1339.	0.8593	3536.	0.9101
1339.5	1.088	3536.5	0.82
1340.	0.8385	3537.	0.8801
1340.5	1.026	3537.5	0.9078
1341.	0.8316	3538.	0.8085
1341.5	0.8316	3538.5	0.9286
1342.	0.9956	3539.	1.
1342.5	0.8293	3539.5	0.8108
1343.	0.7808	3540.	0.8016
1343.5	0.8778	3540.5	0.76
1344.	0.8293	3541.	0.9771
1344.5	1.132	3541.5	0.7022
1345.	0.7531	3542.	0.8801
1345.5	1.037	3542.5	0.7415
1346.	0.9286	3543.	0.9379
1346.5	1.007	3543.5	0.596
1347.	0.9032	3544.	0.9101
1347.5	0.9471	3544.5	0.8801
1348.	0.7531	3545.	0.8801
1348.5	0.82	3545.5	0.8755
1349.	0.7739	3546.	0.8755
1349.5	1.123	3546.5	0.7692
1350.	0.82	3547.	1.058
1350.5	0.9771	3547.5	0.7993
1351.	0.9656	3548.	0.9148
1351.5	0.8501	3548.5	0.961
1352.	1.058	3549.	1.22
1352.5	0.6999	3549.5	0.8547
1353.	0.8593	3550.	1.192
1353.5	0.7346	3550.5	0.6607
1354.	0.7346	3551.	0.9794
1354.5	0.6537	3551.5	0.7277
1355.	0.9194	3552.	1.15
1355.5	1.093	3552.5	0.7115
1356.	0.8893	3553.	0.723
1356.5	0.8986	3553.5	0.8709
1357.	0.8778	3554.	0.5105
1357.5	1.007	3554.5	0.8893
1358.	0.6329	3555.	0.8963
1358.5	1.093	3555.5	1.104
1359.	1.007	3556.	0.7854
1359.5	0.8478	3556.5	0.8986
1360.	0.8478	3557.	0.954
1360.5	0.8801	3557.5	0.8293

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1361.	1.083	3558.	1.028
1361.5	0.9587	3558.5	0.7022
1362.	0.8593	3559.	0.76
1362.5	0.9771	3559.5	0.8293
1363.	0.8316	3560.	0.8917
1363.5	1.076	3560.5	0.8362
1364.	0.8686	3561.	0.9171
1364.5	1.25	3561.5	0.6607
1365.	0.7715	3562.	1.016
1365.5	1.079	3562.5	0.7831
1366.	0.6121	3563.	0.9148
1366.5	1.095	3563.5	1.056
1367.	0.7346	3564.	0.7277
1367.5	0.7715	3564.5	0.8316
1368.	0.8177	3565.	0.7508
1368.5	1.236	3565.5	0.8224
1369.	1.009	3566.	0.9956
1369.5	0.9956	3566.5	0.7253
1370.	0.9078	3567.	0.7207
1370.5	0.82	3567.5	0.8108
1371.	1.026	3568.	0.8801
1371.5	1.185	3568.5	0.8547
1372.	1.026	3569.	0.8362
1372.5	1.065	3569.5	1.058
1373.	0.7785	3570.	0.887
1373.5	1.153	3570.5	0.9563
1374.	0.7346	3571.	0.6838
1374.5	0.7877	3571.5	0.9471
1375.	0.9055	3572.	0.723
1375.5	1.046	3572.5	1.007
1376.	0.9956	3573.	1.056
1376.5	0.9864	3573.5	0.9794
1377.	0.8085	3574.	1.014
1377.5	0.9956	3574.5	0.8224
1378.	1.014	3575.	1.053
1378.5	0.887	3575.5	0.9771
1379.	0.7415	3576.	0.7623
1379.5	1.005	3576.5	0.857
1380.	0.7531	3577.	0.857
1380.5	0.9448	3577.5	0.9587
1381.	0.7508	3578.	1.134
1381.5	0.9101	3578.5	0.8524
1382.	0.9379	3579.	0.9286
1382.5	0.8778	3579.5	0.7438
1383.	0.9794	3580.	0.9355
1383.5	0.9009	3580.5	0.9148
1384.	1.026	3581.	0.7554
1384.5	0.8986	3581.5	0.6329
1385.	0.8986	3582.	0.9148
1385.5	0.8385	3582.5	0.9494
1386.	1.141	3583.	1.037
1386.5	1.028	3583.5	0.9956
1387.	0.7623	3584.	0.723

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1387.5	1.046	3584.5	0.8986
1388.	0.8362	3585.	0.8293
1388.5	1.037	3585.5	0.8131
1389.	0.7923	3586.	1.074
1389.5	0.9794	3586.5	0.7392
1390.	0.8177	3587.	0.857
1390.5	1.104	3587.5	0.7323
1391.	0.6953	3588.	1.014
1391.5	0.9587	3588.5	0.6745
1392.	0.6653	3589.	0.9309
1392.5	0.7022	3589.5	0.723
1393.	0.7369	3590.	0.9148
1393.5	1.026	3590.5	0.5867
1394.	0.7161	3591.	0.7022
1394.5	0.9771	3591.5	0.7923
1395.	0.7739	3592.	0.9633
1395.5	1.076	3592.5	0.7993
1396.	0.7415	3593.	0.9309
1396.5	1.016	3593.5	0.723
1397.	0.9263	3594.	0.9587
1397.5	0.8616	3594.5	0.7022
1398.	0.9402	3595.	0.7946
1398.5	0.8408	3595.5	0.9171
1399.	0.7138	3596.	0.7415
1399.5	0.8662	3596.5	0.79
1400.	1.026	3597.	1.074
1400.5	0.8039	3597.5	0.8293
1401.	0.9956	3598.	0.7438
1401.5	0.9656	3598.5	0.8593
1402.	1.143	3599.	0.76
1402.5	0.9956	3599.5	0.7923
1403.	0.7161	3600.	1.042
1403.5	0.8016	3600.5	0.7692
1404.	0.7323	3601.	0.9656
1404.5	0.723	3601.5	0.857
1405.	0.8385	3602.	1.035
1405.5	0.9656	3602.5	0.6607
1406.	0.8501	3603.	0.9656
1406.5	1.093	3603.5	0.6052
1407.	1.046	3604.	1.076
1407.5	0.8016	3604.5	0.8108
1408.	0.9794	3605.	0.991
1408.5	1.204	3605.5	0.9148
1409.	0.7715	3606.	1.014
1409.5	0.8686	3606.5	0.9794
1410.	0.9101	3607.	0.7623
1410.5	0.8709	3607.5	0.82
1411.	0.8016	3608.	0.8963
1411.5	0.9887	3608.5	0.8316
1412.	0.7138	3609.	1.113
1412.5	0.79	3609.5	0.9332
1413.	0.8593	3610.	0.9771
1413.5	1.007	3610.5	0.8131

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1414.	0.7438	3611.	0.887
1414.5	0.82	3611.5	0.8593
1415.	0.8893	3612.	0.8662
1415.5	0.9864	3612.5	0.7715
1416.	0.7161	3613.	0.79
1416.5	0.8316	3613.5	0.596
1417.	0.8593	3614.	0.8362
1417.5	0.8893	3614.5	0.8408
1418.	0.7531	3615.	0.9748
1418.5	0.9956	3615.5	0.6052
1419.	0.8801	3616.	1.005
1419.5	0.9864	3616.5	0.8917
1420.	0.8478	3617.	1.171
1420.5	0.8408	3617.5	0.82
1421.	0.9979	3618.	0.8408
1421.5	1.014	3618.5	0.7923
1422.	0.8986	3619.	0.894
1422.5	0.6653	3619.5	0.9286
1423.	0.7438	3620.	1.104
1423.5	0.8478	3620.5	0.9286
1424.	0.7531	3621.	1.007
1424.5	1.106	3621.5	0.9587
1425.	0.7923	3622.	0.9864
1425.5	1.086	3622.5	0.7253
1426.	0.7346	3623.	0.9148
1426.5	0.9055	3623.5	0.9286
1427.	0.596	3624.	0.9587
1427.5	0.7923	3624.5	0.8662
1428.	0.9887	3625.	0.9979
1428.5	1.007	3625.5	0.8709
1429.	0.9494	3626.	0.8385
1429.5	1.183	3626.5	0.7715
1430.	0.9794	3627.	0.9864
1430.5	1.056	3627.5	1.044
1431.	0.8893	3628.	0.8316
1431.5	0.8963	3628.5	0.79
1432.	0.693	3629.	0.7808
1432.5	0.9078	3629.5	0.8801
1433.	0.9078	3630.	0.79
1433.5	1.106	3630.5	0.8686
1434.	0.9309	3631.	0.6052
1434.5	0.7808	3631.5	0.6653
1435.	0.8801	3632.	0.9794
1435.5	1.026	3632.5	0.6815
1436.	1.007	3633.	0.9101
1436.5	1.113	3633.5	0.8524
1437.	1.037	3634.	0.9101
1437.5	0.9633	3634.5	0.5937
1438.	0.7762	3635.	0.9887
1438.5	1.007	3635.5	1.016
1439.	0.8431	3636.	0.8963
1439.5	1.086	3636.5	0.7554
1440.	0.8709	3637.	0.7923

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1440.5	1.106	3637.5	0.9078
1441.	0.6329	3638.	1.058
1441.5	0.9309	3638.5	0.723
1442.	0.8408	3639.	0.8501
1442.5	0.9818	3639.5	0.8593
1443.	0.6838	3640.	0.8847
1443.5	0.8316	3640.5	0.8131
1444.	0.7508	3641.	0.7323
1444.5	0.6145	3641.5	0.7923
1445.	0.9194	3642.	0.7577
1445.5	0.8131	3642.5	0.9124
1446.	0.7346	3643.	0.8917
1446.5	1.014	3643.5	0.8778
1447.	0.626	3644.	0.8247
1447.5	0.8593	3644.5	0.6722
1448.	1.058	3645.	0.8963
1448.5	0.8131	3645.5	0.6815
1449.	0.8385	3646.	0.8408
1449.5	1.067	3646.5	0.8316
1450.	0.9286	3647.	0.9101
1450.5	0.8893	3647.5	0.8963
1451.	0.5729	3648.	0.9448
1451.5	1.076	3648.5	0.8316
1452.	0.7623	3649.	0.7623
1452.5	0.8408	3649.5	0.8893
1453.	0.76	3650.	1.065
1453.5	0.8316	3650.5	0.663
1454.	0.9818	3651.	0.8801
1454.5	0.9563	3651.5	0.9171
1455.	0.8478	3652.	0.8824
1455.5	0.8501	3652.5	0.8293
1456.	0.8131	3653.	1.206
1456.5	0.8824	3653.5	0.8917
1457.	0.7923	3654.	0.9864
1457.5	0.9887	3654.5	0.6676
1458.	0.7161	3655.	0.8801
1458.5	0.9471	3655.5	0.9494
1459.	0.8778	3656.	0.8801
1459.5	1.192	3656.5	1.056
1460.	0.8986	3657.	1.104
1460.5	0.9055	3657.5	0.76
1461.	0.8986	3658.	0.9171
1461.5	0.9794	3658.5	0.9563
1462.	0.8801	3659.	0.8963
1462.5	0.8801	3659.5	0.8662
1463.	0.82	3660.	1.095
1463.5	0.9587	3660.5	0.8501
1464.	0.9286	3661.	1.079
1464.5	1.065	3661.5	0.5844
1465.	0.7739	3662.	0.8963
1465.5	0.8686	3662.5	0.7854
1466.	0.9471	3663.	1.003
1466.5	1.113	3663.5	0.6745

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1467.	0.8408	3664.	0.9171
1467.5	0.7923	3664.5	0.7993
1468.	0.8801	3665.	0.8224
1468.5	1.076	3665.5	0.7692
1469.	0.9194	3666.	0.9286
1469.5	0.9402	3666.5	0.5937
1470.	1.067	3667.	0.8893
1470.5	1.111	3667.5	0.7138
1471.	0.8824	3668.	0.7415
1471.5	0.9771	3668.5	0.9101
1472.	0.9425	3669.	0.9078
1472.5	0.9979	3669.5	0.7323
1473.	0.9956	3670.	0.9471
1473.5	0.9217	3670.5	0.8408
1474.	0.7923	3671.	0.9771
1474.5	0.7531	3671.5	0.8408
1475.	0.7762	3672.	1.014
1475.5	0.9956	3672.5	0.8293
1476.	0.7623	3673.	0.6168
1476.5	0.8824	3673.5	0.76
1477.	1.016	3674.	0.8686
1477.5	0.9587	3674.5	0.9864
1478.	0.9956	3675.	1.053
1478.5	0.8431	3675.5	0.7623
1479.	0.5452	3676.	0.9864
1479.5	0.9402	3676.5	0.9171
1480.	0.7415	3677.	0.9148
1480.5	0.9217	3677.5	0.8686
1481.	0.8732	3678.	0.9148
1481.5	1.16	3678.5	0.8362
1482.	0.8593	3679.	0.9448
1482.5	0.8893	3679.5	0.8778
1483.	0.8293	3680.	1.162
1483.5	0.9471	3680.5	0.8108
1484.	0.9217	3681.	0.9286
1484.5	1.046	3681.5	0.9101
1485.	0.6976	3682.	0.723
1485.5	0.9078	3682.5	0.7831
1486.	1.009	3683.	1.014
1486.5	0.9379	3683.5	0.9286
1487.	0.7946	3684.	0.9055
1487.5	0.7739	3684.5	0.8016
1488.	0.9055	3685.	0.9101
1488.5	0.8986	3685.5	0.8501
1489.	0.7785	3686.	0.9864
1489.5	0.9587	3686.5	0.5567
1490.	0.8316	3687.	0.8778
1490.5	0.9864	3687.5	0.656
1491.	0.8039	3688.	1.063
1491.5	0.9471	3688.5	0.7993
1492.	0.9194	3689.	0.9171
1492.5	1.162	3689.5	0.7854
1493.	1.046	3690.	0.7692

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1493.5	1.044	3690.5	0.8316
1494.	0.9794	3691.	1.083
1494.5	1.016	3691.5	0.8893
1495.	0.8501	3692.	0.857
1495.5	0.8986	3692.5	0.9771
1496.	0.7161	3693.	0.8616
1496.5	0.8709	3693.5	0.9332
1497.	1.007	3694.	0.7415
1497.5	0.9217	3694.5	0.6168
1498.	0.9425	3695.	0.8085
1498.5	0.9702	3695.5	0.8293
1499.	1.016	3696.	0.9887
1499.5	0.9818	3696.5	0.9887
1500.	0.9309	3697.	0.9679
1500.5	0.8893	3697.5	0.7253
1501.	0.8824	3698.	0.82
1501.5	0.9286	3698.5	0.6352
1502.	0.76	3699.	1.023
1502.5	1.206	3699.5	0.7484
1503.	0.9864	3700.	0.9148
1503.5	0.9979	3700.5	0.7808
1504.	0.9425	3701.	1.014
1504.5	0.8686	3701.5	0.8016
1505.	0.6583	3702.	1.026
1505.5	0.7438	3702.5	0.7508
1506.	0.8408	3703.	0.9101
1506.5	0.9425	3703.5	0.7207
1507.	0.9263	3704.	0.8154
1507.5	0.9194	3704.5	0.7508
1508.	0.9055	3705.	0.7623
1508.5	0.9078	3705.5	0.6052
1509.	0.857	3706.	0.8986
1509.5	0.82	3706.5	0.76
1510.	0.9979	3707.	1.086
1510.5	0.9679	3707.5	0.7923
1511.	0.9217	3708.	0.9956
1511.5	1.046	3708.5	0.9887
1512.	0.6953	3709.	0.6376
1512.5	0.8917	3709.5	0.8131
1513.	0.8963	3710.	0.9587
1513.5	0.8431	3710.5	0.7669
1514.	0.8431	3711.	0.7623
1514.5	0.9494	3711.5	0.8963
1515.	0.7346	3712.	0.9979
1515.5	0.8986	3712.5	0.8709
1516.	0.589	3713.	1.005
1516.5	0.9979	3713.5	0.9956
1517.	0.8593	3714.	0.6468
1517.5	0.8108	3714.5	1.014
1518.	0.9194	3715.	1.086
1518.5	0.8709	3715.5	0.7692
1519.	0.9471	3716.	1.083
1519.5	0.8131	3716.5	0.7923

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1520.	0.8016	3717.	1.005
1520.5	0.8316	3717.5	1.056
1521.	0.7831	3718.	0.8662
1521.5	1.009	3718.5	0.9794
1522.	0.7623	3719.	0.76
1522.5	0.7808	3719.5	0.7993
1523.	0.7253	3720.	0.9933
1523.5	0.961	3720.5	0.8778
1524.	0.8732	3721.	0.8686
1524.5	0.9194	3721.5	1.028
1525.	0.8709	3722.	0.8131
1525.5	1.088	3722.5	0.8963
1526.	0.7531	3723.	0.8732
1526.5	1.044	3723.5	0.79
1527.	0.9471	3724.	0.9656
1527.5	0.8593	3724.5	1.026
1528.	0.589	3725.	0.8016
1528.5	0.9402	3725.5	0.8893
1529.	0.9402	3726.	1.007
1529.5	0.7346	3726.5	0.8501
1530.	0.8732	3727.	0.6537
1530.5	0.9471	3727.5	0.6468
1531.	0.7762	3728.	0.9933
1531.5	0.7808	3728.5	0.857
1532.	0.7923	3729.	0.9078
1532.5	0.9587	3729.5	0.6722
1533.	0.7946	3730.	0.9656
1533.5	1.067	3730.5	0.7715
1534.	0.723	3731.	1.044
1534.5	0.9286	3731.5	0.663
1535.	0.9286	3732.	0.8108
1535.5	0.9679	3732.5	0.8177
1536.	0.8016	3733.	1.007
1536.5	1.076	3733.5	0.8963
1537.	0.7739	3734.	0.8893
1537.5	0.9009	3734.5	0.8917
1538.	0.76	3735.	0.7739
1538.5	0.9587	3735.5	0.6815
1539.	0.857	3736.	0.656
1539.5	0.9679	3736.5	0.8986
1540.	0.596	3737.	0.9633
1540.5	1.28	3737.5	0.7831
1541.	0.6861	3738.	1.033
1541.5	0.8524	3738.5	0.5775
1542.	0.8316	3739.	1.086
1542.5	1.014	3739.5	0.9656
1543.	0.8501	3740.	0.9471
1543.5	0.8039	3740.5	0.827
1544.	0.7946	3741.	0.82
1544.5	0.8131	3741.5	0.6699
1545.	0.7022	3742.	1.194
1545.5	0.8593	3742.5	0.9979
1546.	0.723	3743.	1.076

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1546.5	1.009	3743.5	0.6145
1547.	0.9425	3744.	0.9887
1547.5	0.9425	3744.5	0.7138
1548.	0.9587	3745.	0.9309
1548.5	0.9402	3745.5	0.5683
1549.	0.7762	3746.	0.8293
1549.5	0.9679	3746.5	1.026
1550.	0.9009	3747.	0.82
1550.5	1.009	3747.5	0.7138
1551.	0.7531	3748.	0.9956
1551.5	1.04	3748.5	0.5844
1552.	1.028	3749.	1.046
1552.5	0.8801	3749.5	0.7323
1553.	0.9956	3750.	1.28
1553.5	0.7438	3750.5	0.8801
1554.	0.7046	3751.	0.9101
1554.5	1.116	3751.5	0.5567
1555.	0.8224	3752.	0.76
1555.5	0.8131	3752.5	0.6953
1556.	0.6283	3753.	1.086
1556.5	0.7531	3753.5	0.6745
1557.	0.9078	3754.	1.081
1557.5	0.8316	3754.5	0.8917
1558.	0.8801	3755.	1.076
1558.5	0.8824	3755.5	0.9286
1559.	0.8431	3756.	0.6815
1559.5	1.176	3756.5	0.7115
1560.	1.005	3757.	0.9887
1560.5	1.009	3757.5	0.596
1561.	0.7623	3758.	0.6352
1561.5	0.9309	3758.5	0.7831
1562.	0.8016	3759.	0.9101
1562.5	1.058	3759.5	0.8385
1563.	0.6953	3760.	0.8963
1563.5	0.9217	3760.5	0.6145
1564.	1.046	3761.	1.065
1564.5	0.9679	3761.5	0.8593
1565.	0.8709	3762.	0.6815
1565.5	1.185	3762.5	1.074
1566.	0.857	3763.	0.9263
1566.5	0.8893	3763.5	0.79
1567.	0.7253	3764.	0.9494
1567.5	0.7923	3764.5	0.7115
1568.	0.9702	3765.	0.8385
1568.5	0.9794	3765.5	0.7831
1569.	0.8408	3766.	0.9979
1569.5	1.095	3766.5	0.9171
1570.	0.6768	3767.	0.8893
1570.5	0.857	3767.5	0.9355
1571.	0.7346	3768.	0.5937
1571.5	0.7946	3768.5	0.894
1572.	0.8224	3769.	1.058
1572.5	0.8778	3769.5	0.8963

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1573.	0.7808	3770.	1.086
1573.5	1.058	3770.5	0.8224
1574.	0.9956	3771.	1.016
1574.5	0.8408	3771.5	0.7022
1575.	0.82	3772.	0.82
1575.5	1.04	3772.5	0.8593
1576.	0.7831	3773.	1.037
1576.5	0.8524	3773.5	0.8686
1577.	0.9009	3774.	0.9148
1577.5	0.9286	3774.5	0.6653
1578.	1.019	3775.	0.8986
1578.5	1.067	3775.5	0.723
1579.	0.9956	3776.	0.7923
1579.5	0.8501	3776.5	0.6653
1580.	1.037	3777.	1.058
1580.5	0.9702	3777.5	0.9771
1581.	0.8616	3778.	1.268
1581.5	0.8732	3778.5	0.5567
1582.	0.9471	3779.	0.7993
1582.5	1.106	3779.5	0.8431
1583.	0.9494	3780.	0.8016
1583.5	0.9471	3780.5	0.5983
1584.	0.8893	3781.	0.8293
1584.5	1.106	3781.5	0.8963
1585.	0.7531	3782.	0.9979
1585.5	0.961	3782.5	0.9471
1586.	0.656	3783.	0.9956
1586.5	1.056	3783.5	0.8478
1587.	0.8408	3784.	0.7207
1587.5	1.113	3784.5	0.8778
1588.	1.046	3785.	0.9979
1588.5	0.8917	3785.5	0.8131
1589.	0.7253	3786.	0.8524
1589.5	1.046	3786.5	0.76
1590.	0.9194	3787.	0.8778
1590.5	0.8108	3787.5	0.626
1591.	0.7623	3788.	0.7993
1591.5	0.8431	3788.5	0.76
1592.	0.8039	3789.	0.9148
1592.5	0.8154	3789.5	0.6699
1593.	1.026	3790.	1.141
1593.5	0.961	3790.5	0.7484
1594.	0.7022	3791.	0.9078
1594.5	0.9702	3791.5	0.9771
1595.	0.8917	3792.	0.8501
1595.5	0.9078	3792.5	0.9887
1596.	0.7739	3793.	0.8108
1596.5	0.9425	3793.5	0.82
1597.	0.9078	3794.	0.9494
1597.5	0.8709	3794.5	0.7877
1598.	0.8824	3795.	0.9679
1598.5	0.9471	3795.5	0.8016
1599.	1.093	3796.	0.9148

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1599.5	0.9217	3796.5	0.8385
1600.	0.7046	3797.	0.827
1600.5	1.046	3797.5	0.8686
1601.	0.9956	3798.	0.8917
1601.5	0.8501	3798.5	0.9448
1602.	0.6976	3799.	1.141
1602.5	1.037	3799.5	0.9379
1603.	1.086	3800.	1.007
1603.5	0.9956	3800.5	0.7531
1604.	0.8524	3801.	0.8408
1604.5	1.093	3801.5	0.9471
1605.	0.7253	3802.	0.6214
1605.5	1.106	3802.5	0.9864
1606.	0.8154	3803.	1.065
1606.5	0.8431	3803.5	0.9286
1607.	0.7253	3804.	1.028
1607.5	1.097	3804.5	0.8893
1608.	0.9101	3805.	1.058
1608.5	0.9402	3805.5	0.6838
1609.	0.9402	3806.	1.007
1609.5	0.9864	3806.5	0.7531
1610.	0.8316	3807.	1.026
1610.5	1.157	3807.5	0.626
1611.	0.7623	3808.	0.9101
1611.5	1.106	3808.5	0.8131
1612.	0.9702	3809.	0.9171
1612.5	0.8524	3809.5	0.8385
1613.	0.9979	3810.	0.7993
1613.5	0.8847	3810.5	0.7461
1614.	0.8016	3811.	1.053
1614.5	1.026	3811.5	0.5775
1615.	0.9887	3812.	0.79
1615.5	1.028	3812.5	1.056
1616.	1.143	3813.	1.016
1616.5	0.9887	3813.5	0.8709
1617.	0.857	3814.	0.8686
1617.5	1.016	3814.5	0.8778
1618.	0.7762	3815.	0.8709
1618.5	0.9794	3815.5	0.8154
1619.	0.9078	3816.	0.7161
1619.5	1.079	3816.5	0.8986
1620.	0.9702	3817.	1.074
1620.5	1.049	3817.5	0.8686
1621.	0.6976	3818.	0.9656
1621.5	0.9679	3818.5	0.8316
1622.	0.9587	3819.	0.8963
1622.5	0.6145	3819.5	0.8016
1623.	1.081	3820.	0.9587
1623.5	0.8524	3820.5	0.9286
1624.	0.8524	3821.	1.026
1624.5	0.7831	3821.5	0.8778
1625.	0.7369	3822.	0.8501
1625.5	0.9979	3822.5	0.8593

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1626.	0.8524	3823.	0.9309
1626.5	0.9425	3823.5	0.8986
1627.	0.8801	3824.	0.9124
1627.5	0.8154	3824.5	0.7854
1628.	0.7993	3825.	1.046
1628.5	0.9587	3825.5	0.7854
1629.	0.8154	3826.	0.9956
1629.5	0.8039	3826.5	0.8801
1630.	0.8986	3827.	0.6722
1630.5	0.82	3827.5	0.7531
1631.	0.9702	3828.	0.79
1631.5	1.005	3828.5	0.79
1632.	0.8593	3829.	0.8732
1632.5	1.301	3829.5	0.5244
1633.	0.7739	3830.	1.153
1633.5	1.049	3830.5	0.8893
1634.	0.7369	3831.	0.797
1634.5	1.016	3831.5	0.7923
1635.	0.7923	3832.	1.104
1635.5	1.	3832.5	0.8385
1636.	0.8593	3833.	0.7508
1636.5	0.8501	3833.5	0.8986
1637.	0.8039	3834.	0.9286
1637.5	0.9979	3834.5	0.7438
1638.	0.9587	3835.	0.8131
1638.5	1.009	3835.5	0.8224
1639.	0.9101	3836.	0.8963
1639.5	0.9794	3836.5	0.8224
1640.	0.7346	3837.	0.8293
1640.5	1.134	3837.5	0.6052
1641.	0.8824	3838.	0.9124
1641.5	0.8154	3838.5	0.6815
1642.	0.5867	3839.	0.7993
1642.5	1.04	3839.5	0.5359
1643.	0.9101	3840.	0.9148
1643.5	1.009	3840.5	0.8778
1644.	0.8893	3841.	0.9055
1644.5	0.8709	3841.5	0.626
1645.	0.7831	3842.	0.7854
1645.5	0.8732	3842.5	0.9587
1646.	0.9702	3843.	0.7739
1646.5	0.8154	3843.5	0.9171
1647.	0.9217	3844.	1.104
1647.5	0.9078	3844.5	0.8108
1648.	1.134	3845.	0.7531
1648.5	0.9587	3845.5	0.8801
1649.	0.9009	3846.	0.8085
1649.5	0.961	3846.5	0.7715
1650.	0.8893	3847.	0.8732
1650.5	1.03	3847.5	0.857
1651.	1.079	3848.	0.8108
1651.5	0.7531	3848.5	0.7923
1652.	1.009	3849.	0.9309

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1652.5	0.9309	3849.5	0.8501
1653.	0.7253	3850.	0.9771
1653.5	0.9309	3850.5	0.9286
1654.	0.6445	3851.	0.887
1654.5	0.8593	3851.5	0.7715
1655.	0.6352	3852.	0.8293
1655.5	0.9078	3852.5	0.9286
1656.	0.7161	3853.	0.8408
1656.5	0.8893	3853.5	0.9101
1657.	0.7531	3854.	0.8801
1657.5	0.663	3854.5	0.8247
1658.	0.8316	3855.	0.9078
1658.5	0.8917	3855.5	0.6075
1659.	0.7161	3856.	0.9494
1659.5	0.8732	3856.5	1.023
1660.	0.7531	3857.	1.044
1660.5	1.095	3857.5	0.8408
1661.	0.9309	3858.	0.723
1661.5	1.095	3858.5	0.9078
1662.	0.6953	3859.	0.9101
1662.5	1.185	3859.5	0.6607
1663.	0.6052	3860.	0.9471
1663.5	0.8131	3860.5	0.8986
1664.	0.8316	3861.	0.7022
1664.5	1.056	3861.5	0.8408
1665.	0.8917	3862.	0.9563
1665.5	1.04	3862.5	0.9194
1666.	0.6768	3863.	0.7508
1666.5	0.797	3863.5	0.8986
1667.	0.8431	3864.	0.9887
1667.5	0.9217	3864.5	0.857
1668.	0.8039	3865.	1.005
1668.5	0.7946	3865.5	0.7277
1669.	0.8154	3866.	0.9148
1669.5	0.8917	3866.5	0.6445
1670.	0.9494	3867.	1.007
1670.5	0.7369	3867.5	0.9309
1671.	0.7369	3868.	0.9355
1671.5	0.8732	3868.5	0.8016
1672.	0.9286	3869.	0.9171
1672.5	0.8154	3869.5	0.76
1673.	0.7762	3870.	0.9494
1673.5	1.106	3870.5	0.8408
1674.	0.9494	3871.	0.9563
1674.5	1.155	3871.5	0.7854
1675.	0.9887	3872.	1.056
1675.5	0.8455	3872.5	0.8293
1676.	0.8316	3873.	0.8963
1676.5	0.9078	3873.5	0.6838
1677.	0.6283	3874.	1.095
1677.5	1.067	3874.5	1.037
1678.	0.8431	3875.	0.8524
1678.5	1.222	3875.5	0.7415

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1679.	0.9425	3876.	0.8593
1679.5	0.9078	3876.5	0.8917
1680.	0.7831	3877.	0.9471
1680.5	1.016	3877.5	0.7808
1681.	0.6537	3878.	0.7438
1681.5	0.8224	3878.5	0.9309
1682.	0.7831	3879.	0.7046
1682.5	1.04	3879.5	0.7022
1683.	0.7046	3880.	0.8917
1683.5	0.723	3880.5	0.8963
1684.	0.6953	3881.	0.9818
1684.5	1.081	3881.5	0.663
1685.	0.8431	3882.	0.8385
1685.5	0.8593	3882.5	0.9379
1686.	0.7253	3883.	0.7831
1686.5	1.067	3883.5	0.8085
1687.	0.9702	3884.	1.173
1687.5	0.8131	3884.5	0.7415
1688.	1.106	3885.	0.8547
1688.5	0.7438	3885.5	0.9771
1689.	0.7161	3886.	0.76
1689.5	0.9332	3886.5	0.9078
1690.	0.7253	3887.	0.857
1690.5	1.076	3887.5	0.8986
1691.	0.8316	3888.	0.7715
1691.5	0.7623	3888.5	0.857
1692.	0.8016	3889.	0.7831
1692.5	0.9309	3889.5	0.8893
1693.	0.6976	3890.	0.9332
1693.5	1.185	3890.5	0.9587
1694.	0.9494	3891.	0.9679
1694.5	0.961	3891.5	0.7993
1695.	0.8154	3892.	0.961
1695.5	0.8616	3892.5	0.8824
1696.	1.04	3893.	0.827
1696.5	0.9979	3893.5	0.9286
1697.	0.7461	3894.	0.8131
1697.5	1.016	3894.5	0.8224
1698.	0.8616	3895.	0.9309
1698.5	0.8224	3895.5	0.7138
1699.	0.9494	3896.	1.026
1699.5	1.095	3896.5	0.7207
1700.	0.9725	3897.	0.8986
1700.5	0.7946	3897.5	1.065
1701.	0.9471	3898.	1.095
1701.5	0.961	3898.5	0.6376
1702.	0.8016	3899.	0.8293
1702.5	0.8755	3899.5	0.9171
1703.	0.8616	3900.	0.9471
1703.5	0.8316	3900.5	0.5775
1704.	0.7161	3901.	0.9864
1704.5	0.9818	3901.5	0.8778
1705.	0.9864	3902.	0.8778

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1705.5	0.9425	3902.5	0.82
1706.	0.9217	3903.	1.058
1706.5	0.7762	3903.5	0.7854
1707.	0.82	3904.	0.8316
1707.5	0.7762	3904.5	0.76
1708.	0.9032	3905.	1.116
1708.5	0.6191	3905.5	0.7531
1709.	0.8917	3906.	0.8385
1709.5	0.7531	3906.5	1.037
1710.	0.8593	3907.	0.8709
1710.5	1.007	3907.5	0.857
1711.	0.9818	3908.	0.9794
1711.5	0.8316	3908.5	0.73
1712.	0.8847	3909.	1.023
1712.5	0.961	3909.5	0.7854
1713.	0.9887	3910.	0.8686
1713.5	1.137	3910.5	0.6745
1714.	0.961	3911.	1.123
1714.5	0.8154	3911.5	0.7438
1715.	1.009	3912.	0.9679
1715.5	0.9818	3912.5	0.7138
1716.	0.8593	3913.	0.9009
1716.5	0.8986	3913.5	0.8524
1717.	0.82	3914.	1.037
1717.5	0.7461	3914.5	0.9286
1718.	0.9956	3915.	0.7508
1718.5	0.8408	3915.5	0.8247
1719.	0.8732	3916.	0.7022
1719.5	0.8224	3916.5	0.7138
1720.	0.8639	3917.	0.76
1720.5	0.8709	3917.5	0.7854
1721.	0.7762	3918.	0.9679
1721.5	1.	3918.5	0.8709
1722.	0.9032	3919.	0.9078
1722.5	1.046	3919.5	0.8686
1723.	0.6768	3920.	1.104
1723.5	0.9286	3920.5	0.8247
1724.	0.8039	3921.	1.028
1724.5	0.8893	3921.5	0.8616
1725.	0.9887	3922.	0.7138
1725.5	0.8732	3922.5	0.8778
1726.	0.6653	3923.	0.9148
1726.5	0.9794	3923.5	0.8801
1727.	0.8593	3924.	0.9355
1727.5	0.492	3924.5	0.7277
1728.	0.7253	3925.	0.9587
1728.5	0.9748	3925.5	0.8593
1729.	0.8639	3926.	0.6445
1729.5	1.009	3926.5	0.7923
1730.	0.6653	3927.	0.8131
1730.5	0.9217	3927.5	0.7138
1731.	0.8732	3928.	1.046
1731.5	0.9425	3928.5	0.9101

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1732.	0.82	3929.	0.8893
1732.5	0.8431	3929.5	0.9355
1733.	0.8893	3930.	0.9471
1733.5	1.093	3930.5	0.6075
1734.	0.9818	3931.	0.7415
1734.5	1.224	3931.5	0.7138
1735.	0.6676	3932.	0.8385
1735.5	0.9979	3932.5	0.8224
1736.	0.9217	3933.	0.8709
1736.5	0.8824	3933.5	0.76
1737.	0.8755	3934.	0.8293
1737.5	0.9217	3934.5	0.82
1738.	1.009	3935.	0.8801
1738.5	0.9517	3935.5	0.8778
1739.	0.9217	3936.	0.7831
1739.5	0.8131	3936.5	0.7069
1740.	0.9425	3937.	0.9355
1740.5	1.157	3937.5	1.037
1741.	0.7854	3938.	0.9471
1741.5	0.8385	3938.5	0.9702
1742.	0.9101	3939.	1.088
1742.5	0.8847	3939.5	0.7623
1743.	1.079	3940.	0.8408
1743.5	0.7046	3940.5	0.7022
1744.	0.9286	3941.	0.8778
1744.5	0.9494	3941.5	0.8385
1745.	1.086	3942.	0.9771
1745.5	0.8824	3942.5	0.8039
1746.	0.492	3943.	0.7692
1746.5	0.9101	3943.5	0.6237
1747.	0.9309	3944.	0.7715
1747.5	0.9864	3944.5	0.9171
1748.	0.8917	3945.	1.026
1748.5	1.03	3945.5	0.76
1749.	0.7369	3946.	0.9286
1749.5	0.9517	3946.5	0.9494
1750.	0.7531	3947.	0.8801
1750.5	0.8801	3947.5	0.7046
1751.	0.6953	3948.	0.857
1751.5	0.8039	3948.5	0.8385
1752.	0.8316	3949.	0.9448
1752.5	1.067	3949.5	0.8408
1753.	0.7531	3950.	0.8686
1753.5	1.046	3950.5	0.8616
1754.	1.	3951.	0.9956
1754.5	0.8431	3951.5	0.6075
1755.	0.8917	3952.	1.132
1755.5	0.9494	3952.5	0.693
1756.	0.9009	3953.	0.9148
1756.5	0.8154	3953.5	0.5475
1757.	0.9217	3954.	0.9171
1757.5	0.9009	3954.5	0.7277
1758.	0.7808	3955.	0.5798

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1758.5	0.8709	3955.5	0.7692
1759.	0.9956	3956.	0.8709
1759.5	0.9864	3956.5	0.7854
1760.	0.6861	3957.	1.014
1760.5	1.009	3957.5	0.7623
1761.	0.9425	3958.	0.7277
1761.5	0.9864	3958.5	0.9263
1762.	1.009	3959.	0.7923
1762.5	0.924	3959.5	0.7854
1763.	0.797	3960.	0.8778
1763.5	0.7369	3960.5	0.7715
1764.	0.7461	3961.	0.8316
1764.5	1.178	3961.5	0.7323
1765.	0.7785	3962.	0.9078
1765.5	0.9494	3962.5	0.7415
1766.	0.8593	3963.	0.9101
1766.5	0.8339	3963.5	1.042
1767.	0.7946	3964.	0.9055
1767.5	0.8917	3964.5	1.014
1768.	0.9124	3965.	0.6815
1768.5	1.109	3965.5	0.8108
1769.	0.7438	3966.	0.8016
1769.5	0.9887	3966.5	0.8893
1770.	0.8224	3967.	0.76
1770.5	0.9517	3967.5	0.7253
1771.	0.7854	3968.	1.019
1771.5	0.8732	3968.5	0.7531
1772.	0.7923	3969.	0.9794
1772.5	0.8616	3969.5	0.6653
1773.	0.9702	3970.	0.8986
1773.5	0.9402	3970.5	0.8131
1774.	0.7369	3971.	1.113
1774.5	0.961	3971.5	0.6468
1775.	0.8154	3972.	1.044
1775.5	0.7854	3972.5	0.9956
1776.	0.8316	3973.	1.005
1776.5	0.7854	3973.5	0.8963
1777.	0.5775	3974.	0.9309
1777.5	0.9887	3974.5	0.8686
1778.	0.8917	3975.	0.9771
1778.5	0.9818	3975.5	0.7715
1779.	0.9309	3976.	0.9587
1779.5	0.9217	3976.5	0.5867
1780.	0.8917	3977.	1.044
1780.5	1.06	3977.5	0.5567
1781.	0.6861	3978.	1.028
1781.5	1.009	3978.5	0.8224
1782.	0.9864	3979.	0.7277
1782.5	0.8639	3979.5	0.5821
1783.	0.5382	3980.	0.9794
1783.5	0.9979	3980.5	0.7739
1784.	0.8732	3981.	0.9471
1784.5	1.051	3981.5	0.7277

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1785.	0.8847	3982.	1.005
1785.5	1.106	3982.5	0.9887
1786.	1.148	3983.	0.8224
1786.5	1.106	3983.5	0.8593
1787.	0.8824	3984.	0.9148
1787.5	0.9471	3984.5	0.9332
1788.	0.8917	3985.	0.9471
1788.5	0.9887	3985.5	0.9379
1789.	0.9194	3986.	0.8709
1789.5	1.06	3986.5	0.8408
1790.	0.8616	3987.	0.9887
1790.5	0.8547	3987.5	0.7646
1791.	0.7461	3988.	0.9864
1791.5	0.82	3988.5	0.9864
1792.	0.8917	3989.	0.8986
1792.5	0.9818	3989.5	0.4689
1793.	0.8986	3990.	0.7993
1793.5	1.081	3990.5	0.7438
1794.	0.961	3991.	0.8293
1794.5	0.9101	3991.5	0.9379
1795.	0.8616	3992.	1.123
1795.5	0.723	3992.5	0.8547
1796.	0.8847	3993.	0.8686
1796.5	0.8431	3993.5	0.7508
1797.	0.8732	3994.	0.857
1797.5	1.134	3994.5	0.8385
1798.	0.7623	3995.	1.026
1798.5	1.016	3995.5	0.8986
1799.	0.8524	3996.	0.7046
1799.5	0.9009	3996.5	1.259
1800.	0.7346	3997.	1.086
1800.5	0.7946	3997.5	0.8755
1801.	1.03	3998.	0.7923
1801.5	1.106	3998.5	0.7022
1802.	0.961	3999.	0.723
1802.5	0.9217	3999.5	0.894
1803.	0.9124	4000.	1.088
1803.5	1.049	4000.5	0.7923
1804.	0.9517	4001.	0.9171
1804.5	0.8316	4001.5	0.8686
1805.	0.9818	4002.	0.8917
1805.5	0.961	4002.5	0.8686
1806.	0.961	4003.	0.9656
1806.5	0.8062	4003.5	0.8085
1807.	0.8062	4004.	0.7415
1807.5	0.8154	4004.5	0.9979
1808.	0.8431	4005.	0.9148
1808.5	0.8316	4005.5	0.8501
1809.	0.6468	4006.	1.007
1809.5	1.187	4006.5	0.9101
1810.	0.8455	4007.	1.014
1810.5	0.9702	4007.5	0.9379
1811.	0.9217	4008.	0.8501

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1811.5	0.9425	4008.5	0.7715
1812.	0.82	4009.	0.9379
1812.5	0.9471	4009.5	0.8824
1813.	0.7854	4010.	0.9587
1813.5	0.8062	4010.5	0.7692
1814.	1.058	4011.	1.007
1814.5	0.9194	4011.5	0.9309
1815.	0.991	4012.	0.8131
1815.5	0.8593	4012.5	0.8016
1816.	0.7923	4013.	0.8986
1816.5	0.8431	4013.5	0.9494
1817.	0.9471	4014.	0.857
1817.5	0.7369	4014.5	0.7253
1818.	0.6976	4015.	0.7022
1818.5	0.9818	4015.5	0.8408
1819.	0.8917	4016.	1.007
1819.5	0.6976	4016.5	0.6468
1820.	0.8154	4017.	0.8593
1820.5	0.8316	4017.5	0.82
1821.	0.7277	4018.	0.8963
1821.5	0.8224	4018.5	0.6468
1822.	1.058	4019.	0.8778
1822.5	0.6884	4019.5	0.7854
1823.	0.7923	4020.	1.028
1823.5	0.9101	4020.5	0.8408
1824.	0.8339	4021.	0.8108
1824.5	0.9009	4021.5	0.8316
1825.	1.07	4022.	1.026
1825.5	1.079	4022.5	0.9771
1826.	1.134	4023.	0.9309
1826.5	1.164	4023.5	1.014
1827.	0.6976	4024.	1.009
1827.5	0.7762	4024.5	0.6653
1828.	0.8247	4025.	0.8385
1828.5	0.7646	4025.5	0.7253
1829.	0.7461	4026.	1.113
1829.5	0.7831	4026.5	0.8709
1830.	0.8639	4027.	0.8686
1830.5	0.9009	4027.5	0.723
1831.	0.8847	4028.	0.8547
1831.5	0.8639	4028.5	0.9956
1832.	0.7808	4029.	1.046
1832.5	0.9101	4029.5	0.7739
1833.	0.8616	4030.	1.15
1833.5	0.8917	4030.5	0.8408
1834.	1.007	4031.	0.9148
1834.5	1.012	4031.5	0.8131
1835.	0.9818	4032.	1.005
1835.5	1.04	4032.5	0.6468
1836.	0.9332	4033.	0.8917
1836.5	0.7831	4033.5	0.8408
1837.	0.8247	4034.	0.9771
1837.5	1.106	4034.5	0.73

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1838.	0.8801	4035.	0.9171
1838.5	1.049	4035.5	0.5775
1839.	0.9009	4036.	0.8524
1839.5	0.8547	4036.5	0.82
1840.	0.7946	4037.	0.9332
1840.5	1.09	4037.5	0.7854
1841.	0.6976	4038.	0.9494
1841.5	1.058	4038.5	0.9148
1842.	0.9148	4039.	0.8524
1842.5	0.8247	4039.5	0.7692
1843.	0.7623	4040.	0.9956
1843.5	1.067	4040.5	0.693
1844.	0.8593	4041.	1.005
1844.5	0.8224	4041.5	0.6699
1845.	0.6653	4042.	0.9587
1845.5	0.8455	4042.5	0.8316
1846.	0.8039	4043.	0.8593
1846.5	0.9217	4043.5	0.7415
1847.	0.924	4044.	0.8593
1847.5	1.079	4044.5	0.7831
1848.	0.9217	4045.	0.8801
1848.5	0.7762	4045.5	0.8893
1849.	1.04	4046.	0.76
1849.5	0.9494	4046.5	0.7831
1850.	0.9032	4047.	0.9471
1850.5	0.961	4047.5	0.5636
1851.	0.9217	4048.	0.9979
1851.5	1.056	4048.5	0.8316
1852.	0.7646	4049.	0.6445
1852.5	0.8131	4049.5	0.8154
1853.	0.9194	4050.	0.8108
1853.5	1.019	4050.5	0.9587
1854.	0.8732	4051.	0.9309
1854.5	1.079	4051.5	0.7069
1855.	1.019	4052.	0.9101
1855.5	0.7946	4052.5	0.79
1856.	1.04	4053.	1.037
1856.5	0.961	4053.5	0.7115
1857.	0.7531	4054.	1.016
1857.5	1.03	4054.5	0.79
1858.	0.7277	4055.	0.7508
1858.5	0.8339	4055.5	0.857
1859.	0.7623	4056.	0.8316
1859.5	0.9425	4056.5	0.8316
1860.	0.7369	4057.	0.9679
1860.5	1.067	4057.5	0.8293
1861.	1.134	4058.	0.7692
1861.5	1.236	4058.5	1.065
1862.	0.7808	4059.	1.044
1862.5	0.9124	4059.5	0.9794
1863.	0.9032	4060.	0.9679
1863.5	0.8917	4060.5	0.7461
1864.	0.8917	4061.	0.8893

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1864.5	0.9494	4061.5	0.887
1865.	0.9517	4062.	0.7923
1865.5	0.7831	4062.5	0.8408
1866.	0.6976	4063.	0.9679
1866.5	1.04	4063.5	0.7692
1867.	1.	4064.	1.007
1867.5	1.051	4064.5	0.8524
1868.	0.8431	4065.	0.7993
1868.5	0.9124	4065.5	0.7115
1869.	0.9818	4066.	0.9171
1869.5	1.106	4066.5	0.5498
1870.	0.9309	4067.	0.8108
1870.5	0.9055	4067.5	0.8431
1871.	1.	4068.	0.7993
1871.5	1.019	4068.5	0.9171
1872.	0.8316	4069.	1.143
1872.5	0.9101	4069.5	0.7046
1873.	0.797	4070.	0.8963
1873.5	1.09	4070.5	0.7415
1874.	0.7438	4071.	0.8362
1874.5	0.9725	4071.5	0.9656
1875.	1.067	4072.	0.9379
1875.5	1.07	4072.5	0.663
1876.	0.9101	4073.	1.014
1876.5	1.185	4073.5	0.9101
1877.	0.8224	4074.	0.8917
1877.5	1.09	4074.5	0.8917
1878.	0.961	4075.	0.8524
1878.5	0.8847	4075.5	0.8524
1879.	0.6861	4076.	1.141
1879.5	0.9818	4076.5	0.8408
1880.	0.6491	4077.	0.7438
1880.5	0.924	4077.5	0.6907
1881.	0.9009	4078.	0.9679
1881.5	1.009	4078.5	0.693
1882.	0.7854	4079.	1.086
1882.5	1.067	4079.5	0.8616
1883.	0.9078	4080.	0.8709
1883.5	0.9517	4080.5	0.8131
1884.	0.9887	4081.	0.8362
1884.5	0.8224	4081.5	0.6145
1885.	0.924	4082.	1.06
1885.5	0.8247	4082.5	1.03
1886.	1.072	4083.	0.9563
1886.5	0.9332	4083.5	0.5844
1887.	0.8455	4084.	0.8039
1887.5	0.7785	4084.5	0.8108
1888.	0.6768	4085.	0.7831
1888.5	0.8547	4085.5	0.8131
1889.	0.8547	4086.	0.6537
1889.5	1.03	4086.5	0.5844
1890.	0.6306	4087.	0.8917
1890.5	1.016	4087.5	0.6722

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1891.	0.991	4088.	0.9101
1891.5	0.8824	4088.5	0.7993
1892.	0.9217	4089.	0.8917
1892.5	0.9979	4089.5	0.6745
1893.	0.8732	4090.	0.8293
1893.5	0.8824	4090.5	0.7854
1894.	1.097	4091.	0.8917
1894.5	1.019	4091.5	0.693
1895.	0.8847	4092.	0.8662
1895.5	0.6884	4092.5	0.723
1896.	0.9517	4093.	0.6953
1896.5	0.9818	4093.5	0.7138
1897.	0.7461	4094.	0.8709
1897.5	1.04	4094.5	0.8778
1898.	0.7369	4095.	0.7623
1898.5	0.8247	4095.5	0.9309
1899.	0.7461	4096.	0.9979
1899.5	0.8847	4096.5	0.8893
1900.	1.03	4097.	0.9194
1900.5	1.09	4097.5	0.6699
1901.	0.9818	4098.	0.9794
1901.5	0.8917	4098.5	0.7993
1902.	0.8732	4099.	1.095
1902.5	0.7184	4099.5	0.9309
1903.	0.8062	4100.	0.7854
1903.5	0.9979	4100.5	0.8247
1904.	0.7461	4101.	0.9471
1904.5	0.7069	4101.5	0.8316
1905.	0.961	4102.	0.9771
1905.5	1.049	4102.5	0.7415
1906.	0.9332	4103.	0.7646
1906.5	0.8824	4103.5	0.8016
1907.	0.9887	4104.	1.13
1907.5	0.8339	4104.5	0.8686
1908.	0.9101	4105.	0.9794
1908.5	0.723	4105.5	0.6745
1909.	0.8847	4106.	1.086
1909.5	0.8154	4106.5	0.9979
1910.	0.7623	4107.	0.9355
1910.5	1.028	4107.5	0.7277
1911.	0.8316	4108.	1.005
1911.5	0.9818	4108.5	0.82
1912.	0.8247	4109.	1.028
1912.5	0.7069	4109.5	0.7253
1913.	0.7369	4110.	0.9679
1913.5	0.9217	4110.5	1.049
1914.	0.7946	4111.	0.7623
1914.5	0.8524	4111.5	1.067
1915.	0.9124	4112.	0.73
1915.5	0.9032	4112.5	0.7138
1916.	0.9494	4113.	0.7831
1916.5	1.106	4113.5	0.7461
1917.	0.7554	4114.	0.9379

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1917.5	1.081	4114.5	0.6745
1918.	0.8547	4115.	1.204
1918.5	0.8732	4115.5	0.9471
1919.	0.8847	4116.	0.8917
1919.5	0.8639	4116.5	0.8177
1920.	0.8917	4117.	1.079
1920.5	0.7369	4117.5	0.8039
1921.	0.9425	4118.	0.9309
1921.5	0.9032	4118.5	0.8593
1922.	0.8224	4119.	0.9887
1922.5	0.8917	4119.5	1.058
1923.	0.6768	4120.	0.8686
1923.5	1.088	4120.5	0.9494
1924.	0.7161	4121.	0.8801
1924.5	1.012	4121.5	0.8316
1925.	0.8732	4122.	1.028
1925.5	1.012	4122.5	0.693
1926.	1.067	4123.	0.9078
1926.5	0.8639	4123.5	0.9171
1927.	0.9979	4124.	0.9286
1927.5	0.961	4124.5	0.9494
1928.	0.8524	4125.	0.9078
1928.5	0.9425	4125.5	0.9794
1929.	0.7854	4126.	0.8316
1929.5	1.088	4126.5	0.8108
1930.	0.7785	4127.	1.113
1930.5	0.961	4127.5	0.723
1931.	0.7184	4128.	0.8801
1931.5	1.206	4128.5	0.8778
1932.	0.8732	4129.	1.014
1932.5	0.961	4129.5	0.6722
1933.	0.797	4130.	1.197
1933.5	0.9217	4130.5	0.8801
1934.	0.7554	4131.	0.8524
1934.5	0.7069	4131.5	0.8801
1935.	0.7161	4132.	0.9101
1935.5	0.9725	4132.5	0.6075
1936.	0.656	4133.	0.6815
1936.5	0.8755	4133.5	0.8316
1937.	0.9009	4134.	0.8524
1937.5	1.021	4134.5	0.9148
1938.	0.656	4135.	1.046
1938.5	0.7369	4135.5	0.9032
1939.	0.7831	4136.	0.723
1939.5	0.9425	4136.5	0.7831
1940.	0.7946	4137.	0.9379
1940.5	0.9979	4137.5	0.8501
1941.	0.7277	4138.	0.857
1941.5	0.961	4138.5	0.7022
1942.	0.9425	4139.	0.9494
1942.5	0.8131	4139.5	0.8893
1943.	1.03	4140.	1.074
1943.5	0.9309	4140.5	0.5937

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1944.	0.9702	4141.	0.9078
1944.5	0.7785	4141.5	0.8039
1945.	0.7669	4142.	0.8316
1945.5	0.9725	4142.5	0.7138
1946.	0.9725	4143.	0.8986
1946.5	1.148	4143.5	0.7415
1947.	0.7461	4144.	0.8801
1947.5	0.9818	4144.5	0.7692
1948.	0.7946	4145.	0.894
1948.5	0.8293	4145.5	0.8686
1949.	0.7161	4146.	0.8986
1949.5	0.8639	4146.5	0.9309
1950.	0.7646	4147.	1.113
1950.5	1.012	4147.5	0.9794
1951.	0.9101	4148.	0.8732
1951.5	0.8917	4148.5	0.9679
1952.	0.797	4149.	0.7692
1952.5	0.8917	4149.5	0.857
1953.	0.9194	4150.	0.82
1953.5	0.8455	4150.5	0.8316
1954.	0.9101	4151.	0.9194
1954.5	1.134	4151.5	1.116
1955.	0.8431	4152.	0.8408
1955.5	0.9217	4152.5	0.7715
1956.	0.8062	4153.	0.7323
1956.5	1.049	4153.5	0.9078
1957.	1.125	4154.	0.6815
1957.5	0.8824	4154.5	0.7854
1958.	0.8062	4155.	0.9355
1958.5	0.8316	4155.5	0.8016
1959.	0.8339	4156.	1.056
1959.5	0.9055	4156.5	0.8224
1960.	0.8917	4157.	0.9402
1960.5	1.079	4157.5	1.046
1961.	0.7531	4158.	0.8408
1961.5	0.6976	4158.5	0.7415
1962.	0.7184	4159.	0.8316
1962.5	0.961	4159.5	0.8316
1963.	0.8039	4160.	0.7715
1963.5	0.7808	4160.5	0.9148
1964.	0.6976	4161.	0.9309
1964.5	0.8154	4161.5	0.827
1965.	0.6653	4162.	0.9587
1965.5	0.6884	4162.5	0.9171
1966.	0.7554	4163.	0.7323
1966.5	0.8039	4163.5	0.8524
1967.	1.04	4164.	0.8801
1967.5	1.009	4164.5	0.8224
1968.	0.8154	4165.	1.056
1968.5	0.7785	4165.5	0.9563
1969.	0.9933	4166.	1.037
1969.5	1.051	4166.5	0.8963
1970.	0.8062	4167.	0.8709

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1970.5	0.961	4167.5	0.76
1971.	0.7554	4168.	0.8224
1971.5	0.8224	4168.5	0.6745
1972.	1.118	4169.	0.7854
1972.5	0.9309	4169.5	1.106
1973.	0.8616	4170.	0.9587
1973.5	0.7277	4170.5	0.9194
1974.	0.6468	4171.	0.8224
1974.5	0.9217	4171.5	1.058
1975.	0.7785	4172.	1.06
1975.5	1.118	4172.5	0.8131
1976.	0.827	4173.	0.7046
1976.5	0.8154	4173.5	0.8316
1977.	0.7461	4174.	0.857
1977.5	0.8062	4174.5	0.7692
1978.	0.9101	4175.	0.8501
1978.5	0.9725	4175.5	0.8316
1979.	0.8639	4176.	0.9794
1979.5	0.8154	4176.5	0.7046
1980.	0.8062	4177.	0.6445
1980.5	0.9217	4177.5	0.7854
1981.	0.7184	4178.	0.7253
1981.5	0.8455	4178.5	0.8131
1982.	1.04	4179.	1.083
1982.5	0.9425	4179.5	0.8316
1983.	0.8917	4180.	0.9309
1983.5	1.04	4180.5	0.9887
1984.	0.9101	4181.	0.8893
1984.5	0.9818	4181.5	0.8963
1985.	0.9332	4182.	0.9471
1985.5	0.7946	4182.5	0.9171
1986.	1.	4183.	1.005
1986.5	0.9841	4183.5	0.8501
1987.	0.8154	4184.	0.9587
1987.5	0.9425	4184.5	0.8547
1988.	1.1	4185.	1.194
1988.5	1.127	4185.5	0.8224
1989.	0.8524	4186.	0.9309
1989.5	0.9517	4186.5	0.9956
1990.	0.9124	4187.	0.8408
1990.5	0.924	4187.5	0.7438
1991.	0.7831	4188.	1.007
1991.5	0.9309	4188.5	0.7022
1992.	0.9702	4189.	1.081
1992.5	0.9148	4189.5	0.76
1993.	0.8639	4190.	0.9679
1993.5	0.8154	4190.5	0.7923
1994.	0.9309	4191.	0.8778
1994.5	0.9101	4191.5	0.663
1995.	0.8478	4192.	0.7022
1995.5	0.7161	4192.5	0.5775
1996.	0.7785	4193.	1.074
1996.5	0.7854	4193.5	0.6052

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1997.	0.8847	4194.	0.693
1997.5	0.9702	4194.5	0.7993
1998.	0.7854	4195.	0.7831
1998.5	0.7046	4195.5	1.125
1999.	0.9101	4196.	1.143
1999.5	0.9309	4196.5	0.8339
2000.	1.116	4197.	0.8893
2000.5	0.9332	4197.5	0.857
2001.	0.8547	4198.	1.028
2001.5	0.9425	4198.5	0.9841
2002.	0.9425	4199.	0.8224
2002.5	0.9425	4199.5	1.035
2003.	0.9425	4200.	0.8801
2003.5	1.009	4200.5	0.9656
2004.	0.8039	4201.	0.9471
2004.5	0.9032	4201.5	0.8224
2005.	0.7369	4202.	0.8801
2005.5	0.8639	4202.5	0.7993
2006.	0.924	4203.	0.7508
2006.5	0.7069	4203.5	0.7646
2007.	0.894	4204.	0.8408
2007.5	0.9425	4204.5	0.7854
2008.	0.9217	4205.	0.9286
2008.5	0.961	4205.5	1.076
2009.	0.8524	4206.	1.123
2009.5	0.991	4206.5	0.8108
2010.	0.9148	4207.	0.7508
2010.5	0.9263	4207.5	0.9309
2011.	1.021	4208.	0.7831
2011.5	0.7531	4208.5	0.6861
2012.	0.9494	4209.	0.8339
2012.5	1.058	4209.5	0.9679
2013.	1.012	4210.	0.8986
2013.5	1.009	4210.5	0.8108
2014.	0.8431	4211.	0.9587
2014.5	1.03	4211.5	0.7623
2015.	0.8224	4212.	0.9587
2015.5	1.109	4212.5	0.9587
2016.	0.8039	4213.	0.8131
2016.5	0.8732	4213.5	0.8131
2017.	1.012	4214.	0.693
2017.5	0.8154	4214.5	0.8616
2018.	0.7946	4215.	1.044
2018.5	1.06	4215.5	0.7115
2019.	1.014	4216.	0.9101
2019.5	0.9979	4216.5	0.8339
2020.	0.7531	4217.	0.7392
2020.5	1.07	4217.5	0.8893
2021.	0.8039	4218.	0.9471
2021.5	0.7554	4218.5	0.9679
2022.	0.9425	4219.	0.7993
2022.5	1.067	4219.5	0.7715
2023.	0.6191	4220.	0.9078

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2023.5	0.961	4220.5	0.6653
2024.	0.9009	4221.	0.8963
2024.5	1.127	4221.5	0.6653
2025.	0.8755	4222.	0.9078
2025.5	0.954	4222.5	0.7577
2026.	0.8732	4223.	0.7923
2026.5	0.961	4223.5	0.8362
2027.	0.8524	4224.	0.8709
2027.5	0.8478	4224.5	0.6722
2028.	0.8639	4225.	0.8917
2028.5	0.9702	4225.5	0.8408
2029.	0.9124	4226.	1.005
2029.5	1.09	4226.5	0.7138
2030.	1.033	4227.	0.9379
2030.5	0.9332	4227.5	0.8709
2031.	0.6976	4228.	0.8316
2031.5	0.9055	4228.5	0.7854
2032.	0.6191	4229.	0.79
2032.5	0.9032	4229.5	1.037
2033.	0.8616	4230.	0.9771
2033.5	0.827	4230.5	0.9794
2034.	0.6884	4231.	1.095
2034.5	0.9217	4231.5	0.723
2035.	0.7831	4232.	0.9309
2035.5	1.028	4232.5	0.663
2036.	0.9841	4233.	0.7138
2036.5	0.9517	4233.5	0.6029
2037.	0.8616	4234.	0.8755
2037.5	0.7554	4234.5	0.8385
2038.	0.8755	4235.	0.7438
2038.5	1.09	4235.5	0.5937
2039.	0.8224	4236.	0.8501
2039.5	1.197	4236.5	0.9101
2040.	0.9402	4237.	0.8547
2040.5	1.003	4237.5	0.9101
2041.	1.081	4238.	1.164
2041.5	0.9517	4238.5	0.7831
2042.	0.8755	4239.	0.6953
2042.5	0.9263	4239.5	0.8316
2043.	0.8917	4240.	0.9587
2043.5	0.8755	4240.5	0.8108
2044.	0.8339	4241.	0.8362
2044.5	1.	4241.5	0.8593
2045.	0.6976	4242.	0.8778
2045.5	0.7646	4242.5	0.8616
2046.	0.7785	4243.	0.9355
2046.5	1.127	4243.5	1.086
2047.	0.6884	4244.	0.857
2047.5	0.8224	4244.5	0.9517
2048.	0.9725	4245.	0.9587
2048.5	0.961	4245.5	0.7623
2049.	0.8455	4246.	0.9355
2049.5	0.9332	4246.5	0.693

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2050.	0.9217	4247.	0.8408
2050.5	0.9517	4247.5	0.8224
2051.	0.7762	4248.	0.7831
2051.5	0.9124	4248.5	0.8986
2052.	0.6514	4249.	0.7323
2052.5	1.118	4249.5	0.7715
2053.	0.7946	4250.	0.6537
2053.5	0.9517	4250.5	0.9494
2054.	0.8224	4251.	0.79
2054.5	1.012	4251.5	1.046
2055.	1.058	4252.	0.7115
2055.5	0.924	4252.5	0.7046
2056.	0.7184	4253.	0.857
2056.5	0.9217	4253.5	0.7508
2057.	0.7623	4254.	0.8778
2057.5	0.9841	4254.5	0.6237
2058.	0.8224	4255.	1.046
2058.5	1.303	4255.5	0.7993
2059.	0.7623	4256.	0.8917
2059.5	0.8917	4256.5	0.9309
2060.	0.8917	4257.	1.086
2060.5	1.012	4257.5	0.7993
2061.	0.8547	4258.	0.8524
2061.5	1.07	4258.5	1.014
2062.	0.8639	4259.	1.026
2062.5	0.8917	4259.5	0.8316
2063.	0.9124	4260.	0.9679
2063.5	1.058	4260.5	0.8131
2064.	0.8732	4261.	0.9979
2064.5	1.04	4261.5	0.8408
2065.	0.961	4262.	0.9771
2065.5	1.04	4262.5	1.016
2066.	0.7369	4263.	0.8917
2066.5	0.9124	4263.5	0.76
2067.	0.7808	4264.	1.028
2067.5	0.9725	4264.5	0.7923
2068.	0.7646	4265.	1.104
2068.5	0.9494	4265.5	1.026
2069.	0.954	4266.	0.8593
2069.5	0.9841	4266.5	0.8778
2070.	0.9009	4267.	0.7993
2070.5	1.009	4267.5	0.7646
2071.	0.656	4268.	1.037
2071.5	0.9217	4268.5	0.6815
2072.	0.6791	4269.	0.9679
2072.5	0.8639	4269.5	0.8824
2073.	1.	4270.	0.8016
2073.5	0.8755	4270.5	0.8709
2074.	0.8316	4271.	0.9286
2074.5	0.991	4271.5	0.8293
2075.	0.9124	4272.	0.7415
2075.5	1.208	4272.5	0.7623
2076.	0.5636	4273.	0.8131

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2076.5	1.033	4273.5	0.6653
2077.	0.7253	4274.	1.056
2077.5	0.9332	4274.5	0.7415
2078.	0.8085	4275.	1.076
2078.5	1.146	4275.5	0.7046
2079.	0.7207	4276.	0.9379
2079.5	0.9494	4276.5	0.9887
2080.	0.7739	4277.	1.016
2080.5	0.954	4277.5	0.6653
2081.	0.7531	4278.	0.9148
2081.5	0.8639	4278.5	0.8108
2082.	0.8154	4279.	0.8593
2082.5	0.6699	4279.5	0.9309
2083.	0.5013	4280.	0.8293
2083.5	1.028	4280.5	0.7854
2084.	0.6491	4281.	0.7854
2084.5	1.04	4281.5	0.9171
2085.	0.7046	4282.	0.7346
2085.5	1.042	4282.5	0.9379
2086.	0.6191	4283.	0.9379
2086.5	0.9818	4283.5	0.656
2087.	0.8639	4284.	0.8616
2087.5	0.8316	4284.5	0.6953
2088.	0.9818	4285.	0.9679
2088.5	1.012	4285.5	0.7623
2089.	1.167	4286.	0.8686
2089.5	0.8177	4286.5	0.7323
2090.	0.8917	4287.	0.9309
2090.5	0.8177	4287.5	0.7531
2091.	0.7946	4288.	0.9679
2091.5	0.9263	4288.5	0.9332
2092.	0.8316	4289.	0.8016
2092.5	0.9448	4289.5	0.8039
2093.	0.8547	4290.	0.8593
2093.5	0.9725	4290.5	0.9679
2094.	0.8547	4291.	0.82
2094.5	0.9263	4291.5	0.857
2095.	0.9332	4292.	0.7831
2095.5	0.8339	4292.5	0.7531
2096.	0.9448	4293.	0.9517
2096.5	0.9332	4293.5	0.857
2097.	0.7646	4294.	0.9656
2097.5	0.7531	4294.5	1.014
2098.	0.7623	4295.	0.9679
2098.5	1.088	4295.5	1.03
2099.	0.7762	4296.	0.7508
2099.5	1.07	4296.5	1.014
2100.	0.9425	4297.	0.7854
2100.5	0.9332	4297.5	0.6861
2101.	0.7646	4298.	0.9679
2101.5	0.7646	4298.5	0.8293
2102.	0.9009	4299.	0.7831
2102.5	0.9032	4299.5	0.9309

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2103.	0.9124	4300.	0.7138
2103.5	0.924	4300.5	0.7739
2104.	0.9332	4301.	0.8778
2104.5	0.924	4301.5	0.8593
2105.	0.8732	4302.	0.7923
2105.5	0.9124	4302.5	0.7253
2106.	0.7831	4303.	0.9148
2106.5	0.9702	4303.5	0.626
2107.	0.924	4304.	0.7692
2107.5	1.137	4304.5	0.9887
2108.	1.243	4305.	0.8824
2108.5	0.7277	4305.5	0.7946
2109.	1.019	4306.	1.104
2109.5	0.961	4306.5	0.7877
2110.	0.8224	4307.	0.6861
2110.5	0.7577	4307.5	0.8154
2111.	0.8455	4308.	0.8963
2111.5	1.049	4308.5	0.7692
2112.	0.894	4309.	0.8986
2112.5	0.8732	4309.5	0.9979
2113.	0.7854	4310.	0.7923
2113.5	0.8339	4310.5	0.857
2114.	0.797	4311.	0.9171
2114.5	0.961	4311.5	0.7993
2115.	0.7253	4312.	1.046
2115.5	1.06	4312.5	0.7022
2116.	0.961	4313.	1.289
2116.5	0.8547	4313.5	0.8016
2117.	1.012	4314.	0.9679
2117.5	0.9032	4314.5	0.7323
2118.	0.7646	4315.	0.9979
2118.5	0.961	4315.5	0.6861
2119.	0.954	4316.	1.143
2119.5	1.146	4316.5	0.6537
2120.	0.797	4317.	0.7415
2120.5	0.9101	4317.5	0.6976
2121.	0.9332	4318.	0.9633
2121.5	0.827	4318.5	0.9171
2122.	0.7646	4319.	0.9563
2122.5	0.9702	4319.5	0.8177
2123.	0.9725	4320.	0.9887
2123.5	1.13	4320.5	0.8408
2124.	0.8455	4321.	0.9309
2124.5	0.9425	4321.5	0.9494
2125.	0.8917	4322.	0.8709
2125.5	1.134	4322.5	0.7438
2126.	0.8824	4323.	0.8108
2126.5	0.9818	4323.5	0.8224
2127.	0.6999	4324.	1.271
2127.5	1.118	4324.5	0.6745
2128.	0.9425	4325.	0.626
2128.5	0.8547	4325.5	0.8963
2129.	0.7808	4326.	0.9078

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2129.5	1.109	4326.5	0.9379
2130.	0.7069	4327.	0.8986
2130.5	0.8085	4327.5	0.9101
2131.	0.9032	4328.	0.9494
2131.5	0.8547	4328.5	0.8339
2132.	0.6468	4329.	1.065
2132.5	1.097	4329.5	0.7323
2133.	0.8639	4330.	0.8893
2133.5	0.9332	4330.5	0.8709
2134.	0.7554	4331.	0.723
2134.5	1.063	4331.5	0.8224
2135.	0.7069	4332.	0.8431
2135.5	1.056	4332.5	0.8524
2136.	0.7646	4333.	1.167
2136.5	1.051	4333.5	0.9101
2137.	1.021	4334.	0.8316
2137.5	0.7277	4334.5	0.79
2138.	0.8431	4335.	0.9864
2138.5	0.8732	4335.5	0.589
2139.	0.9841	4336.	1.056
2139.5	0.8662	4336.5	0.9887
2140.	0.9332	4337.	0.9194
2140.5	0.8062	4337.5	0.9471
2141.	0.797	4338.	0.76
2141.5	0.9009	4338.5	0.7022
2142.	1.109	4339.	0.8963
2142.5	0.9332	4339.5	0.9956
2143.	0.8639	4340.	0.8016
2143.5	0.8247	4340.5	0.8732
2144.	0.8339	4341.	0.82
2144.5	0.8247	4341.5	0.7069
2145.	0.5914	4342.	0.9702
2145.5	0.7554	4342.5	0.9818
2146.	0.887	4343.	1.016
2146.5	0.924	4343.5	1.028
2147.	0.924	4344.	1.016
2147.5	0.894	4344.5	1.046
2148.	0.8455	4345.	0.8917
2148.5	1.014	4345.5	0.954
2149.	0.8062	4346.	0.7993
2149.5	1.	4346.5	0.8963
2150.	0.8917	4347.	0.8593
2150.5	0.8917	4347.5	0.9794
2151.	0.7785	4348.	1.026
2151.5	0.991	4348.5	0.8039
2152.	0.9818	4349.	0.7508
2152.5	0.9332	4349.5	0.6999
2153.	0.924	4350.	0.7161
2153.5	0.9818	4350.5	0.73
2154.	0.7369	4351.	0.7646
2154.5	0.8247	4351.5	0.73
2155.	0.8247	4352.	1.065
2155.5	0.8339	4352.5	1.058

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2156.	0.8847	4353.	0.9956
2156.5	0.7854	4353.5	0.961
2157.	0.8847	4354.	0.9979
2157.5	0.961	4354.5	0.8316
2158.	0.6098	4355.	0.82
2158.5	0.8824	4355.5	0.9078
2159.	0.8755	4356.	0.7946
2159.5	1.058	4356.5	0.7808
2160.	0.7854	4357.	0.9979
2160.5	0.9725	4357.5	0.9979
2161.	0.827	4358.	0.8316
2161.5	0.9124	4358.5	0.8616
2162.	0.9633	4359.	0.9078
2162.5	0.797	4359.5	0.6376
2163.	1.012	4360.	0.8616
2163.5	0.8639	4360.5	0.9887
2164.	0.9009	4361.	0.9332
2164.5	0.9517	4361.5	0.7715
2165.	0.9633	4362.	1.095
2165.5	0.7277	4362.5	0.7531
2166.	0.8917	4363.	0.9563
2166.5	1.257	4363.5	0.7946
2167.	0.9748	4364.	0.6445
2167.5	1.04	4364.5	0.5775
2168.	0.6676	4365.	0.6907
2168.5	1.	4365.5	0.9332
2169.	0.8755	4366.	0.8177
2169.5	0.8455	4366.5	0.7323
2170.	0.9332	4367.	1.028
2170.5	0.9517	4367.5	0.8686
2171.	0.8062	4368.	0.7923
2171.5	1.012	4368.5	0.8616
2172.	0.8755	4369.	0.9956
2172.5	1.088	4369.5	0.7854
2173.	0.9124	4370.	1.028
2173.5	1.	4370.5	0.9171
2174.	0.8547	4371.	0.8039
2174.5	0.961	4371.5	0.8893
2175.	0.9841	4372.	0.9379
2175.5	1.083	4372.5	0.7993
2176.	1.049	4373.	0.9494
2176.5	0.924	4373.5	0.82
2177.	0.797	4374.	0.8293
2177.5	0.8154	4374.5	0.8917
2178.	0.8616	4375.	0.9679
2178.5	0.7854	4375.5	0.6745
2179.	0.8547	4376.	0.9402
2179.5	0.8524	4376.5	0.9379
2180.	0.8062	4377.	1.016
2180.5	1.081	4377.5	0.8247
2181.	0.9725	4378.	0.7715
2181.5	1.04	4378.5	0.9379
2182.	0.8662	4379.	0.9148

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2182.5	1.187	4379.5	0.8801
2183.	0.9517	4380.	0.9887
2183.5	0.9101	4380.5	0.9148
2184.	0.827	4381.	1.026
2184.5	0.9725	4381.5	0.8778
2185.	1.028	4382.	1.037
2185.5	0.8316	4382.5	0.7323
2186.	0.6283	4383.	0.8224
2186.5	0.8455	4383.5	0.7461
2187.	0.7184	4384.	0.9009
2187.5	0.9425	4384.5	0.8732
2188.	0.6699	4385.	1.058
2188.5	1.118	4385.5	0.7138
2189.	0.6999	4386.	0.991
2189.5	1.079	4386.5	0.9494
2190.	0.8824	4387.	1.065
2190.5	0.797	4387.5	0.7854
2191.	0.9332	4388.	0.8385
2191.5	0.9818	4388.5	0.8593
2192.	0.9818	4389.	1.104
2192.5	0.9425	4389.5	0.8801
2193.	0.8177	4390.	0.7022
2193.5	0.8662	4390.5	0.8131
2194.	0.7461	4391.	0.7415
2194.5	0.8732	4391.5	0.9563
2195.	0.5914	4392.	0.8709
2195.5	0.9748	4392.5	0.9587
2196.	0.8917	4393.	0.7508
2196.5	0.9818	4393.5	0.8016

SOLUTION

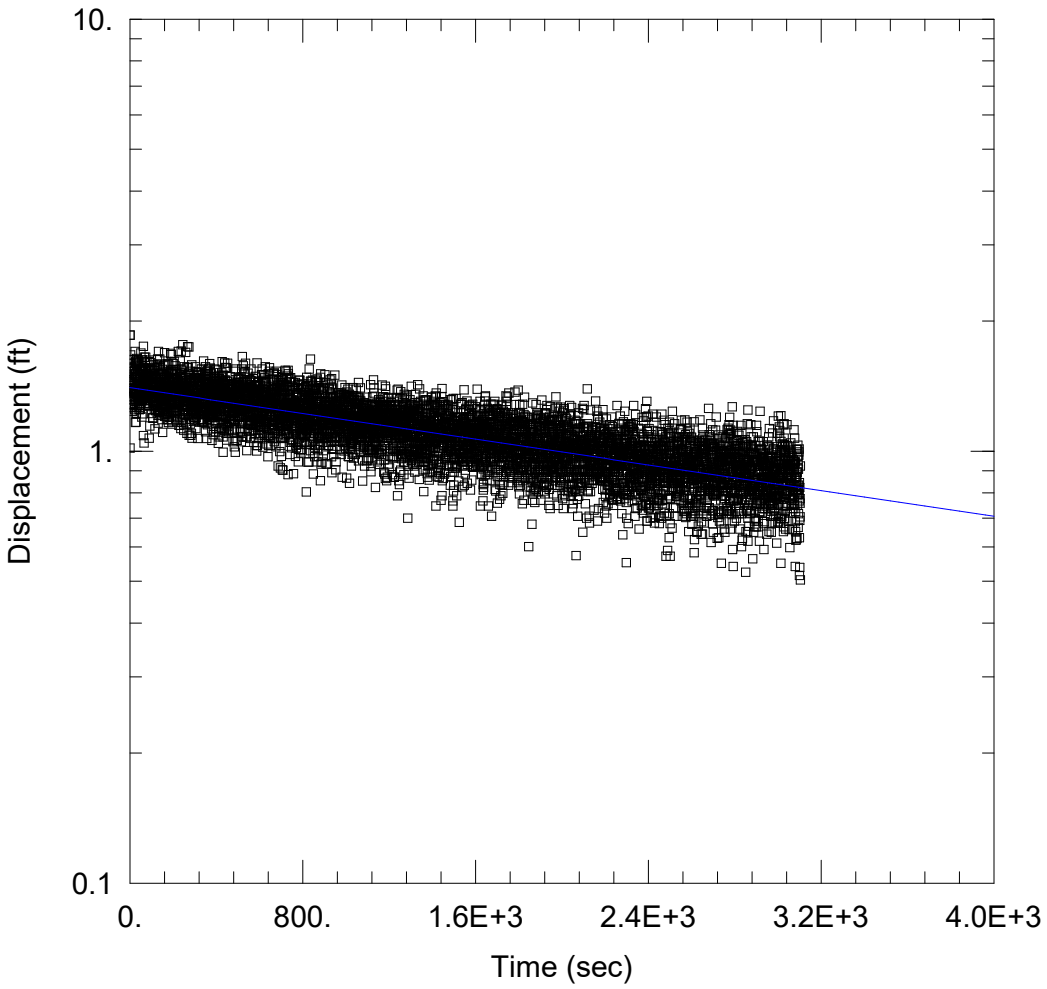
Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.14

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.004507	ft/day
y0	0.9347	ft

K = 1.59E-6 cm/sec
T = K*b = 0.02254 ft²/day (0.0002423 sq. cm/sec)



WELL TEST ANALYSIS

Data Set: C:\...\MW-106-SLUG-IN.aqt
Date: 10/19/26 Time: 16:34:31

PROJECT INFORMATION

Company: WSP
Client: SIPC
Test Well: MW-106
Test Date: 9/24/2026

AQUIFER DATA

Saturated Thickness: 12. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-106)

Initial Displacement: 1.855 ft
Total Well Penetration Depth: 13.4 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 12. ft
Screen Length: 5. ft
Well Radius: 0.08333 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.03863 ft/day
y0 = 1.402 ft

Data Set: C:\Users\USJV703850\WSP O365\GLD-21467997,SIPC Operating Permit Application IL - 5 Technical W
Date: 10/19/26
Time: 16:34:45

PROJECT INFORMATION

Company: WSP
Client: SIPC
Test Date: 9/24/2026
Test Well: MW-106

AQUIFER DATA

Saturated Thickness: 12. ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-106

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 1.855 ft
Static Water Column Height: 12. ft
Casing Radius: 0.08333 ft
Well Radius: 0.08333 ft
Well Skin Radius: 1. ft
Screen Length: 5. ft
Total Well Penetration Depth: 13.4 ft

No. of Observations: 6210

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	1.855	1552.5	1.148
0.5	1.016	1553.	0.8847
1.	1.395	1553.5	0.9032
1.5	1.277	1554.	1.093
2.	1.624	1554.5	0.9702
2.5	1.418	1555.	1.157
3.	1.555	1555.5	1.247
3.5	1.259	1556.	1.257
4.	1.67	1556.5	0.9633
4.5	1.331	1557.	1.167
5.	1.596	1557.5	1.012
5.5	1.441	1558.	1.13
6.	1.566	1558.5	1.03
6.5	1.342	1559.	1.127
7.	1.446	1559.5	1.033
7.5	1.361	1560.	1.051
8.	1.4	1560.5	0.9725
8.5	1.428	1561.	1.305
9.	1.499	1561.5	0.9309

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
9.5	1.312	1562.	1.137
10.	1.481	1562.5	0.8431
10.5	1.282	1563.	1.021
11.	1.314	1563.5	1.012
11.5	1.379	1564.	1.021
12.	1.46	1564.5	1.009
12.5	1.236	1565.	1.123
13.	1.541	1565.5	1.023
13.5	1.381	1566.	1.074
14.	1.532	1566.5	0.9471
14.5	1.264	1567.	1.194
15.	1.395	1567.5	1.134
15.5	1.314	1568.	1.111
16.	1.631	1568.5	1.049
16.5	1.395	1569.	1.079
17.	1.384	1569.5	1.245
17.5	1.284	1570.	1.053
18.	1.395	1570.5	1.06
18.5	1.515	1571.	1.268
19.	1.368	1571.5	1.185
19.5	1.465	1572.	1.118
20.	1.356	1572.5	1.037
20.5	1.386	1573.	1.277
21.	1.513	1573.5	1.197
21.5	1.534	1574.	1.13
22.	1.368	1574.5	1.09
22.5	1.395	1575.	1.079
23.	1.291	1575.5	1.183
23.5	1.247	1576.	1.093
24.	1.7	1576.5	0.8131
24.5	1.476	1577.	1.051
25.	1.499	1577.5	0.9448
25.5	1.164	1578.	1.157
26.	1.601	1578.5	0.9818
26.5	1.319	1579.	1.134
27.	1.615	1579.5	1.1
27.5	1.395	1580.	1.277
28.	1.508	1580.5	0.991
28.5	1.167	1581.	1.227
29.	1.37	1581.5	1.033
29.5	1.224	1582.	1.127
30.	1.488	1582.5	0.9448
30.5	1.224	1583.	1.109
31.	1.478	1583.5	0.857
31.5	1.351	1584.	1.102
32.	1.585	1584.5	0.924
32.5	1.638	1585.	1.208
33.	1.596	1585.5	1.074
33.5	1.264	1586.	0.9725
34.	1.421	1586.5	0.9171
34.5	1.476	1587.	1.284
35.	1.578	1587.5	0.924
35.5	1.43	1588.	1.208

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
36.	1.518	1588.5	0.9956
36.5	1.411	1589.	1.06
37.	1.488	1589.5	1.157
37.5	1.331	1590.	1.109
38.	1.617	1590.5	1.13
38.5	1.481	1591.	0.9171
39.	1.411	1591.5	1.095
39.5	1.314	1592.	1.15
40.	1.444	1592.5	1.13
40.5	1.344	1593.	1.044
41.	1.617	1593.5	1.09
41.5	1.43	1594.	1.134
42.	1.601	1594.5	1.1
42.5	1.321	1595.	0.9818
43.	1.247	1595.5	0.9702
43.5	1.363	1596.	1.044
44.	1.49	1596.5	1.042
44.5	1.411	1597.	1.044
45.	1.275	1597.5	1.102
45.5	1.333	1598.	1.21
46.	1.552	1598.5	1.033
46.5	1.261	1599.	1.06
47.	1.502	1599.5	1.266
47.5	1.326	1600.	0.924
48.	1.25	1600.5	0.924
48.5	1.277	1601.	1.058
49.	1.483	1601.5	0.9933
49.5	1.333	1602.	1.12
50.	1.347	1602.5	0.961
50.5	1.432	1603.	1.079
51.	1.686	1603.5	0.9725
51.5	1.421	1604.	1.167
52.	1.538	1604.5	0.9355
52.5	1.307	1605.	1.254
53.	1.395	1605.5	1.169
53.5	1.289	1606.	1.111
54.	1.543	1606.5	1.093
54.5	1.317	1607.	1.
55.	1.379	1607.5	0.9818
55.5	1.199	1608.	1.391
56.	1.335	1608.5	1.
56.5	1.534	1609.	1.06
57.	1.404	1609.5	0.9818
57.5	1.552	1610.	1.208
58.	1.629	1610.5	1.033
58.5	1.471	1611.	1.12
59.	1.317	1611.5	0.924
59.5	1.22	1612.	1.051
60.	1.377	1612.5	1.04
60.5	1.307	1613.	1.217
61.	1.421	1613.5	1.1
61.5	1.425	1614.	1.13
62.	1.559	1614.5	0.9725

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
62.5	1.086	1615.	1.13
63.	1.749	1615.5	1.137
63.5	1.513	1616.	1.199
64.	1.552	1616.5	1.042
64.5	1.354	1617.	1.157
65.	1.435	1617.5	1.005
65.5	1.289	1618.	0.924
66.	1.31	1618.5	1.003
66.5	1.044	1619.	1.146
67.	1.335	1619.5	1.169
67.5	1.455	1620.	1.132
68.	1.649	1620.5	1.111
68.5	1.326	1621.	1.238
69.	1.402	1621.5	1.014
69.5	1.31	1622.	1.303
70.	1.562	1622.5	0.7461
70.5	1.552	1623.	1.12
71.	1.407	1623.5	1.033
71.5	1.386	1624.	0.9171
72.	1.599	1624.5	1.079
72.5	1.532	1625.	1.102
73.	1.513	1625.5	0.9702
73.5	1.337	1626.	1.021
74.	1.649	1626.5	0.8824
74.5	1.289	1627.	1.093
75.	1.277	1627.5	0.9633
75.5	1.513	1628.	1.153
76.	1.428	1628.5	0.8847
76.5	1.502	1629.	1.176
77.	1.337	1629.5	1.072
77.5	1.358	1630.	1.169
78.	1.455	1630.5	0.9332
78.5	1.513	1631.	0.961
79.	1.612	1631.5	0.924
79.5	1.446	1632.	1.137
80.	1.333	1632.5	1.021
80.5	1.331	1633.	1.148
81.	1.423	1633.5	0.9425
81.5	1.268	1634.	1.183
82.	1.543	1634.5	0.7669
82.5	1.476	1635.	1.139
83.	1.407	1635.5	0.9818
83.5	1.277	1636.	0.9101
84.	1.455	1636.5	0.8362
84.5	1.483	1637.	0.8131
85.	1.328	1637.5	0.8431
85.5	1.485	1638.	1.157
86.	1.289	1638.5	0.8247
86.5	1.557	1639.	1.199
87.	1.328	1639.5	1.148
87.5	1.335	1640.	1.169
88.	1.425	1640.5	1.058
88.5	1.476	1641.	1.157

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
89.	1.61	1641.5	1.199
89.5	1.072	1642.	1.277
90.	1.356	1642.5	1.049
90.5	1.624	1643.	1.305
91.	1.467	1643.5	1.058
91.5	1.349	1644.	1.127
92.	1.379	1644.5	0.8824
92.5	1.143	1645.	1.335
93.	1.495	1645.5	0.9725
93.5	1.365	1646.	1.139
94.	1.603	1646.5	0.9425
94.5	1.534	1647.	1.342
95.	1.331	1647.5	1.
95.5	1.425	1648.	1.15
96.	1.388	1648.5	1.021
96.5	1.31	1649.	0.9425
97.	1.485	1649.5	0.9517
97.5	1.37	1650.	1.063
98.	1.446	1650.5	0.9725
98.5	1.407	1651.	1.106
99.	1.37	1651.5	0.9425
99.5	1.328	1652.	1.1
100.	1.379	1652.5	1.07
100.5	1.222	1653.	1.07
101.	1.545	1653.5	0.894
101.5	1.506	1654.	1.21
102.	1.495	1654.5	0.857
102.5	1.416	1655.	1.257
103.	1.416	1655.5	1.169
103.5	1.437	1656.	1.134
104.	1.467	1656.5	1.127
104.5	1.379	1657.	0.9148
105.	1.495	1657.5	1.137
105.5	1.194	1658.	1.111
106.	1.437	1658.5	0.8824
106.5	1.448	1659.	0.9032
107.	1.418	1659.5	1.04
107.5	1.192	1660.	1.118
108.	1.416	1660.5	0.7461
108.5	1.277	1661.	1.09
109.	1.448	1661.5	1.058
109.5	1.298	1662.	1.247
110.	1.585	1662.5	1.07
110.5	1.34	1663.	1.072
111.	1.497	1663.5	1.217
111.5	1.34	1664.	1.208
112.	1.31	1664.5	1.033
112.5	1.321	1665.	1.
113.	1.298	1665.5	1.238
113.5	1.252	1666.	1.208
114.	1.557	1666.5	1.042
114.5	1.328	1667.	1.169
115.	1.465	1667.5	0.8547

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
115.5	1.536	1668.	1.03
116.	1.381	1668.5	1.215
116.5	1.125	1669.	0.991
117.	1.428	1669.5	1.051
117.5	1.476	1670.	0.9448
118.	1.268	1670.5	1.04
118.5	1.381	1671.	1.1
119.	1.24	1671.5	0.961
119.5	1.506	1672.	1.284
120.	1.476	1672.5	1.012
120.5	1.437	1673.	1.023
121.	1.28	1673.5	0.9633
121.5	1.476	1674.	1.15
122.	1.416	1674.5	0.9818
122.5	1.31	1675.	0.9633
123.	1.465	1675.5	0.7069
123.5	1.337	1676.	1.185
124.	1.31	1676.5	1.051
124.5	1.381	1677.	1.051
125.	1.312	1677.5	0.924
125.5	1.381	1678.	1.081
126.	1.585	1678.5	0.9148
126.5	1.227	1679.	1.012
127.	1.485	1679.5	1.06
127.5	1.25	1680.	1.09
128.	1.633	1680.5	0.9517
128.5	1.277	1681.	1.141
129.	1.548	1681.5	1.009
129.5	1.243	1682.	1.215
130.	1.407	1682.5	1.169
130.5	1.162	1683.	1.238
131.	1.381	1683.5	1.137
131.5	1.21	1684.	1.042
132.	1.7	1684.5	1.12
132.5	1.34	1685.	1.277
133.	1.234	1685.5	1.049
133.5	1.465	1686.	1.284
134.	1.564	1686.5	0.9448
134.5	1.301	1687.	1.06
135.	1.34	1687.5	1.003
135.5	1.349	1688.	1.157
136.	1.388	1688.5	1.09
136.5	1.349	1689.	1.303
137.	1.446	1689.5	1.1
137.5	1.231	1690.	1.106
138.	1.633	1690.5	0.8154
138.5	1.349	1691.	0.9055
139.	1.508	1691.5	1.07
139.5	1.379	1692.	1.079
140.	1.592	1692.5	1.03
140.5	1.261	1693.	1.236
141.	1.573	1693.5	0.8085
141.5	1.234	1694.	1.03

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
142.	1.485	1694.5	1.079
142.5	1.349	1695.	1.247
143.	1.301	1695.5	1.003
143.5	1.416	1696.	1.074
144.	1.448	1696.5	0.9725
144.5	1.4	1697.	1.003
145.	1.511	1697.5	1.
145.5	1.331	1698.	1.079
146.	1.465	1698.5	1.206
146.5	1.506	1699.	1.106
147.	1.271	1699.5	0.9309
147.5	1.358	1700.	1.254
148.	1.391	1700.5	1.148
148.5	1.261	1701.	0.8732
149.	1.428	1701.5	0.7577
149.5	1.183	1702.	1.04
150.	1.234	1702.5	1.15
150.5	1.291	1703.	1.247
151.	1.361	1703.5	1.06
151.5	1.104	1704.	1.058
152.	1.545	1704.5	1.009
152.5	1.37	1705.	0.894
153.	1.476	1705.5	1.023
153.5	1.277	1706.	0.9055
154.	1.416	1706.5	0.9725
154.5	1.409	1707.	1.044
155.	1.324	1707.5	0.961
155.5	1.31	1708.	1.208
156.	1.575	1708.5	1.139
156.5	1.264	1709.	1.058
157.	1.331	1709.5	1.15
157.5	1.324	1710.	1.176
158.	1.446	1710.5	1.042
158.5	1.227	1711.	1.22
159.	1.252	1711.5	0.7739
159.5	1.312	1712.	0.9818
160.	1.467	1712.5	1.09
160.5	1.204	1713.	0.9933
161.	1.691	1713.5	0.8362
161.5	1.275	1714.	0.8547
162.	1.585	1714.5	1.13
162.5	1.277	1715.	1.206
163.	1.358	1715.5	1.023
163.5	1.333	1716.	0.9032
164.	1.388	1716.5	0.924
164.5	1.328	1717.	1.227
165.	1.381	1717.5	0.7877
165.5	1.448	1718.	1.09
166.	1.416	1718.5	1.023
166.5	1.324	1719.	1.277
167.	1.215	1719.5	0.8824
167.5	1.337	1720.	1.169
168.	1.4	1720.5	1.148

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
168.5	1.273	1721.	0.9425
169.	1.497	1721.5	0.9725
169.5	1.301	1722.	1.277
170.	1.43	1722.5	1.042
170.5	1.488	1723.	0.8339
171.	1.409	1723.5	0.9702
171.5	1.381	1724.	0.9818
172.	1.508	1724.5	1.197
172.5	1.224	1725.	0.9702
173.	1.439	1725.5	1.07
173.5	1.245	1726.	1.102
174.	1.183	1726.5	1.079
174.5	1.407	1727.	0.7993
175.	1.594	1727.5	0.9725
175.5	1.34	1728.	0.9702
176.	1.303	1728.5	0.9725
176.5	1.183	1729.	1.169
177.	1.349	1729.5	0.8732
177.5	1.529	1730.	1.236
178.	1.349	1730.5	0.8455
178.5	1.164	1731.	0.9702
179.	1.515	1731.5	0.924
179.5	1.441	1732.	1.139
180.	1.585	1732.5	1.079
180.5	1.234	1733.	1.07
181.	1.513	1733.5	1.023
181.5	1.391	1734.	1.192
182.	1.291	1734.5	1.09
182.5	1.458	1735.	1.227
183.	1.458	1735.5	0.9702
183.5	1.197	1736.	1.157
184.	1.331	1736.5	1.009
184.5	1.37	1737.	1.224
185.	1.448	1737.5	1.12
185.5	1.234	1738.	0.991
186.	1.448	1738.5	1.093
186.5	1.264	1739.	1.033
187.	1.354	1739.5	1.044
187.5	1.381	1740.	1.137
188.	1.37	1740.5	0.894
188.5	1.331	1741.	1.042
189.	1.684	1741.5	0.9725
189.5	1.298	1742.	1.342
190.	1.508	1742.5	1.303
190.5	1.301	1743.	1.266
191.	1.538	1743.5	1.13
191.5	1.206	1744.	1.199
192.	1.672	1744.5	0.894
192.5	1.234	1745.	1.1
193.	1.515	1745.5	1.003
193.5	1.312	1746.	1.187
194.	1.478	1746.5	1.079
194.5	1.176	1747.	1.335

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
195.	1.296	1747.5	1.157
195.5	1.155	1748.	1.199
196.	1.407	1748.5	0.9124
196.5	1.508	1749.	1.058
197.	1.515	1749.5	1.102
197.5	1.234	1750.	0.9933
198.	1.314	1750.5	0.9448
198.5	1.381	1751.	0.9702
199.	1.34	1751.5	1.03
199.5	1.545	1752.	1.127
200.	1.467	1752.5	1.058
200.5	1.594	1753.	1.227
201.	1.428	1753.5	1.012
201.5	1.476	1754.	0.8339
202.	1.511	1754.5	1.06
202.5	1.227	1755.	1.363
203.	1.381	1755.5	1.028
203.5	1.28	1756.	1.157
204.	1.391	1756.5	0.9425
204.5	1.243	1757.	0.9933
205.	1.615	1757.5	0.9309
205.5	1.254	1758.	0.9148
206.	1.37	1758.5	1.021
206.5	1.34	1759.	1.157
207.	1.391	1759.5	1.021
207.5	1.384	1760.	0.894
208.	1.476	1760.5	0.8732
208.5	1.529	1761.	1.042
209.	1.37	1761.5	0.9933
209.5	1.4	1762.	1.215
210.	1.575	1762.5	0.9517
210.5	1.227	1763.	1.157
211.	1.384	1763.5	0.894
211.5	1.342	1764.	1.021
212.	1.4	1764.5	1.049
212.5	1.261	1765.	1.072
213.	1.421	1765.5	0.9032
213.5	1.361	1766.	1.137
214.	1.282	1766.5	0.9725
214.5	1.37	1767.	1.04
215.	1.432	1767.5	1.04
215.5	1.243	1768.	0.8662
216.	1.4	1768.5	1.07
216.5	1.511	1769.	1.079
217.	1.515	1769.5	0.924
217.5	1.183	1770.	0.8455
218.	1.46	1770.5	1.03
218.5	1.264	1771.	1.051
219.	1.529	1771.5	0.9933
219.5	1.467	1772.	0.924
220.	1.167	1772.5	0.991
220.5	1.324	1773.	1.169
221.	1.391	1773.5	0.8732

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
221.5	1.37	1774.	1.093
222.	1.386	1774.5	1.079
222.5	1.234	1775.	1.081
223.	1.448	1775.5	1.215
223.5	1.361	1776.	0.9633
224.	1.7	1776.5	0.9818
224.5	1.34	1777.	1.19
225.	1.31	1777.5	1.125
225.5	1.448	1778.	1.146
226.	1.342	1778.5	0.924
226.5	1.294	1779.	1.072
227.	1.303	1779.5	0.9933
227.5	1.381	1780.	1.072
228.	1.148	1780.5	1.169
228.5	1.324	1781.	1.051
229.	1.4	1781.5	1.15
229.5	1.418	1782.	1.148
230.	1.37	1782.5	1.042
230.5	1.409	1783.	1.044
231.	1.409	1783.5	1.37
231.5	1.303	1784.	1.206
232.	1.296	1784.5	1.051
232.5	1.331	1785.	1.035
233.	1.4	1785.5	0.961
233.5	1.488	1786.	1.023
234.	1.617	1786.5	1.157
234.5	1.384	1787.	1.06
235.	1.499	1787.5	0.991
235.5	1.488	1788.	1.282
236.	1.469	1788.5	1.197
236.5	1.127	1789.	1.
237.	1.4	1789.5	0.991
237.5	1.441	1790.	1.123
238.	1.705	1790.5	1.
238.5	1.421	1791.	0.9355
239.	1.538	1791.5	0.924
239.5	1.351	1792.	0.9332
240.	1.548	1792.5	0.961
240.5	1.167	1793.	0.954
241.	1.518	1793.5	0.8732
241.5	1.351	1794.	1.167
242.	1.458	1794.5	1.141
242.5	1.439	1795.	0.8547
243.	1.331	1795.5	0.9517
243.5	1.324	1796.	1.06
244.	1.264	1796.5	0.9101
244.5	1.183	1797.	1.03
245.	1.763	1797.5	1.384
245.5	1.194	1798.	1.079
246.	1.361	1798.5	1.003
246.5	1.303	1799.	1.178
247.	1.409	1799.5	0.9032
247.5	1.439	1800.	1.229

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
248.	1.441	1800.5	0.8455
248.5	1.155	1801.	0.827
249.	1.118	1802.5	1.005
249.5	1.388	1802.6	1.113
250.	1.502	1802.7	1.22
250.5	1.217	1803.	1.155
251.	1.324	1803.5	1.12
251.5	1.298	1804.	0.797
252.	1.566	1804.5	1.13
252.5	1.275	1805.	1.282
253.	1.245	1805.5	0.9448
253.5	1.28	1806.	1.178
254.	1.384	1806.5	1.139
254.5	1.416	1807.	1.009
255.	1.342	1807.5	0.9171
255.5	1.312	1808.	1.227
256.	1.391	1808.5	0.8339
256.5	1.4	1809.	1.072
257.	1.46	1809.5	0.9425
257.5	1.227	1810.	0.991
258.	1.478	1810.5	0.9032
258.5	1.215	1811.	1.049
259.	1.693	1811.5	0.9055
259.5	1.282	1812.	1.139
260.	1.31	1812.5	0.9633
260.5	1.303	1813.	1.072
261.	1.37	1813.5	1.033
261.5	1.157	1814.	1.072
262.	1.407	1814.5	0.9448
262.5	1.43	1815.	1.173
263.	1.342	1815.5	1.127
263.5	1.351	1816.	0.924
264.	1.458	1816.5	0.7554
264.5	1.1	1817.	1.111
265.	1.564	1817.5	0.894
265.5	1.245	1818.	1.009
266.	1.275	1818.5	0.9818
266.5	1.28	1819.	1.284
267.	1.744	1819.5	1.169
267.5	1.4	1820.	1.164
268.	1.305	1820.5	0.8547
268.5	1.312	1821.	1.199
269.	1.418	1821.5	1.072
269.5	1.217	1822.	1.058
270.	1.559	1822.5	0.9148
270.5	1.34	1823.	1.079
271.	1.277	1823.5	1.058
271.5	1.208	1824.	1.169
272.	1.511	1824.5	0.7692
272.5	1.227	1825.	1.215
273.	1.381	1825.5	0.8709
273.5	1.386	1826.	1.13
274.	1.742	1826.5	1.111

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
274.5	1.351	1827.	1.333
275.	1.441	1827.5	0.9309
275.5	1.088	1828.	1.07
276.	1.499	1828.5	1.009
276.5	1.185	1829.	1.139
277.	1.421	1829.5	0.954
277.5	1.448	1830.	1.155
278.	1.351	1830.5	1.072
278.5	1.291	1831.	0.9448
279.	1.37	1831.5	1.003
279.5	1.155	1832.	1.206
280.	1.252	1832.5	0.8639
280.5	1.321	1833.	1.023
281.	1.532	1833.5	0.9425
281.5	1.088	1834.	1.033
282.	1.409	1834.5	1.009
282.5	1.243	1835.	1.
283.	1.469	1835.5	1.111
283.5	1.273	1836.	0.894
284.	1.312	1836.5	0.9032
284.5	1.1	1837.	0.9633
285.	1.236	1837.5	0.9725
285.5	1.342	1838.	1.051
286.	1.585	1838.5	0.9702
286.5	1.421	1839.	1.197
287.	1.254	1839.5	0.827
287.5	1.335	1840.	1.009
288.	1.215	1840.5	1.005
288.5	1.072	1841.	1.15
289.	1.34	1841.5	0.9818
289.5	1.273	1842.	1.051
290.	1.421	1842.5	0.8824
290.5	1.303	1843.	1.03
291.	1.34	1843.5	0.8755
291.5	1.28	1844.	1.033
292.	1.439	1844.5	0.9725
292.5	1.312	1845.	1.035
293.	1.301	1845.5	0.9633
293.5	1.173	1846.	0.9725
294.	1.46	1846.5	0.6006
294.5	1.321	1847.	1.009
295.	1.194	1847.5	1.072
295.5	1.227	1848.	1.137
296.	1.227	1848.5	1.06
296.5	1.197	1849.	1.005
297.	1.497	1849.5	1.009
297.5	1.31	1850.	1.021
298.	1.28	1850.5	1.021
298.5	1.264	1851.	1.185
299.	1.441	1851.5	1.072
299.5	1.478	1852.	1.12
300.	1.439	1852.5	1.157
300.5	1.301	1853.	0.8639

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
301.	1.478	1853.5	0.8085
301.5	1.273	1854.	1.049
302.	1.245	1854.5	1.157
302.5	1.342	1855.	1.079
303.	1.471	1855.5	0.8709
303.5	1.261	1856.	1.157
304.	1.363	1856.5	0.8247
304.5	1.305	1857.	1.102
305.	1.566	1857.5	0.9633
305.5	1.227	1858.	1.
306.	1.254	1858.5	1.102
306.5	1.127	1859.	1.09
307.	1.451	1859.5	0.9078
307.5	1.194	1860.	1.06
308.	1.527	1860.5	0.924
308.5	1.227	1861.	1.12
309.	1.236	1861.5	0.6768
309.5	1.282	1862.	1.028
310.	1.296	1862.5	0.8847
310.5	1.277	1863.	0.9633
311.	1.499	1863.5	0.9818
311.5	1.277	1864.	1.294
312.	1.361	1864.5	0.7692
312.5	1.31	1865.	0.9355
313.	1.478	1865.5	1.051
313.5	1.391	1866.	0.8455
314.	1.423	1866.5	1.
314.5	1.261	1867.	1.111
315.	1.518	1867.5	1.033
315.5	1.07	1868.	0.797
316.	1.384	1868.5	0.9633
316.5	1.264	1869.	1.111
317.	1.363	1869.5	1.13
317.5	1.296	1870.	1.197
318.	1.448	1870.5	1.023
318.5	1.361	1871.	1.079
319.	1.478	1871.5	0.8131
319.5	1.213	1872.	0.9818
320.	1.499	1872.5	0.8177
320.5	1.28	1873.	0.9309
321.	1.471	1873.5	1.051
321.5	1.441	1874.	1.07
322.	1.167	1874.5	0.9148
322.5	1.31	1875.	1.102
323.	1.418	1875.5	0.76
323.5	1.234	1876.	1.012
324.	1.34	1876.5	1.033
324.5	1.381	1877.	0.894
325.	1.462	1877.5	0.9032
325.5	1.439	1878.	0.894
326.	1.411	1878.5	0.9448
326.5	1.185	1879.	0.8247
327.	1.236	1879.5	0.9309

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
327.5	1.342	1880.	1.282
328.	1.37	1880.5	0.961
328.5	1.321	1881.	0.8154
329.	1.391	1881.5	0.8478
329.5	1.518	1882.	1.185
330.	1.448	1882.5	1.072
330.5	1.254	1883.	1.035
331.	1.548	1883.5	1.19
331.5	1.183	1884.	1.07
332.	1.411	1884.5	0.8662
332.5	1.243	1885.	1.215
333.	1.411	1885.5	1.227
333.5	1.169	1886.	1.09
334.	1.354	1886.5	0.961
334.5	1.301	1887.	1.03
335.	1.185	1887.5	0.961
335.5	1.243	1888.	1.199
336.	1.335	1888.5	0.9055
336.5	1.176	1889.	0.8385
337.	1.324	1889.5	1.063
337.5	1.238	1890.	1.07
338.	1.324	1890.5	0.8062
338.5	1.411	1891.	1.208
339.	1.365	1891.5	0.9309
339.5	1.215	1892.	1.1
340.	1.294	1892.5	0.9725
340.5	1.176	1893.	1.058
341.	1.351	1893.5	0.8824
341.5	1.167	1894.	1.033
342.	1.617	1894.5	0.894
342.5	1.294	1895.	0.924
343.	1.254	1895.5	1.003
343.5	1.386	1896.	1.139
344.	1.363	1896.5	1.
344.5	1.245	1897.	1.157
345.	1.351	1897.5	1.003
345.5	1.391	1898.	0.8639
346.	1.425	1898.5	1.072
346.5	1.365	1899.	1.04
347.	1.511	1899.5	0.9032
347.5	1.361	1900.	1.012
348.	1.301	1900.5	1.072
348.5	1.324	1901.	1.185
349.	1.284	1901.5	1.118
349.5	1.254	1902.	1.192
350.	1.363	1902.5	0.9702
350.5	1.109	1903.	1.139
351.	1.566	1903.5	0.7692
351.5	1.511	1904.	0.9933
352.	1.351	1904.5	0.961
352.5	1.46	1905.	0.9124
353.	1.236	1905.5	0.9633
353.5	1.391	1906.	1.118

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
354.	1.4	1906.5	0.8662
354.5	1.261	1907.	1.009
355.	1.372	1907.5	0.8709
355.5	1.252	1908.	1.312
356.	1.529	1908.5	1.021
356.5	1.07	1909.	0.9818
357.	1.488	1909.5	1.042
357.5	1.185	1910.	1.169
358.	1.361	1910.5	0.961
358.5	1.245	1911.	1.033
359.	1.441	1911.5	0.8709
359.5	1.15	1912.	1.07
360.	1.538	1912.5	1.014
360.5	1.37	1913.	0.894
361.	1.167	1913.5	0.9309
361.5	1.215	1914.	1.118
362.	1.448	1914.5	0.9448
362.5	1.441	1915.	1.1
363.	1.451	1915.5	1.178
363.5	1.432	1916.	1.197
364.	1.513	1916.5	0.8362
364.5	1.245	1917.	0.954
365.	1.548	1917.5	0.9309
365.5	1.254	1918.	1.16
366.	1.266	1918.5	0.8085
366.5	1.275	1919.	1.185
367.	1.432	1919.5	0.8431
367.5	1.197	1920.	1.127
368.	1.409	1920.5	0.797
368.5	1.254	1921.	0.8455
369.	1.277	1921.5	1.109
369.5	1.224	1922.	1.227
370.	1.594	1922.5	1.003
370.5	1.43	1923.	1.227
371.	1.469	1923.5	0.894
371.5	1.254	1924.	1.023
372.	1.351	1924.5	0.9818
372.5	1.227	1925.	1.13
373.	1.557	1925.5	0.9032
373.5	1.342	1926.	0.9032
374.	1.354	1926.5	0.827
374.5	1.411	1927.	1.217
375.	1.37	1927.5	0.8247
375.5	1.266	1928.	1.007
376.	1.296	1928.5	0.8709
376.5	1.217	1929.	1.072
377.	1.511	1929.5	0.8339
377.5	1.236	1930.	1.247
378.	1.423	1930.5	0.924
378.5	1.125	1931.	1.275
379.	1.391	1931.5	0.924
379.5	1.391	1932.	0.9332
380.	1.206	1932.5	0.924

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
380.5	1.058	1933.	1.058
381.	1.324	1933.5	0.9956
381.5	1.351	1934.	1.009
382.	1.217	1934.5	0.894
382.5	1.277	1935.	1.15
383.	1.421	1935.5	0.961
383.5	1.197	1936.	1.12
384.	1.384	1936.5	0.9425
384.5	1.157	1937.	0.9887
385.	1.372	1937.5	1.007
385.5	1.093	1938.	1.06
386.	1.432	1938.5	0.9818
386.5	1.227	1939.	1.176
387.	1.52	1939.5	1.06
387.5	1.208	1940.	1.033
388.	1.37	1940.5	0.7484
388.5	1.194	1941.	0.8154
389.	1.324	1941.5	1.139
389.5	1.261	1942.	0.8385
390.	1.451	1942.5	1.146
390.5	1.381	1943.	1.199
391.	1.245	1943.5	1.12
391.5	1.384	1944.	0.9818
392.	1.469	1944.5	1.102
392.5	1.176	1945.	1.033
393.	1.254	1945.5	1.003
393.5	1.236	1946.	1.169
394.	1.55	1946.5	0.7369
394.5	1.236	1947.	1.266
395.	1.254	1947.5	0.9055
395.5	1.43	1948.	0.9425
396.	1.469	1948.5	0.9748
396.5	1.342	1949.	0.9933
397.	1.273	1949.5	1.019
397.5	1.109	1950.	1.03
398.	1.291	1950.5	0.894
398.5	1.541	1951.	1.09
399.	1.127	1951.5	1.023
399.5	1.342	1952.	1.185
400.	1.421	1952.5	0.9148
400.5	1.236	1953.	0.9933
401.	1.284	1953.5	1.033
401.5	1.363	1954.	1.079
402.	1.324	1954.5	1.093
402.5	1.224	1955.	1.127
403.	1.488	1955.5	0.9309
403.5	1.303	1956.	1.155
404.	1.448	1956.5	0.8824
404.5	1.208	1957.	1.183
405.	1.349	1957.5	1.049
405.5	1.213	1958.	0.894
406.	1.372	1958.5	0.9171
406.5	1.432	1959.	1.093

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
407.	1.335	1959.5	0.924
407.5	1.363	1960.	0.9725
408.	1.351	1960.5	1.021
408.5	1.164	1961.	0.9101
409.	1.441	1961.5	0.797
409.5	1.042	1962.	1.109
410.	1.312	1962.5	0.9725
410.5	1.324	1963.	1.07
411.	1.497	1963.5	1.185
411.5	1.106	1964.	1.109
412.	1.342	1964.5	0.9656
412.5	1.079	1965.	1.176
413.	1.365	1965.5	0.9448
413.5	1.314	1966.	1.079
414.	1.28	1966.5	0.894
414.5	1.199	1967.	1.173
415.	1.471	1967.5	1.09
415.5	1.275	1968.	0.9956
416.	1.266	1968.5	1.033
416.5	1.312	1969.	1.257
417.	1.351	1969.5	0.8709
417.5	1.46	1970.	0.9633
418.	1.43	1970.5	0.9818
418.5	1.294	1971.	0.8547
419.	1.351	1971.5	1.023
419.5	1.326	1972.	0.8662
420.	1.4	1972.5	0.9633
420.5	1.206	1973.	1.335
421.	1.257	1973.5	1.178
421.5	1.254	1974.	1.033
422.	1.46	1974.5	1.023
422.5	1.351	1975.	0.8709
423.	1.303	1975.5	0.9148
423.5	1.127	1976.	0.961
424.	1.421	1976.5	1.009
424.5	1.301	1977.	0.8339
425.	1.481	1977.5	0.7877
425.5	1.134	1978.	1.051
426.	1.518	1978.5	0.9448
426.5	1.215	1979.	1.264
427.	1.303	1979.5	1.04
427.5	1.12	1980.	0.9309
428.	1.61	1980.5	1.03
428.5	1.303	1981.	1.111
429.	1.388	1981.5	0.8847
429.5	1.314	1982.	1.097
430.	1.37	1982.5	0.7484
430.5	1.421	1983.	1.183
431.	1.37	1983.5	1.009
431.5	1.079	1984.	1.167
432.	1.499	1984.5	0.9818
432.5	0.9933	1985.	0.9078
433.	1.441	1985.5	0.9148

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
433.5	1.157	1986.	1.058
434.	1.206	1986.5	0.9633
434.5	1.43	1987.	0.9563
435.	1.361	1987.5	1.079
435.5	1.236	1988.	1.109
436.	1.386	1988.5	0.9309
436.5	1.187	1989.	1.06
437.	1.342	1989.5	1.236
437.5	1.37	1990.	1.148
438.	1.4	1990.5	1.072
438.5	1.118	1991.	0.8478
439.	1.599	1991.5	0.9818
439.5	1.43	1992.	1.093
440.	1.462	1992.5	0.8339
440.5	1.314	1993.	0.9933
441.	1.562	1993.5	1.053
441.5	1.236	1994.	0.894
442.	1.294	1994.5	0.8455
442.5	1.206	1995.	1.264
443.	1.557	1995.5	0.924
443.5	1.294	1996.	1.072
444.	1.451	1996.5	1.197
444.5	1.227	1997.	1.049
445.	1.157	1997.5	0.8639
445.5	1.1	1998.	1.12
446.	1.559	1998.5	0.9332
446.5	1.284	1999.	1.13
447.	1.197	1999.5	0.857
447.5	1.312	2000.	1.204
448.	1.305	2000.5	0.924
448.5	1.06	2001.	1.023
449.	1.386	2001.5	0.9725
449.5	1.335	2002.	1.021
450.	1.363	2002.5	0.894
450.5	1.451	2003.	1.003
451.	1.298	2003.5	0.7762
451.5	1.266	2004.	1.227
452.	1.596	2004.5	0.9425
452.5	1.428	2005.	1.072
453.	1.139	2005.5	0.9933
453.5	1.245	2006.	0.7369
454.	1.391	2006.5	0.827
454.5	1.363	2007.	0.9933
455.	1.384	2007.5	0.9702
455.5	1.342	2008.	1.148
456.	1.4	2008.5	1.137
456.5	1.395	2009.	1.243
457.	1.335	2009.5	0.9933
457.5	1.109	2010.	1.012
458.	1.167	2010.5	0.7946
458.5	1.236	2011.	0.9332
459.	1.305	2011.5	1.254
459.5	1.266	2012.	1.03

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
460.	1.37	2012.5	0.9933
460.5	1.12	2013.	1.127
461.	1.238	2013.5	0.9633
461.5	1.185	2014.	1.176
462.	1.324	2014.5	1.042
462.5	1.254	2015.	0.9702
463.	1.451	2015.5	1.023
463.5	1.176	2016.	1.167
464.	1.363	2016.5	0.7877
464.5	1.31	2017.	0.894
465.	1.363	2017.5	1.199
465.5	1.37	2018.	1.093
466.	1.432	2018.5	0.9448
466.5	1.342	2019.	1.079
467.	1.488	2019.5	0.8362
467.5	1.183	2020.	0.9517
468.	1.4	2020.5	1.141
468.5	1.421	2021.	1.003
469.	1.349	2021.5	0.924
469.5	1.257	2022.	1.187
470.	1.312	2022.5	1.132
470.5	1.173	2023.	1.051
471.	1.423	2023.5	0.954
471.5	1.204	2024.	1.003
472.	1.12	2024.5	0.894
472.5	1.351	2025.	1.155
473.	1.266	2025.5	1.021
473.5	1.423	2026.	0.9633
474.	1.43	2026.5	0.8062
474.5	1.409	2027.	1.012
475.	1.238	2027.5	0.8732
475.5	1.227	2028.	0.9725
476.	1.326	2028.5	0.9725
476.5	1.118	2029.	1.042
477.	1.224	2029.5	0.8732
477.5	1.051	2030.	1.118
478.	1.342	2030.5	1.137
478.5	1.227	2031.	1.021
479.	1.294	2031.5	0.8131
479.5	1.206	2032.	0.9148
480.	1.391	2032.5	1.023
480.5	1.173	2033.	1.042
481.	1.282	2033.5	0.894
481.5	1.254	2034.	1.079
482.	1.284	2034.5	0.8732
482.5	1.157	2035.	1.058
483.	1.227	2035.5	1.033
483.5	1.266	2036.	1.275
484.	1.023	2036.5	1.102
484.5	1.351	2037.	0.8662
485.	1.125	2037.5	1.049
485.5	1.296	2038.	1.033
486.	1.354	2038.5	0.9124

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
486.5	1.185	2039.	0.9818
487.	1.342	2039.5	0.8362
487.5	1.176	2040.	1.206
488.	1.532	2040.5	0.924
488.5	0.9933	2041.	0.9633
489.	1.441	2041.5	1.012
489.5	1.282	2042.	1.215
490.	1.423	2042.5	0.9332
490.5	1.238	2043.	1.09
491.	1.55	2043.5	0.7854
491.5	1.058	2044.	1.09
492.	1.257	2044.5	0.8362
492.5	1.264	2045.	1.261
493.	1.335	2045.5	0.8709
493.5	1.264	2046.	0.9055
494.	1.418	2046.5	0.8963
494.5	1.266	2047.	1.033
495.	1.312	2047.5	0.8431
495.5	1.351	2048.	1.033
496.	1.324	2048.5	1.03
496.5	1.351	2049.	0.8039
497.	1.208	2049.5	0.7369
497.5	1.058	2050.	1.023
498.	1.43	2050.5	0.827
498.5	1.187	2051.	1.07
499.	1.363	2051.5	0.9818
499.5	1.4	2052.	0.8709
500.	1.335	2052.5	0.7554
500.5	1.333	2053.	0.961
501.	1.282	2053.5	0.8732
501.5	1.441	2054.	1.012
502.	1.476	2054.5	0.8662
502.5	1.197	2055.	1.042
503.	1.423	2055.5	0.991
503.5	1.314	2056.	1.118
504.	1.469	2056.5	1.06
504.5	1.247	2057.	1.03
505.	1.361	2057.5	1.003
505.5	1.277	2058.	1.079
506.	1.245	2058.5	0.9032
506.5	1.204	2059.	0.924
507.	1.351	2059.5	0.8154
507.5	1.441	2060.	1.157
508.	1.245	2060.5	1.03
508.5	1.254	2061.	1.178
509.	1.314	2061.5	0.9355
509.5	1.197	2062.	1.079
510.	1.337	2062.5	0.8085
510.5	1.411	2063.	0.9725
511.	1.365	2063.5	1.111
511.5	1.351	2064.	1.033
512.	1.354	2064.5	1.012
512.5	1.109	2065.	1.

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
513.	1.372	2065.5	0.5729
513.5	1.12	2066.	1.021
514.	1.326	2066.5	0.9818
514.5	1.167	2067.	0.9933
515.	1.469	2067.5	0.8639
515.5	1.488	2068.	1.169
516.	1.4	2068.5	0.9471
516.5	1.051	2069.	0.9055
517.	1.243	2069.5	0.8062
517.5	1.234	2070.	1.157
518.	1.55	2070.5	0.8431
518.5	1.079	2071.	1.058
519.	1.43	2071.5	1.012
519.5	1.236	2072.	1.12
520.	1.411	2072.5	0.7739
520.5	1.227	2073.	0.9032
521.	1.654	2073.5	0.7069
521.5	1.157	2074.	1.208
522.	1.312	2074.5	1.111
522.5	1.109	2075.	1.109
523.	1.444	2075.5	0.8339
523.5	1.421	2076.	1.042
524.	1.079	2076.5	0.8732
524.5	1.393	2077.	1.157
525.	1.575	2077.5	0.8431
525.5	1.37	2078.	1.227
526.	1.448	2078.5	0.7854
526.5	1.254	2079.	0.9818
527.	1.266	2079.5	0.9448
527.5	1.46	2080.	1.003
528.	1.254	2080.5	0.894
528.5	1.266	2081.	1.132
529.	1.518	2081.5	0.8085
529.5	1.217	2082.	1.06
530.	1.264	2082.5	1.
530.5	1.238	2083.	0.9702
531.	1.365	2083.5	0.9933
531.5	1.238	2084.	0.8917
532.	1.441	2084.5	0.8616
532.5	1.13	2085.	1.102
533.	1.365	2085.5	0.8455
533.5	1.363	2086.	1.157
534.	1.529	2086.5	1.042
534.5	1.268	2087.	1.088
535.	1.372	2087.5	0.8455
535.5	1.372	2088.	0.9425
536.	1.596	2088.5	0.9702
536.5	1.273	2089.	1.035
537.	1.247	2089.5	1.058
537.5	1.384	2090.	0.8431
538.	1.303	2090.5	0.8963
538.5	1.326	2091.	1.051
539.	1.344	2091.5	0.8639

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
539.5	1.079	2092.	0.9979
540.	1.335	2092.5	0.8339
540.5	1.264	2093.	0.9818
541.	1.303	2093.5	0.827
541.5	1.003	2094.	1.03
542.	1.441	2094.5	1.012
542.5	1.079	2095.	1.257
543.	1.257	2095.5	0.9055
543.5	1.342	2096.	1.042
544.	1.127	2096.5	0.9055
544.5	1.351	2097.	0.991
545.	1.312	2097.5	0.6491
545.5	1.215	2098.	1.058
546.	1.393	2098.5	0.9702
546.5	1.155	2099.	1.033
547.	1.321	2099.5	1.
547.5	1.294	2100.	1.137
548.	1.515	2100.5	1.111
548.5	1.273	2101.	1.247
549.	1.266	2101.5	0.9332
549.5	1.155	2102.	0.894
550.	1.37	2102.5	0.9818
550.5	1.264	2103.	1.275
551.	1.227	2103.5	1.049
551.5	1.178	2104.	0.961
552.	1.282	2104.5	0.9818
552.5	1.284	2105.	1.13
553.	1.294	2105.5	0.894
553.5	1.111	2106.	1.03
554.	1.4	2106.5	0.9078
554.5	1.155	2107.	0.9309
555.	1.4	2107.5	0.857
555.5	1.465	2108.	1.063
556.	1.224	2108.5	0.7554
556.5	1.176	2109.	1.019
557.	1.208	2109.5	0.894
557.5	1.176	2110.	1.137
558.	1.215	2110.5	0.9933
558.5	1.15	2111.	1.023
559.	1.393	2111.5	0.991
559.5	1.07	2112.	0.9887
560.	1.55	2112.5	1.021
560.5	1.167	2113.	0.9725
561.	1.458	2113.5	1.009
561.5	1.197	2114.	1.003
562.	1.425	2114.5	0.991
562.5	1.148	2115.	0.9818
563.	1.409	2115.5	0.6999
563.5	1.384	2116.	0.8455
564.	1.402	2116.5	1.042
564.5	1.277	2117.	0.9818
565.	1.284	2117.5	0.9633
565.5	1.236	2118.	1.393

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
566.	1.264	2118.5	0.9009
566.5	1.277	2119.	1.157
567.	1.342	2119.5	0.8131
567.5	1.284	2120.	0.9633
568.	1.275	2120.5	0.991
568.5	1.361	2121.	1.07
569.	1.391	2121.5	0.8062
569.5	1.384	2122.	0.9124
570.	1.227	2122.5	0.9009
570.5	1.157	2123.	1.141
571.	1.217	2123.5	1.014
571.5	1.12	2124.	1.13
572.	1.471	2124.5	0.8339
572.5	1.282	2125.	1.141
573.	1.326	2125.5	1.072
573.5	1.049	2126.	1.058
574.	1.37	2126.5	0.7069
574.5	1.333	2127.	1.012
575.	1.1	2127.5	0.9263
575.5	1.187	2128.	0.6815
576.	1.391	2128.5	1.
576.5	1.227	2129.	0.9448
577.	1.342	2129.5	0.8824
577.5	1.264	2130.	0.894
578.	1.421	2130.5	1.033
578.5	1.303	2131.	1.079
579.	1.365	2131.5	1.079
579.5	1.137	2132.	1.245
580.	1.451	2132.5	0.8062
580.5	1.148	2133.	0.9517
581.	1.49	2133.5	0.954
581.5	1.176	2134.	1.014
582.	1.37	2134.5	1.023
582.5	1.208	2135.	1.09
583.	1.441	2135.5	0.9055
583.5	1.296	2136.	1.079
584.	1.418	2136.5	0.857
584.5	1.363	2137.	1.12
585.	1.411	2137.5	0.9332
585.5	1.238	2138.	0.9725
586.	1.277	2138.5	0.8847
586.5	1.03	2139.	1.116
587.	1.384	2139.5	0.8431
587.5	1.	2140.	1.049
588.	1.227	2140.5	0.9818
588.5	1.24	2141.	1.13
589.	1.599	2141.5	1.079
589.5	1.224	2142.	1.06
590.	1.34	2142.5	0.954
590.5	1.03	2143.	0.9309
591.	1.37	2143.5	0.9818
591.5	1.287	2144.	1.058
592.	1.441	2144.5	0.857

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
592.5	1.197	2145.	0.9725
593.	1.28	2145.5	0.857
593.5	1.275	2146.	0.9217
594.	1.372	2146.5	1.014
594.5	1.07	2147.	1.049
595.	1.224	2147.5	0.8917
595.5	1.157	2148.	1.04
596.	1.342	2148.5	0.9702
596.5	1.282	2149.	0.894
597.	1.448	2149.5	0.73
597.5	1.167	2150.	0.9702
598.	1.37	2150.5	0.9818
598.5	1.12	2151.	1.009
599.	1.391	2151.5	0.9563
599.5	1.176	2152.	1.07
600.	1.264	2152.5	1.09
600.5	1.09	2153.	1.03
601.	1.363	2153.5	0.9032
601.5	1.243	2154.	1.137
602.	1.236	2154.5	0.9309
602.5	1.137	2155.	0.9702
603.	1.266	2155.5	0.9841
603.5	1.421	2156.	1.137
604.	1.187	2156.5	0.8732
604.5	1.185	2157.	1.305
605.	1.275	2157.5	0.887
605.5	1.1	2158.	1.009
606.	1.354	2158.5	0.9725
606.5	1.139	2159.	1.102
607.	1.137	2159.5	0.894
607.5	1.342	2160.	1.102
608.	1.257	2160.5	0.9032
608.5	1.169	2161.	1.012
609.	1.502	2161.5	1.09
609.5	1.167	2162.	1.236
610.	1.349	2162.5	0.894
610.5	1.303	2163.	0.894
611.	1.499	2163.5	0.8824
611.5	1.157	2164.	1.03
612.	1.365	2164.5	0.6884
612.5	1.206	2165.	1.187
613.	1.55	2165.5	0.8547
613.5	1.372	2166.	1.185
614.	1.296	2166.5	1.206
614.5	1.227	2167.	0.954
615.	1.365	2167.5	0.9517
615.5	1.021	2168.	0.9448
616.	1.451	2168.5	0.8917
616.5	1.342	2169.	1.033
617.	1.46	2169.5	0.7369
617.5	1.217	2170.	0.9217
618.	1.363	2170.5	0.9563
618.5	1.284	2171.	0.9332

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
619.	1.139	2171.5	0.9309
619.5	1.102	2172.	1.044
620.	1.502	2172.5	1.021
620.5	1.157	2173.	1.044
621.	1.245	2173.5	1.044
621.5	1.365	2174.	1.07
622.	1.342	2174.5	0.8709
622.5	1.173	2175.	1.109
623.	1.15	2175.5	0.954
623.5	1.088	2176.	1.167
624.	1.476	2176.5	0.8732
624.5	1.414	2177.	1.012
625.	1.238	2177.5	0.857
625.5	1.076	2178.	0.8639
626.	1.324	2178.5	1.127
626.5	1.4	2179.	0.894
627.	1.566	2179.5	1.023
627.5	1.314	2180.	1.021
628.	1.448	2180.5	0.8686
628.5	1.164	2181.	1.012
629.	1.372	2181.5	0.9702
629.5	1.448	2182.	1.012
630.	1.342	2182.5	0.8616
630.5	1.167	2183.	1.127
631.	1.423	2183.5	0.9517
631.5	1.217	2184.	0.9633
632.	1.342	2184.5	0.9148
632.5	1.176	2185.	1.023
633.	1.127	2185.5	0.9332
633.5	1.441	2186.	0.9725
634.	1.208	2186.5	1.012
634.5	1.167	2187.	0.9425
635.	1.365	2187.5	0.8662
635.5	1.04	2188.	1.021
636.	1.217	2188.5	0.857
636.5	1.275	2189.	0.8154
637.	1.277	2189.5	0.894
637.5	1.257	2190.	1.199
638.	1.314	2190.5	0.9517
638.5	1.183	2191.	1.247
639.	1.305	2191.5	1.07
639.5	0.9702	2192.	0.9818
640.	1.511	2192.5	0.76
640.5	1.09	2193.	1.003
641.	1.305	2193.5	1.03
641.5	1.164	2194.	1.044
642.	1.275	2194.5	1.093
642.5	1.03	2195.	1.109
643.	1.254	2195.5	0.8732
643.5	1.079	2196.	1.093
644.	1.351	2196.5	1.118
644.5	1.206	2197.	0.9517
645.	1.282	2197.5	1.072

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
645.5	1.238	2198.	0.8847
646.	1.529	2198.5	0.7184
646.5	1.088	2199.	1.12
647.	1.559	2199.5	0.8131
647.5	1.206	2200.	1.012
648.	1.331	2200.5	0.9379
648.5	1.213	2201.	0.894
649.	1.342	2201.5	0.961
649.5	1.254	2202.	0.8662
650.	1.361	2202.5	0.7854
650.5	1.079	2203.	1.093
651.	1.312	2203.5	0.924
651.5	1.03	2204.	0.9332
652.	1.296	2204.5	0.9263
652.5	1.07	2205.	0.7461
653.	1.264	2205.5	0.9148
653.5	1.257	2206.	1.187
654.	1.386	2206.5	1.
654.5	1.146	2207.	0.894
655.	1.234	2207.5	0.6999
655.5	1.199	2208.	1.1
656.	1.324	2208.5	0.894
656.5	1.153	2209.	1.042
657.	1.206	2209.5	0.8154
657.5	1.365	2210.	0.924
658.	1.386	2210.5	0.9725
658.5	1.282	2211.	0.9148
659.	1.386	2211.5	0.954
659.5	1.298	2212.	0.8339
660.	1.254	2212.5	0.894
660.5	1.127	2213.	1.127
661.	1.284	2213.5	1.079
661.5	1.07	2214.	1.079
662.	1.314	2214.5	0.7554
662.5	1.167	2215.	0.8824
663.	1.46	2215.5	0.924
663.5	1.469	2216.	0.8339
664.	1.388	2216.5	1.058
664.5	1.183	2217.	1.093
665.	1.511	2217.5	1.009
665.5	1.351	2218.	0.8662
666.	1.37	2218.5	0.9332
666.5	1.148	2219.	1.076
667.	1.118	2219.5	1.072
667.5	1.333	2220.	0.8362
668.	1.291	2220.5	0.8108
668.5	1.384	2221.	1.15
669.	1.518	2221.5	0.797
669.5	1.051	2222.	1.005
670.	1.411	2222.5	1.058
670.5	1.12	2223.	1.15
671.	1.393	2223.5	1.012
671.5	1.351	2224.	1.012

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
672.	1.102	2224.5	0.7946
672.5	1.178	2225.	0.924
673.	1.227	2225.5	1.06
673.5	1.102	2226.	1.033
674.	1.314	2226.5	0.9124
674.5	1.275	2227.	1.125
675.	1.236	2227.5	0.924
675.5	1.282	2228.	1.04
676.	1.023	2228.5	1.021
676.5	1.284	2229.	1.058
677.	1.372	2229.5	1.049
677.5	1.261	2230.	1.109
678.	1.529	2230.5	1.199
678.5	1.28	2231.	1.023
679.	1.488	2231.5	0.9517
679.5	1.386	2232.	1.021
680.	1.502	2232.5	0.857
680.5	1.402	2233.	0.894
681.	1.462	2233.5	0.8709
681.5	1.13	2234.	1.139
682.	1.243	2234.5	1.072
682.5	1.257	2235.	1.07
683.	1.421	2235.5	0.7739
683.5	1.208	2236.	0.8247
684.	1.333	2236.5	0.8593
684.5	1.157	2237.	0.7692
685.	1.157	2237.5	0.797
685.5	1.266	2238.	0.9725
686.	1.229	2238.5	0.9078
686.5	1.227	2239.	1.023
687.	0.924	2239.5	0.7484
687.5	1.093	2240.	1.09
688.	1.227	2240.5	0.8247
688.5	1.324	2241.	0.857
689.	1.254	2241.5	1.093
689.5	1.167	2242.	1.005
690.	1.458	2242.5	0.8455
690.5	1.402	2243.	0.9818
691.	1.254	2243.5	0.857
691.5	1.137	2244.	0.8847
692.	1.312	2244.5	0.9818
692.5	1.303	2245.	0.9702
693.	1.402	2245.5	0.8062
693.5	0.9979	2246.	1.07
694.	1.167	2246.5	0.9633
694.5	1.213	2247.	0.9933
695.	1.441	2247.5	0.9009
695.5	1.167	2248.	0.8154
696.	1.185	2248.5	0.8062
696.5	0.9148	2249.	0.9933
697.	1.439	2249.5	0.8431
697.5	1.148	2250.	0.9448
698.	1.111	2250.5	0.8732

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
698.5	1.076	2251.	1.021
699.	1.187	2251.5	1.009
699.5	1.033	2252.	1.042
700.	1.254	2252.5	1.06
700.5	1.15	2253.	0.9725
701.	1.206	2253.5	1.042
701.5	0.9725	2254.	1.012
702.	1.421	2254.5	0.8154
702.5	1.34	2255.	1.06
703.	1.217	2255.5	1.081
703.5	1.277	2256.	1.275
704.	1.139	2256.5	0.7762
704.5	1.245	2257.	1.003
705.	1.314	2257.5	0.7854
705.5	0.9055	2258.	0.7854
706.	1.178	2258.5	0.9448
706.5	1.07	2259.	1.07
707.	1.43	2259.5	0.8455
707.5	1.391	2260.	0.9124
708.	1.478	2260.5	0.924
708.5	0.9032	2261.	1.049
709.	1.411	2261.5	0.9148
709.5	1.206	2262.	1.118
710.	1.319	2262.5	0.9355
710.5	1.148	2263.	0.9818
711.	1.481	2263.5	0.894
711.5	1.257	2264.	1.021
712.	1.402	2264.5	0.954
712.5	1.215	2265.	1.16
713.	1.391	2265.5	0.8247
713.5	1.236	2266.	0.9633
714.	1.425	2266.5	0.924
714.5	1.199	2267.	0.9725
715.	1.072	2267.5	0.9725
715.5	1.257	2268.	0.9818
716.	1.386	2268.5	0.9933
716.5	1.224	2269.	0.8431
717.	1.342	2269.5	0.7739
717.5	1.227	2270.	0.9309
718.	1.351	2270.5	0.954
718.5	1.157	2271.	1.206
719.	1.538	2271.5	0.9517
719.5	1.238	2272.	0.961
720.	1.09	2272.5	0.7669
720.5	1.12	2273.	1.021
721.	1.284	2273.5	0.954
721.5	1.155	2274.	1.012
722.	1.411	2274.5	0.924
722.5	1.157	2275.	0.9425
723.	1.169	2275.5	0.9563
723.5	1.291	2276.	1.033
724.	1.529	2276.5	1.012
724.5	1.275	2277.	1.13

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
725.	1.471	2277.5	0.7161
725.5	1.206	2278.	1.157
726.	1.421	2278.5	1.023
726.5	1.294	2279.	0.991
727.	1.12	2279.5	0.9055
727.5	1.167	2280.	0.8431
728.	1.492	2280.5	0.924
728.5	1.1	2281.	0.9656
729.	1.266	2281.5	0.6399
729.5	1.349	2282.	0.894
730.	1.247	2282.5	0.9448
730.5	1.15	2283.	0.894
731.	1.224	2283.5	0.797
731.5	1.284	2284.	1.06
732.	1.538	2284.5	0.8431
732.5	1.324	2285.	1.169
733.	0.8824	2285.5	0.797
733.5	1.157	2286.	1.009
734.	1.511	2286.5	0.8431
734.5	1.093	2287.	0.961
735.	1.284	2287.5	0.9448
735.5	1.402	2288.	1.118
736.	1.333	2288.5	1.023
736.5	1.1	2289.	1.111
737.	1.324	2289.5	1.023
737.5	1.227	2290.	0.8247
738.	1.227	2290.5	0.924
738.5	1.079	2291.	1.236
739.	1.178	2291.5	0.7762
739.5	1.469	2292.	1.042
740.	1.287	2292.5	0.8339
740.5	1.333	2293.	1.04
741.	1.448	2293.5	0.8154
741.5	0.9818	2294.	1.046
742.	1.312	2294.5	0.924
742.5	1.245	2295.	1.118
743.	1.351	2295.5	1.046
743.5	1.049	2296.	1.042
744.	1.478	2296.5	0.797
744.5	1.238	2297.	0.8639
745.	1.245	2297.5	0.894
745.5	1.314	2298.	0.894
746.	1.257	2298.5	0.5521
746.5	1.257	2299.	0.76
747.	1.266	2299.5	0.6999
747.5	1.139	2300.	1.058
748.	1.247	2300.5	1.049
748.5	1.06	2301.	1.04
749.	1.296	2301.5	0.8062
749.5	1.019	2302.	0.991
750.	1.236	2302.5	0.8824
750.5	1.13	2303.	1.023
751.	1.294	2303.5	0.8085

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
751.5	1.411	2304.	0.991
752.	1.227	2304.5	0.924
752.5	1.199	2305.	0.8847
753.	1.257	2305.5	1.109
753.5	1.266	2306.	1.15
754.	1.12	2306.5	0.79
754.5	1.312	2307.	1.157
755.	1.215	2307.5	0.6791
755.5	1.178	2308.	1.093
756.	1.441	2308.5	1.12
756.5	1.056	2309.	1.12
757.	1.199	2309.5	0.9725
757.5	0.887	2310.	1.137
758.	1.238	2310.5	0.8154
758.5	1.282	2311.	1.137
759.	1.277	2311.5	0.8062
759.5	1.137	2312.	1.009
760.	1.268	2312.5	0.924
760.5	1.303	2313.	0.857
761.	1.391	2313.5	0.8732
761.5	1.213	2314.	1.079
762.	1.215	2314.5	0.9979
762.5	1.148	2315.	1.137
763.	1.139	2315.5	0.8455
763.5	1.178	2316.	0.8431
764.	1.254	2316.5	0.8662
764.5	1.178	2317.	1.03
765.	1.187	2317.5	0.8732
765.5	1.275	2318.	1.009
766.	1.441	2318.5	0.961
766.5	0.9725	2319.	1.157
767.	1.109	2319.5	1.033
767.5	1.393	2320.	0.827
768.	1.199	2320.5	0.8662
768.5	1.033	2321.	1.143
769.	1.294	2321.5	0.9517
769.5	1.363	2322.	1.051
770.	1.118	2322.5	0.8709
770.5	1.019	2323.	0.9818
771.	1.197	2323.5	0.8247
771.5	1.351	2324.	1.13
772.	1.342	2324.5	0.7669
772.5	1.227	2325.	0.9818
773.	1.354	2325.5	0.9124
773.5	1.215	2326.	0.9263
774.	1.215	2326.5	0.8732
774.5	1.146	2327.	1.042
775.	1.227	2327.5	0.9148
775.5	1.342	2328.	1.014
776.	1.247	2328.5	1.021
776.5	1.178	2329.	0.9263
777.	1.254	2329.5	1.093
777.5	1.04	2330.	1.153

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
778.	1.423	2330.5	0.9633
778.5	1.049	2331.	1.15
779.	1.365	2331.5	0.8639
779.5	1.4	2332.	0.9148
780.	1.43	2332.5	0.8824
780.5	0.9448	2333.	1.275
781.	1.208	2333.5	0.9517
781.5	1.009	2334.	0.961
782.	1.245	2334.5	1.111
782.5	1.423	2335.	0.961
783.	1.215	2335.5	0.9818
783.5	1.275	2336.	0.8709
784.	1.46	2336.5	0.9448
784.5	1.127	2337.	1.042
785.	1.072	2337.5	0.7946
785.5	1.178	2338.	0.9402
786.	1.284	2338.5	0.7069
786.5	1.137	2339.	0.9148
787.	1.312	2339.5	1.06
787.5	1.127	2340.	1.07
788.	1.46	2340.5	0.7877
788.5	1.257	2341.	0.857
789.	1.208	2341.5	0.7369
789.5	1.095	2342.	1.215
790.	1.167	2342.5	0.8362
790.5	1.003	2343.	0.9101
791.	1.254	2343.5	0.8455
791.5	0.991	2344.	0.9841
792.	1.093	2344.5	0.9148
792.5	1.187	2345.	0.9818
793.	1.391	2345.5	0.9818
793.5	1.049	2346.	0.8847
794.	1.197	2346.5	0.8247
794.5	1.15	2347.	1.012
795.	1.095	2347.5	0.7715
795.5	1.009	2348.	0.9864
796.	1.4	2348.5	0.7392
796.5	1.254	2349.	1.003
797.	1.326	2349.5	0.8847
797.5	1.109	2350.	1.021
798.	1.351	2350.5	0.8847
798.5	1.079	2351.	0.9448
799.	1.236	2351.5	0.8639
799.5	1.217	2352.	0.954
800.	1.43	2352.5	1.033
800.5	1.102	2353.	0.797
801.	1.386	2353.5	0.797
801.5	1.199	2354.	0.9309
802.	1.238	2354.5	0.9448
802.5	1.093	2355.	0.8662
803.	1.275	2355.5	1.13
803.5	1.134	2356.	0.961
804.	1.167	2356.5	0.9148

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
804.5	1.088	2357.	0.9702
805.	1.287	2357.5	0.6607
805.5	1.296	2358.	1.06
806.	1.328	2358.5	1.003
806.5	1.167	2359.	0.9517
807.	1.169	2359.5	0.9425
807.5	1.342	2360.	1.021
808.	1.178	2360.5	0.8455
808.5	1.148	2361.	0.9725
809.	1.079	2361.5	0.8247
809.5	1.273	2362.	0.9818
810.	1.227	2362.5	0.9148
810.5	1.167	2363.	1.021
811.	1.123	2363.5	0.9725
811.5	1.176	2364.	0.9332
812.	1.236	2364.5	0.954
812.5	1.314	2365.	1.125
813.	1.24	2365.5	0.8085
813.5	1.409	2366.	1.03
814.	1.365	2366.5	0.8154
814.5	1.234	2367.	0.9725
815.	1.326	2367.5	0.8108
815.5	1.04	2368.	1.033
816.	1.217	2368.5	0.7484
816.5	1.116	2369.	0.9748
817.	1.1	2369.5	0.8662
817.5	0.8039	2370.	1.1
818.	1.127	2370.5	0.9032
818.5	1.261	2371.	1.197
819.	1.481	2371.5	0.894
819.5	1.206	2372.	0.827
820.	1.296	2372.5	0.73
820.5	1.259	2373.	0.8547
821.	1.411	2373.5	0.9217
821.5	1.157	2374.	0.8639
822.	1.284	2374.5	0.7461
822.5	1.118	2375.	0.9702
823.	1.43	2375.5	1.06
823.5	1.208	2376.	1.021
824.	1.326	2376.5	0.9517
824.5	0.9425	2377.	0.8131
825.	1.342	2377.5	0.9425
825.5	1.282	2378.	1.176
826.	1.4	2378.5	0.7184
826.5	1.157	2379.	1.053
827.	1.365	2379.5	1.093
827.5	1.354	2380.	1.033
828.	1.137	2380.5	0.894
828.5	1.157	2381.	1.03
829.	1.227	2381.5	1.023
829.5	0.9448	2382.	0.8616
830.	1.548	2382.5	1.033
830.5	1.035	2383.	0.7854

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
831.	1.296	2383.5	0.961
831.5	1.139	2384.	0.9101
832.	1.384	2384.5	0.9309
832.5	1.09	2385.	1.009
833.	1.314	2385.5	0.8293
833.5	1.354	2386.	0.954
834.	1.213	2386.5	0.894
834.5	1.206	2387.	1.254
835.	1.28	2387.5	0.9818
835.5	1.13	2388.	0.7554
836.	1.451	2388.5	0.9148
836.5	1.003	2389.	1.009
837.	1.633	2389.5	0.7484
837.5	1.305	2390.	0.9818
838.	1.277	2390.5	0.8339
838.5	1.051	2391.	1.199
839.	1.157	2391.5	0.7577
839.5	1.139	2392.	0.9124
840.	1.296	2392.5	1.199
840.5	1.342	2393.	0.954
841.	1.448	2393.5	1.303
841.5	1.254	2394.	0.8824
842.	1.118	2394.5	0.6884
842.5	1.264	2395.	1.111
843.	1.384	2395.5	0.6884
843.5	1.333	2396.	0.7993
844.	1.391	2396.5	1.116
844.5	1.24	2397.	1.109
845.	1.46	2397.5	0.9032
845.5	1.051	2398.	0.9725
846.	1.252	2398.5	0.8847
846.5	1.303	2399.	1.
847.	1.421	2399.5	1.206
847.5	0.9887	2400.	0.7692
848.	1.342	2400.5	0.7392
848.5	1.06	2401.	1.076
849.	1.305	2401.5	0.7484
849.5	0.8847	2402.	0.9332
850.	1.37	2402.5	0.827
850.5	1.197	2403.	1.127
851.	1.102	2403.5	0.8339
851.5	1.072	2404.	0.894
852.	1.199	2404.5	0.8431
852.5	1.199	2405.	1.023
853.	1.342	2405.5	0.7392
853.5	1.148	2406.	1.009
854.	1.384	2406.5	0.8085
854.5	1.13	2407.	0.9633
855.	1.257	2407.5	1.012
855.5	0.9702	2408.	0.8847
856.	1.021	2408.5	0.8847
856.5	1.266	2409.	0.954
857.	1.13	2409.5	0.6999

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
857.5	1.169	2410.	0.8362
858.	1.234	2410.5	0.9517
858.5	1.176	2411.	0.8709
859.	1.213	2411.5	0.8847
859.5	1.46	2412.	0.7946
860.	1.208	2412.5	0.7508
860.5	1.033	2413.	1.093
861.	1.282	2413.5	0.797
861.5	1.185	2414.	1.03
862.	1.303	2414.5	0.8824
862.5	1.208	2415.	1.06
863.	1.342	2415.5	0.8431
863.5	1.395	2416.	1.051
864.	1.441	2416.5	0.8709
864.5	1.227	2417.	0.8847
865.	1.185	2417.5	0.8177
865.5	0.9448	2418.	0.9725
866.	1.187	2418.5	0.924
866.5	1.15	2419.	0.9725
867.	1.326	2419.5	0.9171
867.5	1.266	2420.	1.217
868.	1.469	2420.5	0.8478
868.5	1.079	2421.	1.009
869.	1.176	2421.5	0.894
869.5	1.007	2422.	1.023
870.	1.236	2422.5	0.9032
870.5	1.303	2423.	0.9933
871.	1.296	2423.5	0.7022
871.5	1.257	2424.	0.924
872.	1.238	2424.5	0.9725
872.5	1.243	2425.	0.924
873.	1.236	2425.5	0.9055
873.5	0.9725	2426.	1.167
874.	1.441	2426.5	0.8154
874.5	1.391	2427.	0.9055
875.	1.199	2427.5	0.7461
875.5	1.079	2428.	0.7739
876.	1.402	2428.5	0.6815
876.5	1.13	2429.	0.8732
877.	1.074	2429.5	0.857
877.5	1.09	2430.	0.924
878.	1.354	2430.5	0.9448
878.5	1.04	2431.	1.049
879.	1.303	2431.5	1.042
879.5	1.07	2432.	1.03
880.	1.245	2432.5	0.7022
880.5	1.15	2433.	0.8847
881.	1.264	2433.5	0.9032
881.5	0.8547	2434.	0.857
882.	1.481	2434.5	0.9032
882.5	1.185	2435.	0.9725
883.	1.511	2435.5	0.9448
883.5	1.169	2436.	0.857

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
884.	1.033	2436.5	0.9818
884.5	0.9332	2437.	0.7577
885.	1.169	2437.5	1.009
885.5	1.109	2438.	1.199
886.	1.176	2438.5	0.8662
886.5	1.088	2439.	0.9818
887.	1.386	2439.5	0.8755
887.5	1.15	2440.	1.072
888.	1.217	2440.5	0.9032
888.5	1.178	2441.	1.023
889.	1.305	2441.5	0.7692
889.5	0.9425	2442.	0.9702
890.	1.227	2442.5	0.8154
890.5	1.074	2443.	0.894
891.	1.102	2443.5	1.111
891.5	1.167	2444.	0.8431
892.	1.157	2444.5	0.894
892.5	1.215	2445.	1.
893.	1.097	2445.5	0.7484
893.5	1.13	2446.	1.033
894.	1.354	2446.5	0.7762
894.5	1.167	2447.	0.9332
895.	1.245	2447.5	1.023
895.5	1.185	2448.	0.8131
896.	1.395	2448.5	0.7692
896.5	1.003	2449.	0.954
897.	1.402	2449.5	0.8662
897.5	1.227	2450.	0.9633
898.	1.254	2450.5	0.8732
898.5	1.37	2451.	0.9309
899.	1.305	2451.5	0.6791
899.5	1.236	2452.	0.7069
900.	1.09	2452.5	0.954
900.5	1.07	2453.	1.049
901.	1.275	2453.5	0.7669
901.5	1.227	2454.	0.9818
902.	1.118	2454.5	0.924
902.5	1.072	2455.	0.797
903.	1.502	2455.5	0.9032
903.5	1.301	2456.	1.109
904.	1.215	2456.5	0.8408
904.5	1.208	2457.	1.033
905.	1.187	2457.5	1.009
905.5	1.324	2458.	0.894
906.	1.441	2458.5	1.03
906.5	1.197	2459.	0.7069
907.	1.176	2459.5	0.6999
907.5	1.111	2460.	0.9055
908.	1.298	2460.5	1.03
908.5	1.023	2461.	0.9725
909.	0.9355	2461.5	1.009
909.5	1.111	2462.	1.109
910.	1.238	2462.5	0.7946

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
910.5	1.208	2463.	1.217
911.	1.049	2463.5	1.102
911.5	1.097	2464.	0.924
912.	1.296	2464.5	0.7554
912.5	1.072	2465.	1.04
913.	1.185	2465.5	0.8547
913.5	0.9332	2466.	0.9725
914.	1.187	2466.5	0.7692
914.5	1.102	2467.	1.093
915.	1.337	2467.5	0.924
915.5	1.284	2468.	1.06
916.	1.372	2468.5	0.827
916.5	1.148	2469.	0.8131
917.	1.236	2469.5	0.8847
917.5	1.03	2470.	0.9032
918.	1.079	2470.5	1.021
918.5	1.423	2471.	1.009
919.	1.079	2471.5	0.9656
919.5	1.157	2472.	0.8709
920.	1.03	2472.5	0.8085
920.5	1.217	2473.	1.178
921.	1.296	2473.5	0.7392
921.5	1.157	2474.	0.924
922.	1.247	2474.5	0.924
922.5	1.208	2475.	0.8547
923.	1.391	2475.5	0.7184
923.5	1.215	2476.	0.894
924.	1.275	2476.5	0.8431
924.5	1.194	2477.	1.049
925.	1.303	2477.5	0.9032
925.5	1.157	2478.	1.15
926.	1.335	2478.5	1.049
926.5	1.167	2479.	0.8085
927.	1.462	2479.5	0.9425
927.5	1.127	2480.	0.924
928.	1.282	2480.5	0.8431
928.5	1.331	2481.	1.079
929.	1.354	2481.5	0.8732
929.5	1.227	2482.	0.9124
930.	1.236	2482.5	0.5706
930.5	1.294	2483.	0.961
931.	1.049	2483.5	0.7069
931.5	1.079	2484.	0.961
932.	1.43	2484.5	0.961
932.5	1.227	2485.	1.023
933.	1.051	2485.5	0.9841
933.5	1.471	2486.	0.9425
934.	1.391	2486.5	1.072
934.5	0.9702	2487.	0.9425
935.	1.06	2487.5	0.7739
935.5	0.8917	2488.	0.924
936.	1.15	2488.5	0.8662
936.5	1.264	2489.	0.9148

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
937.	1.4	2489.5	0.589
937.5	1.294	2490.	0.924
938.	1.185	2490.5	0.9148
938.5	1.254	2491.	0.8478
939.	1.324	2491.5	1.13
939.5	1.167	2492.	0.9425
940.	1.102	2492.5	1.102
940.5	1.009	2493.	0.8709
941.	1.236	2493.5	0.9217
941.5	1.178	2494.	0.8639
942.	1.337	2494.5	1.003
942.5	1.303	2495.	0.9933
943.	1.215	2495.5	1.03
943.5	1.157	2496.	0.8639
944.	1.178	2496.5	0.7161
944.5	1.206	2497.	1.09
945.	0.9818	2497.5	0.6306
945.5	1.081	2498.	1.167
946.	1.056	2498.5	0.7877
946.5	1.208	2499.	0.9818
947.	1.257	2499.5	0.9425
947.5	1.139	2500.	1.021
948.	1.227	2500.5	1.012
948.5	1.109	2501.	0.954
949.	1.268	2501.5	0.6791
949.5	1.499	2502.	0.5706
950.	1.268	2502.5	1.102
950.5	1.079	2503.	0.894
951.	1.07	2503.5	0.7762
951.5	1.157	2504.	0.9448
952.	1.238	2504.5	0.991
952.5	1.167	2505.	0.7785
953.	1.15	2505.5	0.8662
953.5	0.9055	2506.	1.079
954.	1.335	2506.5	0.924
954.5	1.079	2507.	0.8824
955.	1.169	2507.5	0.961
955.5	0.9448	2508.	0.9448
956.	1.305	2508.5	0.9101
956.5	1.206	2509.	0.9171
957.	1.264	2509.5	0.857
957.5	1.164	2510.	1.13
958.	1.257	2510.5	0.663
958.5	1.137	2511.	0.9032
959.	1.342	2511.5	0.8408
959.5	1.157	2512.	1.236
960.	1.284	2512.5	0.8824
960.5	1.238	2513.	0.924
961.	1.079	2513.5	1.005
961.5	1.167	2514.	0.894
962.	1.118	2514.5	0.8154
962.5	1.236	2515.	0.8431
963.	1.247	2515.5	0.8247

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
963.5	1.139	2516.	0.9448
964.	1.125	2516.5	0.8431
964.5	1.125	2517.	1.04
965.	1.245	2517.5	0.8732
965.5	1.176	2518.	0.9425
966.	1.215	2518.5	0.7392
966.5	1.254	2519.	1.1
967.	1.365	2519.5	0.9078
967.5	1.157	2520.	1.003
968.	1.227	2520.5	0.9124
968.5	1.176	2521.	0.9818
969.	1.326	2521.5	0.924
969.5	1.072	2522.	1.157
970.	1.298	2522.5	0.8431
970.5	1.342	2523.	1.023
971.	1.194	2523.5	0.961
971.5	1.012	2524.	0.8662
972.	1.169	2524.5	0.8085
972.5	1.132	2525.	0.9517
973.	1.109	2525.5	0.894
973.5	1.111	2526.	0.9148
974.	1.326	2526.5	0.7392
974.5	1.007	2527.	0.9217
975.	1.169	2527.5	0.7854
975.5	1.079	2528.	0.8177
976.	1.303	2528.5	0.7069
976.5	1.247	2529.	1.079
977.	1.257	2529.5	0.9124
977.5	1.169	2530.	0.9679
978.	1.328	2530.5	0.8639
978.5	0.9818	2531.	0.8686
979.	1.363	2531.5	0.7854
979.5	1.178	2532.	1.049
980.	1.351	2532.5	0.7854
980.5	1.247	2533.	0.8639
981.	1.423	2533.5	0.8755
981.5	1.227	2534.	1.042
982.	1.12	2534.5	0.9933
982.5	0.8709	2535.	0.8547
983.	1.245	2535.5	0.7993
983.5	1.157	2536.	0.9148
984.	1.157	2536.5	0.8154
984.5	1.215	2537.	1.06
985.	1.049	2537.5	0.8085
985.5	1.227	2538.	0.8177
986.	1.314	2538.5	0.9702
986.5	1.206	2539.	0.9702
987.	1.157	2539.5	0.857
987.5	1.148	2540.	0.924
988.	1.25	2540.5	1.035
988.5	1.169	2541.	1.03
989.	1.199	2541.5	0.991
989.5	1.06	2542.	1.079

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
990.	1.282	2542.5	1.102
990.5	1.303	2543.	1.056
991.	1.09	2543.5	0.894
991.5	1.351	2544.	0.9055
992.	1.354	2544.5	0.8085
992.5	1.	2545.	0.8662
993.	1.139	2545.5	0.7923
993.5	1.051	2546.	0.9309
994.	1.28	2546.5	0.8455
994.5	1.227	2547.	0.8547
995.	1.167	2547.5	0.8154
995.5	1.264	2548.	1.012
996.	1.402	2548.5	0.8177
996.5	1.033	2549.	0.9517
997.	1.176	2549.5	0.8732
997.5	1.125	2550.	1.127
998.	1.164	2550.5	1.12
998.5	1.208	2551.	0.8593
999.	1.227	2551.5	0.7669
999.5	1.016	2552.	1.
1000.	1.335	2552.5	1.12
1000.5	1.208	2553.	1.049
1001.	1.303	2553.5	1.178
1001.5	1.167	2554.	1.007
1002.	1.335	2554.5	1.014
1002.5	1.06	2555.	0.9517
1003.	0.8662	2555.5	0.9702
1003.5	1.227	2556.	0.8847
1004.	1.37	2556.5	0.7369
1004.5	1.148	2557.	1.079
1005.	1.264	2557.5	0.7069
1005.5	1.123	2558.	1.051
1006.	1.259	2558.5	0.9794
1006.5	1.227	2559.	1.003
1007.	1.132	2559.5	0.8431
1007.5	1.185	2560.	1.
1008.	1.324	2560.5	0.894
1008.5	1.109	2561.	0.894
1009.	1.391	2561.5	0.7577
1009.5	1.072	2562.	0.7877
1010.	1.342	2562.5	0.8455
1010.5	1.125	2563.	0.9517
1011.	1.238	2563.5	0.827
1011.5	0.9725	2564.	1.
1012.	1.139	2564.5	0.7253
1012.5	1.277	2565.	0.954
1013.	1.282	2565.5	1.079
1013.5	1.169	2566.	0.8085
1014.	1.185	2566.5	0.7484
1014.5	0.9702	2567.	0.9633
1015.	1.197	2567.5	0.7277
1015.5	1.04	2568.	0.954
1016.	1.342	2568.5	1.063

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1016.5	0.8431	2569.	0.8639
1017.	1.354	2569.5	1.18
1017.5	1.072	2570.	0.8662
1018.	1.095	2570.5	0.8247
1018.5	1.247	2571.	0.991
1019.	1.333	2571.5	0.9818
1019.5	1.217	2572.	0.9055
1020.	1.204	2572.5	0.8709
1020.5	1.199	2573.	1.093
1021.	1.06	2573.5	0.9148
1021.5	1.009	2574.	1.06
1022.	1.206	2574.5	0.7022
1022.5	1.266	2575.	0.7484
1023.	1.326	2575.5	0.9032
1023.5	1.049	2576.	1.
1024.	1.296	2576.5	0.7161
1024.5	1.15	2577.	0.9263
1025.	1.049	2577.5	0.8131
1025.5	0.924	2578.	1.049
1026.	1.1	2578.5	0.9309
1026.5	1.079	2579.	0.9633
1027.	1.314	2579.5	0.894
1027.5	1.049	2580.	1.167
1028.	1.023	2580.5	0.8662
1028.5	1.1	2581.	0.9055
1029.	1.083	2581.5	0.7762
1029.5	0.9818	2582.	1.111
1030.	1.042	2582.5	0.9309
1030.5	1.342	2583.	1.072
1031.	1.137	2583.5	0.7484
1031.5	0.991	2584.	0.9933
1032.	1.178	2584.5	0.9702
1032.5	1.197	2585.	0.9633
1033.	1.16	2585.5	0.9818
1033.5	1.157	2586.	0.8662
1034.	1.402	2586.5	0.894
1034.5	1.07	2587.	0.9124
1035.	1.06	2587.5	0.6514
1035.5	1.07	2588.	0.8847
1036.	1.342	2588.5	0.7369
1036.5	1.09	2589.	1.1
1037.	0.9633	2589.5	0.9124
1037.5	1.06	2590.	0.9309
1038.	1.31	2590.5	0.8131
1038.5	1.199	2591.	0.894
1039.	1.137	2591.5	0.7762
1039.5	1.197	2592.	0.7554
1040.	1.287	2592.5	0.9448
1040.5	1.291	2593.	1.058
1041.	1.314	2593.5	1.13
1041.5	1.1	2594.	0.954
1042.	1.296	2594.5	0.9471
1042.5	1.15	2595.	0.924

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1043.	1.197	2595.5	0.7739
1043.5	0.9818	2596.	1.051
1044.	1.264	2596.5	0.7069
1044.5	1.127	2597.	1.044
1045.	1.157	2597.5	0.8385
1045.5	1.164	2598.	0.9425
1046.	1.264	2598.5	0.827
1046.5	1.148	2599.	1.072
1047.	1.169	2599.5	0.9633
1047.5	1.127	2600.	0.8847
1048.	1.391	2600.5	0.7069
1048.5	1.035	2601.	1.076
1049.	1.34	2601.5	0.894
1049.5	1.148	2602.	0.9725
1050.	1.254	2602.5	0.6768
1050.5	1.227	2603.	0.9702
1051.	1.102	2603.5	0.8732
1051.5	1.187	2604.	0.9032
1052.	1.238	2604.5	0.7762
1052.5	1.157	2605.	0.9101
1053.	1.111	2605.5	0.7161
1053.5	1.079	2606.	0.894
1054.	1.291	2606.5	0.7277
1054.5	1.093	2607.	0.857
1055.	1.305	2607.5	0.9124
1055.5	1.157	2608.	0.954
1056.	1.333	2608.5	0.8824
1056.5	1.012	2609.	1.06
1057.	1.127	2609.5	0.9332
1057.5	1.187	2610.	0.9818
1058.	1.441	2610.5	0.8177
1058.5	0.9494	2611.	0.8431
1059.	1.247	2611.5	0.7069
1059.5	1.079	2612.	1.169
1060.	1.072	2612.5	0.5821
1060.5	1.097	2613.	0.9725
1061.	1.167	2613.5	0.6237
1061.5	1.199	2614.	0.9979
1062.	1.238	2614.5	0.857
1062.5	1.167	2615.	1.033
1063.	1.312	2615.5	0.7277
1063.5	1.137	2616.	0.9309
1064.	1.199	2616.5	0.7577
1064.5	1.227	2617.	1.04
1065.	1.326	2617.5	0.8593
1065.5	1.072	2618.	0.9818
1066.	1.	2618.5	0.9055
1066.5	1.148	2619.	0.7161
1067.	1.15	2619.5	0.9425
1067.5	1.111	2620.	0.9725
1068.	1.4	2620.5	0.9933
1068.5	1.137	2621.	0.8847
1069.	1.305	2621.5	0.7854

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1069.5	1.157	2622.	0.9933
1070.	1.185	2622.5	0.7669
1070.5	1.06	2623.	0.8732
1071.	1.13	2623.5	0.8593
1071.5	1.109	2624.	0.6514
1072.	1.245	2624.5	0.7461
1072.5	1.1	2625.	0.9633
1073.	1.259	2625.5	0.6491
1073.5	1.079	2626.	0.954
1074.	1.217	2626.5	0.7715
1074.5	1.13	2627.	0.8639
1075.	1.264	2627.5	1.023
1075.5	1.07	2628.	1.053
1076.	1.12	2628.5	0.8362
1076.5	1.197	2629.	0.9425
1077.	1.167	2629.5	0.8662
1077.5	0.954	2630.	0.8662
1078.	1.227	2630.5	0.8593
1078.5	0.8524	2631.	0.8709
1079.	1.137	2631.5	0.6699
1079.5	1.148	2632.	0.9725
1080.	1.28	2632.5	0.9702
1080.5	1.021	2633.	0.924
1081.	1.023	2633.5	0.9055
1081.5	1.033	2634.	0.9124
1082.	1.227	2634.5	0.8431
1082.5	1.093	2635.	0.8593
1083.	1.284	2635.5	0.7415
1083.5	0.9933	2636.	1.023
1084.	1.275	2636.5	1.058
1084.5	1.023	2637.	1.007
1085.	1.199	2637.5	0.7946
1085.5	1.109	2638.	0.9032
1086.	1.079	2638.5	0.9309
1086.5	0.924	2639.	1.18
1087.	1.206	2639.5	0.8709
1087.5	1.051	2640.	0.79
1088.	1.12	2640.5	0.9124
1088.5	1.296	2641.	1.046
1089.	1.139	2641.5	0.8224
1089.5	1.197	2642.	0.8085
1090.	1.206	2642.5	0.9032
1090.5	1.199	2643.	0.9887
1091.	1.257	2643.5	0.7508
1091.5	1.206	2644.	0.9725
1092.	1.227	2644.5	0.7762
1092.5	1.206	2645.	0.961
1093.	1.134	2645.5	0.6422
1093.5	1.287	2646.	1.021
1094.	1.257	2646.5	1.049
1094.5	1.254	2647.	0.6861
1095.	1.16	2647.5	0.894
1095.5	0.9517	2648.	1.033

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1096.	1.185	2648.5	0.8062
1096.5	1.102	2649.	0.8455
1097.	1.333	2649.5	0.8709
1097.5	1.277	2650.	0.9725
1098.	1.058	2650.5	0.8501
1098.5	0.9494	2651.	1.13
1099.	1.199	2651.5	0.6422
1099.5	1.1	2652.	0.8247
1100.	1.012	2652.5	0.991
1100.5	1.13	2653.	1.072
1101.	1.238	2653.5	0.9032
1101.5	1.09	2654.	1.09
1102.	1.167	2654.5	0.9517
1102.5	0.9933	2655.	1.03
1103.	1.245	2655.5	1.003
1103.5	1.058	2656.	0.9124
1104.	1.206	2656.5	0.7277
1104.5	0.961	2657.	0.9032
1105.	1.102	2657.5	0.8847
1105.5	1.187	2658.	0.9055
1106.	1.1	2658.5	0.6815
1106.5	1.023	2659.	0.8062
1107.	1.227	2659.5	0.9517
1107.5	1.227	2660.	0.857
1108.	1.238	2660.5	0.9818
1108.5	1.227	2661.	1.012
1109.	1.236	2661.5	1.009
1109.5	1.079	2662.	1.06
1110.	1.023	2662.5	0.8247
1110.5	1.009	2663.	0.8362
1111.	1.206	2663.5	0.8339
1111.5	1.157	2664.	1.003
1112.	1.268	2664.5	0.8431
1112.5	1.003	2665.	0.797
1113.	1.079	2665.5	0.894
1113.5	1.072	2666.	0.961
1114.	1.229	2666.5	1.012
1114.5	1.425	2667.	0.9818
1115.	1.148	2667.5	1.06
1115.5	1.1	2668.	0.961
1116.	0.8963	2668.5	0.7069
1116.5	0.924	2669.	0.7369
1117.	1.169	2669.5	0.9656
1117.5	1.217	2670.	0.894
1118.	1.284	2670.5	0.8732
1118.5	1.003	2671.	0.9055
1119.	1.208	2671.5	0.9055
1119.5	1.12	2672.	0.7069
1120.	1.009	2672.5	0.7461
1120.5	1.157	2673.	0.9309
1121.	1.157	2673.5	0.7715
1121.5	0.954	2674.	0.8847
1122.	1.012	2674.5	0.8154

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1122.5	1.176	2675.	0.8732
1123.	1.335	2675.5	0.8755
1123.5	1.13	2676.	1.042
1124.	1.24	2676.5	0.9818
1124.5	1.03	2677.	0.8732
1125.	1.28	2677.5	0.9078
1125.5	1.053	2678.	0.8709
1126.	1.072	2678.5	0.8478
1126.5	1.213	2679.	1.257
1127.	1.197	2679.5	0.8847
1127.5	1.09	2680.	1.033
1128.	1.462	2680.5	0.8709
1128.5	1.169	2681.	0.8362
1129.	1.109	2681.5	0.7392
1129.5	1.4	2682.	1.093
1130.	1.363	2682.5	0.7392
1130.5	1.005	2683.	1.079
1131.	1.102	2683.5	0.8085
1131.5	1.227	2684.	0.8455
1132.	1.09	2684.5	0.7877
1132.5	1.049	2685.	0.8917
1133.	1.111	2685.5	0.8963
1133.5	1.049	2686.	0.8709
1134.	1.245	2686.5	0.8154
1134.5	1.284	2687.	1.
1135.	1.049	2687.5	0.9332
1135.5	1.072	2688.	1.058
1136.	1.079	2688.5	1.021
1136.5	0.8247	2689.	1.157
1137.	1.15	2689.5	0.8085
1137.5	1.217	2690.	0.8547
1138.	1.275	2690.5	0.6145
1138.5	1.033	2691.	1.04
1139.	1.187	2691.5	0.7161
1139.5	1.111	2692.	0.9818
1140.	1.227	2692.5	0.894
1140.5	1.123	2693.	0.9633
1141.	1.137	2693.5	0.8732
1141.5	1.111	2694.	0.9448
1142.	1.04	2694.5	1.042
1142.5	1.079	2695.	0.8917
1143.	1.12	2695.5	1.012
1143.5	0.9933	2696.	0.8062
1144.	1.294	2696.5	0.9032
1144.5	1.118	2697.	1.04
1145.	1.266	2697.5	0.7277
1145.5	1.208	2698.	1.12
1146.	1.185	2698.5	0.6791
1146.5	0.9448	2699.	0.7946
1147.	1.185	2699.5	0.9124
1147.5	1.081	2700.	0.924
1148.	1.139	2700.5	0.9633
1148.5	1.167	2701.	1.023

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1149.	1.157	2701.5	0.6491
1149.5	1.007	2702.	0.7277
1150.	1.079	2702.5	0.797
1150.5	1.109	2703.	1.04
1151.	1.247	2703.5	0.894
1151.5	1.314	2704.	0.9148
1152.	1.1	2704.5	0.9148
1152.5	1.111	2705.	0.7877
1153.	1.021	2705.5	0.7877
1153.5	1.102	2706.	1.023
1154.	0.991	2706.5	0.8709
1154.5	0.9309	2707.	0.857
1155.	0.9818	2707.5	1.023
1155.5	1.169	2708.	1.023
1156.	1.266	2708.5	0.9309
1156.5	1.109	2709.	0.8131
1157.	1.102	2709.5	0.8362
1157.5	1.185	2710.	0.8732
1158.	1.176	2710.5	0.8478
1158.5	1.127	2711.	0.8824
1159.	1.296	2711.5	0.7669
1159.5	1.215	2712.	1.118
1160.	1.303	2712.5	0.7946
1160.5	1.254	2713.	0.8732
1161.	1.15	2713.5	1.06
1161.5	1.003	2714.	0.9148
1162.	1.169	2714.5	0.991
1162.5	1.111	2715.	1.199
1163.	1.139	2715.5	0.9332
1163.5	1.176	2716.	0.8362
1164.	0.954	2716.5	0.797
1164.5	1.012	2717.	0.894
1165.	1.208	2717.5	1.
1165.5	0.9818	2718.	0.8847
1166.	1.282	2718.5	0.8639
1166.5	1.1	2719.	0.8709
1167.	1.275	2719.5	0.6283
1167.5	1.072	2720.	0.8732
1168.	1.423	2720.5	0.8085
1168.5	1.012	2721.	1.049
1169.	1.118	2721.5	0.8085
1169.5	1.102	2722.	0.9448
1170.	1.197	2722.5	0.7022
1170.5	1.282	2723.	0.9425
1171.	1.335	2723.5	0.7184
1171.5	1.28	2724.	0.9933
1172.	1.335	2724.5	0.9332
1172.5	1.15	2725.	0.9425
1173.	1.282	2725.5	0.7138
1173.5	1.197	2726.	1.07
1174.	1.178	2726.5	0.6306
1174.5	1.139	2727.	1.09
1175.	1.206	2727.5	0.7253

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1175.5	0.894	2728.	0.9448
1176.	1.164	2728.5	0.894
1176.5	0.954	2729.	0.8662
1177.	1.303	2729.5	0.6884
1177.5	1.245	2730.	0.9702
1178.	1.282	2730.5	0.8755
1178.5	1.033	2731.	0.9124
1179.	1.13	2731.5	1.033
1179.5	0.8847	2732.	1.009
1180.	1.095	2732.5	0.9471
1180.5	1.127	2733.	0.8431
1181.	1.326	2733.5	1.
1181.5	1.169	2734.	0.8455
1182.	1.275	2734.5	1.012
1182.5	1.206	2735.	0.7715
1183.	1.411	2735.5	0.9725
1183.5	0.8639	2736.	0.8339
1184.	1.393	2736.5	0.8362
1184.5	1.257	2737.	0.6815
1185.	1.169	2737.5	0.9263
1185.5	1.072	2738.	0.5498
1186.	1.137	2738.5	0.9818
1186.5	1.03	2739.	0.8662
1187.	1.102	2739.5	0.8247
1187.5	1.15	2740.	0.7184
1188.	1.238	2740.5	0.9933
1188.5	1.109	2741.	0.9425
1189.	1.217	2741.5	1.
1189.5	0.8547	2742.	0.924
1190.	1.275	2742.5	0.8085
1190.5	1.264	2743.	0.9633
1191.	1.254	2743.5	1.079
1191.5	0.8709	2744.	0.8824
1192.	1.227	2744.5	0.8455
1192.5	1.178	2745.	0.9332
1193.	1.111	2745.5	1.033
1193.5	1.137	2746.	0.8339
1194.	1.088	2746.5	0.8062
1194.5	1.199	2747.	0.8131
1195.	1.324	2747.5	0.9448
1195.5	1.07	2748.	0.8062
1196.	1.1	2748.5	0.8339
1196.5	0.9332	2749.	0.7277
1197.	1.13	2749.5	0.9979
1197.5	1.058	2750.	0.7277
1198.	1.227	2750.5	1.
1198.5	1.331	2751.	0.8847
1199.	1.21	2751.5	0.8639
1199.5	1.238	2752.	0.7854
1200.	1.157	2752.5	0.6607
1200.5	1.185	2753.	0.8362
1201.	1.254	2753.5	0.9633
1201.5	0.9148	2754.	0.7762

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1202.	1.206	2754.5	0.8732
1202.5	1.141	2755.	0.7877
1203.	1.199	2755.5	0.6491
1203.5	1.109	2756.	0.8085
1204.	1.227	2756.5	0.924
1204.5	0.9725	2757.	0.9124
1205.	1.09	2757.5	0.954
1205.5	1.	2758.	0.857
1206.	1.282	2758.5	1.072
1206.5	1.176	2759.	0.9818
1207.	1.215	2759.5	1.072
1207.5	1.102	2760.	0.9633
1208.	1.266	2760.5	0.8709
1208.5	1.132	2761.	0.7877
1209.	1.296	2761.5	0.7438
1209.5	1.07	2762.	0.7253
1210.	1.167	2762.5	0.991
1210.5	1.106	2763.	0.7277
1211.	1.227	2763.5	0.924
1211.5	1.148	2764.	0.8593
1212.	1.252	2764.5	1.12
1212.5	1.157	2765.	1.023
1213.	1.139	2765.5	0.8247
1213.5	0.9725	2766.	0.8431
1214.	1.245	2766.5	0.9148
1214.5	1.04	2767.	0.7346
1215.	1.127	2767.5	0.9055
1215.5	0.8824	2768.	0.8108
1216.	1.12	2768.5	0.9633
1216.5	1.178	2769.	0.954
1217.	1.009	2769.5	1.13
1217.5	1.139	2770.	0.8085
1218.	1.111	2770.5	1.118
1218.5	0.9633	2771.	0.7277
1219.	1.13	2771.5	1.09
1219.5	1.111	2772.	0.9656
1220.	1.033	2772.5	0.857
1220.5	1.023	2773.	0.8455
1221.	1.227	2773.5	1.023
1221.5	1.12	2774.	0.9148
1222.	1.169	2774.5	1.15
1222.5	0.8709	2775.	1.093
1223.	0.9656	2775.5	1.033
1223.5	1.178	2776.	0.7161
1224.	1.187	2776.5	0.7669
1224.5	0.8709	2777.	1.197
1225.	1.303	2777.5	0.961
1225.5	1.127	2778.	1.1
1226.	1.284	2778.5	0.991
1226.5	1.09	2779.	1.003
1227.	1.07	2779.5	0.9148
1227.5	1.139	2780.	0.6607
1228.	1.197	2780.5	0.894

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1228.5	1.227	2781.	0.7692
1229.	1.	2781.5	1.118
1229.5	1.215	2782.	0.8085
1230.	1.197	2782.5	0.9633
1230.5	1.06	2783.	0.7392
1231.	1.18	2783.5	0.9702
1231.5	1.157	2784.	1.009
1232.	1.277	2784.5	0.8362
1232.5	1.093	2785.	0.9517
1233.	1.176	2785.5	0.7993
1233.5	1.169	2786.	0.7161
1234.	1.176	2786.5	1.1
1234.5	0.9725	2787.	0.894
1235.	1.153	2787.5	0.8085
1235.5	0.9979	2788.	0.894
1236.	1.093	2788.5	0.9448
1236.5	1.09	2789.	0.6815
1237.	1.023	2789.5	1.266
1237.5	1.257	2790.	0.8339
1238.	1.384	2790.5	1.063
1238.5	1.331	2791.	0.5914
1239.	1.238	2791.5	1.012
1239.5	0.7877	2792.	0.8593
1240.	1.282	2792.5	0.9055
1240.5	1.227	2793.	0.5405
1241.	1.185	2793.5	1.148
1241.5	1.072	2794.	0.7669
1242.	1.391	2794.5	0.924
1242.5	1.157	2795.	0.8062
1243.	1.157	2795.5	0.894
1243.5	1.102	2796.	0.7785
1244.	1.169	2796.5	1.042
1244.5	0.8547	2797.	0.8524
1245.	1.197	2797.5	0.9933
1245.5	1.215	2798.	0.7669
1246.	1.13	2798.5	0.9933
1246.5	1.033	2799.	0.6884
1247.	1.208	2799.5	0.8154
1247.5	1.076	2800.	0.9702
1248.	1.185	2800.5	1.009
1248.5	0.8362	2801.	0.9633
1249.	1.227	2801.5	1.033
1249.5	0.894	2802.	0.8085
1250.	1.324	2802.5	0.961
1250.5	1.178	2803.	0.8455
1251.	1.079	2803.5	0.7253
1251.5	1.003	2804.	0.9725
1252.	1.247	2804.5	0.954
1252.5	1.247	2805.	1.023
1253.	1.109	2805.5	0.9448
1253.5	1.372	2806.	0.924
1254.	1.111	2806.5	1.058
1254.5	0.9032	2807.	0.7762

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1255.	1.09	2807.5	0.9078
1255.5	1.072	2808.	1.03
1256.	0.9818	2808.5	0.6999
1256.5	0.961	2809.	0.7484
1257.	1.021	2809.5	0.9818
1257.5	1.09	2810.	0.8686
1258.	1.227	2810.5	0.924
1258.5	0.9818	2811.	1.058
1259.	1.15	2811.5	0.797
1259.5	1.021	2812.	0.8547
1260.	1.261	2812.5	0.9332
1260.5	1.157	2813.	0.924
1261.	1.137	2813.5	1.111
1261.5	1.185	2814.	0.894
1262.	1.326	2814.5	0.9309
1262.5	1.072	2815.	0.954
1263.	1.169	2815.5	1.03
1263.5	0.9818	2816.	0.9656
1264.	1.266	2816.5	0.7692
1264.5	1.012	2817.	0.7762
1265.	1.079	2817.5	0.961
1265.5	1.137	2818.	0.7392
1266.	1.16	2818.5	0.8362
1266.5	1.185	2819.	0.9841
1267.	1.079	2819.5	0.7877
1267.5	0.9425	2820.	1.088
1268.	1.28	2820.5	0.8824
1268.5	1.204	2821.	0.7161
1269.	1.238	2821.5	0.9425
1269.5	0.8824	2822.	0.9009
1270.	1.326	2822.5	0.894
1270.5	1.111	2823.	0.8339
1271.	1.354	2823.5	0.8547
1271.5	0.9425	2824.	0.7253
1272.	1.134	2824.5	0.924
1272.5	1.118	2825.	0.6607
1273.	1.238	2825.5	0.8824
1273.5	0.9702	2826.	0.9818
1274.	1.042	2826.5	1.03
1274.5	1.042	2827.	0.797
1275.	1.109	2827.5	0.9055
1275.5	1.132	2828.	0.8062
1276.	1.13	2828.5	1.148
1276.5	1.236	2829.	0.8662
1277.	1.12	2829.5	0.894
1277.5	1.208	2830.	0.7161
1278.	1.333	2830.5	0.894
1278.5	0.9818	2831.	0.827
1279.	0.9633	2831.5	0.7739
1279.5	1.287	2832.	0.6006
1280.	1.157	2832.5	0.9032
1280.5	1.185	2833.	0.924
1281.	1.178	2833.5	1.102

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1281.5	0.9818	2834.	0.7692
1282.	1.342	2834.5	1.06
1282.5	1.033	2835.	0.6214
1283.	1.079	2835.5	0.9818
1283.5	1.058	2836.	0.6283
1284.	1.206	2836.5	0.9032
1284.5	0.9332	2837.	0.9217
1285.	1.116	2837.5	1.023
1285.5	0.9702	2838.	0.8732
1286.	1.227	2838.5	1.046
1286.5	0.6999	2839.	0.9933
1287.	1.254	2839.5	0.857
1287.5	1.051	2840.	0.797
1288.	1.206	2840.5	0.9563
1288.5	0.924	2841.	0.8431
1289.	1.206	2841.5	0.8824
1289.5	1.079	2842.	0.8662
1290.	1.215	2842.5	0.9633
1290.5	1.199	2843.	0.7508
1291.	1.169	2843.5	0.9725
1291.5	0.9933	2844.	0.9055
1292.	1.178	2844.5	0.8547
1292.5	0.8662	2845.	0.9124
1293.	1.169	2845.5	0.827
1293.5	1.245	2846.	0.76
1294.	1.046	2846.5	0.8686
1294.5	0.9818	2847.	0.8478
1295.	1.229	2847.5	0.8362
1295.5	1.139	2848.	0.9124
1296.	1.264	2848.5	1.063
1296.5	1.314	2849.	0.9956
1297.	1.093	2849.5	0.8154
1297.5	1.245	2850.	1.033
1298.	1.217	2850.5	0.5244
1298.5	1.093	2851.	0.887
1299.	1.197	2851.5	0.7692
1299.5	0.9818	2852.	0.9055
1300.	1.227	2852.5	0.961
1300.5	1.102	2853.	0.6514
1301.	1.284	2853.5	0.9124
1301.5	1.079	2854.	0.7253
1302.	1.282	2854.5	1.023
1302.5	0.9517	2855.	0.8639
1303.	1.411	2855.5	0.8662
1303.5	0.9979	2856.	1.051
1304.	1.194	2856.5	0.8847
1304.5	1.056	2857.	0.73
1305.	0.954	2857.5	1.037
1305.5	0.9725	2858.	1.157
1306.	1.063	2858.5	0.9818
1306.5	1.169	2859.	0.9332
1307.	1.125	2859.5	0.8431
1307.5	0.9748	2860.	0.6514

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1308.	1.236	2860.5	0.7392
1308.5	1.079	2861.	0.6999
1309.	1.157	2861.5	1.245
1309.5	1.09	2862.	0.6191
1310.	1.	2862.5	0.954
1310.5	0.9332	2863.	0.8085
1311.	1.217	2863.5	0.954
1311.5	1.208	2864.	1.023
1312.	1.079	2864.5	0.7484
1312.5	1.227	2865.	0.9702
1313.	1.111	2865.5	0.8709
1313.5	1.199	2866.	0.8847
1314.	1.275	2866.5	0.6699
1314.5	0.9702	2867.	0.8732
1315.	1.238	2867.5	0.9055
1315.5	1.197	2868.	0.9448
1316.	1.236	2868.5	0.9032
1316.5	0.924	2869.	0.7946
1317.	0.9818	2869.5	0.9818
1317.5	1.009	2870.	0.7161
1318.	1.095	2870.5	0.8085
1318.5	1.127	2871.	0.827
1319.	1.049	2871.5	0.9124
1319.5	0.894	2872.	0.8154
1320.	1.296	2872.5	0.924
1320.5	0.9933	2873.	0.7184
1321.	1.268	2873.5	0.8362
1321.5	1.051	2874.	0.8062
1322.	1.102	2874.5	1.033
1322.5	0.9425	2875.	0.7715
1323.	1.354	2875.5	1.15
1323.5	1.074	2876.	0.7277
1324.	1.003	2876.5	0.9933
1324.5	1.042	2877.	1.079
1325.	1.238	2877.5	0.9148
1325.5	1.009	2878.	0.8085
1326.	1.185	2878.5	1.012
1326.5	1.157	2879.	0.8108
1327.	1.139	2879.5	0.894
1327.5	1.169	2880.	0.8362
1328.	1.199	2880.5	0.9148
1328.5	0.9309	2881.	0.8362
1329.	1.111	2881.5	1.023
1329.5	1.197	2882.	0.8085
1330.	0.961	2882.5	0.924
1330.5	1.	2883.	0.8062
1331.	1.257	2883.5	0.9217
1331.5	1.04	2884.	0.5636
1332.	1.127	2884.5	0.8824
1332.5	1.425	2885.	0.9425
1333.	1.284	2885.5	0.8293
1333.5	1.139	2886.	0.9818
1334.	1.236	2886.5	1.079

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1334.5	1.007	2887.	0.8547
1335.	1.254	2887.5	0.9425
1335.5	1.051	2888.	0.6491
1336.	1.208	2888.5	0.8709
1336.5	0.9448	2889.	0.857
1337.	1.236	2889.5	0.991
1337.5	1.12	2890.	0.9471
1338.	1.037	2890.5	0.6884
1338.5	1.208	2891.	0.7946
1339.	1.1	2891.5	0.8455
1339.5	1.081	2892.	0.7877
1340.	1.197	2892.5	0.6676
1340.5	0.8593	2893.	0.9425
1341.	1.236	2893.5	0.857
1341.5	1.03	2894.	0.8362
1342.	1.393	2894.5	0.827
1342.5	1.072	2895.	0.6999
1343.	1.247	2895.5	0.954
1343.5	1.187	2896.	0.6976
1344.	1.139	2896.5	0.8478
1344.5	1.093	2897.	0.827
1345.	1.139	2897.5	0.9425
1345.5	1.012	2898.	0.7577
1346.	1.303	2898.5	1.028
1346.5	1.157	2899.	0.7993
1347.	1.093	2899.5	0.924
1347.5	1.051	2900.	0.6676
1348.	1.137	2900.5	0.9563
1348.5	1.012	2901.	0.7461
1349.	1.079	2901.5	1.148
1349.5	1.12	2902.	0.7577
1350.	1.074	2902.5	0.857
1350.5	1.042	2903.	0.7946
1351.	1.176	2903.5	1.109
1351.5	0.9933	2904.	0.7554
1352.	1.012	2904.5	0.9748
1352.5	0.9448	2905.	0.7946
1353.	1.042	2905.5	0.8085
1353.5	1.051	2906.	0.9309
1354.	1.003	2906.5	0.7715
1354.5	1.199	2907.	0.79
1355.	0.9702	2907.5	0.9448
1355.5	1.275	2908.	0.797
1356.	1.183	2908.5	1.051
1356.5	1.167	2909.	0.6884
1357.	1.093	2909.5	0.6676
1357.5	1.178	2910.	0.8154
1358.	1.342	2910.5	0.8455
1358.5	0.9055	2911.	0.9055
1359.	0.9448	2911.5	1.
1359.5	1.049	2912.	0.894
1360.	1.072	2912.5	0.8085
1360.5	0.8062	2913.	0.8639

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1361.	1.312	2913.5	1.056
1361.5	0.9933	2914.	0.7554
1362.	1.153	2914.5	0.8247
1362.5	1.127	2915.	0.6191
1363.	0.9633	2915.5	0.7669
1363.5	1.169	2916.	0.7207
1364.	1.157	2916.5	1.03
1364.5	0.9818	2917.	0.7253
1365.	1.139	2917.5	0.9725
1365.5	1.03	2918.	0.8062
1366.	1.012	2918.5	1.236
1366.5	1.106	2919.	0.9818
1367.	1.305	2919.5	0.7877
1367.5	0.9425	2920.	0.7577
1368.	1.312	2920.5	0.9517
1368.5	0.9055	2921.	0.954
1369.	1.049	2921.5	0.8639
1369.5	1.058	2922.	0.8247
1370.	1.072	2922.5	0.8339
1370.5	1.199	2923.	0.8455
1371.	1.178	2923.5	0.9425
1371.5	0.9818	2924.	1.012
1372.	1.314	2924.5	0.9702
1372.5	1.139	2925.	0.8408
1373.	1.148	2925.5	0.8662
1373.5	0.961	2926.	0.7692
1374.	1.266	2926.5	1.009
1374.5	1.012	2927.	0.7207
1375.	1.197	2927.5	0.7369
1375.5	1.137	2928.	0.924
1376.	1.227	2928.5	0.857
1376.5	0.9956	2929.	0.924
1377.	1.12	2929.5	0.961
1377.5	0.887	2930.	0.8709
1378.	1.	2930.5	0.8062
1378.5	0.8709	2931.	0.7946
1379.	1.137	2931.5	0.991
1379.5	0.9332	2932.	0.7369
1380.	0.9448	2932.5	0.8639
1380.5	1.07	2933.	1.051
1381.	1.049	2933.5	0.9448
1381.5	0.9633	2934.	0.8639
1382.	0.924	2934.5	0.9032
1382.5	1.15	2935.	0.6791
1383.	1.277	2935.5	0.7946
1383.5	1.079	2936.	0.5914
1384.	1.111	2936.5	0.894
1384.5	1.176	2937.	0.7762
1385.	1.1	2937.5	0.8639
1385.5	1.245	2938.	0.8709
1386.	1.079	2938.5	0.6861
1386.5	0.857	2939.	0.9633
1387.	1.111	2939.5	0.7369

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1387.5	1.021	2940.	0.857
1388.	1.137	2940.5	0.9332
1388.5	1.148	2941.	0.894
1389.	1.03	2941.5	0.9309
1389.5	1.051	2942.	0.7877
1390.	0.894	2942.5	0.8362
1390.5	1.072	2943.	0.924
1391.	1.051	2943.5	0.8362
1391.5	0.961	2944.	0.8085
1392.	1.003	2944.5	0.8431
1392.5	1.137	2945.	0.9148
1393.	1.023	2945.5	0.8662
1393.5	1.215	2946.	0.7461
1394.	1.277	2946.5	0.8662
1394.5	1.206	2947.	0.9425
1395.	1.178	2947.5	0.8431
1395.5	1.169	2948.	0.8732
1396.	1.12	2948.5	0.924
1396.5	1.176	2949.	0.8085
1397.	1.333	2949.5	0.6422
1397.5	1.15	2950.	0.8662
1398.	1.333	2950.5	1.033
1398.5	1.04	2951.	0.8131
1399.	1.294	2951.5	0.8154
1399.5	1.227	2952.	0.797
1400.	0.894	2952.5	0.9633
1400.5	1.1	2953.	0.887
1401.	1.118	2953.5	0.9355
1401.5	1.093	2954.	0.7369
1402.	1.081	2954.5	0.9517
1402.5	0.9517	2955.	0.8293
1403.	1.284	2955.5	0.894
1403.5	1.021	2956.	1.023
1404.	0.9332	2956.5	0.8686
1404.5	1.15	2957.	0.7785
1405.	1.194	2957.5	1.021
1405.5	1.1	2958.	0.7577
1406.	1.227	2958.5	1.079
1406.5	1.206	2959.	0.8639
1407.	1.102	2959.5	0.6514
1407.5	1.079	2960.	0.8639
1408.	1.	2960.5	0.924
1408.5	0.954	2961.	1.127
1409.	1.227	2961.5	0.9633
1409.5	1.185	2962.	0.8339
1410.	1.134	2962.5	0.894
1410.5	0.9702	2963.	0.7669
1411.	1.266	2963.5	0.8154
1411.5	1.176	2964.	0.7692
1412.	1.051	2964.5	0.8824
1412.5	1.056	2965.	0.7554
1413.	1.261	2965.5	0.9702
1413.5	1.058	2966.	0.8085

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1414.	1.342	2966.5	0.7554
1414.5	1.04	2967.	0.7069
1415.	1.335	2967.5	0.961
1415.5	1.021	2968.	0.7484
1416.	1.277	2968.5	0.9448
1416.5	0.7461	2969.	0.6491
1417.	1.178	2969.5	0.8824
1417.5	1.051	2970.	0.6815
1418.	1.363	2970.5	0.8062
1418.5	1.051	2971.	0.7854
1419.	1.178	2971.5	0.9933
1419.5	1.06	2972.	0.7253
1420.	1.079	2972.5	0.9402
1420.5	0.9448	2973.	0.7554
1421.	1.153	2973.5	0.8478
1421.5	1.257	2974.	0.7854
1422.	1.13	2974.5	0.9124
1422.5	0.9725	2975.	0.8547
1423.	1.157	2975.5	1.102
1423.5	0.8732	2976.	0.7484
1424.	1.185	2976.5	0.7508
1424.5	1.277	2977.	0.8431
1425.	1.187	2977.5	0.857
1425.5	0.894	2978.	0.8824
1426.	1.238	2978.5	1.012
1426.5	1.09	2979.	1.012
1427.	0.9032	2979.5	0.8963
1427.5	0.9171	2980.	1.005
1428.	1.	2980.5	1.176
1428.5	0.9332	2981.	0.7069
1429.	1.178	2981.5	0.7692
1429.5	0.9933	2982.	0.7946
1430.	1.1	2982.5	0.7346
1430.5	1.079	2983.	0.8431
1431.	1.079	2983.5	0.9148
1431.5	0.8709	2984.	0.9009
1432.	1.187	2984.5	0.8177
1432.5	1.13	2985.	0.73
1433.	1.118	2985.5	0.7946
1433.5	1.111	2986.	0.7785
1434.	1.102	2986.5	0.894
1434.5	0.9309	2987.	0.6815
1435.	1.07	2987.5	0.7877
1435.5	1.109	2988.	0.9055
1436.	1.266	2988.5	0.9702
1436.5	1.	2989.	0.8639
1437.	1.296	2989.5	0.8154
1437.5	0.8847	2990.	0.9448
1438.	1.12	2990.5	0.9055
1438.5	0.9148	2991.	0.7069
1439.	1.079	2991.5	0.9933
1439.5	1.07	2992.	0.8709
1440.	1.245	2992.5	0.9124

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1440.5	0.7692	2993.	0.9448
1441.	1.063	2993.5	0.9148
1441.5	1.014	2994.	0.7762
1442.	1.137	2994.5	0.9794
1442.5	1.137	2995.	0.6121
1443.	1.337	2995.5	0.8362
1443.5	1.1	2996.	0.8339
1444.	0.9425	2996.5	0.8339
1444.5	1.109	2997.	0.8847
1445.	1.395	2997.5	1.023
1445.5	0.7877	2998.	0.7854
1446.	1.254	2998.5	0.7877
1446.5	0.8547	2999.	0.7554
1447.	1.079	2999.5	1.1
1447.5	1.049	3000.	0.6861
1448.	1.178	3000.5	0.6815
1448.5	1.194	3001.	0.8709
1449.	1.111	3001.5	1.206
1449.5	1.266	3002.	0.7484
1450.	1.301	3002.5	0.9332
1450.5	0.8639	3003.	0.7739
1451.	1.102	3003.5	0.8408
1451.5	1.157	3004.	0.7184
1452.	1.033	3004.5	0.8362
1452.5	1.033	3005.	0.9517
1453.	1.07	3005.5	0.9448
1453.5	1.049	3006.	0.8686
1454.	1.023	3006.5	1.137
1454.5	1.106	3007.	0.8662
1455.	1.284	3007.5	1.079
1455.5	1.157	3008.	0.797
1456.	1.15	3008.5	1.116
1456.5	1.079	3009.	0.9148
1457.	1.157	3009.5	0.8847
1457.5	0.8847	3010.	0.8154
1458.	0.961	3010.5	1.003
1458.5	1.167	3011.	0.8639
1459.	1.169	3011.5	0.6999
1459.5	1.187	3012.	0.7854
1460.	1.111	3012.5	0.9633
1460.5	0.9633	3013.	0.6815
1461.	1.157	3013.5	1.208
1461.5	1.148	3014.	0.5498
1462.	1.079	3014.5	1.053
1462.5	1.157	3015.	0.8131
1463.	1.277	3015.5	1.003
1463.5	1.139	3016.	0.6976
1464.	1.208	3016.5	0.9309
1464.5	1.07	3017.	0.8824
1465.	0.9818	3017.5	0.8524
1465.5	0.9309	3018.	0.7069
1466.	1.167	3018.5	0.9517
1466.5	1.1	3019.	0.9956

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1467.	0.9933	3019.5	0.9148
1467.5	0.9725	3020.	0.9309
1468.	0.9702	3020.5	0.8085
1468.5	1.033	3021.	1.04
1469.	1.254	3021.5	1.023
1469.5	1.051	3022.	0.8362
1470.	1.093	3022.5	0.8732
1470.5	1.021	3023.	0.894
1471.	1.072	3023.5	0.8455
1471.5	1.111	3024.	0.7461
1472.	1.12	3024.5	1.15
1472.5	1.277	3025.	0.894
1473.	1.185	3025.5	0.924
1473.5	0.954	3026.	0.6514
1474.	1.217	3026.5	0.8339
1474.5	1.217	3027.	0.6676
1475.	1.277	3027.5	0.9933
1475.5	1.153	3028.	0.7739
1476.	1.081	3028.5	0.8431
1476.5	0.9818	3029.	1.072
1477.	0.9956	3029.5	1.157
1477.5	1.148	3030.	0.6999
1478.	1.04	3030.5	1.035
1478.5	1.079	3031.	0.9933
1479.	1.023	3031.5	0.797
1479.5	1.206	3032.	0.6976
1480.	1.148	3032.5	1.009
1480.5	0.924	3033.	0.7484
1481.	1.109	3033.5	1.03
1481.5	1.079	3034.	0.9794
1482.	1.07	3034.5	0.7253
1482.5	1.049	3035.	1.
1483.	1.012	3035.5	0.9517
1483.5	0.8339	3036.	0.9725
1484.	1.314	3036.5	0.9055
1484.5	0.8732	3037.	0.6607
1485.	1.236	3037.5	0.797
1485.5	1.003	3038.	0.7946
1486.	1.06	3038.5	1.
1486.5	1.109	3039.	0.797
1487.	1.042	3039.5	0.797
1487.5	1.028	3040.	0.8662
1488.	1.058	3040.5	0.8362
1488.5	1.044	3041.	0.7461
1489.	1.137	3041.5	0.8039
1489.5	0.961	3042.	0.8662
1490.	1.314	3042.5	1.15
1490.5	1.111	3043.	0.9124
1491.	1.003	3043.5	0.8639
1491.5	1.185	3044.	0.8639
1492.	0.924	3044.5	0.8085
1492.5	0.924	3045.	1.03
1493.	1.178	3045.5	0.9055

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1493.5	1.157	3046.	1.021
1494.	1.247	3046.5	0.954
1494.5	0.894	3047.	0.7554
1495.	0.7669	3047.5	0.8824
1495.5	0.7461	3048.	0.9633
1496.	1.049	3048.5	0.894
1496.5	0.9702	3049.	0.924
1497.	1.245	3049.5	0.9448
1497.5	1.324	3050.	0.6884
1498.	1.157	3050.5	0.8847
1498.5	0.8085	3051.	0.9794
1499.	1.15	3051.5	0.924
1499.5	0.8339	3052.	1.009
1500.	1.127	3052.5	0.9032
1500.5	0.9818	3053.	0.6583
1501.	1.157	3053.5	0.8431
1501.5	0.894	3054.	0.8339
1502.	0.9633	3054.5	0.9148
1502.5	1.051	3055.	0.8339
1503.	1.07	3055.5	0.7762
1503.5	1.176	3056.	0.5983
1504.	0.9818	3056.5	0.7184
1504.5	1.079	3057.	0.8547
1505.	1.15	3057.5	0.924
1505.5	1.	3058.	0.9517
1506.	1.09	3058.5	0.9101
1506.5	1.227	3059.	0.924
1507.	1.06	3059.5	1.044
1507.5	0.9148	3060.	0.7877
1508.	1.197	3060.5	0.8847
1508.5	1.009	3061.	0.894
1509.	1.003	3061.5	0.991
1509.5	1.009	3062.	0.7554
1510.	1.023	3062.5	0.857
1510.5	0.991	3063.	0.8362
1511.	1.324	3063.5	0.8639
1511.5	0.924	3064.	0.8431
1512.	1.102	3064.5	0.9448
1512.5	1.167	3065.	0.8362
1513.	1.072	3065.5	0.9725
1513.5	0.7877	3066.	0.7369
1514.	0.9309	3066.5	0.8824
1514.5	1.118	3067.	0.7877
1515.	1.079	3067.5	0.8062
1515.5	0.9148	3068.	0.6607
1516.	1.197	3068.5	0.9332
1516.5	1.102	3069.	0.7762
1517.	1.03	3069.5	0.8085
1517.5	1.157	3070.	0.8131
1518.	1.178	3070.5	0.9332
1518.5	1.03	3071.	0.9124
1519.	1.127	3071.5	0.954
1519.5	1.109	3072.	0.8085

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1520.	1.176	3072.5	0.9309
1520.5	0.954	3073.	0.7946
1521.	1.148	3073.5	0.8362
1521.5	1.12	3074.	0.7369
1522.	1.146	3074.5	0.894
1522.5	0.8524	3075.	0.7531
1523.	1.1	3075.5	1.12
1523.5	1.199	3076.	0.9032
1524.	1.123	3076.5	0.9448
1524.5	0.6838	3077.	0.7692
1525.	1.072	3077.5	1.072
1525.5	1.07	3078.	0.8662
1526.	0.991	3078.5	0.7484
1526.5	1.13	3079.	0.827
1527.	0.9633	3079.5	0.9309
1527.5	1.003	3080.	0.5405
1528.	1.127	3080.5	0.9448
1528.5	1.	3081.	0.6861
1529.	1.197	3081.5	0.6514
1529.5	1.12	3082.	0.8709
1530.	0.9818	3082.5	0.7253
1530.5	1.127	3083.	0.8062
1531.	1.137	3083.5	0.8339
1531.5	1.06	3084.	0.6214
1532.	1.284	3084.5	0.8732
1532.5	1.227	3085.	0.8709
1533.	0.9818	3085.5	0.8154
1533.5	1.072	3086.	0.8455
1534.	1.284	3086.5	1.009
1534.5	0.991	3087.	0.626
1535.	1.282	3087.5	0.894
1535.5	0.961	3088.	0.8547
1536.	1.1	3088.5	0.6283
1536.5	1.139	3089.	0.8154
1537.	0.9448	3089.5	1.007
1537.5	1.13	3090.	0.894
1538.	1.023	3090.5	0.9725
1538.5	0.924	3091.	0.7923
1539.	1.296	3091.5	0.7484
1539.5	0.9448	3092.	0.9148
1540.	1.009	3092.5	1.033
1540.5	1.18	3093.	0.7946
1541.	1.127	3093.5	0.8154
1541.5	0.827	3094.	0.6653
1542.	0.9656	3094.5	0.954
1542.5	0.9818	3095.	0.7161
1543.	0.9471	3095.5	0.8339
1543.5	0.961	3096.	0.9078
1544.	1.236	3096.5	0.9956
1544.5	1.03	3097.	0.7946
1545.	1.19	3097.5	0.9794
1545.5	1.044	3098.	0.797
1546.	1.157	3098.5	0.7669

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1546.5	0.9702	3099.	1.012
1547.	1.386	3099.5	0.5151
1547.5	1.157	3100.	0.8455
1548.	1.079	3100.5	0.6306
1548.5	1.079	3101.	0.8247
1549.	1.167	3101.5	0.6907
1549.5	0.8339	3102.	0.5382
1550.	1.118	3102.5	0.7762
1550.5	0.9818	3103.	0.7046
1551.	1.111	3103.5	0.7577
1551.5	1.033	3104.	0.924
1552.	1.167	3104.5	0.5036

SOLUTION

Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.754

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.03863	ft/day
y0	1.402	ft

K = 1.363E-5 cm/sec
T = K*b = 0.4635 ft²/day (0.004984 sq. cm/sec)

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Appendix F Groundwater Monitoring System Design and Construction Permit

Southern Illinois Power Cooperative

Design and Construction Plan - Pond 1/2

November 02, 2026

GLA21467997.4465

Document distribution

Southern Illinois Power Cooperative

Design and Construction Plan - Pond 1/2

November 02, 2026

GLA21467997.4465

Prepared for

Southern Illinois Power Cooperative
11543 Lake of Egypt Road
Marion, IL 62959

Submitted to

Illinois Environmental Protection Agency

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Table 1 Well Construction Summary Table

Figure 1 Groundwater Monitoring Well Location Map
Figure 2 Typical Monitoring Well Construction Diagram

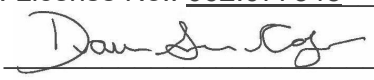
Attachment A Boring and Construction Logs
Attachment B Monitoring Well Development Logs
Attachment C Survey Documentation

Qualified Professional Engineer Certification

I, being a Professional Engineer in accordance with the laws of the State of Illinois, and having experience in the design, construction, and operation of groundwater monitoring systems for surface impounds, do hereby state that I am qualified in the subject matter of coal combustion residual (CCR) groundwater monitoring. I have personally examined and am family with the information presented herein related to design and construction of the groundwater monitoring system for the surface impoundment known as Pond 1/2. I believe the design and construction of the groundwater monitoring system meets the applicable requirements of 40 CFR 257.91 and 35 IAC 845.630.

Qualified Professional Engineer: Danielle Sylvia Cofelice

Illinois P.E. License No.: 062.077345

Signature: 

Date: November 2, 2026



1. Introduction

This groundwater monitoring well Design and Construction Plan (DCP) was prepared for Southern Illinois Power Cooperative's (SIPC's) Coal Combustion Residual (CCR) surface impoundment, Pond 1/2, at the Marion Power Plant in Marion, Illinois (Site). The CCR surface impoundment is subject to the 40 Code of Federal Regulations (CFR) Part 257 (until the United States Environmental Protection Agency (USEPA) approves the Illinois CCR program to operate in lieu of Part 257), and the corresponding Title 35 of the Illinois Administrative Code (IAC) Part 845. Pond 1 and Pond 2 were formally separated by a berm which was removed in 2021, therefore Pond 1 and Pond 2 are currently considered one CCR surface impoundment (Pond 1/2). The regulated unit and associated approximate waste boundary are shown in Figure 1. The DCP provides the basis for and explanation of the monitoring system for Pond 1/2 in accordance with 40 CFR 257.91 and 35 IAC 845.630.

This DCP documents the design basis and as-built configuration of the proposed groundwater monitoring system for Pond 1/2. It describes monitoring-well locations and screened intervals, construction and development activities, and the supporting records used to evaluate the proposed monitoring system. It also identifies provisions for maintaining the system and documenting subsequent changes throughout the monitoring program. This DCP also provides the requisite information upon which the Illinois qualified professional engineer is relying to certify that the groundwater monitoring system has been designed and constructed to meet the requirements of 40 CFR 257.91(f) and 35 IAC 845.630(g).

A complementary document, the Sampling and Analysis Plan (SAP) addresses the operation, maintenance, sampling of, and the management and evaluation of field and analytical information from the groundwater monitoring well system at Pond 1/2 (WSP, 2026a). The SAP also provides the requisite information upon which the Illinois qualified professional engineer is relying to certify the appropriateness of the statistical method chosen for evaluating groundwater monitoring data pursuant to 40 CFR 257.93(f)(6) and 35 IAC 845.640(f)(2). A third document, the Groundwater Monitoring Program (GMP; WSP, 2026b) includes procedures for establishing groundwater quality, monitoring frequency, and reporting requirements for Pond 1/2.

2. Conceptual site model

The conceptual site model (CSM) for Pond 1/2 is presented in the Hydrogeologic Site Characterization for Pond 1/2 (WSP, 2026c). The CSM was developed using historical site information, subsurface investigations, monitoring well installation data, and literature review to characterize site geology, hydrogeologic conditions, and groundwater flow. The CSM provides the basis for development of the groundwater monitoring network and implementation of the GMP. Selection information from the Hydrogeologic Site Characterization is summarized in the following sections.

2.1 Site geology and hydrogeology

The Site is located in the Shawnee Hills section of the Illinois Basin of the Interior Low Plateaus physiographic region and near the southern extent of glaciation during the Illinois Episode glaciation. The Site's location near the glacial margin is reflected in the distribution of glacial deposits, with evidence of ice-contact erosion and till deposition in lower-elevation areas and limited or absent till along higher-elevation ridges (Grimley et. al, 2020). Younger loess of the Wisconsin Episode glaciation was deposited in the region of the Site, and the loess remains in upland topographic reaches where it has not been removed by erosion. Glacial deposits are underlain by weathered to competent Pennsylvanian-age bedrock of the Tradewater Formation, with the thickness of weathered bedrock varying in part due to erosion associated with glaciation.

A weathered bedrock zone is present at the Site where glacial erosion did not remove the transition between the overlying unconsolidated deposits and competent bedrock. In areas affected by glacial erosion, till was deposited directly over scoured, relatively competent bedrock. In the immediate vicinity of the Site, sandstone of the Tradewater Formation is present at the bedrock surface. No mapped faults or other regional structural features have been identified at or immediately adjacent to the Site that are interpreted to significantly influence Site hydrogeology. In summary, unconsolidated deposits, including loess and till, overlie weathered to competent sandstone bedrock of the Tradewater Formation. The Tradewater Formation exhibits a gentle north-northeastward dip of approximately 1 to 5 degrees toward the structural center of the Illinois Basin (Jacobson, 1992).

The Site is located within the South Fork Saline River/Lake of Egypt watershed (IEPA, 2008). Regional groundwater flow is interpreted to be toward the Lake of Egypt reservoir and the South Fork Saline River and its tributaries, which represent groundwater-discharge features. Pond 1/2 is located west of the Lake of Egypt dam, in an area where groundwater is interpreted to flow primarily north and northeast toward the South Fork Saline River drainage system downstream of the dam.

Based on Site-specific investigations and hydrogeologic measurements, a single hydrostratigraphic unit is evaluated in the vicinity of Pond 1/2, consisting of the saturated unconsolidated materials overlying competent bedrock. Although heterogeneous, these materials are interpreted to form a hydraulically interconnected, unconfined water-bearing unit. The primary zone of groundwater flow may vary laterally

with changes in lithology, including from the partially weathered rock zone in the southern portion of the Site to materials near the upper surface of the clay-rich till in the central and northern portions of the Site. Groundwater-flow directions within this unit are strongly influenced by Site topography, the configuration of the competent bedrock surface, and nearby surface-water features. The observed groundwater-elevation distribution and resulting potentiometric-surface configuration are consistent with these controls and support the interpretation of a single unconsolidated hydrostratigraphic unit under the current CSM.

2.2 Pond 1/2 relationship to the uppermost water-bearing zone

As described in Section 2.1 above, an appropriate groundwater monitoring zone within unconsolidated geologic materials above competent rock was identified for the Site. Under the current CSM, this zone exhibits hydraulic connection to Pond 1/2 and represents a potential migration pathway for CCR constituents. Although this zone was not identified during this phase of work to meet the definition of an uppermost aquifer, it represents the appropriate zone for groundwater monitoring is hereafter referred to as the Uppermost Water-bearing Zone (UWBZ).

Pond 1 and Pond 2 were constructed within the shallow unconsolidated materials described above. Accordingly, the proposed groundwater monitoring network was designed to monitor saturated materials adjacent to and downgradient of the CCR surface impoundment at depths representative of potential migration from the unit, considering the estimated surface water and base elevation of Pond 1/2. As presented in the Hydrogeologic Site Characterization (WSP, 2026c), potentiometric-surface data indicate that groundwater elevations and flow directions in the vicinity of Pond 1/2 are influenced by surface elevations in Pond 1/2 and the adjacent Pond 4. Locally, groundwater-flow direction varies from northwest to northeast, depending on location relative to Pond 1/2 and Pond 4 and their surface water elevations. Portions of Pond 1/2 are interpreted to receive groundwater discharge, while other portions, particularly along the northern extent, exhibit hydraulic connection with the UWBZ and a generally north-northeastern groundwater-flow direction. Local groundwater-flow direction varies in response to precipitation and stormwater inflow to Pond 1/2, with observed variations generally corresponding to changes in the surface water elevation in Pond 1/2 (and adjacent Pond 4).

Based on the available groundwater elevation and well construction data, groundwater is generally encountered at depths ranging from approximately 11.0 to 19.5 ft bgs, and the saturated thickness of the UWBZ is approximately 8 to 18 ft. Groundwater elevations observed within the monitoring network range from approximately 496 to 508 ft above the North American Vertical Datum of 1988 (NAVD88).

3. Design of the groundwater monitoring system

The proposed groundwater monitoring system was designed in accordance with 40 CFR 257.91 and 35 IAC 845.630. The system must include a sufficient number of appropriately located and constructed wells to accurately represent:

- The quality of background groundwater that has not been affected by leakage from the CCR unit; and
- The quality of groundwater passing the waste boundary of the CCR Unit

The monitoring well network includes one background well and six monitoring wells located around the perimeter of the Pond 1/2, satisfying the requirements of 40 CFR 257.91(a) and 35 IAC 845.630(c) as shown in Figure 1. A discussion of the well placement, construction, and development details that substantiate SIPC's compliance with 40 CFR 257.91(a) and IAC 845.630, are presented in the following sections.

3.1 Monitoring approach and well placement

The groundwater monitoring network was designed based on the hydrogeologic conditions identified during the site characterization activities summarized in Section 2 and documented in the Hydrogeologic Site Characterization Report (WSP, 2026c). Consistent with 35 IAC 845.630 and 40 CFR 257.91, the monitoring system is intended to provide representative groundwater-quality data from both background groundwater conditions and groundwater passing the CCR unit waste boundary. The monitoring network consists of seven monitoring wells, including MW-109 proposed as the background monitoring well and six perimeter monitoring wells installed to monitor groundwater migration from Pond 1/2. All seven monitoring wells were installed in September 2025 for the purposes of meeting the monitoring well system requirements in 40 CFR 257.91 and 35 IAC 845.630. Monitoring well locations are shown on Figure 1 and construction details are summarized in Table 1. The network design considered groundwater-flow conditions, hydrostratigraphic variability, groundwater migration pathways, CCR-unit geometry, waste-boundary configuration, and practical site constraints.

3.1.1 Background monitoring

MW-109 was selected as the proposed background monitoring well. MW-109 is located outside the anticipated influence of potential releases from Pond 1/2 and monitors the same groundwater-bearing interval represented elsewhere within the monitoring network. Groundwater elevation data collected during site characterization indicate that MW-109 is hydraulically upgradient/side-gradient and is representative of background groundwater conditions for the uppermost aquifer. In accordance with 35

IAC 845.630(a)(1) and 40 CFR 257.91(a)(1), MW-109 is considered representative of groundwater quality that has not been affected by leakage from the CCR unit and provides the basis for establishing background groundwater conditions for the monitoring program. The location of MW-109 is shown in Figure 1, and its screened interval and construction details are provided in Table 1 and Attachment A.

3.1.2 Waste boundary monitoring and lateral coverage

The six downgradient monitoring wells were installed to monitor groundwater passing the waste boundary of Pond 1/2. Locations were selected considering the unit configuration and approximate waste boundary, anticipated groundwater-flow conditions, subsurface conditions observed during the hydrogeologic investigation, and identified potential migration pathways. Well placement also considered existing infrastructure, underground and overhead utilities, access limitations, and other physical constraints.

Prior to September 2025, no groundwater monitoring was required for Pond 1/2 and no groundwater monitoring wells existed in the vicinity of the surface impoundment. As a result groundwater flow direction in the vicinity of Pond 1/2 prior to well installation was unknown, therefore to the extent possible, monitoring wells were installed along the entire perimeter of Pond 1/2. Existing utilities limited the ability to install monitoring wells directly south of Pond 1/2. Despite this limitation, the monitoring wells are spaced approximately 225 to 350 feet apart. Collectively, the monitoring wells provide representative monitoring of potential groundwater migration pathways surrounding the CCR unit and are distributed around the waste boundary to facilitate detection of releases regardless of localized variations in groundwater-flow direction. Figure 1 shows the monitoring-well locations relative to the waste boundary.

3.1.3 Screened intervals and vertical coverage

The depths and screened intervals of the monitoring wells were selected based on site-specific hydrogeologic information developed during the hydrogeologic site characterization and in accordance with 35 IAC 845.630(b). Factors considered included groundwater-bearing unit distribution, depth to groundwater, lithology, saturated interval thickness, groundwater-flow conditions, anticipated migration pathways, and the geometry of Pond 1/2. Monitoring wells were completed within the saturated unconsolidated geologic materials above competent bedrock that collectively from the UWBZ.

Pond 1 and Pond 2 were constructed within the fine-grained, upper unconsolidated materials, with the base of the CCR surface impoundment generally underlain by clay-rich materials. Accordingly, the proposed monitoring network was designed to monitor saturated materials adjacent to and downgradient of the CCR surface impoundment at depths representative of potential groundwater migration from the unit based on estimated water surface elevation within Pond 1/2 and the estimated pond base elevation.

Screened intervals vary by monitoring well locations and include PWR, loess, clay, and till materials within the UWBZ. These materials include very dense or hard, weathered sandstone-derived saprolite/PWR; hard, non-plastic silt interpreted as loess; low-to-medium-plasticity sandy silt clay and silt clay with locally variable sand content; and dense, predominantly fine-grained till containing clay, silt,

sand, and gravel. Although materials intersected by the well screens vary, they are interpreted as part of a single, heterogenous, hydraulically interconnected water bearing zone above competent bedrock, rather than distinct monitoring zones.

Based on the available groundwater elevation and well construction data, groundwater is generally encountered at depths ranging from approximately 11.0 to 19.5 ft bgs, and the saturated thickness of the uppermost water-bearing zone is approximately 8 to 18 feet. All seven monitoring wells are screened in the bottom five feet of the UWBZ (see Table 1). The number, spacing, and depths of the monitoring wells provide representative monitoring coverage of groundwater quality surrounding the CCR unit and support detection of groundwater impacts at the waste boundary.

3.2 Monitoring well construction, development, and decommissioning

3.2.1 Monitoring well construction

The current groundwater monitoring wells for the Site were installed by Holcomb Foundation Engineering Company under the direction of WSP between September 11 and September 15, 2025. Drilling and installation of all monitoring wells at the Site have been in accordance with industry-accepted practices. The current groundwater monitoring wells are, and any future groundwater monitoring wells if applicable will be, constructed in accordance with:

1. Illinois Department of Public Health (IDPH) standards as cited in 77 IAC 920.170
2. Chapter 6- Monitoring Well Design and Construction, RCRA Groundwater Monitoring Technical Enforcement Guidance Document, United States Environmental Protection Agency, November 1992.

Monitoring well borings were advanced using 8.25-inch diameter hollow-stem augers. Continuous subsurface samples were collected using 2-inch split-spoon samplers until drilling refusal. WSP personnel logged the recovered materials to document lithology and subsurface conditions encountered at each monitoring-well location. The boring logs document the subsurface materials encountered, sample intervals, field observations, final boring depths, and monitoring well construction details. The boring and monitoring well construction logs are provided in Attachment A.

The monitoring wells were constructed using 2-inch diameter polyvinyl chloride (PVC) riser and screen. A No. 1 sand filter pack was placed around each well screen and extended approximately two feet above the screened interval. Bentonite chip seal material was installed above the filter pack, acting as an annular seal above the filter pack extending to ground surface. The wells were constructed through the hollow-stem augers to maintain borehole stability while the screen, riser, filter pack, and annular-seal materials were placed. The augers were withdrawn incrementally as the filter pack and seal materials were installed.

All monitoring wells are completed with a locking protective standpipe and a concrete apron for access and surface protection. A typical as-built diagram for groundwater monitoring well construction is provided in Figure 2. Following installation, IngenAE, LLC surveyed the monitoring wells to establish

horizontal coordinates, ground-surface elevations, and top-of-casing elevations. Elevations are referenced to the NAVD88 and horizontal coordinates are reported in North American Datum of 1983, Illinois State Plane East Zone coordinate system. Surveyed coordinates and elevations are provided in Table 1, and supporting survey documentation is provided in Attachment C.

3.2.2 Monitoring well development

Following installation, WSP developed monitoring wells using an electric submersible pump that also functioned as a surge device. The pump measured approximately 1.82 inches in diameter by 27 inches long. Development was initiated no sooner than 24 hours after the completion of the monitoring well.

The wells were developed using repeated cycles of surging, pumping, and recovery. The pump was moved within the screened interval to surge the well screen and filter pack, after which groundwater was removed by pumping. These activities were performed to remove particulates introduced into the well casing, filter pack, and adjacent formation during drilling and construction to establish hydraulic communication between each well and the surrounding groundwater-bearing materials.

During development, field measurements of pH, specific conductance, temperature, and turbidity were collected approximately every 5-10 minutes. The following criteria were used to evaluate field-parameter stabilization and development progress based on three consecutive measurements:

Temperature: +/- 10% - Degrees Celsius

pH: +/- 0.1 - Standard Units

Conductivity: +/- 3% - milliSiemens

Development continued until groundwater clarity and parameter stabilization were achieved to the extent practicable based on formation conditions and well yield. Where all target criteria could not be achieved, the field geologist used professional judgment and the observed clarity, parameter trends, well yield, and pumping/recovery response to determine whether continued development was likely to materially improve well performance.

Well-specific development dates, methods, field measurements, observations, and the basis for terminating development are documented on the well-development logs provided in Attachment B.

3.2.3 Well decommissioning

If a monitoring well becomes unusable or deemed no longer required during the life of the groundwater monitoring program, SIPC will decommission the monitoring well. In accordance with the applicable Illinois Environmental Protection Agency requirements, monitoring wells will be properly sealed within 30 days of abandonment by a licensed well driller. Documentation describing the decommissioning procedures will be included in the Facility operating record. Decommissioned monitoring wells will also be identified in the Annual Monitoring and Corrective Action Report required by 40 CFR 257.90(e) and 35 IAC 845.550(a)(3).

4. Future revisions

In accordance with the applicable requirements of 35 IAC 845 and 40 CFR 257, this DCP addresses the design, placement, construction, and development of the groundwater monitoring wells at Pond 1/2. If future amendments to the rule create additional or different requirements, and/or Site changes occur that require modifications to the existing program, SIPC will modify or update the DCP, and implement appropriate procedural modifications to the existing program.

5. References

Illinois Department of Public Health. 77 IAC Part 920, Water Well Construction Code.

Illinois Environmental Protection Agency (IEPA). 2008.South Fork Saline – Lake of Eqypt Watershed TMDL Report, June 2008.

Jacobson, R. J., 1992. *Geology of the Goreville Quadrangle, Johnson and Williamson Counties, Illinois.* Illinois State Geological Survey, Bulletin 97, Champaign, Illinois, 32 p.

Grimley, D.A., L.R. Follmer, and W. J. Nelson. 2020. Surficial Geology of Williamson County, Illinois: Illinois State Geological Survey, STATEMAP Williamson County-SG, 1:62,500, report, 11 p., 2020.

United States Environmental Protection Agency. 1992. RCRA Ground-Water Monitoring: Draft Technical Guidance. November 1992.

WSP. 2026a. Groundwater Sampling and Analysis Plan. Southern Illinois Power Cooperative Marion Plant. November 2, 2026.

WSP. 2026b. Groundwater Monitoring Program– Pond 1/2. Southern Illinois Power Cooperative Marion Plant. November 2, 2026.

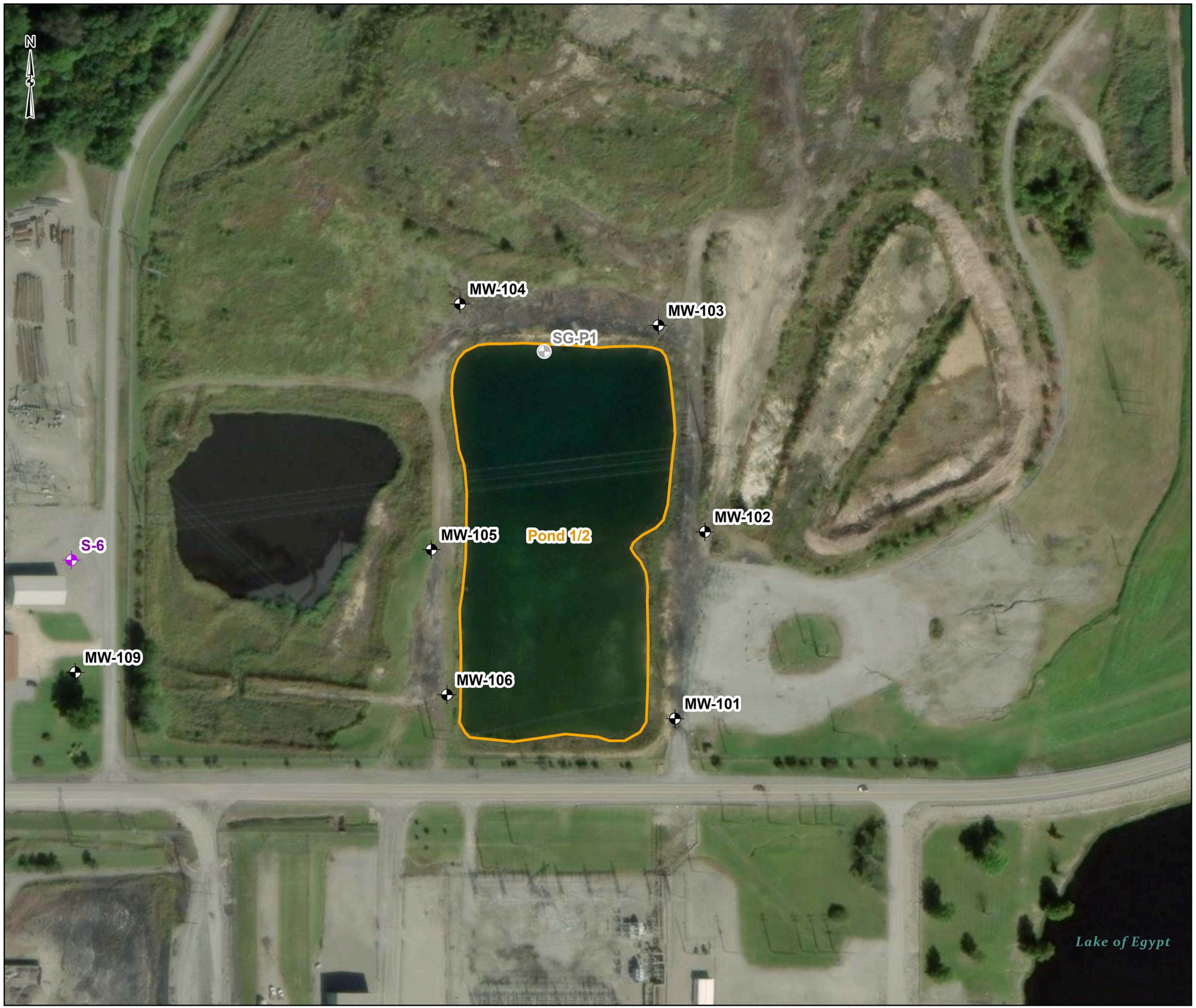
WSP. 2026c. Hydrogeologic Site Characterization – Pond 1/2. Southern Illinois Power Cooperative Marion Plant. November 2, 2026.

Table 1
Well Construction Summary Table
Design and Construction Plan - Pond 1/2
Southern Illinois Power Cooperative, Marion, Illinois

Monitoring Well Type	Monitoring Well ID	Installation Date	Easting[1] (ft)	Northing[1] (ft)	Ground Elevation (ft NAVD88)	Top of Casing Elevation (ft NAVD88)	Sounded Well Depth[2] (ft btoc)	Total Depth of Boring (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Screen Length (ft)	Screen Type	Casing Diameter (in)	Casing Type	Filter Pack Type
Downgradient	MW-101	9/11/2025	804679.65	348462.30	513.69	516.32	31.55	28.16	22.50	27.50	5	0.010" PVC - Slotted	2	Schedule 40 PVC	#1 Sand
Downgradient	MW-102	9/12/2025	804725.69	348748.53	515.58	518.11	30.10	27.10	21.00	26.00	5	0.010" PVC - Slotted	2	Schedule 40 PVC	#1 Sand
Downgradient	MW-103	9/12/2025	804654.26	349065.15	509.59	512.34	31.94	29.50	24.00	29.00	5	0.010" PVC - Slotted	2	Schedule 40 PVC	#1 Sand
Downgradient	MW-104	9/12/2025	804349.67	349098.01	509.86	512.52	33.85	30.00	24.00	29.00	5	0.010" PVC - Slotted	2	Schedule 40 PVC	#1 Sand
Downgradient	MW-105	9/15/2025	804305.74	348721.24	510.86	513.44	28.83	25.50	20.00	25.00	5	0.010" PVC - Slotted	2	Schedule 40 PVC	#1 Sand
Downgradient	MW-106	9/15/2025	804329.60	348498.92	513.29	515.94	31.85	30.00	24.00	29.00	5	0.010" PVC - Slotted	2	Schedule 40 PVC	#1 Sand
Background	MW-109	9/15/2025	803759.39	348533.26	509.88	512.55	24.98	21.50	16.00	21.00	5	0.010" PVC - Slotted	2	Schedule 40 PVC	#1 Sand

Notes:
1) Horizontal coordinates are based on North American Datum 1983 Illinois State Plane Zone East.
2) Sounded well depths recorded October 8, 2025 following well installation and well development activities.
ft = feet
ft bgs = feet below ground surface
ft btoc = feet below top of casing
in = inch
NAVD88 = North American Vertical Datum 1988
PVC = polyvinyl chloride
" = inch

Drafted by: MV 10/1/2025
Checked by: JDV 10/7/2026
Reviewed by: DFSC



LEGEND

- Monitoring Wells
- Staff Gauge
- Piezometer
- Approximate Waste Boundary of Pond 1/2

0 150 300

1 inch equals 150 ft

Feet

NOTE(S)

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: VANTOR
3. MONITORING LOCATIONS ARE BASED ON SURVEY BY INGENAE, LLC (OCTOBER 2025)

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

DESIGN AND CONSTRUCTION REPORT - POND 1/2

TITLE

GROUNDWATER MONITORING WELL LOCATION MAP

CONSULTANT

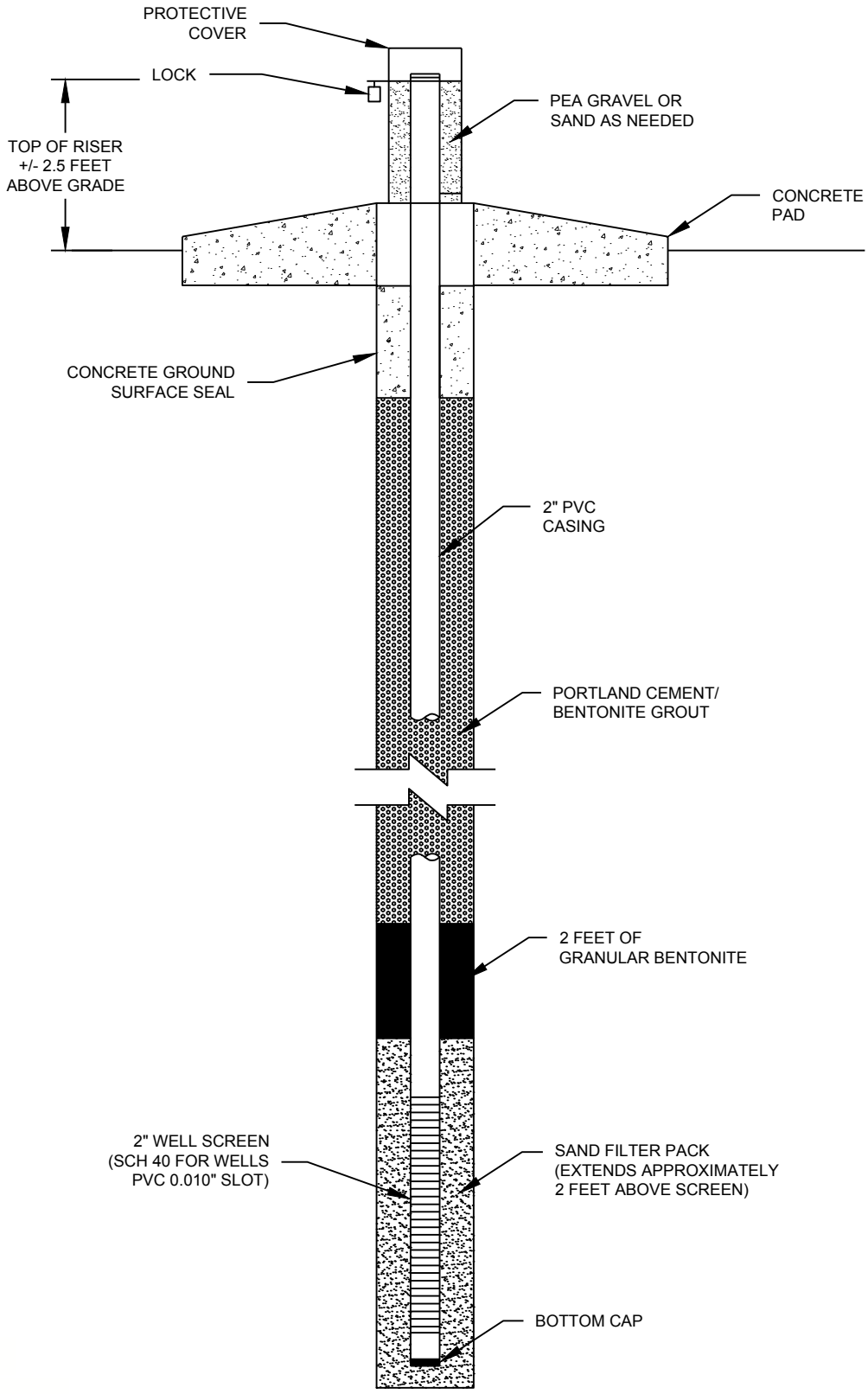
wsp

YYYY-MM-DD	10/16/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	1

B:\Southern Illinois Power Cooperative\Marion Power Plant\99 PROJ\21467997 Operations Permit Application\0010 Site wide GWE\0010 gis mxds gws dgns

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



CLIENT
SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT
DESIGN AND CONSTRUCTION REPORT - POND 1/2

CONSULTANT

YYYY-MM-DD	2026-10-13
DESIGNED	JDV
PREPARED	JDV
REVIEWED	DFSC
APPROVED	DFSC

TITLE
TYPICAL MONITORING WELL CONSTRUCTION DIAGRAM

PROJECT NO.	SUBTITLE	REV.	FIGURE
GLA21467997.4465	A	A	2

Path: ---- | File Name: 16.07.08 MW Detail_Npsco.dwg
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A
0 1in

Attachment A Boring and Construction Logs

RECORD OF BOREHOLE: MW-101

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 11, 2025	ELEVATION:	513.7 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348462.3 ft E: 804679.6 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILL METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT: Plastic & Liquid Limits (%), Water Content (%), NP Nonplastic	SHEAR STRENGTH: Nat Vane, Rem Vane, Pocket Pen Su, Q, U, Torvane	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
0	CME 550X	Hollow Stem Auger - 6.00-in Hole Dia.	FILL - BOTTOM ASH, non plastic fines, some gravel; black; non-cohesive, dry, compact to dense.			0.0	SS-01	SS	20	4-8-9	17	NP			0.00 - 3.00 ft: SS-01 blows: 4-8-9-29		
1																	
2																	2.00 ft bgs: Top of Bentonite
3							SS-02	SS	63	17-29-29	58				3.00 - 6.00 ft: SS-02 blows: 17-29-29-27-27-19		
4																	
5																	
6						507.4	SS-03	SS	80	2-3-4	7		0.25		6.00 - 8.00 ft: SS-03 blows: 2-3-4-4		
7			(CL) sandy SILTY CLAY, medium plasticity; light brown; cohesive, w < PL, firm to stiff, trace coal fines throughout, tan mottling.	CL		6.3											
8							SS-04	SS	90	1-3-4	7		0.38		8.00 - 11.00 ft: SS-04 blows: 1-3-4-6-6-6		
9																	
10																	
11							SS-05	SS	105	3-3-5	8		0.38		11.00 - 13.00 ft: SS-05 blows: 3-3-5-5		
12																	
13							SS-06	SS	103	2-3-5	8		0.38		13.00 - 16.00 ft: SS-06 blows: 2-3-5-6-7-6		
14																	
15																	
16							SS-07	SS	108	2-4-5	9		0.75		16.00 - 18.00 ft: SS-07 blows: 2-4-5-6		
17																	
18							SS-08	SS	103	2-5-8	13		0.75		18.00 - 21.00 ft: SS-08 blows: 2-5-8-9-10-10		
19						494.5											
			(CL) SILTY CLAY, medium plasticity, trace sand; dark yellowish brown mottled light gray; cohesive, w < PL, stiff.			19.2							1.25				
20																	20.00 ft bgs: Top of Filter Sand
21						492.3	SS-09	SS	174	11-60/5"	60		0.62		21.00 - 23.00 ft: SS-09 blows: 11-60/5", Rec: 100%		
22			PARTIALLY WEATHERED ROCK, SAMPLED AS - (ML) SILT, non plastic; pale brown; cohesive, w < PL, hard.	ML		21.4											
23							SS-10	SS	133	56-60/4"	60				23.00 - 26.00 ft: SS-10 blows: 56-60/4", Rec: 100%		
24																	
25																	

Continued on Next Page

HAMMER TYPE: Automatic

REV:

LOGGED: WHN DATE: Sep 11, 2025

CHECKED: MASV DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-101

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 11, 2025	ELEVATION:	513.7 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348462.3 ft E: 804679.6 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILL METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT (Plastic & Liquid Limits (%); Water Content (%); NP Nonplastic)	SHEAR STRENGTH (Nat Vane; Rem Vane; Pocket Pen Su; Q; U; Torvane)	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
26	CME 550X	Hollow Stem Auger - 6.00-in Hole Dia.	PARTIALLY WEATHERED ROCK, SAMPLED AS - (ML) SILT, non plastic; pale brown; cohesive, w < PL, hard.	ML			SS 11	S S	240	60/3"	60				26.00 - 28.00 ft: SS-11 blows: 60/3", Rec: 100%	15Sep25	22.50 - 27.50 ft bgs: Screen Interval
28						485.5	SS 12	S S	188	60/2"	60				28.00 - 31.00 ft: SS-12 blows: 60/2", Rec: 100%		
			End of hole at 28.16 ft.														

HAMMER TYPE: Automatic

REV:

LOGGED: WHN DATE: Sep 11, 2025

CHECKED: MASV DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-102

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 11, 2025	ELEVATION:	515.6 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348748.5 ft E: 804725.7 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DRILL RIG: CME 550X
DRILL METHOD: Hollow Stem Auger - 6.00-in Hole Dia.

DEPTH (ft)	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT	SHEAR STRENGTH	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
0	FILL - BOTTOM ASH, fine to medium, trace gravel; black; non-cohesive, dry, loose to dense, trace tan fly ash.			0.0	SS-01	SS	57	2-6-9	15				0.00 - 3.00 ft: SS-01 blows: 2-6-9-9-10-19		
1															
2															2.00 ft bgs: Top of Bentonite
3					SS-02	SS	67	17-34-39	60				3.00 - 6.00 ft: SS-02 blows: 17-34-39-36-37-35		
4										O	NP				
5															
6					SS-03	SS	85	10-13-10	23				6.00 - 8.00 ft: SS-03 blows: 10-13-10-8		
7															
8					SS-04	SS	57	3-4-2	6				8.00 - 11.00 ft: SS-04 blows: 3-4-2-4-3-3		
9															
10															
11				504.3	SS-05	SS	22	1-3-3	6				11.00 - 13.00 ft: SS-05 blows: 1-3-3-5		
12	(CL) SILTY CLAY, low plasticity, trace fine sand; light orangish brown mottled light grayish tan; cohesive, w < PL, firm to stiff.	CL		11.3							0.88				
13					SS-06	SS	11	2-3-5	8	H			13.00 - 16.00 ft: SS-06 blows: 2-3-5-6-6-7	15Sep25	
14															
15											0.50				
16					SS-07	SS	100	2-3-4	7				16.00 - 18.00 ft: SS-07 blows: 2-3-4-6		
17											0.88				
18					SS-08	SS	100	2-4-5	9				18.00 - 21.00 ft: SS-08 blows: 2-4-5-8-9-9		
19															19.00 ft bgs: Top of Filter Sand
20											1.50				
21					SS-09	SS	100	3-6-8	14				21.00 - 23.00 ft: SS-09 blows: 3-6-8-11		
22											1.62				
23				492.6							1.62				
24	(CL) sandy SILTY CLAY, low plasticity, fine sand, trace gravel; light orangish brown mottled light grayish tan; cohesive, w < PL, firm to stiff.			23.0	SS-10	SS	100	10-13-15	28	H			23.00 - 26.00 ft: SS-10 blows: 10-13-15-15-19-20		21.00 - 26.00 ft bgs: Screen Interval
25															

Continued on Next Page

HAMMER TYPE: Automatic

REV:

LOGGED: MASV
CHECKED: WHN

DATE: Sep 11, 2025
DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-102

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 11, 2025	ELEVATION:	515.6 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348748.5 ft E: 804725.7 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILL METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT (Plastic & Liquid Limits (%); Water Content (%); NP Nonplastic)	SHEAR STRENGTH (Nat Vane; Rem Vane; Pocket Pen Su; Q; U; Torvane)	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
26	CME 550X	Hollow Stem Auger - 6.00-in	(CL) sandy SILTY CLAY, low plasticity, fine sand, trace gravel; light orangish brown mottled light grayish tan; cohesive, w < PL, firm to stiff. - 26.0 to 27.0 ft: trace coarse sand and weathered rock fragments	CL		488.6	8	SS	100	7 / 7 / 6	13		Torvane: 1.38		26.00 - 28.00 ft: SS-11 blows: 60/2", Rec: 100%		
27			PARTIALLY WEATHERED ROCK, SAMPLED AS - (SM) SILTY SAND, fine; tan; non-cohesive, dry, very dense. End of hole at 27.08 ft.			27.0 488.5	9	SS	100	50/1"	50/1"				27.00 - 29.00 ft: SS-12 blows: 60/1", Rec: 100%		
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	
36																	
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46																	
47																	
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49																	
50																	

HAMMER TYPE: Automatic

REV:

LOGGED: MASV DATE: Sep 11, 2025

CHECKED: WHN DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-103

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 12, 2025	ELEVATION:	509.6 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 349065.2 ft E: 804654.3 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILL METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT: Plastic & Liquid Limits (%) / Water Content (%) / NP Nonplastic	SHEAR STRENGTH: Nat Vane / Rem Vane / Pocket Pen Su / Q / U / Torvane	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
0	CME 550X	Hollow Stem Auger - 6.00-in Hole Dia.	TOPSOIL - (CL) SILTY CLAY, low plasticity, some gravel; dark gray; cohesive, w < PL, hard, trace fly ash gravel.	CL		0.0 / 508.6	SS-01	SS	67	11-35-87	60				0.00 - 3.00 ft: SS-01 blows: 11-35-87-40-26-34		
1			FILL - BOTTOM ASH, medium to coarse, poorly graded; black; non-cohesive, moist, very loose to very dense.			1.0											
2																	2.00 ft bgs: Top of Bentonite
3							SS-02	SS	63	9-14-12	26				3.00 - 6.00 ft: SS-02 blows: 9-14-12-13-14-12		
4																	
5																	
6			- 6.0 to 8.0 ft: wet				SS-03	SS	50	1-1-2	3				6.00 - 8.00 ft: SS-03 blows: 1-1-2-1		
7																	
8			(CL) sandy SILTY CLAY, low plasticity, fine sand; light brown to light gray; cohesive, w > PL, very soft, trace coal fines.			501.6 / 8.0	SS-04	SS	70	1-0-0	0				8.00 - 11.00 ft: SS-04 blows: 1-0-0-0-2-2		
9																15Sep25	
10						499.1											
11			(CL) sandy SILTY CLAY, low plasticity, trace gravel; light brown to light gray; cohesive, w < PL, stiff.			10.5	SS-05	SS	100	3-3-6	9		0.38		11.00 - 13.00 ft: SS-05 blows: 1-3-3-5		
12													1.38				
13							SS-06	SS							13.00 - 16.00 ft: SS-06 data unavailable		
14																	
15																	
16			- 16.0 ft: changes to W~PL	CL			SS-07	SS	100	1-2-5	7	H	1.25		16.00 - 18.00 ft: SS-07 blows: 1-2-5-7		
17																	
18							SS-08	SS	73	3-7-8	15	H	1.25		18.00 - 21.00 ft: SS-08 blows: 3-7-8-9-9-7		
19																	
20																	
21							SS-09	SS	100	5-4-5	9		0.88		21.00 - 23.00 ft: SS-09 blows: 5-4-5-5		
22																	22.00 ft bgs: Top of Filter Sand
23			- 23.0 to 24.5 ft: trace sand												23.00 - 26.00 ft: SS-10 blows: 2-3-12-13-60/5"		
24			PARTIALLY WEATHERED ROCK, SAMPLED AS - sandy SILTY CLAY, fine sand, trace gravel; reddish brown mottled light gray; non-cohesive, dry, very dense.			485.1 / 24.5	SS-10	SS	73	2-31-12	43	H	0.38				
25																	

Continued on Next Page

HAMMER TYPE: Automatic

REV:

LOGGED: MASV DATE: Sep 12, 2025

CHECKED: WHN DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-103

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 12, 2025	ELEVATION:	509.6 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 349065.2 ft E: 804654.3 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILL METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT	SHEAR STRENGTH	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
26	CME 550X	Hollow Stem Auger - 6.00-in Hole Dia.	PARTIALLY WEATHERED ROCK, SAMPLED AS - sandy SILTY CLAY, fine sand, trace gravel; reddish brown mottled light gray; non-cohesive, dry, very dense.	CL		480.1	SS-11	SS	100	14-29-60/5"	60		2.38		26.00 - 28.00 ft: SS-11 blows: 14-29-60/5"		24.00 - 29.00 ft bgs: Screen Interval
27																	
28							SS-12	SS	100	25-60/6"	60				28.00 - 31.00 ft: SS-12 blows: 25-60/6"		
29			End of hole at 29.50 ft.														
30																	
31																	
32																	
33																	
34																	
35																	
36																	
37																	
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41																	
42																	
43																	
44																	
45																	
46																	
47																	
48																	
49																	
50																	

WATER CONTENT: Plastic & Liquid Limits (%); Water Content (%); NP Nonplastic

SHEAR STRENGTH: Nat Vane; Rem Vane; Pocket Pen Su; Q; U; Torvane

HAMMER TYPE: Automatic

REV:

LOGGED: MASV DATE: Sep 12, 2025

CHECKED: WHN DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-104

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 12, 2025	ELEVATION:	509.9 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 349098.0 ft E: 804349.7 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DRILL RIG: CME 550X
DRILL METHOD: Hollow Stem Auger - 6.00-in Hole Dia.

DEPTH (ft)	DESCRIPTION	USCS	ELEV. DEPTH (ft)	NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT	SHEAR STRENGTH	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
0	FILL - (CL) SILTY CLAY, low plasticity, trace sand; brownish black; cohesive, w < PL, stiff, coal fines throughout, trace organics.		0.0	SS-01	SS	93	9-11-10	21				0.00 - 3.00 ft: SS-01 blows: 9-11-10-12-19-19		
2	- 2.5 to 2.8 ft: lens of gray, coarse sand-sized fly ash		506.9											2.00 ft bgs: Top of Bentonite
3	FILL - BOTTOM ASH, non plastic fines, some fine to coarse subangular gravel; black, trace silt; non-cohesive, wet, very loose to compact, slightly cohesive.		3.0	SS-02	SS	67	8-36-102	60				3.00 - 6.00 ft: SS-02 blows: 8-36-102-43-56-58		
4	- 3.0 to 6.0 ft: trace industrial metal scrap													
6				SS-03	SS	100	3-2-2	4		NP		6.00 - 8.00 ft: SS-03 blows: 3-2-2-2		
8	- 8.0 to 16.0 ft: possible voids			SS-04	SS	10	1-0-1	1				8.00 - 11.00 ft: SS-04 blows: 1-0-0-1-0-1	15Sep25	
10														
11				SS-05	SS	80	0-0-1	1				11.00 - 13.00 ft: SS-05 blows: 0-0-1-1		
12														
13				SS-06	SS	90	0-1-1	2				13.00 - 16.00 ft: SS-06 blows: 0-1-1-1-2-2		
14														
15	- 15.0 to 15.2 ft: light gray silty clay inclusion													
16				SS-07	SS	100	1-2-4	6		NP		16.00 - 18.00 ft: SS-07 blows: 1-2-4-2		
17														
18	(CL) sandy SILTY CLAY, low plasticity, fine to medium sand; orangish brown to reddish brown; cohesive, w ~ PL, soft.	CL	491.9 18.0	SS-08	SS	50	0-0-0	0				18.00 - 21.00 ft: SS-08 blows: 0-0-0-1-2-4		
19	- 18.0 to 21.0 ft: possible voids													
20														
21				SS-09	SS	100	2-3-4	7		0.25		21.00 - 23.00 ft: SS-09 blows: 2-3-4-4		
22														22.00 ft bgs: Top of Filter Sand
23				SS-10	SS	100	1-4-3	7				23.00 - 26.00 ft: SS-10 blows: 1-4-3-4-5-5		
24														
25														

Continued on Next Page

HAMMER TYPE: Automatic

REV:

LOGGED: MASV
CHECKED: WHN

DATE: Sep 12, 2025
DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-104

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 12, 2025	ELEVATION:	509.9 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 349098.0 ft E: 804349.7 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILL METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT (Plastic & Liquid Limits (%); Water Content (%); NP Nonplastic)	SHEAR STRENGTH (Nat Vane; Rem Vane; Pocket Pen Su; Q; U; Torvane)	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
26	CME 550X	Hollow Stem Auger - 6.00-in Hole Dia.	(CL) sandy SILTY CLAY, low plasticity, fine to medium sand; orangish brown to reddish brown; cohesive, w ~ PL, soft.	CL			SS-11	SS	100	3-4-8	12		0.62		26.00 - 28.00 ft: SS-11 blows: 3-4-8-8		24.00 - 29.00 ft bgs: Screen Interval
27																	
28			- 28.0 to 29.5 ft: trace coarse sand												28.00 - 31.00 ft: SS-12 blows: 1-3-23-60/4"		
29						480.4	SS-12	SS	100	1-3-23	26		1.00				
30			PARTIALLY WEATHERED ROCK, SAMPLED AS - (SC) CLAYEY SAND, low plasticity fines; orangish brown to tan; non-cohesive, dry, very dense.	SC		29.5 / ~~479.9~~									~~30.00 ft: SS-13~~ blows: 60/0", Rec: 0%		
31			End of hole at 30.00 ft.														
32																	
33																	
34																	
35																	
36																	
37																	
38																	
39																	
40																	
41																	
42																	
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44																	
45																	
46																	
47																	
48																	
49																	
50																	

HAMMER TYPE: Automatic

REV:

LOGGED: MASV DATE: Sep 12, 2025

CHECKED: WHN DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-105

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 15, 2025	ELEVATION:	510.9 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348721.2 ft E: 804305.7 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DRILL RIG: CME 550X
DRILL METHOD: Hollow Stem Auger - 6.00-in Hole Dia.

DEPTH (ft)	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT	SHEAR STRENGTH	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
0	TOPSOIL - (ML) sandy SILT, non plastic, fine sand; dark brown, trace clay; non-cohesive, dry, very dense, some organics.			0.0	SS-01	SS	57	2-5-5	10				0.00 - 20.00 ft: No groundwater encountered. 0.00 - 3.00 ft: SS-01 blows: 2-5-5-10-6		
3	(CL) sandy SILTY CLAY, low plasticity, trace gravel; light brown; cohesive, w < PL, firm to stiff, trace gray mottling. - 3.0 to 6.0 ft: some sand	CL		507.9 3.0	SS-02	SS	67	2-4-4	8		0.50		3.00 - 6.00 ft: SS-02 blows: 2-4-4-5-6-6		
6					SS-03	SS	75	3-4-5	9				6.00 - 8.00 ft: SS-03 blows: 3-4-5-4		
8	- 8.0 ft: changes to W~PL				SS-04	SS	100	2-3-4	7		0.38		8.00 - 11.00 ft: SS-04 blows: 2-3-4-4-6-6		
11					SS-05	SS	100	2-3-5	8				11.00 - 13.00 ft: SS-05 blows: 2-3-5-5		
13					SS-06	SS	100	3-4-5	9	PL ⊣	1.12		13.00 - 16.00 ft: SS-06 blows: 3-4-5-7-7-7		
16					SS-07	SS	70	2-7-6	13		0.88		16.00 - 18.00 ft: SS-07 blows: 2-2-6-8		
18	(CL) sandy SILTY CLAY, low plasticity, fine sand; light brown; cohesive, w ~ PL, stiff.			492.9 18.0	SS-08	SS	100	8-11-12	23		0.75		18.00 - 21.00 ft: SS-08 blows: 8-11-12-60/5"		18.00 ft bgs: Top of Filter Sand
21	PARTIALLY WEATHERED ROCK, SAMPLED AS - sandy SILTY CLAY, fine sand; reddish brown to tan; non-cohesive, dry, very dense.			489.9 21.0	SS-09	SS	100	24-45-60/5"	60				21.00 - 23.00 ft: SS-09 blows: 24-45-60/5"		20.00 - 25.00 ft bgs: Screen Interval
23					SS-10	SS	100	21-60/5"	60	○ ⊣			23.00 - 25.00 ft: SS-10 blows: 21-60/5"		
25															

Continued on Next Page

WATER CONTENT: ⊢ Plastic & Liquid Limits (%); ○ Water Content (%); NP Nonplastic; 0 25 50 75 100 125 150
SHEAR STRENGTH: × Nat Vane; ⊕ Rem Vane; ■ Pocket Pen Su; ● Q; ○ U; ▲ Torvane; 0 1 2 3 4 5

HAMMER TYPE: Automatic

REV:

LOGGED: MASV DATE: Sep 15, 2025

CHECKED: WHN DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-105

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 15, 2025	ELEVATION:	510.9 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348721.2 ft E: 804305.7 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILLING METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: REC %	SAMPLES: BLOWS	SAMPLES: N-VALUE	WATER CONTENT	SHEAR STRENGTH	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
25	CME 550X	Hollow Stem Auger - 6.0"	PARTIALLY WEATHERED ROCK, SAMPLED AS - sandy SILTY CLAY, fine sand; reddish brown to tan; non-cohesive, dry, very dense.	CL		485.4		SS	100		60/2"	H Plastic & Liquid Limits (%); ○ Water Content (%); NP Nonplastic	× Nat Vane; ⊕ Rem Vane; ■ Pocket Pen Su; ● Q; ○ U; ▲ Torvane		25.00 - 27.00 ft: ~~SS 11 blows;~~ 60/2", Rec: 100%		
26			25.0 to 27.0 ft: trace sandstone gravel														
27			End of hole at 25.50 ft.														
28																	
29																	
30																	
31																	
32																	
33																	
34																	
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36																	
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HAMMER TYPE: Automatic

REV:

LOGGED: MASV DATE: Sep 15, 2025

CHECKED: WHN DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-106

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 15, 2025	ELEVATION:	513.3 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348498.9 ft E: 804329.6 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DRILL RIG: CME 550X
DRILL METHOD: Hollow Stem Auger - 6.00-in Hole Dia.

DEPTH (ft)	MATERIAL PROFILE: DESCRIPTION	USCS	ELEV. DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT	SHEAR STRENGTH	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
0	TOPSOIL - (SM) SILTY SAND, fine to medium, non plastic fines, some fine subrounded gravel; blackish brown; non-cohesive, dry, compact, some organics.		0.0											
			512.8											
1	FILL - BOTTOM ASH, poorly graded; black; non-cohesive, dry, compact.		0.5											
			512.3											
2	(CL) sandy SILTY CLAY, low plasticity; light brown; cohesive, w ~ PL, stiff, trace black staining.		1.0	SS-01	SS	50	5-13-17	30				0.00 - 3.00 ft: SS-01 blows: 5-13-17-14-14-13		2.00 ft bgs: Top of Bentonite
3														
4				SS-02	SS	50	4-6-7	13		0.50		3.00 - 6.00 ft: SS-02 blows: 4-6-7-5-4-6		
5														
6	- 6.0 to 8.0 ft: some light gray mottling			SS-03	SS	100	3-5-6	11		0.62		6.00 - 8.00 ft: SS-03 blows: 3-5-6-8		
7														
8		CL		SS-04	SS	100	3-3-5	8		0.50		8.00 - 11.00 ft: SS-04 blows: 3-3-5-5-6-5		
9														
10														
11				SS-05	SS	75	2-3-4	7				11.00 - 13.00 ft: SS-05 blows: 2-3-11-4		
12														
13	- 13.0 to 17.0 ft: some light gray mottling			SS-06	SS	100	2-3-4	7		0.75		13.00 - 16.00 ft: SS-06 blows: 2-3-4-4-6-7		
14														
15														
16												16.00 - 18.00 ft: SS-07 blows: 3-4-13-31		
17			496.3	SS-07	SS	100	3-4-13	17						
	PARTIALLY WEATHERED ROCK, SAMPLED AS - (SP) SAND, fine to medium, poorly graded, some gravel, trace fines; reddish brown to tan; sandstone; non-cohesive, dry, hard.		17.0											
18				SS-08	SS	100	44-60/5"	60				18.00 - 21.00 ft: SS-08 blows: 44-60/5"		
19														
20														
21		SP		SS-09	SS	95	60/5"	60				21.00 - 23.00 ft: SS-09 blows: 60/5", Rec: 95%		
22														22.00 ft bgs: Top of Filter Sand
23				SS-10	SS	100	60/4"	60				23.00 - 25.00 ft: SS-10 blows: 60/4", Rec: 100%		
24														
25														

Continued on Next Page

HAMMER TYPE: Automatic

REV:

LOGGED: MASV
CHECKED: WHN

DATE: Sep 15, 2025
DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-106

CLIENT:	Southern Illinois Power Cooperative	DATE:	September 15, 2025	ELEVATION:	513.3 ft (Ground)
PROJECT:	SIPC Ponds 1&2			COORDINATES:	N: 348498.9 ft E: 804329.6 ft
PROJECT NO:	US-WSP-GLA21467997.4465	INCLINATION:	90.0°	COORD SYS:	SP IL West FIPS 1202 Ft
LOCATION:	Marion, IL	CONTRACTOR:	Holcomb Foundation Engineering	HORZ DATUM:	NAD83

DEPTH (ft)	DRILL RIG	DRILL METHOD	MATERIAL PROFILE: DESCRIPTION	USCS	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	REC %	BLOWS	N-VALUE	WATER CONTENT	SHEAR STRENGTH	ADDITIONAL LAB TESTING	ADDITIONAL OBSERVATIONS	GROUNDWATER OBSERVATIONS	CONSTRUCTION AND INSTALLATION DETAILS
26	CME 550X	Hollow Stem Auger - 6.00-in Hole Dia.	PARTIALLY WEATHERED ROCK, SAMPLED AS - (SP) SAND, fine to medium, poorly graded, some gravel, trace fines; reddish brown to tan; sandstone; non-cohesive, dry, hard.	SP			SS-11	SS	100	60/5"	60				25.00 - 27.00 ft: SS-11 blows: 60/5", Rec: 100%		
27																	
28							SS-12	SS	100	60/3"	60				28.00 - 30.00 ft: SS-12 blows: 60/3", Rec: 100%		
29																15Sep25	24.00 - 29.00 ft bgs: Screen Interval
30						483.3											
			End of hole at 30.00 ft.														
31																	
32																	
33																	
34																	
35																	
36																	
37																	
38																	
39																	
40																	
41																	
42																	
43																	
44																	
45																	
46																	
47																	
48																	
49																	
50																	

WATER CONTENT: Plastic & Liquid Limits (%); Water Content (%); NP Nonplastic. Scale: 0, 25, 50, 75, 100, 125, 150

SHEAR STRENGTH: Nat Vane; Rem Vane; Pocket Pen Su; Q; U; Torvane. Scale: 0, .5, 1, 2, 3, 4, 5

HAMMER TYPE: Automatic

REV:

LOGGED: MASV DATE: Sep 15, 2025

CHECKED: WHN DATE: Oct 02, 2025

RECORD OF BOREHOLE: MW-109

CLIENT: Southern Illinois Power Cooperative
PROJECT: SIPC Ponds 1&2
PROJECT NO: US-WSP-GLA21467997.4465
LOCATION: Marion, IL

DATE: September 15, 2025
INCLINATION: 90.0°
CONTRACTOR: Holcomb Foundation Engineering

ELEVATION: 509.9 ft (Ground)
COORDINATES: N: 348533.3 ft E: 803759.4 ft
COORD SYS: SP IL West FIPS 1202 Ft
HORZ DATUM: NAD83

DRILL RIG: CME 550X
DRILL METHOD: Hollow Stem Auger - 6.00-in Hole Dia.

DEPTH (ft)	DESCRIPTION	USCS	ELEV. / DEPTH (ft)	NUMBER	TYPE	REC %	BLOWS	N-VALUE	SHEAR STRENGTH	ADDITIONAL OBSERVATIONS
0	(CL) sandy SILTY CLAY, low plasticity, fine sand; brown mottled light brown; cohesive, w < PL, stiff.	CL	0.0	SS-01	SS	67	7-4-3	7	1.25	0.00 - 3.00 ft: SS-01 blows: 7-4-3-4-6-7
3	(CL) SILTY CLAY, low plasticity, some sand; light brown; cohesive, w ~ PL, soft to firm.		506.9 / 3.0	SS-02	SS	100	2-4-5	9	0.50	3.00 - 6.00 ft: SS-02 blows: 2-4-5-6-6-6
6				SS-03	SS	100	3-3-5	8	0.62	6.00 - 8.00 ft: SS-03 blows: 3-3-5-5
8	- 8.0 to 13.0 ft: orangish brown			SS-04	SS	100	2-3-5	8	0.50	8.00 - 11.00 ft: SS-04 blows: 2-3-5-5-7-7
11	- 11.0 to 13.0 ft: trace subangular gravel			SS-05	SS	100	3-3-4	7	0.38	11.00 - 13.00 ft: SS-05 blows: 3-3-4-4
13				SS-06	SS	73	1-1-2	3	0.38	13.00 - 16.00 ft: SS-06 blows: 1-1-2-4-5-7
16	- 16.0 to 18.0 ft: trace fine sand			SS-07	SS	100	6-11-11	22		16.00 - 18.00 ft: SS-07 blows: 6-11-11-11
18	(CL) sandy SILTY CLAY, low plasticity, fine sand, trace fine gravel; orangish brown; cohesive, w ~ PL, stiff.		491.9 / 18.0	SS-08	SS	100	5-11-14	25	1.38	18.00 - 21.00 ft: SS-08 blows: 5-11-14-60/3"
19			490.4							
20	PARTIALLY WEATHERED ROCK, SAMPLED AS - (SP) SAND, fine, poorly graded, trace fines; tan; non-cohesive, dry, very dense.	SP	19.5	SS-09	SS	100	50/1"	60		21.00 - 23.00 ft: SS-09 blows: 60/1"
21	End of hole at 21.50 ft.		488.4							

WATER CONTENT: Plastic & Liquid Limits (%); Water Content (%); NP Nonplastic

SHEAR STRENGTH: Nat Vane; Rem Vane; Pocket Pen Su; Q; U; Torvane

ADDITIONAL LAB TESTING

GROUNDWATER OBSERVATIONS: 15Sep25

CONSTRUCTION AND INSTALLATION DETAILS:
- 2.00 ft bgs: Top of Bentonite
- 14.00 ft bgs: Top of Filter Sand
- 16.00 - 21.00 ft bgs: Screen Interval

HAMMER TYPE: Automatic

REV:

LOGGED: MASV
CHECKED: WHN

DATE: Sep 15, 2025
DATE: Oct 02, 2025

Attachment B Monitoring Well Development Logs

Appendix B - Montoring Well Developement Logs
Southern Illinois Power Cooperative
Marion, IL

MW-101		
Pre-development		
DTW	29.61	ft
BOW	31	ft
WC	1.39	ft
WV	0.23	gal

MW-101		
1st Purge		
9/16/2025		
Started: 1230	Completed: 1325	
DTW	29.61	ft
BOW	31.0	ft
WC	1.39	ft
WV	0.23	gal
Pumping time	NA	min
gallons removed	2	gal
elapsed recharge time	25	min
recharged WL	dry	

estimated recharge rate		
BOW	31.0	ft
Recharge WL	dry	ft
Water gained	NA	ft
elapsed time	25	min
ft/min	NA	ft/min
gal/min	NA	gal/min
mL/min	NA	mL/min

Comments
2 gallons were removed by a bailer, purge water was brown, well went dry after 15 minutes of bailing

MW-101		
2nd Purge		
9/17/2025		
Started: 0800	Completed: 0840	
DTW	29.81	ft
BOW	30.95	ft
WC	1.14	ft
WV	0.19	gal
Pumping time	NA	min
gallons removed	NA	gal
elapsed recharge time	NA	min
recharged WL	NA	ft

estimated recharge rate		
BOW	30.95	ft
Recharge WL	NA	ft
Water gained	NA	ft
elapsed time	NA	min
ft/min	NA	ft/min
gal/min	NA	gal/min
mL/min	NA	mL/min

Comments
inssuficent water in well to remove with the pump

Appendix B - Montoring Well Developement Logs
Southern Illinois Power Cooperative
Marion, IL

MW-102	
Pre-development	
DTW	15.45 ft
BOW	28.65 ft
WC	13.2 ft
WV	2.16 gal

MW-102		
1st Purge		
9/16/2025		
Started: 1230	Completed: 1325	
DTW	15.35	ft
BOW	28.8	ft
WC	13.45	ft
WV	2.21	gal
Pumping time	9	min
gallons removed	8	gal
elapsed recharge time	15	min
recharged WL	dry	

estimated recharge rate		
BOW	28.8	ft
Recharge WL	dry	ft
Water gained	NA	ft
elapsed time	15	min
ft/min	NA	ft/min
gal/min	NA	gal/min
mL/min	NA	mL/min

Comments
3 gallons were bailed out prior to pumping, water was very turbid closer to mud

MW-102		
2nd Purge		
9/17/2025		
Started: 0800	Completed: 0840	
DTW	18.7	ft
BOW	29.6	ft
WC	10.9	ft
WV	1.79	gal
Pumping time	5	min
gallons removed	4	gal
elapsed recharge time	30	min
recharged WL	23.93	ft

estimated recharge rate		
BOW	29.6	ft
Recharge WL	23.93	ft
Water gained	5.67	ft
elapsed time	30	min
ft/min	0.189	ft/min
gal/min	0.031	gal/min
mL/min	117.3	mL/min

Comments
Still fine sediment in purge water, clear to the eye, additonal 2 gallons removed after recharge

Appendix B - Montoring Well Developement Logs
Southern Illinois Power Cooperative
Marion, IL

MW-103		
Pre-development		
DTW	11.64	ft
BOW	31.5	ft
WC	19.86	ft
WV	3.26	gal

MW-103		
1st Purge		
9/16/2025		
Started: 1345	Completed: 1325	
DTW	11.66	ft
BOW	31.5	ft
WC	19.84	ft
WV	3.25	gal
Pumping time	5	min
gallons removed	10	gal
elapsed recharge time	20	min
recharged WL	23.93	ft

estimated recharge rate		
BOW	31.5	ft
Recharge WL	23.93	ft
Water gained	7.57	ft
elapsed time	20	min
ft/min	0.379	ft/min
gal/min	0.062	gal/min
mL/min	235.0	mL/min

Comments
Brown water, fines deposited on the bottom of the bucket, additonal 2 gallons removed after recharge

MW-103		
2nd Purge		
9/17/2025		
Started: 0923	Completed: 1002	
DTW	12.54	ft
BOW	31.5	ft
WC	18.96	ft
WV	3.11	gal
Pumping time	3	min
gallons removed	8	gal
elapsed recharge time	30	min
recharged WL	21.21	ft

estimated recharge rate		
BOW	31.5	ft
Recharge WL	21.21	ft
Water gained	10.29	ft
elapsed time	30	min
ft/min	0.343	ft/min
gal/min	0.056	gal/min
mL/min	212.9	mL/min

Comments
Still fine sediment in purge water, clear to the eye, additonal 3 gallons removed after recharge

Appendix B - Montoring Well Developement Logs
Southern Illinois Power Cooperative
Marion, IL

MW-104		
Pre-development		
DTW	11.25	ft
BOW	33.5	ft
WC	22.25	ft
WV	3.65	gal

MW-104			
1st Purge			
9/16/2025			
Started: 1435	Completed: 1528		
DTW	11.25	ft	
BOW	33.5	ft	
WC	22.25	ft	
WV	3.65	gal	
Pumping time	6	min	
gallons removed	5	gal	
elapsed recharge time	30	min	
recharged WL	13.16	ft	

estimated recharge rate		
BOW	33.5	ft
Recharge WL	13.16	ft
Water gained	20.34	ft
elapsed time	30	min
ft/min	0.678	ft/min
gal/min	0.111	gal/min
mL/min	420.9	mL/min

Comments
Purge water was black, slight odor, additonal 3 gallons removed after recharge

MW-104			
2nd Purge			
9/17/2025			
Started: 0923	Completed: 1002		
DTW	12.1	ft	
BOW	33.5	ft	
WC	21.4	ft	
WV	3.51	gal	
Pumping time	2	min	
gallons removed	4	gal	
elapsed recharge time	30	min	
recharged WL	13.39	ft	

estimated recharge rate		
BOW	33.2	ft
Recharge WL	13.39	ft
Water gained	19.81	ft
elapsed time	30	min
ft/min	0.660	ft/min
gal/min	0.108	gal/min
mL/min	409.9	mL/min

Comments
Purge water has a slight gray hue, slight odor, additional 3 gallons removed after recharge, recharge water was clear

Appendix B - Montoring Well Developement Logs
Southern Illinois Power Cooperative
Marion, IL

MW-105		
Pre-development		
DTW	dry	ft
BOW	28.51	ft
WC	NA	ft
WV	NA	gal

MW-105			
1st Purge			
9/16/2025			
Started: NA	Completed: NA		
DTW	dry	ft	
BOW	28.51	ft	
WC	NA	ft	
WV	NA	gal	
Pumping time	NA	min	
gallons removed	NA	gal	
elapsed recharge time	NA	min	
recharged WL	NA	ft	
estimated recharge rate			
BOW	NA	ft	
Recharge WL	NA	ft	
Water gained	NA	ft	
elapsed time	NA	min	
ft/min	NA	ft/min	
gal/min	NA	gal/min	
mL/min	NA	mL/min	
Comments			
None			

MW-105			
2nd Purge			
9/17/2025			
Started: NA	Completed: NA		
DTW	dry	ft	
BOW	28.51	ft	
WC	NA	ft	
WV	NA	gal	
Pumping time	NA	min	
gallons removed	NA	gal	
elapsed recharge time	NA	min	
recharged WL	NA	ft	
estimated recharge rate			
BOW	NA	ft	
Recharge WL	NA	ft	
Water gained	NA	ft	
elapsed time	NA	min	
ft/min	NA	ft/min	
gal/min	NA	gal/min	
mL/min	NA	mL/min	
Comments			
None			

Appendix B - Montoring Well Developement Logs
Southern Illinois Power Cooperative
Marion, IL

MW-106		
Pre-development		
DTW	30.21	ft
BOW	31.3	ft
WC	1.09	ft
WV	0.18	gal

MW-106		
1st Purge		
9/16/2025		
Started: 1550	Completed: 1621	
DTW	15.76	ft
BOW	31.28	ft
WC	15.52	ft
WV	2.55	gal
Pumping time	2	min
gallons removed	6	gal
elapsed recharge time	20	min
recharged WL	27.28	ft

estimated recharge rate		
BOW	31.28	ft
Recharge WL	27.28	ft
Water gained	4	ft
elapsed time	30	min
ft/min	0.133	ft/min
gal/min	0.022	gal/min
mL/min	82.8	mL/min

Comments
Purge water is clear to the eye, additonal gallon removed after recharge

MW-106		
2nd Purge		
9/17/2025		
Started: 1055	Completed: 1002	
DTW	16.21	ft
BOW	31.3	ft
WC	15.09	ft
WV	2.47	gal
Pumping time	3	min
gallons removed	5	gal
elapsed recharge time	30	min
recharged WL	24.65	ft

estimated recharge rate		
BOW	31.3	ft
Recharge WL	24.65	ft
Water gained	6.65	ft
elapsed time	30	min
ft/min	0.222	ft/min
gal/min	0.036	gal/min
mL/min	137.6	mL/min

Comments
Purge water is clear to the eye, additonal 2 gallons removed after recharge

Appendix B - Montoring Well Developement Logs
Southern Illinois Power Cooperative
Marion, IL

MW-109		
Pre-development		
DTW	16.25	ft
BOW	24.65	ft
WC	8.4	ft
WV	1.38	gal

MW-109		
1st Purge		
9/16/2025		
Started: 1634	Completed: 1714	
DTW	10.21	ft
BOW	24.65	ft
WC	14.44	ft
WV	2.37	gal
Pumping time	8	min
gallons removed	8	gal
elapsed recharge time	20	min
recharged WL	15.65	ft

estimated recharge rate		
BOW	24.65	ft
Recharge WL	15.65	ft
Water gained	9	ft
elapsed time	20	min
ft/min	0.450	ft/min
gal/min	0.074	gal/min
mL/min	279.4	mL/min

Comments
Purge water is brown, fines deposited in the bottom of the bucket

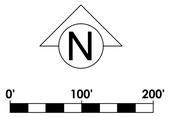
MW-109		
2nd Purge		
9/17/2025		
Started: 1153	Completed: 1002	
DTW	10.7	ft
BOW	24.65	ft
WC	13.95	ft
WV	2.29	gal
Pumping time	5	min
gallons removed	8	gal
elapsed recharge time	30	min
recharged WL	13.61	ft

estimated recharge rate		
BOW	24.65	ft
Recharge WL	13.61	ft
Water gained	11.04	ft
elapsed time	30	min
ft/min	0.368	ft/min
gal/min	0.060	gal/min
mL/min	228.5	mL/min

Comments
purge water has a tan hue, additonal 3 gallons were removed after recharge

Attachment C Survey Documentation





NOTES:

1. THE WELL LOCATION DATA HEREIN IS BASED ON THE INFORMATION ACQUIRED BY INGENAE THROUGH USE OF GPS EQUIPMENT AND IS BASED ON THE NAD 1983 ILLINOIS STATE PLANE ZONE EAST COORDINATE SYSTEM AND THE NAVD 1988 ELEVATION DATUM.
2. THIS DRAWING AND THE SURVEY FROM WHICH IT WAS BASED WAS PREPARED BY INGENAE AT THE REQUEST OF AND FOR THE EXCLUSIVE USE OF W.S.P. ENVIROMENTAL CONSULTING CO.

WELL LOCATION POINT TABLE

NORTHING	EASTING	GROUND ELEVATION	TOP METAL CASING ELEVATION	TOP OF PVC ELEVATION	DESCRIPTION
348462.30	804679.65	513.69	516.80	516.32	MW-101
348748.53	804725.69	515.58	518.42	518.11	MW-102
349065.15	804654.26	509.59	512.77	512.34	MW-103
349058.01	804349.67	509.86	512.88	512.52	MW-104
348721.24	804305.74	510.86	513.81	513.44	MW-105
348498.92	804329.60	513.29	516.39	515.94	MW-106
348533.26	803759.39	509.88	512.82	512.55	MW-109
348705.16	803753.68	507.12	-	509.26	S-6
349025.26	804479.09	500.50	-	503.84	POND 1 - SG
348787.60	804218.97	493.91	-	497.19	POND 4 - SG
349833.571	803997.512	-	-	470.25	CUT X ON BRIDGE

THIS SURVEY COMPLETED BY INGENAE ON OCTOBER 8, 2025

DENOTES WELL LOCATION

IngenAE
502 Earth City Plaza, Suite 120
Earth City, MO 63045
www.ingenae.com

Submissions / Revisions:		Date:
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		

Prepared for:

Project Name & Location:

SOUTHERN ILLINOIS POWER/LAKE OF EGYPT WELL SURVEY
11543 Lake of Egypt Rd,
Marion, IL
62959

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Drawing Name:

AS-BUILT WELL SURVEY

Date: 10/13/2025	Project No.
Type: SITE	Drawing No. 1
Drawn By: CB	
Approved By: MG	
Scale: AS NOTED	



CUT X ON BRIDGE



MW-101



MW-102



MW-103



MW-104



MW-105



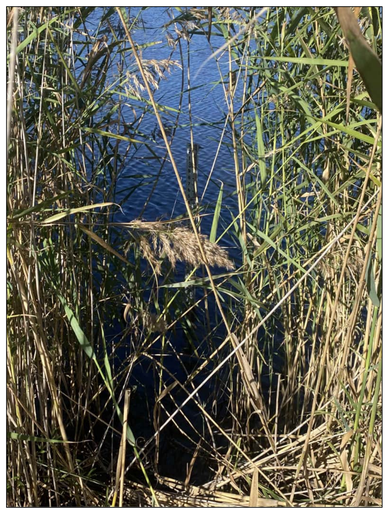
MW-106



MW-109



POND 1 STAFF GAUGE



POND 4 STAFF GAUGE

IngenAE

502 Earth City Plaza, Suite 120
Earth City, MO 63045
www.ingenae.com

Submissions / Revisions:		Date:
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		

Prepared for:

Project Name & Location:

SOUTHERN ILLINOIS POWER/LAKE OF EGYPT WELL SURVEY
11543 Lake of Egypt Rd,
Marion, IL
62959

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Drawing Name:

AS-BUILT WELL SURVEY PHOTOS

Date: 10/13/2025	Project No.
Type: SITE	Drawing No. 2
Drawn By: CB	
Approved By: MG	
Scale: AS NOTED	

wsp.com

Appendix G Sampling Analysis Plan

November 2, 2026

Certification of Appropriateness of Selected Statistical Method (40 CFR 257.93(f)(6) and 35 IAC 845.640(f))

Southern Illinois Power Cooperative
Marion Power Plant
Pond 1/2

I certify that I have personally examined and am familiar with the statistical methods selected for evaluation of groundwater monitoring information for the Southern Illinois Power Cooperative Pond 1/2, described in detail in the Sampling Analysis Plan, prepared by WSP USA Inc. and dated November 2026. Based on an inquiry of those individuals immediately responsible for selecting the statistical approach, I believe that the selected statistical methods, a narrative of which is provided herein, are appropriate for the applications outlined below.

In consideration of the above and in accordance with 40 CFR 257.93(f)(6) and 35 IAC 845.640(f)(2), I certify to the best of my knowledge, information, and belief that the statistical methodologies described herein are appropriate for evaluating the groundwater monitoring data for Pond 1/2.



Danielle Sylvia Cofelice
Illinois Professional Engineer
License #062.077345

November 2, 2026
Date

Introduction

40 Code of Federal Regulations (CFR) Parts 257 and 261 and Title 35 of the Illinois Administrative Code (IAC) Part 845 requires the owner or operator of an existing coal combustion residual (CCR) surface impoundment to identify a statistical method to be used in evaluating groundwater data for each specified constituent. The below selected and certified statistical methods that were developed in accordance with the requirements of 40 CFR 257.93, 35 IAC 845.640, and using methodology presented in Statistical Analysis of Groundwater Data at RCRA Facilities, Unified Guidance, March 2009, EPA 530/R-09-007 (Unified Guidance). The statistical evaluation techniques described in the following narrative are provided for the groundwater monitoring data for Southern Illinois Power Cooperative's (SIPC's) Pond 1/2 at the Marion Power Plant.

Statistical Methodology

a) Outlier Testing

Testing for outliers will be completed using time series plots, Dixon's Test, and/or Rosner's Test. An outlier will not be removed from the data set unless it is documented as erroneous or the removal establishes statistical limits that are regulatory conservative.

b) Reporting of Low or Zero Values

For concentrations detected between the method detection limit (MDL) and the practical quantitation limit (PQL), the estimated (J-qualified) concentration will be utilized in the statistical calculations described in the following sections. For non-detect (ND) concentrations, concentrations not detected above the MDL, the values will be managed and utilized as follows:

- If <15% ND, substitute ½ the PQL;
- If between 15% to 50% ND, use the Kaplan-Meier or robust regression on ordered statistics to estimate the mean and standard deviation;
- If >50% but less than 100% ND, use a non-parametric test; or
- If 100% ND, use the Double Quantification Rule.

c) Data Distribution

Prior to completing statistical calculations to establish compliance limits, the data distribution will be evaluated using the Shapiro-Wilk/Shapiro-Francia testing methods for the CCR surface impoundment. If the data are normally or transform-normally distributed, parametric testing methods will be used. If the data are non-normally distributed, non-parametric testing techniques will be used.

d) Detection Monitoring (40 CFR 257.94) or comparison to background (35 IAC 845.640(h))

Results from the upgradient monitoring well will be used to calculate the upper prediction limit (UPL), and lower prediction limit (LPL) for pH, for each applicable parameter. A statistically significant increase (SSI)

occurs when a verified concentration (using a 1-of-2 resampling strategy) of any constituent in a downgradient/compliance well exceeds the UPL. A statistically significant decrease (SSD) occurs when a verified reading for pH is lower than the LPL.

e) Assessment Monitoring (40 CFR 257.95) or detections above the groundwater protection standard (35 IAC 845.650(d))

Confidence limits will be based on a minimum of four independent observations for each constituent in each well. Results from the downgradient monitoring wells will be evaluated by comparing the lower confidence limit (LCL) to the ground water protection standard (GPS) for each applicable analyte at each well. The GPS will be the maximum contaminant level (MCL) (if a MCL exists), or the 35 IAC 845.600 standard, or the impoundment-specific background concentration for each analyte based on a tolerance/prediction limit procedure. If the LCL exceeds the GPS, there is statistical evidence of a statistically significant level (SSL), which will trigger additional response activities, potentially including Corrective Action.

f) Corrective Action Monitoring

Corrective Action Monitoring will be completed, if required, in accordance with a Corrective Action Monitoring Plan. Groundwater sampling will continue and confidence intervals and/or confidence bands will monitor the progress of remediation efforts. Confidence intervals and bands are compared to GPS or other risk-based criteria to determine when Corrective Action Monitoring is no longer required.

Although in Corrective Action Monitoring the same statistical techniques are used, the manner of the comparison is different from that in the previous phases of monitoring. In Corrective Action Monitoring a well-constituent pair is declared ‘clean’ when the entire confidence interval at the most recent sampling event falls below a specified clean-up limit or GPS (i.e., the upper confidence limit [UCL] falls below the clean-up or regulatory limit). This ‘clean’ status must be achieved for each of the Appendix IV parameters for a period of three consecutive years, at which point Corrective Action Monitoring may be discontinued.

Additional statistical evaluations may be specified in the Corrective Action Monitoring Plan and performed based on the Corrective Action implementation. These additional statistical evaluations, if performed, will be used to supplement but not replace those specified in this certification.

Southern Illinois Power Cooperative

Groundwater Sampling and Analysis Plan

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Groundwater Sampling and Analysis Plan

Southern Illinois Power Cooperative Marion, IL

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1. Introduction

This Sampling Analysis Plan (SAP) was prepared for Southern Illinois Power Cooperative's (SIPC's) Coal Combustion Residual (CCR) surface impoundments at the Marion Power Plant. The CCR surface impoundments are also subject to the 40 Code of Federal Regulations (CFR) Part 257 (until the United States Environmental Protection Agency (USEPA) approves the Illinois CCR program to operate in lieu of Part 257), and the corresponding Title 35 of the Illinois Administrative Code (IAC) Part 845.

The SAP provides SIPC technical and administrative information relevant to the requirements of 40 CFR 257.91 through 257.98 and 35 IAC 845.600 through 845.680 which state that the owner or operator (i.e., SIPC) of an existing CCR surface impoundment will install, operate, and maintain a groundwater monitoring system; develop and implement a sampling and analysis program; and perform data evaluation, reporting, and notifications. The SAP addresses the methods and practices of operating and maintaining the CCR groundwater monitoring program and serves SIPC and contractor personnel as the procedural document for collection, quality assurance/quality control, transportation, laboratory analysis, data validation and management, and statistical evaluation for groundwater samples. It also provides the requisite information upon which the Illinois professional engineer is relying to certify the appropriateness of the selected statistical method pursuant to 40 CFR §257.93(f)(6) and 35 IAC §845.640(f)(2). To address both quality and consistency issues that may arise during monitoring well development, maintenance and sampling, the SAP makes extensive use of detailed Standard Operating Procedures (SOPs) attached in Attachment A. This SAP is applicable to all CCR surface impoundments at the Marion Power Plant.

Complementary documents, (e.g., Groundwater Monitoring Plan (Hanson, 2021) and the groundwater monitoring Design and Construction Plans [DCP; WSP, 2026a]) provides the basis for and explanation of the CCR Rule-compliant monitoring network for each CCR surface impoundment. Those documents include figures showing the unit and the locations of all CCR monitoring wells at the Facility. It also provides the requisite information upon which the Illinois professional engineer is relying to certify the design and construction of the monitoring well network pursuant to 40 CFR 257.91(f) and 35 IAC 845.630(g).

Complementary documents, (e.g., the proposed Groundwater Monitoring Plan [GMP; WSP, 2026b]), includes procedures for groundwater elevation evaluation, groundwater flow rate and direction determinations, establishment of background groundwater quality, monitoring frequency, and reporting requirements for each CCR Surface impoundment.

2. Groundwater sampling and analysis

2.1 Sampling goal, personnel, approach, and controls

The overall goals of the groundwater monitoring program are the collection of representative samples that achieve data quality objectives and, when the analytical results are evaluated statistically, they allow for accurate and early detections of impacts, if any, to groundwater quality as a result of a verified release from the unit being monitored. The collection of samples by qualified, consistent field staff familiar with both program requirements and the specifics of the monitoring network represent a key component and serve as a quality control function that allows the achievement of these program goals.

Groundwater sampling will be completed by experienced individuals that perform the work in accordance with generally accepted practices within the industry and the SOPs discussed herein. The following sections, which are consistent with the USEPA low-flow sampling guidance (USEPA, 2010) and the requirements of Part 845, outline the program sample collection procedures. Although this section provides reference to specific forms, the use of other equivalent forms to record the necessary data may be substituted as long as the same basic requirements are met.

2.2 Sampling order

Sampling will be completed with disposable and/or dedicated equipment to the extent possible. To further reduce the potential for cross-contamination sampling will be completed from generally less contaminated (e.g., background) to more contaminated.

2.3 Assessment of monitoring well and piezometer condition

The monitoring wells are being operated and maintained so they perform to their design specifications throughout the monitoring program. As discussed in Section 1, monitoring well construction and location information is provided in complementary documents (e.g., DCP), prepared specifically for each CCR surface impoundment. During each sampling event, all wells subject to monitoring, including those for which measurement of water levels is the only scheduled activity, are located and their identity confirmed. Prior to performing any water level measurements, purging, or sampling, each monitoring well is visually inspected to assess its integrity. The condition of each monitoring well, including protective bollards, protective steel casings or road boxes, operation and security of locks, concrete pads, polyvinyl chloride (PVC) casing, and inner cap is assessed for any physical damage or other breach that may indicate compromised integrity. The results of the well inspections are documented in the comments section of the field sampling forms and/or in field notebooks. In addition, any indications of significant

damage, tampering, etc. are promptly reported to both WSP and SIPC for appropriate follow-up action. Necessary repairs, other than replacement, will be completed prior to the next sampling event. Replacement of monitoring wells, if required, will be completed as quickly as possible taking into account subcontractor availability and weather conditions.

2.4 Equipment calibration

Equipment used to record field water quality parameters is calibrated each day prior to use. Calibrations are performed following manufacturers' recommendations and, at a minimum, re-checked at the end of each day. Calibration solutions for standardization materials are freshly prepared or taken from non-expired stock. In the absence of manufacturer specifications or regulatory guidance, field equipment is calibrated to within +/- 10 percent (%) of the standard (or 0.1 standard units for pH meters), if possible. Equipment that fails calibration may not be used until repaired and calibrated or replaced. Calibration data are recorded in the field and records are maintained as part of the permanent project file. An example sample field Instrument Calibration Form is included in Attachment B.

2.5 Water level gauging

Static water levels are collected monthly. Measurements are obtained from the surveyed reference point on each monitoring well and staff gauge. Water-level measurements for a given monitoring event are collected within 24 hours to minimize temporal variations in groundwater conditions that could preclude accurate determination of groundwater flow rate and direction. Data are recorded on the Record of Water Level Readings form or Groundwater Sample Collection form, examples of which are included in Attachment B.

Prior to initial use and between wells, the portion of the water level indicator that contacts groundwater in the well is decontaminated to avoid cross-contamination between monitoring wells. In addition to decontaminating the downhole equipment, sampling personnel don new gloves between wells, and more frequently as needed, to reduce the potential for cross-contamination.

2.6 Pre-sample well purging

Samples will be collected using USEPA low-flow sampling protocols. Low-flow sampling is advantageous because it can greatly reduce the volume of water that must be purged from a well before representative samples can be collected and typically provides for the collection of more representative samples than other purge methods, as well as consistency in analytical results between sampling events.

Purging is targeted at a rate equal to the well yield to avoid drawing stagnant well column water into the pump (i.e., between 100 and 500 milliliters per minute [mL/min]). During the well purge activities, the flow rate and the depth to groundwater is typically monitored on regular intervals (every 3 to 5 minutes) to verify that the purge activities are not removing stagnant water from the water column in the monitoring well. Stabilization of the water column is considered achieved when three consecutive water level measurements vary by 0.3 foot or less at a pumping rate of no more than 500 mL/min.

Depth to water and field water quality parameter measurements are made during purging on approximate 3- to 5- minute intervals. If a field meter equipped with a flow cell is used, the volume of the flow cell is purged between field measurements. Stabilization is attained, and purging deemed complete when three consecutive measurements of each field parameter vary within the following ranges:

- Temperature: +/- 10% - Degrees Celsius
- pH: +/- 0.1 - Standard Units
- Specific Conductivity (SC): +/- 3% - milliSiemens
- Oxidation reduction potential (ORP): +/- 10 mV - millivolt
- Dissolved oxygen (DO): +/- 10% (or +/- 0.1 mg/L if less than 1.0 mg/L) – milligrams per liter
- Turbidity: at or below 5 Nephelometric Turbidity Unit (NTU) or within ± 10%

Groundwater samples should be generally free of excess suspended solids attributable to inadequate well development or maintenance. Monitoring wells may require redevelopment from time to time based upon observed turbidity levels during sampling activities. If redevelopment of a monitoring well is required, it will be performed and documented as described in Section 2.12.

All data gathered during monitoring well purging are recorded on a Groundwater Sample Collection form. Non-dedicated equipment (i.e., the pump and associated discharge hoses, as applicable) will be decontaminated using a non-phosphate-based detergent and water mixture followed by a deionized water rinse to avoid cross-contamination between monitoring wells as provided in the Section 2.10.

2.7 Sample collection

Once the water quality field measurement data indicate that purging activities have been successfully completed, required samples are collected directly from the discharge line on the low-flow pump into laboratory-provided, pre-preserved sample containers selected for the required parameters or compatible parameters (e.g., all metal samples are collected in one bottle). Sample collection is performed at the same rate (or lower) than was used during the well purging process. Sample containers are kept closed until the time each set of sample containers is to be filled. Groundwater samples collected as part of the monitoring program are not filtered prior to analysis. Groundwater samples are collected in the designated size and type of containers required for specific parameters. Sample containers are filled in such a manner as to prevent loss of preservations due to spilling or overfilling. The parameters sampled during monitoring, the analytical methods and practical quantitation limits, panned sample containers, minimum volumes, chemical preservatives, and hold times for each analyte are provided in Table 1. These may change depending on laboratory requirements and will be verified by the field team prior to each sampling event.

2.8 Sample preservation and handling

Upon obtaining the groundwater samples, they are packed into insulated, ice-filled coolers that are kept closed unless contents are being removed or added. Sample preservation methods including chemical addition, refrigeration, and protection from light are used to retard biological action, retard hydrolysis, and reduce sorption effects. Samples are kept at no more than 6°C from collection to laboratory delivery. Samples are delivered directly to the laboratory or sent via overnight courier following chain-of-custody (COC) procedures.

2.9 Chain-of-custody program

The COC program allows for tracing and documenting sample possession and handling from the time of field collection through laboratory analysis. The COC program includes sample labels, sample seals, field Groundwater Sample Collection forms, and the COC record. Each sample is assigned a unique sample identification number to be recorded on the sample label. Each sample identification number and description are recorded on the field Groundwater Sample Collection form and on the COC document.

The intent of the COC program is to provide guidance to maintain sample integrity. The COC form provides evidence and documentation of sample collection, shipment, laboratory receipt, and laboratory custody until disposal of the sample. The COC form identifies each sample collected and the individuals responsible for sample collection, shipment, and receipt.

Once collected, samples are considered to be in one's custody if they are: (1) in the custodian's possession or view; (2) in a secured location (under lock) with restricted access; or (3) in a container that is secured with an official seal(s) such that the sample cannot be reached without breaking the seal(s).

2.9.1 Responsibilities

Field personnel who collect the samples are responsible to initiate the COC protocol. Upon sample collection, but prior to storage, shipment, or transportation, field personnel shall properly and completely fill out the COC form with a waterproof ink pen. The Field Team Leader shall review the form prior to sample storage, shipment, or transportation. If an individual makes an error during the completion of the COC form, a line shall be drawn through the error and the correction entered. Field personnel completing the form shall initial and date the error. Under no circumstances is white-out or erasing acceptable. Upon receipt by the laboratory, the laboratory sample custodian shall assume responsibility for completing the COC procedures. Upon completion of analysis, the laboratory shall submit a copy of the completed COC form with the analytical data to the Project Manager who will place it in the project file.

2.9.2 Procedures

Field personnel shall use a waterproof ink pen to complete the COC forms. Preparation of the COC form includes:

- Complete the COC form by entering the project name, client name, laboratory name and address, the person to whom the chemical analyses results shall be reported, and invoicing information at the top of the form. An example COC form is provided as Attachment B.
- COC(s) will be completed and sent with the samples for each shipment.
- Sample-specific information shall include the field identification number, the date and time the sample is collected, the depth at which the sample was taken, the type of sample (e.g., groundwater), the type of analyses requested, and preservatives used. Samples shall be grouped for shipment with other samples for similar analysis and use a common form. More than one COC form shall be used if the number of samples placed in a cooler is greater than the number of entry spaces on the COC form.
- The COC record will identify the contents of each shipment and maintain the custodial integrity of the samples. A locked seal will be placed across the front and back of each cooler containing samples when coolers are ready for shipment. All custody seals will be signed and dated. The COC form will be cross-checked for errors and signed.
- Each person taking possession of the samples shall sign and date the COC both as a recipient and as a relinquisher of the samples. When the samples are delivered to the laboratory, the laboratory sample custodian will sign the COC as the last recipient of the samples.
- If the samples are directly transported to the laboratory, the COC shall be kept in the possession of the person delivering the samples. Upon receipt by the laboratory, the sample receiver(s) shall open the shipping containers, compare the contents with the COC form, and sign and date the form. Any discrepancies shall be noted on the COC form and the Project Manager notified immediately.
- Prior to shipment by a commercial carrier, make a copy of the COC form. If the samples are delivered directly to the laboratory by field personnel, a copy of the form shall be made after the laboratory representative signs and dates the COC form.
- COC forms shall be maintained with the analytical data.

2.9.3 Sample labels

Sample labels sufficiently durable to remain legible when wet contain the following information, written with indelible ink:

- Site and sample identification number
- Monitoring well number or other location
- Date and time of collection
- Name of collector
- Parameters to be analyzed
- Preservative, if applicable.

Sample identification will utilize the Well ID name. No spaces or underscores are allowed in Sample IDs. Sample identification will be recorded on applicable field documentation and chain-of-custody records.

2.9.4 Sample seals

The shipping container is sealed to prevent the samples from being disturbed during transport to the laboratory. A seal is placed across the front and back of each cooler containing samples when coolers are ready for shipment. All custody seals are signed and dated.

2.9.5 Field forms

All field information is completely and accurately documented to become part of the final report for the groundwater monitoring event. Equipment calibration readings are included on field forms. Example field forms are included in Attachment B. The field forms document the following information:

- Identification of the monitoring well
- Sample identification number
- Field meter calibration information
- Static water level depth
- Purge volume
- Time monitoring well was purged
- Date and time of collection
- Parameters requested for analysis
- Quality Assurance/Quality Control (QA/QC) samples, if collected
- Preservative used
- Field water quality parameter measurements
- Water levels recorded during low-flow purge
- Field observations on sampling event
- Name of collector(s)
- Weather conditions including air temperature and precipitation.

The COC record is required for tracking sample possession from time of collection to time of receipt at the laboratory. The National Enforcement Investigations Center (NEIC) of USEPA considers a sample to be in custody under any of the following conditions:

- It is in the individual's possession

- It is in the individual's view after being in his possession
- It was in the individual's possession and he/she locked it up
- It is in a designated secure area.

All environmental samples are handled under strict COC procedures beginning in the field. The Field Team Leader is the field sample custodian, responsible for ensuring that COC procedures are followed. A COC record accompanies each individual shipment. The record contains the following information:

- Sample destination and transporter
- Sample identification numbers
- Signature of collector
- Date and time of collection
- Sample type
- Identification of monitoring well
- Number of sample containers in shipping container
- Parameters requested for analysis
- Signature of person(s) involved in the chain of possession
- Inclusive dates of possession.

A copy of the completed COC form is placed in a water-resistant bag, accompanies the shipment, and is returned to the shipper after the shipping container reaches its destination. The COC record is also used as the analysis request sheet. When shipping by courier, the courier does not sign the COC record: copies of shipping forms are retained to document custody.

2.10 Field equipment decontamination

Field personnel will utilize dedicated and disposable sampling equipment to the extent possible to avoid cross contamination due to inadequate decontamination processes. The dedicated/disposable sampling equipment will include disposable polyethylene tubing, disposable gloves, and laboratory-supplied sample bottles. Field personnel will use the procedures in this section to decontaminate all non-dedicated monitoring equipment (e.g., field water quality meter and water level meter) prior to collecting field water quality measurements and between sample locations. The procedures include:

1. Clean with tap water and soap (e.g., Alconox) using a brush to remove obvious particulate matter and surface films;
2. Rinse thoroughly with tap water; and
3. Rinse thoroughly with deionized or distilled water.

2.11 Investigation-derived waste management

Liquid investigation-derived waste (IDW) (i.e., purge water and decontamination fluids) generated will be discharged directly to the ground surface slightly downgradient of the point of generation in accordance with USEPA Management of Investigative Derived Waste (USEPA, 2023). Other solids such as spent PPE, buckets, tubing, rope, and other environmental media generated during the field activities will be disposed of at a Subtitle D licensed solid waste landfill.

2.12 Well redevelopment

Monitoring wells will be redeveloped on an as needed basis using appropriate pumping, surging, or other development methods suitable for the well construction and hydrogeologic conditions. Development will continue until groundwater quality parameters stabilize in accordance with the criteria specified herein.

- Temperature: +/- 10% - Degrees Celsius
- pH: +/- 0.1 - Standard Units
- SC: +/- 3% - milliSiemens
- ORP: +/- 10 mV - millivolt
- DO: +/- 10% (or +/- 0.1 mg/L if less than 1.0 mg/L) – milligrams per liter
- Turbidity: at or below 5 Nephelometric Turbidity Unit (NTU) or within ± 10%

An example well development field form is provided in Attachment B.

3. Analytical and quality control procedures

3.1 Analytical methods

Groundwater samples will be analyzed for the constituents required by the applicable groundwater monitoring program, including the constituents with groundwater protection standards established under 35 IAC 845.600, as well as calcium and turbidity. Field water quality parameters will include pH, specific conductance, temperature, turbidity, oxidation-reduction potential, and dissolved oxygen. Analytical methods, sample container and preservation requirements, holding times, practical quantitation limits (PQLs), limits of detection (LODs), and applicable groundwater standards are summarized in Table 1.

3.2 Data quality objectives

As part of the evaluation component of the QA program, analytical results are evaluated for precision, accuracy, representativeness, completeness, and comparability (PARCC). These are defined as follows:

- Precision is the agreement or reproducibility among individual measurements of the same property, usually made under the same conditions
- Accuracy is the degree of agreement of a measurement with the true or accepted value
- Representativeness is the degree to which a measurement accurately and precisely represents a characteristic of a population, parameter, or variations at a sampling point, a process condition, or an environmental condition
- Completeness is a measure of the amount of valid data obtained from a measurement system compared with the amount that was expected to be obtained under correct normal conditions
- Comparability is an expression of the confidence with which one data set can be compared with another data set regarding the same property.

The accuracy, precision and representativeness of data will be functions of the sample origin, analytical procedures, and the specific sample matrices. QC practices for the evaluation of these data quality indicators include the use of accepted analytical procedures, adherence to hold time, and analysis of QC samples (e.g., blanks, replicates, spikes, calibration standards, and reference standards).

Quantitative QA objectives for precision and accuracy, along with sensitivity (detection limits) are established in accordance with the specific analytical methodologies, historical data, laboratory method validation studies, and laboratory experience with similar samples. The representativeness of the analytical data is a function of the procedures used to process the samples.

Completeness is a quanitative characteristic which is defined as the fraction of valid data obtained from a measurement system (e.g., sampling and analysis) compared to that which was planned. Completeness can be less than 100 percent due to poor sample recovery, sample damage, or disqualification of results, which are outside of control limits due to laboratory error or matrix-specific interferences. Completeness is documented by including sufficient information in the laboratory reports to allow the data user to assess the quality of the results. The overall completeness goal for each task is difficult to determine prior to data acquisition. For this project, all reasonable attempts will be made to attain 90% completeness or better (laboratory).

Comparability is a qualitative characteristic, which allows for comparison of analytical results with those obtained by other laboratories. This may be accomplished using standard accepted methodologies, traceability of standards to the National Bureau of Standards (NBS) or USEPA sources, use of appropriate levels of quality control, reporting results in consistent, standard units of measure, and participation in inter-laboratory studies designed to evaluate laboratory performance.

Data quality and the standard commercial report package will be evaluated with respect to PARCC criteria using the laboratory's QA practices, use of standard analytical methods, certifications, participation in inter-laboratory studies, temperature control, adherence to hold times, and COC documentation following the data quality assessment procedures (also frequently referred to Data Validation) described herein. The laboratory QC control limits in place at the time of sample analysis, which are routinely re-evaluated following the procedures in the laboratory quality assurance policies and the requirements of the analytical methods, will be used as the quantitative QC criteria.

3.3 Quality assurance/quality control samples

This section describes the various Quality Assurance/Quality Control (QA/QC) samples that are collected in the field and analyzed in the laboratory and the frequency at which they will be performed. A summary of the QA/QC samples is provided in Table 2.

3.3.1 Field equipment rinsate blanks

In situations where sampling equipment is not dedicated or disposable, an equipment rinsate blank is collected. The equipment rinsate blanks are prepared in field using laboratory-supplied analyte-free water. The water is poured over and through each type of sampling equipment following decontamination and submitted to the laboratory for analysis of target constituents. One rinsate blank is collected for every 10 samples, if needed.

3.3.2 Field duplicates

Field duplicates are collected by sampling the same location twice, but the field duplicate is assigned a unique sample identification number. Sampler's document which location is used for the duplicate sample. One field duplicate is collected for every 10 samples.

Field duplicate samples are given a unique sample ID in the form of “Field Duplicate”. The field duplicate sample is submitted with a generic sampling time of 12:00 so that the sample time cannot be used to deduce the sampling location. The location where the field duplicate sample is collected is recorded on both the field form and in the field notebook.

3.3.3 Field blank

Field blanks are also collected as part of the field sampling QA/QC program. The purpose of the field blank is to detect any contamination that might be introduced into the groundwater samples through the air or through sampling activities.

Field blanks are prepared in the field (at the sampling site) using laboratory-supplied bottles and deionized or laboratory reagent-quality water. Each field blank is prepared by pouring the deionized water into the sample bottles at the location of one of the wells in the sampling program. Preservatives are added to specific sample bottles as required. The well at which the field blank is prepared is identified on the Field Log along with any observations that may help explain anomalous results (e.g., prevailing wind direction, up-wind potential sources of contamination). Once a field blank is collected, it is handled and shipped in the same manner as the rest of the samples.

Field blank results are reported in the laboratory results as separate samples, using the designation “Field Blank”. One field blank is collected for every 10 samples.

3.4 Laboratory quality control procedures

SIPCV has selected Teklab, Inc. (Teklab) to analyze the groundwater samples. Teklab’s primary laboratory is located at 5445 Horseshoe Lake Road, Collinsville, IL 62234. Analytical testing will be performed by Teklab and, where required, qualified subcontract laboratories. Anions, metals, and total dissolved solids will be analyzed by Teklab and radium-226/228 will be analyzed by Alliance Technical Group’s Environmental Laboratory at 3310 Win St, Cuyahoga Falls, OH 44223, operating as a qualified subcontract laboratory to Teklab. An alternative qualified laboratory may be utilized at the discretion of SIPC. All laboratories participating in the analytical program will maintain certification, accreditations, and approvals necessary to perform the required analyses in accordance with applicable federal and Illinois regulatory requirements.

Teklab adheres to a quality assurance program that complies with the National Environmental Laboratory Accreditation Conference (NELAC) program, which is documented in their QAM. This document describes mechanisms employed by Teklab that produces analytical data that meets or exceeds applicable USEPA and IEPA requirements. The QAM describes the laboratory’s experience, its organizational structure, and procedures in place to provide quality analytical data. The QAM outlines the sampling, analysis, and reporting procedures used by the laboratory. Teklab is responsible for the implementation of and adherence to the QA/QC requirements outlined in the QAM. A copy of Teklab’s and Alliance Technical Group’s QAM are provided in Attachment C.

Audits are an important component of the quality assurance program at the laboratory. Internal system and performance audits are conducted periodically to confirm adherence by all laboratory departments to

the QAM. External audits are conducted by accrediting agencies or states. These reports are transmitted to department managers for review and response. Teklab will take corrective measures for any finding or deficiency found in an audit per their accreditation requirements.

Data Quality Reviews (DQRs), or equivalent, are requests submitted to the laboratory to formally review results that differ from historical results, or that exceed certain permit requirements or quality control criteria. The laboratory prepares a formal written response to DQRs explaining discrepancies. The DQR is the first line of investigation following any anomalous result.

3.4.1 Laboratory documentation

Upon receipt of the samples at Teklab, the following activities are recommended:

- The samples will be examined upon receipt to confirm that the samples were collected in USEPA-approved containers for the requested analysis. The sample collection data and time will also be reviewed to confirm that the USEPA-required sample holding time has not expired or will not expire before the analysis can be performed.
- The information concerning transportation mode and manner will be reported on the form. Samples will be transported on ice or under refrigeration, and the inside temperature of the cooler recorded upon opening.
- The pH of each sample as well as the sample appearance will be recorded if required by the analytical method. Also, preservative adjustments, filtration, and sample splitting will also occur as required prior to distribution. Sample adjustments will be fully documented.

During analysis of the samples, it is recommended that the laboratory agent maintain the integrity of the samples as follows:

- During the sample analysis period, the samples will be preserved in accordance with method guidelines.
- If at any point during the analysis process, the results are considered technically inaccurate, the analysis will be performed again if holding times have not been exceeded.
- Documentation activities should be completed with permanent ink in a legible manner with mistakes crossed out with a single line.

3.5 Laboratory analyses

Analytical procedures will be performed in accordance with USEPA Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, SW-846 (USEPA, 1996), as updated, and other USEPA-approved methods. The groundwater monitoring constituents, analytical methods, sample container and preservation requirements, holding times, PQLs, LODs, and applicable federal and Illinois groundwater protection standards are summarized in Table 1. The selected analytical methods provide PQLs that are below applicable groundwater protection standards.

Alternate methods may be used if they have the same or lower PQL. Methods with higher PQLs will be considered if the concentration of the parameter is such that an alternate test method with a higher PQL will provide the same result.

3.5.1 Practical quantitation limit

Laboratory-specific PQLs will be used as the reporting limits for quantified detections of required monitored constituents. Laboratory PQLs should be reported with the sample results.

3.5.2 Method detection limit

Laboratory-specific Method Detection Limits (MDLs) will be used as the reporting limits for estimated detections of required monitored constituents. Constituents detected at concentrations above the MDL but below the PQL will be reported as estimated with a qualifying “J” flag on the laboratory certificates of analysis. Laboratory MDLs should be reported with the sample results.

3.5.3 Method blanks

Laboratory method blanks are used during the analytical process to detect any laboratory-introduced contamination that may occur during analysis. A minimum of one method blank should be analyzed by the laboratory per sample batch.

3.6 Data review, verification, and validation

Data review, verification, and validation techniques include screening, accepting, rejecting, or qualifying data based on specific QC criteria to identify quality issues which could affect the use of the data for decision making purposes. Following receipt of the analytical data from the subcontract laboratory, WSP validates 100% of the groundwater data generated as part of the CCR monitoring in accordance with the National Functional Guidelines for Inorganic Data Review (USEPA, 2020). Using the terminology from Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use (USEPA, 2009a), 100% of the data undergoes Stage 1 data validation. In particular, the data are reviewed for completeness and adherence to the requested analytical methods. Quantitative sample and instrument specific QC parameters, including field and method blank data, MS/MSD recovery and precision; laboratory control samples (LCS) and instrument calibrations presented in the summaries provided in the laboratory data packages are reviewed for conformance with the laboratory QC criteria.

The PARCC criteria and criteria specified in applicable guidelines may not always be achievable. The data validation guidelines provide directions for the determination of data usability. Qualified data can often provide useful information, although the degree of certainty associated with the result may not be as planned. Professional judgment, in conjunction with USEPA guidance documents, is used to determine data usability and where necessary, professional judgment is used to evaluate scenarios not specifically described in the referenced documents. Should the Stage 1 validation identify deficiencies that were not addressed, after consultation with SIPC, WSP would move to a more extensive validation for that data package.

3.7 Reconciliation with user requirements

Throughout the project, SIPC and WSP will determine if project data quality objectives (DQO) are being met and assess whether the data being collected is sufficient and appropriate. Periodic evaluations of the monitoring program will be made to determine if a change in frequency or analytical parameters is appropriate. Individuals making measurements throughout the process will also assess whether the DQO are being met.

Individuals making field measurements will determine whether field quality control criteria were met. The field QA/QC will be overseen by the field team leader. Corrective actions will be initiated in the field, as necessary. This corrective action may include recalibration of instruments or use of a different type of instrument.

The analysts in the laboratory will determine if analytical QC criteria are achieved. Corrective action in the form of re-analysis or re-calibration may be warranted. Laboratory analytical data and field data will be assessed by a data validation specialist under the direction of the QA Manager to determine usability regarding the DQO.

As noted in the data validation guidelines, data may not always meet precision and accuracy requirements but may still be considered usable. The data will be assessed regarding the project DQO, and professional judgment used in conjunction with guidance documents will determine data usability.

4. Statistical Analysis Plan

Following completion of data validation, statistical analysis of the data is performed as discussed in the following subsections. These techniques represent a proven, reasonable approach to groundwater data analysis, are protective of human health and the environment, and incorporate appropriate statistical and other evaluation methodologies. SIPC will use a statistical analysis program meeting the applicable requirements of 40 CFR 257.93(f)(1-6) and 35 IAC 845.640(f) and (g).

4.1 Groundwater data

This section outlines the interwell and intrawell statistical methodologies that may be used to evaluate the data collected from the Site. Intrawell statistical analysis methodologies are those under which future monitoring observations are measured against previously-collected observations (referred to herein as background), all data being from a single well. The intrawell approach is contrasted with an interwell approach in which downgradient/compliance data from wells are compared against statistical limits derived from upgradient data from one or more other wells. Ultimately, the strongest statistical analysis approach incorporates both interwell and intrawell statistics, because it is important to understand the groundwater quality from both the well-specific and Site-wide perspectives. However, in glacially derived geologic settings, intrawell statistics are preferred to interwell approaches, because intrawell statistics overcome spatial variability inherent in glacial geologic settings. When spatial variability exists, pooling upgradient background data to calculate an interwell statistical limit will result in an overestimate of the variance/standard deviation in the background data, ultimately resulting in an interwell statistical limit that is less protective of human health and the environment. However, even when intrawell statistical methods are employed for a facility, it is still important to compare the downgradient groundwater quality to the upgradient groundwater quality, at least on a qualitative basis, to determine whether impacts from the Facility are responsible for the spatial variability. If it is determined that spatial variability is a result of an impact from the Site, an interwell approach is required.

During background sample collection, it will be necessary to examine the data for outliers, anomalies, and trends that might be an indication of a sampling or analytical error. Outliers and anomalies are generally defined as inconsistently large or small values that can occur as a result of sampling, laboratory, transportation, or transcription errors, or even by chance alone. Significant trends indicate a source of systematic error, or an actual contamination occurrence, that will be evaluated and corrected before valid interwell statistical evaluations can be implemented. If outliers or trending values are not removed from the database prior to the calculation of statistical limits, false positives (i.e., an indication of a release when none exists) and/or false negatives (i.e., falsely concluding there is no release in the presence of an actual release) could result.

To prevent the inclusion of anomalous data in the interwell database, the background monitoring data will be evaluated during background development using time vs. concentration graphs. Parameter concentrations that appear anomalous or are identified as outliers based on a statistical test may be

marked as outliers in the database or additional independent background samples may be collected to maximize the number of background observations prior to statistical analysis (a minimum of eight background samples are recommended in the *Unified Guidance*, USEPA, 2009b). If the anomalous result is not verified, the outlier will be removed from the database to maintain the accuracy of the evaluation method.

SIPC will review the analytical data following each monitoring event and compare it to the established MCLs and to background concentrations to obtain a general understanding of the analytical results per CCR unit.

4.1.1 Managing linear trends

Along with data normality and sample independence, one of the important assumptions of statistical data analysis is the absence of trends in the background data set. It is generally inappropriate to calculate a statistical limit when a data series exhibits a linear trend. If, based on a statistical trend analysis (e.g., Mann-Kendall/Sen's Slope Analysis), trends are noted in the intrawell background data, additional information and records will be evaluated to determine an underlying cause. Trends can result from a multitude of causes, including natural temporal variability, incomplete well development (particularly for new background wells), well damage or deterioration, systematic laboratory or field sampling errors, influence of an off-Site upgradient source, and seepage from a CCR unit. In any case, it is generally considered inappropriate to incorporate trending data in the calculation of a statistical limit, since trends will typically result in an over-estimate of the background variability. While techniques exist to "detrend" the data, these techniques should be used with caution and should generally be avoided unless it can be definitively proven that the trends arise from strictly natural causes (i.e., Site-wide fluctuation in groundwater concentrations). If the trends are the result of Site-wide effects, they should be apparent in both upgradient and downgradient monitoring locations. If trends are noted in a background population and no specific underlying cause can be discerned, the most appropriate course is to evaluate the data from the trending well location using statistical trend analysis techniques, such as Mann-Kendall/Sen's Slope Analysis, until such time that the trend is no longer discernible and a statistical limit can be calculated based on non-trending data.

4.2 Statistical methodology

In accordance with 40 CFR 257.93(f)(6) and 35 IAC 845.640(f)(2), SIPC will obtain a certification from a qualified professional engineer stating that the selected statistical method is appropriate for evaluating the groundwater monitoring data for the CCR management area. The certification will include a narrative description of the statistical method selected to evaluate the groundwater monitoring data.

Possible statistical test methods (as listed in the 40 CFR 257 and 35 IAC 845) are:

1. A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method will include estimating and testing the contrasts between each compliance well's mean and the background mean levels for each constituent;

2. An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify significant evidence of contamination. The method will include estimating and testing the contrasts between each compliance well's median and the background median levels for each constituent;

3. A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit;

4. A control chart approach that gives control limits for each constituent; or

5. Another statistical test method that meets the performance standards specified in the CCR Rule.

The chosen statistical test will be conducted separately for each constituent in each monitoring well. With the exception of pH, statistical limits are generally established as one-sided, (e.g., upper prediction limits), because the parameters being tested under the CCR Rule are only expected to increase as a result of leakage from a containment unit. For pH, a two-sided prediction interval approach can be used unless a particular directional influence of leakage on pH is known for a particular facility.

The statistical analysis chosen to evaluate the groundwater data will meet the following performance standards:

1. The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of monitoring parameters or constituents. If the distribution is shown by SIPC to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

2. If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a groundwater protection standard (GPS), the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experiment-wise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons will be maintained. This performance standard does not apply to tolerance intervals, predictions intervals, or control charts.

3. If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated parameter values shall be at least as effective as any other approach and protective of human health and the environment. The parameters shall be determined after considering the number of samples in the background database, the data distribution, and the range of the concentration for each constituent of concern.

4. If a tolerance interval or a prediction interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be at least as effective as any other approach and protective of human health and the environment. These parameters shall be determined after considering the number of samples in

the background database, the data distribution, and the range of the concentrations for each constituent of concern.

5. The statistical method shall account for data below the MDL with one or more statistical procedures that shall be at least as effective as any other approach in this section for evaluating groundwater data. Any PQL that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the Facility.
6. If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

4.2.1 Reporting of low and zero values

Chemical constituents that are not present above the detection limit of the analytical procedure are reported as NOT DETECTED (ND), or less than the MDL, rather than as zero or not present, and the laboratory's MDL is to be provided on the analytical report. Multiple methods are available for managing data sets that contain non-detect values. The procedures applied when detection frequencies are below 100% are summarized in Table 3. However, procedures referenced above may be modified as discussed in Chapter 2 of *Unified Guidance* (USEPA, 2009b).

4.2.2 Normality testing

The original data will be tested for normality using the Shapiro-Wilk Test of Normality (either single group or multiple group version) for sample size up to 50, and the Shapiro-Francia Test of Normality for sample size more than 50, or other acceptable test methods. If an alternative test method is proposed for evaluating the normality of data, SIPC will document supporting information demonstrating that the alternative method has a similar level of power to detect deviations from the normal distribution as the Shapiro-Wilk and Shapiro-Francia test methods, as appropriate. The following guidelines are used for decisions in normality testing:

1. If the raw data are not normally distributed, then the data should be natural log-transformed and re-tested for normality using the above methods.
2. If the raw or the natural log-transformed data are normally distributed, then a normal distribution test (also referred to as a Parametric test) can be applied.
3. If neither the raw nor the natural log-transformed data fit a normal distribution, then a distribution-free (non-parametric) test will be applied.

4.2.3 Outliers

An outlier is a value that is statistically different from most other values in a data set for a given groundwater chemical constituent. Reasons for outliers may include:

- Sampling errors or field contamination;

- Analytical errors or laboratory contamination;
- Recording or transcription errors;
- Faulty sample preparation or preservation, or shelf-life exceedance; or
- Extreme, but accurately detected environmental conditions (e.g., spills, migration from the Facility).

Formal testing for outliers should be performed on each data set. Outliers will be tested using the methods described in the *Unified Guidance* (USEPA, 2009b). The outlier test assumes the data are normally distributed. Thus, if the data are log-normally distributed, the outlier test should be applied to the log-normally transformed data and not the raw data.

If a statistical outlier is detected by the outlier test, the source of the abnormal measurement should be investigated. Valid reasons for the outlier values may include: contaminated sampling equipment, laboratory contamination of the sample, errors in transcription of the data values, or the value may be a true, but extreme data point. Once a specific reason for the outlier is documented, the data point should be excluded from further statistical analysis. If a plausible reason cannot be identified, the result should be treated as a true but extreme value and should remain in the database. However, in some cases, professional judgement may be used to remove extreme outliers, even when an underlying cause cannot be identified. As described in Section 5.2.3 of the *Unified Guidance* (USEPA, 2009b), the removal of extreme (high) outliers (even those for which a cause cannot be identified) has the effect of reducing the background mean and standard deviation, thus resulting in a more conservative (i.e., protective) statistical limit. Identified outliers should be maintained in the Facility's database and simply flagged as outliers, because, even extreme outliers may ultimately be identified as members of the actual sample population as additional data are added to the database over time. It is important to remember that the true population can never be known, because it would take an infinite number of samples to perfectly identify a given population. Statistical analysis is a procedure for modeling the true population using a limited number of existing data points, but as more data are gathered, the true population can be more closely modeled.

4.2.4 Statistical power

As discussed above, one of the primary goals of the selection of a proper statistical evaluation method is to limit the potential for results to falsely trigger an statistically significant increase (SSI) while also maintaining sufficient statistical power to detect a true SSI. Falsely triggering an SSI when no release from the CCR unit has occurred is referred to as a false positive. The False Positive Rate (FPR), typically denoted by the Greek letter α, is also known as the "significance level". The FPR is the probability that a future compliance observation will be falsely declared to be from a different statistical distribution than the background data. If the FPR is set too high, it can lead to the conclusion that there is evidence of impact when none exists. Conversely, if the FPR is set too low, it can lead to a false conclusion that no contamination exists, when it actually does exist (also known as a "false negative"). Ultimately, the ability to accurately identify SSIs depends on the selection of an appropriate FPR, which is referred to as the statistical power. FPRs are set for each parameter (or for each parameter in each well for intrawell analysis). However, statistical analysis programs and the resulting decision making do

not depend on each individual measurement/comparison error rates, but are dependent on the collective error rate from all of the individual comparisons. When the individual FPRs are integrated over the entire statistical monitoring program, it is referred to as the Site-wide false positive rate (SWFPR), which is a better measure of the ability of the entire statistical program to detect false positive observations.

4.2.5 Site-wide false positive rate

The SWFPR can be calculated based on several input parameters, including the assumed FPR, the number of downgradient monitoring wells (n), the number of parameters, and the number of statistical comparisons events in a given year for the CCR unit. The *Unified Guidance* (USEPA, 2009b) recommends that a statistical evaluation program be designed with an annual, cumulative SWFPR of approximately 10%.

The *Unified Guidance* (USEPA, 2009b) recommends measuring statistical power using power curves which display the probability that an individual comparison will detect a concentration increase relative to background results. After determining the statistical method based on the background data, a power curve can be generated to determine the statistical power of the compliance monitoring program. The methods and procedures for calculating the SWFPR are described in Section 6.2.2 of the *Unified Guidance* (USEPA, 2009b).

4.2.6 Verification sampling

Verification Sampling is an important aspect of any statistical analysis program, as it improves statistical power while maintaining the SWFPR. Most statistical evaluations incorporate verification sampling mathematically into their determination of the SWFPR.

Verification sampling is typically completed as a 1 of 2 pass strategy. As described above, if an initial statistical exceedance is reported, then verification sampling will be performed to confirm the initial exceedance. Verification samples should be collected on a schedule that allows for physical independence of the samples. In a 1 of 2 pass strategy, if the concentration of the verification sample is less than the calculated compliance limit, then no SSI is triggered. If the initial and subsequent verification observation are above the calculated compliance limit, an SSI is triggered.

Verification sampling within 90 days (assuming a 1 of 2 pass verification sampling strategy) will typically allow sufficient time to complete laboratory and statistical analysis in accordance with the timeframes set forth in the CCR Rules.

4.2.7 Prediction intervals

40 CFR 257.93(F)(3) and 35 IAC 845.640(g)(4) outlines using prediction intervals or tolerance intervals for statistical evaluation. When comparing to background, the *Unified Guidance* (USEPA, 2009b) suggests using prediction limits with verification sampling (Chapter 19 of the Unified Guidance), because prediction limits help to maintain low SWFPR while still providing high statistical power.

Prediction interval methods can be used for parametric and non-parametric datasets as well as for intrawell or interwell statistical analysis. Prediction limits use background data from either background monitoring wells for interwell analysis or from historical data for intrawell analysis to calculate a concentration that represents an upper limit of expected future concentrations for a particular population. In contrast to tolerance limits, prediction intervals are a forward looking, predictive analysis, which incorporate uncertainty in future measurements. Typically, a one-sided upper prediction limit is used to evaluate monitoring observations. Observations must be lower than the prediction limit (or within the upper and lower prediction limits for pH) to be considered “in control”. Parametric methods are generally preferred over non-parametric methods, because they result in lower SWFPRs and higher statistical power.

If parametric testing is required, the procedures outlined in Section 19.3.1 of the *Unified Guidance* (USEPA, 2009b) should be used for the statistical analysis. If non-parametric testing is required, the procedures outlined in Section 19.4.1 of the *Unified Guidance* (USEPA, 2009b) should be used. Most groundwater statistical software includes algorithms for calculating either parametric or non-parametric prediction limits.

4.2.8 Double quantification rule

In situations where the entire background dataset is reported as ND for a given constituent, the Double Quantification Rule (DQR) will be used to supplement the prediction limit analyses. If ND results are encountered for a given constituent, the DQR can be implemented. A demonstration can be made that this statistical evaluation is as least as effective as any other test and results as described in §257.93(F)(5). The DQR is recommended by the *Unified Guidance* (USEPA, 2009b) as a supplement to prediction limits because it reduces the number of non-detects used for statistical analysis and provides a lower SWFPR while maintaining statistical power.

Under the DQR, an SSI is triggered if a compliance well observation is higher than the reporting limit (RL)/PQL for the background dataset in either: (1) both a monitoring sample and its verification sample, or (2) two consecutive sampling events in a program where verification sampling is not utilized.

4.3 Updating background values

The *Unified Guidance* (USEPA, 2009b) suggests that updating statistical limits should only be completed after a minimum of 4 to 8 new measurements are available (i.e., every 1 to 2 years of quarterly monitoring, assuming no verification sampling). The periodic update of background datasets, during which additional data are incorporated into the background, improves statistical power and accuracy by providing a more conservative estimate of the true background population. Prior to incorporating new data into the background dataset, a test should be performed to demonstrate that the “new data” are from the same statistical population as the existing background results. Below are three methods that can be used in determining if the ”new” data should be included in the background:

- Time Series Graphs can be used as a qualitative test to assist with the determination of whether a new group of data match the historical data or if there is a concentration trend that could be indicative of a release or evolving groundwater conditions.
- Box-Whisker plots can also be used to determine whether or not the datasets are similar.
- Mann-Whitney (or Wilcoxon Rank) Test is a quantitative test used to evaluate the ranked medians of both the historical and “new dataset” populations. An α of 0.05 should be used for this evaluation. After calculation, if the Mann-Whitney statistic does not exceed the calculated critical value, the test assumes that the two data populations have equal medians, and therefore are likely from the same statistical population.

Ultimately, the Mann-Whitney (Wilcoxon Rank Sum) Test is the statistical test that will be used to determine whether new observations should be included in the background dataset. It is important to note that a failure of the Mann-Whitney Test does not automatically preclude the incorporation of “new data” into the background dataset; however, if differences are noted, a review of the “new data” will be conducted to determine if the noted difference is a result of a change in the natural conditions of the groundwater or if it is the result of a potential release from the CCR unit. If the new data are included in the background dataset, the prediction limits will be recalculated, as described in Section 4.2.7 above.

4.4 Establishing a groundwater protection standard

Following the removal of outliers and the performance of general statistics described in Sections 4.1 and 4.2, the GPS will be developed. If interwell methods are utilized (preferred method), a unit-wide GPS will be generated for each analyte based on background/hydraulically upgradient well(s). If intrawell methods are utilized, a well-specific GPS will be generated for each analyte.

For those constituents whose background concentrations are greater than the MCL or health-based limit listed in the CCR Rule Phase 1 Part 1 amendment or the limit provided in 35 IAC 845.600(a)(1) (see Table 1), the GPS will be calculated from the background data, otherwise the GPS will be set equal to the MCL or other specified limit. Boron, chloride, pH, sulfate, and total dissolved solids only have health-based standards provided under 35 IAC 845.600(a)(1). GPS for these parameters are not required under the federal CCR rule. GPS, calculated using the methods described in this section, are submitted to IEPA for approval in the CCR unit-specific GMP.

4.4.1 MCL based GPS

As specified in 40 CFR 257.95(b), the GPS must either be the MCL, other health-based standard as specified in the CCR Rule Phase 1 Part 1 amendment or a limit based on background data, whichever is greater and as specified in 35 IAC 845.600(a) for constituents with a background concentration higher than the limits specified in 35 IAC 845.600(a)(1), the background concentration must be the GPS. This section describes the methods to be used for statistical analysis when the MCL or other specified limit is used as the GPS.

The Unified Guidance (USEPA, 2009b) recommends the confidence interval method to evaluate for potential exceedances, which are referred to as “statistically significant levels” (SSLs) (Chapter 21, Unified Guidance, USEPA 2009b). Using confidence intervals, SSLs are identified by comparing the calculated confidence interval against the GPS. A confidence interval statistically defines the upper and lower bounds of a specified population within a stipulated level of significance. Confidence intervals are required to be calculated based on a minimum of four independent observations, but a more representative confidence interval can be developed when all of the available data are utilized.

The specific type of confidence interval should be based on the attributes of the data being analyzed, including: (1) the data distribution, (2) the detection frequency, and (3) potential trends in the data. Table 4 is adapted from Table 4-4 from the Electric Power Research Institute’s (EPRI) Groundwater Monitoring Guidance for the Coal Combustion Residual Rule (EPRI, 2015), which displays the criteria for selecting an appropriate confidence interval. The method and procedure for calculating the Upper Confidence Limit (UCL) and Lower Confidence Limit (LCL) is provided in the section reference from the Unified Guidance (USEPA, 2009b), which is listed in the last column of Table 4.

If the LCL exceeds the GPS, there is statistical evidence that an SSL has been triggered. An initial SSL should be confirmed by verification sampling. If only the UCL exceeds the GPS while the LCL is below the GPS, the test is considered inconclusive and the Unified Guidance (USEPA, 2009a) recommends that this situation be interpreted as ”in compliance”. If both the UCL and the LCL are below the GPS, the data are also “in compliance” with the GPS.

A per test FPR (α) of 0.05 will be used as an initial error level for calculating the two-tailed confidence intervals for the compliance wells (which actually means 2.5% FPR per tail). In some cases, it is appropriate to adjust the FPR of the confidence interval based on the number of data points available as well as the distribution of the data being evaluated. If deemed necessary, an approach is provided in Section 22 of the *Unified Guidance* (USEPA, 2009b) for determining an appropriate per test FPR based on the data characteristics.

Compliance monitoring data will be evaluated for changes in groundwater concentration patterns that could affect the statistical evaluation. Where the data are determined to represent a consistent population, all appropriate available data may be used in the statistical evaluation. If a change in groundwater conditions is identified, the data will be evaluated to determine the appropriate dataset for statistical analysis.

4.4.2 Non-MCL based GPS

Background or historical concentration limits should be assessed using the following techniques. These concentration limits should then be compared with the MCL or other specified limit, and the higher of these two values will be used as the GPS.

The *Unified Guidance* (USEPA, 2009b) provides two acceptable approaches for establishing a non-MCL based GPS (unless all values are ND for a specific constituent, in which case the Double Quantification Rule as described above in Section 4.2.8 should be used). The two methods include the tolerance interval approach or the prediction interval approach.

4.4.2.1 Tolerance interval approach

If the background dataset is normally or transformed normally distributed, *Unified Guidance* (USEPA, 2009b) recommends Tolerance Intervals over Prediction Intervals for establishing a GPS. The GPS should be based on a 95 percent coverage/95 percent confidence tolerance interval. If the background data are non-normal (even after transformation), then a large number of background observations are required to calculate a non-parametric tolerance interval (typically a minimum of 60 background observations are required to meet these requirements). If there is an insufficient number of background observations to calculate a non-parametric tolerance interval, then a non-parametric Prediction Interval approach should be used, as described in Section 4.4.2.2 below.

The Upper Tolerance Limit (UTL) is calculated for each detected constituent. Tolerance Limits, as outlined in the *Unified Guidance* (Section 17.2; USEPA, 2009b), are a concentration limit that is designed to contain a pre-specified percentage of the dataset population. Two coefficients associated with tolerance intervals are (1) the specified population proportion and (2) the statistical confidence. The coverage coefficient (γ), is used to contain the population portion, and the tolerance coefficient (or confidence level (1-α)), which is used to set the confidence of the test. Typically, the UTL is calculated to have a coverage and confidence of 95%. When an MCL (or other provided standard) does not exist or the background concentrations are greater than the MCL/provided standard, the calculated UTL for each constituent is used as the GPS. The confidence interval for each compliance well is then then compared with the GPS.

To calculate a valid confidence interval, a minimum of four data points are necessary for each of the detected constituent in each compliance monitoring well (or four “new” assessment monitoring observations in each well when intrawell statistical methods are employed). Using the Tolerance Interval Approach, an SSL is triggered when calculated LCL for each compliance well is greater than the GPS.

Tolerance limits can be completed using both parametric (Section 17.2.1 of *Unified Guidance*; USEPA, 2009b) or non-parametric methods (Section 17.2.2 of *Unified Guidance*; USEPA, 2009b). However, as described above, the non-parametric method requires at least 60 background (or historical) measurements in order to achieve 95% confidence with 95% coverage. Tolerance Intervals can be calculated using most groundwater statistical software packages.

4.4.2.2 Prediction interval approach

If Tolerance Intervals cannot be used to calculate the GPS, then a Prediction Interval method should be used. This method is very similar to the method described in Section 4.2.7 of this document; however, for assessing SSLs, the *Unified Guidance* (USEPA, 2009b) suggests using a prediction interval about a future mean for normally/transformed-normally distributed datasets or a prediction interval about a future median for datasets with a high percent of ND or non-normally distributed data.

When using prediction intervals to calculate for a GPS, a one-sided prediction interval is calculated using background (or historical) datasets based on a specified number of future comparisons - four future comparisons is typical. The Upper Prediction Limit that is calculated as a product of this method then becomes the GPS, and is compared against the confidence interval for the compliance data, as

described in Section 4.4.2.1, above. As also described above, if the LCL is greater than the calculated prediction limit then an SSL is triggered.

4.4.3 Updating background values

The *Unified Guidance* (USEPA, 2009b) suggests that updating statistical limits should only be completed after a minimum of 4 to 8 new measurements are available (i.e., every 1 to 2 years of quarterly monitoring, assuming no verification sampling). The periodic update of background datasets, during which additional data are incorporated into the background, improves statistical power and accuracy by providing a more conservative estimate of the true background population. Background data will be periodically reviewed and updated using the same methods and techniques described in Section 4.3. If the revised background-based GPS (see Section 4.4.2), SIPC may request IEPA approval of the revised GPS for use in future statistical evaluations. If GPS are revised, the GMP will be updated to reflect the revised GPS and submitted to IEPA for approval, prior to implementation.

4.5 Response to an SSL

Responses to an SSL above the GPS, including applicable resampling, notification, reporting, and follow-up requirements, will be implemented in accordance with the 40 CFR 257.95(g), 35 IAC 845.650(d), and the applicable GMP. If corrective action monitoring (CAM) is required, the CAM program statistical analysis will be described in a unit-specific CAM Plan, prepared in accordance with 40 CFR 257.98(a)(1) and 35 IAC 845.670. The Emery Pond specific CAM program specifics are specified in the Groundwater Monitoring Plan Addendum 1 (Golder, 2021).

5. Future revisions

This SAP will be reviewed periodically and revised, as necessary, to reflect substantive change to the groundwater sampling and analytical program for the SIPC CCR surface impoundments. Conditions that may warrant revision include changes to applicable regulatory requirements, sampling or analytical methods, field quality assurance/quality control procedures, laboratory requirements, or other procedures that could affect the representativeness, quality, or usability of the groundwater monitoring data.

Routine administrative changes, laboratory method updates that provide equivalent or improved data quality, and modifications to the monitoring well network will not necessarily require revision of this SAP, if sampling, analytical, and quality assurance/quality control procedures described herein remain applicable.

Substantive revisions to this SAP will be documented through a revised document or an addendum. Revised procedures will be communicated to SIPC, WSP, the analytical laboratory, and applicable field personnel before implementation. Revisions requiring regulatory approval will be submitted to the IEPA in accordance with applicable permit and regulatory requirements.

6. References

EPRI, 2015. Groundwater Monitoring Guidance for the Coal Combustion Residual Rule, November .

Golder Associates Inc., 2021. Groundwater Monitoring Plan Addendum 1. October.

Hanson, 2021. Groundwater Monitoring Plan. March 29, 2019; Revised March 24.

USEPA. 1996. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846), 3rd Edition. Updates 1-IIIB. December.

USEPA. 2009a. Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use. EPA 540-R-08-005. January.

USEPA 2009b. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009

USEPA. 2010. Low Stress (low flow) Purging and Sampling Procedures for the Collection of Ground Water Samples from Monitoring Wells. Revision 3. EPA Region 1.

USEPA. 2015. Disposal of Coal Combustion Residuals from Electric Utilities Regulations. 40 CFR Part 257 Subpart D. April.

USEPA. 2020. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. EPA-540-R-20-006. November.

USEPA. 2023. Management of Investigative Derived Waste. LSASDPROC-202-R5. April.

WSP. 2026a. Design and Construction Report – Pond 1/2, November 2.

WSP. 2026b. Groundwater Monitoring Plan – Pond 1/2, November 2.

Table 1
Analytical Methods and Limits of Quantitation
Southern Illinois Power Cooperative
Marion, Illinois

Monitoring Parameter[1]	Analytical Method[2,3,4]	Sample Container	Minimum Sample Volume	Preservative	Hold Times	PQL (mg/L)	LOD (mg/L)	Federal MCL (mg/L)[5]	IAC Part 845 Standard (mg/L)[6]
Temperature	Field Measurement	Flow-through Cell	NA	NA	NA	NA	NA	NA	NA
pH	Field Measurement	Flow-through Cell	NA	NA	NA	NA	NA	NA	6.5 - 9.0 std
Specific Conductance	Field Measurement	Flow-through Cell	NA	NA	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	Field Measurement	Flow-through Cell	NA	NA	NA	NA	NA	NA	NA
Dissolved Oxygen	Field Measurement	Flow-through Cell	NA	NA	NA	NA	NA	NA	NA
Turbidity	Field Measurement	Flow-through Cell	NA	NA	NA	NA	NA	NA	Background
Antimony	SW-846 6020A	Plastic	250 mL	HNO_3, pH <2	6 months	0.001	0.00045	0.006	0.006
Arsenic	SW-846 6020A	Plastic	250 mL	HNO_3, pH <2	6 months	0.001	0.00038	0.01	0.01
Barium	SW-846 6010B	Plastic	250 mL	HNO_3, pH <2	6 months	0.0025	0.0007	2	2
Beryllium	SW-846 6020A	Plastic	250 mL	HNO_3, pH <2	6 months	0.001	0.00025	0.004	0.004
Boron	SW-846 6010B	Plastic	250 mL	HNO_3, pH <2	6 months	0.02	0.009	-	2
Cadmium	SW-846 6020A	Plastic	250 mL	HNO_3, pH <2	6 months	0.001	0.00013	0.005	0.005
Calcium	SW-846 6010B	Plastic	250 mL	HNO_3, pH <2	6 months	0.1	0.035	-	Background
Chloride	SM 4500-Cl E	Plastic	250 mL	Unpreserved	28 days	1	0.5	-	200
Chromium	SW-846 6020A	Plastic	250 mL	HNO_3, pH <2	6 months	0.0015	0.0007	0.1	0.1
Cobalt	SW-846 6020A	Plastic	250 mL	HNO_3, pH <2	6 months	0.001	0.000115	0.006[7]	0.006
Fluoride	SW-846 9214	Plastic	250 mL	Unpreserved	28 days	0.1	0.037	4	4
Lead	SW-846 6020A	Plastic	250 mL	HNO_3, pH <2	6 months	0.001	0.0006	0.015[7]	0.0075
Lithium	SW-846 6020A	Plastic	250 mL	HNO_3, pH <2	6 months	0.003	0.00145	0.04[7]	0.04
Mercury	SW-846 7470A	Plastic	250 mL	HNO_3, pH <2	28 days	0.0002	0.000055	0.002	0.002
Molybdenum	SW-846 6020A	Plastic	250 mL	HNO_3, pH <2	6 months	0.0015	0.0006	0.1[7]	0.1
Radium 226 & 228	EPA 903.0/904.0	Plastic	2 Liters	HNO_3, pH <2	6 months	1.0 (pCi/L)	-	5.0 (pCi/L)	5.0 (pCi/L)
Selenium	SW-846 6020A	Plastic	250 mL	HNO_3, pH <2	6 months	0.001	0.0006	0.05	0.05
Sulfate	SW-846 9036	Plastic	250 mL	Unpreserved	28 days	10	6.14	-	400
Thallium	SW-846 6020A	Plastic	250 mL	HNO_3, pH <2	6 months	0.002	0.00095	0.002	0.002
Total Dissolved Solids	SM 2540 C	Plastic	250 mL	Unpreserved	7 days	20	16	-	1200

Notes:

1.) Consituents are monitored in accordance with 35 IAC 845.650 and include the consitutuents with standards established under 35 IAC 845.600(a), as well as calcium and turbidity
2.) SW-846 denotes Test Methods for Evaluating Solid Waste, Physical- Chemical Methods, EPA publication SW-846, 3rd edition, and subsequent updates.
3.) Other Aagency-approved methods may be used provided that they produce the necessary level of precision and accuracy for data use and reporting.
4.) Updates to the methods listed here are approved for use.
5.) Federal groundwater maximum contaminant levels for inorganic contaminants in accordance with 40 CFR 141.62 and 141.66.
6.) Groundwater standard provided in 35 IAC 845.600(a)(1).
7.) Health-based standard provided in the CCR Rule Part 1 Phase 1 Amendment.
Dash (-) = no information available
HNO_3 - Nitric acid
mg/L = Milligrams per liter
LOD = Limit of Detection
pCi/L = Picocuries per liter
PQL = Practical Quantitation Limit
SM = Standard Method
MCL = Maximum Contaminant Level
NA = Not applicable
std = standard units

Prepared By: JDV
Checked By: DFSC

Table 2
Groundwater and QA/QC Sampling Plan
Southern Illinois Power Cooperative
Marion, Illinois

Analyte Group	Field Samples	Filtered?	Field Duplicates[1]	Field Blank[2]	MS/MSD[3]
Radium	All	No	1 per 10 field samples	1 per 10 field samples	1 MS and 1 MSD per 20 field samples
Metals					
TDS/Anions/pH					
Field Parameters					

Notes:
1.) Field duplicates will be collected at a frequency of 1 per 10 samples, per analysis, per sampling round.
2.) Field blank will be collected at a frequency of 1 per 10 samples, per analysis, per sampling round using laboratory provided deionized water
3.) Matrix spike and matrix spike duplicate (MS/MSD) samples will be collected at a frequency of 1 per 20 samples, per analysis, per sampling round (2 MS/MSD samples equals 1 MS and 1 MSD)
4.) Must sample all monitoring wells for water-quality parameters including temperature, pH, dissolved oxygen, specific conductance, oxidation-reduction potential, and turbidity.

Prepared By: JDV
Checked By: DFSC

Table 3
Summary of Statistical Methods for Databases with Non-Detect Data
Southern Illinois Power Cooperative
Marion, Illinois

Percentage of Non-Detects in the Database	Statistical Analysis Method
Less than 15%	Replace NDs with 1/2 the PQL, then proceed with parametric procedures.
15 to 50%	Replace NDs with 1/2 the PQL, then use the Kaplan-Meier or robust regression on ordered statics to estimate the mean and standard deviation.
More than 50%	Replace NDs with 1/2 the PQL, then proceed with nonparametric methods.

Notes:
ND = Not detected above laboratory detection limit
PQL = Practical Quantitation Limit

Prepared By: BB
Checked By: JDV
Reviewed By: DFSC

Table 4
Background Limit and Confidence Interval Method Selection
Southern Illinois Power Cooperative
Marion, Illinois

Background Data			
Data Distribution	**Percent Non-Detect**	**Data Trend**	**Background Limit Determination**
Normal or Transformed Normal (Log-Normal)	0 ≤ 50	Stable	Upper Tolerance Limit
Normal or Transformed Normal (Log-Normal)	50 ≤ 70	Stable	Upper Prediction Limit
Non-Normal	N/A	Stable	Upper Prediction Limit
Cannon be Determined	≥ 70	Stable	Upper Prediction Limit
Cannot be Determined	100	Stable	Double Quantitification Rule
Normal or Transformed Normal (Log-Normal)	0 ≤ 50	Trend	Upper Confidence Limit of Confidence Band Around Linear Regression
Non-Normal	N/A	Trend	Upper Confidence Limit of Confidence Band Around Theil-Sen trend line
Compliance Data			
Data Distribution	**Percent Non-Detect**	**Data Trend**	**Method to determine statistically signifant level**
Normal	≤ 75	Stable	Confidence Interval Around Normal Mean
Transformed Normal (Log-Normal)	≤ 75	Stable	Confidence Interval Around Lognormal Arithmetic Mean
Non-Normal	N/A	Stable	Nonparametric Confidence Interval Around Median
Cannot be Determined	≥ 75	Stable	Nonparametric Confidence Interval Around Median
Residuals After Subtracting Trend are Normal (with equal variance)	≤ 75	Trend	Lower Limit from Confidence Band Around Linear Regression
Residuals After Subtracting Trend are Non-Normal	≤ 75	Trend	Lower Limit Confidence Band Around Theil-Sen Line

Notes:
N/A = Not Applicable

Prepared By: JDV
Checked By: DFSC

Attachment A Standard Operating Procedures

WSP USA
Procedure

EE-PRO-SOP-3

SOP 3: Sample Packaging and Shipment Procedure

EFFECTIVE DATE: 10/28/2024

REVISION HISTORY

REV	EFFECTIVE DATE	DESCRIPTION OF CHANGE	PREPARED BY	REVIEWED BY	APPROVED BY
0	10/28/2024	New E&E SOP.	Jessica Witt	David Bouchard	Jim Hunt

PURPOSE

Many field-based activities include the collection and shipping of environmental samples. Proper packing and preservation of the samples is critical to ensuring the integrity of our work product. The user is advised to read the entire standard operating procedure (SOP) and review the site health and safety plan (HASP) and the project safety plan (PSP) before beginning any onsite activities. In accordance with the HASP or PSP, proper personal protective equipment (PPE) must be selected and used appropriately.

Most environmental samples are classified non-hazardous materials; however, they can meet the definition of United States Department of Transportation (DOT) hazardous materials when shipped by air, ground, or rail from a project site to the laboratory (e.g., nonaqueous phase liquids, and samples preserved with a hazardous material such as the methanol used in TerraCore® samplers). Field staff must work with their project lab subcontractor representative and project manager to determine whether the sample shipment is subject to any specific requirements (e.g., packaging, marking, labeling, and documentation) under the DOT hazardous materials regulations.

This SOP is designed to provide the user with a general outline for shipping samples and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), sample collection and quality assurance procedures (SOP 4), and investigation derived waste (IDW) management procedure (SOP 5).

SCOPE

This SOP is written for the sole use of WSP's employees and will be revised periodically to reflect updates to WSP's policies, work practices, and the applicable state or federal guidance. Employees must verify that this document is the most recent version of the company SOPs. Employees are also strongly advised to review relevant state and federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

ROLES AND RESPONSIBILITIES

WSP requires that all personnel performing specific project assignments be appropriately qualified, including having required certifications or licenses, and properly trained in accordance with the requirements of their assignment, the Earth and Environment Business Line's field standard operating procedures, and the WSP Quality Management System.

ACRONYMS AND ABBREVIATIONS

- CFR: Code of Federal Regulations
- DOT: Department of Transportation
- IATA: International Air Transport Association
- IDW: Investigation derived waste
- HASP: Health and safety plan
- PPE: Personal protective equipment
- PSP: Project safety plan
- SOP: Standard operating procedure

MATERIALS

- Suitable shipping container (e.g., plastic cooler)
- Chain-of-custody forms
- Custody seals
- Sample container custody seals (as necessary)
- Mailing address labels (as necessary)
- Shipping form (with account number, as necessary)
- Tape (e.g., strapping, clear packing)
- Permanent marker
- PPE
- Bubble wrap or other packing material
- Temperature-preserved samples:
  - Large plastic garbage bag
  - Wet ice
  - Heavy-duty zipper-style plastic bags
  - Universal sorbent materials

Note: Some materials will be supplied by the laboratory, while others must be supplied by the sampler. Confirm supplier of materials prior to mobilizing to the field.

PROCESS

The two major concerns in shipping samples are 1) incidental glassware breakage during shipment; and 2) complying with applicable DOT and courier requirements for hazardous materials shipments.

Protect the samples from incidental breakage by packing glassware in a manner that will prevent them from moving freely about in the cooler or shipping container. Repack the sample containers in the same materials that they were originally received in from the laboratory, if possible, and cushion the sample containers with plastic bubble wrap, Styrofoam, or other nonreactive cushioning material. Do not allow glass surfaces to contact each other. A more detailed procedure for packing environmental samples is presented below.

Many commercial couriers, including FedEx and United Parcel Service (UPS), have requirements that the company register with them before shipping hazard materials. It is the sampling location and not the company office address that, in most cases, needs to be registered with these couriers. Please contact your project manager to determine whether you will be required to register your shipment or there are other unique shipping requirements.

SAMPLE HANDLING AND PACKAGING

The first step in preparing your samples for shipment is securing an appropriate shipping container. The analytical laboratory will often supply the appropriate container for bottle shipment, which can be used to return samples once they have been collected. Be sure that the container is large enough to contain the samples, the packing materials, and if applicable, wet ice to maintain the samples at the preservation temperature (4 degrees Celsius). Use additional shipping containers as needed so that sample glassware is protected from breakage due to overcrowding. Do not use small portable or soft-

sided coolers (i.e., lunchbox coolers), which do not offer sufficient insulation or protection from damage.

Note 1: Employees rarely ship hazardous materials due to DOT shipping requirements. Most, but not all materials and samples associated with an environmental investigation are non-hazardous. Nevertheless, the project may require the shipment of TerraCore® samplers (with methanol) or the collection of samples, such as nonaqueous phase liquids, that may be a DOT hazardous material. Employees should coordinate with the assigned company compliance professional and project manager to make a hazardous material classification and, if necessary, establish the necessary protocols and to receive the appropriate training/certification.

Note 2: Employees shipping samples regulated as hazardous materials or exempt hazardous materials by air must have International Air Transport Association (IATA) training. IATA training is required in addition to DOT hazardous materials training for such shipments. Most of our employees do not have IATA training and therefore, anyone who needs to ship by air MUST consult with a company IATA-trained compliance professional.

TEMPERATURE-PRESERVED SAMPLE CONTAINER PREPARATION

Temperature-preserved samples should be shipped to the laboratory in an insulated container (e.g., cooler). Securely tape the inside of the drain plug (if present) with duct tape or other material to ensure that no water leaks from the cooler during shipment. Place universal-type sorbent materials (e.g., sorbent pads) in the bottom of the insulated container. The amount of sorbent material must be sufficient to absorb any condensation from the wet ice and a reasonable volume of water from melted wet ice (if a bag were to rupture) or a damaged (aqueous) sample container.

Line the insulated container with a large, heavy-duty plastic garbage bag with bubble wrap or other packing materials on the bottom to cushion the glassware. Place the samples, including a temperature blank, on the packing materials with sufficient space to allow for the addition of more bubble wrap or cushioning material between the sample containers.

Place large or heavy sample containers on the bottom of the cooler with lighter samples placed on top to minimize the potential for breakage. Place all sample containers in the shipping container right-side up. Do not overfill the cooler with samples; room must be left for a sufficient volume of wet ice. Wet ice must be double-bagged in heavy-duty zipper-style plastic bags (1 gallon-sized, or less). Properly seal both zipper-style plastic bags before placing them in the insulated container.

Place the bags of ice on top of or between the samples such that the cooler is filled with ice and there is little space for the samples to move during shipment. This will ensure the samples arrive at the lab at the required preservation temperature, even if the shipment is delayed. Fill any remaining space in the container with bubble wrap or other packing material to limit the airspace and minimize the shifting of the sample containers and the in-transit melting of ice. Securely close (e.g., knot or seal with tape) the top of the heavy-duty plastic garbage bag lining the cooler.

SAMPLE CONTAINER PREPARATION WITHOUT TEMPERATURE CONTROL

Samples that do not require temperature control for preservation should be shipped to the laboratory in a durable package (e.g., hard plastic container or cardboard box). If shipping breakable sample containers (e.g., glass), place bubble wrap or other packing materials on the bottom of the container. Place the samples on the packing materials with sufficient space to allow for the addition of more bubble wrap or other packing material between and on top of the sample containers. Place large or heavy sample containers on the bottom of the container with lighter samples placed on top to minimize the potential for breakage. Place all sample containers within the shipping container right-side up. Fill any remaining space in the container with bubble wrap or other packing material to minimize the shifting of the sample containers in-transit.

CONTAINER SHIPMENT

Place the original chain-of-custody form (i.e., laboratory copy) into a heavy-duty zipper-style plastic bag and tape the bag to the shipping container's inside lid. Include the return shipping labels for the laboratory to return company-owned coolers. Only one chain-of-custody form is required per sample shipment, even if that shipment includes multiple coolers or other containers. The other coolers in the same shipment do not need to include chain-of-custody forms, unless required by the project.

The sealed container should be gently shaken to ensure that the samples are not moving significantly within the cooler or other packaging. The shipping container should be opened and repacked if the If loose sample containers are detected to limit the possibility of breakage during transit. Samples transported to the laboratory via a commercial shipping vendor (e.g., FedEx or UPS) should have a minimum of two signed and dated custody seals on alternate sides of the shipping container lid such that it cannot be opened without breaking the seals. Securely fasten the top of the shipping container shut with clear packing tape; carefully tape over the custody seals to prevent damage during shipping. Apply *This Side Up* labels (or draw arrows on the side of the package if no labels are available) on a least opposing sides of the cooler exterior and label the top of the cooler or package as *This Side Up*.

Affix a mailing label with the ship to and return to addresses to the top of each shipping container using clear shipping tape. Each label should include the container number, total number of containers (e.g., 1 of 2), and tracking number (see below).

Note 1: Samples should be cross-checked against the chain-of-custody before signing the form and sealing the cooler or other packaging.

SHIPPING PAPERWORK

Use the pre-printed return mailing label from the laboratory, if provided, or complete a new mailing label for the shipping carrier. Ship environmental samples to the contracted analytical laboratory using an appropriate delivery schedule. Samples can be shipped for Saturday delivery once the lab has been verified to be open and receiving samples. The shipping containers should be clearly marked, and shipping documents must indicate *For Saturday Delivery*, if appropriate.

Verify whether the shipment cost should be billed to the sender or recipient, and ensure the internal billing reference section on the mailing label includes either the:

- laboratory's billing reference number, if the shipment is billed to the laboratory;
- or the project billable number and office number, if the shipment is billed to WSP.

Be sure to confirm with the Project Manager when using FedEx for shipping that you are using the office account number for billing to WSP whenever applicable.

Declare the value of samples on the shipping form for insurance purposes, if applicable. When shipping samples to a laboratory, identify a declared value equal to the carrier's default value ($100); additional fees will be charged based on a higher value declared. FedEx, our preferred carrier, will only reimburse for the actual value of the cooler and its contents if a sample shipment is lost; they will not reimburse for the cost of having to re-collect the samples.

Record the tracking numbers from the shipping company forms (i.e., the airbill number) in the field book and retain a copy of the shipping airbill. On the expected delivery date, confirm sample receipt by contacting the laboratory or tracking the package using the tracking number; provide this confirmation information to the project manager.

Most shipping carriers adhere to transit schedules with final pickup times each day; these schedules are subject to change and vary by service location. Shipping containers dropped off at a service location after the final pickup time will not begin the transit to the laboratory until the following day, which may be a concern for the sample (temperature) preservation (i.e., if the ice is insufficient to keep the samples cold until they arrive at the laboratory). Confirm transit schedules in advance of each sampling event, and ensure samples are delivered to the carrier before the final pickup time of the day.

RECORDS

Record Identification	Storage/Protection Location	Record Media Type	Minimum Retention Period	Disposition of record after minimum retention period
Chain-of-Custody Form	Project File	Electronic	10 years	Archive

REFERENCES

Code of Federal Regulations 40 CFR Part 261.4(d) Samples. Dangerous Goods Regulations, IATA, Most-Current Version.

FORMS

Chain-of-Custody Form (e.g. from the laboratory or project specific)

WSP USA
Procedure

EE-PRO-SOP 4

SOP 4: Sample Collection and Quality Assurance Procedure

EFFECTIVE DATE: 10/28/2024

REVISION HISTORY

REV	EFFECTIVE DATE	DESCRIPTION OF CHANGE	PREPARED BY	REVIEWED BY	APPROVED BY
0	10/28/2024	New E&E SOP.	Jessica Witt	Erin May	Jim Hunt

PURPOSE

This SOP describes sample identification procedures, sampling order for select analytes, quality control and quality assurance (QA/QC) sampling procedures, and custody documentation. The user is advised to read the entire SOP and review the site health and safety plan (HASP) and/or project safety plan (PSP) before beginning any onsite activities. In accordance with the HASP/PSP, proper personal protective equipment (PPE) must be selected and used appropriately.

SCOPE

This SOP is written for the sole use of WSP's employees and will be revised periodically to reflect updates to WSP's policies, work practices, and the applicable state and/or federal guidance. Employees must verify that this document is the most recent version of the company's SOPs. Employees are also strongly advised to review relevant state and federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

This SOP is designed to provide the user with a general outline for collecting environmental and quality assurance samples and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), sample shipment procedures (SOP 3), investigation derived waste management procedures (SOP 5), and equipment decontamination (SOP 6). This SOP does not cover investigation planning, nor does it cover the analysis of the analytical results. These topics are more appropriately addressed in a site-specific work plan or a dedicated quality assurance project plan (QAPP). This SOP does not include any special handling requirements for specific parameters such as low-level mercury or per- and polyfluoroalkyl substances (PFAS); these requirements should be included in the site-specific work plan/QAPP.

ROLES AND RESPONSIBILITIES

WSP requires that all personnel performing specific project assignments be appropriately qualified, including having required certifications or licenses, and properly trained in accordance with the requirements of their assignment, the Earth & Environment Business Line's field SOPs, and the Quality Management System.

ACRONYMS AND ABBREVIATIONS

- ºC: degrees Celsius
- COC: chain-of-custody
- DI: deionized water
- U.S. DOT: United States Department of Transportation
- EDD: electronic data deliverable
- U.S. EPA: United States Environmental Protection Agency
- HASP: health and safety plan
- ID: identification
- MS/MSD: matrix spike and matrix spike duplicate
- PFAS: per- and polyfluoroalkyl substances
- PPE: personal protective equipment
- PSP: project safety plan

- QA/QC: quality assurance/quality control
- QAPP: quality assurance project plan
- SOP: standard operating procedure
- VOCs: volatile organic compounds

MATERIALS

- Field book
- Indelible (waterproof) markers or pens
- PPE
- Sampling containers and labeling/shipping supplies
- DI water
- Cleaned or dedicated sampling equipment

PROCESS

SAMPLE IDENTIFICATION PROCEDURES

1. All sample containers (i.e., glass bottles, plastic jars, foil bags, plungers, etc.) should be identified by an affixed sample label. Unless otherwise approved by your project manager or specified in your site-specific work plan/QAPP, information on the sample container labels must include the following:
   - Site/project name
   - Project and task number
   - Unique alpha-numeric sample ID
   - Sample collection date, time of collection using the military or 24-hour clock system (i.e., 0000 to 2400 hours)
   - Analytical parameters
   - Preservative (as necessary)
   - Initials of the sampling personnel

   Employees are advised to use pre-printed waterproof labels (e.g., Avery® WeatherProof™ Labels) for all sample identification.

2. The sample ID must, unless otherwise approved by your project manager or specified in your site-specific work plan/QAPP, follow the company's naming protocol. This protocol was developed to aid in determining the type of sample collected (i.e., soil, groundwater, vapor, etc.), the sample location, and, where appropriate, the sample depth. This protocol was also designed to ensure consistency across the company. Construct sample IDs in the following format: **SB-10A(4-6)**
   Where, in this example :
   - SB is the first two or three characters will define the sample type (see approved prefixes below); in this case, a soil boring.
   - 10A is the next two or three alpha-numeric digits (separated by a dash from the sample type identifier) indicate the location of the boring on the site; in this case, boring number 10A.
   - (4-6) is the depth the sample was collected, with the first number (including decimals, if necessary) indicating the top of the sample interval (in feet) and the second number indicating the bottom of the sample interval (in feet); not all sample types will include depth information.

3. Additional label information may be added after the last character of the sample ID number (e.g., sample date, underground storage tank number, "Area" number, client identifier). Separate any additional information from the required portion of the sample name by dash(es).

Sample Prefix	Permitted Use
AA	Ambient outdoor air sample
CC	Concrete core/chip sample
CS	Confirmation/verification soil sample collected from an excavation
EB	Equipment blank
FB	Field blank
HA	Soil sample collected with a hand auger
IA	Indoor air sample
MW	Soil sample collected from a monitoring well borehole or a groundwater sample collected from a monitoring well
PZ	Groundwater sample collected from a piezometer
RB	Rinsate blank
SB	Soil sample collected from boreholes that will not be converted to monitoring wells
SED	Sediment sample
SG	Soil gas sample other than a sub-slab sample
SL	Sludge sample
SS	Surface soil sample collected using hand tools (i.e., trowel, spoon, etc.) and typically at depths less than 2 feet below ground surface
SSV/SSG	Sub-slab vapor/Sub-slab soil gas sample
SW	Surface water sample
TB	Trip blank
TC	Tree core sample
TP	Test pit soil sample
WC	Waste characterization sample
WP	Wipe sample
WW	Waste water

SAMPLE CONTAINERS, PRESERVATIVES, AND HOLDING TIMES

1 The first step in sample collection is to verify that the correct number and type of sample containers were provided for the proposed project (i.e., check against the sampling plan requirements outlined in the site-specific work plan/QAPP). Note: if a sample container(s) does contain preservatives ensure that there were no leaks and that the lids were sufficiently tightened.

2 Inspect all containers and lids for flaws (cracks, chips, etc.) before use. Do not use any container with visible defects or discoloration. Report non-receipt and any discrepancies of specific types of sample containers to the team leader or project manager immediately. Make arrangements to have missing or additional sampling containers provided on an expedited basis, as necessary.

3 Precautions must be taken to prevent cross-contamination and contamination of the environment when collecting samples. Wear a clean pair of new, disposable gloves each time a different sample is collected and don the gloves immediately prior to collection. This limits the possibility of cross-contamination from accidental contact with gloves soiled during collection of the previous sample. The gloves must not contact the medium being sampled and must be changed any time during sample collection when their cleanliness is compromised. **In no case should gloved hands be**

used as a sampling device: always use the appropriate sampler to move the sample from the sampling device to the laboratory-supplied containers.

4 Sample collection must follow all appropriate SOPs, state and federal regulations, or guidance, for the collection of environmental samples; the recommended order of field sample collection is:

a. Geochemical measurements (e.g.., temperature, pH, specific conductance)
b. Per- and Polyfluoroalkyl substances
c. VOCs
d. Extractable organics, petroleum hydrocarbons, aggregate organics, and oil and grease
e. Total metals
f. Dissolved metals
g. Inorganic non-metallic and physical and aggregate properties
h. Microbiological samples
i. Radionuclides

Fill the sample bottles to the appropriate level for the parameter analyzed including eliminating head space, as appropriate. Collected samples that require thermal preservation must be immediately (within 15 minutes) placed in a cooler with wet ice and maintained at a preservation temperature of 4° Celsius (ºC).

FIELD QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

Field quality QA/QC samples may include equipment blanks, trip blanks, temperature blanks, duplicates, matrix spike and matrix spike duplicate samples, field blanks, and split samples. The project manager or site-specific work plan/QAPP must specify the type and frequency of QA/QC sample collection. The QA/QC sample ID must, unless otherwise approved by your project manager or specified in your site-specific work plan/QAPP, follow the company's naming protocol as discussed in the sections below. QA/QC samples must be clearly identified on our copy of the chain-of-custody (COC) form (described below) and in the field book. Failure to properly collect and submit required QA/QC samples can result in invalidation of an entire sampling event.

Several blanks, discussed below, require laboratory-grade analyte-free DI be used. Only if all options to obtain laboratory-grade DI have been exhausted should store-grade distilled water be used to prepare blanks. If store-grade distilled water is used, be sure to record the source and lot number in the field book.

Collect, preserve, transport and document split samples using the same protocols as the related samples.

EQUIPMENT BLANKS

Equipment blanks, or rinsate blanks, are used to document contamination attributable to using non-dedicated equipment (i.e., equipment that must be decontaminated after each use). Collect equipment blanks in the field at a rate of one per type of sampling equipment per day, unless otherwise specified. If the site-specific work plan/QAPP indicates that an equipment blank is to be collected from dedicated sampling equipment, collect the equipment blank in the field before sampling begins. If field

decontamination of sampling equipment is required, prepare the equipment blanks after the equipment has been used and field-decontaminated at least once. The samples must be labeled, preserved, and filtered (if required) in the same manner as the environmental samples. Have the equipment blanks analyzed for all the analytes for which the environmental samples are being analyzed, unless otherwise specified.

- Designate equipment blanks using "EB" or "RB" for rinsate blanks, followed by the date, and in the order of equipment blanks collected that day. For example, the first equipment blank collected on July 4, 2015, would be designated EB-070415-1.
- Prepare equipment blanks by filling or rinsing the pre-cleaned equipment with DI water and collecting the rinsate in the appropriate sample containers.
- Record the type of sampling equipment used to prepare the blank and how the equipment blank was generated in the field book.
- Decontamination of the equipment following equipment blank procurement is not required.

TRIP BLANKS

Trip blanks are used to document VOC contamination attributable to shipping and field handling procedures. Trip blanks are only required when analyzing samples for VOCs. The trip blanks are prepared by the analytical laboratory and shipped along with the empty sample containers. These pre-filled blanks should accompany the environmental sample containers wherever they are stored onsite (i.e., keep the trip blank sample bottles in the same shipping container used to ship and store VOC sample bottles during the sampling event). Never open the laboratory-supplied trip blank sample bottles.

- The trip blanks, even those provided by the analytical laboratory, should be labeled in the field like other environmental samples collected during the investigation activities. Identify trip blanks using the prefix "TB", followed by the date. For example, the trip blank shipped with a cooler of samples on July 4, 2019, would be designated TB070419-1. If a second trip blank is needed on that same day, the designation would be TB070419-2.
- One trip blank should accompany each shipping container of VOC samples, unless more stringent project requirements are in place. The number of trip blanks needed per shipment can be minimized by shipping all the VOC samples in the same shipping container (if possible).

FIELD BLANKS

The field blank is similar to the trip blank in that it is designed to assess and document any contamination to the environmental samples that can be attributable to the (ambient) field conditions. Not all projects require the use of field blanks. Their use, if required, and the frequency of collection (often 1 blank per 20 environmental samples collected) should be detailed in the site-specific work plan/QAPP or work plan.

- Identify field blanks using the prefix "FB", followed by the date. For example, the field blank shipped collected on August 22, 2019, would be designated FB082219. If a second field blank is needed on that same day, the designation would be FB082219-2.

- The sample is collected by pouring DI water into empty glassware at the site during the sampling event. The intent is to expose the field blank to the same conditions in the atmosphere as those present when the environmental samples were collected. Record the specific location where the field blank was generated in the field book (i.e., adjacent to guard shack, downwind (west) of boiler room).

TEMPERATURE BLANKS

Temperature blanks are used to determine if the samples are at the appropriate temperature for preservation at the time the sample container (cooler) is received by the analytical laboratory. The temperature is determined by measuring the temperature blank, which provides a proxy for the temperature of the sample container upon arrival at the laboratory. These temperature blanks are typically provided by the laboratory and should be included in each sample cooler used to ship and store the sample bottles during the sampling event. Temperature blanks need to be clearly labeled as such and do not need to be written on the COC form. If laboratory-provided temperature blanks are not available, fill a clean, unpreserved sample bottle with potable, DI, or store-grade distilled water and identify the bottle as a temperature blank.

DUPLICATES

Duplicate samples, which are used for measuring the variability and documenting the precision of the sampling process, should be collected at a rate of at least 1 duplicate per 20 environmental samples collected, unless otherwise specified. Be sure that the location selected for duplication has sufficient sample volume and is within the area of contamination, if known. The duplicate samples should be analyzed for the same analytes as the parent environmental sample. Under no circumstances can equipment or trip blanks be used as duplicates. In addition, collecting duplicate samples of soil, sediment, waste, and sludge is not recommended because the homogenization necessary for a true duplicate sample in these matrices is not possible and the resulting laboratory results would not be comparable.

- Collect each duplicate sample at the same time, from the same sample aliquot, and in the same sampling order (i.e., volatile organic compounds, then semivolatile organic compounds, then inorganics, etc.) as the corresponding environmental sample. Sample bottle aqueous duplicate samples, for example, should be alternately filled with the environmental sample bottles (i.e., the actual sample bottle and the bottle to be used for the duplicate) from the same sampling device.
- If the sampling device has insufficient volume to fill the containers, start by filling the first container with equal portions of the sample and distribute the remainder among the subsequent containers. Acquire more sample volume, add the initial part to the last container, and distribute the remaining portions back into the first containers. Repeat these steps until all containers are filled.

Duplicate samples will be assigned arbitrary sample ID (i.e. SB-100) and a false collection time (preferably earlier than the parent sample) so that they are not identified as duplicates by the

laboratory (i.e., submit the duplicates samples as blind to the lab). The blind duplicate sample ID will be left up to the project manager; however, in no case will "Dup" be allowed to appear in the sample name. Be sure to record the sampling method, duplicate sample ID, the false time, and the actual time of collection in the field notebook. The duplicate should also be indicated in separate documentation, such as on our carbon copy of the chain-of-custody (i.e., the yellow copy), and not on the original chain-of-custody that accompanies the samples to the laboratory.

MATRIX SPIKE AND MATRIX SPIKE DUPLICATES

Matrix spike and matrix spike duplicate samples (i.e., MS/MSD samples) are used to determine the bias (accuracy) and precision of an analytical method for a specific sample matrix. Many of the company's projects require the collection of MS/MSD samples; however, laboratory generated MS/MSD samples are sufficient for some projects. Collect MS/MSD samples at a rate of 1 MS and 1 MSD (i.e., 2 samples) for every 20 environmental samples, unless otherwise specified. Under no circumstances can equipment or trip blanks be used as MS/MSD samples.

- The MS/MSD samples must be subsamples of the same parent material used for the environmental sample: soil should be collected from the same in-place material (for VOCs) or, for non-discrete samples, the same mixing vessel after homogenization. Collect aqueous MS/MSDsamples using the same alternating bottle approach detailed in the duplicate sample description above. These procedures will ensure that the split samples are valid and are representative of the environmental sample collected as part of the investigation.
- Clearly convey the MS/MSD identity to the laboratory by adding "MS" or "MSD" after the sample ID (i.e., MW-01-MS, MW-01-MSD) and/or in the comments section of the chain-of-custody on the same line as the parent sample. The parent sample ID should not include "MS" or "MSD" in the sample nomenclature.

SPLIT SAMPLES

Split samples may be collected as a means of determining compliance or as an added measure of quality control. Split samples measure the variability between laboratories and not the variability of sample collection and laboratory procedures (i.e., they are not equivalent to duplicate samples). *Note: Collecting split samples of soil, sediment, waste, and sludge is not recommended because the homogenization necessary for a true split sample in these matrices is not possible and the resulting laboratory results would not be comparable.*

- The split samples must be subsamples of the same parent material used for the environmental sample: soil should be collected from the same in-place material (for VOCs) or, for non-discrete samples, the same mixing vessel after homogenization. Collect aqueous split samples using the same alternating bottle approach detailed in the duplicate sample description above. These procedures will ensure that the split samples are valid and are representative of the environmental sample collected as part of the investigation.
- Spilt samples should have the same sample location designation (i.e., MW-01, SB-03 (4-6), but are differentiated from each other by inserting the laboratory analyzing or the agency/consultant

collecting the sample after the sample location (i.e., MW-01-WSP and MW-01-EPA). It is also suggested to note in the comment portion of the COC that the sample is a split sample.

CUSTODY DOCUMENTATION

Sample custody protocols are used to demonstrate that the samples and sample containers were handled and transferred in such a manner as to prevent tampering. Legal COC begins when the pre-cleaned sample containers are dispatched to the field from the laboratory and continues through sample analysis and eventual disposal of the sample and sample containers. Maintaining custody requires that samples must be in the actual possession or view of a person who is authorized to handle the samples (i.e., sample collector, laboratory technician, etc.), secured by the same person to prevent tampering, or stored in a designated secure area.

It is a good idea to limit, to the extent possible, the number of individuals who physically handle the samples. Samples must be placed in locked storage (i.e., locked vehicle, locked storeroom, etc.) when not in the possession or view of authorized personnel. Do not leave samples in unoccupied motel or hotel rooms or other areas where access cannot be controlled by the person(s) responsible for custody without first securing samples and shipping or storage containers with tamper indications in place (i.e., custody seals).

CHAIN OF CUSTODY DOCUMENTATION

The COC form is functionally similar to a packing slip that accompanies a shipment of goods and includes a custody record, typically located at the bottom of the form. The form is used as physical evidence of sample custody. U.S. EPA guidelines specify that official custody of samples must be maintained and documented from the time of collection until the time the samples are introduced as evidence in the event of litigation. The sampler is responsible for the care and custody of the sample until sample shipment.

- COC forms must be completed for every shipment of samples to an analytical laboratory.
- Use indelible ink only, no pencil (a ball point pen is best). Make corrections by drawing a line through and initialing and dating the error, then enter the correct information.
- A separate COC form must accompany each cooler for each shipment. Place the original COC form in a zipper-type plastic bag in the cooler with the samples. The COC forms must address all samples in that sample shipment. If multiple coolers are shipped a copy of the COC should accompany each cooler. This practice maintains the chain-of-custody for all samples in case of mis-shipment.

The COC needs to have a unique COC number (pre-printed on the form), accompany all the samples, and include all appropriate project-specific information, such as:

- Project number, name, and location
- Sampler's printed name(s) and signature(s)
- Sample ID
- Date and time (using the 24-hour clock) of collection
- Sample matrix (i.e., soil, aqueous, solid, etc.)
- Total number of containers per sample
- Parameters requested for analysis including number of containers per analyte.

- Remarks (i.e., irreducible headspace, field filtered sample, expected concentration range, specific turn-around time requested, etc.)
- Signatures of all persons involved in the chain of possession in chronological order
- Requested turn-around-time
- Name and location of analytical laboratory
- Custody seal numbers
- Shipping courier name and tracking information
- Internal temperature of shipping container upon shipment to laboratory, as needed
- Internal temperature of shipping container upon delivery to laboratory
- Employee contact information

Affix custody seals to all storage and shipping container closures when transferring or shipping sample container kits or samples to an off-property party. Place the seal so that the closure cannot be opened without breaking the seal. In the field book, record the time, date and signatures of responsible personnel affixing and breaking all seals for each sample container and shipping container. Affix new custody seals every time a seal is broken until continuation of evidentiary custody is no longer required.

When transferring the possession of samples, the individuals relinquishing and receiving custody will sign, date, and note the time on the record. Persons receiving the custody of a sample group are responsible for confirming the accuracy of the COC with regard to the number and type of sample containers for which they are accepting responsibility.

When samples are to be shipped to an analytical facility by commercial delivery service, the samples will be relinquished to the courier in sealed containers, and, if practicable, the shipment number will be noted on the COC form. When samples are transferred by commercial delivery service, a copy of the shipping documentation will serve as the COC record for the delivery service's role in the chain of custody.

The sample custodian relinquishing custody to a facility or agency will request the signature of a representative of the appropriate party acknowledging receipt of the samples. If a representative is unavailable or refuses to sign, this will be noted in the "Received by" space on the COC. When appropriate, the custody record will contain a statement that the samples were delivered to the designated location at the designated time.

RECORDS

Record Identification	Storage/Protection Location	Record Media Type	Minimum Retention Period	Disposition of record after minimum retention period
Scanned COC and Lab Deliverable COC	Project file	Electronic	10 years	Archive

REFERENCES

None

FORMS

None

WSP USA
Procedure

SOP 6: Decontamination Procedure

EFFECTIVE DATE: 10/28/2024

REVISION HISTORY

REV	EFFECTIVE DATE	DESCRIPTION OF CHANGE	PREPARED BY	REVIEWED BY	APPROVED BY
0	10/28/2024	New E&E SOP.	Jessica Witt	Rick Watt	Jim Hunt

PURPOSE

The decontamination procedures outlined in this standard operating procedure (SOP) are designed to ensure that all non-dedicated sampling equipment[1] is free from the analytes that could potentially interfere with sample results. The user is advised to read the entire SOP and review the site health and safety plan (HASP) and/or project safety plan (PSP) before beginning any onsite activities. In accordance with the HASP or PSP, proper personal protective equipment (PPE) must be selected and used appropriately.

SCOPE

This SOP is written for the sole use of WSP's employees and will be revised periodically to reflect updates to WSP's policies, work practices, and the applicable state and/or federal guidance. Employees must verify that this document is the most recent version of the company's SOPs. Employees are also strongly advised to review relevant state and federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

This SOP is designed to provide the user with a general outline for decontamination and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), sample shipment procedures (SOP 3), sample collection and quality assurance procedures (SOP 4), and investigation-derived waste management procedures (SOP 5). All decontamination references must be available for consultation in the field, including:

- WSP's SOPs,
- Applicable state and federal guidelines or procedures,
- Manufacturer's manuals,
- Project-specific work plan,
- PSP and/or HASP, and
- Quality assurance project plan (QAPP)

ROLES AND RESPONSIBILITIES

WSP requires that all personnel performing specific project assignments be appropriately qualified, including having required certifications or licenses, and properly trained in accordance with the requirements of their assignment, the field SOPs, and the Quality Management System.

ACRONYMS AND ABBREVIATIONS

- DI: deionized water
- DOT: U.S. Department of Transportation
- EPA: U.S. Environmental Protection Agency
- HASP: health and safety plan
- IATA: International Air Transport Association
- PFAS: per- and polyfluoroalkyl substances

[1] Disposable, single use items, such as bailers or tubing, do not require decontamination, if they are sealed upon arrival in the field and certified clean for the appropriate use by the manufacturer.

- PPE: personal protective equipment
- PSP: project safety plan
- QAPP: quality assurance project plan
- SOP: standard operating procedure

MATERIALS

- Field book
- PPE appropriate for conducting decontamination (such as safety glasses or splash shield, splash apron, and nitrile or neoprene gloves)
- Polyethylene sheeting and/or garbage bags
- Laboratory-grade non-phosphate detergent (e.g., Luminox®, Liquinox®, Alconox®)
    - Note: Not all laboratory-grade detergents are phosphate free. Be sure to verify the detergent's phosphate content before use.
- Cleaning reagents, as needed (e.g., isopropyl alcohol, methanol, hexane, nitric acid)
- Potable water
- Deionized (DI) water
- Containers (e.g., plastic buckets)
- Bristle brushes
- Aluminum foil and/or plastic bags
- Spray bottles
- Paper towels
- Pressurized steam cleaner or pressure washer, as needed
- Waste collection containers (e.g., drums), as needed
- Decontamination pad, as needed

PROCESS

GENERAL PROCEDURES

The cleaning and decontamination procedures described below are designed to ensure that the surface of the equipment used for sample collection is free of analytes that could potentially alter the analytical results. These procedures are primarily targeted at preventing the incidence of cross-contamination (e.g., compounds of interest being transferred on the sampling equipment from one sample to another) to produce high quality, representative test results. As with all analytical sampling, the effectiveness of the cleaning procedures must be demonstrated with the collection of equipment (rinsate) blanks; equipment blank sample collection procedures and frequency are discussed in SOP 4.

EQUIPMENT AND REAGENT SELECTION

It is important for employees to evaluate the expected types of contamination before mobilization to a site. State programs (or the U.S. EPA, depending on the site) may require more stringent decontamination procedures than those listed in this SOP, specify the types and grades of various cleaning detergents and reagents (e.g., acids and solvents), or allow the use of phosphate-containing detergents. Decontamination equipment (e.g., spray bottles, brushes, etc.) should be constructed of non-reactive, non-leachable materials (e.g., metal, glass, high density polyethylene, etc.) which are compatible with the reagents and solvents being used for decontamination.

Note: Liquinox® liquid detergent, manufactured by Alconox, Inc., is phosphate-free and does not contribute to nutrient loading or algae blooms in the environment.
Many of the cleaning reagents (e.g., nitric acid, hexane, methanol) are U.S. Department of Transportation (DOT) hazardous materials and must be shipped in accordance with DOT and/or International Air Transport Association (IATA) regulations (SOP 3). The Safety Data Sheets (SDSs) for any hazardous cleaning reagents to be used onsite must be reviewed before the commencement of work, and the potential hazards and protective measures (including appropriate PPE) to be employed must be addressed in the HASP. Do not use decontamination liquids that have been improperly stored (e.g., unsealed containers). Ensure that appropriate labeling, including product identifier (name), hazard class, etc. are included on all containers used for decontamination reagents.

In specific cases, it may be necessary to clean the field equipment using a steam cleaner, pressure washer, etc. before proceeding with the decontamination steps presented below (e.g., hollow stem augers to remove soil and gross contamination). Generally, the company's subcontractors are responsible for bringing or building a decontamination pad, if necessary, to contain the spray from a steam cleaner or pressure washer. As possible, decontamination pads should be constructed on a level, paved surface in an area known or believed to be free of surface contamination, and should be of sufficient size to contain the decontamination water and prevent overspray. Equipment that is steam cleaned should be placed on racks or saw horses and not on the floor of the decontamination pad. Decontamination water should be removed from the decontamination pad frequently to minimize the potential for leaks or overflow.

Consult and involve the company's compliance professionals for storage procedures and disposal requirements of cleaning reagents, detergents, wastes, and other decontamination-related materials.

OTHER CONSIDERATIONS

In preparing for decontamination, you should perform the following activities (with all observations and measurements noted in the field book):

- Perform a quick reconnaissance of the site to identify a decontamination (pad) area and evaluate the accessibility to and safety of the location.
- If working in a hazardous waste exclusion area, the decontamination area should be located in the contaminant reduction zone.
- Record a description of the decontamination (pad) area.

Survey the breathing zone around the decontamination area with the appropriate air quality meter(s), as necessary (see HASP), to ensure that the level of PPE is appropriate. When decontaminating equipment, it is important to find a suitable location away from any sources of cross-contamination that could compromise the integrity of the decontamination. As possible, position the decontamination area away from fuel-powered equipment, such as drill rigs or excavators, and upwind of other site activities (e.g., purging, sampling).

DECONTAMINATION PROCEDURES

The decontamination procedures described below are a four- to nine-step process, depending on the applicable federal or state guidelines, the project-specific work plan, or the QAPP. Sampling activities must be initiated with clean, decontaminated equipment. Decontaminate all non-dedicated equipment that contacts the sample media directly (e.g., spoons, trowels, pumps), before and between each sample location and sampling interval. Record decontamination procedures in the field book. Disposable, single use items, such as bailers, pump bladders, tubing, etc. do not require decontamination if they are wrapped and provided clean by the manufacturer. The decontamination process includes the following four basic steps:

1. **Physical removal of soil or debris:** Remove as much gross material (such as soil or other debris) from the sampling device as possible near the sampling area to limit the spread of potentially contaminated materials into clean areas of the site. Containerize potentially contaminated soil or debris in DOT-compliant containers in accordance with SOP 5 or the project-specific work plan. Dispose of all wastes in conformance with the project-specific work plan and applicable regulations.
2. **Wash with non-phosphate detergent solution, such as Liquinox®, and a nylon or similar brush:** Cleaning and decontamination should occur at a designated area(s) and on top of appropriate containment surfaces (i.e., decontamination pad) on the site. If gross contamination, an oily film, or residue is observed on the equipment, use a steam cleaner or wash by hand, using a brush and non-phosphate detergent solution, to remove the particulate matter or surface film. Heavy oils or grease may be initially removed with paper towels soaked with isopropyl alcohol.
3. **Potable water rinse:** The physical removal of debris process is followed by soaking (a simple dunk of the equipment is insufficient) and hand scrubbing the equipment with a solution of potable water and non-phosphate detergent (mixed to the manufacturer's instructions) followed by a potable water rinse. If not using a decontamination pad, the most common set-up uses multiple 5-gallon plastic buckets (or equivalent) for washing and rinsing. The decontamination containers should be labeled as to their contents and pertinent information from original source, such as the date opened or transferred, and the expiration date (as well as any applicable hazardous labels), placed on polyethylene sheeting (to contain drips of decontamination fluids during the decontamination process), and sealed when not in use to prevent accidental release of the fluids. If decontaminating sealed submersible pumps, pump both the non-phosphate detergent wash fluid and the potable water rinse through the pump body itself (usually done in separate buckets) to ensure that the internal components are thoroughly cleaned. Replace the detergent solution and rinse water at least daily or when it becomes visibly oily, dirty, or discolored.
4. **Laboratory-supplied deionized (DI), analyte-free water rinse (distilled water can be used as a substitute, if necessary):** Next, place the DI water for the rinse in a small spray bottle and spray all surfaces of the equipment or pour over the equipment after the potable water rinse capturing the fluid in another container.

Typically, this level of decontamination (i.e., steps 1 through 4) is sufficient for most sampling projects (e.g. low concentration volatile or semivolatile organic compound contamination in soil or water).

Following the previous steps 1 through 4, additional decontamination (steps 5 through 9) may be required by the applicable federal or state guidelines, the project-specific work plan, or the QAPP.

Typically, these decontamination steps are performed when sampling for inorganics or oil-related substances using non-motorized equipment. These steps include:

5. **10% nitric acid rinse (if metals are part of the analyses)**
6. **Laboratory-supplied DI water rinse**
7. **Pesticide-grade solvent rinse (e.g., acetone [preferred], hexane, or isopropyl alcohol)**
8. **Air dry (solvent must evaporate)**
9. **Laboratory-supplied DI water rinse**

Isopropyl alcohol is the recommended solvent for high-concentration organic contaminants because it is readily available and is not a U.S. DOT hazardous material; where possible, lab-grade isopropyl alcohol should be used. However, other solvents (e.g., hexane and methanol) may be more effective in removing certain contaminants, such as oils or polychlorinated biphenyls, but any waste generated using these solvents must be managed accordingly. Solvents are never used for decontamination if sampling for volatiles organic compounds.

Handle the solvents and acid with care and store unused chemicals in their original, labeled, protective containers when not in use. It is a good idea to transfer small quantities of each solution into labeled, laboratory-grade spray bottles, which offer a convenient and controllable way to rinse the equipment. The equipment can then be rinsed over a 5-gallon plastic bucket or other suitable container placed on plastic sheeting as with the first part of the cleaning process. Nitric acid rinses must be used only on non-carbon steel sampling devices. Do not spray acid or solvent into pumps.

Decontamination steps used at sites where radioactive materials are contaminants of concern are similar with a few special considerations. Radiation contamination monitoring is used to help locate contamination and guide the success of the decontamination process. The liberal use of water and fluids as a decontamination agents should be minimized, where practicable, because of the expense that can be incurred with disposing of radioactively contaminated decontamination water. Containerized decontamination wastes must be evaluated for radioactive content and disposed of appropriately depending on their content.

HANDLING DECONTAMINATED EQUIPMENT

Handle any decontaminated equipment using clean gloves to prevent re-contamination. Place the equipment away (preferably upwind) from the decontamination area once the process has been completed on clean plastic sheeting to allow it to air-dry. Once the equipment is dry, protect it from re-contamination by securely wrapping and sealing with clean aluminum foil (shiny side out) or plastic (aluminum foil should not be used when sampling for metals or per- and polyfluoroalkyl substances [PFAS]). Plastic bags may be wrapped directly around wet or dry equipment except when the expected contaminants include volatile and extractable organics; under those circumstances, allow the equipment to completely dry or wrap it in aluminum foil.

All sampling equipment must be decontaminated at the end of the investigation (i.e., prior to departure from the site). Record in the field logbook the list of equipment decontaminated, the date of

decontamination, the personnel performing the decontamination, the type of decontamination solution(s) used, and equipment blank sample collection information. Containerize all decontamination fluids, and other disposable decontamination materials in DOT-compliant containers in accordance with SOP 5 or the project-specific work plan. Dispose of all wastes, including open and unused solvents or acids, in conformance with the project-specific work plan and applicable regulations.

RECORDS

Record Identification	Storage/Protection Location	Record Media Type	Minimum Retention Period	Disposition of record after minimum retention period
None	None	None	None	None

REFERENCES

None

FORMS

None

WSP USA
Procedure

EE-PRO-SOP-7

SOP 7: Calibration of Field Instrumentation for Water Quality Parameters Procedure

EFFECTIVE DATE: 10/28/2024

REVISION HISTORY

REV	EFFECTIVE DATE	DESCRIPTION OF CHANGE	PREPARED BY	REVIEWED BY	APPROVED BY
0	10/28/2024	New E&E SOP.	Jessisca Witt	David Bouchard	Jim Hunt

PURPOSE

The procedures outlined in this Standard Operating Procedure (SOP) are designed to ensure that water quality monitoring equipment is calibrated and used properly. Specifically, this SOP addresses the short-term or discrete-measurement use of portable water quality monitoring equipment for the collection of physical, chemical, or biological field measurements. Common field parameters include temperature, pH, specific conductance (SC), turbidity, oxidation-reduction potential (ORP), and dissolved oxygen (DO).

This SOP is written for instruments that utilize multiple probes for temperature, pH, DO, conductivity/specific conductance, ORP, and turbidity. This SOP refers to instrumentation and outlines calibration procedures consistent with those discussed in United States Environmental Protection Agency (EPA) Region I Standard Operating Procedure, Draft Calibration of Field Instruments, June 3, 1998.

For groundwater monitoring during well development and/or purging prior to sample collection, the multiple probe instrument must be equipped with a flow-through cell, and the display/logger or computer display screen should be large enough to simultaneously display the readouts of each probe in the instrument. Turbidity is measured using a separate instrument because turbidity cannot be measured accurately in a flow-through cell.

The user is advised to read the entire SOP and review the site health and safety plan (HASP) and/or project safety plan (PSP) before beginning any onsite activities. In accordance with the HASP or PSP, proper personal protective equipment (PPE) must be selected and used appropriately.

SCOPE

This SOP has been prepared as part of WSP's Earth & Environment Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field personnel and will ensure that the tasks are performed in a safe and consistent manner, are in accordance with federal and state guidance, and are technically defensible.

This SOP is written for the sole use of WSP's employees and will be revised periodically to reflect updates to WSP's policies, work practices, and the applicable state and/or federal guidance. Employees must verify that this document is the most recent version of WSP SOPs. Employees are also strongly advised to review relevant state and/or federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

WSP requires that all personnel performing specific project assignments be appropriately qualified, including having required certifications or licenses, and properly trained in accordance with the requirements of their assignment, the Earth & Environment Business Line's field SOPs, and the Quality Management System.

This SOP is designed to provide the user with a general outline for preparing water quality monitoring equipment for use and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), investigation derived waste (IDW) management procedures (SOP 5), and equipment decontamination (SOP 6). This SOP does not cover the selection of water quality monitoring equipment, nor does it cover water quality monitoring equipment-specific instructions. These topics require a significant amount of planning and are more appropriately addressed in a project-specific work plan. Be sure to review the project-specific work plan or Quality Assurance Project Plan (QAPP) and any applicable state and federal guidelines or calibration procedures. The sampler should be familiar with the use and calibration of all sampling and monitoring equipment. All sampling references must be available for consultation in the field, including:

— Company and projects' SOPs

— Applicable state and federal guidelines or sampling procedures

— Manufacturer's manuals

— Project-specific work plan, PSP or HASP, and QAPP

ROLES AND RESPONSIBILITIES

This SOP will be implemented at sites or in work areas that entail potential exposure to toxic chemicals or hazardous environments, all WSP employees must be adequately trained.

Before implementing this SOP alone, WSP employees must be trained in these procedures by a senior staff member with experience operating the equipment. In addition, all employees utilizing this SOP must have completed the following:

- 40-hour OSHA training;
- 8-hour annual refresher training; and
- Project specific on-site training.

In addition to the 40-hour initial OSHA; training (and annual 8-hour refresher training), all WSP field staff will complete 24 hours of supervised field experience that contribute toward the 24-hour field supervised requirement in compliance with OSHA regulation: 29 CFR 1910.120(e)(4).

Therefore, WSP requires that all personnel performing specific project assignments be appropriately qualified, including having required certifications or licenses, and properly trained in accordance with the requirements of their assignment, the Earth & Environment Business Line's field SOPs, and the Quality Management System.

ACRONYMS AND ABBREVIATIONS

C	Celsius
DI	deionized water
DO	dissolved oxygen
°F	degrees Fahrenheit
HASP	health and safety plan
IDW	investigation derived waste
L	Liter
mg	Milligram
mg/l	milligrams per liter
mm	Millimeter
mV	Millivolts
NIST	National Institute of Standards and Technology
NTU	nephelometric turbidity units
ORP	oxidation-reduction potential
pH	Potential of Hydrogen
PPE	personal protective equipment
PSP	project safety plan
QAPP	quality assurance project plan
SC	specific conductance
SOP	standard operating procedure
SU	standard units
µg	Microgram
µS/cm	microsiemens per centimeter
(mS/cm)	millisiemens per centimeter

MATERIALS

- Field book
- PPE
- Water quality meter
- Water quality meter capable of measuring pH, temperature, DO, specific conductivity, and ORP (e.g., YSI 600XL, Horiba U-5000, or equivalent)
- Flow-through cell, as appropriate

- Ring stand with clamp
- Paper towels
- Turbidity Meter (e.g., LaMotte 2020, or equivalent)
- Display/logger
- Soft tissue (e.g., Kimiwipes)
- Cuvette
- Communication cables
- Calibration cup or beaker
- Calibration reagents and standard solutions, as appropriate
    - Conductivity solution: 100, 1000 µmhos
    - pH buffer solutions: 4, 7, 10 SU
    - Turbidity standards: 0.5, 20 NTU
    - Zero DO solution: 0.0 mg/L
    - DO membrane kit: electrolyte solution, membranes
    - Zobell solution
- NIST thermometer (0.01 C accuracy)
- Small glass or polyethylene jars to hold the calibration standards (4-8 oz.)
- Calibration Form
- Spray bottle
- Deionized water (DI) or distilled water
- Decontamination supplies

HEALTH & SAFETY WARNINGS

WSP employees will be on site when implementing this SOP. Therefore, WSPpersonnel shall follow the site-specific Health & Safety Plan (HASP). WSP personnel will use the appropriate level of personal protective equipment (PPE), which includes the following:

- hardhat;
- safety boots (steel toe/steel shank/composite toe);
- safety glasses; and
- chemical resistant gloves.

Implementing this SOP will require the use of calibration solutions. The following health and safety precautions must be taken with the pH, conductivity, and ORP solutions: Avoid inhalation, skin and eye contact or ingestion.

Maintenance of the instruments will require the use of liquid cleaners. Although these substances are not hazardous materials, WSP will appropriately handle and store them at times in accordance with manufacturer's instructions.

CAUTIONS & POTENTIAL PROBLEMS

Prior to calibrating, all instrument probes must be cleaned according to the manufacturer's instructions. Failure to perform this step as part of the proper maintenance can lead to erroneous measurements. Prior to using the calibration standards, check all expiration dates. Use a ring stand and clamp or the associated sonde's cap to secure the sonde in an upright position. This will prevent the sonde from falling over and damaging the probes.

The volume of the calibration solutions must be sufficient to cover both the probe being calibrated and the temperature sensor (see manufacturer's instructions for additional information). While calibrating or performing sample measurements, make sure there are no air bubbles lodged between the probe and the probe guard.

DO content in water is measured using a membrane electrode. The DO probe's membrane and electrolyte solution should be replaced prior to the sampling period. Failure to perform this step may lead to erratic and or erroneous measurements. If the probe reading shows the error message "value out of range", the instrument probe must be recalibrated.

PROCESS

All monitoring instruments must be calibrated before they are used to measure environmental samples. Most instruments will require at least two standards to bracket the expected measurement range, one standard less than the expected value and one higher. At a minimum, calibration must be performed at the beginning of each sampling day prior to sample collection. Site-specific plans should be consulted for required calibration frequency. Notes: Part of the instrument preparation and initial calibration is performed prior to the field event. The calibration must be performed in the field at the project site; not indoors or at the office prior to driving to the project site.

GENERAL PROCEDURES

Multi-parameter water quality meters are typically bundled in a single housing unit known as a sonde. These types of units offer a single, convenient device that is capable of measuring most or all the parameters monitored during a typical sampling event. Individual parameter water quality meters are available and, in some cases, offer a higher degree of accuracy, although the difficulty in deploying multiple meters for most tasks relegates them to specialty use.

Field personnel must consult their assigned company compliance professionals for assistance in proper use, storage, and disposal of all calibration standard solutions.

The manufacturer's recommendations and instructions vary from one instrument to the next; however, all types of water quality monitoring equipment share common handling and management

procedures designed to ensure the integrity of the measurements collected. Based on these procedures, the user should:

- Follow the manufacturer's instructions for transportation, assembly, operation, calibration, and maintenance specific to your equipment. The manufacturer's instructions should be followed explicitly to obtain accurate results.
- Keep either the guard or transportation (calibration) cup installed when not in use to avoid damaging the sensors. Some sensors require a small amount of water in the transportation cup; follow the manufacturer's recommendations.
- Inspect the sensors to be sure that they are clean, installed properly and are not damaged.
- Ensure that all equipment is in proper working condition, and that batteries have sufficient charge before using the equipment for field testing measurements.
- Protect instruments that are sensitive to static electricity.
- Record manufacturer name and model number for each instrument used in the field book.
- Calibrate the instrument, as close to the time of use as possible, and repeat at the frequency suggested by the project-specific work plan, QAPP, or manufacturer (see procedures below). All calibration records must be maintained in the project files.
- Protect the instrument from direct sunlight, precipitation, and extremely hot or cold temperatures.
- Store cables only after they are clean, dry, and neatly coiled – do not bend or crimp the cables and attach any provided storage caps.
- Protect the cables from abrasion or unnecessary tension when in use.
- Unless otherwise instructed by the manufacturer, decontaminate water quality monitoring equipment using a non-phosphate detergent solution with a small, nonabrasive brush, cotton swab or cloth, followed by a thorough DI water rinse.

CALIBRATION PROCEDURES

Water quality monitoring equipment must be inspected, and the sensors calibrated before use. Consult the manufacturer's guidelines before beginning the calibration process and contact the manufacturer's technical support if problems or questions arise. Calibration frequency is dependent upon project specifications (often detailed in the work plan or QAPP), instrument performance, and manufacturer's recommendations. Maintain all calibration records in the project files.

Conduct the following steps to ensure proper calibration and record observations in the field book:

- Complete field calibration in an area sheltered from wind, dust, and temperature and sunlight fluctuations such as inside a room or vehicle in which the ambient temperature of the standards is maintained at a temperature greater than 40 degrees Fahrenheit (°F) and less than 100°F, unless otherwise specified by the manufacturer.

- Use standard calibration solutions in accordance with the project-specific work plan, QAPP, or manufacturer's guidance. Allow water quality monitoring equipment to equilibrate to the air temperature for at least 15 minutes after being powered on, or for the specified time recommended by the manufacturer.
- Record the brand, concentration, lot numbers and expiration dates of standard solutions in the field book.
- Handle standard solutions in a manner that prevents their dilution or contamination. Do not use expired standard solutions. Do not reuse standard solutions or pour solutions back into the bottle; ensure that proper chain-of-custody has been followed for standard solutions stored at a site.
- Ensure that the water quality monitoring equipment has been set to display or record the appropriate measurement units, as available – be sure to record the units of measure in the field book or field form.
- Unless otherwise instructed by the manufacturer, use the calibration cup that comes with the instrument for calibration.
- Use the recommended volume of standard solution when filling the calibration cup (e.g., the standard solution must cover the temperature sensor, as most sensors require temperature compensation).
- Be careful not to over tighten the calibration cup; many calibration cups have vents that allow their equilibration with ambient pressure.
- Rinse sensors thoroughly with DI water after use of each standard solution, followed by a rinse with the next standard solution to be used.
- Wait for readings to stabilize (approximately 30 seconds under normal conditions) before adjusting and saving the calibration point.
- If calibration fails to meet criteria, follow the manufacturer's instructions for corrective action to adjust instrument performance and note any indication of a substandard calibration.
- If the instrument does not start up, meet the requirements above, or calibrate properly, the instrument should not be used.
- Document the time, date, serial number (or other identifier) and calibration status for each instrument.

TEMPERATURE

The probe readings for pH, DO, and specific conductance are automatically corrected for temperature by the instrument. Communications to the instrument (programming and displaying the measurement files) are performed using a display/logger or a computer. Information sent to the instrument is entered through the keypad on the display/logger or computer. It is desirable that the display/logger

or computer have data storage capabilities. If the instrument does not have a keypad, follow the manufacturer's instructions for entering information into the instrument.

Program the multi-probe instrument so that the following parameters to be measured will be displayed: temperature, pH, percent DO, mg/L dissolved oxygen, conductivity, specific conductance, and ORP.

For instrument probes that rely on the temperature sensor (pH, DO, conductivity/specific conductance, and ORP), each temperature sensor needs to be checked for accuracy against a thermometer that is traceable to the National Institute of Standards and Technology (NIST). Before any instrument is calibrated or used to perform environmental measurements, the instrument must stabilize (warm-up) according to manufacturer's instructions.

Most instrument manuals state that calibration of the temperature sensor is not required, but this SOP requires that the temperature sensor be checked to verify its accuracy. This accuracy check is performed at least once per year and the accuracy check date/information is kept with the instrument. If the accuracy check date/information is not included with the instrument or the last check was performed over a year prior to the date of use, it is recommended that the temperature sensor accuracy be checked at the beginning of the sampling event. If the instrument contains multiple temperature sensors, each sensor must be checked.

Allow a container filled with water to equilibrate to ambient temperature.

Place a NIST -traceable thermometer and the instrument's temperature sensor into the water and wait approximately five minutes for both temperature readings to stabilize.

Compare the two measurements. The instrument's temperature sensor must agree with the NIST -traceable thermometer measurement within the accuracy of the sensor (usually to +/-15°C). If the measurements do not agree, the instrument may not be working properly, and the manufacturer needs to be consulted.

SPECIFIC CONDUCTANCE

Specific conductance, or, more commonly conductivity, measures the ability of water to conduct an electric current. It is generally reported in either microsiemens per centimeter (μ S/cm) or millisiemens per centimeter (mS/cm); be sure to note the units used in the field book. Natural waters, including groundwater, commonly exhibit specific conductance below 1 μ S/cm. Elevated specific conductance measurements (i.e., greater than 500 μ S/cm) are a proxy for dissolved solids, which may be indicative of inadequate well development, grout contamination (or an inadequate grout seal), or contamination.

Notes: when calibrating water quality monitoring equipment for specific conductance:

- Choose a specific conductance standard solution recommended by the instrument manufacturer if not specified in the project-specific work plan; alternately, select a standard that is similar to the anticipated conductivity of the water being sampled.

- The presence of air bubbles in conductivity electrodes will cause erroneous readings and incorrect calibration. Transmission lines, alternating-current electrical outlets and radio-frequency noise sources may also cause interference. Check with the instrument manufacturer's specifications for troubleshooting procedures if interference is suspected.

Most instruments are calibrated against a single standard which is near, but below the specific conductance of the environmental samples. A second standard which is above the environmental sample specific conductance is used to check the linearity of the instrument in the range of measurements.

The following steps are used to calibrate specific conductance:

1. Allow the calibration standard to equilibrate to the ambient temperature.
2. Remove probe from its storage container, rinse the probe with a small amount of the conductivity/specific conductance standard (discard the rinsate), and place the probe into the conductivity/specific conductance standard. Gently move the probe up and down in the solution to remove any air bubbles from the sensor. Allow the probe to sit in the solution for at least l minute for temperature equilibration before proceeding.
3. Select calibration mode.
4. Select Specific Conductance from the Calibration menu. Enter the calibration value of the solution (mS/cm at 25°C) and continue. Allow the Specific Conductance reading to stabilize for approximately 30 seconds and finish the calibration. The reading should remain within manufacturer's specifications. If it does not, recalibrate. If readings continue to change after recalibration, consult the manufacturer.
5. Remove probe from the standard, rinse the probe with a small amount of the second conductivity/specific conductance standard (discard the rinsate), and place the probe into the second conductivity/specific conductance standard. The second standard will serve to verify the linearity of the instrument. Read the specific conductance value from the instrument and compare the value to the specific conductance on the standard. The two values should agree within the specifications of the instrument. If they do not agree, re-calibrate. If readings do not compare, then the second standard may be outside the linear range of the instrument. Use a standard that is closer, but above the first standard and repeat the verification. If values still do not compare, try cleaning the probe or consult the manufacturer.

Note: These procedures should only be used for instruments that are capable of automatically correcting specific conductance for temperature (to 25°C). For instruments that cannot calibrate for specific conductance, follow the procedures in the instrument's manual for conductivity calibration. If calibrating for conductivity instead of specific conductance, the solutions conductivity value must be corrected for the temperature that the sensor is reading.

DISSOLVED OXYGEN

Dissolved oxygen measurements are used to assess the water quality with respect to certain metals (the amount of oxygen can control the valence state of metals) and, more typically, biological activity. Concentrations of DO in groundwater under ambient conditions generally range from 1 to 4 milligrams per liter (mg/l). Erratic or elevated (greater than 4 mg/l) DO readings may indicate equipment maintenance issues, such as a fouled sonde, torn membrane, a sensor out of calibration range; or inappropriate monitoring procedures that are causing excessive agitation and aeration of the water column. The meters are sensitive to atmospheric interference: ex situ measurements (i.e., those measured outside of the well itself) should only be collected using a flow-through cell.

Dissolved oxygen meters vary widely in their sensitivity. Select the type of DO sensor (i.e., the polarographic [or Clark cell] sensor or the luminescent [optical] sensor) that is most appropriate for the scope of work detailed in the project-specific work plan. The guidance below is for the more common polarographic sensor; consult the manufacturer's guidance for maintenance and calibration procedures specific to optical DO meters.

- Check the DO membrane for bubbles, wrinkles or tears. If necessary, install a new membrane and replace worn or stretched O-rings. Manufacturer guidance generally specifies membrane replacement should be completed at least 3 to 4 hours before use.
- Most manufacturers recommend that the sensor be allowed to equilibrate to the temperature of the water-vapor-saturated air before calibration, as specified in the manufacturer's instructions.
- Fill the calibration cup with less than 1/8 inch of water, or as recommended by the manufacturer.
- Remove any water droplets from the sensor without wiping the membrane. Water droplets on the sensor can cause a temperature compensation error in the DO calibration.
- Do not submerge or wet the sensor when loosely attaching the calibration cup.
- Enter the barometric pressure and wait for readings to stabilize before adjusting and saving the calibration point.

PH

The effective concentration (or activity) of hydrogen ions on a numerical scale known as pH, which is expressed as the negative base-10 logarithm of the hydrogen-ion activity in moles per liter. Natural (uncontaminated) waters typically exhibit a pH ranging from 5 to 9 Standard Units (SU). Deviation of pH from background may indicate the presence of groundwater contamination or well construction problems.

Typically, the steps for a two-point calibration is used for pH (i.e., a zero-point and span calibration[s]):

1. Select a 7 SU buffer (zero-point) plus a second pH buffer (4 SU or 10 SU) that brackets the range of expected pH.

2. Calibrate the conductivity and DO sensors before calibrating the pH sensor, if possible. This helps prevent cross-contamination of the conductivity sensor from pH buffer solutions (pH buffers have much higher conductivities than most environmental waters).
3. Allow time for the pH and temperature sensors to equilibrate to the temperature of the buffer and stabilize before adjusting and saving the calibration point on the device. Record the temperature reading and use the chart provided by the buffer manufacturer to determine the true pH of the buffer at that temperature and adjust the calibration reading to that value.
4. Repeat the calibration process with the second buffer.

OXIDATION-REDUCTION POTENTIAL (ORP)

Oxidation-reduction potential (ORP) is a numerical index of the intensity of the oxidizing or reducing conditions within an aqueous solution. Oxidizing conditions are indicated by positive potentials and reducing conditions are indicated by negative potentials. These values are frequently used when evaluating the biodegradation capacity of a system. The ORP of natural (uncontaminated) waters typically ranges from +500 to -100 millivolts (mV). The meters for ORP, like those for DO, are sensitive to atmospheric interference and must be measured using a flow-through cell. Avoid touching the sensors as calibration can be affected by static electricity. Hence, the ORP is the electrometric difference measured in a solution between an inert indicator electrode and a suitable reference electrode. The electrometric difference is measured in millivolts (mV) and is temperature dependent.

The steps to calibrate or verify the ORP are as follows:

1. Allow the calibration standard (Zobell Solution) to equilibrate to ambient temperature.
2. Remove the cover of the probe and place it into the standard.
3. Select monitoring/run mode.
4. While stirring the standard, wait for the probe temperature to stabilize, and then read the temperature.
5. Look up the mV value at this temperature from the mV versus temperature correction table found in Attachment C. It may be necessary to interpolate mV values between temperatures. Select “calibration mode”, then "ORP". Enter the temperature corrected ORP value and calibrate the instrument.
6. Select monitoring/run mode. The reading should remain unchanged within manufacturer's specifications. If it changes, recalibrate. If readings continue to change after calibration, consult manufacturer.
7. If the instrument instruction manual states the instrument is factory calibrated, then verify the factory calibration against the standard. If reading does not agree within the specification of the instrument, the instrument will need to be re-calibrated by the manufacturer.

TURBIDITY

Turbidity refers to how clear the water is and is a measure of relative sample clarity. The greater the amount of total suspended solids in the water, the higher the measured turbidity. The turbidity method is based upon a comparison of intensity of light scattered by a sample under defined conditions with the intensity of light scattered by a standard reference suspension. A turbidity meter is a nephelometer with a visible light source for illuminating the sample and one or more photoelectric detectors placed ninety degrees to the path of the light source. Some instruments will only accept one standard. For these instruments, the standards will serve as check points. The steps to calibrate turbidity are as follows:

1. If the standard cuvette is not sealed, rinse a cuvette with deionized water. Shake the cuvette to remove as much water as possible. Do not wipe the inside of the cuvette because lint from the wipe may remain in the cuvette. Add the standard to the cuvette.
2. Before performing the calibration procedure, make sure the cuvettes are not scratched and the outside surfaces are dry, free from fingerprints and dust. If the cuvette is scratched or dirty, discard or clean the cuvette, respectively.
3. Zero the instrument by using either a zero or 0.02 NTU standard. A zero standard (approximately 0 NTU) can be prepared by passing distilled water through a 0.45-micron pore size membrane filter.
4. Using a standard at I NTU, calibrate according to manufacturer's instructions or verify calibration if instrument will not accept a second standard. If verifying, the instrument should read the standard value to within the specifications of the instrument. If the instrument has a range of scales, check each range that will be used during the sampling event with a standard that falls within that range.
5. Using a standard at 10 NTU, calibrate according to manufacturer's instruction or verify calibration if instrument does not accept a third standard. If verifying, the instrument should read the standard value to within the specifications of the instrument.

Note: If only performing a two-point calibration (depending on project requirements), the 0.02 NTU and 10 NTU standard should be used.

EQUIPMENT USEAGE

The monitoring equipment is ready to use once the calibration has been completed. The specific use of the device will be dictated by the project-specific work plan or QAPP; however, all projects should follow these general procedures during use:

- Charge instrument batteries per the manufacturer’s instructions, as necessary.

- Ensure that instrument is warmed up and the measured value(s) on the water quality monitoring equipment are equilibrated (i.e., readings are representative of the solution, not ambient air) before recording in the field book.
- Biological growth or debris in the water can foul sensors; as possible, avoid inserting the sonde in areas that will result in having to stop and clean algae, sediment, or debris from the sensors (e.g., do not place on bottom of a well or streambed).
- If continuous monitoring is required, follow the manufacturer's instructions for performing continuous data logging events.

Water quality monitors typical use a flow through cell to ensure accurate measurements. The flow through cell user should:

- Inspect the integrity of the chamber and O-rings.
- Connect the discharge tubing to the bottom of the flow-through cell using properly-sized tubing and fittings. Connect the effluent tubing to the top of the flow-through cell and secure the end of the tubing into the designated groundwater purge container.
- Shield the flow-through cell from direct sunlight to minimize changes in the temperature.
- Avoid measurements until all the air from the flow-through cell and the effluent tubing has been displaced and the sensors have equilibrated (air bubbles in the flow-through cell will result in highly biased readings).
- Disconnect the flow through cell and collect samples for laboratory analysis directly from the tubing (i.e. do not collect samples after the groundwater enters the flow-through cell).

DATA MANAGEMENT AND RECORDS MANAGEMENT

Prior to calibrating, the field equipment and calibration standard information should be recorded on a separate Field Instrument Calibration Record Form. For field equipment, the information recorded should include the make, model number and the serial number of the instrument.

All standards if kept by WSP and not returned to the rental equipment company, should be initialed and dated when opened. At a minimum, the log must include the instrument information described above, calibration date and time, and the instrument calibration results.

RECORDS

Record Identification	Storage/Protection Location	Record Media Type	Minimum Retention Period	Disposition of record after minimum retention period
NA	NA	NA	NA	NA

REFERENCES

- USEPA Region I, July 30, 1996. Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples for Monitoring Wells.

FORMS

- Field Instrument Calibration Record Form from your respective projects.

WSP USA
Procedure

SOP 11: Groundwater Sampling Procedure

EFFECTIVE DATE: 10/15/2024

REVISION HISTORY

REV	EFFECTIVE DATE	DESCRIPTION OF CHANGE	PREPARED BY	REVIEWED BY	APPROVED BY
0	10/15/2024	New E&E SOP.	Jessica Witt		

PURPOSE

Groundwater sampling procedures outlined in this Standard Operating Procedure (SOP) are designed to ensure that collected samples are representative of current site conditions. These procedures can be applied to permanently or temporarily installed monitoring wells, direct-push sample points, water supply wells with installed plumbing, extraction wells for remedial groundwater treatment systems, and excavations where groundwater is present. The user is advised to read the entire SOP and review the site health and safety plan (HASP) and/or project safety plan (PSP) before beginning any onsite activities. In accordance with the HASP, proper personal protective equipment (PPE) must be selected and used appropriately.

SCOPE

This SOP has been prepared as part of the WSP's Earth & Environment Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field personnel and will ensure that the tasks are performed in a safe, consistent manner; are in accordance with federal and state guidance; and are technically defensible.

This SOP is written for the sole use of WSP employees and will be revised periodically to reflect updates to WSP policies, work practices, and the applicable state and/or federal guidance. Employees must verify that this document is the most recent version of the company SOPs. Employees are also strongly advised to review relevant state and/or federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

ROLES AND RESPONSIBILITIES

WSP requires that all personnel performing specific project assignments be appropriately qualified, including having required certifications or licenses, and properly trained in accordance with the requirements of their assignment, the Earth & Environment Business Line's field SOPs, and the Quality Management System.

This SOP is designed to provide the user with a general outline for conducting groundwater sampling and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), utility location (SA 313), sample shipment procedures (SOP 3), sample collection and quality assurance procedures (SOP 4), investigation derived waste (IDW) management procedures (SOP 5), equipment decontamination (SOP 6), and use and calibration of all sampling and monitoring equipment (SOPs 7 and 8). This SOP does not cover investigation planning, nor does it cover the analysis of the analytical results. These topics are more appropriately addressed in a project-specific work plan. Before groundwater sampling, be sure to review the project-specific work plan or quality assurance project plan (QAPP) and any applicable state and federal guidelines or sampling procedures. All sampling and monitoring references must be available for consultation in the field, including:

- WSP SOPs
- Applicable state and federal guidelines or sampling procedures
- Manufacturer's manuals
- Project-specific work plan, PSP and/or HASP, and QAPP

ACRONYMS AND ABREVIATIONS

ID	inside diameter
DI	deionized
DNAPL	dense non-aqueous phase liquid
DO	dissolved oxygen
DTW	depth-to-water
HASP	health and safety plan
IDW	investigation-derived waste
l/min	liters per minute
LNAPL	light non-aqueous phase liquid
mg/l	milligrams per liter
mV	millivolts
NAPL	non-aqueous phase liquid
NTU	nephelometric turbidity unit
ORP	oxygen reduction potential
PID	photoionization detector
PPE	personal protective equipment
PSP	project safety plan
QAPP	quality assurance project plan
SOP	standard operating procedure
SU	standard units
TD	total depth
TOC	top-of-casing
VOCs	volatile organic compounds

MATERIALS

- Field book
- PPE
- Air quality monitoring equipment (e.g., photoionization detector [PID]) with calibration reagents and standards, as needed

- Electronic water level indicator or interface probe
- Water quality meter(s) with a flow-through cell, and calibration reagents and standards, as needed
- Field test kits, as needed
- Adjustable wrench or manhole wrench, as needed
- Well key(s), as needed
- Power supply, as needed
- Sampling containers and labeling/shipping supplies
- Deionized (DI) water
- Container(s) for water storage (e.g., bucket, drum)
- Pump or bailers, tubing, and associated lanyard materials
- Filters, as needed
- Decontamination supplies

GENERAL PROCEDURES

Although the techniques used to sample groundwater are varied, most sampling events can be broken down into a three-step sequence:

1. Gauging: The measurement of the water column height (i.e., total well depth less depth-to-water) within the well.
2. Purging: The removal of stagnant water from the well bore to ensure that samples collected are representative of groundwater conditions in the water-bearing zone surrounding the well.
3. Sample Collection: After purging, the collection of aliquots of groundwater in method-specific, preserved (as needed) containers.

The procedures and equipment that are used to accomplish these steps are project-specific and should be discussed by the project team before arriving onsite. All types of groundwater sampling, however, regardless of the equipment used, share common handling and management procedures that are designed to ensure the integrity of the samples collected. These procedures include:

- The use of new, disposable, decontaminated, or dedicated sampling equipment
- The use and rotation of the appropriate PPE
- Selection of a suitable sampling location and staging area

Wear a clean pair of new, disposable gloves each time a different sample is collected and don the gloves immediately prior to collection. This limits the possibility of cross-contamination from accidental contact with gloves soiled during collection of the previous sample. The gloves must not contact the medium being sampled and must be changed any time during sample collection when their cleanliness is compromised. ***Gloved hands should not be used as a sampling device; always use the appropriate equipment to move the sample from the sampling device to the laboratory-supplied containers.***

EQUIPMENT SELECTION

Collect all samples using either new, disposable equipment or properly decontaminated sampling equipment. Groundwater purging and sampling equipment should be selected based on the analytical requirements of the project and the project-specific conditions (e.g., well diameter, depth to water, dissolved constituents, etc.) likely to be encountered. The equipment should be constructed of non-reactive, non-leachable materials (e.g., stainless steel, Teflon®, Teflon®-coated steel, polyethylene, polypropylene, etc.) that are compatible with the chemical constituents at the site. Note that project or regulatory guidance may limit the type of equipment for groundwater sampling.

Consider the following when choosing groundwater purging and sampling equipment:

- the diameter and depth of the well
- the depth to groundwater
- the volume of water to be withdrawn
- the sampling and purging technique
- the volume of sample required
- the analytes of interest

Select the decontamination procedures based on the types of sampling to be performed and media encountered; decontamination may require multiple steps or differing cleaning methods (see SOP 6 for decontamination procedures). In no case, should disposable, single-use materials be used to collect more than one sample.

PRE-SAMPLING CONSIDERATIONS

You should perform the following activities in preparing for sampling with all observations and measurements noted in the field book and on the project-specific groundwater monitoring log, if appropriate:

- Perform a quick reconnaissance of the site to identify sampling locations and evaluate the accessibility to the sampling location.
- Record the approximate ambient air temperature, precipitation, wind (direction and speed), tide, and other field conditions. In addition, any site-specific conditions or situations that could potentially affect the samples at the sample locations should be recorded.
- Record temporary sampling locations with respect to approximate distance to and direction from at least one permanent feature.
- Survey the breathing zone around the sampling location with the appropriate air quality meter(s), as necessary (see HASP), to ensure that the level of PPE is appropriate.
- Install the pump, tubing, passive sampler or other appropriate sampling equipment to the depth prescribed in the project-specific work plan or QAPP.
- Containerize and manage purge water in accordance with the project-specific work plan.
- It is important to minimize any sources of cross-contamination that could compromise the integrity of the groundwater samples. Consider the following:
- Position fuel-powered equipment away from the sample collection area, such as drill rigs or excavators, and upwind of other site activities (e.g., purging, sampling, decontamination) that could influence the sample. This is particularly important when screening samples in the field for volatile organic compounds with a PID but should not be limited to the active sample collection.
- Establish a secure sample staging area in an uncontaminated area of the site.

GAUGING PROCEDURES

All wells should be opened to the atmosphere in advance of sampling to allow any pressure differentials, which could artificially raise or depress the water column in the well, to dissipate. The wells should be inspected to ensure that the protective casing is intact and has not been damaged. Remove the well covers and all standing water around the top of the well casing (for flush mounted-protective covers), as necessary, before opening the inner well cap or plug. Unlock and carefully remove well cap and allow the well to stand undisturbed for a minimum of 15 minutes, or as required by the project-specific work plan, before conducting any down-hole testing or measurements. If required by the HASP, survey the open well casing and the breathing zone around the wellhead with a PID to ensure that the level of PPE is appropriate.

GROUNDWATER LEVEL AND TOTAL DEPTH MEASUREMENT PROCEDURE

Depth to water (DTW) and total depth (TD) measurements are collected prior to sampling and are used to determine the volume water to be purged from the well (if using techniques other than no-purge or low flow sampling). The DTW measurements are also used after the field event to establish the groundwater elevation, flow direction, and gradient. Unless otherwise directed, do not place any objects inside the casing of private water wells; accordingly, DTW and TD measurements should not be collected at private water wells. Measurements of TD are not required for low flow and no-purge sampling applications and should not be measured before sampling the well.

Water level measurements must be collected within the shortest interval possible from all the wells to be gauged during the event before beginning any purge and sampling procedures at the site. This will ensure a nearly instantaneous snapshot of the water levels before the formations are disturbed by pumping or acted upon by other outside influences, such as tides, precipitation, barometric pressure, river stage, or intermittent pumping of production, irrigation, or supply wells.

Record the following observations and measurements (and the time when they were collected) in the field book:

- Measure the casing inside diameter (ID) and record in inches
- Measure the DTW with an electronic water level indicator (or an interface meter, if non-aqueous phase liquid [NAPL] is potentially present – see procedures below) from the top-of-casing (TOC) at the surveyor's mark, if present, and record the depth (to the nearest 0.01 foot) in feet below TOC
- If no mark is present, measure from the north side of the casing and mark the measuring point with a knife, metal file (if the inner casing is metal) or indelible marker for future reference
- Measure the TD from TOC at the surveyor's mark or north side of the casing, as appropriate.

Measuring the depth of deep wells with long water columns can be problematic due to tape buoyancy and weight effects or sediment in the bottom of the well casing. Care must be taken, and proper equipment selection must be used in these situations to ensure accurate measurements. Multiple TD measurements in silt-laden wells can provide a more precise assessment of the bottom depth.

GAUGING WELLS WITH NON-AQUEOUS PHASE LIQUID

If NAPL is potentially present at the site, the DTW and NAPL thickness measurements are collected using an interface meter capable of distinguishing between the NAPL and the groundwater, or a weighted tape coated with the appropriate reactive indicator paste for the suspected NAPL. Measuring NAPL thicknesses must be done with care to avoid agitating the liquids and generating an emulsion. This is particularly the case for light NAPL (LNAPL; those having a density less than water), which are typically viscous oils that cling to the probe. Oil coating the probe can result in thickness measurements that are biased high (i.e., overestimate the thickness of the NAPL).

Conduct the following procedures to ensure an accurate measurement of the NAPL thickness:

- For LNAPL, slowly lower the electronic interface probe in the well casing until the electronic tone indicates the probe is at the top of the LNAPL layer; measure the depth below the TOC to the nearest 0.01 foot.
- To gauge the NAPL thickness, advance the probe slowly through the layer until the electronic tone indicates top of the water column and then slowly bring the probe back up to the bottom of the LNAPL. Repeat this process several times to ensure an accurate measurement of the bottom of the LNAPL layer (which can include bubbles and an emulsion layer).
- For dense NAPL (DNAPL), advance the probe through the water column until the tone indicates the top of the DNAPL layer; record the depth below TOC.
- To gauge the DNAPL thickness, advance the probe through the layer to the bottom of the well.

GROUNDWATER PURGING PROCEDURES

Purging is a process whereby potentially stagnant water is removed allowing the collection of samples that are representative of groundwater conditions in the water-bearing zone. The water in a well bore that has not been purged may be different than the surrounding formation due to exposure to ambient air. There are several purging (and no-purge) methods that may be used, depending on specific conditions encountered (e.g., DTW, hydraulic conductivity of the formation, etc.) and the sampling requirements. The purge/no purge options are described below.

- ***Multiple Volume Purge:*** Traditional well purging technique that relies on the withdrawal of the volume of the well bore and the surrounding filter pack (if present); three to five well volumes are typically removed using pumps or bailers. This methodology relies on equipment that is easy to obtain and use and is generally accepted in most states as an appropriate purging method.
- ***Temporary Well Purge:*** A variation of the multiple volume purge technique that often uses inertia lift pumps, peristaltic pumps, or bailers to remove water from a temporary well or discrete groundwater sampler (e.g., a groundwater profiler or direct-push screen point sampler). This is a less stringent technique that is typically done to minimize the turbidity of the samples, which can be high due to the lack of a well filter pack.
- ***Private Water Well or In-Place Plumbing Purge***: A variation on the multiple volume purge technique whereby a tap or faucet is opened on a fixed water supply pipe and is allowed to remain open until the potentially stagnant water within the well casing and other components of the system (e.g., fixed piping, pressure tanks, etc.) has been removed and groundwater representative of the water-bearing zone is discharged at the tap.
- ***Low Flow (Minimal Drawdown/Low Stress) Purge (and Sampling***): A modified purging technique that establishes an isolated, discrete, horizontal flow zone directly adjacent to the pump intake; this method requires the pump to be placed within a screened-interval or open borehole. Pumping rates are typically 0.1 to 0.5 liters per minute (l/min) or less to minimize the stress on the surrounding formation and reduce the geochemical alteration of the groundwater caused by pumping.

- ***No-Purge/Passive Sampling Techniques***: These techniques use specialized equipment, such as trap-style samplers or permeable diffusion bags, to sample the undisturbed water column within a screened interval or open borehole. This methodology assumes that the water in the well is representative of the surrounding formation. This approach is well suited for some volatile organic compounds (VOCs), metals, and hydrophobic compounds, depending on the sampling device used.

CALCULATING ONE PURGE VOLUME

Multiple volume purging techniques require that a minimum of three well volumes of water must be removed before sample collection. The actual amount of water removed may be greater than the three volumes, depending on geochemical parameter stabilization (the field measurement of these parameters is discussed below).

Calculate the volume of water in a well or boring using the following equation:

Volume (gallons) = (TD – DTW) x ID2 x 0.041

where:

TD = total depth (feet)
DTW = depth to water (feet)
ID = inner diameter (inches)

Alternately, the volume of water in a well or boring may also be calculated by multiplying the water column height by the gallons per foot of water for the appropriate well or boring diameter:

ID	Gallons per foot of water	Gallons per three water columns
1-inch	0.04	0.12
2-inch	0.16	0.48
3-inch	0.37	1.11
4-inch	0.65	1.98

Calculate the total volume of the pump, associated tubing and container for in situ measurements (flow-through cell), using the following equation:

Volume (in gallons) = P + ((0.0041)*D2*L) + fc

where:

P = volume of pump (gallons)
D = tubing diameter (inches)
L = length of tubing (feet)

fc = volume of flow-through cell (gallons)

MULTIPLE VOLUME PURGE PROCEDURES

Begin purging at a rate that will not cause excessive turbulence and drawdown in the well; commonly less than 1 gallon per minute for a typical 2-inch diameter monitoring well. You may need to observe the water elevation after the pump is started and adjust the flow rate to minimize the amount of drawdown in the well casing. The objective is to remove the stagnant water in the casing and surrounding filter pack or open borehole allowing water from the surrounding water-bearing zone to enter the well for sampling with as little disturbance as possible. Excessive pump rates or well dewatering can result in higher turbidity, potential volatilization, and geochemical alteration of dissolved parameters.

Typically collect geochemical parameters (i.e., pH, specific conductance, dissolved oxygen [DO], oxygen-reduction potential [ORP], and temperature) at a minimum frequency of once for every well volume of water removed during the purge process. Record the measurements in the field book along with any other pertinent details, such as the visual quality of the water (e.g., color, odor, and presence of suspended particulates) and the approximate withdrawal rate (this can be estimated using a calibrated container and stopwatch). Review the geochemical measurements to ensure that readings have stabilized (after the minimum purge volume has been achieved). This is a proxy for determining that you are purging formation water rather than potentially stagnant water in the casing.

Stabilization occurs when at least three consecutive measurements are within the following tolerances:

Multiple Volume Purge Stabilization Parameters	
pH	± 0.1 standard units (SU)
Specific Conductance	± 3%
Temperature	± 3%
Dissolved Oxygen (DO)	± 0.2 milligrams per liter (mg/l) or 10% (flow-through cell only)
Turbidity	± 10% for values greater than 10 nephelometric turbidity units (NTU)
Oxygen Reduction Potential (ORP)	± 10 millivolts (mV; flow-through cell only)

Parameter stabilization that does not occur within five well volumes may require you consult your project manager to decide whether to collect a sample or to continue purging. Wells with extremely slow recharge may also be problematic. Purging these wells, in some cases, may result in dewatering the well before the minimum purge can be completed. Allow wells or borings purged dry to recharge to a level of approximately 90% of the static (pre-purge) water elevation and proceed immediately to sample collection. If recovery exceeds 2 hours, sample as soon as sufficient sample volume is available, in accordance with applicable regulations.

LOW FLOW PURGE PROCEDURES

Low flow purging and sampling is used to obtain representative groundwater samples without removing all the water within the well. The protocol uses relatively low pumping rates (i.e., less than 0.5 l/min) to establish an isolated zone around the inlet of the pump where flow is horizontal (i.e., from the water bearing zone) rather than from the stagnant water in the well casing above and below the pump. Selection of an appropriate pump is critical to establishing the flow zone: it must be well suited for both low pumping rates and the analytes being sampled. Bailers are not appropriate for low flow sampling.

The set-up for low flow sampling includes positioning the pump at the appropriate depth within the casing such that the pump inlet is within the screened section of the well. Slowly lower the pump, where appropriate, and tubing into the water column to avoid agitating the water column; use of a lanyard is recommended (i.e., do not use the extraction tubing to lift or lower the pump). Secure the pump and/or tubing at the wellhead once the specified sampling depth has been achieved and record the depth in the field book. Avoid contacting the bottom of the well by using pre-cut tubing at the appropriate length or by lowering the pump/tubing simultaneously with an electronic water level indicator. Once the pump/tubing has been inserted and secured, allow the water levels to return to static conditions before initiating the purge.

The discharge tubing must be connected to an in-line flow-through cell equipped with a multi-parameter real-time water quality meter. The flow-through cell minimizes the exposure of the groundwater to ambient air, which can influence DO and ORP measurements.

Start the pump and maintain a steady flow rate that results in a stabilized water level (less than 0.3 feet of drawdown or as specified in the project-specific work plan). The pumping rate may need to be adjusted depending on the response of the water levels in the well. Record each adjustment made to the pumping rate and the water level measured immediately after each adjustment. Purging should not exceed 0.5 l/min.

During purging, monitor and record the flow rate and geochemical parameters at 30 seconds to 5-minute intervals (depending on the hydraulic conductivity of the aquifer, diameter of the well, and pumping rate). Stabilization occurs once the following criteria have been met over three successive measurements made at least three minutes apart:

Low Flow Purge Stabilization Parameters	
Water Level Drawdown	<0.3 feet
pH	± 0.1 SU
Specific Conductance	± 3%
Temperature	± 3%
DO	± 0.2 mg/l or 10% (flow-through cell only)
Turbidity	± 10% for values greater than 10 NTU
ORP	± 10 mV (flow-through cell only)

Record any other notable observations in the field book (e.g., groundwater color).

NO-PURGE SAMPLING TECHNIQUES

Several alternate sampling devices are available, such as equilibrated grab samplers, passive diffusion samplers, and other in situ sampling devices, that will allow sample collection without purging the well. These devices may be particularly useful for sampling low permeability geologic materials, assuming the device is made of materials compatible with the analytical parameters, meets data quality objectives, and has been properly evaluated.

No-purge grab or trap samplers are placed in the well before sampling and typically remain closed (i.e., no water is allowed into the sampler during insertion) until the sampler is activated. This allows the sampler device to equilibrate with the surrounding groundwater (to prevent adsorption to the sampler materials) and for the groundwater to recover and re-establish the natural flow after the disturbance caused by the sampler insertion into the well. Typical equilibration times depend on the well recovery rates and the type of sampler used. Samples recovered using the no-purge devices are either transferred to containers at the well head or the sampler itself is shipped to the laboratory for analysis. Examples of equilibrated grab samplers include HydraSleeveTM, Snap SamplerTM, and Kemmerer samplers.

Equilibration time for diffusion samplers are generally dictated by the diffusion rate through the permeable membrane and, thus, are less sensitive to changes induced within the well during deployment. Most diffusion bag samplers have a minimum equilibration time of 14 days prior to sample collection. The samplers may be deployed for an extended period (e.g., three months or longer), although the continuous exchange between the sampler and the well water means that the sampler will likely reflect only the conditions in the few days preceding the sample collection.

TEMPORARY WELL PURGE PROCEDURES

Procedures used to purge temporary groundwater monitoring wells differ from permanent wells because temporary wells are installed for immediate sample acquisition. Wells of this type may include open bedrock boreholes, standard polyvinyl chloride well screen and riser placed in open boreholes, or drilling rod-based sampling devices (e.g., Wellpoint®, Geoprobe® screen point or Hydropunch®

samplers). Purging temporary wells of this type may not be necessary because stagnant water is typically not present. However, if water is used in the drilling process, purging would be necessary. Purging can minimize the turbidity in the sample, which can be significant due to the disturbance caused by the sampler installation and to rinse the sampling system with groundwater. The exception is for groundwater profiling applications (e.g., using a Waterloo Profiler®) where a more rigorous purge is used (using the multiple volume purge techniques described above) to limit the potential for cross-contamination between sample intervals.

PRIVATE WATER WELL OR IN-PLACE PLUMBING PURGE PROCEDURES

The configuration and construction of private water wells varies widely and access points for obtaining groundwater samples may be limited. WSP personnel should coordinate with the property owner or site representative to access functioning ports and valves to avoid causing any inadvertent damage.

Collect the groundwater sample as close to the well as possible (e.g., from a sample port at the well head) to ensure the sample is representative. Ideally, the sample should be collected upstream of the piping and treatment equipment (e.g., particulate filter, water softener, carbon filters, ultra-violet lights), heating unit, or storage tanks. The following potential sampling locations are presented in order of preference:

- Sampling port or spigot near the well head or piping system prior to entry into the storage tank
- Sampling port or spigot at storage tank
- Sampling port or spigot downstream of the pressure tank or holding tank but upstream of any water treatment equipment
- Tap or faucet

If purging from a tap or faucet, try to remove any aerators, filters, or other devices from the tap before purging and work with the property owner or site representative to bypass any water treatment systems. Document where the sample was collected and any steps that were taken to minimize the potential alteration of the water sample in the field book.

Purge the system by opening the tap or spigot and allowing the water to run for several minutes. Observe and record the purge rate for the system. The minimum purge volume must be more than the combined volume of the pump, tanks, piping, etc. Review the geochemical measurements (after the minimum purge volume has been removed) to ensure that readings have stabilized using the same procedures as those used for the multiple volume purge detailed above. Purge the system for a minimum of 15 minutes if the minimum volume is unknown. Sample only after the geochemistry parameters have stabilized and no there are no suspended particles (e.g., iron or rust) visible. Record the final purge volume in the field book and any water quality observations.

GROUNDWATER SAMPLE COLLECTION PROCEDURES

Collect groundwater samples as soon as possible after the geochemical parameters indicate representative groundwater is present. As practically possible, reduce the pump flow rate, but maintain

a flow rate high enough to deliver a smooth stream of water without splashing or undue agitation. Collect samples directly from the tubing as it exits the well bore; do not sample on the downstream side of flow-through cells or any other instrumentation. If using a bailer for sample collection, lower and raise the bailer slowly and smoothly to minimize the disturbance to the water within the well.

Collect groundwater samples in order of volatilization sensitivity with organic compounds sampled first followed by inorganic compounds:

- VOCs
- Extractable organics, petroleum hydrocarbons, aggregate organics, and oil and grease
- Per- and Polyfluoroalkyl substances
- Total metals
- Dissolved metals (see filtering procedures below)
- Inorganic non-metallic and physical and aggregate properties
- Microbiological samples
- Radionuclides

Collect quality assurance/quality control samples in accordance with SOP 4 and the project-specific work plan or QAPP.

As necessary, conduct field tests or screening in accordance with the project-specific work plan and manufacturer's specifications for field testing equipment. Field samples must be directly transferred from the sampling equipment to the container that has been specifically prepared for that given parameter; intermediate containers should be avoided. If field chemical preservation is required, check the pH preservation by pouring a small portion of sample onto a pH test strip Adjust pH with additional preservative, if necessary.

Record the sample depth interval, if applicable, in the field book. Note the volume, phases, odor, and color of the groundwater.

GROUNDWATER FILTRATION PROCEDURES

Filtered groundwater samples are sometimes used for field kit analyses and should only be collected for laboratory analysis after approval from the appropriate regulatory agency or project manager. The filtered samples can be collected by attaching the in-line filter directly to the outlet tubing for a pressurized bailer, a submersible pump or a peristaltic pump. Intermediate containers can be used with a peristaltic pump if the well is too deep to use the pump to recover the sample directly. The intermediate container should be unpreserved laboratory-supplied glassware to avoid any cross-contamination during the filtering process.

Filtered samples using pumps should use the following procedures:

- Use a variable speed peristaltic pump with the in-line filter fitted on the outlet end of the tubing and the pump inlet tubing into the intermediate container holding the unpreserved groundwater sample; or,
- If a submersible pump is used to collect the groundwater sample, attached the in-line filter to the outlet end of the tubing (do not allow the groundwater to pass through flow-through cells or any other instrumentation while sampling)

Once the filter is connected:

- Turn on the pump and maintain a flow rate high enough to deliver a smooth stream of water without splashing or undue agitation. Hold the filter upright with the inlet and outlet in the vertical position and pump groundwater through the filter until all atmospheric oxygen has been removed and the minimum volume of water has been flushed through the filter, in accordance with the manufacturer's specifications
- Collect the filtered samples by placing the filtered output directly into the sample container
- If sediment is visible in the sample container after filtration, filter break-through has occurred and the sampling and filtering process should be repeated
- Discard the tubing and filter appropriately

Record sample filtration in the field book.

NON-AQUEOUS PHASE LIQUID SAMPLING PROCEDURES

Non-aqueous phase liquid is typically sampled to identify the compound, usually through an analytical "fingerprint" analysis. If samples are to be collected, the sampling options and techniques should be discussed with the assigned WSP compliance professional and project manager to ensure that the NAPL is either not considered to be a hazardous material for shipping to the laboratory or is properly shipped by qualified personnel using appropriate shipping containers (SOP 3). Samples of NAPL should be collected using the same procedures as above and placed in the appropriate laboratory-supplied containers, packed on ice, and shipped to the analytical laboratory using procedures outlined in SOP 3.

SAMPLE LABELING AND PREPARATION FOR SHIPMENT

Groundwater samples for offsite laboratory analysis should be prepared as follows:

1. Clean the outside of the sample container, if necessary
2. Affix a sample tag or label to each sample container and complete all required information (sample number, date, time, sampler's initials, analysis, preservatives, place of collection)
3. Place clear tape over the tag or label (if non-waterproof labels are used), as needed
4. If needed, preserve samples immediately after collection by placing them into an insulated cooler filled with bagged wet ice to maintain a temperature of approximately 4°Celcius
5. Record the sample designation, date, time, and the sampler's initials in the field book and on a sample tracking form, if appropriate
6. Complete the chain-of-custody forms with appropriate sampling information, including:

- location
- sample name
- sample collection date and time
- number of sample containers
- analytical method
- field filtration status

7. Secure the sample packing and shipping in accordance with proper procedures

Do not ship hazardous waste samples without first consulting a WSP compliance professional.

CLOSING NOTES

Secure and restore the site once sampling is completed. This may include locking permanent monitoring wells, staging the IDW, and disposing of (in conformance with applicable regulations) sampling expendables, such as plastic sheeting, tubing, and PPE. All locations where temporary wells or other sampling devices (e.g., profilers or direct-push equipment) should be marked with spray paint, stakes, or other appropriate method for future reference or survey, including collecting Global Positioning System coordinates and photographs, in accordance with the project-specific work plan. Decontaminate all equipment prior to departure and properly manage all PPE and investigation-derived wastes in conformance with SOP 6, the project-specific work plan, and applicable regulations.

RECORDS

Record Identification	Storage/Protection Location	Record Media Type	Minimum Retention Period	Disposition of record after minimum retention period
NA	NA	NA	NA	NA

REFERENCES

None

FORMS

None

Attachment B Field Forms

Site Samping Event:
LIMS Workorder:
Technician(s):

Field Calibration Log(s)

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: _____ Technician(s): _____ Date: _____

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer				
7.0 Buffer				
10.0 Buffer				
LCS/CCV (7.0 Buffer)				

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.			

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1		
124 NTU			

ORP Standard	LIMS ID/Lot#	Reading		Date/Time

D.O. Saturation	Barometer (mmHg)	Reading	Date/Time
100%			

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS	LCS							
CCV-M	CCV							
CCV	CCV							

Comments: _____

Field Meter ID: _____ Technician(s): _____ Date: _____

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer				
7.0 Buffer				
10.0 Buffer				
LCS/CCV (7.0 Buffer)				

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.			

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1		
124 NTU			

ORP Standard	LIMS ID/Lot#	Reading		Date/Time

D.O. Saturation	Barometer (mmHg)	Reading	Date/Time
100%			

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS	LCS							
CCV-M	CCV							
CCV	CCV							

Comments: _____

Field Data Sheet

Project Name: _____ **Monitoring Point:** _____
Project Location: _____ **Sample ID:** _____
W.O. Number (s): _____ **Date (s):** _____

Field Team Members

Name: _____ Affiliation: _____
Name: _____ Affiliation: _____

Weather Conditions

Temp: _____ °F Wind Direction: N S E W (circle two if needed)
Precipitation: None Light Heavy Sky: Cloudy Sunny Partly

Well Observations

Well Pad _____
Casing _____
Protective Casing _____
Reference Mark/Identification _____

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured: _____
Static Water Level: _____ feet below TOC
Total Depth: _____ feet below TOC
Water Column: _____ feet

Purging Activities

Purged By: _____ Purge Date: _____
Purge Method: _____ Well Diameter: _____
Purge Volume Calculation (L)*: _____ **Based on*
Actual Purge Volume (L): _____
Physical appearance of purge water: _____ Odor: _____ Color: _____

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
			purge start time						

Sampling Activities

Sampled By: _____ Sample Date/Time: _____
Sample Method: _____ Sample Equipment: _____
Sample Parameters: _____ pH _____ Spec. Cond. _____ Temp
Field Filtered: _____ Filter Type: _____
Water Level: _____ feet below TOC Drawdown: _____ feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

Form Completed By: _____ **Date:** _____

WELL DEVELOPMENT FIELD RECORD

JOB NAME SIPC
DEVELOPED BY
STARTED DEVEL. / (DATE / TIME)
W.L. BEFORE DEVEL. / / (DEPTH / DATE / TIME)
WELL DEPTH: BEFORE DEVEL.
STANDING WATER COLUMN (FT.)
SCREEN LENGTH

JOB NO. GLA21467997
DATE OF INSTALL.
COMPLETED DEVEL. / (DATE / TIME)
W.L. AFTER DEVEL. / / (DEPTH / DATE / TIME)
AFTER DEVEL.
STANDING WELL VOLUME gal.
DRILLING WATER LOSS gal.

WELL NO.
SHEET _____ of _____
WELL DIA. (In)

DATE/TIME		VOLUME REMOVED (GALS)	FIELD PARAMETERS SPEC COND. (ms/cm)	TEMP. (C)	pH (s.u.)	TURBIDITY (NTU)	REMARKS (DTW, Pumping Rate, etc.)
			= TOTAL VOLUME REMOVED (gal.)				

DEVELOPMENT METHOD:

NOTES:

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☐ Collinsville, IL

CHAIN OF CUSTODY pg. ____ of ____ Work order # _____

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C LTG# _____

Preserved in: ☐ LAB ☐ FIELD

FOR LAB USE ONLY

Lab Notes:

Client Comments Report QC LVL:___

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☐ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☐ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☐ Yes ☐ No

Project Name/Number
Groundwater Monitoring

Sample Collector's Name

Results Requested (call for PFAS TAT and surcharges)
☐ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date _____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Elevations	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
	MW-101		1	3		X	X		X	X	X	X	X	X
	MW-102		1	3		X	X		X	X	X	X	X	X
	MW-103		1	3		X	X		X	X	X	X	X	X
	MW-104		1	3		X	X		X	X	X	X	X	X
	MW-105		1	3		X	X		X	X	X	X	X	X
	MW-106		1	3		X	X		X	X	X	X	X	X
	MW-109		1	3		X	X		X	X	X	X	X	X
	Field Blank 2		1	3	X		X			X	X	X	X	X
	Field Duplicate 2		1	3		X	X		X	X	X	X	X	X
	Pond 1 - SG		0			X		X						

Relinquished By	Date/Time	Received By	Date/Time

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 114181

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☐ Collinsville, IL

CHAIN OF CUSTODY pg. ____ of ____ Work order # _____

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C LTG# _____
Preserved in: ☐ LAB ☐ FIELD **FOR LAB USE ONLY**
Lab Notes:

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☐ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☐ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☐ Yes ☐ No

Client Comments Report QC LVL:___

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number	**Sample Collector's Name**
Groundwater Monitoring	

Results Requested (call for PFAS TAT and surcharges)
☐ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date _____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3							MATRIX: Aqueous	Groundwater					INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Elevations	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS								
	Pond 4 - SG		0									X						X													
	Little Saline Creek Bridge		O									X						X													

Relinquished By	Date/Time	Received By	Date/Time

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 114181

Groundwater Measurements

Well ID	Date	Time	Depth to Water (DTW) (feet)	Initial
EBG				
EP-1				
EP-2				
EP-3				
EP-4				
EP-5				
EP-6				
EP-7				
MW-101				
MW-102				
MW-103				
MW-104				
MW-105				
MW-106				
MW-109				
Pond 1*				
Pond 2*				
Little Saline Creek Bridge				

Notes:
* DTW is GW elevation read from staff gauge

Attachment C Teklab and Subcontractor Quality Assurance Manuals

Teklab, Inc.
Quality Assurance Manual

Corporate HQ Collinsville
120 United Drive
Collinsville, IL 62234
Phone (618) 344 1004

	Signature	Date
John H. Riley - *Chief Executive Officer*		1/29/2026
James S. Riley – *President /CFO*		1/29/2026
Robert Henson –*Technical Director*		1-29-2026
Heather Riley – *Vice President of Operations*		1-29-2026
Elizabeth Hurley – *Director of Customer Service*		01/29/2026
Stacy A. Mathis – *Quality Manager*		1/29/2026



See Table of Contents for major organizational units covered by this quality manual.

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Section 1 - INTRODUCTION AND SCOPE

(TNI V1:M2 – Sections 1,2,3)

Teklab is an Environmental/Chemical testing laboratory. Consultants, landfills, industry, municipalities, and state and federal government routinely use Teklab's services. A wide variety of analyses are performed on air, drinking water, aqueous samples, solid samples, and non-aqueous liquids in accordance with environmental regulations such as drinking water standards, NPDES permits, pre and post treatment standards, RCRA, UST/LUST standards and TCLP. Air Testing is a new service added in 2009.

This Quality Manual (QAM) dictates Teklab's Quality Assurance Program. The QAM is designed to ensure the precision, accuracy and completeness of all data generated for every client. The QAM also describes the specific protocols that will be followed for sampling, sample handling and storage, chain of custody, and laboratory (and field) analysis. All Teklab, Inc. organizational units are subject to this manual.

Teklab, Inc. will protect Clients' confidential information and proprietary rights, as directed by local, state or federal laws. All confidential information and/or proprietary rights claimed by any Client and/or Vendor, must be clearly identified in writing prior to initiation of any business activity. Teklab, Inc. will voluntarily treat information generated by Teklab, Inc. (analytical results, sampling information, associated quality control results, etc.) as confidential in nature only without the fear of retribution. That is, Teklab, Inc. will not accept any liability for the inappropriate or accidental release of information, unless specifically agreed to under mutually binding contractual obligations. See Teklab, Inc. NELAP Policy Client Confidential Information for additional information and procedures.

All QA/QC procedures are in accordance with applicable professional technical standards, U.S. Environmental Protection Agency and Illinois Environmental Protection Agency requirements. Teklab uses only methods mandated by legal requirements, recognized published methods or methods developed and validated by Teklab. Methods are not used for reporting results until competence for each particular matrix is demonstrated.

Chief Executive Officer

1/29/2026
Date

President

1/29/2026
Date

Teklab, Inc.
120 United Drive
Collinsville, IL 62234-7433
(618) 344-1004

SIC Code 8734
Tax ID 37-1208950
CAGE Code OZZ46
CEC Number 02-695-3349

1.1 Teklab Inc

Teklab prominently displays its most recent TNI accreditation certificate in the customer service/sample reception area of the laboratory. The most recent NELAP accredited fields of testing are also available in Appendix D of this manual, on the Teklab server and on the company website (www.teklabinc.com). Any reports or general literature such as catalogs, advertising, business solicitations, proposals, quotations, or other materials that use the accrediting authorities name or the TNI/NELAP logo, do not imply endorsement by the accrediting authority and must be accompanied by at least the phrase "NELAP Accredited" and the laboratory accreditation number.

Teklab is a full service environmental/chemical-testing laboratory. Seven basic analytical departments exist: air (volatile and semi-volatile), volatile organic, semi-volatile organic, automated inorganic, wet chemistry, metals, and microbiology analysis. The semi-volatile and metals departments are further divided into instrumentation and sample preparation. ~~PFAS and volatile air analysis are performed at the Teklab Air Laboratory. See Quality Manual Appendix B for Teklab's Organizational Charts.~~

Technicians prepare samples for analysis and analysts perform the analysis. Due to personnel and fiscal restraints, Teklab personnel may operate as both technician and analyst.

The purpose of this Quality Manual is to outline the management system for Teklab Inc. The Teklab Inc Quality Manual defines the policies, procedures, and documentation that assure analytical services continually meet a defined standard of quality that is designed to provide clients with data of known and documented quality and, where applicable, demonstrate regulatory compliance.

This Quality Manual also sets the standard under which all laboratory operations are performed, including the laboratory's organization, objectives, and operating philosophy. It has been prepared to assure compliance with the TNI Environmental Laboratory Sector Standard; Volume 1 – Management and Technical Requirements for Laboratories Performing Environmental Analysis (Modules 1, 2 and 4). This Standard is consistent with ISO/IEC 17025:2005 requirements that are relevant to the scope of environmental testing services and thus, the laboratory operates a quality system in conformance with ISO/IEC 17025:2005(E). In addition, the policies and procedures outlined are compliant with the various accreditation and certification programs listed in Appendix D.

1.2 Scope of Testing

The laboratory's scope of analytical testing services includes those listed in Appendix D – Laboratory Certifications.

1.3 Table of Contents, References and Appendices

The Table of Contents starts on Page 2 of this Quality Manual and the Appendices start after Section 29.

The Teklab Inc Quality Manual uses the references included in the 2016 TNI Environmental Laboratory Sector Standard; Volume 1 – Management and Technical Requirements for Laboratories Performing Environmental Analysis.

1.4 Acronyms

Quality control terms are generally defined within the Section that describes the activity.

A list of acronyms used in this document and their definitions are:

AB	-	Accreditation Body
ADOC	-	Annual Demonstration of Capability
CCB	-	continuing calibration blank
CCV	–	Continuing calibration verification
COC	–	Chain of custody
EPA	–	Environmental Protection Agency
FoPT	-	Fields of Proficiency Testing
g/L	–	grams per liter
GC/MS	–	gas chromatography/mass spectrometry
ICB	-	initial calibration blank
ICP	–	inductively coupled plasma
ICV	–	Initial calibration verification
IDOC	–	Initial Demonstration of Capability
LCS	–	Laboratory control sample
MBLK	-	Method Blank
MDL	–	method detection limit
MSP	-	Managed Service Provider
mg/Kg	–	milligrams per kilogram
mg/L	–	milligrams per liter
MS	–	matrix spike
MSD	–	matrix spike duplicate
NELAP	–	National Environmental Laboratory Accreditation Program
NIST	–	National Institute of Standards and Technology
PQL	–	Practical Quantitation Limit
PT	–	Proficiency Test(ing)
PTP	-	Proficiency Testing Provider
QA	–	Quality Assurance
QAM	–	Quality Assurance Manual
QC	–	Quality Control
RL	–	Reporting limit
RPD	–	Relative percent difference
RSD	–	Relative standard deviation
SOPs	–	Standard operating procedures
SQL -	-	Structured Query Language
std	–	standard
TNI	-	The NELAC Institute
ug/L	–	micrograms per liter

1.5 Management of the Quality Manual

The Quality Department is responsible for maintaining the currency of the Quality Manual.

The Quality Manual is reviewed at least annually by the Quality Department to ensure it reflects current practices and meets the requirements of any applicable regulations or client specifications. When sections of the manual are updated, the revision number is increased by one and the effective date is updated. The cover sheet and the first page of Section 1 of the Quality Manual must also be re-signed. To ensure consistency, the table of contents is updated whenever a Section is updated.

The Quality Manual is considered confidential within Teklab Inc and may not be altered in anyway except by approval of the Quality Department. If it is distributed to external users, it is for the purpose of reviewing Teklab Inc's management system and may not be used for any other purpose without written permission.

Section 2 - ORGANIZATION

(TNI V1:M2 – Section 4.1)

The laboratory is a legally identifiable organization. Teklab Inc's Tax ID number is noted in section 1 of this Quality Manual. The laboratory is responsible for carrying out testing activities that meet the requirements of the TNI Standard, the ISO/EIC 17025 Standard, and that meet the needs of the client. Through application of the policies and procedures outlined in this Section and throughout the Quality Manual:

- The laboratory ensures that it is impartial and that personnel are free from undue commercial, financial, or other undue pressures that might influence their technical judgment.

- Managerial and technical personnel have the authority and resources needed to identify the occurrence of departures from the management system or from the procedures for performing tests and/or calibrations

- Management and technical personnel have the authority and resources to carry out their duties and have procedures to identify and correct departures from the laboratory's management system.

- Personnel understand the relevance and importance of their duties as related to the maintenance of the laboratory's management system.

- Ethics and data integrity procedures ensure personnel do not engage in activities that diminish confidence in the laboratory's capabilities (see Appendix A, Section 3 "Management" and Section 17 "Data Integrity Investigations" for more information on data integrity).

- Confidentiality is maintained.

- The laboratory will report changes in ownership, significant personnel, laboratory name, location or laboratory closure to the accreditation authority within 30 days of occurrence.

2.1 Organization

Teklab Inc. is a full-service environmental commercial laboratory established in 1982. A variety of laboratory services are provided to serve industries specializing in air, drinking water, wastewater, sludge, soil, oil, and special waste testing. The following listed service centers are owned and operated by Teklab, Inc. Teklab operates in Collinsville, Illinois ~~(Corporate Headquarters and Air Laboratory~~), Springfield, Illinois (Service center), Downers Grove, Illinois (Service center) and Lenexa, Kansas (Service Center).

Service Centers:

1. Springfield Service Center
   3920 Pintail Suite A
   Springfield, IL 62711
   (217)698-1004

The Springfield Service Center (SFSC) opened February 9th, 2009. The Springfield Service Center serves as a bottle order collection and sample drop off point for our clients in Central Illinois. This service center also has a sample courier service for bottle or air canister delivery and sample pick-up.

2. Kansas City Service Center
   8421 Nieman Road
   Lenexa, KS 66214
   (913)541-1998

The Kansas City/Lenexa Service Center opened its doors in the summer of 2007. The Kansas City Service Center serves as a bottle order collection and sample drop off point for our clients in Western Missouri and Eastern Kansas. This service center also has a sample courier service for bottle delivery and sample pick-up.

3. Downers Grove Service Center
   1319 Butterfield Road, Suite 502
   Downer's Grove, IL 60515
   (630)800-8639

The Chicago Area Service Center opened in July of 2015 and serves as a bottle order collection and sample drop off point for our clients throughout the Chicago Metropolitan Area

We are committed to providing the services our customers require, and as customer needs change; so will the analysis we perform.

The laboratory's organizational charts can be found in Appendix B of this Quality Manual. Additional information regarding responsibilities, authority and interrelationship of personnel who manage, perform or verify testing is included in Section 3 – "Management Roles and Responsibilities" and Section 18 – "Personnel and Training". These Sections also include information on supervision, training, technical management, job descriptions, quality personnel, and appointment of deputies for key managerial personnel.

The laboratory has the resources and authority to operate a management system that is capable of identifying departures from that system and from procedures during testing, and initiates actions to minimize or prevent departures.

2.2 Conflict of Interest and Undue Pressure

Teklab is organized so that confidence in its independence of judgment and integrity are maintained at all times. It has processes to ensure that its personnel are free from any commercial, financial and other undue pressures that might adversely affect the quality of their work. Teklab has a proactive program for prevention and detection of improper, unethical or illegal actions.

All new employees are trained during orientation and all personnel are trained at least annually, on data integrity, ethical behavior, legal responsibilities and conflict of interest. Each Teklab job description includes an agreement with the employee that they are aware of their ethical responsibilities and will avoid any conflict of interest. See Teklab Inc. NELAP Policy Ethics, Legal Responsibility, & Conflict of Interest for topics discussed during training.

Section 3 - MANAGEMENT

(TNI V1:M2 – Section 4.2)

The laboratory maintains a management system that is appropriate to the scope of its activities.

3.1 Management Requirements

Top management includes the CEO, President, Chief Financial Officer, Chief Marketing Officer, Technical Director (however named), Quality Manager, Quality Officer(s) and Supervisors.

Management's commitment to good professional practice and to the quality of its products is defined in the Quality Policy statement in Section 3.3.

Management has overall responsibility for the technical operations and the authority needed to generate the required quality of laboratory operations. Management ensures communication within the organization to maintain an effective management system and to communicate the importance of meeting customer, statutory, and regulatory requirements. Management assures

that the system documentation is known and available so that appropriate personnel can implement their part. When changes to the management system occur, managers ensure that the integrity of the system is maintained.

Management is responsible for carrying out testing activities that meet the requirements of the TNI Standard, the ISO/IEC 17025 Standard and the needs of the client.

Management implements, maintains and improves the management system, and identifies noncompliance with the management system of procedures. Managers initiate actions to prevent or minimize noncompliance (See Section 12 “Improvement, Section 13 “Corrective Action and Section14 “Preventive Action”).

Management shall document its policies, systems, programs, procedures and instructions to the extent necessary to assure the quality of the test results.

Management ensures technical competence of personnel operating equipment, performing tests, evaluating results, or signing reports, and limits authority to perform laboratory functions to those appropriately trained and/or supervised. See Section 18 “Personnel” for details on personnel requirements.

Management is responsible for defining the minimal level of education, qualifications, experience, and skills necessary for all positions in the laboratory and assuring that technical staff have demonstrated capability in their assigned tasks.

Training is kept up-to-date as described in Section 18 – “Personnel”.

Management has specific responsibility for maintenance of the management system. This includes defining roles and responsibilities of personnel, approving documents, providing required training, providing a procedure for confidential reporting of data integrity issues, and periodically reviewing data, procedures, and documentation. The assignment of responsibilities and authority to the personnel who manage, perform, or verify work affecting the quality of environmental tests, is documented in employee job descriptions and section 18 of this Quality Manual.

Management ensures that audit findings and corrective actions are completed within required time frames.

Designated deputies are appointed by management during the absence of the Technical Director if the absence is for more than 15 days.

3.2 Management Roles and Responsibilities

3.2.1 Chief Executive Officer / Chief Marketing Officer

3.2.1.1 Responsibilities

- Establishes current and long-range goals, objectives, plans and policies.

- Plans, coordinates and controls the daily operation of the organization through organization's managers.
- Dispenses advice, guidance, direction and authorization to carry out major plans, standards and procedures, consistent with established policies.
- Meets with organization's other executives to ensure that operations are being executed in accordance with the organization's policies.
- Oversees the adequacy and soundness of the organization's financial structure.
- Plans and directs all investigations and negotiations pertaining to mergers, joint ventures, acquisition of businesses or the sale of major assets.
- Establishes and maintains an effective system of communication throughout the organization.
- Represents the organization with major customers, shareholders, the financial community and the public.
- Establishes strategic marketing plans to achieve corporate objectives for products and services.
- Develops, executes and directs comprehensive marketing plans and programs, both short and long range, to support sales and revenue objectives of the organization.
- Plans and oversees advertising and promotions activities.
- Designates, directs, advises and evaluates Teklab's sales staff.
- Works with Teklab's Project Management and Customer Service Departments to be a liaison for the customers, communicate customer needs and to develop and promote outstanding customer service.
- Establishes and maintains relationships with industry influencers and key community and strategic partners.

3.2.2 Technical Director (however named)

The Laboratory Director provides the resources necessary to implement and maintain an effective quality and data integrity program.

- Responsible for standards of performance in quality control/quality assurance, the validity of the methodologies and technologies of the analyses performed and the data generated in the laboratory to assure reliable data
- Provides technical assistance to laboratory personnel
- Oversees Teklab's QA/QC program to maintain quality assurance following TNI quality systems requirements. Some of these functions include, but are not limited to, quality control, document control, accreditations, audits, data integrity, data validation and report review.
- Oversees Teklab's Training program.
- Responsible for in depth understanding of methodology and regulatory requirements.
- Oversees method research, development, reviews, implementation and updates. Responsible for implementing and approving standard operating procedures as related to methods.
- Involved with instrument optimization and maintenance.
- When absent for a period of time exceeding 15 consecutive calendar days, the President will temporarily perform this function.

- If this absence exceeds 35 consecutive calendar days, the primary accreditation body shall be notified in writing.

The Technical Director (however named) or designee:

1. is not the Technical Director of more than one accredited environmental laboratory; unless authorized to do so by the primary accreditation authority.
2. is a full-time laboratory staff member and supervises laboratory operations and data reporting.
3. meets the general and education requirements and qualifications found in Sections 4.1.7.2 and 5.2.6.1 of the TNI Standard - EL-V1M2.

The Technical Director's proof of experience in the fields of accreditation may be found on the Teklab Server in Employees Electronic Training File.

3.2.3 President/Chief Financial Officer

3.2.3.1 Responsibilities

- Establishes current and long-range goals, objectives, plans and policies, subject to approval by the Board of Directors.
- Manages the operations of the laboratory through subordinate managers to ensure that the current and long-range goals, objectives, plans and policies are met in a financially responsible manner.
- Dispenses advice, guidance, direction, and authorization to carry out major plans, standards and procedures, consistent with established policies and Board approval.
- Oversees the adequacy and soundness of the organization's financial structure.
- Determines agencies and suppliers of record, and negotiates contract terms and conditions for major services and suppliers.
- Directs company finance and purchasing.
- Represents the organization with major customers, shareholders, the financial community and the public.
- Designates, directs, advises and evaluates the laboratory Supervisors to achieve timely data reporting, while maintaining high safety and quality standards.
- Assists in the planning and implantation of safety policies and procedures in compliance with local, state and federal Occupational Safety and Health Administration (OSHA) rules and regulations.
- Directs, advises and coordinates personnel in their role in the analytical and operational activities of the laboratory to safely produce high quality data as quickly as possible.
- Identifies, analyzes and resolves, and/or assists personnel in solving operational problems.
- Ensures that laboratory resources are available.
- Handles difficult or highly technical situations with clients as needed.
- When absent for a period of time exceeding 15 consecutive calendar days, the Laboratory Director will temporarily perform this function.

- If this absence exceeds 35 consecutive calendar days, the primary accreditation body shall be notified in writing.

3.2.4 Quality Manager

The Quality Manager (or designee) is responsible for the oversight and review of quality control data, and is independent from laboratory operations. The Quality Manager's training and proof of experience in QA/QC procedures, knowledge of analytical methods, and the laboratory's management system are available in the employee training record files, which are stored on the Teklab Inc server.

3.2.4.1 Responsibilities

- Oversees or maintains Certificate/Accreditation functions
- Provide QA/QC expertise to staff and supervisors
- Oversee and/or maintain performance testing program
- Oversee and /or prepare and maintain Quality Manual
- Notify laboratory supervisors of quality system deficiencies and monitor Corrective actions
- Supervise and/or perform test data validation and data entry
- Supervise and/or perform Level 2, 3 and Level 4 quality control data review
- Responsible for in depth understanding of methodology and regulatory requirements
- Approve and/or prepare laboratory Standard Operating Procedures
- Perform internal QA/QC audits
- Respond to corrective actions from both internal and external audits
- Oversee and/or maintain method related QA/QC documentation according to the TNI standard - EL-V1M2.

3.2.5 Director of Customer Service

3.2.5.1 Responsibilities

- Responsible for designating and supervising project managers and The Bottle Order Dept
- Provides initial and ongoing orientation, safety and quality training where needed
- Analyzes and resolves, or assists workers in resolving problems
- Establishes or adjusts department work procedures to meeting testing schedules
- Identifies and provides or seeks on the job training opportunities to ensure that project management and bottle order technicians quality meets TNI standards
- Confers with Laboratory Supervisors to achieve timely data reporting to clients, while maintaining the high safety and quality standards
- Confers with the Chief Marketing Officer on customer service and project related needs or issues and to keep abreast of the status of future and potential workload

3.3 Quality Policy

Management's commitment to quality and to the management system is stated in the Quality Policy below, which is upheld through the application of related policies and procedures described in the laboratory's Quality Manual, SOPs and policies.

Teklab's Management is committed to ensuring compliance with the TNI Standard and shall strive to continually improve the effectiveness of its Management System. Teklab's overall Quality objective is to adhere to good professional practices and to develop and implement procedures for field sampling, chain of custody, laboratory analysis and reporting, that will provide results that are legally defensible in a court of law. Specific procedures for sampling, chain of custody, laboratory instrument calibration, laboratory analysis, reporting of data, internal quality control, audits, preventive maintenance of equipment and corrective actions are described in the applicable 1000 series SOPs and other sections of this manual. The purpose of this section is to address the overall objectives that produce accurate, precise, complete, representative and comparable data. The Teklab QA/QC program is communicated and monitored by Teklab's Quality Department.

The Teklab QA/QC program must provide technicians, analysts, and managers with the direction and information necessary to consistently produce reliable and valid analytical data. These results are best attained by rigorously following the validated standard operating procedures and this Quality Manual. This Quality Manual has been developed by Teklab and is available to each Department in an electronic format.

SOP reading is completed at least annually. New laboratory employees are required to read method SOPs once per quarter for six quarters. SOP reading is tracked using controlled reading forms or in controlled Department databases. Employees note the revision and date read for each SOP. Documentation of reading provides evidence that employees have read, understood, and are using the latest version of Teklab Inc. SOPs.

New employees will read the Teklab Quality Manual in their first year of employment. Other laboratory personnel will read the Quality manual when a significant update is made.

Teklab provides all employees with on-the-job training specific to their job assignment. Safety, Quality and Ethics training are provided upon hiring and in ongoing programs. Every Teklab employee must ensure that the generation and reporting of quality analytical data is a fundamental priority. All employees are trained annually on ethical principles and procedures surrounding the data that is generated. The laboratory maintains a strict policy of client confidentiality. Offsite training is provided on an as needed basis. The following is a partial listing of the types of training provided by Teklab:

- Safety
- Technical training specific to job assignment
- Data Integrity, Ethics and Conflict of Interest
- NELAP quality systems

3.4 Ethics and Data Integrity System

The laboratory has an Ethics and Data Integrity policy that is included in Appendix A. The laboratory's Ethics and Data Integrity program, training and investigations are discussed in Section 17 – "Data Integrity Investigations". Slides of Teklab's Data Integrity Training can be found in the Quality Documents folder on the Teklab Server.

3.5 Documentation of Management/Quality System

The management system is defined through the policies and procedures provided in this Quality Manual and written laboratory Standard Operating Procedures (SOPs) and policies.

3.5.1 Quality Manual

The Quality Manual contains the following required items:

3.5.1.1 document title;

3.5.1.2 laboratory's full name and address;

3.5.1.3 name, address (if different from above), and telephone number of individual(s) responsible for the laboratory;

3.5.1.4 identification of all major organizational units which are to be covered by this quality manual and the effective date of the version;

3.5.1.5 identification of the laboratory's approved signatories;

3.5.1.6 the signed and dated concurrence (with appropriate names and titles), of all responsible parties including upper management, Quality Officer(s), the Quality Manager, and Technical Director(s);

3.5.1.7 the objectives of the management system and contain or reference the laboratory's policies and procedures;

3.5.1.8 the laboratory's official quality policy statement, which shall include management system objectives and management's commitment to ethical laboratory practices and to upholding the requirements of this Standard; and

3.5.1.9 a table of contents, and applicable lists of references, glossaries and appendices.

This Quality Manual contains or references all required elements as defined by the TNI Standard - V1:M2, Section 4.2.8.4.

3.5.2 Standard Operating Procedures (SOPs)

The laboratory has documented procedures for making and controlling revisions to SOPs. The following information is included on each page of the SOPs:

- SOP number;
- Revision date;

- Revision letter;
- Current page number and total pages of a section.

The relevant SOPs are readily accessible to all personnel on the Teklab Inc server.

The effective date of the SOP is the date the SOP is signed by an approving authority. Standard operating procedures (SOPs) represent all phases of current laboratory operations and are available to all personnel. They contain sufficient detail to allow someone with similar qualifications to perform the procedures. There are two types of SOPs used in the laboratory:

1) test method SOPs, which have specific requirements as outlined below
2) general use SOPs which document general procedures.

See SOP1010 for more information on SOPs.

Each accredited analyte or method has an SOP. Sometimes an SOP is a copy of a method or an instrument manual. Documents that contain sufficient information to perform the tests, do not need to be supplemented or rewritten as SOPs if the documents are written in a way that they can be used as written. Any changes, including the use of a selected option, shall be documented and included in the laboratory's method records.

SOPs should contain or reference the following information where applicable.

i. identification of the method;
ii. applicable matrix or matrices;
iii. limits of detection and quantitation;
iv. scope and application, including parameters to be analyzed;
v. summary of the method;
vi. definitions;
vii. interferences;
viii. safety;
ix. equipment and supplies;
x. reagents and standards;
xi. sample collection, preservation, shipment and storage;
xii. quality control;
xiii. calibration and standardization;
xiv. procedure;
xv. data analysis and calculations;
xvi. method performance;
xvii. pollution prevention;
xviii. data assessment and acceptance criteria for quality control measures;
xix. corrective actions for out-of-control data;
xx. contingencies for handling out-of-control or unacceptable data;
xxi. waste management;
xxii. references; and
xxiii. any tables, diagrams, flowcharts and validation data.

3.5.3 Order of Precedence

In the event of a conflict or discrepancy between policies, the order of precedence is based upon whichever policy is the strictest (where applicable); otherwise the order is as follows:

- Quality Manual
- SOPS
- Reference Methods
- Policies

Section 4 - DOCUMENT CONTROL

(TNI V1:M2 – Section 4.3)

A controlled document is one that is uniquely identified, issued, tracked, and kept current as part of the management system.

An approved document is one that has been reviewed, and either signed and dated, or acknowledged in writing or by secure electronic means by the issuing authority(ies).

Retired documents are documents that have been superseded by more recent versions or are no longer required.

Documents can be "SOPs, policy statements, specifications, calibration tables, charts, textbooks, posters, notices, memoranda, software, etc. These may be on various media, whether hard copy or electronic, and they may be digital, analog, photographic or written." (TNI V1M2 4.3.1). See section 5 for information on control of records.

Procedures for document control and management include controlling, distributing, reviewing, and accepting modifications. The purpose of document control is to preclude the use of invalid and/or obsolete documents.

4.1 Controlled Documents

Applicable documents are reviewed at least annually to ensure their contents are suitable and in compliance with the current management system requirements, and accurately describe current procedures.

Approved copies of documents are available to staff at all locations where operations are essential to the effective functions of the laboratory. Superseded or obsolete paper and electronic documents must be promptly removed from all points of issue and archived following the procedures in SOP 1291. SOPs are located on the Teklab Inc server in the Quality Documents folder. A copy of the current SOP for any analysis is in the appropriate laboratory section performing that analysis. The Quality Department maintains the original Microsoft Word copy of the most current SOP revision and retired revisions of all SOPs.

Controlled internal documents are uniquely identified with:

1) revision date
2) revision letter

And also the following for SOPs and the Teklab Quality Manual*:

3) unique identification (text or number)
4) page number
5) the total number of pages (or a mark to indicate the end of the document)
6) the signature/s of the approving authority

* Teklab Quality Manual revisions are designated by a revision number and date

SOPs and the Teklab QAM are reviewed annually.

SOPs may be prepared by anyone at Teklab, Inc. All SOPs are prepared in a standard layout containing the same sections (See SOP1010). Documents must be reviewed, revised (as appropriate) and approved for use prior to issue by an "approving authority" which is one of the following staff - Quality Manager, Quality Officer, Laboratory Management or Laboratory Supervisor. Document review can be performed by any laboratory employee. See SOP 1010 "SOPs and Controlled Documents" for guidelines.

Where a laboratory's quality manual contains the necessary requirements, a separate SOP or policy is not required.

A master list of SOPs, which includes SOP number, SOP title, revision and review dates is maintained by the Quality Department and is updated each time a revision is made to an SOP or an SOP is reviewed. The master list is stored in the Quality Department's Training Database, located on the Teklab Inc server. The Controlled Document database, located on the Teklab server, tracks QA manual and other controlled document revisions and can be modified to track any controlled document when required.

The current QA manual is accessible to laboratory personnel via the Quality Documents folder on the Teklab Inc. server.

Copies of controlled documents, whether hard copy or electronic, made without permission from the QA Department, are not controlled. As such, it is the responsibility of the document holder to ensure that they have the most current revision.

Excel output files (e.g. MDLs, control charts), are automatically password protected when generated from LIMS. Passwords for these documents are limited to Teklab management.

4.1.1 Changes to Controlled Documents

Changes to documents shall be reviewed and approved by the same function that performed the original review unless specifically designated otherwise. The designated personnel shall have access to pertinent background information upon which to base their review and approval.

4.1.1.1 Paper Document Changes

Document changes are approved by an 'approving authority' (Section 4.1 lists approving authorities). Modifications to paper documents that require a revision change shall be clearly written on the document and given to the Quality Department for review. Once the review is complete, the document can be approved and signed by an approving authority. The document will then be processed by the Quality Department and issued to the relevant departments.

Changes that are not process modifications but clarifications (also called minor revisions) may be performed without changing the revision letter of the document. Minor amendments/modifications to documents are incorporated into a new revision and reissued when the document is reviewed and updated.

The reason for the minor modification or change is written on the document and is provided as historical information. This is not required if the reason for the modification is evident (e.g. to correct a spelling error).

4.1.1.2 Electronic Document Changes

A Microsoft Word copy of the document (if available) may be requested from the Quality Department. The document will be emailed to the reviewer and should be downloaded to the C Drive of their personal computer before making any changes. All editing must be tracked following the guidelines in SOP 1010. The final document must then be emailed back to the Quality Department or moved to the technical review folder on the Teklab server. Revised 1000 series SOPs are reviewed by the Quality Department and Method SOPs are reviewed by technical reviewers; such as the Technical Director or the Quality Training Officer. Once the document has passed review, it can be approved and signed by an approving authority. When signed, the document will then be processed by the Quality Department and moved to the applicable folder on the server.

4.2 Obsolete Documents

All invalid or obsolete documents are removed from general distribution, or otherwise prevented from unintended use. The master copy of an obsolete document is marked with a retired date and is archived in accordance with SOP 1291 "Record Retention and Access". Hard copies are also marked with the word "retired". Archived documents may be in paper or electronic format. All copies of obsolete documents must be removed from point of use and destroyed. Original documents must be securely stored for at least five years before being destroyed. If documents have been scanned and stored on the Teklab Inc Server, related hard copies can be destroyed at the discretion of the applicable department.

Storage boxes are maintained in the Teklab storage area until archived to an off-site storage facility. Both the on-site and off-site storage areas have all access documented in an access log maintained at the respective sites. Both storage facilities are protected against fire, theft, loss, environmental deterioration, and vermin. Electronic records are protected from electronic or

magnetic sources in a fire proof safe. Details of all stored (and labeled) storage boxes (current and destroyed) are recorded in a Microsoft Access Database by the Quality Department for tracking purposes.

Controlled electronic documents are stored on the Teklab server indefinitely (where applicable). The Teklab server is backed up on a daily basis.

Note: See section 5 of this QA manual for specific guidelines on the control and archival of laboratory records.

Section 5 - CONTROL OF RECORDS

(TNI V1:M2 – Section 4.13)

Records may be on any form of media, including electronic and hard copy. Records allow for the historical reconstruction of laboratory activities related to sample-handling and analysis. See Section 4 for information on control of documents.

5.1 Records Maintained

The laboratory maintains a record keeping system that facilitates the retrieval of working files and archived records for inspection and verification purposes by the NELAP accrediting authority. The laboratory shall retain records of original observations, derived data and sufficient information to establish an audit trail, calibration records, staff records and a copy of each test report or calibration certificate issued, for a defined period.

Quality records shall include reports from internal audits and management reviews as well as records of corrective and preventive actions.

The laboratory documents and maintains records related to all procedures and activities to which a sample is subjected. See SOP 1010 for a full list.

5.2 Records Management and Storage

The laboratory maintains a record management system for control of laboratory records. See SOP# 1010, 1060, 1290 and 1291 for more information on tracking, reporting and storage.

Data is recorded immediately and legibly in permanent ink (data generated by automated data collections systems is recorded electronically.) Corrections are initialed and dated along with the reason for the corrections. A single line strikeout is used to make corrections, so that the original record is not obliterated.

Excel data sheets used for data entry in the laboratory are coded to allow tracking and automatic documentation of all changes made within that file. The worksheet containing the tracking information is stored within the workbook for the life of the file.

Electronic corrections in LIMS are tracked via SQL files which log all changes made; including the user making the change and reason for the change where applicable. SQL files are retained securely on the Teklab server for at least 5 years.

See SOP#1534 for Teklab server/SQL back-up schedules.

Where computers or automated equipment is used for the capture, processing, manipulation, recording, reporting, storage or retrieval of test data, the laboratory:

- Maintains computer and automated equipment to ensure proper functioning and provide environmental and operating conditions necessary to maintain the integrity of calibration and test data
- Performs software and hardware testing
- Establishes and implements procedures for the maintenance of security of data, including the prevention of unauthorized access to, and the unauthorized amendment of, computer records and
- Maintains hard copy or write protected backup copies of records that are stored or generated by computers.

The laboratory controls access to all programs that are used to acquire, process, record or report data. All programs have limited access and are dependent on the security permissions that are assigned to each employee. An employee is granted access depending on his/her responsibilities and job description.

Records, including electronic records, are easy to retrieve, legible, and protected from deterioration or damage; held secure and in confidence; and are available to accrediting bodies for a minimum of five years or as required by regulation or contract. Records that are stored only on electronic media are supported by the hardware and software necessary for their retrieval. Access to protected records is limited to applicable department personnel. Procedures for identification, access, filing, storage, maintenance and disposal of quality and technical records can be found in SOPs 1010, 1060 and 1291. Quality records shall include reports from internal audits as well as records of corrective and preventive actions.

The laboratory maintains the record management system for control of all applicable information, in an organized, chronological order. Hard copy chains of custody are placed in storage boxes in chronological order. The exterior of the storage box indicates the contents. Storage boxes are maintained in the Teklab storage area until archived to an off-site storage facility. Additional information regarding control of data is included in Section 21.5 – “Control of Data”.

Paper records must be safely stored, held secure, and in confidence to the client. All information necessary for the historical reconstruction of the data must be maintained. Non-drinking water records must be retained for 5 years from generation of last entry in records. Drinking water chemical analysis records from public water systems serving at least 25 persons or having at least 15 service connections must be maintained for 10 years from the generation of the last

entry in the records. Lead and copper drinking water records must be maintained for 12 years from generation of last entry. Per Louisiana regulations, all air analysis records must be kept for at least 10 years. Records may be stored longer at client request.

Metals and Inorganics data is scanned and kept on the server per the regulation retention times noted above. Hard copies of scanned Metals and Inorganics data are kept for one year. VOA and Organics data is electronically generated and is stored on the Teklab Server for at least five years.

Data for all other environmental analyses that are associated with the laboratory's accreditation and for all suppliers from whom it obtains support services or supplies required for testing is stored for a minimum of five years, unless otherwise specified in another regulation

The laboratory shall retain all records necessary to facilitate reconstruction of the preparation, processing, and reporting of analytical results for PT samples for a minimum of five years and make them available for review upon request by the Primary AB.

In the event that the laboratory goes out of business, records are maintained or transferred according to client instructions. Remaining documents will be maintained at the off-site storage facility until they can be securely destroyed.

If the laboratory transfers ownership, records and documentation shall be transferred to the new ownership.

If the laboratory changes geographic location; records and documentation shall be maintained at the off-site storage facility until (where necessary) they can be moved to the new location.

The laboratory will report changes in ownership, location or laboratory closure to the accreditation authority within 30 days of occurrence.

Appropriate regulatory and state legal requirements concerning laboratory records shall be followed.

5.3 Legal Chain of Custody Records

Evidentiary sample data is used as legal evidence. Procedures for evidentiary samples are outlined below and can also be found in SOP1065.

The laboratory establishes and maintains the following basic requirements for evidentiary chain-of-custody:

- The evidentiary chain-of-custody records accounting for an unbroken possession of the sample while it is in the laboratory's custody.
- The evidentiary chain-of-custody records include signatures of all individuals who were involved with physically handling the samples and the time of day and calendar date that the sample was physically transferred from one individual to the next individual or to and from a controlled access storage area. A sample is considered to be in someone's

custody only if it is in one's actual physical possession, if it is in one's view, after being in one's physical possession, or if it is kept in a secured area restricted to authorized personnel only.

- A minimum number of persons shall be involved in sample handling.
- The laboratory limits the number of documents that are required to establish evidentiary chain-of-custody.
- The evidentiary chain-of-custody forms remain with the samples during transport or shipment.
- The laboratory controls access to all evidentiary samples and sub-samples, and documents this control as described in the Sample Acceptance and Receipt section of this manual.
- Transfer of samples, sub-samples, digestates or extracts to another laboratory is subject to all of the requirements for evidentiary chain-of-custody.
- The laboratory ensures that sample containers when shipped, are sealed in such a manner so that tampering by unauthorized personnel is immediately evident. If any seals are not intact, the laboratory notes this on the chain-of custody.
- The laboratory ensures that, if required, individual sample containers are sealed in such a way as to prevent tampering.
- The laboratory maintains records of sample disposal practices including, where appropriate, the date of sample or sub-sample disposal and the name of the responsible person.
- The disposal of the physical sample occurs only with the concurrence of the affected legal authority, sample data user and submitter of the sample.
- The laboratory documents and retains a record of all conditions of disposal and all correspondence between all parties concerning the final disposition of the physical sample.
- The sample records indicate the date of disposal, the nature of disposal (such as depleted, sample manifested to a hazardous waste facility, sample returned to client), and the identity of the individual who performed the task.
- The laboratory has waste collection, storage, recycling, and disposal procedures and policies as part of their SOPs. Where disposal practices are included as part of an approved test method, the laboratory strictly follows the approved test method's disposal practices. While more specific disposal criteria are not an aspect of this manual, the laboratory applies appropriate Federal, state, and local disposal practices as a part of good laboratory practices.

Section 6 – REVIEW OF REQUESTS, TENDERS AND CONTRACTS

(TNI V1:M2 – Section 4.4)

The review of all new work assures that requirements are clearly defined, the laboratory has adequate resources and capabilities, and the test method is applicable to the customer's needs. This process ensures that all work will be given adequate attention and avoid shortcuts that may compromise data quality.

Contracts for new work may be formal bids, signed documents; verbal, or electronic. The client's requirements, including the methods to be used, must be clearly defined, documented and understood. The review must also cover any work that will be subcontracted by the laboratory.

See SOP1015 for details on Review of Requests, Tenders and Contracts and SOP 1100 for Subcontracting guidelines.

Section 7 - PURCHASING SERVICES AND SUPPLIES

(TNI V1:M2 – Section 4.6)

The laboratory ensures that purchased supplies and services that affect the quality of environmental tests are of the required quality by using approved suppliers and products. See SOP1016 for Teklab's purchasing and evaluation procedures.

Section 8 - SUBCONTRACTING OF ENVIRONMENTAL TESTS

(TNI V1:M2 – Section 4.5)

8.1 Procedure

When Teklab must subcontract analysis due to workload, need for further expertise, temporary incapacity, or on a continuing basis, work is placed with a laboratory accredited under NELAP for the test to be performed or with a laboratory that meets the applicable statutory and regulatory requirements for performing the tests and submitting the results of test performed. All subcontracted analyses and the name of the subcontracted laboratory are documented in the case narrative of the final report. Any non-NELAP accredited work does not have the letters "NELAP" in the qualifier column. The intent to subcontract analysis is specified in the project quote when Teklab intends to subcontract any part of a project. When possible, Teklab will advise the client in writing of any subcontracted analysis. Teklab maintains a register of all subcontractors that it uses for environmental tests and a record of the evidence of compliance for each. A record of subcontracted analysis is retained at Teklab and is archived in accordance with this manual. Teklab will ensure that the subcontract laboratory is provided all necessary information to meet the same commitments made to the client by the primary laboratory.

See SOP1100 for Subcontracting procedures and guidelines and SOP 1015 for review of requests, tenders and contracts.

Section 9 - SERVICE TO THE CLIENT

(TNI V1:M2 – Section 4.7)

The laboratory collaborates with clients and/or their representatives in clarifying their requests and in monitoring laboratory performance related to their work. Each request is reviewed to determine the nature of the request and the laboratory's ability to comply with the request within the confines of prevailing statutes and/or regulations without risk to the confidentiality of other clients.

9.1 Client Confidentiality

Teklab Inc's confidentiality policy is to not divulge or release any information to a third party without proper authorization. Any third party requests for data and information are referred to the client first. Data and records identified as proprietary, privileged, or confidential are exempt from disclosure.

All electronic data (storage or transmissions) are kept confidential, based on technology and laboratory limitations, as required by client or regulation.

Teklab, Inc. will protect Clients' confidential information and proprietary rights, as directed by local, state or federal laws. All confidential information and/or proprietary rights claimed by any Client and/or Vendor must be clearly identified in writing, prior to initiation of any business activity. Teklab, Inc. will voluntarily treat information generated by Teklab, Inc. (analytical results, sampling information, associated quality control results, etc.) as confidential in nature only without the fear of retribution. That is, Teklab, Inc. will not accept any liability for the inappropriate or accidental release of information, unless specifically agreed to under mutually binding contractual obligations. See Teklab, Inc. NELAP Policy Client Confidential Information for additional information and procedures.

Teklab quality training includes training on procedures for protecting clients' confidential information. Clients' names or client's sample identifications are not listed in any laboratory data packets. Information in the laboratory data packets is identified with Teklab generated laboratory identifications only. Printed records containing client information are shredded before disposal. See Teklab Inc. NELAP Policy Client Confidential Information for policy and procedural details discussed during training.

9.2 Client Support

Communication with the client, or their representative, is maintained to provide proper instruction and modification for testing. Technical staff are available to discuss any technical questions or concerns the client may have.

The client, or their representative, may be provided reasonable access to laboratory areas to witness testing.

Where possible, delays or major deviations to testing are communicated to the client immediately by email or phone, by the applicable Project Manager, a member of the Customer Service Team or the Chief Marketing Officer.

Teklab will provide the client with all requested information pertaining to the analysis of their samples.

9.3 Client Feedback

The laboratory seeks both negative and positive feedback following the completion of projects and/or periodically for ongoing projects. Feedback provides acknowledgement, corrective

actions where necessary, and opportunities for continuous improvement. Methods of receiving feedback may include conversations with customers (phone or email), website and email questionnaires.

Negative customer feedback is documented as a customer complaint (see Section 10 – "Complaints").

Section 10 - COMPLAINTS

(TNI V1:M2 – Section 4.8)

The purpose of this section is to ensure that customer complaints are addressed and corrected in a timely manner. This includes requests to verify results or analytical data. Complaints provide the laboratory an opportunity to not only improve client satisfaction but also laboratory operations.

Customer complaints are dealt with on a case-by-case basis. All customer complaints are documented by the person receiving the complaint and addressed by the responsible manager. Complaints concerning areas such as turnaround time or pricing, are handled solely at the discretion of Teklab management. The Technical Director, Quality Manager or Teklab Management handle all QA/QC complaints. An investigation determines the validity of the complaint. If it is determined that the complaint has merit, the procedures outlined in Section 13 – Corrective Action are utilized. If it is determined that a complaint is without merit, it is documented, and the client is contacted by the appropriate Project Manager.

A complaint, such as a concern that data is repeatedly late, should be reviewed for preventive action (see Section 14 – "Preventive Action") to minimize a future occurrence.

The laboratory has a documented policy and procedures for the resolution of complaints received from clients or other parties about the laboratory's activities.

The laboratory audits the laboratory activities as required in this manual resulting from a complaint, or any other circumstance that impacts the laboratory's compliance with:

1. The laboratory's policies and procedures;
2. The requirements of this manual; and
3. The quality of the laboratory's tests.

The laboratory documents and maintain records of the complaint/s, the laboratory's subsequent actions, and any corrective actions and/or revised reports.

Section 11 - CONTROL OF NON-CONFORMING ENVIRONMENTAL TESTING WORK

(TNI V1:M2 – Section 4.9)

Non-conforming work is work that does not meet acceptance criteria or requirements. Non-conformances can include departures from standard operating procedures, test methods or unacceptable quality control results (see Section 26 – "Quality Assurance for Environmental Testing"). Identification of non-conforming

work can come via customer complaints, quality control, instrument calibration, evaluating consumable materials, staff observation, final report review, management reviews and internal and external audits.

11.1 Exceptionally Permitting Departures from Documented Policies and Procedures

Requests for departures from laboratory procedures are approved by the Technical Director or his/her designee and documented on a case-by-case basis with the applicable analytical data or final report. Planned departures from procedures or policies do not require audits or investigations.

If a client requests a departure from laboratory procedures, the laboratory does not have to consider that departure as a nonconformance that requires corrective action. However, that nonconformance must be documented as a nonconformance (or however named) that was approved by management.

11.2 Non-Conforming Work

The laboratory policy for control of non-conforming work is to identify the non-conformance and take appropriate action. All employees have the authority to stop work on samples when any aspect of the process does not conform to laboratory requirements.

The responsibilities and authorities for the management of non-conforming work are detailed in SOP#1280 and Section 13 “Corrective Actions”. The procedure for investigating and taking appropriate corrective actions for non-conforming work are also described in Section 13. Section 13.3 outlines the procedures for Technical Corrective Actions. Formal corrective action procedures must be followed for non-conforming work that could reoccur (beyond expected random QC failures) or where there is doubt about the laboratory’s compliance to its own policies and procedures.

The investigation and associated corrective actions for non-conforming work involving alleged violations of the company’s Ethics and Data Integrity policies must follow the procedures outlined in Section 17 – “Data Integrity Investigations”.

The reporting of non-conforming work involving alleged violations of the company’s Ethics and Data Integrity policies must be reported to a member of the Management Team. Procedures described in Section 17 – “Data Integrity Investigations” are followed.
The laboratory evaluates the significance of the non-conforming work, and takes corrective action immediately. The customer is notified if their data has been impacted. The laboratory allows the release of non-conforming data only with approval of the Technical Director or their designate on a case-by-case basis. Non-conforming data is clearly identified in the final report (see Section 27 – “Reporting the Results”).

The discovery of a nonconformance for results that have already been reported to the customer must be immediately evaluated for significance of the nonconformance, its acceptability to the customer, and determination of the appropriate corrective action.

See Section 13 "Corrective Action" and SOP1280 for details on managing non-conforming work.

11.3 Stop Work Procedures

Laboratory supervisors, the Quality Department, and the Management team have authorization to halt non-conforming work at any time. Samples are not analyzed until the problem causing the deviation is corrected. If applicable, the system is monitored until 10 consecutive data points are within control chart limits. After corrective actions successfully eliminate the problem, the corrective actions taken, individual(s) involved, samples affected, and date are noted on corrective action forms and in the appropriate logbooks. Only the Technical Director (or their designee) can authorize the resumption of affected tests. See section 13 for more information on Corrective Actions.

Section 12- IMPROVEMENT

(TNI V1:M2 – Section 4.10)

Improvement in the overall effectiveness of the laboratory management system is a result of the implementation of the various aspects of the laboratory's management system:

- quality policy and objectives (Section 3 – "Management");
- internal auditing practices (Section 15 – "Internal Audits");
- review and analysis of data (Section 26 – "Quality Assurance for Environmental Testing");
- corrective actions (Section 13 – "Corrective Action");
- preventive actions (Section 14 – "Preventive Action");
- annual management review of the quality management system (Section 16 – "Management Reviews") where the various aspects of the management/quality system are summarized, and evaluated and plans for improvement are developed.

Section 13 - CORRECTIVE ACTION

(TNI V1:M2 – Section 4.11)

Corrective action is the action taken to eliminate the causes of an existing non-conformity, defect, or other undesirable situation in order to prevent recurrence. Deficiencies cited in external assessments, internal quality audits, data reviews, customer feedback/complaints, control of nonconforming work or managerial reviews are documented and require corrective action. Corrective actions taken are appropriate for the magnitude of the problem and the degree of risk.

The following section dictates the decision process, procedures and initiation process for corrective actions. It identifies the data used to determine if a problem exists and the actions to be taken.

13.1 General Procedure

The laboratory uses the LIMS database to document and track corrective actions. See SOP#1280 for more information on Corrective Actions.

All deficiencies are first investigated to identify root cause. A corrective action plan is then developed and implemented if deemed necessary. The implementation is also monitored for effectiveness. Teklab technicians, analysts, and supervisors are responsible for initiating corrective actions on routine data reviews where a nonconformance is found that could reoccur (beyond expected random QC failures) or where there is doubt about the compliance of the laboratory to its own policies and procedures. Project Management and the QA Department must be informed immediately if the problem will or may affect client sample results.

Department supervisors are responsible for implementing the corrective action and tracking analysis until the system is in control again. Corrective actions may be entered into the LIMS by any Teklab Personnel. The final corrective action is reviewed by the Quality Department for completeness. The Technical Director and Quality Manager must approve and close out the completed corrective action in LIMS.

13.1.1 Cause Analysis

When failures due to systematic errors have been identified, the first step is an investigation to determine the root cause(s) of the problem. When there are non-systematic errors, where the initial cause is readily identifiable or an expected random failure (e.g. failed quality control), a formal root cause investigation is not required.

13.1.2 Selection and Implementation of Corrective Actions

After the root cause(s) has been defined (where applicable), a corrective action plan is then selected and implemented (see Section 13.3 “Technical Corrective Actions” and SOP1280 “Corrective Actions and Root Cause Analysis”).

Where uncertainty arises regarding the best approach for analysis of issues that require corrective action; applicable personnel will recommend corrective actions that are appropriate to the magnitude and risk of the problem and that will most likely eliminate the problem and prevent recurrence

Teklab Management and the Quality Department shall ensure that corrective actions are discharged within the agreed upon time frame. Corrective Action records are maintained in the LIMS database. The records contain details of both the root cause(s) investigation and the corrective action plan. PDF copies of all signed corrective action reports are stored on the Teklab server.

13.1.3 Monitoring of Corrective Action

The Quality Department and Department supervisors (where applicable) will monitor implementation and documentation of the corrective action to assure that the corrective actions were effective. Internal audits may also be used to verify the effectiveness of corrective actions. See SOP 1280 for more information on monitoring corrective actions.

13.2 Additional Audits

Where the identification of non-conformances or departures from normal lab procedures cast doubt on the laboratory's compliance with its own policies and procedures, or on its compliance with the TNI Standard, the laboratory ensures that the appropriate areas of activity are audited in accordance with Section 15 – "Internal Audits" as soon as possible.

13.3 Technical Corrective Action

Sample data associated with a failed quality control are evaluated for the need to be reanalyzed or qualified. Unacceptable quality control results are documented, and if the evaluation requires root cause analysis, the cause and solution are recorded (see Section 11 "Control of Nonconforming Environmental Testing Work"*).*

Analysts routinely implement corrective actions for data with unacceptable QC measures. First level correction may include re-analysis without further assessment. If the test method SOP addresses the specific actions to take, they are followed. Otherwise, corrective actions start with assessment of the cause of the problem.

Corrective action procedures for non-systematic errors or expected random failures are detailed in SOP#1280. All corrective actions are stored in the LIMS and on completion are stored in PDF format on the Teklab server. Corrective actions for non-conformances that may reoccur (beyond expected random QC failures) or where there is concern that the laboratory is not in compliance with its own policies and procedures require that a Corrective Action to be completed (see Section 13.1).

Whenever possible, samples are only reported if all quality control measures are acceptable. If a sample associated with unacceptable quality control measures must be reported, the deviation is clearly documented in the case or sample narrative of the final report. Whenever possible, corrective actions are undertaken to bring the system back in control.

Supervisors, the Quality Department and/or Management may review Corrective Action responses and suggest improvements, alternative approaches, and procedures where needed.

13.4 Data Evaluation

Teklab tracks the precision and accuracy of each analysis through the use of control charts. These control charts are based on the Relative Percent Difference (RPD), Laboratory Control Sample recoveries (LCS) and Matrix Spike recoveries (MSR). The RPD, LCS and MSR are calculated for each run of analysis. Independently verified Quality Control Samples (QC samples) also are used to determine if the analysis is in control. If the data exceeds the control chart or manufacturer specified limits, the analysis is checked for calibration, standard quality and analytical technique, and the analysis is stopped and corrective action taken.

Section 14 - PREVENTIVE ACTION

(TNI V1:M2 – Section 4.12)

The preventive action plan establishes the process to investigate and track potential non-conformances in Teklab Inc's Quality Management System. The foundation of preventive action is written and accessible documentation of actions taken and subsequent monitoring to determine that preventive actions have been implemented and documented.

Preventive Action Plan

Preventive action plans are part of a proactive process for improvement rather than a reaction to problems or complaints. Preventive action includes the utilization of measurable quality objectives and requirements such as validation and review processes, audits (internal and external), management review, feedback and complaints, and quality system requirements to detect, analyze and remove potential causes of non-conformance. All personnel have the authority to offer suggestions for improvements and to recommend preventive actions, however management is responsible for the actual implementation of preventive action.

The preventive action proactive process consists of:

- reviewing potential problems; deciding the potential cause of the problems;
- deciding the course of action to eliminate the problem from occurring;
- implementing the plan; and then ensuring or verifying the action solved the problem and/or is effective over time.
- Once identified, preventive action plans are initiated by opening a corrective action in the LIMS.

Monitoring the effectiveness of the preventive action includes, but not limited to, the following:

- control charts;
- performance studies;
- training;
- customer input;
- employee suggestions and input;
- audits;
- management reviews;
- staff meetings
- Scheduled instrument maintenance

Needed improvements and/or potential sources of non-conformance (either technical or Quality related) are identified. If preventive action is required, action plans shall be developed, implemented and monitored to reduce the likelihood of the occurrence of such non-conformances and to take advantage of the opportunities for improvement.
Corrective action status reports (via email), will also aid in monitoring the status of preventive action plans. The Quality Manager (or designee) is responsible for follow-up and ensuring the action plans are completed.

A preventative maintenance program is maintained for each instrument. Any equipment found to be out of calibration or indicating problems is taken out of service until the problems are corrected.

Records are maintained which document preventive maintenance and repairs to instrumentation and general laboratory equipment. Equipment failures or problems are noted as follows: the nature of the problem, corrective actions taken, the person performing corrective actions and the date. See Section 22 and SOP 1210 for additional information on equipment maintenance.

LIMS Preventive Action

Teklab has a preventive system to plan and test deployments of LIMS modifications to avoid or minimize the potential disruption associated with a LIMS failure.

- Production database: the live LIMS database used throughout the laboratory
- Development database: allows the application programmer to evaluate modifications to the LIMS without affecting live data. These changes are then re-evaluated through test databases.
- Test database: Test databases do not use real time data. They are distributed, by the applications programmer, to designated members of staff. These databases allow modifications to be assessed for potential conflicts and/or errors before updates are finally integrated into the production LIMS.

Section 15 - AUDITS

(TNI V1:M2 – Section 4.14)

15.1 Internal Audits

Audits measure laboratory performance and verify compliance with the TNI Standard, certification requirements, and management system requirements; including analytical methods, SOPs, the Quality Manual, ethics policies, data integrity, and other laboratory policies.

Audits provide management with an on-going assessment of the management system. They are also instrumental in identifying areas where improvement in the management system will increase the reliability of data. Results of the audits (and any associated corrective actions) are reported to the Teklab Board of Directors at least annually.

It is the responsibility of the Quality Manager (or designee) to plan and organize audits as required by the schedule and requested by management. Audits are performed by trained and qualified personnel who are, wherever resources permit, independent of the activity to be audited.
These annual audits examine the above stated items as well as the following:

- Personnel training
- SOPs
- Log-In and chain of custody procedures
- Housekeeping
- Balance and micropipette calibrations
- Refrigerator, oven and incubator temperatures
- Fume hood operation and face velocity determinations

- Reagent, solvent and standard documentation
- Instrument maintenance logs
- Corrective action procedures and reports
- Data collection, reduction, validation and reporting
- Waste disposal

The Quality Manager, or their representative, is also responsible for incorporation and/or documentation of changes, including but not limited to, changes in the approved test methods, changes in laboratory equipment, or changes in laboratory personnel. The area audited, the audit findings, and corrective actions are recorded. Audits are reviewed after completion to assure that corrective actions were implemented and effective.

In addition to scheduled internal audits, it may sometimes be necessary to conduct special audits as a follow-up to corrective actions, PT results, complaints, regulatory audits or alleged data integrity issues. These audits or investigations address specific issues. Review of their effectiveness may occur during the next scheduled audit unless findings are observed that cast doubt on the validity of data; in which case the review must take place as soon as possible. Laboratory management shall ensure that these actions are discharged within an agreed time frame.

15.2 External Audits

Management shall ensure that all areas of the laboratory are accessible to auditors as applicable and that appropriate personnel are available to assist in conducting the audit.

All records must be made available to Teklab's Accreditation Bodies.

15.2.1 Confidential Business Information (CBI) Considerations

During on-site audits, on-site auditors may come into possession of information claimed as business confidential. A business confidentiality claim is defined as "a claim or allegation that business information is entitled to confidential treatment for reasons of business confidentiality or a request for a determination that such information is entitled to such treatment." When information is claimed as business confidential, the laboratory must place on (or attach to) the information at the time it is submitted to the auditor, a cover sheet, stamped or typed legend or other suitable form of notice, employing language such as "trade secret", "proprietary" or "company confidential". Confidential portions of documents otherwise non-confidential must be clearly identified. CBI may be purged of references to client identity by the responsible laboratory official at the time of removal from the laboratory. However, sample identifiers may not be obscured from the information.

15.3 Performance Audits

Performance audits may be Proficiency Test Samples, internal single-blind samples, double-blind samples through a provider or client, or anything that tests the performance of the analyst and method.

Proficiency Test Samples are discussed in Section 26 – "Quality Assurance for Environmental Testing".

15.4 System Audits

The Laboratory's management system is audited though scheduled management reviews. Refer to Section 16 "Management Review" for more information.

15.5 Handling Audit Findings

Internal or external audit findings are responded to within an agreed time frame. The response may include action plans that could not be completed within the response time frame. A completion date is established by management for each action item and included in the response.

The development and implementation of corrective actions for findings is the joint responsibility of the Quality Department and the relevant Department supervisor (where applicable). Corrective actions are documented through the corrective action process described in Section 13 – "Corrective Actions".

Where the results of the internal audit indicate that operations or procedures are not in compliance, corrective actions must be taken. These corrective actions may include termination of all applicable analysis until the source of the problem can be identified and corrected. Laboratory supervisors, the Quality Department, and the Management team have authorization to halt non-conforming work at any time. All affected samples must be identified and clients whose samples were affected must be notified, in writing, within one week of the problem identification. The analysis cannot be resumed until the problem is demonstrated to be corrected (by the analysis of samples of known concentration), the reason for the problem and all corrective actions are documented and the Technical Director (or their designee) approves the resumption of analysis. All investigations that result in findings of inappropriate activity are documented and include any disciplinary actions involved, corrective actions taken, and all appropriate notifications of clients. See Section 17 (Data Integrity Investigation) for additional procedures for handling inappropriate activity.

Section 16 - MANAGEMENT REVIEWS

(TNI V1:M2 – Section 4.15)

Teklab's laboratory management reviews the Quality Assurance Plan to ensure its continuing suitability, effectiveness, and compliance with TNI Standards at least once every 12 months. This review is documented and includes at least the following:

16.1 Management Review Topics

- Monthly reports from the quality department concerning the laboratory quality system
- Suitability of policies and procedures
- Resources and training
- Reports from any management and supervisory personnel
- Outcomes of any recent internal audits
- Assessments by external bodies
- Results of interlaboratory comparisons or proficiency tests
- Changes in the volume or type of work undertaken
- Feedback from clients
- Complaints
- Recommendations for improvement
- Corrective and preventative actions

The outcome of this review is to introduce any necessary changes or improvements in the quality system and laboratory operations. A record of this review, its findings and the resulting actions/changes is maintained on the server and is archived in accordance with this manual.

16.2 Procedure

Laboratory management shall continuously review the Quality Assurance Plan to ensure its ongoing suitability, effectiveness, and compliance with TNI Standards. The review process includes (but is not limited to) the following:

- Annual Management Review
- Department meetings
- Monthly Quality reports
- Operations meetings – attended by management and the QA department
- Board of Director meetings

Staff meetings are part of the overall quality system and provide comprehensive departmental interaction that can aid in the planning and co-ordination of activities that may have a laboratory wide impact. Suggested improvements to the quality system, as well as potential sources of non-conformance are discussed as part of the laboratory Preventive Action Plan.

Management shall also receive monthly reports from the Quality Department regarding the status of Quality issues including (but not limited to) safety checks, current corrective actions and required laboratory SOP reading. When an ongoing problem is identified in the Quality System that requires attention; it is forwarded to management who assists the Quality

Department in monitoring the problem and ensures the issue is resolved in a timely manner where possible.

Section 17 - DATA INTEGRITY

(TNI V1:M2 – Section 4.16)

In addition to covering data integrity investigations, this Section covers all topics related to ethics and data integrity policies, procedures and training.

Teklab Inc is committed to ensuring the integrity of its data and providing valid data of known and documented quality to its clients. The elements in Teklab's Ethics and Data Integrity program include:

- Documented data integrity procedures signed and dated by top management.
- An Ethics and Data Integrity Statement (included in job description) signed by all management and staff upon hiring.
- An Ethics and Data Integrity Statement signed after annual data integrity training. Teklab's Ethics and Data Integrity Policy can be found in the Quality Documents folder on the Teklab Server.
- Appendix A of this Quality Manual.
- Procedures for confidential reporting of alleged data integrity issues.
- Periodic in-depth data monitoring.
- An audit program that monitors data integrity (see Section 15 – "Audits") and procedures for handling data integrity investigations and client notifications.

17.1 Ethics and Data Integrity Procedures

The Ethics and Data Integrity Policy provides an over view of the program. Written procedures that are considered part of the Ethics and Data Integrity program include:

- Teklab's Ethics and Data Integrity Policy: "Ethics, Legal Responsibility, & Conflict of Interest" (Appendix A)
- Corrective action procedures (SOP#1280 and Section 13 of this QAM)
- Procedure for Data Integrity Investigations (See Section 17.4 Investigations)
- Data Integrity training procedures (See Section 17.2 Training)
- Internal audit procedures (SOP#1270 and See Section 15 of this QAM)

17.2 Training

Data integrity training is provided as a formal part of new employee orientation and a refresher is given annually for all employees. Training courses in data integrity, ethical and legal responsibilities, include the potential punishments and penalties for improper, unethical or illegal actions. Attendance for required training is mandatory and is monitored through a ~~signature attendance sheet.~~



Evidence must be on file that each employee has read, acknowledged and understood their personal, ethical and legal responsibilities including the potential punishments and penalties for improper, unethical or illegal actions.

Data integrity training emphasizes the importance of proper written narration on the part of the analyst with respect to those cases where analytical data may be useful, but are in one sense or another partially deficient. Topics covered are provided in writing and provided to all trainees.

17.3 Confidential Reporting of Ethics and Data Integrity Issues

Confidential reporting of data integrity issues is assured through the following procedures:

- Teklab Inc's Ethics and Data Integrity Policy ("Ethics, Legal Responsibility, & Conflict of Interest" see Appendix A)
- Procedures for reporting Data integrity and Ethics issues outlined in initial and ongoing annual training. Training slides are available in the Quality Documents folder on the Teklab server.

17.4 Investigations

All investigations resulting from data integrity issues are conducted confidentially and documented. Notifications are made to clients who received any negatively affected data that did not meet the client's data quality requirements. Procedures for investigation are detailed below:

- Any Teklab personnel who learn of a non-compliance related incident through the reporting protocol should immediately inform a member of Teklab Management verbally or in writing.
- Any ethical matters discussed with management personnel will remain confidential within Teklab's management. In cases involving possible violations of the law or TNI regulations, Teklab may be required to reveal information to the proper authorities.
- Teklab management is responsible for determining the seriousness of the incident.
- Teklab's management team shall thoroughly investigate each incident and retain all evidence and records.
- Investigation Documentation Includes:
    - Date of investigative Report
    - Date Incident First Reported
    - Date of Incident Occurrence
    - Type of Issue / Incident
    - Full Description of Issue
    - Description of Investigation
    - Description of Resolution

Section 18 – PERSONNEL AND TRAINING

(TNI V1:M2 – Section 5.2)

Teklab Inc employs competent personnel based on education, training, experience and demonstrated skills as required. The laboratory's organization chart can be found in Appendix B.

18.1 Overview

All personnel are responsible for complying with all quality and data integrity policies and procedures that are relevant to their area of responsibility.

All personnel who are involved in activities related to sample analysis, evaluation of results or who sign test reports, must demonstrate competency in their area of responsibility. Appropriate supervision is given to any personnel in training and the trainer is accountable for the quality of the trainee's work. Personnel are qualified to perform the tasks they are responsible for based on education, training, experience and demonstrated skills as required for their area of responsibility. The training programme shall be relevant to the present and anticipated tasks of the laboratory.

The laboratory provides goals with respect to education, training and skills of laboratory staff. These goals are outlined in the 1031 SOP and the employee's job description. Training needs are identified at the time of employment and when personnel are moved to a new position or new responsibilities are added. Ongoing training is also provided to personnel in their current jobs as needed. The effectiveness of the training must be evaluated before the training is considered complete.

A log of names, initials, and signatures for all individuals who are responsible for signing or initialing any laboratory records is maintained and stored in hard copy by the Quality Training Officer.

18.2 Job Descriptions

Job descriptions are available for all positions that manage, perform, or verify work affecting data quality, and are located in each employee's electronic training file located on the Teklab Inc Server. These files are stored securely. An overview of top management's responsibilities is included in Section 3 – "Management".

18.3 Training

All personnel must perform a successful Initial Demonstration of Capability prior to initiation of assigned analysis (See SOP#1031 for IDOC and Certification Statement Requirements).

All new personnel are trained on their applicable analysis by an experienced Teklab employee. Additional training needs for each individual are determined through review of their resume and work experience and one on one interaction with the individual's supervisor and/or trainer. All personnel must successfully complete an IDOC prior to termination of training. Ongoing training

is determined on a case-by-case basis by the individual's supervisor or a representative of the Quality Department. See SOP#1031 and Section 19 of this QA Manual for more information on IDOCs/ADOCs.

Department Supervisors are responsible for initiating, coordinating and monitoring on the job training for analysts within their department.

Training records maintained by the Quality Department are stored securely on the Teklab Inc Server and include personnel qualifications, education, experience and training pursuant to the requirements set forth in sections 4, 5 and 19 of this Quality manual. Training files are considered up-to-date when the following items are present:

- Certification that the employee has completed initial safety and quality training.
- Documentation of Initial Demonstration of Capability (IDOC).
- Certification that the employee has read, understood, and is using the latest version of the laboratory's in-house quality documentation, which relates to their job responsibilities.
- Certification that the technician has read, understood and agreed to perform the most recent version of the approved standard operating procedure.
- Documentation of academic education and of training courses or workshops on specific equipment, analytical techniques, or laboratory procedures.
- Job description signed by the employee that includes an agreement that they are aware of their ethical and legal responsibilities and will avoid any conflict of interest.
- Documentation of Annual Demonstration of Capability (ADOC) on applicable methods.

18.3.1 Ethical/Legal Responsibilities and Conflict of Interest

Teklab is organized so that confidence in its independence of judgment and integrity are maintained at all times and has processes to ensure that its personnel are free from any commercial, financial and other undue pressures which might adversely affect the quality of their work. Teklab has a proactive program for prevention and detection of improper, unethical or illegal actions. See Appendix A for Teklab's Ethics and Data Integrity Policy and Section 17 for more on Data Integrity.

All new personnel are trained during orientation and all personnel are trained, at least annually, on data integrity, ethical behavior, legal responsibilities and conflict of interest. Each Teklab job description includes an agreement with the employee that they are aware of their ethical responsibilities and will avoid any conflict of interest. See also Teklab Inc. NELAP Policy Ethics, Legal Responsibility, & Conflict of Interest for policy discussed during training.

Teklab Inc.'s legally responsible parties are the signatories in Section 1 (Introduction and Scope) of the Quality Manual.

18.3.2 Training for New Staff

All new staff members are given introductory training and orientation upon arrival. The training is documented on a training attendance sheet that outlines what was covered during the training sessions.

Training topics include (but not limited to):

- Data Integrity training
- Safety training
- Quality training

Initial Laboratory Training:

- All documentation involved with a new and unfamiliar task is read and understood by the trainee. Reading forms are initial and dated by the employee confirming that they have read and understood the material.
- Training is under the direct supervision of a qualified analyst.
- During the time the analyst is in training, the trainee may sign laboratory notebooks, logbooks, worksheets, etc. But they must be co-signed by the trainer who is responsible for the data generated.
- The trainee demonstrates competency in the new task before they can operate independently. The competency for a test method is accomplished by a successful IDOC as defined in Section 19 of this Quality Manual.
- Training documentation is maintained in the employees training record, which is stored electronically on the Teklab Inc server.

18.3.3 Ongoing Training

The employee attests, through signature, that they have read, understood, and agree to perform the latest version of any SOPs or policies that the analyst is responsible for following:
Annual refresher Data Integrity Training.

- Annually, the analyst shows continued proficiency in each method they perform (see Section 19 on IDOC s and ADOCs)
- Attending training related to job function as applicable.
- Maintaining training documentation in the employees training record.
- Monthly Safety training.
- Monthly Quality training.

18.3.4 Education/Experience

Job descriptions for all Teklab personnel are maintained by the quality department. Each employee must read and sign their job description upon hiring or changing positions within the laboratory. The signed job descriptions are stored in each employees training file.

18.3.4.1

The laboratory ownership shall designate at least one individual as the Technical Director (or however named). These persons shall also:

1. Hold a bachelor's degree in the chemical, environmental, biological sciences, physical sciences or engineering, with at least twenty-four (24) college semester credit hours in chemistry
2. Have at least two (2) years of experience in the environmental analysis of representative inorganic or organic analytes for which the laboratory seeks or maintains accreditation. A master's or doctoral degree in one of the above disciplines may be substituted for one (1) year of experience.
3. Have a general knowledge of the analytical methods for which data review is performed.

See the TNI Standard V1M2 Section 5.2.6.2 for a list of Technical Director qualification exceptions.

18.3.4.2

The laboratory ownership shall designate at least one individual as the Quality Manager and/or Quality Officer. These persons shall also:

1) Hold a bachelor's degree in chemistry or related sciences or have completed enough course work to equal a major in science; and/or
2) Have a minimum of one-year experience as an analyst in a laboratory and/or
3) Have documented training in quality assurance and quality control (QA/QC) and at least 3yrs of experience in a Quality Assurance setting
4) Where applicable, have functions independent from laboratory operations;
5) Have a general knowledge of the analytical methods for which data review is performed;
6) Be an employee of the laboratory, but free from outside or managerial influence, so that they may objectively perform assessments and evaluate data

18.3.4.3

The laboratory director and/or ownership shall designate at least one individual as LABORATORY SUPERVISOR. The laboratory supervisor(s) shall:

1) Hold a minimum of a bachelor's degree in chemistry or related sciences or have completed enough course work in chemistry to equal a major in chemistry, or;
2) Have had a minimum of five years' experience in the analyses pertaining to the applicable fields of testing

The laboratory ownership may designate a laboratory supervisor as Technical director (however named). The Laboratory director/supervisor must fulfill the requirements of sections 18.3.4.1 and 18.3.4.3 above.

18.3.4.4

The Technical Director or supervisors shall designate the ANALYSTS. Analysts shall:

1) Hold a bachelor's degree in chemistry or related sciences or have completed enough course work in chemistry to equal a major in chemistry; or

2) Have had a minimum of two years' experience in the analysis pertaining to the applicable fields of testing for which the laboratory is accredited; or
3) For those instruments listed in 18.3.4.6 below:
   A) either:
      i) have satisfactorily completed a minimum of four hours training that is offered by the equipment manufacturer, a professional organization, a university or another qualified training facility; or
      ii) served a two-week period of apprenticeship under an experienced analyst; and
   B) After appropriate training pursuant to subsection 18.3.4.5(3A), perform the Initial Demonstration of Capability (IDOC) study as specified in Section 19 of this Quality Manual and the TNI Standard - EL-V1M2 (See SOP1031 for IDOC procedure); and
   C) Have on file annual documentation indicating one of the following:
      - Acceptable performance on a blind sample,
      - Another Initial demonstration of capability (IDOC),
      - four consecutive in-control laboratory control samples,
      - a documented process of analyst review using quality control (QC) samples
      - a certification that the technician has read, understood and agreed to perform the most recent version of the method, the approved method or standard operating procedure.
      - Such documentation shall demonstrate that the required training is up-to-date.
4) Be an employee of the laboratory, contract employee, or contracted temporary agency staff; and

The Technical Director or supervisors may designate individuals as ANALYSTS-IN-TRAINING. Analysts-in-training must at least meet the requirements in subsection 18.3.4.4.1 or 18.3.4.4.2 and be in the process of meeting the requirements of subsection 18.3.4.4 (3a). A laboratory supervisor, analyst or data auditor shall review and verify all data produced by analysts-in-training.

18.3.4.5

Analyses performed utilizing Automated Colorimetric (AC), Gas Chromatograph (GC), Gas Chromatograph/Mass Spectrometer (GC-MS), Inductively Coupled Plasma (ICP), Inductively Coupled Plasma Mass Spectrometer (ICP-MS), are only acceptable for the purposes of this manual when performed by a laboratory employee who meets the requirements in subsection 18.3.4.4 above.

18.3.4.6

A TECHNICIAN is a person who holds a minimum of a high school diploma or its equivalent. Any exceptions to this requirement must be noted on the technician's job description. A technician must:

1) either:

A) Have satisfactorily completed a minimum of four hours training that is offered by the equipment manufacturer, a professional organization, a university or qualified training facility; or
B) Served a two-week period of apprenticeship under an experienced analyst or technician;

2) After appropriate training pursuant to subsection 18.3.4.6(1), perform the Initial Demonstration of Capability (IDOC) study as specified in Section 19 of this Quality Manual and the TNI Standard - EL-V1M2 (See SOP1031 for IDOC procedure); and;
3) Have on file annual documentation indicating one of the following:
   - Acceptable performance on a blind sample,
   - another Initial Demonstration of Capability (IDOC),
   - four consecutive in-control laboratory control samples,
   - a documented process of analyst review using quality control (QC) samples
   - a certification that the technician has read, understood and agreed to perform the most recent version of the method, the approved method or standard operating procedure.

   Such documentation shall demonstrate that the required training is up-to-date.

18.3.4.7

A person may be allowed to serve in any capacity as defined in subsections 18.3.4.1 through 18.3.4.6 when the person does not meet the training, educational, or experience requirements for the position under one of the following conditions:

A) Experience as an offset for educational requirements (one year of experience performing the applicable duties equals one year of education);
B) Education as an offset for experience requirements (one year of applicable education beyond a bachelor's degree equals one year of experience);
C) For analysts and technicians, have six months' laboratory experience as offset for the training and apprenticeship requirements set forth in 18.3.4.4 or 18.3.4.6 as applicable. Laboratory experience must be in the analytical technique for which the offset is requested.
D) For analysts and technicians, demonstration of ability to properly perform representative test procedures.

Section 19 - IDOC & ADOC

(TNI V1:M4 – Section 1.6)

19.1 Initial Demonstration of Capability (IDOC)

The IDOC is a procedure to establish the ability of the analyst to generate analytical results of acceptable accuracy and precision.

Before reporting any data with a given method, a satisfactory IDOC is performed. Thereafter, each analyst demonstrates continuing proficiency through the procedures outlined in Annual Demonstration of Capability below.

Each analyst performs an IDOC prior to initiation of assigned sample analysis, unless the IDOC procedure is not applicable to the approved test method (e.g. odor, temperature). Thereafter, continuing demonstration of method performance is accomplished per the QCI for the method.

In cases where an individual has prepared and/or analyzed samples using a method that has been in use by the laboratory for at least one (1) year prior to applying for accreditation, and there have been no significant changes in instrument type or method, the ongoing DOC shall be acceptable as an initial DOC.

Teklab documents the completion of each demonstration of capability on a certification statement form. IDOCs are stored in the Teklab LIMS, and documented in the Employee Training Database (on the Teklab server), and in the employee's electronic training files which are stored on the Teklab Inc Server. All records related to the demonstration are retained.

IDOCs (Demonstration of Capability) are performed:

- Before using any method
- Each time there is a change in instrument type or *method
- If the laboratory or analysts has not performed the method in a twelve-month period.
- When an analyte not currently found on the laboratory's list of accredited analytes is added to an existing accredited method, an IDOC shall be performed for that analyte

*Changes in method are assessed by the Technical Director (or their designee) and the applicable laboratory Supervisor. Changed deemed as significant require an IDOC to be performed.

The IDOC(s) for each analyst is stored in the Teklab LIMS, and documented in the Employee Training Database, in the employee's electronic training file and on employee electronic Demonstration of Capability (DOC) Forms which are all stored on the Teklab Inc Server. The DOC identifies the analyst(s) involved in preparation and/or analysis; matrix; analyte(s), class of analyte(s); the method(s) performed; the laboratory-specific SOP used for analysis; and the date(s) of analysis. The LIMS and server copy of the IDOC also contain a summary of the results used to calculate the mean recovery and standard deviations.

All raw data, preparation records, and calculations for each IDOC are retained and are available for review. IDOC procedures are outlined in SOP#1031 - IDOCs and ADOCs

<u>Interim Data Generation</u>
Data produced by analysts and instrument operators while in the process of obtaining the required training or experience is acceptable when reviewed and validated by a fully qualified analyst or the immediate supervisor.

19.2 Annual Demonstration of Capability (ADOC)

After the initial demonstration of capability is completed, on-going proficiency is maintained and demonstrated at least annually. Each analyst is expected to consistently meet the QC requirements of the method, the laboratory SOP, client requirements and/or the TNI Standard. ADOCs are documented in the Employee Training Database (by the Quality Department), and in

the employee's electronic training files which are stored on the Teklab Inc Server. All records related to the ADOC are retained.

Teklab can use the following procedures to demonstrate ongoing DOC:

a) acceptable performance of a blind sample (single blind to the analyst);
Note: Successful analysis of a blind performance sample on a similar method using the same technology (e.g., GC/MS volatiles by purge and trap for Methods 524.2, 624 or 5030/8260) would only require documentation for one of the tests.

b) another initial DOC;

c) at least four (4) consecutive laboratory control samples with acceptable levels of precision and accuracy. The laboratory shall determine the acceptable limits for precision and accuracy prior to analysis. The laboratory shall tabulate or be able to readily retrieve four (4) consecutive passing LCSs for each method for each analyst each year;

d) a documented process of analyst review using QC samples. QC samples can be reviewed to identify patterns for individuals or groups of analysts and determine if corrective action or retraining is necessary;

e) if a) through d) are not technically feasible, then analysis of real-world samples with results within a predefined acceptance criteria (as defined by the laboratory or method) shall be performed.

Section 20 - ACCOMODATIONS AND ENVIRONMENTAL CONDITIONS

(TNI V1:M2 – Section 5.3)

20.1 Environmental

Laboratory facilities, including but not limited to energy sources, lighting and environmental conditions, shall be such as to facilitate correct performance of the tests. The technical requirements for accommodation and environmental conditions that can affect the results of tests and calibrations shall be documented. Due attention shall be paid, for example, to biological sterility, dust, electromagnetic disturbances, radiation, humidity, electrical supply, temperature, and sound and vibration levels, as appropriate to the technical activities concerned. Tests and calibrations shall be stopped when the environmental conditions jeopardize the results of the tests.

Prior to the initiation of new work, the laboratory management reviews the work to ensure that it has the appropriate facilities and resources to accomplish the work. Management also provides adequate workspaces to ensure an unencumbered work area for performing the approved test methods.

The laboratory is designed, operated and arranged so that incompatible analyses are separated and the potential for sample contamination is minimized. Such environmental conditions include:

- The volatile organic laboratory has a separate ventilation system. Access to the volatile organic laboratory is limited to use only as necessary. ~~Air volatile analysis is isolated at a separate facility located at the Teklab Air Laboratory.~~

- The microbiology lab has access restricted to only microbiology and quality assurance department personnel. All fecal coliform analyses are performed at a separate time from any other microbiology analysis, with proper disinfection of the area between analysis times.
- The laboratory has one exhaust hood for sample receipt, three for inorganic analysis, one for metals prep, and three for organic prep. Organic analysis also has three fume absorbers.

New laboratory facilities shall be designed, operated and arranged so that all of the specifications of this section are met.

20.2 Work Areas

Teklab's facilities are maintained to permit the production of analytical data that meets the data quality of objectives of the applicable environmental regulation. Areas that affect the quality of laboratory activities are defined as any area within the physical boundaries of the building, except for the restrooms, lunch room and all hallways.

Good housekeeping is important. Employees must keep workspaces, instrumentation, and equipment clean and unencumbered.

The laboratory procedure for good housekeeping includes such measures as

- a part-time janitor
- periodic dedicated clean up days
- employees responsible for cleanliness of their own work area

20.3 Floor Plan

Floor plans can be found in Appendix C of this QA Manual.

20.4 Building Security

Areas that affect the quality of laboratory activities are secure areas and access is limited to Teklab, Inc. employees, anyone else entering these areas must be escorted by a Teklab, Inc. employee. Access to the laboratory facilities, during non-business hours, is controlled through a monitored building alarm system. The parking lot is also under video surveillance.

Section 21 - ENVIRONMENTAL METHODS AND METHOD VALIDATION

(TNI V1:M2 – Section 5.4 and Sections 1.4 and 1.5 of TNI V1:M4)

Methods and/or procedures are available for all activities associated with the analysis of the sample including preparation and testing. For purposes of this Section, "method" refers to both the sample preparation and determinative methods. All methods are in accordance with applicable professional

technical standards, U.S. & Illinois EPA requirements. Teklab uses only methods mandated by legal requirements, recognized published methods or methods developed and validated by Teklab. Methods are not used for reporting results until competence for each matrix is demonstrated. Personnel are not permitted to depart from approved procedures without the proper validations and approval of the Technical Director and/or the Quality Manager (or designee), and approval of the client.

All analytical methods performed at Teklab have internally written Standard Operating Procedures (SOPs) or are copies of published methods, with any changes or selected options documented. Methods are based on the applicable reference method or methods (i.e. SW846, EPA 600, Standard Methods, NIOSH, IDPH, etc.). The laboratory shall ensure that it uses the latest valid edition of a standard unless it is not appropriate or possible to do so. When necessary, the standard shall be supplemented with additional details to ensure consistent application

Before being put into use, a test method is confirmed by a method validation process.

21.1 Method Selection

The laboratory selects methods that are appropriate to the customer needs. When the regulatory authority mandates or promulgates methods for a specific purpose, only those methods will be used.

If a method proposed by a customer is considered to be inappropriate or out-of-date, the customer is informed and the issue resolved before proceeding with analysis of any samples (see Section 6 – Review of Requests, Tenders and Contracts). If a method is not specified by the customer, an appropriate method will be selected using the process outlined below:

When a method is not specified by the customer, or the proposed method is inappropriate, the laboratory will select a method that is appropriate to the end use of the data. The laboratory selects methods that are appropriate to the customer needs. The customer will be informed of the selected method and must approve its use before being used to report data. When the regulatory authority mandates or promulgates methods for a specific purpose, only those methods will be used (see Section 6 – Review of Requests, Tenders and Contracts).
If there is not a regulatory requirement for the parameter/method combination, the parameter/method combination need not be validated as a non-reference method if it can be analyzed by another similar reference method of the same matrix and technology. (TNI V1 M2 3.1)

When adding a new analyte to a reference method, the inclusion of the analyte in the method shall meet all required calibration requirements and the QC requirements of the method to which the analyte is being added. If no QC exists in the method, the laboratory shall adhere to the requirements outlined in a reference method of the same technology (when available). For example, when adding acetone to EPA Method 624, the calibration and QC requirements shall follow EPA Method 624. A method that meets these requirements shall be identified in such a way so that there is no confusion that the analyte list has been modified (TNI V1 M4 1.4 - Method Selection)

21.2 Method Validation

Method Validation (MV) studies are used to verify the analytical procedure at different concentrations. An MV study is performed for each new analysis or test method and whenever a modification in methodology occurs that could affect the quantitation range of the analysis. MV studies include the determination of the following:

- Method detection limit – The method detection limit (MDL) is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results This number is used in LIMS and appears on final reports. The MDL is used to accommodate variances in multiple instrument MDL determinations and to minimize ongoing adjustments to the reporting limits.

- MDL_s - The method detection limit based on spiked samples

- MDL_b - The MDL based on method blanks

- PQL (practical quantitation limit) – The lowest level or concentration of an analyte that can be reported with a specific degree of confidence. For test methods utilizing a calibration curve, the PQL is equivalent to the lowest calibration standard. The PQL must be greater than the MDL and no greater than ten times the MDL. If regulatory limits are provided by the client, the PQL must be equal to or less than these.

- RL (Reporting Limit) – The PQL multiplied by any dilution or preparation factors. The RL appears on the final report. If a CRQL (client requested quantitation limit) exists for the sample and is greater than the final RL, the RL can be replaced with the CRQL at the client's request.

- MV (Method Validation Study) – The initial test method and/or instrument requirements of TNI and/or the referenced test method to validate that the laboratory is capable of achieving the required qualitative and quantitative detection and the required precision and accuracy of the method

See SOP 1030 'Method Detection Limits & Method Validation Studies' for detailed procedures on MDLs.

Selectivity

Selectivity is evaluated by following the checks established within each method. Examples are mass spectral tuning, second column confirmation, ICP inter-element interference checks, chromatograph retention time windows, instrument blanks, spectrochemical absorption or fluorescence profiles, co-precipitation evaluations, electrode response factors, and correlation coefficients. The acceptance criteria for mass spectral tuning is documented in the appropriate method SOP.

21.3 Estimation of Uncertainty of Measurement

Estimation and uncertainty of measurement are provided to clients upon request.

- If the standardized test method contains guidance to the uncertainty of evaluation, the method guidance is used for determination.

- If the standardized test method gives a typical uncertainty of measurement for test results this figure is quoted, provided there was full compliance with the test method in the performance of the test.

- If a standardized method implicitly includes the uncertainty of measurement in the test results, the results are reported accordingly.

Otherwise the estimation of uncertainty of measurement will be reported as follows:

The confidence interval for the test method determined from the standard deviation of Laboratory Control samples or QC samples utilized by the laboratory in determining batch acceptance for the test method will be provided with the data as a statement of uncertainty of measurement. If the sample measurement is near the reporting limit or detectable limit, additional information will be given on the variability of low level data. A statement of sample homogeneity will also be included, as well as any other sample related factors that may have led to uncertainty of measurement.

In cases where the test method precludes rigorous, metrologically and statistically valid calculation of uncertainty of measurement, all the components of uncertainty of measurement are identified, a reasonable estimation on uncertainty is made, and the result is reported with explanation on the uncertainty.

21.4 Control Charts

Control charts are used to monitor the accuracy and precision of the procedures used at Teklab. They are used to determine what types of bias, if any, are occurring in analysis and to determine when an analysis or procedure is out of control.

PRECISION CONTROL CHARTS:
The precision control chart checks the duplicity of our methodologies. It uses the relative percent difference (RPD) between duplicate analyses.

ACCURACY CONTROL CHARTS:
The accuracy control chart checks the percent recovery of our methodologies. These check the percent recovery from LCSs and MSRs (Matrix Spike recoveries). This control chart cannot be made until at least twenty observations are made using samples of a known concentration. The Shewhart X-bar type chart is used for this measurement. The center line is the mean %R, the UWL and LWL (Upper and Lower Warning Limits) are calculated and plotted at +/- 2*sd; this represents a limit within which 95% of all subsequent %R calculations should fall, to ensure that the analysis/methodology is under control. The UCL and LCL (Upper and Lower Control Limits)

are +/- 3*sd; this represents a limit within which 99% of all subsequent %R calculations should fall to ensure that the analysis/methodology is under control.

FREQUENCY AND CONSTRUCTION OF CONTROL CHARTS:
Data for accuracy and precision control charts will be updated continuously via the LIMS. The need to monitor a control chart for a particular analysis will be evident to the department supervisor if the quality control indicators for the test are not falling around the mean of the upper and lower control limits for the test. Data used to create control chart limits must be thoroughly reviewed for obvious outliers before inclusion in the control chart data set. Laboratory control limits for accuracy and precision will be updated as needed, with approval from the Technical Director.

INTERPRETATION OF CONTROL CHARTS:
The control charts are used to trend results and look for problems or bias in the way an analysis is run. If a condition exists which indicates an out of control process or process bias, as defined by typical analysis of Shewhart control charts (example: Seven points on same side of an X-bar chart or a point above or below the UCL or LCL), a significant event will have occurred. In that event, the Quality Manager, Technical Director and any needed technicians or analysts will direct an investigation to determine the cause or causes of the event and corrective action shall be implemented. After determination of a significant event, the applicable control charts will be updated with every new data point until the analysis is once again in control. A minimum of 10 data points will be plotted before the analysis can be said to be in control, once again.

21.5 Control of Data

To ensure that data are protected from inadvertent changes or unintentional destruction, the laboratory uses procedures to check calculations and data transfers (both manual and automated). See Section 5 – Control of Records for more information.

Note: Employees should not save important documents to the C Drive of their PCs, as information may be lost if the computer's hard drive fails. Documents should either be saved to designated folders on the F Drive or user-defined U Drives; both of which are located on the Teklab Server.

21.5.1 Computer and Electronic Data Requirements

The laboratory assures that computers, user-developed computer software, and automated equipment used for the acquisition, processing, recording, reporting, storage, or retrieval of environmental test data are:

- documented in sufficient detail and validated as being adequate for use;
- protected for integrity and confidentiality of data entry or collection, data storage, data transmission and data processing;
- maintained to ensure proper functioning and are provided with the environmental and operating conditions necessary to maintain the integrity of environmental test data; and

- held secure including the prevention of unauthorized access to, and the unauthorized amendment of, computer records. Data archive security is addressed in Section 5 "Control of Records" and building security is addressed in Section 20 "Accommodations and Environmental Conditions".

Computers and instrumentation are tracked via a database that contains information such as the PC/instrument name, operating system and associated software. Purchased Microsoft Office open licenses are also tracked in the database. The database is stored securely in the IT folder on the Teklab Server.

21.5.2 Data Reduction

The analyst calculates the final results from raw data or appropriate computer programs and provides results in a reportable format. The test methods or SOPs provide required concentration units, calculation formulas and any other information required to obtain final analytical results.

The laboratory has manual integration procedures that must be followed when integrating peaks during data reduction. See SOP4026 Manual Integrations.

Data is collected and reported by analysts after completion of a run of analysis in which all Quality control parameters are within the specified limits.

Calculations used to determine concentrations of the analytes for each parameter are included or referenced in each SOP. The calculations involve calibration factors that relate a known concentration to a measured concentration. The units are based on the calibration concentrations that are also defined in each SOP. Raw data and final results are recorded in the analysis logsheet (by the analyst), or the original printed data package from the instrument is retained. The raw results and corresponding quality control results are downloaded or manually entered into the Laboratory Information System (LIMS). The lab supervisor or other data validator reviews the calculated results, ensures that the data is free from transcription and calculation errors and checks the corresponding quality control information (ICB, ICV, CCBs, CCVs, MS/MSDs and RSD/RPD results). If the quality control information is within specified limits and the calculations are correct, the lab supervisor or other data validator validates the records in the LIMS. See the applicable SOP (1020, 1270, 1280 and 1290) for identification of individuals responsible for assessing each QC data type.

Data for pH, temperature, Dissolved Oxygen, Turbidity, ORP and conductivity is read directly from the instrument. All other data must be calculated manually to some degree. It is the responsibility of the analyst to convert raw data into reportable values and the lab supervisor or other data validator to ensure calculations are correct and that quality control checks are within specified limits.

All analysis has its own individual data packet to record analysis, unless computer generated reports are deemed acceptable by the Quality Manager and/or Technical Director. See SOP

1291 Record Retention and Access. Data packets and/or computer-generated reports are maintained by the analysts responsible for performing the analysis and kept in the appropriate area of the laboratory. The data packet contains a cover sheet and a data sheet or sheets to record reagent and standard solution lot numbers. The data packets also contain information on any cleanup or separation procedure, sample ID codes, volumes and weights, if applicable. Problems noted during analysis are documented on the cover sheet of the data packet or computer generated report.

All raw data must be either retained in hard copy format and/or scanned to PDF and is maintained as described in Section 5 "Control of Records".

21.5.3 Data Review Procedures

Data review procedures are located in Section 26.4 – "Data Review".

Section 22 - CALIBRATION REQUIREMENTS: Equipment and Instruments
(Section 5.5 of TNI V1:M2 and 1.7.1 of TNI V1:M4)

22.1 General Equipment Requirements

Any equipment procured in the support of tests must be of adequate quality to sustain confidence in the laboratory's tests, as specified by the SOP for each analytical method. Laboratory supervisors are responsible for informing the quality department of new equipment procurements and creating a maintenance log on the LIMS system. Where no independent assurance of the quality of the equipment is available, the equipment must be shown to produce acceptable results for the test method, within quality control limits of the test, before onset of sample analysis.

See General Equipment Maintenance SOP1210 for details on performance and documentation of equipment maintenance, inspection and cleaning. Manuals provided by the manufacturer of the equipment provide information on use, maintenance, safe handling and storage of the equipment. Any item of equipment subjected to overloading or mishandling which gives questionable results, or has been shown by verification or otherwise to be defective, shall be taken out of service. That equipment shall be clearly identified with a sign stating "OUT OF SERVICE" and wherever possible, stored in the rear storage area until it has been repaired and shown by calibration, verification or test to perform satisfactorily. The laboratory shall examine the effect of this defect on previous calibrations or tests. If it is shown that previous tests are affected, then procedures for nonconforming work are followed and results are documented (see Section 11 – "Control of Nonconforming Environmental Testing Work" and Section 13 – "Corrective Action"). The laboratory shall maintain documentation of all maintenance, calibration and instrument operation activities.

Proper instrument maintenance is essential to the success of any analytical laboratory. Teklab's policy is to include instrument troubleshooting and maintenance as standard training for its analysts. Analysts gain a more thorough understanding of the analytical methodology

and produce higher quality analytical results when they are capable of solving problems associated with instrument operation. Teklab employs service agreements and/or onsite/offsite service support to supplement our maintenance program whenever the analytical instrumentation requires expertise beyond our capabilities or safety concerns dictate the use of individuals with specialized training.

All instruments must be clearly labeled with unique identification (e.g. Milestone MPR-600/6S, Microwave 1).

Equipment is operated only by authorized and trained personnel (see Section 18 – "Personnel"*)*.

Test equipment, including hardware and software, are safeguarded from adjustments that would invalidate the test result measurements by limiting access to the equipment and using password protection where possible (see Sections 21.6 – "Control of Data" and 5.2 "Records Management and Storage").

Each item of equipment and software used for testing and significant to the results is uniquely identified. Records of equipment and software are maintained and include the following:

a) identity of the equipment and its software;

b) manufacturer's name, type identification, serial number or other unique identifier;

c) checks that equipment complies with specifications of applicable tests;

d) current location;

e) manufacturer's instructions, if available, or a reference to their location;

f) dates, results and copies of reports and certificates of all calibrations, adjustments, acceptance criteria, and the due date of next calibration;

g) maintenance carried out to date; documentation on all routine and non-routine maintenance activities and reference material verifications;

h) any damage, malfunction, modification or repair to the equipment;

See Section Appendix F for a current list of Teklab equipment.

The laboratory documents and maintains records, whether hard copy or electronic, of instrument and equipment calibrations, including at a minimum:

- Calibration procedures, calibration frequency, calibration acceptance criteria;
- Procedures to label all calibration curves, including the date, approved test method, analyte, standard concentrations, and instrument response; and
- Procedures to label the axes of the calibration curve.

For electronic data processing systems, which automatically compute the calibration curve, the system records the equation for the curve and correlation coefficient. Laboratory personnel record correlation coefficient when the calibration curve is prepared manually.

See Section 5 of this manual for more information on Control of Records.

22.2 Support Equipment

The laboratory has equipment that is applicable to its accreditation**.**

Support Equipment includes, but is not limited to: balances, ovens, refrigerators, freezers, incubators, temperature measuring devices, and volumetric dispensing devices.

Before being placed into service, support equipment shall be calibrated or checked to establish that it meets the laboratory's specification requirements and complies with the relevant standard specifications. All support equipment is maintained in proper working order. Records are kept for all repair and maintenance activities, including service calls. Balances are calibrated annually by a member of the Quality Department. Records of calibrations are stored in the Quality Folder on the Teklab server.

All raw data records, where applicable, are retained to document equipment performance. These records include logbooks, data sheets, or equipment computer.

See SOP1210 for more information.

22.2.1 Support Equipment Maintenance

Regular maintenance of support equipment, such as balances is conducted at least annually. Maintenance on other support equipment, such as ovens, refrigerators, and thermometers is performed on an as needed basis.

Records of maintenance to support equipment are documented in Instrument Maintenance Logs located in the LIMS or hard copy maintenance logbooks.

22.2.2 Support Equipment Calibration

Relevant SOPs:
SOP 1180 - Balance use, maintenance and calibration
SOP 1190 - Auto Pipet and Syringe use, maintenance and calibration
SOP 1200 - Dessicant maintenance
SOP 1210 - General Equipment Maintenance
SOP 1220 - Thermometer use, maintenance and calibration.
SOP 1230 - Refrigerator and freezer use, maintenance and calibration.
SOP 1240 - Oven use, maintenance and calibration.

All support equipment is calibrated or verified at least annually over the entire range of use, using a National Metrology Institute traceable reference, such as NIST, when available. Note: If the temperature measuring device is used over a range of 10°C or less, then a single point verification within the range of use is acceptable.

The results the calibration of support equipment is within specifications, otherwise:

- equipment is removed from service until repaired
- records are maintained of correction factors to correct all measurements. If correction factors are used this information is clearly marked on or near the equipment.

Support equipment such as balances, ovens, refrigerators, freezers, and water baths are verified with a recognized National Metrology Institute traceable reference, such as NIST, when available, on each day of use, to ensure operation is within the expected range for the application for which the equipment is to be used. Acceptance criteria can be found in the applicable calibration SOP.

The laboratory identifies each refrigerator, freezer, thermometer, oven, and incubator in a way that establishes their use and distinguishes them from other similar equipment in the laboratory.

Volumetric dispensing devices (except Class A glassware and Glass microliter syringes) are checked for accuracy on a quarterly basis.

The laboratory checks the calibration of infrared thermometers at least quarterly against a recognized National Metrology Institute traceable reference thermometer, such as NIST, when available. The comparisons are made at the temperature at which the thermometer will be used.

The laboratory shall monitor and control method specific temperature requirements for incubators, heating blocks and water baths each day of use. The laboratory maintains documentation of the results.

The calibration temperatures of laboratory hot blocks used for digestion are checked at least annually and after repairs. When digital readout is in units other than temperature, correlation of the digital readout to the temperature required for the test is documented. Temperature or digital readout is documented each day of use.

Laboratory personnel calibrate turbidimeters on a daily basis or before each use, whichever is less frequent, pursuant to section 5.2.1 of “Manual for the Certification of Laboratories Analyzing Drinking Water”.

See applicable calibration SOPs for more information. See Sections 4 “Document Control” and 5 “Record Control” for details regarding documentation.

A pH meter having the accuracy of at least +/- 0.05 pH units and a scale readability of at least 0.01 pH units must be used for pH analysis.

A conductivity meter with an error not exceeding 1% or one μmhos/cm, whichever is greater, must be used by the laboratory.

All glassware used for purposes that may subject it to damage from heat or chemicals shall be of borosilicate glass. All volumetric glassware used for standard preparation shall be ASTM class A.

Teklab uses Class S or NVLAP approved certified weights to calibrate balances. The laboratory re-certifies its reference weights at least once every five years. Other laboratory weights are calibrated annually by a member of the Quality Department. Records of the calibrations are stored in the Quality Folder on the Teklab Server.

The laboratory ensures that the reference thermometer is calibrated at least once every five years.

22.3 Analytical Equipment

22.3.1 Maintenance for Analytical Equipment

All equipment is properly maintained, inspected, and cleaned. Maintenance of analytical instruments and other equipment may include regularly scheduled preventive maintenance or maintenance on an as-needed basis. Instrument malfunction is documented in the LIMS, which become part of the laboratory's permanent records.

22.4 Instrument Calibration

Initial instrument calibration and continuing instrument calibration verification are an important part of ensuring data of known and documented quality. Generally, procedures and criteria regarding instrument calibrations are provided or referenced in the individual SOPs. Also see 1000 series SOP 1215 "Instrument calibration".

If more stringent standards or requirements are included in a mandated method or by regulation, the laboratory shall demonstrate that such requirements are met. If it is not apparent which Standard is more stringent, then the requirements of the regulation or mandated method are to be followed.

Section 23 – Standards and Reagents

(TNI V1:M2 – Section 5.6)

Measurement quality assurance comes in part from traceability of standards to certified materials.

All equipment used that may affect the quality of test results are calibrated prior to being put into service and on a continuing basis (see Section 22 "Calibration Requirements"). These calibrations are traceable to national standards of measurement where available.

If traceability of measurements to SI units is not possible or not relevant, evidence for correlation of results through interlaboratory comparisons, proficiency testing, or independent analysis is provided.

23.1 Reference Standards

Reference standards are standards of the highest quality available at a given location, from which measurements are derived (e.g. ASTM Class 1 weights, recognized National Metrology Institute traceable reference thermometers).

Reference Standards, such as ASTM Class 1 weights, are used for calibration only and for no other purpose. Reference standards, such as ASTM Class 1 weights, are calibrated by an entity that can provide traceability to national or international standards. The following reference standards are sent out to be calibrated to a national standard as indicated in Section 22 – "Calibration Requirements"

23.2 Standards and Reagents

Reference materials, where commercially available, are traceable to national standards of measurement, or to Certified Reference Materials, usually by a Certificate of Analysis.

Upon receipt, all reagents and standards shall be inspected, receipt dated, initialed, the lot number shall be recorded and an expiration date shall be assigned. No reagents or standards shall be used beyond their expiration date without verification of their continued validity.

The laboratory shall retain records for all standards, reagents, reference materials, and media, including the manufacturer/vendor, the manufacturer's Certificate of Analysis or purity (if available), the date of receipt, and recommended storage conditions.

All reagents and standards shall be of adequate quality to sustain confidence in the laboratory's test, as specified by the SOP for each analytical method. Laboratory supervisors are responsible for scanning and linking all Certificates of Analysis of standards into Teklab LIMS. Where no independent assurance of the quality of reagents or standards is available, the standard or reagent must be shown to produce acceptable results for the test method, within quality control limits of the test, before onset of sample analysis. See SOP1250 "Reagents and Standards" for more information.

23.3 Transport and Storage

The laboratory handles and transports reference standards and materials in a manner that protects the integrity of the materials. Reference standard and material integrity is protected by separation from incompatible materials and/or minimizing exposure to degrading environments or materials.

Reference standards and materials are stored according to manufacturer's recommendations, method SOP requirements and separately from samples.

23.4 Labeling

The laboratory has procedures for purchase, receipt and storage of standards, reagents and reference materials. Purchase procedures are described in Section 7 – "Purchasing Services and Supplies".

All containers of prepared standards and reagents are labeled with a unique identification number (using the LIMS identification system) and an expiration date (where applicable). This information is documented in the LIMS and all records retained.

23.4.1 Stock Standards and Reagents

The laboratory retains records supplied by the manufacturer/vendor, which include the manufacturers' Certificate of Analysis or purity for standards, the date of receipt, recommended storage conditions and an *expiration date after which the material shall not be used unless its reliability is verified by the laboratory. These documents are retained for the same length of time as that required for the retention of documentation associated with the analytical results for which the standards or reagents were used.

If reference materials cannot be purchased with a Certificate of Analysis, the laboratory produces evidence of correlation of results through the analysis of a sample of known concentration which is traceable to national standards (proficiency testing), independent analysis or use of a suitable interlaboratory comparison.

Records shall include:

- the manufacturer/vendor name (or traceability to purchased stocks or neat compounds)
- the manufacturer's Certificate of Analysis or purity (if supplied)
- the date of receipt
- recommended storage conditions

This information is logged into the applicable section of the LIMS. Certificates of Analysis for Standards are scanned and linked to the LIMS by the applicable department or a member of the quality department.

In methods where the purity of reagents is not specified, analytical reagent grade is used. If the purity is specified, that is the minimum acceptable grade**.** Purity is verified and documented according to Section 7 – "Purchasing Services and Supplies".
*If the original container does not have an expiration date provided by the manufacturer or vendor, it is not required to be labeled with an expiration date.

23.4.2 Prepared Standards and Reagents

Preparation of standard solutions are documented to include; date of preparation, expiration date (expiration of the standard shall not exceed the preparation date of the parent standard or stock solution, unless reliability is verified by the laboratory), concentration of the parent standard or

stock solution, concentration of standard working solution and the initials of the person preparing the solution. All standard solutions are prepared using class A or equivalent glassware and analytical balances. Standard concentrations (or a dilution thereof) are checked using an independent reference standard.

Reagent purity is checked through the use of Laboratory Control Blanks. Any contamination discovered in a reagent will be noted and that lot of reagent shall not be used.

The laboratory documents and maintains records concerning the receipt, use and traceability of analytical reagents and standards, including at a minimum:

- Verification of standards traceable to national standards. If traceability to a national standard is not possible, the lab demonstrates by appropriate means (e.g. analyses of PT samples) that the instrumentation/equipment is properly calibrated;
- Certificate of the origin, purity and traceability of all standards. These records include the date of receipt, storage conditions, and the date of opening.
- Procedures to ensure the traceability of working and intermediate standards to purchased stock standards or neat compounds which include the date of preparation and preparer's initials; and
- Procedures to clearly identify all prepared reagents and standards, including preparation date, concentrations, and preparer's initials;

See Section 5 of this Quality Manual for more information on control of records.

Section 24 - COLLECTION OF SAMPLES

(TNI V1:M2 – Section 5.7)

Regardless of the laboratory's level of control over sampling activities, all the requirements of this section are essential to ensure sample integrity and valid data and shall be followed by the laboratory. Sampling performed by Teklab, Inc. is governed by SOP 1150. Field sampling and any laboratory sub-sampling necessary to obtain sample aliquots for testing are covered in SOP 1150.

24.1 Sampling Containers and Kits

The laboratory offers clean sampling containers and kits for use by clients.
See the following Teklab SOPs for more information:
1081 Sample Kit Preparation
1083 5035 Sampling Kit Preparation
1090 Landfill Sample Bottles

24.2 Sampling Plan

The laboratory uses sampling plans provided by clients or prepared in consultation with the client. The plan must include any factors that must be controlled to ensure the validity of the test. Sampling plans and written sampling procedures are used for sampling substances, materials or products for testing. The plan and procedures are made available at the sampling location.

The laboratory's procedures for dealing with non-conformances are used when the client requests any deviations from the sampling plan or sampling procedures. Where the customer requires deviations, additions or exclusions from the documented sampling procedure, these shall be communicated to the appropriate personnel. The requests are documented and included in the final test report.
See the following Teklab SOPs for more information:
1150 Sampling Instructions
1151 Groundwater Sampling

Section 25 – Sample Receipt and Storage

(TNI V1:M2 – Section 5.8 and Section 1.7.4 of TNI V1:M4)

This section applies to samples received by Teklab and will be used to guide clients in sampling requirements specified in the "Federal Register, 40 CFR Part 136, Table II". Teklab does not reuse sample containers at this time except for air. See SOP 6000 SiloniteTM canisters for cleaning procedures for air containers.

25.1 Sample Receipt

When samples are received at the laboratory, the chain-of-custody is reviewed, the condition is documented, samples are given unique identifiers, and they are logged into the sample tracking system.

25.1.1 Chain of Custody

A customer service specialist or their designated representative indicates receipt of samples by signing the accompanying custody form. The supervisor or project manager reviews the signed form. The original signed custody form becomes part of the final data package that is reported to the client. The laboratory scans and files a copy of the signed custody form along with the final report as a permanent record of the sample receipt.

25.1.2 Legal/Evidentiary Chain of Custody

The laboratory has procedures for legal chain of custody services. If samples are noted as being used for legal/evidentiary purposes, special chain of custody procedures are put into place by the laboratory. See SOP1065 "Legal or Evidentiary Custody" for more information.

25.2 Sample Acceptance

Procedures for opening shipping containers and examining samples are provided in SOPs 1110 "Sample Pickup and Delivery" and 1070 "Sample Acceptance".

Teklab has a sample acceptance policy that is made available to sample collection personnel (See SOP 1070 Sample Acceptance). It emphasizes the need for use of water resistant ink, providing proper documentation (to include sample ID, location, date and time of collection, collector's name, preservation type, sample type and any special remarks about the sample), labeling of sample containers to include a unique sample ID, use of appropriate containers, adherence to holding times, and sample volume requirements. In addition, the laboratory has nonconformance/corrective action procedures to handle samples that do not meet the requirements above or show signs of damage, contamination or inadequate preservation. Data will be appropriately qualified where samples are reported that do not meet sample acceptance requirements.

On sample receipt, the laboratory checks for the conditions above and logs the applicable information into the LIMS Sample Checklist. This checklist becomes part of the final report. Criteria regarding preservation, holding time and sample volume requirements can be found in 1000 series SOP Appendix B

If these conditions are not met, the laboratory follows SOP1070 and the client is contacted prior to any further processing, then

1) the sample is rejected as agreed with the client,
2) the decision to proceed is documented and agreed upon with the client,
3) the condition is noted on the Chain of Custody form and/or lab receipt documents, and;
4) the data are qualified in the case narrative or sample checklist of the final report.

25.2.1 Preservation Checks

See 1000 series SOP Appendix B for information on preservation requirements.

25.3 Sample Identification

The customer service specialists use LIMS to maintain an electronic log book to record, for each sample, the person delivering the sample, the person receiving the sample, the date and time received, source of sample, sample identification and a unique laboratory ID code. The laboratory ID code is used as the link that associates the sample with the field ID code, the date and time of sample collection, the date and time of sample receipt, the requested analysis (including applicable approved test method numbers), any comments resulting from inspection for sample rejection, and other related laboratory activities. The laboratory ID code is transferred to all sub-samples, extracts, and digestates. This ID shall be retained throughout the life of the items in the laboratory. The custodians document the condition of the sample upon receipt (i.e. unsealed, broken container, etc.). A standardized format is used for the electronic log-in book.

Each sample container is identified by affixing a durable label which specifies the unique LIMS generated laboratory ID code for each container. The LIMS generated laboratory ID code includes the work order number, the lab number and the container identifier.

A work order number is generated by the LIMS system. The first two digits in the work order number indicate the year the sample was received by the laboratory, the third and fourth digit indicate the month received, the remaining four digits indicate the consecutive COC number for the month. Following the work order number, LIMS generates a consecutive lab number for each sample on the COC preceded by a dash. The lab number is followed by a letter to uniquely identify each sample fraction received. When 2 containers or vials are received for the sample fraction, the bottle labels are numbered (i.e. 1 of 2, 2 of 2) so that the analyst can document from which sample container or vial any sub-sample was taken.
All documentation received regarding the sample, such as memos or chain of custody, are scanned and retained with the final report on the Teklab Inc Server.

25.4 Sample Aliquots / Subsampling

In order for analysis results to be representative of the sample collected in the field, the laboratory has subsampling procedures. See SOP1150 for more information.

25.5 Sample Storage

Clean, dry, isolated cabinets and/or refrigerators that can be securely locked from the outside are designated as a "sample storage security areas". In the ~~Teklab Air Laboratory, and the~~ Kansas, Downers Grove and Springfield Service Centers, the entire facility is considered secure. The laboratory limits access to authorized laboratory personnel only. During operating hours, all samples remain in the laboratory secure areas. During non-operating hours, all samples are locked in the storage refrigerators or cabinets in the laboratory secure areas. The laboratory controls and documents access to all samples and sub samples designated as litigation samples by the client. Details can be found in SOP 1065 “Legal or Evidentiary Custody “.

The client must inform the laboratory of any heat-sensitive, light-sensitive, radioactive, or other sample materials having unusual physical characteristics or that require special handling. The custodian shall ensure samples are properly stored and maintained prior to analysis.

The custodian distributes samples to the laboratory supervisor or the appropriate laboratory cooler (or his or her representative) responsible for the lab analysis. Sample transfers within the laboratory are monitored by a sample custodian using the LIMS sample tracking system. Where possible, distribution of samples to the analyst performing the analysis must be made by the custodians.

Laboratory personnel are responsible for the care and custody of the sample once they receive it. They must be prepared to testify that the sample was in their possession and in view or secured in the laboratory at all times from the moment it was received from the custodian, until the completion of the analysis.

Drinking water Bacteria samples are delivered to the Microbiology laboratory immediately upon receipt. They are then logged into the LIMS, prior to analysis. Aqueous and solid samples to be analyzed for Fecal Coliform are stored separately from potable water samples.

The laboratory provides sample storage facilities that prevent cross-contamination of samples and meet the conditions specified by preservation protocols. Samples are stored away from all standards, reagents, food and other potentially contaminating sources. Sample fractions, extracts, leachates and other sample preparation products are stored according to this section, SOP1120 or according to specifications in the approved test method. The laboratory verifies that cross-contamination between samples has not occurred through the examination of storage areas or through the review of analytical data on laboratory blanks that are stored with samples.

Once the sample analyses are completed, the unused portion of the sample, together with all identifying labels, must be returned to the custodian. The returned, tagged sample/s should be retained in the custody room for a period of 30 days for aqueous and drinking water samples and no less than 2 weeks for solids and special wastes. Solids and special wastes are transferred to a storage shed where they are held for an additional 4 weeks when more room is needed in the walk in cooler (unless otherwise requested by the client). Volatile air samples are retained for three days after the final report is issued to the client and then disposed of. Litigation samples are retained until permission is given from the proper authority (See SOP1065 “Legal or Evidentiary Custody” for more information on Litigation Samples).

See SOP1120 “Sample Storage, Retention and Disposal” for more information.

25.6 Sample Disposal

Teklab complies with all applicable federal, state and local laws concerning the handling and disposal of hazardous waste. Teklab also complies with all applicable laws concerning the generation of air pollutants. All laboratory samples are disposed of according to Federal, State and local regulations. Procedures are described in SOP1120 “Sample Storage, Retention and Disposal” and SOP1130 “Waste Disposal” for the disposal of samples, digestates, leachates, and extracts. Records for sample disposal are kept indefinitely

25.7 Sample Transport

Samples that are transported under the responsibility of the laboratory, where necessary, are done so safely and according to storage conditions. This includes moving bottles within the laboratory. Appropriate DOT shipping instructions will be available to clients upon request. Specific safety operations are addressed outside of this document.

Sample shipping procedures are described in SOP 1100 Subcontracting and Shipping.

Section 26 - QUALITY ASSURANCE FOR ENVIRONMENTAL TESTING

(TNI V1:M2 – Section 5.9 and Section 1.7.2 and 1.7.3 of TNI V1: M4)

26.1 DEFINITIONS

Quality Control Indicators (QCI); such as Trip Blanks (TB), Duplicates (Dup), Initial Calibration Verification (ICV), Continuing Calibration Verification (CCV), Laboratory Control Blanks (LCB), Laboratory Control Samples (LCS), Standard Reference Materials (QC sample) and Matrix Spikes/Matrix Spike Duplicates (MS/MSD) will be analyzed to assess the quality of the data resulting from the field sampling program and in-house analysis.

Trip blanks (Equipment Blanks):

A trip blank is used to identify contamination from transport, shipping and site conditions. Trip blanks are analyte-free water taken to the field and returned to the laboratory unopened for analysis, to determine if contamination has occurred. Equipment blanks are used to identify contamination from sampling procedures. Equipment blanks are opened in the field, poured appropriately over or through the sample collection device and brought in for analysis to determine if contamination has occurred.

Field Blanks:

A Field Blank is exposed to the same field conditions as the sample, opened in the field. Its purpose is to assess the potential for field contamination.

Duplicate samples:

Analyzed to check for sampling and analytical reproducibility. Field duplicates are taken during sample collection. Internal duplicates are analyzed in the laboratory by splitting the sample and analyzing each split as an independent sample. See applicable SOP for frequency of matrix spike duplicates by analysis.

LCB (laboratory control blanks) or **MBLK** (method blanks):

A LCB is used to check contamination in the laboratory and is taken through the entire analytical procedure. The method blank consists of a matrix that is similar to the associated samples and is known to be free of the analytes of interest. These samples are used to verify the purity of all chemicals and reagents used in the methodologies and to prove the absence of contamination during the analytical procedure.

LCS samples (Laboratory control samples)**:**

The LCS is prepared from a matrix that is similar to the associated samples known to be free of the analytes of interest and spiked with known and verified concentrations of analytes. This sample is then taken through the entire analysis to determine batch acceptance.

QC samples:

QC samples are purchased from an independent source to verify analytical procedures and calibrations. All QC samples must be NIST traceable reference materials, when available.

If a QC sample is not taken through the entire sample preparation procedure and is used for calibration verification (ex. GFAA), a LCS which has been taken through the entire procedure must also be analyzed.

Matrix spikes:
These provide information about the effect of the sample matrix on the preparation and measurement methodology. All matrix spikes and matrix spike duplicates are hereafter referred to as MS/MSD samples. These samples are always run with another aliquot of the sample that is not spiked. Spiking a sample tells us what effect the sample matrix (i.e. aqueous, solid, non-aqueous liquid) has on the parameter being measured. Sometimes the sample matrix will hide a parameter; a matrix spike will help identify this effect by showing a low recovery. Because matrix spikes give more information about the sample and its matrix, they are preferred to running duplicates. Some analysis (pH and Temp for example) do not lend themselves to matrix spikes very easily, therefore some analysis does not use matrix spikes (inorganic/physical analysis only).

Batch:
Environmental samples that are prepared and/or analyzed together with the same process and personnel, using the same lot(s) of reagents.

Prep Batch:
Composed of one (1) to twenty (20) environmental samples of the same quality systems matrix, meeting the above mentioned criteria and with a maximum time between the start of processing of the first and last sample in the batch to be twenty-four (24) hours

Analytical Batch:
Composed of prepared environmental samples (extracts, digestates or concentrates) which are analyzed together as a group. An analytical batch can include prepared samples originating from various quality system matrices and can exceed twenty (20) samples.

TCLP METALS AND ORGANICS**:** Every unique TCLP sample matrix will be run both with and without matrix spikes, under direction of US EPA SW-846. However, as generally accepted laboratory practice, Teklab will not run TCLP matrix spikes on every sample, unless requested by the client. The frequency of matrix spiking (detailed in the applicable SOP) will be followed unless otherwise requested.

NOTE: Some clients may request specific types of quality control analysis. Those instances will be handled on a case-by-case basis.

26.2 Essential Quality Control Procedures

Teklab Inc has procedures for monitoring the validity of the testing it performs. The qualities of test results are recorded in such a way that trends are detectable, and where practicable, are statistically evaluated. To evaluate the quality of test results, the laboratory utilizes various evaluation aids such as certified reference materials, proficiency testing samples and control charting.

Quality control data are analyzed and when found to be outside pre-defined criteria, action is taken to correct the problem and to prevent incorrect results from being reported. Data associated with quality control data outside of criteria and still deemed reportable will be qualified so the end user of the data may make a determination of the usability of the data - see Section 27 – “Reporting of

Results". Laboratory personnel follow the quality control procedures specified in test methods. Where multiple control procedures are offered, and it is not clear which is the most stringent, that mandated by the test method or regulation is followed.

Teklab utilizes the quality control procedures set forth in this section if the approved test method does not specify any quality control procedures or the quality control procedures contained in the approved test method are less stringent.

Teklab assesses and evaluates the results of all quality control procedures on an on-going basis.

A) Written procedures to ensure that all results from all quality control procedures are reviewed and the decision made to accept, reject, or qualify sample data before the data is reported.
B) Written criteria for accepting, rejecting, or qualifying sample data based on each quality control procedure.
    i) Teklab uses the acceptance criteria contained in the approved test method for evaluating the results of each of the quality control procedures and for accepting, rejecting, and qualifying sample data.
    ii) If the approved test method does not specify the criteria for evaluating the results of each of the quality control procedures and for accepting, rejecting, and qualifying data, Teklab establishes written criteria.
C) If a quality control procedure results in the laboratory rejecting or qualifying sample data, the laboratory may implement corrective actions. When analyzing reference materials, the laboratory uses the acceptance criteria supplied by the manufacturer.
D) The laboratory completes corrective actions and maintains written records as required in Section 5 of this manual.

Written procedures to monitor routine quality controls including acceptance criteria are located in the test method SOPs, except where noted, and may include such procedures as:

- use of laboratory control samples and blanks to serve as positive and negative controls for chemistry methods;
- use of laboratory control samples to monitor test variability of laboratory results;
- use of calibrations, continuing calibrations, certified reference materials and/or PT samples to monitor accuracy of the test method;
- measures to monitor test method capability, such as limit of detection, limit of quantitation, and/or range of test applicability, such as linearity;
- use of regression analysis, internal/external standards, or statistical analysis to reduce raw data to final results;
- use of reagents and standards of appropriate quality and use of second source materials as appropriate;
- procedures to ensure the selectivity of the test method for its intended use;
- measures to assure constant and consistent test conditions, such as temperature, humidity, etc., when required by test method;

26.3 Internal Quality Control Practices

Analytical data generated with QC samples that fall within all prescribed acceptance limits indicate the test method is deemed to be in control.

QC samples that fall outside QC limits indicate the test method are is out of control (nonconforming) and that corrective action is required and/or that the data should be qualified (see Section 11 – "Control of Nonconforming Environmental Testing Work" and Section 13 - "Corrective Actions").

Detailed QC procedures and QC limits are included or referenced in test method standard operating procedures (SOPs), or where unspecified in the SOPs, are detailed in the method.

See applicable SOP for Duplicate and Matrix Spike concentrations and frequency.

26.3.1 General Controls

Teklab follows the quality control procedures and quality control indicators (QCI) specified below:

Laboratory Control Blank (LCB)

A minimum of 1 laboratory control blank (LCB) is analyzed with each preparation batch of environmental samples and carried through the entire analytical process. LCBs are not required for approved test methods, including but not limited to: pH, temperature and conductivity, for which method blanks are not appropriate. For analysis in which no separate preparation method is used, LCBs are prepared at the beginning each batch and once every 20 samples in between.

A) A batch of drinking water sample data meets the requirements of this section only when the method blank does not contain an analyte of interest at a concentration greater than the MDL.

B) A batch of environmental sample data, except for drinking water sample data, meets the requirements of this section when the method blank does not contain an analyte of interest at a concentration greater than the highest of the following:
   i) The MDL or PQL whichever the client requires for the reporting limit
   ii) 10% of the regulatory limit for that analyte, or
   iii) 10% of the measured concentration for that analyte in any environmental sample in the batch.

C) The provisions of subsection 26.2.1 Laboratory Control Blank(B) do not apply in those instances where the method blank criteria have not been met and there are non-detect results for the corresponding analyte in the environmental samples associated with the method blank. In such instances, the non-detect results may be reported with a comment in the sample narrative.

D) The following corrective actions are to be taken when (26.2.1 Laboratory Control Blank) (A), (B), or (C) above are not met:
   i) The run of analysis is terminated (and no sample results are reported);
   ii) The source of the contamination is identified, eliminated and documented;
   iii) The samples are reanalyzed and results are reported only after the conditions of (26.2.1 Laboratory Control Blank) (A), (B) or (C) above are met.
   iv) If corrective actions cannot be taken (i.e. insufficient sample), the results may be reported with the appropriate qualifiers.

Matrix spikes (MS)

Matrix Spikes are performed at a rate of one per 20 or fewer environmental samples per matrix type, per sample extraction or preparation procedure.

A) The laboratory utilizes the spiking analytes specified in the approved test method, except when the approved test method indicates that all method analytes are to be matrix spiked. In such cases the laboratory shall spike the target analytes for the sample or any client requested analytes.

B) If there are no specified spiking analytes, the laboratory spikes per the following:
   i) For those components that interfere with an accurate assessment such as spiking simultaneously with technical chlordane, toxaphene and PCBs, the spike or spikes are chosen that represent the chemistries and elution patterns of the components to be reported.
   ii) For those test methods that have extremely long lists of analytes, a representative number are chosen using the following criteria for choosing the number of analytes to be spiked.
      a. For methods that include 1-10 targets, all components are spiked;
      b. For methods that include 11-20 targets, at least 10 or 80%, whichever is greater are spiked;
      c. For methods with more than 20 targets, 16 or more components are spiked.

C) The laboratory selects samples on a rotating basis to receive matrix spike analysis from among various client samples, waste streams, monitoring locations and other applicable locations. Matrix spikes are selected randomly, unless specified by the client.

D) Matrix spikes are not required for approved test methods in which materials for matrix spiking are not available, including but not limited to: total suspended solids, total dissolved solids, total volatile solids, flash point, reactivity, pH color, odor, temperature, dissolved oxygen and turbidity.

E) Matrix spike recoveries are within the acceptance limits when:

i) They are within the limits given in the approved method (when available), laboratory established limits, or those given by laboratory generated control charts, or
ii) The matrix spike concentration is less than 20% of the sample concentration, or
iii) a diluted sample, which is bench spiked, shows a spike recovery within the acceptance criteria given in (F)(i) above. (Note: the reporting limit must be elevated by the dilution factor.)

F) The following corrective actions are taken when (F)(i), (ii), (iii) above are not met:
i) The samples are reanalyzed, if necessary, and results are reported only after the conditions of (F)(i), (ii) or (iii) above are met, or
ii) Sample results are qualified, when reporting to customer, as showing adverse matrix effects.

Matrix spike duplicates (MSD)/sample duplicates

MSDs or Sample duplicates are performed at a rate of one per 20 or fewer environmental samples per matrix type, per sample extraction or preparation procedure.

A) Matrix spike duplicates are performed on the same environmental sample chosen for matrix spike analyses.
B) Samples are selected on a routine basis to receive sample duplicate analyses from among various client samples, waste streams, monitoring locations and other applicable locations. Matrix spike duplicates and/or matrix duplicate samples are selected randomly, unless specified by the client.
C) The laboratory documents, as required in section 10 of this manual, the procedure used to select the sample for matrix spike duplicates or sample duplicate analysis.
D) Relative Percent Differences (RPD) are within the acceptance limits when they are within the limits given in the approved method or those given by laboratory generated control charts. The matrix duplicate provides a usable measure of precision only when target analytes are found in the sample chosen for duplication.
E) The following corrective actions are to be taken when (D) above is not met:
i) The sample is reanalyzed, if necessary and results are reported only after the conditions of (D) above are met.
ii) Sample results for matrix spike duplicates or sample duplicates RPD, which do not meet the acceptance criteria of (D), are to be qualified when reporting to the customer as showing adverse matrix effects or problems with the samples composition.

Laboratory control samples (LCS)

LCSs are analyzed at a minimum of one per preparation batch, except for analytes for which spiking solutions are not available such as, total volatile solids, pH, color, odor, temperature, dissolved oxygen or turbidity. In those instances, for which no separate preparation method is used, the batch is defined as environmental samples that are analyzed together with the same method and personnel, using the same lots of reagents, not to exceed the analysis of 20 environmental samples. Air Testing: If a calibration solution must be used for the LCS, the client shall be notified prior to the start of analysis. Also the concentration of the LCS shall be relevant to the intended use of the data and either at a regulatory limit or below it.

A) The laboratory may use the results of these LCS analyses to determine batch acceptance.

B) The LCS is a quality system matrix, known to be free of analytes of interest, spiked with a known and verified concentration of analytes. All analyte concentrations must be within the calibration range of the methods. The components to be spiked shall be as specified by the mandated test method or other regulatory requirement or as requested by the client. In the absence of specified spiking components, the laboratory shall spike per the following:
    i) For those components that interfere with an accurate assessment such as spiking simultaneously with technical chlordane, toxaphene and PCBs, the spike or spikes are chosen that represent the chemistries and elution patterns of the components to be reported.
    ii) For those test methods that have extremely long lists of analytes, a representative number are chosen. The analytes selected shall be representative of all analytes reported. The following criteria shall be used for determining the minimum number of analytes to be spiked.
        a. For methods that include 1-10 targets, all components are spiked;
        b. For methods that include 11-20 targets, at least 10 or 80%, whichever is greater are spiked;
        c. For methods with more than 20 targets, 16 or more components are spiked.

        However, the laboratory shall ensure that all targeted components are included in the spike mixture over a two (2) year period

C) The laboratory may use the matrix spike samples as specified in subsection 26.2.1 Matrix Spikes (A) as a LCS when the matrix spike acceptance criteria are as stringent as the LCS acceptance criteria. However, if the laboratory prepares a LCS, the laboratory shall analyze the LCS and use the results to determine batch acceptance. The laboratory shall not use the analyses of matrix spike samples as specified in subsection 26.2.1 Matrix Spikes (A) to override, ignore, or replace an LCS analysis that fails to meet the acceptance criteria. (If there is insufficient sample for reanalysis and the client is unable to re-sample, the data must be reported to the client with the appropriate qualifiers indicating the QC deviation. In control matrix spike and surrogate recoveries will help support the batch acceptance).

D) The analytes must be obtained from a second source if the LCS is to be used to verify the instrument calibration.

E) LCS recoveries are within the acceptance limits when they are within the limits given in the approved method (when available), laboratory established limits, those given by laboratory generated control charts, or client specified assessment criteria.

F) The following corrective actions are to be taken when (E) above is not met:
    i) The run of analysis is terminated (and no sample results are reported);
    ii) The reason for the unacceptable recovery is identified, eliminated and documented;
    iii) The sample batch is reanalyzed and results are reported only after the conditions of (E) above are met.
    iv) If corrective actions cannot be taken (i.e. insufficient sample), the clients involved are contacted and the samples are recollected or the results are

reported with the appropriate qualifiers, according to the client's instructions.

G) If a large number of analytes are in the LCS, it becomes statistically likely that a few will be outside control limits. This may not indicate that the system is out of control; therefore, corrective action may not be necessary. Upper and lower marginal exceedance (ME) limits determine when corrective action is needed. A ME is defined as being beyond the LCS control limit (3 standard deviations), but within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. Marginal exceedances must be random. If the same analyte exceeds the LCS control limit consecutively, it is an indication of a systemic problem. Marginal exceedance limits can be determined by using the control charting feature in Teklab LIMS. It is the responsibility of the laboratory supervisor utilizing a ME allowance, to monitor the LIMS data and assure random behavior. The number of allowable marginal exceedances is as follows:

1. >90 analytes in LCS, 5 analytes allowed in ME of the LCS control limit;
2. 71-90 analytes in LCS, 4 analytes allowed in ME of the LCS control limit;
3. 51-70 analytes in LCS, 3 analytes allowed in ME of the LCS control limit;
4. 31-50 analytes in LCS, 2 analytes allowed in ME of the LCS control limit;
5. 11-30 analytes in LCS, 1 analytes allowed in ME of the LCS control limit;
6. <11 analytes in LCS, 0 analytes allowed in ME of the LCS control limit.

Surrogates

Surrogate compounds are added to all samples, standards, and blanks whenever possible, when conducting analysis by approved test methods utilizing organic chromatography.

A) The compounds specified are chosen to represent the various chemistries of the target analytes in the method or the measurement quality objectives. They are often specified by the mandated method and are deliberately chosen for their being unlikely to occur as an environmental contaminant. Often this is accomplished by using deuterated analogs of select compounds.

B) The surrogate recoveries are within the acceptance limits when they are within the limits given in the approved method or, if not specified, the limits given by the laboratory generated control charts.

C) The following corrective actions are to be taken when (B) above is not met:

i) If the surrogates are out of control for a method blank or LCS, the associated batch must be evaluated to determine if this affected any of the individual sample results. Any affected samples must be reanalyzed, if possible. If the second run of analysis shows acceptable recoveries, the reason for the initial poor recoveries must be determined, eliminated and documented. The analysis with the acceptable result is to be reported.

ii) Sample results with out of control surrogates must be qualified when reporting to the customer as showing adverse matrix effects.

Teklab monitors tabulations and quality control charts of the results from all quality control indicators via the LIMS

A) For each approved test method, or combination of similar test methods; and

B) For each matrix.

Tabulations, quality control charts or any combination of tabulations and quality control charts of results of quality control indicators include or are linked electronically to the following information:

A) Title;
B) Identification of standard operating procedures (SOP) which requires collection of quality control procedure data;
C) Name of quality control procedure being tabulated;
D) Analytical method;
E) Analyte;
F) Analyte units of measure;
G) Matrix;
H) Fortification concentration;
I) Mean;
J) Standard deviation;
K) Upper control limit (UCL);
L) Lower control limit (LCL);
M) Upper warning limit (UWL);
N) Lower warning limit (LWL);
O) Date of analysis;
P) Sample/QC Sample ID;
Q) Analyst's identification;

References for Minimum QC Requirements:
The individual and overall level of QC effort will be, at a minimum, equivalent to the level of QC effort specified under the NELAP certification program. The level of QC effort for samples not covered by NELAP certification will be, at a minimum, the QC required by the specified test method ("SW-846, Standard Methods for the Examination of Water, Wastewater", or "Methods for Chemical Analysis of Water and Wastewater" EPA 600). The level of QC effort for testing TCLP organic (Volatile, Semi-Volatile and Pesticide/Herbicide and PCB) will conform to Protocols of SW-846.

Accuracy, Precision and Sensitivity of Analysis
The fundamental QA/QC objective with respect to accuracy, precision and sensitivity of laboratory analytical data is to achieve the QC acceptance criteria of the analytical protocols. The accuracy, precision and sensitivity of all parameters are listed or referenced in the individual SOPs

26.4 Proficiency Test Samples or Interlaboratory Comparisons

Laboratory performance is monitored internally through the review of worksheets or batches, examination of analyst techniques, internal blind QC samples and participation in performance evaluation studies (PTs). Examples of this are performance studies from approved TNI PT providers, such as WP, WS, AE and RCRA studies and client provided blind Quality Control studies. These studies are intended to evaluate laboratory performance and help identify problems that might exist.

When a regulatory program has additional PT requirements for FoPTs not covered by the TNI standard, then the laboratory shall follow those requirements.
See Teklab SOP1292 for accreditation requirements, sampling handling and reporting procedures for PT samples.

26.5 Data Review

The laboratory reviews all data generated in the laboratory for compliance with SOP, laboratory and, where appropriate, client requirements. See SOP1290 for information on data review.

26.6 Water Quality

Three water sources are in use at the Teklab, Inc. Collinsville facility: general deionized water, volatiles lab deionized water, and metals lab deionized water.

a. General laboratory deionized water produced by running tap water through an activated carbon filter (tank 1) followed by a cation exchange resin bed filter (tank 2) followed by an anion exchanged resin bed filter (tank 3) followed by two mixed bed resin filter (tank 4 and 5). Tank 5 serves as a backup tank. Tank 4 and 5 are monitored to ensure the resistivity is greater than 1 megohm-cm. An audible alarm will sound if resistivity is less than 1 megohm-cm.

b Volatiles lab deionized water uses general laboratory deionized water as the feed water then passes it through one more activated carbon filter, to remove all trace amounts of organics, then passes through a 0.45µm filter to trap any carbon residue that may leave the carbon filter. This water has a minimum quality of medium water quality.

c. Metals lab deionized water uses general laboratory water as the feed water then passes through a Thermo brand "high capacity" 2 bed resin filter followed by 2 Thermo brand " Ultrapure DI" filters with mixed resin beds. This water passes through an in-line resistivity meter, where all readings are greater than 15 megohm-cm with typical readings of 18megohm-cm. This water meets high quality water specifications.

Section 27 – Reporting the Results

(TNI V1:M2 – Section 5.10)

The result of each test performed is reported accurately, clearly, unambiguously, and objectively and complies with all specific instructions contained in the test method. Laboratory results are reported in a test report that includes all the information requested by the client and necessary for the interpretation of the test results and all information required by the method used. See SOP#1290 for more information on reporting of results.

The laboratory pays particular care and attention to the arrangement of the report, especially with regard to presentation of the sample results and ease of assimilation by the reader. The format is carefully and specifically designed for each type of approved test method carried out, but the headings are standardized as far as possible.

27.1 Test Reports

The laboratory issues sample data or sample result reports accurately and in a manner that is understandable to the recipient. Each test report generated contains the following information (unless the laboratory has a valid reason for not doing so, such as a written agreement with the client).

- Name, address and phone number of the laboratory;
- Name and address of client and project;
- The TNI logo with the phrase "NELAP accredited Laboratory". The laboratory's accreditation number appears on the case narrative page of each report;
- Unique identification of the report (such as work order number) and of each page and identification of the total number of pages. Each page in each section is identified as a number of the total report pages, for example 3 of 10 or 1 of 20.
- Report title, such as "Laboratory Results";
- Description and identification of samples (including client ID code);
- Date of sample receipt, sample collection and sample analysis (time of sample collection, if provided by client, and time of sample preparation (if requested by the client) and analysis, if the required holding time for either activity is less than or equal to 48 hours);
- Approved test method and preparation method utilized, including revision numbers;
- Clear indication of TNI accredited analysis by listing the letters "NELAP" next to each accredited analyte. Analytes that are not NELAP accredited are designated by an asterisk in the certification column. An explanation of the asterisk is also noted in the Definitions section of the final report;
- Due to State specific regulations, OA1/OA2 results will reported showing "IOWA" instead of an asterisk; as IOWA is the primary AB for these methods. IOWA is not a NELAP AB;
- Sample results with any failures or deviations from approved test methods or QC criteria identified in the case narrative, sample narrative, and/or with data qualifiers;
- Signature and name or electronic signature and name, and title of the individuals accepting responsibility for the content of the report and date of issue;
- Clear identification, including the lab name or accreditation number of any sample results that were generated by a subcontracted laboratory;
- A description of the calculations or operations performed on the data, a summary and analysis of the data, and a statement of conclusions drawn from the analysis;
- Identification of the reporting units, such as µg/L or mg/kg;
- A statement that the report shall not be reproduced, except in full, without the written approval of the laboratory, where appropriate;

- Where applicable, a statement to the effect that the sample results relate only to the analytes of interest tested or to the sample as received by the laboratory;
- Where applicable, characterization and condition of the sample;
- Where applicable, reference to sampling procedure and plan; and
- Clear, unequivocal identification of analytical results generated by an approved test method for which the laboratory is accredited.

27.2 Supplemental Test Report Information

When necessary for interpretation of the results or when requested by the client, test reports include the following additional information:

a) deviations from, additions to, or exclusions from the test method, information on specific test conditions, such as environmental conditions, and any non-standard conditions that may have affected the quality of the results, and any information on the use and definitions of data qualifiers;

b) a statement of compliance/non-compliance when requirements of the management system are not met, including identification of test results that did not meet the laboratory and regulatory sample acceptance requirements, such as holding time, preservation, etc.;

c) where applicable and when requested by the client, a statement on the estimated uncertainty of the measurement is available

d) Teklab does not include opinions and interpretations in laboratory reports

e) additional information which may be required by specific methods or client;

f) qualification of results with values outside the calibration range as appropriate.

27.3 Environmental Testing Obtained from Subcontractors

When Teklab must subcontract analysis due to workload, need for further expertise, temporary incapacity, or on a continuing basis, work is placed with a laboratory accredited under NELAP for the test to be performed or with a laboratory that meets the applicable statutory and regulatory requirements for performing the tests and submitting the results of test performed.

All subcontracted analyses and the name of the subcontracted lab are documented in the case narrative of the final report. Any non-NELAP accredited work is designated by an asterisk in the certification column.

The intent to subcontract analysis is specified in the project quote when Teklab intends to subcontract any part of a project. When possible, Teklab will advise the client in writing of any subcontracted analysis.

Teklab maintains a register of all subcontractors that it uses for environmental tests and a record of the evidence of compliance for each. The subcontractors may report their results in writing or electronically. A copy of the subcontractor's report is made available to the client if requested. A record of subcontracted analysis is retained at Teklab and is archived in accordance with this manual. See Section 10 for more information on Subcontracting.

27.4 Electronic Transmission of Results

The laboratory ensures that when clients require transmission of test results by telephone, fax or other means, laboratory personnel follow documented procedures that ensure the requirements of the TNI Standard and associated procedures to protect the confidentiality and proprietary rights of the client are met (see Section 21- "Environmental Methods and Method Validation"). All electronic transmissions are limited to the contracting client and their designated recipients. Any transmission to a third party requires written confirmation by the contracting client.

27.4.1 Electronic Data Deliverables (EDDs)

EDDs are client driven deliverables that can be produced in various file formats; such as text and Excel files. EDDs, when requested by a client, are provided in addition to the final report. EDDs are prepared using Microsoft Access/VBA, which exports the EDD into the file type the client has requested. EDD files are prepared by Project Managers for the client. Teklab's IT Programmer develops the EDD per client request.

Some clients EDDs are developed to use Equis Data Processor (EDP) software to check the EDD file using the client provided format and reference files. The EDP software checks for, amongst other things, formatting errors and valid values. Problematic EDDs are rejected and flagged for specific errors, helping facilitate any corrections before the EDD is sent to the customer. All electronic transmissions follow Section 27.4 above.

27.5 Amendments to Test Reports

Material amendments to a test report after it has been issued are made only in the form of another document or data transfer. All supplemental reports meet all the requirements for the initial report and the requirements of this Quality Manual.

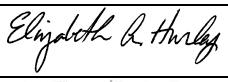
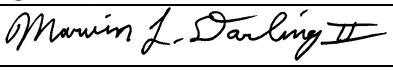
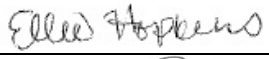
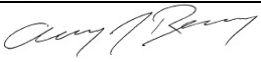
See SOP1290 for more information on revised reports.

27.6 Electronic signatures

Electronic signatures used in LIMS reports are stored securely in the LIMS SQL tables. Electronic signatures used for purposes out with the LIMS (e.g. signing SOPs, Teklab correspondence) should be stored on the users U Drive.

27.7 Report Signatories

Below is a list of parties authorized to release testing results to clients.

Elizabeth Hurley	Director of Customer Service	
Aneta Brynda	Project Manager	
Marvin Darling	Project Manager	
Shelly Hennessy	Project Manager	
Ellie Hopkins	Project Manager	
Aaron Renner	Project Manager	
Paul Schultz	Project Manager	

Section 28 - Safety

Safety is the number one priority of every employee at Teklab, Inc. Teklab trains employees to ensure that no work is performed in an unsafe environment. Where safety practices are included as part of an approved test method, these practices are strictly followed. While more specific safety criteria are not an aspect of this manual, laboratory personnel must always apply appropriate safety practices.

The specifics of the Teklab safety program are detailed in the Teklab Chemical Hygiene Plan and are defined by the Teklab Safety Officer at monthly safety meetings. Teklab complies with and exceeds all applicable OSHA regulations concerning safe laboratory and workplace operations. See SOP 1161 for more information on Safety.

Teklab's Emergency Action Plan (EAP) is reviewed at least annually by the Safety Officer.

Fire/spill drills are conducted annually.

Section 29 - Bibliography

References:

1. The 2016 TNI Standard Volume 1; Management and Technical Requirements for Laboratories Performing Environmental Analysis
2. "Test Method for The Evaluation of Solid Wastes SW846"," Laboratory Manual Physical/Chemical Properties", volumes 1A, 1B, and 1C, 3rd edition, Office of Solid Waste and Emergency Response, Environmental Protection Agency.
3. "Standard Method for the Examination of Water and Wastewater" online.
4. 40 CFR Part 136, Appendix B

Appendix A

Ethics and Data Integrity Policy

Ethics, Legal Responsibility, & Conflict of Interest (Rev. B)

Effective Date: 11/14/05
Reference: TNI Standard – Quality Systems

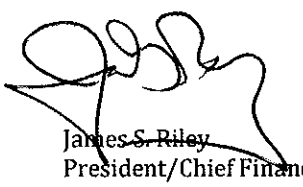
To all Teklab, Inc. Employees, Customers and Vendors,

Teklab, Inc. will not tolerate any improper, unethical or illegal actions by its employees, customers or vendors. No customer, employee or vendor shall enter into any agreement (written or implied) and shall not engage in activities which would put any commercial, financial or other pressure on an employee of Teklab, Inc. which might adversely affect the quality of that employees work. Any employee determined to be involved in such behavior will be disciplined, up to and including termination of employment at Teklab, Inc. Any customer or vendor determined to be involved in such behavior will be sanctioned, up to and including termination of any future business with Teklab, Inc.

Teklab, Inc. will use the following procedures to proactively detect any improper, unethical or illegal actions:
1.) Internal data reviews and audits
2.) Daily interactions of the management staff with employees
3.) Daily interactions with customers and vendors
4.) Confidentiality for individuals reporting potential problems (unless the problem develops to the point where Teklab, Inc. no longer has control (i.e. court orders, etc.))
5.) Internal investigations when employees identify potential problems
6.) External investigations by the appropriate authorities, when necessary
7.) Prosecution when appropriate

All Teklab, Inc. personnel must be free from any commercial, financial and any other pressures that might adversely affect the quality of their work. Teklab, Inc. shall use the following procedures to proactively detect any of those pressures:
1) Daily interactions of the management staff with employees
2) Daily interactions with customers and vendors
3) Confidentiality for individuals reporting potential problems (unless the problem develops to the point where Teklab, Inc. no longer has control (i.e. court orders, etc.))
4) Internal investigations when employees identify potential problems
5) External investigations by the appropriate authorities, when necessary
6) Prosecution when appropriate

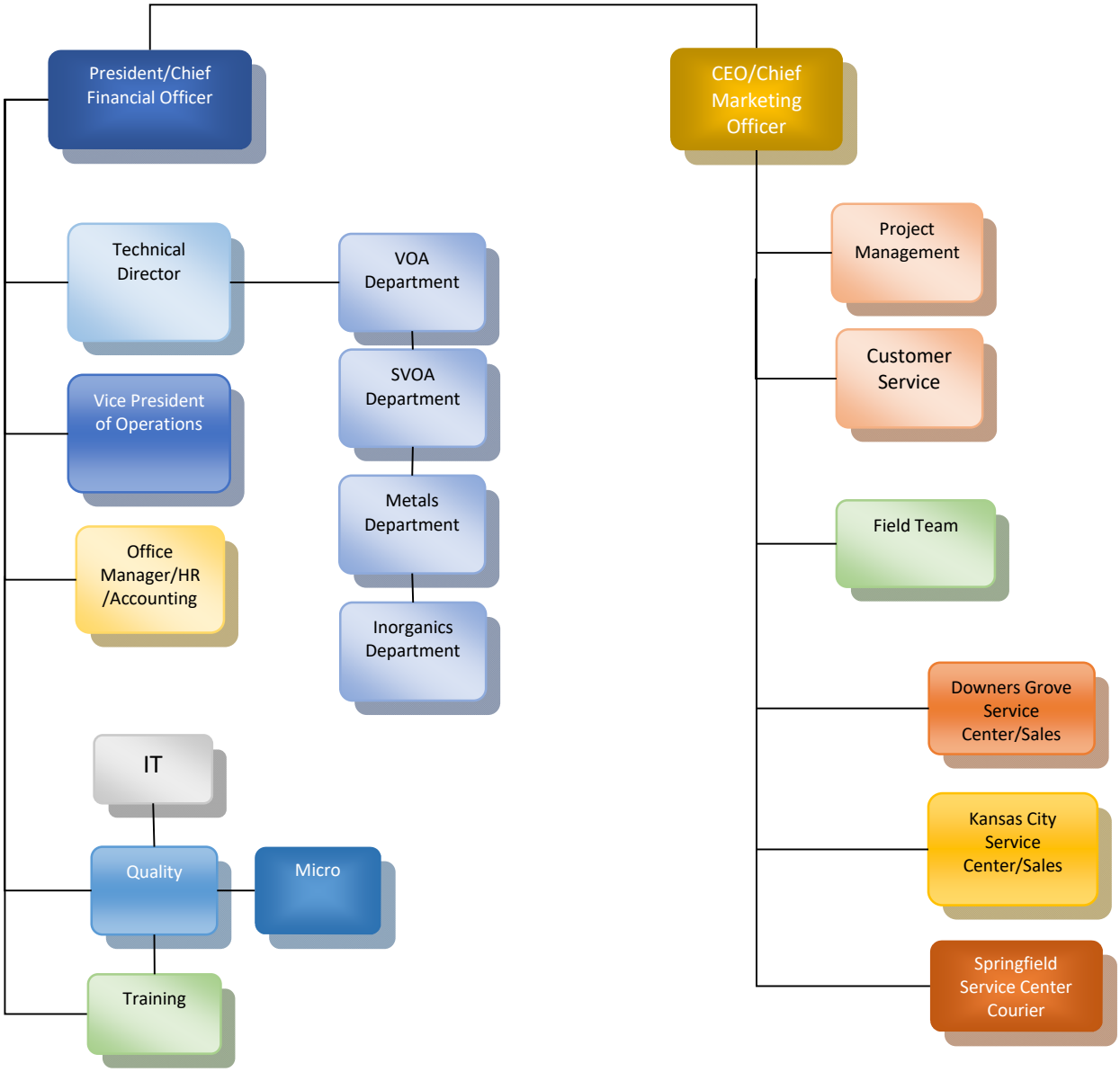
We at Teklab, Inc. take our reputation and the law seriously. We will not tolerate any improper, unethical or illegal actions. We will turn people in to the proper authorities and/or press charges, when appropriate.



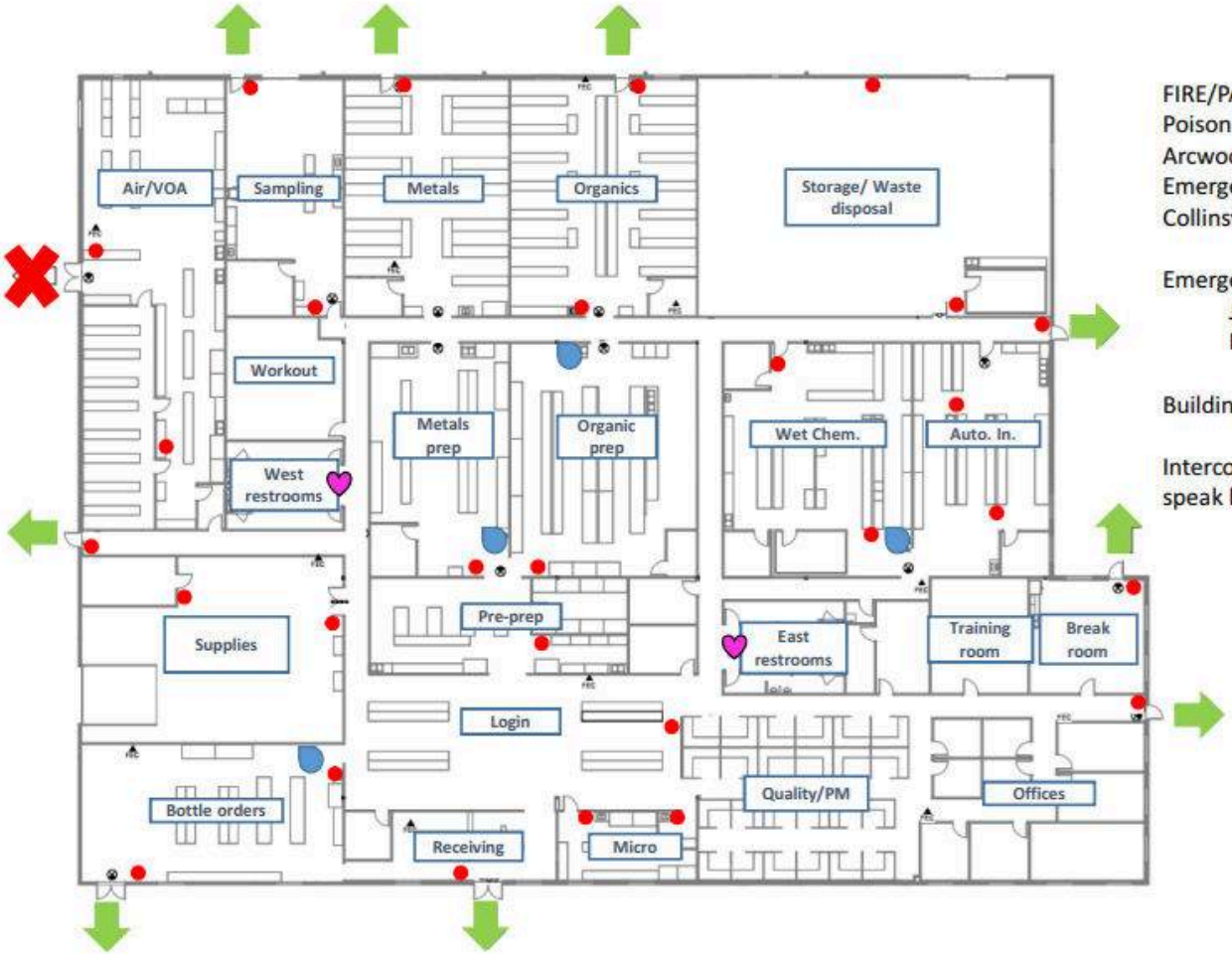
James S. Riley
President/Chief Financial Officer

Appendix B
Laboratory Organization Chart

Teklab Inc.



Appendix C - Laboratory Floor Plan



Emergency Numbers

FIRE/PARAMEDICS/POLICE.....911
Poison Control.....1-800-222-1222
Arcwood/Heritage 24 Hr.
Emergency Response.....1-800-326-1221
Collinsville Police.....618-344-2131

Emergency Coordinator:
Jim Riley.....618-980-0604
Dan Hennessy.....618-975-7507

Building Address: **120 United Dr.**

Intercom instructions: Press Page, pickup handset, speak loudly and clearly.



Appendix D

Laboratory Accreditation/Certification List

Teklab Inc maintains the following certifications and accreditations

State	Dept	Cert #	Accreditation	Exp Date	Location
Arkansas	ADEQ	88-0966	State	3/14/2027	Collinsville
Illinois	IEPA	100226	NELAP	1/31/2027	Collinsville
Illinois (Micro)	IDPH	17584	State	5/31/2027	Collinsville
IOWA	IDNR	430	State	6/1/2028	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2027	Collinsville
Kansas (Field)	KDHE	E-92716	State	1/31/2027	Kansas
Kentucky (UST)	UST	73	State	1/31/2027	Collinsville
Kentucky (WW)	KEEC	KY98006	State	12/31/2026	Collinsville
Kentucky (WW) PFAS	KEEC	KY98050	State	12/31/2026	Collinsville
Louisiana (AIR)	LDEQ	166493	NELAP	6/30/2027	Collinsville
Louisiana (AIR)	LDEQ	166578	NELAP	6/30/2027	Collinsville
Mississippi (PFAS)	MDoH	n/a	State	4/30/2026	Collinsville
Missouri (DW)	MDNR	930	State	1/31/2027	Collinsville
Missouri (Micro)	MDNR	930	State	5/31/2026	Collinsville
Oklahoma	ODEQ	9978	NELAP	12/31/2026	Collinsville

The certificates and parameter lists (which may differ) for each organization can be found on the following pages and on the Teklab Inc website.

If accreditation is terminated or suspended, the laboratory will immediately cease to use the certificate number reference in any way and inform clients impacted by the change.

*Arkansas issued extension letter due to renewal database being down. Application in progress.

Appendix E – Data Qualifiers

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	Illinois Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method.
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system.

Property of Teklab Inc.

MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method.
MW	Molecular weight
NC	Data is not acceptable for compliance purposes
ND	Not Detected at the Reporting Limit
NELAP	NELAP (National Environmental Laboratory Accreditation Program) Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	Reporting limit - the lowest level that the data is displayed in the final report.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound:
TNTC	Too numerous to count (> 200 CFU)

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Appendix F - Instrumentation and Software list

Instrumentation and Software

The following section contains information on the type and number of instrumentation, and computer systems/software packages at Teklab, Inc.

INSTRUMENTATION

Volatile Organic Section

- 7890 Inst. AE 7890 GC - 5975 MS GC US10740014/MS US71216741
- 7890 Inst. AF 7890 GC - 5975 MS GC US10740014/MS US 11077602
- 7890 Inst. AK GC-5975 MS, 7890B - 5975 Turbo CN15333146
- 7890 Inst. AL GC-5975 MS 7890B - 5975 Turbo CN18123020
- 7890 Inst. AM GC-5975 MS 7890B - 5975 Turbo
- 7890 Inst. AN GC-5975 MS 7890B - 5975 Turbo
- Mitsubishi brand AOX-200 analyzer "TOX-3" – 1 each
- Instrument U-Agilent 7890A (GC)/5975C Inert XL(MS) with Entech 7650-M Robotic Auto sampler, and Entech 7200 Sample Preconcentrator
- Instrument AG. 7890A GC – 5977A MS. Model 7890/5977. GC CN10111023/MS US1517N504 with Entech 7650-M Autosampler and Entech 7200 Preconcentrator
- Entech 4600A Dynamic Diluter
- Entech 3100A Canister Cleaner system with Thermo Scientific Oven
- 3100D Canister Cleaning System
- Labconco 3955200 Fume Absorber
- Entech 4700 Precision Diluter

Organic Section

- Instrument AA - 6890 Series II GC - 5973N MS with 6890 Series Injector
- Instrument AB - 6890 Series II GC - 5973N MS with 6890 Series Injector
- Instrument AC – 5890 Series II GC – FID with 7673 Series Injector
- Instrument AD - 7890 GC - 5975 MS with 7683 Injector
- Instrument AO - 7890 GC-5975 MS Turbo with Gerstel MPS
- Instrument AH – 8860 GC – Dual ECD with 7693 Injector
- Instrument AI – 8860 GC – Dual ECD with 7693 Injector
- Instrument AJ – 8860 GC – Dual ECD with 7693 Injector
- Instrument B - 5890 Series II GC - 5971 MS with 7673 Series Injector
- Instrument D - 5890 Series II GC - FID with 7673 Series Injector
- Instrument E - 5890 Series II GC - Dual ECD with 7673 Series Injector
- *Instrument G - 5890 Series II GC/ (not in service)*
- Instrument I - 5890 Series II GC - FID with 7673 Series Injector
- Instrument L - 5890 Series II GC - FID with 7673 Series Injector
- Instrument AP - 7890B GC - 5975 MS
- Instrument R – 6890 GC – 5973 MS with 7693 Injector
- Instrument S - 6890 GC - 5973 MS with Gerstel MPS
- Instrument T - 6890 GC – 5973 MS with 7693 Injector

- Instrument Z - 6890 GC - 5973 MS with Gerstel MPS
- Agilent LC-MS/MS 6470 SG1728G103
- Aglient LC-MS/MS 6495 SG2437D303

Organic Prep Lab

- Fisher Scientific, 550 Sonic Dismembrator and VirSonic Cell Disrupter - 6 each
- Zymark, Turbovap LV evaporator – 2 each
- Glas-Col, 3D Floor Shaker – 2 each
- VWR, Refrigerated Recirculator
- Milestone ETHOS EX microwave extraction system - 2
- NESLAB Refrigerated/Recirculator

Metals Section

- Teledyne Leeman Labs CVAA Hydra II AA Automated Hg Analyzer
- Teledyne Leeman Labs Hydra AF Gold Plus Mercury Analyzer (CVAFS), Autosampler and Micro computer
- Tekran Instruments 2600-IVS Mercury Analyzer (CVAF), Autosampler and Micro computer
- Agilent Technologies Synchronous Vertical Dual View 5110 SVDV ICP-OES
- Agilent Technologies Synchronous Vertical Dual View 5900 SVDV ICP-OES
- Agilent Technologies CCD Simultaneous ICP-OES 720
- Thermo Fisher Scientific iCAP Qc ICP-MS - 2 each
- Agilent 7900 ICP-MS

Metals Prep

- Hot Block Digester, 54 Position with ETR-3200 Controller - 4 each

Inorganic Section

- Thermo Dionex Aquion IC 231040072
- AutoTitrator YSI/Xylem/SCI Series 7800/500 – 1 each
- Environmental Express Ammonia/OOH Micro Distillation Unit - 1 each
- Environmental Express Simple Cyanide Distillation Unit – 3 each
- Parr, Oxygen Bomb Calorimeter, with Parr Bomb Ignition Unit (2 Bomb Units) - 1 each
- Thermo Orion 720A – 1 each
- VWR Symphony B10P - 1 each
- Thermo pH Meter, Orion 3 Star
- Hach DR/2000 Direct Reading Spectrophotometer - 1 each
- Hach DR/2400 Direct Reading Spectrophotometer - 1 each
- Hach DR/2800 Direct Reading Spectrophotometer - 1 each
- Hach DRB 200 25 Position Reactor - 1 each
- Hach 25 Position Reactor – 2 each
- Environmental Express; Hexane Extraction Method/Solid Phase Extraction Manifold - 21 each
- Buchi Rotavapor R-114, waterbath B480 - 1 each
- Buchi Rotovapor R-210, waterbath B491 – 1 each
- Hach 2100 P Turbidimeter - 1 each
- YSI Model 59 Dissolved Oxygen Meter, with 5905 Probe - 1 each
- YSI Model 5000 Dissolved Oxygen Meter, with 5905 Probe - 1 each

- Skalar San++ System, with 4 autoanalyzers, 1 DOC IR detector, 4 Spectrophotmetric Detectors, 1 Amperimetric Detector, and 4 Autosamplers.
- Branson 1510 Ultrasonic Cleaner
- A.I. Scientific Digestion AIM 500-C, 50 Position Digestor
- Koehler Instrument CO. Flash Point Tester – 1 each
- Small scale Flash Point Tester
- Thermoline Type 6000 Muffle Furnace -1 each
- Equatherm Environmental Incubator -1 each
- Precision Low Temperature Incubator -1 each
- Precision Low Temperature Incubator 815 – 1 each
- Fisher Scientific Low Temperature Incubator – 1 each
- Fisher Scientific, Digital Conductivity Meter Model Accumet 30 - 1 each
- Analytical Balances capable of reading 0.1mg – 3 each
- Analytical Top Loader Balance capable of reading 0.01g – 3 each

General Lab Use

- Analytical Balances capable of reading 0.1 mg - 3 each
- Analytical Top Loader Balances capable of reading .01 g - 3 each
- Dynac II Centrifuge - 1 each

Field Use

- Orion pH/temperature meter – 1 each
- Oakton pH/ pH/conductivity/temperature meters – 4 each
- Hach Turbidity Meter Pocket Turbidimeter Cat# 52600-00 – 1 each

COMPUTER SYSTEMS & SOFTWARE PACKAGES

Teklab, Inc. software listing:

SERVERS

- Microsoft Server 2012 (R2 Standard)
- Microsoft SQL Server 2014
- Microsoft Exchange Server 2013
- Microsoft Server 2003 R2 Standard SP2
- Microsoft Server 2003 R2 Enterprise SP2
- Windows Storage Server 2008 R2

IT

- Operating Systems: Windows 2000, Windows XP, Windows 7, Windows 8.1, Windows 10 and Windows 11
- Blackpoint Cyber Security
- Webroot Version9
- Unitrends (backups)
- Khemia Omega VTEN-64 ELIMS(mod) Environmental Laboratory Information Management System with EDD Module
- Microsoft Office 2016 Professional Edition (Excel, Access, Word, PowerPoint & Outlook).

- Adobe Acrobat 7.0, 8.0, 9.0, 10, 11 ActivePDF Composer
- PaperPort 9 Deluxe and PaperPort 12
- Quick Books Pro 2021 Accounting Software
- 7-Zip
- Win2Pdf
- Gladwin PrintScreen Version 4.4
- Redgate SQL Toolbelt
- UltraEdit
- UltraCompare
- Malwarebytes Premium Antivirus
- Kaseya
- TeamViewer
- DHCP Explorer
- CCleaner
- Magical Jelly Bean Keyfinder
- Microsoft Robocopy
- Newt Professional
- Revo Uninstaller
- Recover Keys
- Treesize Free
- Virtual Clone Drive
- Wireshark
- SmartVault
- TDSS Killer
- IsumSoft Password Reset
- Norton Power Eraser
- Constant Care – SQL server application
- Foxit Phantom PDF

EQUIPMENT SOFTWARE

- Agilent_MSDChemStation E.02.00.493
- Agilent MSDChemStation G1701FA MassHunter
- Entech Instruments ESP Version 2
- Entech Instruments SmartLab II V4.176
- Hewlett-Packard G1032C rev. C.01.00 GC\MS EnviroQuant
- Hewlett-Packard G1701AA rev. C.03.02 GC\MS EnviroQuant
- Hewlett-Packard G1701AA rev. A.03.00 GC\MS EnviroQuant
- Hewlett-Packard G1701BA rev. B.01.00 GC\MS EnviroQuant
- Hewlett-Packard G1701AA rev. C.03.02 GC EnviroQuant
- Hewlett-Packard G1701CA V C.00.00 GC Chemstation
- Hewlett-Packard G1701DA D.02.00 SPI GC/MS
- Thermo Fisher Scientific Qtegra iCAP Q ICP-MS Software
- Varian GC/MS Workstation 6.4.1 with EnviroPro.
- Skalar - FlowAccess Software Version 1.04.7

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Alliance Technical Group, LLC - Akron

Quality Assurance Manual

3310 Win Street

Cuyahoga Falls, Ohio 44223

Approved By:

_____

Reza Tand, Laboratory Director

_____

Sara Duran, Quality Assurance Manager

_____

Christopher Stefan, Inorganics Technical Director

_____

Ryan Smith, Organics Technical Director

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1. Introduction and Scope

1.1 Purpose: This Quality Assurance Manual outlines the management system policies and procedures that ensure all laboratory activities are conducted to produce data of known, documented, and defensible quality, meeting customer and regulatory requirements. It defines the commitment of management to maintain an effective quality system in conformance with ISO/IEC 17025/TNI/DoD/DoE standards. The manual applies to all analytical testing services offered by Alliance Environmental Laboratories across all laboratory locations in the Alliance Technical Group Environmental Laboratories network. It is the overarching corporate quality manual that provides a template for each laboratory location; each lab will incorporate local details (personnel, methods, etc.) while adhering to the corporate policies herein.

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1.2 Scope of Testing and Accreditation: Alliance Environmental Laboratories are accredited to perform testing in the environmental sector under ISO/IEC 17025:2017, DoD/DoE, and/or the 2016 TNI Environmental Laboratory Standard, with accreditations varying between the laboratories. The individual laboratory's *Scope of Accreditation* (see Appendix A) lists the fields of testing, matrices, and analytes for which it is accredited (e.g., drinking water, wastewater, soil, etc.). This manual and referenced Standard Operating Procedures (SOPs) are designed to ensure compliance with the ISO 17025, 2016 TNI Standard (Volume 1, Modules 1–7 as applicable) and DoD/DoE QSM 6.0 requirements as applicable for each laboratory scope for all accredited activities. The manual addresses both management and technical requirements of these standards, and where DoD/DoE or TNI impose additional requirements and the laboratory has those requirements due to certification, those are indicated in the relevant sections or crosswalk table (see Appendix B).

1.3 Normative References: The following documents are integral to the quality system. Wherever this manual refers to "the Standard" it implies the collective requirements of these references, as applicable:

- ISO/IEC 17025:2017 – General requirements for the competence of testing and calibration laboratories
- TNI Environmental Laboratory Sector Standard Volume 1 (2016, Rev 2.1) – *Management and Technical Requirements for Laboratories Performing Environmental Analysis*, including Module 1 (Proficiency Testing), Module 2 (Quality Systems General Requirements), Module 4 (Quality Systems for Chemical Testing), and other modules as applicable.
- DoD/DoE Quality Systems Manual for Environmental Laboratories (DoD/DoE QSM) Version 6.0 – Module 2 and related modules (aligned with TNI 2016 and ISO/IEC 17025:2017).
- Any applicable regulatory program requirements, e.g., state environmental laboratory certification rules or methods manuals (SW-846, Standard Methods, EPA methods, etc.), which are to be followed if relevant.

1.4 Terms and Definitions: Unless defined otherwise herein, terms used in this manual follow the definitions in ISO/IEC 17025:2017, DoD/DoE QSM 6.0 and the TNI 2016 Standard. Key definitions include *laboratory*, *management*, *quality manager*, *technical manager*, *impartiality*, *laboratory activities*, *nonconforming work*, etc. Abbreviations: QA – Quality Assurance; QC – Quality Control; SOP – Standard Operating Procedure; LIMS – Laboratory Information Management System.

1.5 Management System Overview: The policies and procedures in this manual, together with the laboratory's SOPs and quality system documents, form the management system that governs all operations of Alliance Technical Group Environmental Laboratories. This manual outlines the structure of quality documentation and either contains or references all required elements of the quality system. All personnel in the laboratory are required to be familiar with, and implement, the policies in this manual and associated procedures in their daily work. The quality manual is a controlled document; the Quality Manager ensures it is reviewed periodically (at least annually or as standards/regulations change) and updated under document control (see Section 6.2) to remain current. Each revision is approved by top management (Laboratory Director and Quality Manager) before implementation. Copies of the current manual are made available to staff. Obsolete versions are archived and marked as such to prevent unintended use.

1.6 Crosswalk to Standards: Appendix B provides a cross-reference mapping of the sections of this manual to the relevant clauses of ISO/IEC 17025:2017, TNI 2016 Standard, and DoD/DOE QSM 6.0 to demonstrate compliance. This mapping ensures that for each requirement of the standards, corresponding policies or procedures are documented in this manual or referenced SOPs.

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2. General Requirements

2.1 Impartiality

Alliance Environmental Laboratories and its personnel commit to performing all laboratory activities with impartiality, free from any undue internal or external influences that could compromise the objectivity of work. The laboratory has policies and procedures to avoid involvement in any activities that would diminish confidence in its competence, impartiality, judgment, or operational integrity. All staff, from top management to laboratory analysts, must conduct testing and reporting without bias or conflict of interest. If any situation arises that may present a conflict of interest or undue pressure (financial, commercial, or other), it must be disclosed to management and resolved to ensure continued impartiality.

- **Independence:** Alliance Environmental Laboratories is organized and operates in a manner that safeguards impartiality. The laboratory is a legally identifiable entity that is responsible for its testing activities. It is independent from external organizations or parent companies in terms of reporting results; where the laboratory is part of a larger organization, arrangements are in place (e.g. reporting structure, confidentiality agreements) to prevent undue influence on laboratory decisions.

- **Conflict of Interest:** Personnel are required to avoid any conflict of interest with clients' work. They shall not participate in testing, review, or approval of results for a sample in which they have any personal stake or prior involvement that could affect their objectivity. If such a situation is identified, another qualified individual will be assigned to the work.

- **Management Commitment:** Top management demonstrates commitment to impartiality by formal policy (see Quality Policy in Section 3.3) and by actively promoting a culture of integrity and ethical behavior. Management ensures that all employees understand the importance of impartiality—this is reinforced through annual ethics and data integrity training and signed ethics statements in personnel files. Any attempt to influence results for commercial advantage or other reasons is strictly prohibited; unethical or improper actions are subject to disciplinary action, up to termination.

- **Risk to Impartiality:** The Quality Manager periodically (at least annually) conducts a risk assessment regarding impartiality. This assessment reviews relationships, contracts, and other potential sources of bias to identify any conditions that could present a risk to impartiality. Documented records of these reviews and any identified risks are maintained. If risks are identified, the laboratory takes appropriate action to eliminate or mitigate them, and records the decisions and actions taken.

2.2 Confidentiality

Alliance Technical Group Environmental Laboratories maintains a strict policy of client confidentiality. All personnel, including employees, contract staff, and any external providers with access to confidential information, are bound by confidentiality agreements. This ensures that proprietary information about clients, test items, methods, and results are not disclosed to any unauthorized parties without the client's written consent, except as required by law or accreditation bodies.

All original client data, records, and reports are kept secure (electronically in access-controlled systems and/or physically secure storage). Discussion of client projects or results is limited to authorized personnel on a need-to-know basis. Results are only released to the client or persons designated by the client.

When compelled by law or contract to release confidential information (e.g., subpoena, regulatory reporting), the laboratory will, unless prohibited, notify the client of the information provided.

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The laboratory's commitment to confidentiality extends to information obtained during subcontracting or from suppliers. Information about Alliance Environmental Laboratories' own processes that is confidential or proprietary (such as unpublished method details, trade secrets, etc.) is also protected under internal policy.

All personnel are trained on confidentiality requirements during onboarding and sign a confidentiality and ethics agreement acknowledging their responsibilities. The Quality Manager monitors compliance with confidentiality policies, and breaches of confidentiality are treated as serious misconduct, with investigations and corrective actions implemented if they occur.

3. Structural Requirements

3.1 Legal Entity and Organizational Structure

Alliance Technical Group, LLC is a privately held corporation established in 2000 in the state of Alabama. It operates as a full-service environmental compliance provider with an environmental laboratory division with facilities in Newark NJ, Greenville SC, Columbia SC, Akron OH, Haddock GA, Seattle WA, Phoenix AZ, Tustin CA, Beaumont TX, Rapid City SD, and Wilmington NC. Each laboratory is a distinct entity that can be held legally responsible for its testing activities and results.

This laboratory's EPA ID numbers and acquisition information are as follows:

Laboratory Name	Previous Name	EPA ID	Date Established	Date Acquired
Alliance Technical Group, LLC - Akron	Summit Environmental Technologies, Inc.	OH00923	1994	October 2023

Alliance Environmental Laboratories is a business unit of Alliance Technical Group, LLC. The organizational structure of Alliance Technical Group Environmental Laboratories and its relationship within any parent organization is documented in an Organizational Chart (see Appendix C for the corporate organizational chart and lines of responsibility). This chart clearly shows the positions of key personnel (Lab Director, Quality Manager, Technical Managers, etc.) and reporting lines, ensuring that roles and responsibilities are defined without ambiguity.

Management and Key Personnel: Top management of Alliance Environmental Laboratories consists of the Laboratory Director, Technical Directors, and the Quality Assurance Manager, supported by technical managers/supervisors for each functional area of the lab. If key personnel are absent for a period that exceeds what is permissible by the AB or TNI/DoD, the appropriate regulatory agencies will be notified. The following key roles are identified (one person may cover multiple roles if qualified, but their responsibilities are delineated):

Job Title: Director, Laboratory
FLSA: Exempt
Reports to: Vice President or Senior Vice President of Environmental Labs

Job Summary:
The Laboratory Director holds overall responsibility for the operation and technical validity of one or more laboratory locations. This role sets strategic direction in alignment with corporate policies, ensures compliance with regulatory and client requirements, and maintains robust quality and safety systems. The Director oversees workflows, manages resources, and supports advanced testing projects, while also

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serving as a key liaison for internal and external stakeholders.

Supervisory Responsibilities:

- Supervises staff, including hiring, scheduling, and assigning work, reviewing performance, and
- recommends salary increases, promotions, transfers, demotions, or terminations.

Duties/Responsibilities:

- Provide strategic leadership and direction for laboratory operations.
- Ensure technical validity of testing and compliance with regulatory and client standards.
- Approve the Quality Manual and major laboratory policies.
- Oversee quality systems and ensure adequate resources are allocated.
- Coordinate workflows across departments to ensure timely and accurate sample processing.
- Develop and maintain tracking systems for sample receipt, processing, and reporting.
- Ensure documentation accuracy, including proposals, orders, reports, and invoices.
- Lead customer communications related to laboratory work and business objectives

Required Skills/Abilities:

- Strong leadership and organizational skills.
- In-depth knowledge of environmental testing methods and regulatory standards (e.g., EPA, ISO).
- Excellent communication and interpersonal skills.
- Ability to manage multiple priorities and coordinate cross-functional teams.
- Proficiency in laboratory information management systems (LIMS) and quality management systems.
- Strong analytical and problem-solving abilities.
- Attention to detail and commitment to quality and safety.

Education and Experience:

- Bachelor's degree in Environmental Science, Chemistry, Biology, or a related field (Master's or Ph.D. preferred).
- Minimum of 7–10 years of experience in an environmental laboratory setting.
- At least 3–5 years in a leadership or management role.
- Experience with regulatory compliance and quality assurance programs.

Job Title: Lab Technical Director
FLSA: Exempt
Reports to: Laboratory Director

Job Summary:
The Technical Director is responsible for the overall technical leadership, strategic direction, and operational oversight of the laboratory. This role ensures the integrity and validity of testing procedures, compliance with regulatory standards (including TNI), and alignment with corporate policies. The Technical Director manages technical staff, oversees instrumentation and policy decisions, and plays a key role in maintaining high-quality, efficient laboratory operations. The technical director(s) will meet all regulatory requirements for the role.

Supervisory Responsibilities:
Supervises staff, including hiring, scheduling, and assigning work, reviewing performance, and recommends salary increases, promotions, transfers, demotions, or terminations.

Duties/Responsibilities:

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- Provide strategic and technical leadership for laboratory operations.
- Ensure the accuracy, reliability, and regulatory compliance of all laboratory testing.
- Approve the Quality Manual and major laboratory policies.
- Oversee and manage Technical Managers and Department Managers across technical disciplines.
- Make decisions regarding instrumentation, technical procedures, and laboratory policies.
- Ensure compliance with The NELAC Institute (TNI) standards, including maintaining required qualifications and transcripts on file.
- Coordinate cross-departmental workflows to ensure timely and accurate sample processing.
- Support advanced testing projects and provide technical guidance for complex analyses.
- Develop and maintain systems for tracking sample receipt, processing, and reporting.
- Ensure alignment between proposals, orders, reports, and invoices.
- Lead technical communications with clients and regulatory agencies.
- Oversee operations at one or more laboratory locations, ensuring safety and quality standards.
- Train and mentor technical staff, fostering a culture of continuous improvement and compliance.

Required Skills/Abilities:

- Strong leadership and decision-making skills.
- Deep understanding of laboratory testing methods and regulatory standards (e.g., TNI, EPA, ISO).
- Excellent communication and interpersonal skills.
- Proficiency in laboratory information management systems (LIMS).
- Strong analytical and problem-solving abilities.
- Ability to manage multiple priorities and lead cross-functional teams.
- Commitment to quality, safety, and regulatory compliance.

Education and Experience:

- Bachelor's degree in a scientific or technical field (e.g., Chemistry, Biology, Environmental Science); Master's or Ph.D. preferred.
- Minimum of 8–10 years of experience in a laboratory or technical environment.
- At least 5 years in a technical leadership or management role.
- Must meet the qualifications outlined in the TNI standard, with transcripts on file as evidence.
- Experience with quality assurance programs and regulatory compliance.

Physical Requirements:

- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 25 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Manager, Operations
FLSA: Non-Exempt
Reports to: Laboratory Director, Client Services Manager, Operations Manager

Job Summary:
The Laboratory Operations Manager is responsible for overseeing the day-to-day operations of multiple laboratory departments, including MSV, MSS, Organic Prep, Wet Chemistry, Metals, Air, and others. This role ensures operational efficiency, quality compliance, and team performance across functional groups. The Operations Manager may supervise Department Managers and works closely with the Laboratory Director to implement strategic initiatives, optimize workflows, and support client satisfaction.

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Supervisory Responsibilities:

- Manages staff including hiring, training, development and engagement of self and team members, evaluating performance, providing compensation recommendations, and performance management

Duties/Responsibilities:

- Manage and coordinate activities across multiple laboratory departments to ensure timely and accurate sample processing.
- Supervise Department Managers and team leads, providing guidance, performance feedback, and development opportunities.
- Monitor operational metrics and implement process improvements to enhance efficiency, throughput, and quality.
- Ensure compliance with regulatory standards, internal policies, and client requirements.
- Collaborate with the Laboratory Director to align operational goals with strategic objectives.
- Support resource planning, including staffing, equipment, and supply needs across departments.
- Resolve escalated operational issues and coordinate cross-functional problem-solving efforts.
- Oversee scheduling and capacity planning to meet client deadlines and optimize lab performance.
- Participate in budget planning and monitor expenditures related to operational activities.
- Lead or support special projects, including new service implementation, workflow redesign, and technology upgrades.
- Promote a culture of safety, quality, and continuous improvement throughout the laboratory.
- Represent operations in client meetings, audits, and internal leadership discussions.

Required Skills/Abilities:

- Strong leadership and team management skills.
- In-depth understanding of laboratory operations and analytical methods.
- Excellent organizational and problem-solving abilities.
- Effective communication and interpersonal skills.
- Proficiency in laboratory information management systems (LIMS) and operational reporting tools.
- Ability to manage multiple priorities and drive results in a fast-paced environment.
- Knowledge of regulatory and quality standards (e.g., ISO/IEC 17025, NELAC, EPA).

Education and Experience:

- Bachelor’s degree in Chemistry, Biology, Environmental Science, or a related field (Master’s preferred).
- Minimum of 5–7 years of laboratory experience, with at least 3 years in a supervisory or management role.
- Experience managing multiple departments or teams in a laboratory setting is strongly preferred.
- OR an equivalent combination of education, training, and experience

Physical Requirements:

- Ability to sit, stand, and move throughout laboratory and office environments.
- Manual dexterity to operate and computer systems.
- Occasional lifting of up to 25 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

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Job Title: Lab Quality Assurance Manager
FLSA: Exempt
Reports to: Senior Quality Manager

Job Summary:
The Laboratory Quality Assurance (QA) Manager is responsible for implementing, maintaining, and continuously improving the quality management system across the laboratory network. This role ensures compliance with the Quality Assurance Manual (QAM), standard operating procedures (SOPs), and applicable regulatory requirements. The QA Manager coordinates internal audits and management reviews, oversees training in quality and ethics, and has the authority to halt non-compliant work.

Supervisory Responsibilities:
Supervises staff, including hiring, scheduling, and assigning work, reviewing performance, and recommends salary increases, promotions, transfers, demotions, or terminations.

Duties/Responsibilities:
- Implement and maintain the laboratory's quality management system in accordance with regulatory and corporate standards.
- Monitor compliance with the Quality Assurance Manual (QAM), SOPs, and applicable regulations.
- Plan, coordinate, and conduct internal audits and facilitate management reviews.
- Oversee training programs related to quality assurance, ethics, and regulatory compliance.
- Maintain documentation and records related to quality activities, audits, and corrective actions.
- Identify and investigate quality issues, lead root cause analysis, and implement corrective and preventive actions.
- Serve as the primary point of contact for quality-related matters with clients, auditors, and regulatory agencies.
- Authorize the halting of laboratory work that does not meet quality standards.
- Collaborate with laboratory leadership to promote a culture of continuous improvement and quality excellence.
- Ensure timely updates and revisions to quality policies, procedures, and manuals.

Required Skills/Abilities:
- Strong knowledge of quality management systems (e.g., ISO/IEC 17025, NELAC, or similar).
- Excellent organizational and analytical skills.
- Strong written and verbal communication skills.
- Ability to lead audits and facilitate training sessions.
- Proficiency in quality management software and laboratory information systems (LIMS).
- High attention to detail and ability to manage multiple priorities.
- Strong interpersonal skills and the ability to work collaboratively across departments.

Education and Experience:
- Bachelor's degree in Chemistry, Biology, Environmental Science, or a related field (Master's preferred).
- Minimum of 5 years of experience in a laboratory quality assurance role.
- Experience with regulatory compliance and audit processes.

Physical Requirements:
- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 25 pounds.

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- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Manager II, Department
FLSA: Exempt
Reports to: Operations Manager, Client Services Manager, or Laboratory Director

Job Summary:
The Laboratory Manager II is responsible for overseeing the daily operations of one or more laboratory units, ensuring high standards of quality, safety, and efficiency. This role involves managing staff, coordinating complex workflows, supporting technical and regulatory compliance, and contributing to strategic planning. The Laboratory Manager II also plays a key role in client communication, project oversight, and continuous improvement initiatives, serving as a senior leader within the laboratory network.

Supervisory Responsibilities:
Supervises staff, including hiring, scheduling, and assigning work, reviewing performance, and recommends salary increases, promotions, transfers, demotions, or terminations.

Duties/Responsibilities:
- Manage day-to-day laboratory operations, including scheduling, staffing, and resource allocation.
- Supervise and mentor laboratory personnel, including supervisors, analysts, and technicians.
- Ensure compliance with all applicable regulatory, accreditation, and safety standards (e.g., ISO/IEC 17025, NELAC, EPA).
- Oversee the implementation and maintenance of quality assurance and control procedures.
- Collaborate with QA and technical teams to resolve non-conformances and implement corrective actions.
- Monitor laboratory performance metrics and drive continuous improvement initiatives.
- Coordinate with clients and internal stakeholders to ensure timely and accurate delivery of results.
- Support budgeting, procurement, and inventory management for laboratory supplies and equipment.
- Participate in audits, inspections, and management reviews.
- Contribute to the development of new methods, services, and operational strategies.
- Serve as acting Laboratory Director when needed, depending on qualifications and experience.

Required Skills/Abilities:
- Strong leadership and team management skills.
- Advanced knowledge of laboratory operations, instrumentation, and analytical methods.
- Excellent organizational and problem-solving abilities.
- Effective communication skills, both written and verbal.
- Proficiency in laboratory information management systems (LIMS) and quality systems.
- Ability to manage multiple priorities in a fast-paced environment.
- Strong understanding of regulatory and accreditation requirements.

Education and Experience:
- Bachelor's degree in Chemistry, Biology, Environmental Science, or a related field (Master's preferred).
- Minimum of 7 years of laboratory experience, with at least 3 years in a supervisory or management role.
- Experience in environmental, clinical, or industrial laboratory settings preferred.

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Physical Requirements:

- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 25 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Manager I, Department

FLSA: Exempt

Reports to: Operations Manager, Client Services Manager, or Laboratory Director

Job Summary:

The Laboratory Department Manager is responsible for managing the day-to-day operations of a specific technical section within the laboratory (e.g., Inorganics, Organics, Metals, Microbiology, or Sample Management). This role ensures that testing is performed accurately and in compliance with quality standards, oversees technical training, resolves technical issues, and supports continuous improvement. The Department Manager plays a key role in maintaining regulatory compliance and supporting the laboratory's overall operational goals.

Supervisory Responsibilities:

Supervises staff, including hiring, scheduling, and assigning work, reviewing performance, and recommends salary increases, promotions, transfers, demotions, or terminations.

Duties/Responsibilities:

- Supervise daily operations within the assigned laboratory department.
- Ensure test methods are executed accurately and in accordance with SOPs and regulatory standards.
- Implement and monitor quality control procedures to maintain data integrity and compliance.
- Provide technical training and mentorship to laboratory analysts and technicians.
- Troubleshoot and resolve technical issues related to testing and instrumentation.
- Collaborate with QA and other departments to support audits, corrective actions, and continuous improvement initiatives.
- Maintain proper documentation of procedures, results, and quality records.
- Monitor workload distribution and adjust staffing or priorities as needed to meet turnaround times.
- Ensure laboratory safety protocols are followed and promote a culture of safety and accountability.
- Participate in method development, validation, and implementation as needed.
- Ensure department operations align with TNI and accreditation requirements.

Required Skills/Abilities:

- Strong technical knowledge in environmental laboratory testing and instrumentation.
- Familiarity with regulatory standards such as TNI, NELAC, EPA, and ISO/IEC 17025.
- Excellent leadership, organizational, and problem-solving skills.
- Ability to train and mentor staff effectively.
- Strong communication and interpersonal skills.
- Proficiency with laboratory information management systems (LIMS) and Microsoft Office Suite.
- Ability to manage multiple priorities in a fast-paced environment.

Education and Experience:

- Bachelor's degree in Chemistry, Environmental Science, Biology, or a related field (Master's preferred).

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- Minimum of 5 years of experience in an environmental laboratory, with at least 2 years in a supervisory or technical lead role.
- Must meet the education and experience qualifications required by TNI and relevant accreditation bodies.

Physical Requirements:
- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 25 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Analyst III
FLSA: Non-Exempt
Reports to: Lab Department Supervisor, Lab Department Manager

Job Summary:
The Laboratory Analyst III is a senior-level analyst responsible for independently performing complex analyses, leading laboratory documentation and quality practices, and mentoring junior staff. This role includes designing and validating investigation tests, improving workflows and methods, and ensuring that laboratory operations meet client expectations and industry standards. The Lab Analyst III plays a key role in maintaining high-quality data, supporting continuous improvement, and driving technical excellence across the lab.

Supervisory Responsibilities:
No supervisory responsibilities

Duties/Responsibilities:
- Independently manage laboratory documentation and oversee documentation practices for others; identify and implement workflow improvements.
- Prepare complex standards and reagents independently; serve as a training resource for junior analysts.
- Lead calibration protocols, develop maintenance schedules, and train staff on instrument care and troubleshooting.
- Independently set up and load instruments for analysis; train others in proper setup and operation.
- Ensure accurate flagging and narrative documentation with minimal corrections; guide others in best practices.
- Design, perform, validate, and summarize investigation tests; monitor corrective actions for effectiveness.
- Prepare, analyze, and track sample progress; ensure timely completion and communicate delays appropriately.
- Evaluate results against client requirements and industry standards; recommend and implement method improvements to meet performance targets.
- Demonstrate advanced knowledge of test codes, SOPs, and the chemistry employed in laboratory methods.
- Collaborate with management on technical projects, method development, and continuous improvement initiatives.

Required Skills/Abilities:
- Advanced knowledge of laboratory techniques, instrumentation, and analytical chemistry.
- Strong leadership and mentoring skills.

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- Proven ability to troubleshoot complex technical issues and improve laboratory processes.
- Excellent documentation and communication skills.
- High attention to detail and commitment to data integrity and quality.
- Proficiency in laboratory information management systems (LIMS) and quality systems.

Education and Experience:

- Bachelor's degree in Chemistry, Biology, Environmental Science, or a related field (Master's preferred).
- 5+ years of laboratory experience, with demonstrated progression in technical and leadership responsibilities.

Physical Requirements:

- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 50 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Analyst II
FLSA: Non-Exempt
Reports to: Lab Department Supervisor, Lab Department Manager

Job Summary:
The Laboratory Analyst II is a mid-level analyst position responsible for independently performing complex laboratory tasks, supporting junior staff, and ensuring the accuracy and efficiency of analytical workflows. This role includes preparing advanced reagents, calibrating and maintaining instruments, troubleshooting issues, and guiding others in documentation and analysis. The Lab Analyst II demonstrates a solid understanding of laboratory methods, quality standards, and regulatory requirements, contributing to investigations and continuous improvement efforts.

Supervisory Responsibilities:
No supervisory responsibilities

Duties/Responsibilities:

- Independently manage laboratory documentation and assist junior staff with proper recordkeeping.
- Prepare complex standards and reagents in accordance with SOPs.
- Calibrate instrumentation and perform routine maintenance independently; conduct basic troubleshooting.
- Set up and load instruments for analysis with minimal oversight.
- Analyze samples and ensure accurate flagging and narrative documentation; guide others in these practices.
- Track sample progress, ensure timely completion, and communicate delays appropriately.
- Support and mentor junior analysts in laboratory techniques and procedures.
- Collaborate with management to design and execute investigation tests.
- Demonstrate solid understanding of test codes, SOPs, and parent methods.
- Ensure compliance with safety protocols and quality standards.
- Participate in training and development initiatives to enhance technical expertise.

Required Skills/Abilities:

- Intermediate to advanced knowledge of laboratory techniques and instrumentation.
- Strong understanding of quality assurance practices and regulatory compliance.

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- Ability to troubleshoot equipment and resolve routine technical issues.
- Effective communication and mentoring skills.
- Strong organizational and time management abilities.
- Proficiency in laboratory information management systems (LIMS) and documentation practices.

Education and Experience:
- Bachelor's degree in Chemistry, Biology, Environmental Science, or a related field.
- 2–5 years of laboratory experience, preferably in an environmental or analytical testing lab.

Physical Requirements:
- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 50 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Analyst I

FLSA: Non-Exempt

Reports to: Lab Supervisor or Lab Manager

Job Summary:
The Laboratory Analyst I is an entry-level analyst position responsible for supporting routine laboratory operations under supervision. This role involves preparing reagents and standards, performing basic analyses, maintaining instruments, and documenting results in accordance with standard operating procedures (SOPs). The Analyst I contributes to the accuracy and efficiency of laboratory workflows while developing foundational technical skills and knowledge.

Supervisory Responsibilities:
No supervisory responsibilities

Duties/Responsibilities:
- Prepare basic standards and reagents following SOPs with minimal oversight.
- Set up and load instruments for routine analyses with guidance.
- Perform basic laboratory tests and procedures under supervision.
- Conduct investigation tests with oversight as part of training and development.
- Complete laboratory documentation accurately and consistently.
- Track sample progress and ensure timely processing and reporting.
- Perform routine maintenance and calibration of laboratory instruments with guidance.
- Support senior analysts and supervisors in daily lab operations.
- Follow all safety protocols and maintain a clean, organized work environment.
- Participate in training programs to build technical and quality system knowledge.

Required Skills/Abilities:
- Basic understanding of laboratory techniques and equipment.
- Ability to follow written procedures and work instructions.
- Strong attention to detail and commitment to accuracy.
- Good organizational and time management skills.
- Effective communication and teamwork abilities.
- Willingness to learn and adapt in a fast-paced environment.

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Education and Experience:

- Bachelor's degree in Chemistry, Biology, Environmental Science, or a related field.
- 0–2 years of laboratory experience

Physical Requirements:

- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 50 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Technician II
FLSA: Non-Exempt
Reports to: Lab Department Supervisor, Lab Department Manager

Job Summary:
The Laboratory Technician II performs a wide range of laboratory tasks with increasing independence and technical proficiency. This role is responsible for complex sample preparation, routine and specialized analyses, instrument maintenance, and accurate documentation. The Technician II also supports quality and safety initiatives, mentors junior staff, and contributes to continuous improvement efforts within the lab.

Supervisory Responsibilities:
No supervisory responsibilities

Duties/Responsibilities:

- Independently log, label, and acknowledge receipt of samples, ensuring accuracy and traceability.
- Maintain and organize lab space proactively, identifying and resolving issues as needed.
- Perform complex sample preparations and analyses with minimal supervision.
- Prepare specialized reagents and media according to SOPs.
- Conduct routine maintenance and calibration of lab instruments; troubleshoot minor issues.
- Accurately document and compile analytical data into formal reports and systems.
- Perform full analyses or lead portions of testing procedures independently or with limited oversight.
- Oversee cleaning and calibration of specialized equipment and ensure readiness for use.
- Ensure proper disposal of hazardous and non-hazardous waste in compliance with safety protocols.
- Consistently follow and actively promote Quality Assurance and Environmental Health & Safety procedures.
- Identify and report non-conformances and suggest areas for improvement.
- Support a culture of safety, compliance, and continuous improvement within the team.
- May assist in training and mentoring Laboratory Technician I staff.
- Take on additional projects or responsibilities as assigned by supervisors or senior staff.

Required Skills/Abilities:

- Proficient in laboratory techniques and instrumentation.
- Strong attention to detail and ability to follow complex procedures.
- Good troubleshooting and problem-solving skills.
- Effective communication and teamwork abilities.

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- Ability to work independently and manage time efficiently.
- Familiarity with quality systems and safety protocols.

Education and Experience:
- High school diploma or equivalent required; Associate's degree or coursework in Chemistry, Biology, Environmental Science, or a related field preferred.
- 0–2 years of laboratory experience.

Physical Requirements:
- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 50 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Technician I
FLSA: Non-Exempt
Reports to: Lab Department Supervisor, Lab Department Manager

Job Summary:
The Laboratory Technician I is an entry-level position responsible for supporting routine laboratory operations under direct supervision. This role includes sample handling, basic laboratory procedures, equipment maintenance, and adherence to safety and quality protocols. The Lab Technician I plays a key role in maintaining a clean and organized lab environment while gaining foundational experience in laboratory practices.

Supervisory Responsibilities:
No supervisory responsibilities

Duties/Responsibilities:
- Log and label incoming samples according to standard procedures under supervision.
- Maintain a clean and organized laboratory space, including routine cleaning of surfaces and equipment.
- Perform basic laboratory operations such as sample preparation and simple analyses.
- Prepare standard reagents and media following established SOPs.
- Conduct routine maintenance of laboratory instruments (daily/weekly tasks) with guidance.
- Document work clearly and accurately in lab notebooks or electronic systems.
- Assist with specific portions of analyses under direct supervision.
- Clean and maintain glassware and basic laboratory tools.
- Dispose of laboratory waste in accordance with safety and environmental protocols.
- Follow all Quality Assurance and Environmental Health & Safety procedures.
- Report any observed non-conformances to senior staff or the Lab Manager.
- Perform other assigned duties as directed by senior technicians or supervisors.

Required Skills/Abilities:
- Basic understanding of laboratory procedures and safety practices.
- Ability to follow written and verbal instructions accurately.
- Strong attention to detail and organizational skills.
- Good communication and teamwork abilities.
- Willingness to learn and take direction in a fast-paced environment.

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Education and Experience:

- High school diploma or equivalent required; Associate's degree or coursework in science preferred.
- 0–2 years of laboratory experience (academic or internship experience is acceptable).

Physical Requirements:

- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 50 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Courier
FLSA: Non-Exempt
Reports to: Supervisor, Department Manager, or Client Service Manager

Job Summary:
The Environmental Laboratory Courier/Driver is responsible for the timely and safe delivery of bottle kits to clients and the pickup of environmental samples for laboratory analysis. This role ensures proper handling and documentation of samples during transport to maintain sample integrity. When courier duties are not required, the individual may assist in the laboratory as a Technician I, supporting basic lab functions.

Supervisory Responsibilities:
No supervisory responsibilities

Duties/Responsibilities:

- Deliver sample collection kits and supplies to clients in a timely and professional manner.
- Pick up environmental samples from client locations and ensure proper chain-of-custody documentation.
- Maintain sample integrity by following proper handling, storage, and transport procedures.
- Communicate effectively with clients and internal staff regarding delivery schedules and sample issues.
- Perform vehicle inspections and routine maintenance checks to ensure safe operation.
- Assist with basic laboratory tasks when not performing courier duties, including but not limited to: Sample receiving and logging, Bottle preparation and labeling, General lab housekeeping and support
- Follow all safety protocols and company policies during transport and lab work.
- Maintain accurate records of deliveries, pickups, mileage, and vehicle maintenance.

Required Skills/Abilities:

- Valid driver's license with a clean driving record.
- Strong time management and organizational skills.
- Ability to work independently and follow detailed instructions.
- Good communication and customer service skills.
- Basic understanding of sample handling and environmental testing procedures (preferred).
- Ability to adapt to changing schedules and priorities.

Education and Experience:

- High school diploma or equivalent required.
- Previous driving or courier experience preferred.

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Physical Requirements:
- Ability to drive for extended periods and lift up to 50 pounds.
- Frequent bending, lifting, and carrying of sample coolers and supply boxes.
- Ability to work in varying weather conditions during deliveries and pickups.
- Use of personal protective equipment (PPE) as required in lab or field settings.

Job Title: Lab Project Manager II
FLSA: Non-Exempt
Reports to: Laboratory Director, Client Services Manager, Operations Manager

Job Summary:
The Project Manager II is responsible for managing the full lifecycle of client projects, including setup, sample receipt, progress tracking, reporting, and closure. This role serves as the primary point of contact for clients, ensuring that projects are executed in alignment with client expectations and regulatory requirements. The Project Manager II may manage a portfolio of and plays a key role in client retention, issue resolution, and cross-functional collaboration.

Supervisory Responsibilities:
- None

Duties/Responsibilities:
- Onboard new clients, provide training on services, and ensure accurate setup in LIMS.
- Serve as the primary liaison for client communications, addressing intermediate-level concerns and coordinating with internal teams for resolution.
- Monitor project status, sample receipt, and analysis progress to ensure timely and accurate deliverables.
- Review project deliverables for quality and compliance with client requirements.
- Collaborate with sales and operations to identify upsell opportunities and support contract renewals.
- Develop and maintain strong client relationships through regular check-ins and proactive communication.
- Prepare and deliver project status reports, highlighting risks, issues, and progress.
- Lead project closure activities, including final deliverables, invoicing, and post-project evaluation.
- Support cross-functional initiatives and contribute to process improvements.
- Train and mentor junior project management staff as needed.

Required Skills/Abilities:
- Intermediate-level project management and client relationship skills.
- Strong problem-solving and decision-making abilities.
- Excellent written and verbal communication skills.
- Ability to manage multiple projects and prioritize effectively.
- Proficiency in LIMS, Microsoft Office, and project tracking tools.
- Ability to train others and contribute to team development.

Education and Experience:
- Bachelor’s degree in Business Administration, Chemistry, Biology, or a related field.
- Minimum of 3 years of experience in project management or client services, preferably in a laboratory or technical services environment.
- OR an equivalent combination of education, training, and experience

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Physical Requirements:

- Ability to sit, stand, and move throughout laboratory and office environments.
- Manual dexterity to operate and computer systems.
- Occasional lifting of up to 25 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Project Manager
FLSA: Non-Exempt
Reports to: Laboratory Director, Client Services Manager, Operations Manager

Job Summary:
The Project Manager I is responsible for supporting the coordination and execution of client projects from setup through closure. This entry-level role focuses on ensuring accurate project setup, monitoring sample receipt and progress, and maintaining communication with internal teams and clients. The Project Manager I ensures that client requirements are met while developing foundational project management skills.

Supervisory Responsibilities:

- None

Duties/Responsibilities:

- Assist with project setup in LIMS, ensuring accurate client data, pricing, and documentation.
- Monitor sample receipt and coordinate with sample receiving/log-in teams to ensure timely intake.
- Serve as a point of contact for routine client inquiries and direct more complex issues to senior staff.
- Track project status and communicate updates to internal teams and clients.
- Support project closure activities, including confirming deliverables, invoicing, and documentation.
- Maintain accurate records and assist in preparing project status reports.
- Collaborate with cross-functional teams to ensure alignment with client expectations.
- Contribute to continuous improvement by identifying and communicating process inefficiencies.
- Promote a positive and professional client experience through courteous and responsive service.

Required Skills/Abilities:

- Strong organizational and time management skills.
- Basic understanding of project management principles.
- Effective written and verbal communication skills.
- Ability to work collaboratively in a team environment.
- Proficiency in Microsoft Office and data entry systems.
- Attention to detail and ability to follow procedures accurately.

Education and Experience:

- Bachelor’s degree in Business Administration, Chemistry, Biology, or a related field.
- 1–2 years of experience in customer service, project coordination, or a laboratory environment.
- OR an equivalent combination of education, training, and experience

Physical Requirements:

- Ability to sit, stand, and move throughout laboratory and office environments.

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- Manual dexterity to operate and computer systems.
- Occasional lifting of up to 25 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

All personnel have job descriptions defining their duties, authority, and inter-relationships. Appendix C may include a generic organizational chart illustrating reporting lines. Each lab will insert its site-specific organizational chart in this appendix, showing titles of current staff in key roles. In the absence of any of the key managers, the deputies are distinguished on the organizational chart in the appendix.

Signatures of all laboratory staff are kept on file in the Quality Assurance office and/or electronically on laboratory servers.

Authority and Resources: Top management ensures that authorities, responsibilities, and accountabilities are communicated to all personnel. The Lab Director and QA Manager have organizational freedom and authority to:

• Implement actions to ensure the integrity of the quality system.

• Initiate corrective actions, including halting testing when quality may be compromised.

• Access all parts of the laboratory and records as needed to verify compliance.

• Allocate resources (personnel, equipment, training, etc.) for maintaining the quality system.

Resources are committed by corporate management to maintain and improve the laboratory. This includes financial support for equipment purchases, hiring qualified staff, and training, as needed to uphold quality standards.

Authorized signatories for client reports are the Project Manager, the Laboratory Manager or Director, and/or Quality Manager.

Authorized signatories for technical documents are Quality Assurance staff, Technical Directors and Department Supervisors.

Impartiality in Structure: The organizational arrangements are such that the QA Manager (and any QA staff) have direct access to the highest level of management and are not subordinated exclusively to operational or financial managers. This ensures that decisions related to quality and impartiality are not overridden by other interests. The laboratory's structure and position in any parent company are documented such that any potential conflicts are addressed (for example, if the lab is part of a consulting firm, policies ensure testing is conducted objectively regardless of consulting outcomes).

3.2 Organizational Departments and Responsibilities

For effective operation, Alliance Environmental Laboratories' laboratory activities are divided into functional departments (or sections), each focusing on specific parts of the testing process. Each individual laboratory is typically organized into departments such as: Sample Receiving, Analytical Departments (e.g., Inorganic Chemistry, Organic Chemistry, Metals, Microbiology), Field Sampling (if performed), and Administrative/Support. Each department's major responsibilities are defined to avoid gaps or overlaps. For example:

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- **Sample Receiving/Log-in Department**: Handles receipt of samples, verifies sample condition (temperature, preservation), logs samples into the LIMS with unique IDs, and ensures chain-of-custody (CoC) documentation is intact. They notify clients or managers of any discrepancies (e.g., missing samples, improper preservation) and coordinate sample distribution to analytical sections. They also manage sample storage and disposal after analysis.

- **Inorganics Department**: Performs inorganic chemical analyses (e.g., metals by ICP (if not separated into its own department), anions by IC, nutrients). Responsible for maintaining calibration records (standard curves), performing method- specific QC (blanks, LCS, matrix spikes, etc.), preparing standards and reagents, and maintaining instrumentation and logbooks. They ensure results are entered or uploaded into the LIMS accurately.

- **Organics Department**: Performs organic compound analyses (e.g., GC/MS for volatiles/ semivolatiles, GC for pesticides/PCBs). Often subdivided into Extraction and Instrumentation sub-sections. They maintain proper records for standard curves and QC, carry out sample extractions and analysis per SOPs, and handle solvent and reagent preparation. Data is reviewed for QC compliance and uploaded to the LIMS.

- **Metals Department**: If separate from Inorganics, focuses on metals analysis by ICP-OES, ICP-MS, etc. Possibly subdivided into sample digestion and analysis. They maintain calibration and QC records, prepare digestions, and ensure instrument maintenance and performance.

- **Microbiology Department**: Performs microbiological testing (e.g., fecal coliform, E. coli). They maintain sterile technique, culture records, and required QC (positive/negative controls). They also ensure equipment like incubators and autoclaves are properly calibrated and maintained.

- **Radiochemistry:** Performs radiochemistry sample prep and analysis (e.g., Gross Alpha/Beta, Radium-226/228, Gamma Emitters, etc.). They maintain calibration and QC records, prepare samples for analysis, and ensure instrument maintenance and performance. The Radiation Safety Officer is responsible for the laboratory's compliance with state and federal requirements for the handling and storage of radioactive materials.

- **Air Analysis:** Performs analysis on air samples and handles inventory, cleaning, and client orders for canisters.

- **PFAS:** Performs PFAS sample prep and analysis (e.g., EPA methods 533, 537.1, and 1633). They maintain calibration and QC records, prepare samples for analysis, and ensure instrument maintenance and performance.

- **Oil Lab:** Performs sample prep and analysis for used oil samples (e.g., flashpoint, PCBs, metals by ICP). They maintain calibration and QC records, prepare samples for analysis, and ensure instrument maintenance and performance.

- **Dioxin Analysis**: Performs Dioxin/Furan sample prep and analysis (e.g., SGS AXYS method 16130).They maintain calibration and QC records, prepare samples for analysis, and ensure instrument maintenance and performance.

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- **Field Sampling (if applicable**): Coordinates and performs sampling at client sites or in the field. Responsibilities include scheduling sample collections, using appropriate sampling methods, containers, and preservation, and maintaining field measurement equipment. Field sampling staff ensure samples are preserved and transported correctly and that field data (like pH, chlorine, dissolved oxygen readings) are taken and recorded. They also maintain sampling equipment and vehicle logs.

- **Client Services (if separate from Project Management)**: Discusses orders from clients for incoming orders, processes payment from clients, and communicates with lab staff about incoming projects and rush requests.

- **Project Management**: The Project Manager is responsible for establishing and maintaining good client relations. Their responsibilities include, but are not limited to, client project management which involves ensuring that the laboratory is meeting the needs of a client, and their specific projects, for all stages of project development (i.e., from the point of project conception to the final stages of laboratory result reporting)

- **Quality Assurance:** The Quality Manager is responsible for the oversight and review of quality control data. It is their responsibility to serve as a focal point for QA/QC**,** evaluate data objectively and perform assessments without outside (e.g., managerial) influence, and have documented training and/or experience in QA/QC procedures and the laboratory's quality system. They must have a general knowledge of the analytical methods for which data review is performed. They arrange for and/or conduct internal audits annually and notify laboratory management of deficiencies in the quality system as well as monitor corrective actions.

Each department is headed by a manager or lead who ensures that the section's work complies with the quality system. Department Managers and Supervisors have defined authority to implement quality procedures in their area and are accountable to the Lab Manager/Director for both technical quality and meeting production timelines. Cross-department communication is encouraged to ensure an integrated approach to quality (for instance, sample receiving communicates any issues to both the QA Manager and the relevant analytical department immediately).

3.3 Quality Policy and Objectives

Corporate Quality Policy: Alliance Environmental Laboratories have an established Quality Policy statement, endorsed by top management, that is communicated to and understood by all employees. The Quality Policy (usually posted in the lab and included here in the manual) states the lab's mission to produce accurate, reliable data and its commitment to continuous improvement and customer satisfaction.

Alliance Technical Group (ATG) is committed to setting the standard for environmental services and regulatory compliance support. Our core objective is to fulfill or surpass the expectations of our clients, both external and internal, by providing technically sound, scientifically valid, and legally defensible data and insights. We achieve our core objectives through our commitment to quality, integrity, and continuous improvement.

ALLIANCE MANAGEMENT

To realize this commitment to quality, ATG will focus on the following:

1.7 People: Building expertise and opportunities for continued education and certification;

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- Processes: Standardizing procedures and setting benchmarks that meet or exceed standards; and
- Technology: Creating tools for efficiency and continuous improvement.

ALLIANCE EMPLOYEES

We are a team and together we succeed. Quality, integrity, and continuous improvement are the responsibility of every individual. Concerns related to ethics, compliance, and integrity may be reported anonymously through AllVoices at Alliance (via the portal at https://alliancetg.allvoices.co/ or toll-free at 866-357-5326).

ATG's dedication to quality and client satisfaction is foundational to our business practices. By upholding these principles, we ensure that we remain a trusted leader in the field of environmental and regulatory support.

This policy includes management's commitment to the Standard's requirements and to the maintenance of the integrity of the quality management system. It also emphasizes meeting customer requirements, regulatory obligations, and the importance of continual improvement. All employees must understand how their work contributes to these quality objectives.

Quality Objectives: Measurable quality objectives are established and reviewed at least annually during Management Review (Section 6.8). These objectives align with the quality policy and may include goals such as: maintaining accreditation and approvals, successful Proficiency Testing performance (e.g., ≥95% of results acceptable), client satisfaction metrics (e.g., prompt complaint resolution within 30 days), internal quality metrics, turnaround time targets, etc.. Quality objectives are documented (for example, in an annual Quality Plan or in management review minutes) and tracked by the QA Manager. Progress is communicated to staff to encourage continual improvement.

Management provides the resources and support needed to achieve quality objectives and encourages a culture of openness where staff can report problems or improvement suggestions without fear. The quality policy and objectives are communicated through training sessions, postings, and inclusion in this manual, so that all personnel are aware of their role in achieving them. Employees can report any ethical concerns by accessing the Quality Page in Alliance Connect: Quality and emailing the email address provided or calling the number provided. This process is anonymous.

4. Resource Requirements

4.1 Personnel Competence and Training

Personnel Competence: All laboratory personnel performing tests, calibrations, data review, or other quality-critical tasks shall be competent on the basis of appropriate education, training, experience, and demonstrated skills. Each technical staff member's qualifications (degrees, certifications, and experience) are documented in their personnel file and meet or exceed the requirements of applicable standards and regulations for the tests they perform. These requirements may vary by regulatory agency or accrediting body.

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Job Descriptions: Every position has a job description detailing required qualifications and responsibilities. These documents are maintained and used to assess competence. Key positions (e.g., Lab Director, Technical Manager, QA Manager) have specified minimum requirements per TNI and/or DoD/DoE QSM (such as years of experience and educational background) – the lab ensures these positions are filled by individuals meeting those criteria.

Training Program: Alliance Environmental Laboratories maintain a structured training program for new hires, ongoing training for existing staff, and cross-training as needed. New technical employees undergo a defined training period (typically 1–6 months, depending on experience) that includes orientation to company policies, quality system, health & safety, ethics, and specific analytical methods they will perform. During this time, they work under supervision of experienced personnel. Training covers:

- **Quality System and Ethics**: All new employees are trained on the lab's QA Manual and critical SOPs. They must read the Quality Manual and relevant procedures; a signed statement is obtained from each employee acknowledging that they have read and understood the latest version of the QA Manual and SOPs applicable to their job. They also receive ethics and data-integrity training and sign an Ethics Statement and Confidentiality Agreement acknowledging their ethical and legal responsibilities.

- **Method Training**: Each analyst is trained in the specific analytical methods they will perform, by an experienced analyst or supervisor. Training includes instrument operation, sample preparation (if applicable), calculation and interpretation of results, manual integration training for chromatography, and troubleshooting. Method training uses approved SOPs as the basis.

- **Health and Safety**: Initial safety training (chemical hygiene, waste handling, PPE use, etc.) is provided and must be completed before independent work in the laboratory.

Demonstration of Capability: Before performing any test method or important task independently, each analyst must successfully perform an Initial Demonstration of Capability (IDOC) as required by TNI Module 2 and Module 4. This typically involves the trainee analyst analyzing a set of known samples (e.g., a quality control sample or standard reference material) for the target analytes and achieving acceptable accuracy and precision. The acceptance criteria for a DOC are defined in each analytical SOP (usually comparing results against known values within certain limits). A DOC may also include evaluation of detection capability (MDL or LOQ studies) if the analyst is establishing those. Records of initial competency demonstrations are maintained in the personnel training file.

If the laboratory introduces a new test or if an instrument or method has a significant change (e.g. major instrument repair or new software), affected analysts perform a new demonstration of capability as needed (for example, bringing a new method online would require a full DOC study, whereas after replacing a GC column or major maintenance on an MS, the analyst may run a single standard or QC sample to verify performance).

Ongoing Training and Competency: Alliance Environmental Laboratories ensures continued competence of personnel through ongoing training and Continuous Demonstration of Capability. Each analyst must have an *Annual or Ongoing DOC* for each test they perform. This may be achieved by: regular successful analysis of quality control samples (e.g., at least four consecutive Laboratory Control Samples within control limits for each method) or acceptable performance in blind proficiency samples. The laboratory tracks these ongoing proficiency indicators.

Additionally:

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- The laboratory provides opportunities for external training, workshops, or seminars to keep staff updated on new techniques, regulatory changes, and best practices. These are documented in the laboratory's training records.

- Cross-training is encouraged to build depth; analysts may train in additional methods or sections as workload permits, to ensure backup personnel for all tasks.

Training Records: A complete training record is kept for each employee (often maintained by the QA Manager or HR department). This includes their CV/resume, job description, degrees/certificates, internal training checklists, records of SOP reviews (with sign-off dates), results of initial and ongoing DOCs, external training certificates, and annual ethics training acknowledgments. The Technical Director or designee verifies that each technical staff member has the appropriate qualifications to perform their accredited tests; this verification is documented (e.g., via a statement in the file or a qualification matrix).

Personnel are only authorized to perform specific tests or operate certain instruments after they have met the training and competency requirements. A list or matrix of *Authorized Analysts* and their approved test methods is maintained and updated as needed by the Quality Manager. Analysts must not perform tests for which they are not trained and approved.

Supervision and Support: New or less experienced analysts work under supervision until competency is demonstrated. Senior staff or supervisors review their data closely (e.g., double-check calculations, observe technique) until they are fully authorized. The lab maintains an adequate number of competent staff to handle the volume and scope of work—workload and competency are reviewed in management review to ensure no overstretch that could compromise quality.

4.2 Facilities and Environmental Conditions

Facility Requirements: Alliance Environmental Laboratories provides and maintains facilities and environmental conditions suitable for the laboratory activities carried out, in order not to compromise the quality of results. The laboratory's layout and environmental controls meet the requirements of the test methods and relevant regulations (e.g., OSHA safety standards). Key points include:

- **Laboratory Space**: The laboratory workspace is sufficient and arranged to prevent cross-contamination and mix-ups. Incompatible activities are segregated (e.g., microbiology is in a separate area from chemistry where chemicals might affect the analysis; volatile organics analysis is in a designated room/hood away from where organic solvents are handled, etc.). Good housekeeping is practiced to maintain clean and orderly work areas. Workbenches, fume hoods, and storage areas are designated for specific uses to contain contamination (for example, volatile standards are prepared in an area designated for organics, or flashpoint is done in a fume hood that does not contain flammable solvents).

- **Environmental Control**: The lab monitors and controls environmental factors such as temperature, humidity, and light where they could influence test results. For instance, temperature-critical areas (incubators, refrigerators, the laboratory ambient if required for balances or certain instruments) are monitored with calibrated thermometers and kept within specified ranges. Where tests require or protection from vibrations appropriate measures are taken (anti-vibration slab stones to limit the vibration, limited access). Environmental conditions that could affect results are documented; for example, the temperature of the microbiology incubator is recorded twice daily. If environmental conditions fall outside acceptable limits, related tests are evaluated for impact and may be repeated or qualified if necessary.

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- **Utilities and Services**: The lab ensures reliable provision of necessary utilities – e.g., electricity (with backup power or surge protection for critical instruments), distilled or deionized water supply for analytical use (monitored for purity), gas supplies (carrier gases for GC, etc.), vacuum and air where needed. Water quality for lab use is regularly tested for purity (resistivity, TOC, etc.) as per method requirements.

- **Safety and Hygiene**: Environmental conditions also relate to safety which in turn affects quality. The lab has proper ventilation (chemical fume hoods that are tested annually for adequate face velocity), biological safety cabinets for microbiological work if needed, proper storage for flammable and hazardous chemicals, and waste disposal procedures. A clean and safe environment reduces the risk of accidents or contamination of samples.

- **Access Control**: Access to the laboratory areas is controlled to ensure that only authorized personnel enter testing areas, especially areas that could impact quality. For example, the lab may restrict access by key card or signs indicating “Authorized Personnel Only”. During off-hours, the lab is secured by locks and an alarm system. Visitors are logged and escorted. This protects the integrity of samples and records.

- **Separation of Activities**: Where certain specialized operations are performed (e.g., preparation of standards, media preparation), these activities are done in designated rooms or laminar flow hoods as appropriate to avoid contamination.

- **Cleanliness:** Procedures are in place for regular cleaning of lab benches, glassware, and instruments. Spills are cleaned immediately following safety protocols. Eating, drinking, or smoking in laboratory areas is prohibited to maintain both safety and sample integrity. Food and drinks must be stored separately from any refrigerators or freezers containing samples, standards, or chemicals.

The laboratory maintains a facility floor plan (see site-specific documents or safety manual) that illustrates the arrangement of work areas, storage, waste accumulation points, etc., to demonstrate suitable segregation and flow.

If at any point the facility conditions are observed to jeopardize the quality of tests (for example, airborne dust interfering with gravimetric analysis, or vibration affecting balances), testing is halted and management is notified. Corrective actions (such as servicing HVAC, relocating equipment, etc.) are taken before resuming affected tests.

4.3 Laboratory Equipment and Metrological Traceability

Equipment Inventory: Alliance Environmental Laboratories maintains an up-to-date Equipment Inventory List (see Appendix D) for a template or reference to the master equipment list) of all major equipment and instruments used for testing. Each item of equipment critical to the quality of tests (e.g., analytical balances, ovens, thermometers, pipettes, chromatographs, spectrometers, incubators, etc.) is uniquely identified (by ID or serial number) and tracked. The inventory record includes the equipment name, manufacturer, model, serial number, date of acquisition, current location, and the status of calibration/verification.

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Equipment Maintenance and Calibration: Proper maintenance and calibration of laboratory equipment are essential to generating reliable results. The laboratory follows a preventive maintenance schedule for each instrument as recommended by the manufacturer or internal SOPs. Routine maintenance tasks (e.g., cleaning, replacing consumables, lubrication) are defined in equipment SOPs and logged in maintenance records. A supply of common spare parts (e.g., lamps, seals, syringes) is kept on hand for critical instruments to minimize downtime.

Calibration and verification procedures are established for equipment that directly or significantly affects test results:

1.8 Calibration: All equipment used for measurements (balances, thermometers, pipettes, instruments that measure analytical signals, etc.) is calibrated against traceable standards (NIST-traceable or equivalent) at specified intervals. For example, analytical balances are verified each day of use wherever possible and verified daily or before use with weights class S or better. Thermometers are calibrated or verified at least annually at points of use. Digital thermometers are verified quarterly for DoD/DoE accredited laboratories, and IR thermometers are verified quarterly. IR thermometers at sample receiving are verified daily for drinking water certified laboratories. Volumetric glassware is class A or verified by calibration. Instruments like IC, ICP, GC/MS, etc., are calibrated via multipoint calibration curves using certified standards for each batch of samples as part of test method procedure (this is considered part of the test method QC). Relative error is verified as required by the method or the regulatory program.

- **Metrological Traceability**: Calibration of equipment provides traceability to the International System of Units (SI). Where SI-traceable calibration is not possible (e.g., for certain reference materials or qualitative analyses), the lab uses consensus standards or certified reference materials to ensure measurement quality. Certificates of calibration for externally calibrated equipment are retained, and they indicate the standards used (with traceability) and uncertainty of calibration.

1.9 Intermediate Checks: For critical equipment, intermediate performance checks are done to maintain confidence between full calibrations. For example, for a balance: daily check with a designated, calibrated check-weight; for pipettes: quarterly (TNI)/daily (DoD/DoE) volume check using gravimetric method; for temperature devices: compare against a reference thermometer before use. If any check fails, the equipment is taken out of service until recalibrated or repaired.

Equipment Use and Authorization: Only trained and authorized personnel are allowed to use specific instruments. Training on each instrument is part of the personnel training record (Section 4.1). Instruments come with operating manuals (either hardcopy or electronic) that are readily available to users. Operating instructions and SOPs include proper startup, shutdown, and any tolerances or QC checks required (like tuning a mass spectrometer or verifying a test kit's performance).

Equipment Labeling and Status: Each piece of equipment is labeled or otherwise indicated with its identity and calibration status. For example, instruments have stickers or tags showing the last calibration date and due date (except those calibrated so frequently or via daily internal QC that external labeling is impractical). If equipment is not in service or has limitations, it is clearly marked (e.g., "OUT OF SERVICE – Under Repair" or "Limited Use – For Training Only").

If an instrument is found to be defective, out of calibration, or giving suspect results:

- It is immediately taken out of service (removed from use or tagged to prevent use).
- An investigation is initiated (see Section 5.10 on nonconforming work) to determine if any test results were adversely affected. If so, those results are evaluated and clients are notified as appropriate.

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- The instrument is repaired and calibrated or verified for correct performance before being returned to service. The repair and calibration records are documented.

Equipment Records: For each major instrument or piece of equipment, records are maintained (often in an instrument logbook or electronic system) including:

- Manufacturer, model, serial number (unique identifier).
- Copy of manufacturer's manual (or reference to its location).
- Date received and placed in service, condition on receipt (new, used, etc.).
- Current location (e.g., "Chemistry Lab, bench 2").
- Maintenance history: dates and details of preventive maintenance and any repairs performed.
- Calibration history: dates of calibration, results, who performed, certificates or reports, and due date of next calibration. This includes internal calibration curves if applicable to the method (though method calibration data is often kept with test records, a summary may be noted).
- Verification and check records: routine daily/weekly checks, control charts for critical parameters if used (e.g., balance check weight readings).
- Any observed deviations, damage, or malfunction incidents and the corrective actions taken.

All equipment records are part of quality records (see Section 6.3) and are retained for at least the minimum period required by TNI/QSM or contract (often 5 years or the life of the instrument plus a few years, 5 or 10 years for Drinking Water data, and 12 years for Lead (Pb) and Copper (Cu) Drinking Water data depending on the regulatory program

Handling, Transport, Storage: The lab ensures equipment is handled and stored properly to maintain its accuracy. For instance, delicate instruments are on stable benches; any on-site transportation of instruments (e.g., field portable instruments) is done with protective cases and recalibration/verification upon return if needed.

Computer Systems and Software: Equipment includes computerized systems, software, and firmware. Alliance Environmental Laboratories validates critical software (e.g., LIMS, spreadsheet templates for calculations, instrument data systems) to ensure they are functioning correctly for their intended use (see Section 7.11). Software versions are documented. Access to instrument software is controlled by user logins where possible, to prevent unauthorized adjustments.

Metrological Traceability of Results: The laboratory ensures that all measurement results are traceable to SI units through an unbroken chain of comparisons or to certified reference materials. For chemical tests, traceability is achieved by using certified standard solutions or materials from accredited providers for calibration. The preparation of working standards from these stocks is documented. Balances and volumetric devices used to prepare standards are calibrated, ensuring the concentrations have traceability. [If the lab performs its own calibrations (like thermometer or weights), it adheres to suitable procedures and uses traceable references.] When results are reported in units not directly tied to SI (like pH, which is operationally defined), the lab follows standard methods that ensure comparability (e.g., buffer solutions traceable to NIST).

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Uncertainty of Measurement: (Related to traceability) For tests where relevant, the lab estimates the measurement uncertainty. This is documented for key quantitative methods (especially where results are compared to limits or when required by clients or QSM). The uncertainty takes into account instrument precision, calibration uncertainties, environmental factors, etc. (Details are in Section(5.6.)

4.4 Externally Provided Products and Services

Alliance Environmental Laboratories ensures that any products and services procured from outside (that affect the quality of laboratory operations) meet established requirements. This includes:

- **Suppliers of Critical Supplies**: Suppliers of reagents, calibration standards, certified reference materials, culture media, and disposables (like sample containers) are evaluated and approved. The lab purchases critical reagents and standards from reputable, traceable sources (ISO 17034 or NIST traceable where possible). Receiving procedures verify that chemicals and standards meet specification (e.g., checking certificates of analysis, lot numbers, and expiration dates). When preparing reagents or media in-house, standard formulas and QC checks (e.g., pH of media, sterility tests) are applied.

- **External Calibration Services**: Calibration of equipment by external service providers (balances, thermometers, weights, etc.) is done by calibration laboratories accredited to ISO/IEC 17025 where available. Copies of their accreditation scope and certificates are kept to ensure their competence. Alliance Environmental Laboratories verifies upon return that the equipment calibrated externally is functioning and, if applicable, within tolerance (for example, by doing a quick check against a reference).

- **Subcontracted Testing (Subcontract Laboratories)**: If Alliance Environmental Laboratories needs to outsource any tests (e.g., when a client requests an analysis not performed in-house or due to capacity issues), the laboratory subcontracting procedure is followed:

    - The subcontract lab is preferably accredited to ISO 17025 (and for environmental samples, it should be accredited under NELAP or DoD ELAP as applicable) for the relevant analytes.

    - The subcontractor's qualifications are evaluated – Alliance Environmental Laboratories' QA department maintains a list of approved subcontract labs that have been vetted for certification, acceptable PT performance, and quality system adequacy.

1.10 For DoD/DoE projects, any subcontracted laboratory must have a quality system complying with DoD/DoE QSM requirements and often needs DoD/DoE client approval before use. The client is informed in writing (in advance) if any portion of the work will be performed by a subcontractor. This may require a waiver from the customer-identified point of contact, per QSM 6.0 7.1.5.a.

    - A record of subcontracted work is kept, and results from subcontract labs are clearly identified in reports as having been performed by the subcontract lab (with that lab's name and credentials). The subcontracted results undergo review by the individual laboratory's QA Manager to ensure they meet our quality standards and any client requirements.

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- **External Services**: Other services that can affect quality include: proficiency test providers, sampling services (if using contract samplers), courier services for sample transport, etc. The lab selects only those external services that are competent and suitable. For instance, proficiency test sample providers must be accredited to ISO 17043; contract samplers should follow the same procedures as our in-house sampling (or be trained to do so). If using a courier for samples, we ensure they can maintain required temperature conditions (e.g., overnight shipping with ice packs).

Purchasing and Verification: The laboratory has a purchasing procedure that defines how to specify requirements for critical supplies and services, how to select vendors, and how to inspect received goods. For example, when buying a new batch of certified reference standard, the purchase order will specify the needed purity or certification, and upon receipt staff will verify the certificate). If supplies do not meet requirements (expired, contaminated, damaged in shipping), they are not used and are returned or discarded, and the incident is recorded.

All external providers are evaluated to ensure quality – e.g., checking if our supplies consistently meet criteria, or reviewing subcontract lab performance (if a subcontract lab produces repeated errors, it would be disqualified). Records of evaluations and approvals of suppliers/providers are maintained.

For traceability, critical materials and services are linked to test records: for instance, analytical batch records note the lot numbers of standards and reagents used, so if a problem is later found with a particular lot, affected test results can be identified.

5. Process Requirements

5.1 Review of Requests, Tenders and Contracts

The laboratory has a defined procedure for contract review to ensure that it fully understands and can meet the client's requirements before work commences Alliance Environmental Laboratories (often through a Project Manager or Sample Receiving Supervisor) performs the following steps for each new project or sample batch:

1.11 **Initial Inquiry/Quote**: When a client requests testing (via phone, email, or LIMS portal), the scope of the work is identified: the analytes or tests needed, the sample matrix, number of samples, required detection limits, turnaround time, any specific regulatory program requirements (e.g., EPA method versions, DoD/DoE QSM compliance, particular data package deliverables), and any client-specific quality criteria. If the client provides a written statement of work or QAPP (Quality Assurance Project Plan), the lab will review it. Based on this, the lab confirms it has the capability and accreditation for the tests (check against our scope in Appendix A) and that required resources (personnel, instruments, capacity) are available for the timeframe requested. A quote or proposal is then provided if needed, including the list of tests, price, and expected reporting date.

- **Contract Review and Acceptance**: Before accepting the work (signing contract or agreeing to proceed), the Quality Manager or designee verifies that all requirements can be met. This includes technical review of method detection limits vs required limits, sample preservation and handling needs, any unusual QC or reporting requirements, and ensuring any subcontracting needs are identified. If any requirement is unclear or if the lab cannot meet something (e.g., a requested method is not in our accredited scope, or turnaround is too short), the lab negotiates modifications with the client. Any changes or exclusions are documented. Once both the lab and client agree on the conditions, the work is accepted. Acceptance is usually documented by assignment of a project ID or login of samples into the LIMS, which indicates contract acceptance.

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- **Coordination for Sample Receipt**: The lab ensures that it is ready to receive samples as per the agreed schedule. If this is a tender or proposal stage (e.g., bidding on a larger contract), the formal agreement (if won) will be reviewed again to ensure alignment with proposal assumptions. People are encouraged to use the legal support function in the Okta dashboard for contract review.

During review, any discrepancies between client requests and standard operating procedures or accreditation are resolved. For example, if a client asks for a method that the lab is not accredited for, the lab either: (a) informs the client and arranges a subcontract to an accredited partner (with client approval), or (b) declines that portion of work, or (c) seeks to obtain accreditation if feasible (for long-term contracts). In all cases, clients are informed of what the lab can or cannot do and any caveats (like if a result will be reported as “not accredited”).

Documentation of Contract Review: The laboratory uses a form or electronic system to document the review . This includes listing the methods to be used, any deviations or additional requirements, and approvals by the responsible staff. The review record often appears as part of the Chain-of-Custody (CoC) or login form where the project manager signs off on the requested analyses vs. lab capabilities. If the client’s request is verbal or via email, the lab will Document the conversation to provide traceability.

Changes to Contracts: If at any time after acceptance, the contract requirements change (client adds more samples, changes scope, or if the lab finds a need to change methods due to unforeseen circumstances), such changes are communicated and agreed with the client. The contract review process is repeated for the changes to ensure continued capability. All changes and client authorizations are recorded (e.g., in the project file or via a revised quote).

The lab ensures that personnel responsible for sample login and project management are trained in contract review so that all aspects (technical, timeline, quality level) are considered. The Quality Manager may assist or oversee contract reviews especially for complex or non-routine projects to ensure compliance with quality system and accreditation conditions.

No work is started until the contract review is completed satisfactorily. In particular, samples are not analyzed under methods or conditions that have not been agreed upon. If an issue is discovered only after analysis has begun (e.g., an unexpected matrix interference requiring a method change), work may pause and the client is consulted for decision.

5.2 Selection, Verification, and Validation of Methods

Method Selection: Alliance Environmental Laboratories uses test methods that are appropriate for client requirements and that are recognized by the relevant accreditation and regulatory programs. Preferably, standard methods from organizations such as EPA, Standard Methods, ASTM, etc., are used. For environmental testing, the laboratory follows methods that are mandated by regulation or requested by the client (e.g., EPA 8260 for VOCs in water, SM 2540D for TSS, etc.). A list of standard test methods within the lab’s accredited scope is maintained (see Appendix A or the Scope of Accreditation document).

When the client does not specify a method, the lab will choose a suitable method based on the nature of the test and its expertise, ensuring it meets the intended purpose (detection limits, accuracy, etc.). The chosen method is communicated to the client if needed. The lab ensures it has the latest effective version of the method (including any regulatory updates).

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Method Verification: For all standard methods (i.e., methods published in standards or by reputable sources) that are within the scope of the lab's accreditation, Alliance Environmental Laboratories performs a method verification before using them on real samples. Verification involves confirming that the lab can achieve the method's performance specifications (such as precision, accuracy, detection limits) in its own facility and with its matrices. For example, upon adopting a new EPA method, the lab will run a quality control sample or reference material and perhaps matrix spikes in a relevant matrix to ensure it meets recovery and precision criteria. If the method has a published detection limit, the lab verifies it by performing an MDL study as per EPA or TNI requirements. Records of method verification (like initial precision and recovery studies, calibration linearity checks, etc.) are kept in the Method Validation/Verification file.

Method Validation (Non-Standard Methods): If the lab needs to use a *non-standard method*, a *laboratory- developed method*, or significantly modify a standard method (beyond allowed adjustments), it will perform a full validation. Validation includes determining or confirming method performance characteristics such as accuracy (bias), precision, range, detection limit, quantitation limit, selectivity, and robustness. For example, if the lab develops a new chromatographic method for a compound not covered in standard methods, it will design a validation plan: analyze known standards, perform spike recoveries in sample matrices, check interferences, etc., to provide evidence that the method is fit for purpose. The extent of validation is proportional to the method's intended use and client needs. The Quality Manager reviews and approves method validation plans and reports to ensure they satisfy ISO/TNI criteria where applicable. Only once validation demonstrates acceptable performance will the method be used for client samples. There are additional DoD/DoE requirements in 6.0 for modifications where they must be validated with a process that includes field samples in the matrix of concern and containing at least a subset of target analytes. See M2 5.1.5-5.1.7 of the QSM 6.0.

Documentation: Each test method used by the lab has an SOP (or the standard method document itself) that is controlled under the document control system (Section 8.3). The SOP details the procedure, required reagents, calibration and QC requirements (like frequency of calibration verification, control samples), calculation formulas, and any specific data acceptance criteria. Methods and SOPs also reference any required sample preservation and holding times as per regulations. The method documentation also indicates if any sections of a standard method are not applicable or are modified (with justification).

Confirmation of Method Capability: Before putting any method into routine use (even if it's a standard method), analysts must perform a Demonstration of Capability (as covered in Section 4.1) on that method. Additionally, for critical projects, the lab may perform a trial analysis on a sample or reference to demonstrate to the client that the method works as expected.

Continuous Suitability: The lab continuously monitors method performance through quality control measures (Section 5.7). If ongoing QC indicates a method is not in control or meeting required performance, the method is reviewed, and if necessary, re-verified or adjusted. For instance, if recoveries of spikes start trending low consistently, the method might need maintenance (like cleaning an instrument) or perhaps an adjustment (within allowed flexibility).

Deviations from Methods: Any deviations from standard methods are avoided unless absolutely necessary. If deviations or modifications are necessary (for example, using a smaller sample volume due to limited sample, or modifying a cleanup step), they must be technically justified, authorized by lab management, and accepted by the client. Such deviations are documented in test records and reported with the results (see Section 5.8 Reporting).

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Method Updates: When a referenced standard method is updated by the issuing body (e.g., EPA releases a new revision), the laboratory reviews the changes and transitions to the new version as required by accreditation agencies. Before implementing the updated method, any needed verification (especially if there are substantive changes) is performed. The Quality Manager ensures that the lab's scope and SOPs are updated accordingly.

5.3 Sampling

Sampling Services: Alliance Environmental Laboratories performs sampling in support of analytical tests when requested by clients at some locations. Sampling is carried out by trained field technicians following documented sampling plans and procedures to ensure that samples are representative and uncontaminated, and that all environmental conditions relevant to the sampling are recorded.

Sampling Plans: For routine sampling, standard operating procedures (SOPs) for sampling are followed (for example, SOP for groundwater sampling using low-flow purge, SOP for soil sampling with Encore samplers, etc.). For project-specific needs, a Sampling Plan is prepared or referenced (often provided by the client or developed as part of a project QAPP). The sampling plan or SOP defines: the target population (e.g., site location, well IDs), sampling methods and equipment, the number of samples and any field duplicates or blanks required, preservation requirements, and any in situ measurements. It also specifies conditions such as holding times from collection to analysis, and safety considerations.

Sample Collection Procedures: Field personnel ensure that:

- Proper sample containers (pre-cleaned and of appropriate type) are used for each test (e.g., amber glass with septa for VOCs, polyethylene for metals, etc.). Containers and preservatives comply with method requirements and client guidelines.
- Each sample is given a unique field identification and labeled with time, date, sampler's initials, and any preservative added.
- Field measurements (e.g., pH, temperature, chlorine residual) are taken as required and recorded immediately. For example, temperature of every cooler on receipt is measured; some parameters like residual chlorine may be tested at collection.
- Preservation is applied immediately (cooling to ≤6°C, chemical preservatives like H_2SO_4 for certain bottles, zero headspace for VOCs, etc.). If filtration is required (e.g., dissolved metals), it is done in the field or as specified, within allowed time.
- Chain-of-Custody (CoC) forms are initiated at sampling, capturing sample IDs, times, and the requested analyses. Custody seals may be used on sample containers or coolers as appropriate to detect tampering.

Environmental Conditions & Records: The sampling personnel note any environmental conditions that might affect sample integrity or interpretation of results. For instance, weather conditions, ambient temperature, unusual odors or appearance, or deviations from normal sampling procedure are recorded in a field logbook or on the CoC. They also document any field observations relevant to analysis (e.g., well purging details, turbidity, etc.). If sampling requires a diagram or specific location coordinates, those are recorded as well (e.g., GPS coordinates of each soil sample point). Photographs may be taken if allowed to illustrate conditions.

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Sample Handling and Transport: After collection, samples are packed with sufficient ice or cooling packs to maintain temperature and transported to the laboratory under chain-of-custody. The goal is to deliver samples to the lab as soon as possible, ideally on the same day or within 24 hours (especially for time-sensitive tests). CoC forms accompany the samples; each transfer (e.g., field to courier, courier to lab) is signed with date/time. Upon receipt at the lab, Section 5.4 procedures (sample receipt) take over.

Sampling Equipment and Decontamination: Sampling devices (pumps, bailers, tubing, augers, etc.) are either single-use disposable or decontaminated between samples to avoid cross-contamination. The sampling SOP's specific to the laboratories that perform sampling define the cleaning steps (e.g., Alconox wash, distilled water rinse, solvent rinse if needed) and any verification (like rinsate blanks). If using on-site instrumentation (like a field turbidity meter or multi-parameter probe), those are calibrated in the field or just prior using standards, and calibration results are noted.

Ensuring Sample Integrity: The lab treats sampling as part of the quality process. Field blanks, trip blanks, and duplicate samples are taken as required by method or client to check for contamination or variability in sampling and transport. For example, a trip blank accompanies VOC samples from lab to field and back to lab unopened to detect any contamination during transport. Field duplicates check sampling precision. Results from these are reviewed as part of data quality assessment.

Training of Samplers: Individuals who perform sampling are trained in the above procedures and the specific techniques for the matrices they handle. Training includes not only technical aspects but also health and safety (e.g., HAZWOPER training if required for environmental sampling). They also receive the same ethics and quality training as lab analysts, as their work can critically impact data quality.

Sampling Uncertainties: The laboratory recognizes that sampling can introduce significant variability. While formal uncertainty estimation for sampling is complex, the lab addresses it by rigorous procedures and by including sampling replicates. If a client requests, the lab can provide an estimate of sampling uncertainty or at least describe factors that may affect results (e.g., heterogeneous matrices).

Link to Analysis: Each sample collected by [Lab Name] has a clear identifier that flows into the laboratory information system, linking it to the field records. The lab ensures that any conditions noted at sampling that could influence analysis (like high sediment content requiring extra preparation) are communicated to the analytical team.

5.4 Handling of Test Items (Samples)

This section details how Alliance Environmental Laboratories handles samples from the moment they arrive at the laboratory (or are collected by lab personnel) through to disposal, to maintain sample integrity and traceability.

Sample Receipt and Chain-of-Custody: Upon arrival at the laboratory, samples are received by the Sample Receiving or Login staff in a designated area. They check the following:

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- **Condition of Shipping Container:** Check cooler or package integrity, presence and condition of custody seals (if any) on cooler and sample bottles. Note if the cooler arrived intact or if there were leaks/spills.

1.12 Temperature: Measure and record the temperature of the cooler or an appropriate sample immediately (using a calibrated thermometer). Typically, environmental samples should be at 0-6°C with drinking water samples <4°C (with ice still present) if preserved by chilling; the measured temperature is documented on the CoC (e.g., "Cooler temp = 4°C"). If temperature is out of range (e.g., >10°C) and beyond any grace criteria, it is flagged for the project manager and likely noted as a qualifier on results. For drinking water samples and non-potable water samples - depending on the accrediting body- samples that arrive the same day as sampled and are on ice where the chilling process has begun are also considered acceptable.

- **Completeness and Preservation:** Reconcile sample IDs and quantities against the Chain-of-Custody form or shipping manifest. For each sample, verify that the container type and preservative match the requested test. For example, confirm that samples requiring pH < 2 have appropriate acid preservative (like HNO_3 for metals), that chlorine check was done for certain samples if needed, etc. Also check that holding times have not been exceeded in transit (e.g., if a sample was taken yesterday for BOD, it's still within the holding time on receipt). If any sample is missing, extra, broken, or improperly preserved (e.g., no acid in a bottle that should have it), these discrepancies are recorded. The client is notified of any issues as soon as possible.

- **Unique Lab Identification:** The lab assigns a unique Laboratory ID number to each sample (or each batch, with subsample identifiers). This is often a barcode or alphanumeric code. It is written on each container (or a label affixed) and entered into the Laboratory Information Management System (LIMS) along with the sample metadata (client, project, date/time of collection, matrix, tests required). The link between client's sample ID and the lab ID is maintained in the LIMS and on the CoC form.

The chain-of-custody form is then signed off by the receiver, transferring custody from the transporter to the lab. From this point on, the LIMS or manual logs track the custody of samples within the lab. Typically, the sample is logged in to the specific departments for analysis (electronic chain-of-custody).

Storage Conditions: After check-in, samples are stored under conditions required by the method until analysis. Generally, samples are kept refrigerated at 2-6°C unless the method calls for a different condition (e.g., some metals extracts may be at room temp). Light-sensitive samples (like chlorophyll) are stored in dark conditions. Samples that require freezing (rare for routine environmental except maybe soil for certain organics) are frozen if needed. Each storage area (fridge, freezer) is monitored daily for temperature and has corrective action procedures if out of range. Samples containing hazardous levels of contaminants or radiological samples are stored in compliance with safety regulations (with appropriate labeling and segregation). Some regulatory programs, such as the USDA Regulated Soil Protocol will require segregated storage and special handling and disposal procedures. These requirements will be adhered to by the applicable laboratories.

Handling During Analysis: Laboratory analysts retrieve samples as needed from storage. . Analysts mix samples thoroughly (if required) before sub-sampling to ensure homogeneity (especially for solids or multipart liquids). Aliquots for different tests are taken in the order least likely to compromise others; for instance, volatile organics are typically taken first to avoid aeration, then other tests. The lab's procedures specify how to split samples for multiple tests while preserving integrity (e.g., use clean pipettes, avoid cross-contamination between aliquots).

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Sub-sampling and Sample Prep: If the method requires any preliminary preparation (like filtration, digestion, extraction), it is done according to the SOP and within holding time. Solids for semivolatiles might be dried or sieved as specified. Each preparation is logged (with date/time) in the prep log or LIMS, which helps demonstrate compliance with holding times and conditions.

Avoiding Contamination: The lab employs practices to avoid cross-contamination during sample handling: dedicated tools or rinsing between samples, using clean disposable pipette tips, processing known high-concentration samples last or separate from low-level samples (especially for volatiles or metals). If any sample is suspected to have extremely high concentrations (like an oily sludge), it may be segregated or diluted to minimize cross-contamination risk. Laboratory blanks and preparation blanks are used to monitor for any cross-contamination in each batch. Reusable glassware is scrupulously cleaned and randomly assigned to batch QC samples to ensure the system remains free of contaminants. Segregating specific glassware for QC sample preparation, such as method blanks, is prohibited.

Sample Retention and Disposal: After analysis is completed, the lab retains the remaining sample for a specified period (typically at least the regulatory minimum or as per client contract). For most environmental samples, a common retention is 30 days after the report, unless instructed otherwise. Some laboratories may utilize different retention times depending on laboratory policy or regulatory requirement. During this period, samples are kept in case the client requests re-analysis or additional tests. After the retention time, the samples are disposed of following environmental and safety regulations: for example, liquids are bulked and disposed as laboratory chemical waste (if hazardous), or down the drain if known to be non-hazardous and permitted; solids are disposed in chemical waste or biohazard as appropriate. The disposal date of each sample batch may be recorded (some labs log when sample was disposed, to ensure retention compliance).

Any sample remaining after the retention period is considered lab waste and handled accordingly. If a client requires return of samples or longer storage (for legal holds etc.), the lab will store as directed (often in a separate freezer for long-term archive) or ship back to client following hazardous material shipment rules.

Chain-of-Custody to External Labs: If the lab must send a sample or a portion to a subcontract lab (see Section 4.4), the chain-of-custody continues: the lab prepares a new CoC form to accompany the sample to the subcontractor and packages it appropriately. While at [Lab Name], the sample is under our custody; when shipped out, it's recorded, and upon receipt, the subcontractor signs their CoC (a copy is kept). Results from subcontract come back linked to our original sample ID.

Traceability of Samples: Throughout these processes, every sample and any subsample or extract is traceable by its ID. For example, extracts or digestates are labeled with sample ID and extraction date, and logged. If subsamples are taken (like multiple fractions of one sample for different tests), their identities are traceable to the original sample.

Deviations in Sample Condition: If at any point a sample is found to not meet requirements (e.g., holding time exceeded, incorrect container, insufficient volume, or it arrived leaking or broken), the lab documents the issue and notifies the client. Depending on client direction and the nature of the test, the lab may either proceed with analysis with appropriate qualifiers (noting the condition) or cancel the test. Depending on the AB, there may be prohibitions regarding accepting client approved deviations (such as for micro samples with the state of Washington). For instance, if a sample for VOCs arrives with headspace (not ideal), the lab can either reject it or proceed and flag the result (as long as the client is informed). Such conditions are noted in the final report with qualifiers or footnotes, indicating potential data limitations.

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Handling Hazardous Samples: Sometimes samples may be hazardous (highly contaminated or biohazard). The lab has procedures to ensure staff handling such samples have appropriate personal protective equipment (PPE) and that storage is safe (e.g., flammable samples in flammable cabinets, radioactive samples in controlled area if any, biohazard samples autoclaved after analysis, etc.).

5.5 Technical Records

Alliance technical Group maintains technical records for each test and calibration carried out. Technical records are all the original observations, raw data, calculations, and derived data that support the test results, as well as information on the handling of samples and the quality control results. These records enable the laboratory to trace the history of each test and, if necessary, repeat the test under conditions as close as possible to the original.

Key aspects of technical records include:

- **Raw Data Capture:** All raw data are recorded at the time of observation, either manually in controlled worksheets/logbooks or electronically in the LIMS or instrument data systems. This includes instrument readings, observations such as color changes or titration endpoints, weight measurements, chromatograms, spectra, etc. Records are identified with the sample ID, date, and the person who performed the test. For example, an analyst will record peak areas or C_t values, or attach the instrument printout to the worksheet, ensuring it's labeled with the sample number and run date. Chromatograms are captured both before and after manual integration. The reason for the manual integration is documented, along with the analyst's signature or initials and date.

- **Result Calculations:** Any calculations performed (conversions, dilutions, quantitation from calibration curves, uncertainty calculations, etc.) are either done by validated software (like LIMS, Excel templates, instrument software) or manually using formulas defined in SOPs. The lab retains evidence of calculations: for manual, showing steps or formula used; for automated, the parameters and output. Calculation sheets or LIMS records will show, for instance, how a concentration was derived (peak area × calibration factor, etc.). If spreadsheets are used, they are template-locked or verified to ensure correct formulas.

- **Calibration and QC data:** Technical records include associated calibration curves, calibration verification results, and quality control sample results (blanks, LCS, matrix spikes, duplicates). These are integral to demonstrating the test validity. For each batch of samples, a QC summary form might be used to log these values and check against acceptance criteria. For example, the recorded recovery of a matrix spike or the RPD (relative percent difference) of duplicates is documented.

- **Traceability Info:** Records link each result to the method used, the instrument used (with instrument ID), and any standards or reagents ultimately traceable to the lot number which is traceable to the certificate of analysis. For instance, an ICP metals analysis record will note the calibration standard lot number or unique ID of that standard or reagent , making it possible to trace back in case of any issue. The identity of the analyst and any reviewer is also recorded.

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- **Corrections and Amendments:** If an error is discovered in a record (e.g., transcription mistake or calculation error), corrections are made following good documentation practices. Original entries are not erased or whited-out; instead, a single line is drawn through the error (for paper records) leaving it legible, the correct value is entered nearby, and the change is initialed and dated by the person making the correction. In electronic records, any changes after initial entry are tracked by the system (audit trail) or documented via a revision process. The reason for correction may also be noted (e.g., “dilution factor updated”). This ensures that the record clearly shows both original and corrected data, maintaining transparency.

- **Electronic Records:** Where electronic systems are used (LIMS, instrument output files), the lab ensures data integrity by regular backups and access control. The LIMS holds sample results and can reproduce the final results and key inputs. If changes are made in LIMS (like re-calculation), the system logs who made the change and when (audit trail). We consider the combination of electronic raw data and printed reports as the complete record. For critical data systems, backups are done [daily/weekly] and stored securely.

- **Record Retention:** All technical records are retained for a defined period in accordance with accreditation and client requirements. [Lab Name] keeps test records for at least [5 years] (TNI requires a minimum of 5 years for environmental labs, DoD may require longer for specific projects). Some specific programs may require longer retention (e.g., 10 years for drinking water data, certain DoD projects, or projects under litigation hold and 12 years for lead and copper drinking water data). The retention policy is to ensure records are available for audits, inquiries, or data reviews. After the retention period, records may be archived or disposed of securely (paper shredded, electronic deleted) to maintain confidentiality.

- **Protection of Records:** Physical records (notebooks, forms, printouts) are stored in designated file cabinets or archive rooms that are protected from environmental damage (excessive heat, moisture, pests) and secured from unauthorized access (in a locked room or area) with a log of access records maintained. Electronic records are protected via regular backups as mentioned, and by user permissions such that only authorized staff can modify or approve records. The lab also has measures against data loss (UPS for computers, IT support for data recovery if needed). Once a physical record is scanned into the electronic record, the electronic record becomes the official retained version.

- **Legibility and Identification:** All entries in records are made in permanent black or blue ink (for paper) and are clearly legible. Each page of a bound notebook or worksheet is labeled with at least the project or sample identifiers and dated. Loose worksheets are identified by document ID and page numbers, and ideally all pages of a record set for a batch are kept together. If any records are amended after initial completion (like an amended report or reanalysis data added), these additions are clearly marked with date and responsible person. Blank logbook pages or substantial portions of pages with no entries are marked with a large “X” or “Z” to indicate that they were deliberately left blank and are not available for addition of new data at a later date.

Technical Records Contents: A typical analytical batch record, for example, will contain: the job/sample list, the method SOP reference, raw instrument outputs (chromatograms, etc.), sample preparation logs (digestion volumes, etc.), calculations (dilution factors applied, final concentrations), QC results for that batch, and a checklist or signature sign-off by the analyst and reviewer. All this combined constitutes the technical record supporting the final test report.

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Access for Review: During internal audits or external assessments, these technical records are made available for review. They should demonstrate that tests were carried out in accordance with methods and that all QC met acceptance (or if not, how it was handled). The completeness of records (no omissions of data, all samples accounted for, all corrections properly done) is something the lab's internal data review (Section 5.8 and 8.8) checks before results are released.

In summary, technical records are maintained such that any competent person could follow what was done and evaluate the test's validity. They are objective evidence of the lab's adherence to methods and quality protocols. By preserving these records, [Lab Name] can answer any questions about a particular result, even years after the fact, and can also perform any required reconstructive analysis or root cause investigation should a problem arise.

5.6 Evaluation of Measurement Uncertainty

Estimation of Uncertainty: [Lab Name] evaluates measurement uncertainty for its quantitative test results to the extent appropriate for the method and client needs. In environmental testing, certain methods have well-defined precision and bias criteria, and the focus is on controlling those. However, the laboratory recognizes the importance of understanding uncertainty, especially when results are near regulatory limits or when a client specifically requests an uncertainty estimate.

For each major quantitative method (especially calibration-type analyses), the laboratory has determined estimates of uncertainty components and, where required, a combined measurement uncertainty. This is typically done using method validation data, ongoing quality control data (like control charts for precision), and published sources: for example, contributions from instrument calibration, reagent purity, volume and weight measurements, etc. We primarily express uncertainty as a standard uncertainty or expanded uncertainty at a certain confidence level (often 95% coverage, k≈2).

Approach: In practice, the lab's approach to uncertainty is:

- For well-established methods with rigorous QC (e.g., EPA methods for water), the lab relies on method performance data (precision and bias studies, LCS recoveries over time, etc.) as a basis for uncertainty. For instance, if historical data for a metals analysis method shows an RSD of 5% for LCS at relevant levels, and calibration uncertainty is minimal, the overall uncertainty might be approximated from that precision.

1.13 For methods where an uncertainty is needed (like for certain clients or DoD/DoE projects requiring it in reports), the lab uses either a bottom-up component approach or a top-down approach (using reproducibility data). A bottom-up might include contributions from calibration curve fitting, instrument repeatability, extraction efficiency, etc. A top-down might use long-term RSDs of matrix spike recoveries and duplicate analyses as an aggregate measure.

- When required for reporting, an expanded uncertainty (U) is calculated. For example, if the lab needs to state uncertainty for a result: "10.5 ± 1.2 mg/L (U, k=2)" meaning at 95% confidence.

Documentation: The method SOPs or an Uncertainty SOP outlines how we estimate uncertainty. The Quality Manager Maintains the uncertainty SOP.

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Inclusion in Results: Generally, routine environmental testing does not require stating uncertainty on test reports; instead, results are compared to regulatory limits using established QC criteria. However, if a client (e.g., for research or a specific contract) requests the uncertainty, the lab will provide it. DoD/DoE QSM 6.0 requires that where applicable and requested, a statement of uncertainty be provided. [Lab Name] complies by providing uncertainty for measurements like calibration standards, or special tests (e.g., radiochemical analyses where uncertainty is commonly reported).

Examples: For a gravimetric total solids test, uncertainty might come from balance calibration and repeatability—if the balance has ±0.2 mg uncertainty and sample variability adds ±1 mg, for a typical 50 mg residue the relative uncertainty might be a few percent. For instrumental methods like GC/MS, major contributors could be injection volume precision and calibration linearity. The lab uses control chart data (like Laboratory Control Sample recoveries, surrogate recovery variability, and calibration checks) to empirically gauge uncertainty.

Qualitative/Presence-Absence Tests: For tests that are qualitative (presence/absence, or reported as detected vs ND with a detection limit), uncertainty of measurement in a numerical sense is not applicable. Instead, the lab ensures method detection limits are determined (for ND reporting) and that identification criteria (for presence) meet the method requirements. **Continuous Improvement:** The laboratory periodically re-evaluates uncertainty estimates as more data become available (for example, after a year of PT samples and routine QC, we might refine the estimate for bias and variability). If any major equipment or method change occurs, uncertainty analysis is revisited.

5.7 Ensuring the Validity of Results (Quality Assurance of Test Results)

Alliance Environmental Laboratories implements a comprehensive Quality Control (QC) program to monitor the validity of tests and calibrations on an ongoing basis. The quality of results is routinely checked so that trends can be detected and any deviations can prompt corrective actions. The key elements of our QC and assurance of validity include:

- **Use of Certified Reference Materials (CRMs) and QC Samples:** Wherever available and appropriate, we analyze certified reference materials or standard reference materials as quality control samples to verify accuracy. For example, a certified reference water sample with known concentrations of metals is run periodically to ensure the analytical process recovers the true value within uncertainty. In the absence of CRMs, we use Laboratory Control Samples (LCS) to serve as a check on accuracy. Each analytical batch typically includes an LCS. Acceptance criteria (often ± e.g. 10-20% of true value) are defined by method or internally from method validation data.

- **Control Charts:** The laboratory maintains control charts or running records for critical QC parameters such as LCS recovery, duplicate precision, or calibration check results. This statistical monitoring allows detection of trends (e.g., gradual drift in recovery) and helps in evaluating long-term method performance. For instance, if LCS recoveries start trending toward one of the control limits, it signals a potential issue (instrument calibration or reagent degradation) to address before a failure occurs. We use Westgard-like rules or similar to interpret control charts where appropriate.

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- **Proficiency Testing (PT):** Alliance Technical Group participates in external proficiency testing programs (also known as performance evaluation studies) for all analytes/methods as required by our accreditation (typically at least twice per year per field of testing, however some AB's require less). These PT samples are treated as blind samples and analyzed like regular samples. We compare our reported results to the known values assigned by the PT provider. Successful PT performance (results within acceptance limits) provides an independent check on our accuracy. Any failures in PT are investigated via corrective action (root cause analysis, etc.) and resolved; corrective action reports are maintained and, if required, submitted to accrediting bodies.

- **Internal Audits of Technical Activities:** (Though internal audits are covered in Section 8.8 as a management requirement, they also ensure validity by periodically reviewing technical operations). Trained internal auditors or QA staff observe analysts, inspect records, and perform method audits to ensure procedures are followed and identify any gaps.

- **Replicate/Repeat Analyses:** The lab uses replicate analyses as needed to check precision. This can include duplicate sample analyses (one sample split and analyzed twice independently within the same batch) to measure the method/sample variability. Many methods require a laboratory duplicate for every batch – we calculate the relative percent difference (RPD) and check it against method criteria. If duplicates exceed the limit, it indicates possible inhomogeneity or method precision issues which are investigated (and results qualified if necessary). In some cases, we also do matrix spike duplicates to assess both accuracy and precision in one sample.

- **Matrix Spikes and Surrogates:** For chemistry tests, matrix spikes (addition of known amounts of analyte to a client sample) are routinely performed to gauge matrix effects. Recovery of spiked analytes informs us if the sample matrix is causing bias (suppression or enhancement). Acceptable recovery ranges (often 75-125% or per method) are predefined. If a matrix spike recovery is out of range and LCS was fine, it indicates matrix interference in that sample – the data might be reported with a qualifier noting potential bias. Surrogate compounds (for organic analysis) are added to every sample – these act like internal spikes that measure recovery in each individual sample. Surrogate recoveries outside control limits trigger review and possible re-extraction or dilution of the sample.

- **Blank Samples:** Method blanks (reagent blanks that undergo all sample preparation steps) are included in each batch to check for contamination. Ideally, method blanks should be free of target analytes above detection limits. If any contaminants are detected (above 1/2 the reporting limit or a defined threshold), we investigate the source (reagents, carryover, etc.) and affected samples are evaluated. Field blanks/trip blanks results are also reviewed; if they show contamination, associated data may be qualified for potential contamination.

- **Instrumentation QC:** Instruments have their own QC checks: e.g., tuning criteria for mass spectrometers must be met before analysis (tune verification); continuing calibration checks (CCVs) are analyzed every 10 samples or batch to ensure the instrument calibration remains valid. If a CCV is out of acceptance (above method-defined limits, like >±15%), the lab takes action: either re-calibrate and re-run samples or qualify data that can't be re-run, per method allowances. Similarly, retention time windows, resolution checks, etc., are monitored for chromatographic systems.

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- **Second-source Verification:** As part of ensuring no standard preparation error, the initial calibration of many instruments is verified by analyzing a standard obtained from a different manufacturer (second source) at a mid-range concentration. This catches any possible calibration standard degradation or mis-preparation. It's often required by TNI for each calibration. If the second-source check is not within its defined error tolerance (e.g., 5-10%), the calibration is suspect and must be redone.

- **Peer/Data Review:** Each analytical data set undergoes a second-level review by a qualified individual (often a supervisor or the QA department) before results are reported (see Section 5.8). This review checks that all QC met criteria and that calculations are correct. If any QC was out, the reviewer verifies that appropriate actions were taken (e.g., re-run, data qualified) and that such results are not reported without flagging. This step is a quality gate to catch issues not flagged by the analyst. Additionally, a spot-check by the QA Manager on ~10% of all completed reports provides an extra layer of oversight.

- **Inter-laboratory Comparisons:** Beyond formal PTs, if opportunities arise, the lab sometimes participates in inter-lab studies or compares results with a reference lab. For example, for new methods, we might split samples with another accredited lab to compare results. If significant differences are found, we investigate potential causes (method bias, calibration differences).

- **Personnel Competency Monitoring:** Ongoing DOCs as mentioned in Section 4.1 also ensure that each analyst continues to be capable. If an analyst's QC results or PT results indicate a problem, they may be retrained or their work under closer supervision until resolved.

If any quality control result indicates that the testing was not within control (e.g., LCS failed, calibration drifted, etc.), the laboratory's policy is to halt and correct the issue before proceeding. Affected samples are either re-run after correction or, if not possible (like sample volume exhausted or holding time expired), the data is reported with appropriate qualifiers and the client is notified of the data quality issue. For example, if a batch's matrix spike failed high but re-run is not feasible, results might be qualified as estimated. If the issue calls into question earlier results, those too may be evaluated (see Section 7.10 on nonconforming work).

Through the above ongoing QA/QC practices, [Lab Name] ensures confidence in the day-to-day validity of its results. The combination of preventative measures (calibrations, maintenance) and monitoring measures (blanks, spikes, etc.) provides assurance that results produced are accurate and reliable within known limits.

5.8 Reporting of Results

General: Test results are reported accurately, clearly, and objectively, in accordance with ISO 17025 requirements and any specific format requested by the client or required by regulation. Alliance Environmental Laboratories issues reports (or certificates of analysis) that include all information necessary for the interpretation of the results and that identify any deviations or qualifiers. Reports are prepared under the authority of the Laboratory Director or Quality Manager and are reviewed for correctness before release.

Report Format: The laboratory has a standard report template that can be customized per client needs. Reports are typically issued as PDF documents on Alliance Environmental Laboratories letterhead (or electronically via a secure portal) and include at least the following elements:

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- **Title and Identification:** A title like “Analytical Test Report” or “Certificate of Analysis” along with a unique report identification number and each page numbered (e.g., Page X of Y).

- **Lab Identification:** The full name, address, and contact information of the Laboratory as the issuing laboratory. This includes the specific location if multiple labs, so the client knows which site performed the work.

- **Client Identification:** Name and address of the client (company or individual who commissioned the tests). If the client has a specific project name or number, that is referenced.

- **Sample Identification and Description:** Each sample is listed with the client’s identifier and/or Lab ID. Include a description (matrix type, appearance if relevant), sampling location, and date of sampling (if provided) or date of receipt. If Alliance Environmental Laboratories performed the sampling, the sample description includes where, when, and by whom (possibly referencing a field ID or CoC). If sampling was not done by our lab, we note “Sample(s) received from client” and the date received.

- **Dates of Testing:** For each sample or for the report as a whole, the dates of analysis (or date of preparation, extraction, etc., if relevant) and the date of report issue. This provides timeline context and demonstration of meeting holding times as needed.

- **Test Methods:** For each analyte or test performed, the method is identified (e.g., EPA 8260D, SM 9223B, etc.). Our reports either list the reference method next to each result or in a separate column. If a lab-specific SOP number is used, we ensure it references a recognized method or is fully described in an accompanying documentation. Any deviation from the standard method is noted (for example, if a smaller sample volume was used due to high turbidity, etc.).

- **Results:** The measured values for each analyte/test, with units of measurement clearly indicated (e.g., mg/L, µg/kg). Results are typically presented in a tabular format. If a result is below the detection or reporting limit, it is reported as “< [RL]” (e.g., <0.5 µg/L) or ND (not detected) with the detection limit specified. If above a certain threshold like a regulatory limit, that might be highlighted.

- **Units and Basis:** Units are given for each parameter. If results are reported on a specific basis (dry weight vs wet weight, or “as received”), that is stated for clarity. We indicate if results are corrected for any dilutions.

- **Uncertainty (if required):** Typically for environmental lab reports, uncertainty is not included unless requested. However, if included or required (for calibration results or certain analytes), the expanded uncertainty is reported (e.g., ± value, coverage factor, and confidence level). Otherwise, a statement might be: “Uncertainties available on request.”

- **Qualifiers and Footnotes:** Data qualifiers are used to flag results that need additional context (see Appendix D for the list of standard qualifiers and their definitions used by [Lab Name]). Common qualifiers include: “U” for not detected, “J” for estimated value (e.g., below quantitation limit or due to QC issue), “B” for analyte detected in blank, etc. Each qualified result on the report will have the qualifier symbol and an explanatory footnote either on that page or in an attached definitions page. For example, a footnote might say “J: Result is estimated; value is below the quantitation limit”. We include any required definitions of data qualifiers so the client can interpret them.

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1.14 Quality Control Information: The report itself typically does not list all QC data, but it will include a statement that QC results met the method criteria unless otherwise noted. Some clients require a summary of QC (like LCS recovery, surrogate recoveries, RPDs). For standard reports, we often include surrogates in the result table for organic analyses, with their percent recoveries and control ranges. If any QC failure affected the data, a narrative or qualifier indicates it (e.g., “Matrix spike recovery low – data may be biased low”). For DoD/DoE or other comprehensive deliverables, a detailed QC package is attached as needed.

- **Comments/Deviations:** A section for any observations or deviations from standard procedure: e.g., “Sample received past holding time – result may be biased low” (with an appropriate qualifier on result), or “High bias in LCS – associated results qualified as estimated.” Also, if any specific client instructions were followed that differ from normal, mention them. For sampling, if unusual conditions (like sample received unpreserved but acid added in lab), note it.

- **Compliance Statement:** Where relevant, we include statements such as “This report shall not be reproduced except in full without written approval of [Lab Name].”, or “Results relate only to the samples as received.”. If the lab is accredited, the accreditation logo or statement is included (per accreditor’s rules) along with which tests are covered by the scope. If any result is from a non-accredited method, we mark it clearly (often with an asterisk and note “* Not covered by lab’s accreditation” as required).

- **Signatory:** Each report is reviewed and approved by authorized personnel. The name, title, and signature (or electronic equivalent) of the person authorizing the release of the report (e.g., Laboratory Director or QA Manager) and the date of approval are included. If reports are electronic, a certification or name in lieu of signature is provided with a statement that it’s an electronic report.

Review Process: Prior to release, the report (and underlying data) undergoes technical review and quality review. The technical reviewer verifies calculations and that all results make sense (no missing results, units correct, any anomalies explained). The quality review verifies that all required quality control is acceptable or appropriately qualified and that the report meets formatting and compliance requirements. Only after both reviews are passed does the Lab Director/authorized signatory sign the report.

Transmittal: Final reports are delivered to the client via the agreed mechanism (email, secure web portal, hard copy courier). The transmittal includes the report and any agreed attachments (like full data package, electronic data deliverable files). The laboratory keeps a copy of the final report and a record of when and to whom it was sent.

Amended Reports: If after issuing a report, an error or new information is discovered (for example, transcription error, or a late revision of a result after a dilution re-run), an amended report is issued. The amended report clearly indicates it supersedes the previous report (by revision number or “Amended” notation) and highlights what change was made. Both the original and amended reports are retained in the record, and the client is notified of the amendment.

Retention of Reports: Reports are kept as part of lab records for the same retention period as technical records (at least 5 years or per contract). Even if electronic, the exact content is preserved (e.g., PDF archived).

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Supplemental Report Information: In certain cases, additional details are required in reports for interpretation. For example, if results are reported on a dry weight basis (for solids), the report will indicate the moisture content or that results are dry-weight. If sampling was done, information such as diagrams or maps of sampling locations might be appended if needed for clarity. The lab can include a statement of compliance or non-compliance with a specification if agreed (e.g., "Result exceeds EPA MCL" or similar), but typically we provide the data and the client or regulator makes compliance decisions. When opinions or interpretations are given (which is rare and only if requested, such as regulatory limit comparisons), they are clearly marked as such and the basis explained.

5.9 Complaints

Alliance Environmental Laboratories has a documented procedure for handling complaints received from clients or other parties. Our goal is to address and resolve complaints promptly, effectively, and to use them as opportunities for improvement. The complaint handling process includes receiving, recording, investigating, resolving, and responding to the complainant, as well as taking any necessary corrective action.

Receiving Complaints: Complaints may be received via email, phone call, letter, or during client meetings. They can range from issues with results (e.g., client questions a result's accuracy), timeliness (missed turnaround time), service (communication problems), or any other dissatisfaction. All staff are trained that if they receive a complaint, they must forward it to management (typically the Quality Manager or Lab Director) to ensure it is logged and handled formally. If the complainant is not obviously a client (e.g., a regulatory body or member of the public), it still gets handled through the same system.

Logging and Tracking: The QA Manager maintains a Complaints Log or uses a Corrective Action Report (CAR) system to document complaints. Each complaint is assigned a reference number and entry in the log noting: date received, complainant's name and contact, description of the issue, and the person responsible for follow-up. If the complaint is via phone, the receiver writes a summary (time, date, content) for the record. This ensures no complaint is overlooked.

Acknowledgment: We acknowledge receipt of the complaint to the complainant, typically within [1-2 business days]. If the complaint comes via email, a reply is sent saying we are investigating. If via phone, a verbal acknowledgment with an expected timeline for resolution is given.

Investigation: The Quality Manager (or assigned investigator independent of the area of concern) conducts a thorough investigation. This may involve reviewing all relevant technical records (for example, if it's about a result, pulling the entire data package and rechecking calculations, QC, etc.), interviewing staff involved, checking instrument performance records, or even re-analysis of samples if available. The objective is to determine whether the complaint has merit (was there an error or issue on our side?), and if so, what the root cause was. We ensure the investigation covers both immediate factors and any systemic issues.

For example, if a client says "your reported value for Sample X seems incorrect because our field screening indicated something else," we would re-examine Sample X's analysis – check the calibration, see if transcription error occurred, possibly re-run the sample (if within holding time or on backup aliquot). If the complaint is "sample pick-up was delayed" – we'd check our scheduling and see what went wrong logistically. All steps of investigation are documented.

Resolution and Corrective Action: After investigating, the lab formulates a resolution. If the complaint is valid (lab error or oversight), we take corrective action to fix the specific issue. For instance, if a calculation error is confirmed, we immediately correct the result, issue an amended report (Section 5.8), and communicate it. If an instrument was found to be malfunctioning and caused bad data, we might invalidate affected results and repeat analyses if possible (or notify the client of limitation).

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We also determine root cause and implement broader corrective or preventive actions to prevent recurrence (see Section 8.7). A thorough root cause analysis is performed, using a root cause analysis technique such as 5 Why, 4M or Fishbone. Once the root cause analysis is determined, potential corrective actions are evaluated and ranked, with a final corrective action chosen. After corrective action is determined, a preventive action is also implemented to eliminate the problem from recurring. For example, if root cause was analyst transcription error, perhaps implement second-person verification step or better LIMS import. The preventive action might be to extend this fix to other areas of the laboratory. If turnaround was missed due to scheduling oversight, implement a system alert for due dates, etc. A Corrective Action Report is generated for internal tracking with these actions.

If the complaint is not due to lab error (for instance, a misunderstanding by the client or an issue outside our control, like shipping delays by courier), we still document it and consider if any improvement on our part could help (better communication, etc.). Regardless, we aim to satisfy the client within reason.

Communication to Complainant: We formally respond to the complainant with the outcome. This usually includes an explanation of findings and any measures taken. For example, a letter or email might say “Upon investigation, we found that a transcription error occurred in your report. We have corrected the error and attached an amended report. We apologize for the inconvenience and have taken steps to prevent this in the future by …” If the complaint was not an error (e.g., “field kit was not as sensitive as our lab method, so discrepancy is explained by that”), we courteously explain the situation with supporting data. We aim for transparency and acknowledgement of any fault on our side.

The response and date are recorded in the complaint file. Typically, the Lab Director or QA Manager will sign off on the response.

Follow-up: We verify that the complainant is satisfied with the resolution. If further issues or dialogue is needed, we continue until closure.

Records: All documentation of the complaint – original complaint, investigation notes, analytical records reviewed, findings, correspondence, and corrective action documentation – are kept together. The Complaints Log is updated with resolution and date closed. These records are retained at least as long as other quality records (minimum 5 years).

Management Review: Complaints and their status/resolution are reviewed in annual Management Reviews (Section 6.8). Management looks for trends (e.g., multiple complaints about turnaround or a particular department) to identify areas for improvement. The number and nature of complaints can be a quality indicator.

Our complaint handling process ensures every complaint is taken seriously and handled systematically. This not only resolves the immediate issue but often drives improvements in our processes. The policy is made known to clients (some labs include a note in terms & conditions like “If you have any questions or concerns about this report, contact QA Manager at… and it will be investigated promptly”).

5.10 Management of Nonconforming Work

Nonconforming work refers to any aspect of the laboratory’s testing process or results that deviates from established procedures or fails to meet quality standards. This could include instrument failures, QC sample failures that invalidate data, handling errors, or any situation where the validity of results is suspect. Alliance Environmental Laboratories has a procedure to identify, document, evaluate, and correct nonconforming work to prevent the release of incorrect results and to implement corrective actions.

Identification of Nonconforming Work: Nonconformities can be discovered at various points, such as:

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- During routine QC checks or data review (e.g., a calibration check out of tolerance indicating results in that batch may be invalid; LCS recovery failed; holding time exceeded).
- By staff noticing an error (e.g., an analyst realizes they used the wrong dilution factor, or a sample mix-up might have occurred).
- Through quality audits or supervision (auditor finds an SOP step was skipped).
- Via customer complaints (client questions a result leading to finding an internal issue).

All personnel are instructed that if they suspect or identify that something has gone wrong with a test or result, they must immediately inform their supervisor or the Quality Manager. A culture of transparency is promoted so staff report issues rather than hide them.

Control and Halt: When nonconforming work is identified, we take immediate action to contain the issue. This often means halting further testing related to the issue and segregating affected results or samples. For example, if an analytical batch's QC fails and cannot be resolved, the batch is flagged and those results are not reported to the client yet. If an instrument is found to be malfunctioning, it is taken out of service right away (tagged "Do Not Use"). If a sample mix-up is suspected, involved samples are put on hold until resolved.

Evaluation of Impact: The laboratory's technical management and QA staff evaluate the scope and severity of the nonconformance. Key questions: which samples/results are affected? Have any erroneous results been already reported? What is the root cause, and does it affect other work? We prioritize determining if the issue casts doubt on the correctness or validity of results. For instance, if a balance was discovered out-of-calibration, we review all results since the last valid calibration to see if those might be biased. If a transcription error in a final report is found, we check if similar errors occurred in other reports. The evaluation is documented, often via a Corrective Action Request form.

Decision and Correction: Based on evaluation, we decide on the appropriate disposition of the work:

- **Repeat/Correct the Work:** If possible, affected tests are repeated. Example: an entire batch with failed QC is re-prepared and re-analyzed to produce valid results. Or a sample that was mis-labelled is re-run if available.
- **Invalidate and Notify:** If re-testing is not possible (sample used up or holding time passed), the results are marked as invalid. In such cases, we typically cannot report those results except with clear qualification. The client is notified that those particular analyses could not be validated and will not be reported or are reported as invalid.
- **Segregation of Data:** Erroneous data or reports are clearly marked (e.g., in LIMS flagged as "Rejected" or files moved to an "invalid" folder) to ensure they are not inadvertently released.

If some results were already reported before discovering the nonconformance, the client is promptly notified in writing within e.g. 2 business days or as required. We explain the nature of the issue and whether it potentially invalidates those results. An amended report or withdrawal of report is then issued as appropriate. For example, *"During an internal review, it was found that the calibration for lead on 10/5/2025 was out of acceptance criteria. Therefore, lead results reported on Report XYZ for samples collected 10/4/2025 are considered invalid. We will re-run those samples if still available and provide an updated report."* This communication is crucial in maintaining transparency and client trust.

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In certain regulatory contexts, we may also need to notify accrediting bodies if required by regulation (for significant issues affecting compliance).

Investigation and Root Cause: As part of handling the nonconformance, we perform a root cause analysis (similar to corrective action process in Section 8.7). We examine why the nonconformance occurred – was it human error (e.g., SOP not followed), equipment issue, training gap, etc. This might overlap with the corrective action process, and often the nonconformance record will convert into a corrective action request for long-term fix.

Corrective/Preventive Action: Following root cause determination, appropriate actions are taken: retraining staff, revising SOPs, fixing or recalibrating equipment, adding an extra check in the process, etc., to prevent recurrence. These are documented in the corrective action log (see Section 8.7).

Records: All instances of nonconforming work are recorded, typically in a Nonconformance/Corrective Action form or log. The record includes description of the problem, samples affected, immediate actions taken (e.g., re-run, client notified), investigation findings, root cause, and corrective measures. Sign-offs by responsible management indicate the issue was addressed.

Trend Analysis: The Quality Manager periodically reviews nonconformance records to see if there are patterns (e.g., multiple nonconformances of a similar type). This could indicate deeper issues requiring management attention (like recurring instrument failures or a need for more staff training in a particular area).

By rigorously managing nonconforming work, [Lab Name] ensures that data of questionable validity is not delivered (or is quickly corrected if already delivered), thus maintaining the overall integrity of its services. This process also feeds into continuous improvement by flagging where our system can be strengthened.

5.11 Control of Data and Information Management

Alliance Technical Group utilizes both computerized and manual systems to collect, process, store, and report data. Ensuring the integrity and security of data is paramount. This section describes how we manage electronic information (Laboratory Information Management System, instrument software, etc.) as well as any manual records in terms of access, backup, and protection from loss or unauthorized alteration.

Adobe Digital Signatures: The laboratory utilizes Adobe digital signatures as a form of electronic authorization for controlled quality system documents, including but not limited to Standard Operating Procedures (SOPs), data review checklists, manual integrations, and other quality records.

Digital signatures are uniquely assigned to individual personnel upon initial onboarding and are logically linked to the signer. Signature application is password protected and may only be executed by the individual to whom the signature is assigned. Signature passwords are maintained confidentially by the user and are not shared.

Use of a digital signature constitutes the signer’s attestation that the document has been reviewed and approved in accordance with the laboratory’s quality system requirements and the individual’s assigned authority and training.

Electronically signed documents maintain traceability to the individual signer, including the signer’s identity and the date and time of signature application. Any modification to a document after signature application invalidates the prior signature(s) and requires re-review and re-authorization before the document may be reissued or used.

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Access to apply digital signatures is restricted to authorized personnel and is controlled through individual user credentials. Unauthorized use of another individual's digital signature is prohibited and subject to corrective action under the laboratory's quality system.

Electronic records and signatures are retained in a manner that preserves record integrity, authenticity, and legibility, consistent with the requirements of TNI 2016, Volume 1, Module 2.

Laboratory Information Management System (LIMS): The Khemia Omega 12 LIMS handles sample log-in, test assignment, result entry, and report generation. This LIMS has user access controls: each user has a unique login with permissions appropriate to their role (analysts can input results, QA can review/approve, etc.). The system maintains an audit trail of key actions (e.g., data modifications, approvals) so that any changes to data after initial entry are logged with user and timestamp. This satisfies requirements for traceability of electronic data changes.

We validate the LIMS configuration when initially implemented or after significant updates – for example, verifying that calculations it performs (like unit conversions or summing components) are accurate, and that custom report templates correctly capture data.

LIMS Digital Signatures: The laboratory utilizes its Laboratory Information Management System (LIMS), Khemia Omega 12, to apply digital signatures to analytical reports generated and issued by the laboratory.

All analytical reports issued through the LIMS are electronically stamped with the digital signature of the employee issuing the report. Digital signatures are uniquely associated with individual personnel and are assigned upon initial onboarding. Signature application is controlled through the employee's individual LIMS login credentials and is password protected.

Application of a LIMS digital signature serves as confirmation that the issuing employee has reviewed the analytical data and report contents and has authorized release in accordance with the laboratory's quality system and their assigned authority.

Electronically issued reports retain traceability to the individual issuing employee, including identity and date/time of report issuance. Access to apply report signatures is restricted to authorized personnel based on role and training. Use of another individual's login credentials or digital signature is prohibited and subject to corrective action.

Electronic analytical reports are maintained in the LIMS in a manner that preserves data integrity, authenticity, and traceability, consistent with the requirements of TNI 2016, Volume 1, Module 2. Any changes to analytical data or reports after issuance require appropriate documentation, review, and reauthorization in accordance with laboratory procedures.

Instrument Software and Electronic Data: Many instruments (GC/MS, ICP, etc.) have their own data systems. The raw data (e.g., chromatograms, spectra) are stored electronically on secure servers or local drives that are regularly backed up. Workstations are password-protected to prevent tampering. Method files and sequence files for instruments are maintained to ensure consistency in data processing parameters. We often print or PDF the instrument outputs which become part of the record, but the original electronic files are kept as well for reprocessing if needed.

Where instruments are networked, the data may directly transfer to LIMS; where manual, analysts transcribe or upload results to LIMS. Data may also be exported from the instrument and subsequently uploaded into the LIMS. Any manual transcription is double-checked to avoid errors.

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Backup and Recovery: All critical electronic data (LIMS database, instrument data, report files) are backed up on a routine schedule. For example, the LIMS database is backed up to an offsite server or cloud storage nightly. Instrument PCs have backups of their data directories weekly or after each major batch to a central server. The IT procedure ensures that in event of hardware failure, data can be restored from the most recent backup with minimal loss. Restoration process is tested periodically (e.g., IT performs test restores to verify backups are viable).

Additionally, we often keep redundant copies of final reports (the PDF that was sent to client is also saved on a secure server or document management system).

Security and Confidentiality in IT: The lab's network and computers are protected by firewalls and antivirus software. External access to systems is limited and secure (e.g., if remote login is allowed, it's via VPN). Data in the LIMS related to clients can only be accessed by authorized users; client-specific portals (if provided) require credentials. We comply with confidentiality (Section 2.2) in the digital realm by not leaving data accessible to unauthorized parties. For example, if using cloud services for backup, we ensure they are reputable and secure.

Prevention of Data Loss or Alteration: To prevent inadvertent changes or loss: certain critical data fields in LIMS become locked after approval. Only the QA Manager or IT admin could unlock if a legitimate change is needed. Any such changes follow a documented amendment procedure. For raw data files, generally no one edits raw instrument data; reprocessing is done by creating a new method file or copy of raw data, preserving the original. Calculations performed outside LIMS (like Excel spreadsheets for uncertainty or specific projects) are treated carefully – the spreadsheets are locked or formulas protected to avoid accidental modification. All calculations are verified prior to locking.

Software Version Control: We maintain records of the versions of software and firmware used (LIMS version, instrument firmware). Updates/patches are applied in a controlled manner. Before an update is deployed, we assess if it could affect data calculations or interfacing – if so, we validate key functions afterwards.

Manual Data Management: For any data that remains manual (like handwritten logbooks for temperature or analog instrument readings), those are integrated into the quality system by regular review and transcription into electronic format if needed. We protect manual records as described in Section 5.5 and 5.4 (bound books, pen only, etc.).

Client Data and Reports: Completed data sets and reports are archived such that they are easily retrievable if needed. We maintain an index or database of projects so that years later we can pull up old results. If clients need their data years later, we can retrieve it given the unique identifiers or dates. Electronic archives are on stable media with redundancy (e.g., two separate drives or cloud plus local). Physical archives (if any, like flash drives or paper) are stored securely.

Contingency Planning: In case of IT system downtime (network or LIMS outage), the lab can revert to manual processes temporarily: use paper bench sheets and manual CoC tracking, then later input data when systems are restored. We have instructions for such scenarios to ensure continuity of operations. For prolonged outages, IT and management will coordinate priorities (like focusing on tests with short hold times first manually).

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Compliance with Standards: Our information management practices comply with TNI and DoD/DoE QSM provisions which require data integrity safeguards. For example, DoD/DoE QSM emphasizes that manual integrations in chromatography must follow defined procedures and be documented (we have a SOP for manual integration with justification, and our data system marks those peaks appropriately). The lab also ensures calculations for results outside calibration range are handled (such as flagging results above highest standard as estimated or re-run with dilution), which ties into both data processing and reporting.

Audit Trail of Calculations: For any intermediate data processing (like if a custom script is used to calculate totals), we save the intermediate data. Nothing is done that isn't reproducible from the stored inputs. If specialized software (like for microbiology colony counting) is used, we maintain validation and a record of outputs.

By implementing robust data management and IT controls, Alliance Environmental Laboratories ensures that the information we produce remains accurate, secure, and accessible throughout its retention period. This gives confidence that the reported results are supported by traceable and tamper-evident records.

6. Management System Requirements

Our management system is documented through this Quality Manual, associated quality procedures, and supporting documents, which collectively ensure the consistent implementation and continual improvement of the laboratory's operations.

6.1 Management System Documentation

The core of our management system documentation is this Quality Assurance Manual, which is approved by top management and is the governing document for quality practices in the lab. It outlines our quality policies, objectives, and the structure of the system. In addition to the QAM, we maintain a set of Standard Operating Procedures (SOPs) that detail how specific requirements are implemented (e.g., Document Control SOP, Internal Audit SOP, Corrective Action SOP, etc.), as well as technical SOPs for each test method.

Key points about our documentation:

1.15 The Quality Manual and associated procedures address all elements required by ISO 17025, TNI, and DoD/DoE QSM (as demonstrated by the crosswalk in Appendix B), including those governing technical activities and those for management (e.g., auditing, management review, etc.).

- We maintain a Master List of Documents (or document registry) that shows the current revision of each quality document (Quality Manual, SOPs, forms). This ensures only up-to-date versions are in use.
- Each document is identified with a document number, title, version/revision number, and effective date. For example, this Quality Manual might be Document QM-001, Rev 1.0, effective [date]. Every SOP similarly has an ID, like SOP-Analytical-007 Rev 3.2, etc.
- Documents include the approval signatures of responsible authorities (Lab Director, QA Manager, etc.) on a controlled master copy or documented electronic approval, indicating review and approval prior to issue.

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- The structure of documentation is outlined in the manual: policies in the manual, detailed procedures in SOPs, and worksheets or forms for records. This hierarchical structure is communicated to staff so they know where to find information (Quality Manual for overarching policy, SOPs for instructions, forms for recording data). New staff are trained in the use of these documents.

- Supporting documents like reference standards, regulations, client contracts, etc., are referenced within procedures as needed, and copies (or accessible links) are maintained in a reference library (physical or electronic).

Changes to any part of the management system documentation follow the controlled process described in 6.3 (Document Control). We ensure the Quality Manual remains current; it is reviewed at least annually and updated if any change in standards or internal process occurs that warrants a revision. Even if no changes are made, an annual review is documented.

All personnel have access to the portions of management system documentation relevant to their duties (the Quality Manual is available to all staff, and each department has access to the SOPs they need). We may provide electronic access (like a read-only network drive with PDF SOPs or a document management system) to ensure they are using the latest versions.

6.2 Control of Management System Documents

Document Approval and Issue: Every controlled quality document (Quality Manual, SOPs, test methods, forms) is reviewed and approved by authorized personnel before initial issue or any revision. Typically, technical SOPs are written by a Technical Manager or senior analyst, then reviewed by the QA Manager, and finally approved by the Lab Director (or designee). Approvals are indicated by signatures (physical or electronic) and date on a master document or within a document control system.

Document Distribution: Once approved, documents are distributed in a controlled manner. We maintain an electronic master file for each document on the QA network drive – read-only for general staff. Electronic copies of the finalized SOP's are made available for the laboratory staff on a network drive. Any printed SOP's are considered uncontrolled and marked as such.

A Document Register (or Master List) shows current revision status of each document. Outdated versions are promptly removed from points of use and either archived or destroyed to prevent accidental use. Archived obsolete documents are removed to an archive file in a directory not available to general staff – we keep them on file for historical reference (for at least 5 years, or as required) but not in active use.

Document Changes: When a controlled document needs revision (due to improvement, client requirement change, etc.), the change is drafted by the responsible person and goes through the same review/approval process. Changes in documents are clearly identified (for example, we may use change bars or highlight sections changed in the new revision, or list changes in a document revision history section). The new revision is given an incremented revision number or date, and once issued, the old revision is archived. If the change is minor (typo, format), QA may allow a simpler approval process, but significant technical changes always involve full review.

We communicate new or revised documents to affected staff via training or memo. For instance, if an SOP change affects analysts, the QA Manager will brief them or require them to read the new revision and acknowledge understanding (sign-off sheet), especially if it introduces new steps or criteria.

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External Documents: We also control external documents critical to operations, such as standards and regulations (e.g., ISO 17025 standard text, EPA method manuals). We ensure we have the current versions (via subscription or checks). These may not be "controlled" in the same way, but we maintain a list and check periodically for updates (for example, if EPA issues a new Method Update Rule, we obtain updated methods).

Prevention of Unintended Use: If a document is obsolete or replaced, the QA Manager ensures all departments dispose of outdated copies. Electronic systems help – e.g., only current version is on the shared drive. For physical lab postings, we retrieve and discard outdated ones. This prevents someone accidentally following an old procedure.

Legibility and Identification: All controlled documents are kept legible and readily identifiable. They have headings or footers with at least document title, document number, revision number, page number, and effective date. This way, even printed pages can be recognized as part of a controlled document and which version. We often use a template that includes this info on each page.

Forms and Worksheets: Blank forms that are part of the system (e.g., Corrective Action form, sample receipt checklist) are also controlled by version. They might have version dates on them. We distribute blank forms either via the intranet or printed logbooks that are updated when forms change. Data recorded on obsolete forms inadvertently is still acceptable if content is equivalent, but we prefer to always use the latest.

By adhering to strict document control, Alliance Environmental Laboratories ensures that everyone is following the same up-to-date procedures, thus maintaining consistency and meeting all quality requirements. Document control is periodically checked in internal audits to confirm compliance (e.g., auditor will verify that an analyst's bench SOP copy is the current version listed on Master List).

6.3 Control of Records (Clause 8.4)

The laboratory implements control over all quality and technical records to ensure they are readily retrievable, protected against damage or loss, and retained for specified periods. Records include all those mentioned in previous sections: personnel training records, instrument calibration and maintenance logs, test data and reports, internal audit and management review records, complaints and corrective action records, etc..

Identification and Indexing: Each record or set of records is identified by at least a title, date, and reference to the activity or sample it pertains to. For example, a calibration certificate for a balance is identified by instrument ID and date; a test bench sheet is identified by sample IDs and analytical batch number and date. We maintain organized filing systems: physically, records are in labeled binders or folders grouped by year or by test batch; electronically, records are in structured directories or in LIMS with indexing by sample and date. Additionally, we keep a Record Inventory or matrix that outlines what types of records are kept, where, and for how long (to make it easy during retrieval or audits).

Protection and Storage: Active records are stored in the lab or office area in secure cabinets (for paper) or on servers (for electronic). Access to quality records is given to authorized personnel only – for instance, only QA and management might access confidential records like employee training files or complaint logs, whereas analysts have access to test data relevant to their work until those records are archived. We protect paper records from environmental risks by storing in dry, shaded places (no direct sunlight or damp). Critical records may be kept in fire-resistant cabinets if required (e.g., important contracts or raw data with no digital backup). Electronic records are safeguarded by the backup and security measures described in Section 5.11. We also guard against unauthorized alterations – once a result is finalized, the record is effectively read-only (with version history if changed as per document control).

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Retention Period: The default retention period for quality and technical records is at least five (5) years after the completion of the test or the lifecycle of the record, unless a longer period is specified by regulation or contract. For example, test data for DoD projects might be required to be kept 7 years; certain projects under litigation might be indefinite until release. We comply accordingly. The retention times are documented in our Record Inventory or in each SOP (some labs put a statement like "retain raw data for X years" in the quality manual or procedures). Even after the retention period, if disposing of records, we consider any regulatory obligations before destruction.

Disposition of Records: When the retention time is met, records may be disposed of securely. Paper records are shredded or incinerated; electronic files are deleted in a way that prevents recovery (especially if containing sensitive client data). We ensure confidentiality is preserved through the disposal process (e.g., using a certified shredding service if needed). A log of destroyed records can be kept (listing what was destroyed and when) as proof of proper disposition in case of any future queries.

Access for Personnel: While preserving confidentiality, we do allow staff to access records necessary for their duties. For example, an analyst can look at past calibration records of an instrument to understand performance trends; or QA can retrieve past proficiency tests data to compile statistics. We consider client-owned data as confidential, so any external requests for records (like a client asking for all raw data) are managed carefully under our confidentiality agreements and typically provided to them since it's their data.

Record Corrections: If an error is found in a record after the fact (say an audit finds a missing detail in a log), any additions or corrections are made in a traceable manner: dated and initialed, without obscuring original information (as described in Section 5.5). This applies to quality system records too (e.g., if a date was wrong on a training record, we would correct it and initial).

Electronic Records Integrity: For records kept electronically, we ensure that metadata (like file timestamps, author info) is preserved. Scanned copies of important paper records are made to have an electronic backup, but we treat the scanned version with the same confidentiality and retention rules.

Audit of Records: As part of internal audits (Section 8.8), we periodically review record-keeping practices: verifying that records are complete, signed where required, filed correctly, and accessible. Any deficiencies in record control are addressed via corrective actions.

By rigorously controlling our records, we maintain an auditable trail of our laboratory's activities and uphold transparency and accountability to clients and accrediting bodies. Proper record control ensures that years later, if data are questioned, we can provide the supporting documentation to demonstrate how results were obtained.

6.4 Actions to Address Risks and Opportunities

In line with ISO/IEC 17025:2017, Alliance Environmental Laboratories takes a proactive approach to managing risks and opportunities associated with our laboratory activities. While not requiring a formal risk management process, the standard expects us to identify and consider factors that could impact the quality of our tests or the effectiveness of our management system, and to plan actions accordingly.

Identifying Risks and Opportunities: Management and staff identify risks and opportunities through various inputs: during management review meetings, internal audits, day-to-day observations, and discussions. Examples of *risks* include: potential for sample cross-contamination, loss of key personnel, equipment downtime, cybersecurity threats to data, or changes in regulations that could catch us unprepared. Examples of *opportunities* might be: adopting new technology to improve efficiency or accuracy, expanding our scope to meet client needs, or cross-training staff to increase flexibility.

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Management and staff shall consider and plan mitigation for the risks and opportunities associated with the following laboratory activities:

1.16 *Determination of any effects the matrix may have when validating modification to the analytical portion of a method.*

1.17 Determination of the need for metrological traceability and the impact to data validity and uncertainty.

1.18 Use of externally provided products and services

1.19 Identifying likely contaminants which may be encountered in the laboratory facilities or supplies.

1.20 Determining minimum qualifications for technical, supervisory, and quality management personnel

1.21 Ensuring alternate personnel are designated, trained, and authorized for key roles and responsibilities

1.22 Determination of LOD and LOQ verifications will be performed quarterly, and which will be performed with each batch analyzed

1.23 Use of electronic signatures

1.24 Determination which versions of methods best fit the needs of the laboratory's customers

1.25 Determination of frequency and content of periodic in-depth monitoring for improper, inappropriate, or prohibited actions

1.26 Determination of frequency and content of periodic quality record reviews to ensure data integrity

1.27 Determining the need for procedures when not specifically required for accreditation

1.28 Application of correction factors, including how differing correction factors resulting from verification across a range of values will be applied to auxiliary equipment

1.29 Determining acceptance criteria for auxiliary equipment verification and calibration, where acceptance criteria are not specified

1.30 Selecting a subset of analytes for validation of method modifications.

We maintain a simple Risk and Opportunity Register (or incorporate this in meeting minutes) where we note identified issues. For instance, an internal audit might note a risk that "Documentation of reagent preparation is sometimes inconsistent – risk of using incorrect concentrations." Or an opportunity like "High demand for PFAS analysis – opportunity to develop capability." These registers are reviewed during the annual managerial review.

Evaluation and Prioritization: Not all risks are equal; we qualitatively evaluate the likelihood and potential impact of each risk. For significant risks, we determine what actions (controls or preventive measures) are needed to mitigate them to an acceptable level. Opportunities are evaluated for benefit and feasibility.

Planning Actions: For each high-priority risk or opportunity, management decides on actions. These actions are integrated into our routine processes or quality objectives. For example:

- *Risk:* Chances of power outage affecting sample storage or instrument runs. *Action:* Ensure backup generator is maintained (quarterly tests) and UPS are installed on critical instruments. Also plan to have dry ice on hand for freezers if long outage.

- *Risk:* Loss of key analyst might cause delays. *Action:* Cross-train a second analyst for each major method (documented in training plans) to provide coverage (opportunity to increase team skill breadth).

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- *Risk:* New regulatory limit approaching our detection limit capabilities. *Action:* Investigate method enhancements or procure more sensitive equipment (opportunity to invest and gain competitive edge).

- *Opportunity:* Frequent client inquiries for a new analysis we don't offer. *Action:* Evaluate adding that analysis – maybe train existing staff or hire an expert, get necessary equipment, then seek accreditation for it.

- *Opportunity:* Automation or LIMS upgrade could reduce manual errors. *Action:* Plan in budget and training to implement new LIMS module in next year, reducing risk of transcription errors.

We ensure actions are assigned to responsible persons and deadlines (often these become part of our management review action items).

Implementation and Monitoring: The QA Manager or designated personnel implement these risk mitigation actions as part of normal operations and check their effectiveness. For instance, if we identified risk in sample ID handling, and the action was to start using barcode labels, we implement that and then monitor if sample mix-up incidents drop to zero. For opportunities pursued (like new tests added), we track progress (getting method accredited, new revenue, etc.).

Integration with QMS processes: Many risk-control actions align with existing processes (training, maintenance, QC improvements). We treat them not as separate silo tasks but integrated. For example, internal audit schedules might be adjusted to focus on areas of higher risk. Management review (Section 8.9) includes discussing risks and opportunities – ensuring we revisit them regularly. We document in the management review minutes what was considered and the status of actions.

Record and Communication: While formal risk management documents aren't mandated, we keep records of significant decisions (like in management review or CAPA records if relevant). We communicate to staff particularly relevant risk-based decisions – e.g., if cross-contamination risk was high in a certain process, and we decided to purchase disposable pipette tips for that process, we inform all analysts of the change and why it's important.

Continuous Improvement: Addressing risks and opportunities ties into our continual improvement (Section 6.6). By proactively dealing with potential issues before they lead to nonconformities, we strengthen our system. By seizing opportunities, we improve our service and efficiency. This dynamic approach becomes part of our culture, where employees feel empowered to suggest improvements (which are essentially identifying opportunities or mitigating risks at their level).

In summary, Alliance Environmental Laboratories uses a risk-based thinking approach: using knowledge and experience to foresee what could go wrong (or right) and act on it. This approach is evidenced in how we allocate resources (e.g., more maintenance on an old critical instrument – risk mitigation), how we plan training (e.g., focusing on complex tests that have higher error rates), and how we plan for the future of the lab in strategy meetings.

6.5 Improvement

Alliance Environmental Laboratories is committed to continuous improvement of its management system and laboratory activities. Beyond reacting to problems, we actively seek ways to enhance quality, efficiency, and client satisfaction.

Continuous improvement is embedded in many of the processes described: analyzing feedback, internal audits, management reviews, training programs, etc., all feed into identifying improvement opportunities.

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Sources of Improvement Ideas: We gather input on potential improvements from:

- **Employee Feedback:** Staff are encouraged to suggest improvements in procedures or resources. We maintain an open-door policy and/or a suggestion program (even an informal one where suggestions can be emailed to QA or dropped in a box). Many improvements come from analysts who perform tests daily and see chances to streamline or clarify processes.

- **Client Feedback:** Apart from formal complaints, we listen to what clients say about our service. If a client mentions that our report format is hard to read, we consider redesigning it. If they need a certain new service, we consider training/upgrading to offer it. Client satisfaction surveys provide structured feedback on what we can do better.

- **Internal Audits and Management Reviews:** As described, these are structured to not only find compliance issues but also note opportunities for improvement. The management review explicitly includes consideration of *"changes that could affect the management system"* and *"improvement opportunities"*. Each year we set quality objectives (Section 3.3) and review our success; new objectives often aim at improvements (for example, "reduce turnaround time by 10% by implementing XYZ").

- **Data Trends:** Ongoing QC trending might highlight where processes can be tightened (like if control charts show too much variability, we might improve instrument maintenance or training). Likewise, a trend of many corrective actions in a certain area signals need for a systemic improvement.

- **External Inputs:** Changes in industry best practices, new technology, or updates in accreditation criteria can drive improvement. We stay informed (via training, webinars, etc.) and adopt improvements to stay current.

Implementing Improvements: When an improvement opportunity is identified and decided upon, we plan its implementation. This might involve revising an SOP, acquiring new equipment, changing workflow, or providing training. We manage this like a mini project: assign responsibility, set timeline, and communicate the change to everyone it affects.

Examples of improvements we have implemented or plan to:

- Simplifying the sample login process by adopting barcoding (reducing errors and saving time) where applicable.

- Conducting cross-training in multiple sections to improve flexibility (leading to faster turnaround and better coverage during absences).

- Increasing the frequency of micro-meetings among sections to share quick lessons learned weekly, fostering a culture of ongoing improvement.

- Using statistical process control not just on QC but also on operational metrics like instrument uptime or sample delivery timeliness, to identify where improvements can be made.

Monitoring Improvement Actions: We track major improvement initiatives to see if they achieved desired results. For instance, if we implemented a new LIMS module to reduce manual data entry, we might measure error rates before and after, or gather user feedback on the new process. This is often discussed in management review: *"We did X, result was Y – did it solve the issue/improve as expected?"* If not fully, we may tweak further.

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Recognition: We also recognize contributions to improvement. If an employee's idea leads to a significant positive change, management acknowledges this (sometimes in performance reviews or by a simple shout-out in meetings), to encourage engagement in continuous improvement.

Quality Policy Commitment: Our quality policy explicitly mentions continual improvement and management demonstrates this commitment by providing needed resources (budget for training or new tools, time for improvement projects, etc.). For example, management approved purchase of an autoclave upgrade when staff highlighted it would improve consistency for sterilization vs. using an old unit. This not only improved quality (fewer failed sterility checks) but also morale (staff see that suggestions are taken seriously).

Documenting Changes: Improvements that lead to procedural changes are integrated back into the management system documentation. We revise documents (under document control) and train staff, closing the loop so the improvement becomes the new standard practice.

Continual vs. One-time: We view improvement as an ongoing cycle – even after implementing one, we continue to look for the next. Even if our KPIs (Key Performance Indicators) are currently all within targets, we ask if targets should be raised or if new, more ambitious goals can be set.

In summary, continuous improvement at [Lab Name] is not a separate activity but part of our culture and system – ensuring we not only maintain compliance but evolve and excel in our performance and service quality. This approach helps us remain competitive, adaptable, and capable of providing better data and service to our customers over time.

6.6 Corrective Action

Whenever a deviation or nonconformity is detected in our operations or results (through incidents, audit findings, QC failures, complaints, etc.), Alliance Environmental Laboratories implements a formal corrective action process to investigate and eliminate the root cause, and to prevent recurrence. This process is outlined in our Corrective/Preventive Action SOP (QA-CPA-SOP) and aligns with ISO 17025 and TNI requirements. Key steps are:

Initiation: A corrective action report (CAR) is triggered when we identify a nonconformance or quality problem that goes beyond an immediate fix. Triggers include: failed proficiency tests, repeated QC out-of-control events, client complaints of serious nature, audit findings of deficiencies, or trends indicating a systematic issue. Staff are encouraged to report problems; management or the QA Manager can issue a CAR. We log it with a unique CAR number and date.

Problem Description: We clearly document the issue – what happened, how it was detected, and the scope. For example, *"Mercury PT failed low (60% recovery vs acceptable range 85-115%). Preliminary check found calibration std was prepared incorrectly. Potentially affects all Hg results in last 2 months."* Or *"Internal audit found SOP for VOC analysis is not being strictly followed regarding calibration frequency – risk of noncompliance with method."*

Immediate Correction (Containment): If not already done under Section 5.10, we take necessary immediate action to deal with the consequences. E.g., inform clients of affected results, re-run samples if possible, put instrument on hold, etc. This minimizes damage while we work on the deeper fix.

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Root Cause Analysis: The CAR is assigned to a responsible person or team (often the QA Manager working with the relevant Technical Manager). They investigate to find the root cause(s) of the issue, using methods like the "5 Whys" or fishbone diagrams, depending on complexity. They consider various factors: was it human error (if so, why did it occur – training gap, workload, unclear procedure?), equipment-related (lack of maintenance, wear-out, not following schedule?), method flaw, environmental factor, etc. All potential causes are evaluated.

Corrective Action Plan: Based on the identified root cause, we develop actions to correct and prevent recurrence. This plan is documented in the CAR form and typically includes:

- Specific actions: e.g., "Revise SOP to require verification of stock standard concentration every 3 months with independent reference material. Train all analysts on this new step." Or "Re-train analyst on VOC SOP focusing on calibration protocol; supervisor to review the next 5 batches to ensure compliance."

- Responsibilities and Timeline: We assign who will do each action and set target dates. Some actions might be immediate (fix equipment today), others short-term (training within one week), others may be longer (purchase new equipment by next quarter). We also consider if the action requires notifying accrediting body (certain serious issues may require notification under some accreditation rules – we adhere to those, e.g., if a PT failure, we follow the AB's corrective action submission requirement within 30 days).

- Preventive aspect: Ensuring the solution addresses not just this instance but future potential occurrences even in slightly different scenarios. For example, if the issue was mislabeling samples, action might include implementing barcode or automated labelling system lab-wide (preventive improvement beyond just admonishing the one mistake).

Implementation: The assigned personnel implement corrective actions. The QA Manager oversees progress to ensure actions are completed on schedule. They provide resources needed (time for training sessions, budget for new standard or tools, etc.).

Effectiveness Check: After actions are implemented, we verify that they are effective in resolving the issue. This could involve: follow-up audits, additional QC data or PT to ensure the problem is gone, or monitoring a certain number of future batches. We often mark a CAR "closed" only after verifying no recurrence over a defined period or that performance has improved. For instance, after retraining and SOP revision, the next PT for mercury is passed successfully, confirming the fix worked. Or an internal audit 3 months later shows SOP calibration step is now being followed.

We document evidence of effectiveness (like "QA audit on [date] confirmed new standard verification logs are being maintained, and recoveries improved to ~95%"). If corrective action turns out not fully effective, the CAR might be re-opened or new actions considered (iterative improvement).

Records: All CARs and related investigation notes, emails, etc., are kept in the Corrective Action file. The CAR log includes a summary, date opened/closed, and outcome. We also link the CAR to the originating incident record (like internal audit finding number or PT result reference) for traceability.

Trend Analysis: Periodically, usually during management review, we analyze all CARs to spot any recurring themes. If multiple CARs point to a similar underlying cause (e.g., training issues across sections), management will allocate effort to a broader fix (like revamp training program). Conversely, seeing fewer CARs in an area over time indicates our system is stabilizing and previous actions were successful.

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Preventive Action: ISO 17025:2017 rolled preventive action concept into risk-based thinking, but we still take proactive actions when we foresee a potential issue even if it hasn't happened yet. We treat those as improvement tasks (Section 6.4) rather than CARs, but the mindset is similar: identify weakness, fix before it causes nonconformance.

By diligently following the corrective action process, Alliance Environmental Laboratories ensures that problems are not only fixed once but are less likely to happen again, thereby continuously improving the reliability of our operations and results. This systematic approach to problem-solving is a cornerstone of our quality management system.

6.7 Internal Audits

Alliance Technical Group conducts internal audits of its activities at planned intervals to verify that operations continue to comply with the requirements of the management system, ISO 17025, TNI standards, DoD QSM, and our own procedures. The internal audit program is a critical tool for self-assessment and continuous improvement.

Audit Program and Schedule: We maintain an Internal Audit Schedule covering all elements of the quality system (management and technical) over a 12-month cycle. Typically, we audit each major laboratory technology and each clause of the standard at least once annually, however all drinking water methods and DoD/DoE methods must be audited annually. The schedule may break audits into sections; for example: Q1 – General Requirements & Sample Management; Q2 – Analytical Sections (Inorganics, Organics) & QA processes; Q3 – Metals/Microbiology & Equipment, etc.; Q4 – Remaining sections (e.g., reporting, data integrity). The schedule is flexible and may be adjusted based on previous audit results or changes (e.g., if a new method is added, an audit might focus on its implementation).

The QA Manager is responsible for overall audit planning. Audits are usually spread out to even the workload and allow focus. Each area of lab activity (sample receipt, calibration, each test discipline, support processes like purchasing, IT, etc.) is audited at least annually, and critical areas possibly more frequently or via spot checks.

Audit Team and Independence: Internal audits are conducted by trained personnel who are, wherever possible, independent of the area being audited. For example, a chemist from the organics section might audit the metals section, and vice versa, or the QA Manager audits all sections but not their own work without oversight. We sometimes use cross-location audits (if multi-site), or bring in an external auditor/ consultant to perform an internal audit for impartiality. Auditors are trained in auditing techniques and familiar with standard requirements.

Audit Preparation: Before each audit, the auditor reviews relevant documents (previous audit findings, SOPs, quality manual sections, external audit reports, etc.). An audit checklist is prepared based on ISO 17025 and TNI criteria and our own procedures, tailored to the specific activities of that section. For example, a checklist for an analytical department will include checking instrument maintenance logs, training records, example sample traceability from login to report, adherence to method SOP in practice, and QC results. Our checklists are updated annually to incorporate new requirements and follow-up on previous corrective actions.

Audit Execution: The auditor conducts the audit typically through interviews, observation of activities, and review of records. They may: observe sample login or an analysis in progress to see if SOPs are followed; inspect records such as CoC forms, maintenance logs, calibration records, worksheets; ask staff questions about processes and knowledge of policies; and verify the laboratory's compliance against each item on the checklist. They also verify that any nonconformities noted in previous audits have been addressed (follow- up). Audits cover both technical activities and support functions (e.g., make sure reagents are labeled and not expired, waste disposal being logged, etc.).

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We encourage a collegial audit approach where auditors also identify good practices and opportunities for improvement, not just nonconformities.

Recording Findings: Audit findings are documented in an Internal Audit Report. Each finding is classified typically as either, *nonconformity* (deviation from requirement), or *observation/suggestion* (not a direct nonconformance but something that could be improved). Nonconformities are described clearly with evidence (e.g., "SOP ABC requires thermometer calibration annually, but thermometer ID#T4 last calibrated 18 months ago"). We reference the relevant standard or procedure clause. Supporting evidence may include copy of record or note of observation.

The report or checklist is reviewed by the QA Manager and then communicated to the management and staff of the audited area. The seriousness of each nonconformance is assessed so appropriate urgency can be applied.

Correction and Corrective Action: For each nonconformance found, the laboratory initiates corrective actions per Section 6.6. We typically log them in the CAR system. The lab staff, with QA oversight, correct the immediate issue and investigate root cause. For example, if an SOP wasn't followed, root cause might be unclear instructions or training lapse – so action could be retraining or revising SOP. These actions and their completion are documented. A response to the internal audit is prepared by the audited area, explaining actions taken or planned for each finding, with due dates.

The QA Manager verifies these responses for adequacy and then tracks them to completion. We aim to implement corrective actions promptly (depending on severity – critical issues immediately, others within a few weeks).

Follow-up: In subsequent audits (or separate follow-up audits), we verify the effectiveness of actions on past findings. If a nonconformance persists or was not effectively addressed, it is escalated to management for further action. Repeat findings are something we focus on to avoid chronic issues.

Audit Records and Reporting: Completed audit reports are kept on file, and a summary of audit program results is presented in management review. Top management reviews the overall internal audit results to ensure the lab is in control and to allocate resources if systemic issues are noted.

Management Involvement: Laboratory management is kept informed throughout the audit process – significant issues discovered might be immediately brought to Lab Director's attention especially if they impact data validity (triggering possibly stopping work or client notifications as needed). We consider internal audits as a tool not to blame but to fix and improve processes, and management fosters a culture of cooperation with audits.

Annual Audit Completion: We ensure that by year-end, all required audits have been completed. If schedule slips for unforeseen reasons, we reschedule covering missed areas as soon as possible. It's critical for sustaining accreditation that our internal audit cycle is fully executed.

Through diligent internal audits, Alliance Environmental Laboratories verifies day-to-day that we are doing what we say we do (following our quality system) and that the system is effective. It helps catch issues early internally, rather than through external audits or client issues, thereby continuously ensuring and strengthening compliance and quality.

6.8 Management Review

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Top management of Alliance Environmental Laboratories conducts a comprehensive review of the laboratory's management system at least annually to ensure its continuing suitability, adequacy, and effectiveness. The Management Review is a critical opportunity to evaluate performance, identify needed changes or improvements, and set goals for the future.

Frequency and Attendance: Formal management reviews are held annually (typically [e.g., each December] to review the year's performance and plan for the next). Additional interim reviews or focused meetings may be held if significant events warrant (e.g., major changes in standards or persistent quality issues). Attendees include the Laboratory Director (and/or senior company management if applicable), Quality Manager, Technical Managers/Supervisors of major lab sections, and other key personnel as needed (e.g., Health & Safety Officer, if topics relevant). We may also invite representatives from support functions like IT or HR if their input is needed.

Inputs to Management Review: The review meeting agenda covers all required inputs as per ISO 17025 and TNI, including:

- **Status of Actions from Previous Reviews:** We start by reviewing whether the decisions and action items from the last management review were implemented and their effectiveness. For example, if last year we planned to buy a new GC/MS, did it happen and did it resolve capacity issues?

- **Quality Policy and Objectives:** Consider whether our quality policy is still appropriate and whether quality objectives were met. If an objective was to improve client satisfaction scores by 5%, we check the outcome. Suitability of the policy and any need to update it are discussed.

- **Results of Internal and External Audits:** A summary of findings from all internal audits

  (Section 6.7) and any external assessments (accreditation audits, regulatory inspections) since the last review is presented. We discuss recurring issues, root causes, and whether corrective actions have been effective. If external audits had nonconformities, ensure those were resolved.

- **Status of Corrective and Preventive Actions:** A report on all significant CARs undertaken, their status (closed or pending), and whether further action is needed. Trends in corrective actions are considered (e.g., multiple CARs in sample login area?). Preventive actions or risk management steps (Section 6.4) are also reviewed – did we address identified risks successfully?

- **Assessments by External Bodies:** This includes any feedback from accreditation bodies, results of proficiency tests (PT) etc. We highlight any PT failures or marginal scores and how they were handled. Also, any new accreditation requirements or standards changes on horizon (e.g., upcoming TNI standard update) are raised so we can plan.

- **Results of Interlaboratory Comparisons or PT:** Summarize PT performance for the period (pass rate, any issues and lessons). Also any interlab studies we participated in. Good performance is noted, and any problems already addressed via corrective action are confirmed.

- **Customer Feedback and Complaints:** We present an analysis of client feedback – including formal complaints (see Section 5.9 for details of each) and also general feedback from surveys or communications. Are clients generally satisfied? Have there been complaints or recurring requests? We examine if any systematic changes are needed to improve customer experience. For example, if multiple clients commented on slow report delivery, we consider changes in process.

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- **Key Performance Indicators (KPIs):** Metrics such as turnaround time statistics, number of samples processed, QC pass/fail rates, cost of poor quality (rework, etc.), staff overtime, etc., are reviewed. These help gauge efficiency and areas of strain. If, say, instrument downtime increased by 20%, that might prompt action (like more maintenance or new instrument purchase).

- **Changes in Volume and Type of Work:** Review any significant changes in sample volume, matrix types, or new services introduced. Did an increase in workload stress our resources? Did we successfully add that new analytical capability we planned? Also forecast – upcoming projects or market changes.

- **Resource Needs:** Evaluate if current resources (staffing, training, equipment, facilities) are adequate. If an area is understaffed or lacking redundancy, management can plan hiring or cross-training. Training needs are addressed (e.g., new skills needed for new methods or cross-training to mitigate risk of key person dependency).

- **Effectiveness of Improvements Implemented:** If we undertook improvement initiatives (like LIMS upgrade, new QA procedure), assess if they achieved the desired effect or need tweaking.

- **Follow-up on Risks and Opportunities:** We revisit the risk register and see if identified risks are being managed and if any new risks/opportunities emerged since last review. For example, if a competitor lab closed (opportunity for more business) or if new regulatory demands are coming (risk if not prepared).

- **Any Need for Change in the Management System:** After reviewing all above, discuss whether the QMS as documented needs any changes – perhaps new or revised procedures, changes to scope of accreditation, updates to quality policy or objectives.

Discussion and Decisions: During the review, management deliberates on each input. We note successes (e.g., “Proficiency test performance was 100% acceptable – keep up current practices”) and areas needing action (e.g., “Complaint response time was slow – implement a tracking tool to improve that”). We may set new or revised quality objectives for the next period, for instance: reduce sample check-in time by 15%, achieve zero PT failures, increase training hours per analyst, etc. We also decide on any resource allocations (hire 1 more technician by Q2, budget for new IC by Q4, etc.).

Outputs of Management Review: The outputs include decisions and actions related to:

- Improvement of the management system and its processes (e.g., “Revise document control process to include electronic approval workflow by March”).

- Improvement of lab activities (e.g., “Optimize the sample extraction scheduling to shorten TAT – pilot in Organics section”).

- Resource needs (e.g., “Purchase new freezer for sample storage, replace aging GC, and include funds for analyst training on new PFAS method”).

- Any changes to the quality policy or objectives (e.g., update quality policy to include commitment to data integrity explicitly; set new objective on client satisfaction rating).

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These decisions are recorded in the management review minutes with assigned responsibilities and target dates for actions. The Lab Director or QA Manager ensures these actions are entered into our quality action plan (or CAPA system) so they are tracked to completion in the coming year.

Documentation: We prepare Minutes of the Management Review Meeting, which include the agenda, a summary of discussions for each item, the conclusions, and all agreed actions with persons responsible. These minutes are distributed to attendees and any other concerned staff (for awareness of decisions). They are stored as quality records (retained similarly like other records, typically 5+ years).

Follow-up: Progress on management review action items is often checked in management meetings throughout the year or at the next review. This ensures accountability. For example, if we decided to hire staff, by mid-year we'll check if that happened.

By performing a thorough management review, Alliance Environmental Laboratories leadership stays engaged with the health of the quality system and ensures strategic and resource decisions are aligned with delivering technically valid results and continuous improvement. It closes the loop of the Plan-Do-Check-Act cycle at the highest level.

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Appendices:

Appendix A: Scope of Accreditation and Services. (Placeholder for listing fields of testing, analytes, methods, matrices that [Lab Name] is accredited for. Include any accreditation identifiers, certificate numbers, effective dates.)

Alliance Technical Group, LLC-Akron is an accredited environmental laboratory. Accreditations may be added or dropped as appropriate. At the time of this revision, Alliance Technical Group, LLC-Akron is accredited (or has accreditation pending) by the following agencies:

1. State of Florida (E87688)
2. State of Ohio Drinking Water (4170)
3. State of Alabama (41600)
4. State of Arkansas (88-00735)
5. State of California (2943)
6. State of Colorado (OH0923)
7. State of Connecticut (PH-0108)
8. State of Georgia (C058)
9. State of Idaho (OH00923)
10. State of Illinois (200061)
11. State of Indiana (C-OH-03)
12. State of Iowa (438)
13. State of Kansas (E-10347)
14. State of Kentucky Drinking Water (KY90146)
15. State of Kentucky NPW (KY90146)
16. State of Kentucky UST (113767)
17. State of Louisiana (99051)
18. State of Maine (2023005)
19. State of Maryland (339)
20. State of Michigan (9988)
21. State of Minnesota (039-999-385)
22. State of New Hampshire (2996)
23. State of New Jersey (OH006)
24. State of New York (11777)
25. State of North Carolina NPW & SCM (631)
26. State of North Carolina Drinking Water (39705)
27. State of Oklahoma (1903)
28. State of Oregon (OH200001)
29. State of Pennsylvania (68-01335)
30. State of Rhode Island (LAO00317)
31. State of South Carolina (92016)
32. State of South Dakota
33. State of Texas (T104704466)
34. State of Utah (OH00923)
35. State of Virginia (460141)
36. State of Washington (C891)
37. State of West Virginia Drinking Water (9957C)
38. USDA / APHIS Regulated Soil Permit (525-23-223-08848)

The QA Department maintains a current record of all Certificates and Scopes of Accreditation.

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State accreditations for specific analytes or method certifications are available.
Some analyses may not be accredited and are run only for non-compliance reporting.
Test procedures used to analyze samples are summarized as follows:

Table 1 - Drinking Water Parameters

PARAMETER	METHOD	DESCRIPTION	REFERENCE
Alkalinity	SM 2320B-1997	Titration	2
Amenable Cyanide	SM 4500CN-G, 18th Ed.	Colorimetric Manual Distillation	2
Chlorine	SM 4500Cl-G	Colorimetric	2
Color	SM 2120B-2001	Colorimetric	2
Conductivity	SM 2510B-1997	probe	2
Corrosivity	SM 2330B	ICP/Calculation	2
Dissolved Organic Carbon	SM 5310B-2000	High Temperature Combustion	2
Hardness	SM 2340B-1997	calculation	2
pH	SM 4500H^+-B-2000	Electrometric	2
Surfactants (MBAS)	SM 5540C	Colorimetric	2
Total Cyanide	SM 4500CN-E, 18th Ed.	Colorimetric Manual Distillation	2
Total Dissolved Solids	SM 2540C-1997	Gravimetric	2
Total Organic Carbon (TOC)	SM 5310B-2000	High Temperature Combustion	2
Total Organic Halides (TOX)	SM 5320B	Pyrolysis/microcoulometry	2
Turbidity	EPA 180.1	Nephelometric	1
Volatile Organics Trihalomethanes	EPA 524.2	GC/MS	5
Purgeable Organic Compounds	EPA 524.2	GC/MS	5
Organochlorine Pesticides	EPA 525.3	GC/MS	5
Chlorinated Herbicides	EPA 555, EPA 552.3	HPLC, GC/ECD	5
1,4-Dioxane	EPA 522	GC/MS	5
Haloacetic Acids	EPA 552.3	GC/ECD	5
2,3,7,8-TCDD	EPA 1613B	Hi Res GC/MS	5
Extractable Organics	EPA 525.3	GC/MS	5
EDB, DBCP, 1,2,3-Trichloropropane	EPA 504.1	GC/ECD	5
Endothall	EPA 548.1	GC/MS	5
Diquat, Paraquat	EPA 549.2	HPLC	5
Glyphosate	EPA 547	HPLC	5

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PARAMETER	METHOD	DESCRIPTION	REFERENCE
Alachlor, Atrazine, Simazine	EPA 525.3	GC/MS	5
Perchlorate	EPA 314.0	IC	1
Inorganic Anions	EPA 300.0	IC	1
Disinfection Byproducts	EPA 300.1	IC	1
Gross alpha Gross beta	EPA 900.0	Gas Flow Proportional	8
Gross alpha	SM 7110C-2000	Gas Flow Proportional	8
PFAS	EPA 533	LC Triple Quad MS	9
PFAS	EPA 537.1 Rev. 2	LC Triple Quad MS	9
Radionuclides (Gamma Emitters)	EPA 901.1	Gamma Spectroscopy	8
Radium 226	EPA 903.0	Gas Flow Proportional	8
Radium 228	EPA 904.0	Gas Flow Proportional	8
Uranium	EPA 908.0	Gas Flow Proportional	8
Metals	EPA 200.7 EPA 200.8	ICP ICP/MS	1
Hardness (calc.)	SM 2340B-1997	ICP/Calculation	1
Mercury	EPA 245.1	CVAA	1

Table 2 - Non-Potable Water Parameters

PARAMETER	METHOD	DESCRIPTION	REFERENCE
Metals	EPA 200.7, EPA 200.8, EPA 6010D, EPA 6020B	ICP/ICPMS	1, 4
Hardness (calc.)	EPA 200.7	ICP/Calculation	1
Mercury	EPA 1631E, EPA 245.1, EPA 7470A	Low level, Manual-cold vapor	1, 4
Acidity, as CaCO3	SM 2310B (4a)-2020	Phenolphthalein endpoint	2
AOX	EPA 1650	Colorimetric	1, 4
Alkalinity as CaCO3	SM 2320B-2021	Titration	2
Amenable Cyanide	EPA 9010C/9014, SM 4500CN-G-2021	Colorimetric Manual Distillation	2, 4
Ammonia as N	EPA 350.1	Gas-Permeable Membrane	1, 4
Ammonia as N	SM 4500NH_3-D-2021	Distillation / Nesslerization	2
Ammonium	ASTM D-6919-03	General Chemistry	7
Biochemical Oxygen Demand (BOD)	SM 5210B-2016	Probe	2

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PARAMETER	METHOD	DESCRIPTION	REFERENCE
Carbonaceous BOD (CBOD)	SM 5210B-2016	Probe	2
Chemical Oxygen Demand	SM 5220D-2011	Colorimetric	1, 2, 4
Chlorine	SM 4500Cl-G	Colorimetric	2
Chromium VI	EPA 7196A	General Chemistry	1, 4
Color	SM 2120B-2021	Colorimetric	2
Conductivity	EPA 9050A, SM 2510B	Probe	1, 2, 4
Corrosivity (Langelier Index)	SM 2330B-18th Ed.	General Chemistry	2
Corrosivity (pH)	EPA 9045D	General Chemistry	1, 4
Cyanide	SM 4500CN-E	Colorimetric manual Distillation	2
Flashpoint/Ignitability	EPA 1010B	Manual	1, 4
Inorganic Anions	EPA 300.0, 9056A	IC	1, 4
Hardness	SM 2340B-2021	Calculation	2
Kjeldahl nitrogen, total (TKN)	EPA 351.2	Gas-Permeable membrane/Spectrometer	1, 4
Kjeldahl nitrogen, total (TKN)	SM 4500 NH3-D-2021	Digestion/Distillation	1, 4
Oil & Grease	EPA 1664A, EPA 9070A	Gravimetric	1, 4
Organic Nitrogen	TKN minus AMMONIA	Calculation	
Perchlorate	EPA 314.1	IC	1, 4
pH	SM 4500H^{+}-B-2021	Electrometric	2
Total Phenolics	EPA 9065	Photospectrometer	1, 5
Total Phosphorous	SM 4500P-E-2021	Colorimetric	2
Reactive cyanide**	EPA 7.3.3.2	Gas Evolution	1, 4
Reactive sulfide**	EPA 7.3.4.2	Gas Evolution	1, 4
Residue, filterable (TDS)	SM 2540C-2020	Gravimetric	2
Residue, non-filterable (TSS)	SM 2540D-2020	Gravimetric	2
Residue, total	SM 2540B-2020	Gravimetric	2
Residue, volatile	EPA 160.4	Gravimetric	1, 4
Sulfide	EPA 9030B/9034	Titration	1, 4
Sulfite (SO_3)	SM 4500SO_3-B-2011	Titration	2
Surfactants (MBAS)	SM5540C-2021	Colorimetric	1, 2, 4
Tannin & Lignin	SM 5550B	General Chemistry	2
Total Cyanide	EPA 9010C/9014, SM 4500CN-E-2021	Colorimetric Manual Distillation	1, 2, 4
Total Organic Carbon	EPA 9060A, SM 5310B-2014	High Temperature Combustion	1, 2, 4
Total organic halides (TOX)	EPA 9020B	Pyrolysis / Microcoulemetry	1, 4
Total Petroleum Hydrocarbons (TPH)	EPA 1664A	General Chemistry	1, 4

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PARAMETER	METHOD	DESCRIPTION	REFERENCE
Total Phenolics	EPA 420.1, EPA 9065	Colorimetric	1, 4
Total Sulfides	EPA 9030B/9034	Titration	1, 4
Gamma emitters	EPA 901.1	Radiochemistry	1, 4
Gross Alpha	EPA 9310, SM 7110C	Radiochemistry	1, 2, 4
Gross Beta	EPA 9310	Radiochemistry	1, 4
Radium-228	EPA 9320	Radiochemistry	1, 4
Total Radium	EPA 9315	Radiochemistry	1, 4
Total Petroleum Hydrocarbons (TPH)	TCEQ 1005	GC/FID	1, 4
Dissolved Gas	RSK-175	GC/FID	1, 4
Formaldehyde	EPA 8315A	HPLC	1, 4
Non-Halogenated Organics	EPA 8015C	GC/FID	1, 4
Gluteraldehyde	EPA 8015C	GC/FID	1, 4
GRO	EPA 8015C	GC/FID	1, 4
DRO	EPA 8015C	GC/FID	1, 4
PAH	EPA 8270E	GC/MS	1, 4
Volatile Organics	EPA 624.1, EPA 8260D	GC/MS	1, 4
Organochlorine Pesticides	EPA 608.3, EPA 8081B	GC/ECD	1, 4
Herbicides	EPA 8321B	HPLC	1, 4
Organophosphorus Pesticides	EPA 8270E	GC/MS	1, 4
PCBs	EPA 608.3, EPA 8082A	GC/ECD	1, 4
Extractable Organics	EPA 625.1, EPA 8270E	GC/MS	1, 4
Chlorinated Phenolics	EPA 1653A	GC/MS	1, 4
Fatty Acids	SM 5560D-2019	GC/FID	1, 4
Dioxins/Furans	SGS AXYS Method 16130	GC Triple Quad MS	10
PFAS	SET-PFOA/PFAS-LC/MS60034017MS_NPW	LC Triple Quad MS	9
PFAS	EPA 1633	LC Triple Quad MS	9

**Reactive Cyanide and Sulfide are no longer approved analytical methods.
Note - Method 418.1 for TPH (IR) is no longer an approved analytical method. Total petroleum hydrocarbons are now determined by EPA Methods 1664 or 8015.

Table 3 - Solid and Chemical Waste Parameters

PARAMETER	METHOD	DESCRIPTION	REFERENCE
Amenable Cyanide	EPA 9010C/9014	Gas Evolution	4
Anions	EPA 9056A	IC	4
Chromium VI	EPA 7196A	Colorimetric	4
Corrosivity (pH)	EPA 9040C	calculation	4

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PARAMETER	METHOD	DESCRIPTION	REFERENCE
Extractable Organic Halides (EOX)	EPA 9023	Pyrolysis / microcoulometry	4
Ignitability	EPA 1010B, 1030	Pensky Martens closed cup	4
Oil & grease	EPA 9071B	Gravimetric	4
Paint Filter Liquid Test	EPA 9095B	Gravimetric	4
pH	EPA 9045D	Electrometric	4
Reactive Cyanide**	EPA 7.3.3.2	Gas Evolution	4
Reactive Sulfide**	EPA 7.3.4.2	Gas Evolution	4
Total Cyanide	EPA 9010C/9014	Gas Evolution	4
Total Organic Halides (TOX)	EPA 9020B	Pyrolysis / microcoulometry	4
Total Sulfides	EPA 9030B/9034	Gas Evolution	4
Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311	Manual extraction	4
Metals	EPA 6010D, EPA 6020B	ICP, ICPMS	4
Mercury	EPA 7470A, 7471B	Manual cold vapor	4
Gross-alpha	EPA 9310	Radiochemistry	4
Gross-Beta	EPA 9310	Radiochemistry	4
Radium 228	EPA 9320	Radiochemistry	4
Total Radium	EPA 9315	Radiochemistry	4
Non-Halogenated Organics	8015C	GC/FID	4
Total Petroleum Hydrocarbons (TPH)	TCEQ 1005	GC/FID	1, 4
GRO	EPA 8015C	GC/FID	4
DRO	EPA 8015C	GC/FID	4
PAH	EPA 8270E	GC/MS	4
Volatile Organics	EPA 8260D	GC/MS	4
Organochlorine Pesticides	EPA 8081B	GC/ECD	4
PCBs	EPA 8082A	GC/ECD	4
Herbicides	EPA 8321B	HPLC	4
Extractable Organics	EPA 8270E	GC/MS	4
Oil & Grease	EPA 9071B	Gravimetric	1, 4
Dioxins/Furans	SGS AXYS Method 16130	GC Triple Quad MS	10
PFAS	EPA 1633	LC Triple Quad MS	9
PFAS	SET-PFOA/PFAS-LC/MS60034017MS_Solids	LC Triple Quad MS	9

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Table 4 - Oil Parameters

PARAMETER	METHOD	DESCRIPTION	REFERENCE
Chlorine & Sulfur	EPA 9075	X-ray Fluorescence	4
Chlorine	EPA 9076	Combustion & Microcoulometry	4
Viscosity	ASTM D445	Capillary Viscometer	7
Flash Point	ASTM D92, D93	Pensky Martin	7
Cetane Index	ASTM D1160, D976	Vacuum Distillation	7
% Water	ASTM D6304	Karl Fisher	7
Sulfur & Chlorine	ASTM D4294	XRF	7
BTU	ASTM D240	Bomb Calorimeter	7
Pour Point	ASTM D97	Ice Bath	7
Copper Corrosion	ASTM D130	Water Bath	7
Water and Sediment (BSW)	ASTM D4007	Distillation	7
Color	ASTM D1500	Comparator	7

Table 5 - Organic Sample Preparation

Description	Method	Technique	Reference
TCLP Extraction	SW-846 Method 1311	16-20 Hours Extraction	4
Waste Extraction Test	CA Title 22 W.E.T.	48 Hour Extraction	11
Liquid/Liquid Extraction	SW-846 Method 3510C	Separatory Funnel	4
Micro-Extraction	SW-846 Method 3511	Micro-extraction	4
Solid/Liquid Extraction	SW-846 Method 3540C	Soxhlet Extractor	4
Microwave Extraction	SW-846 Method 3546	Microwave Oven	4
Solid/Liquid Extraction	SW-846 Method 3550B	Sonicator	4
Waste Sample	SW-846 Method 3580A	Waste Dilution	4
Florisil Clean-up	SW-846 Method 3620B	Florisil Column	4
Silica Gel Clean-up	SW-846 Method 3630C	Silica Gel Column	4
Volatile Sample	SW-846 Method 5030A, B & C	Purge and Trap	4
Volatile Sample	SW-846 Method 5035 & 5035A	Closed System Purge and Trap	4

Table 6 - Metal Sample Digestion

Description	Method	Technique	Reference
Total Recoverable Metals	SW-846 Method 3005A	$HCl+HNO_3$ Digestion	4
Total Metals, Aqueous	SW-846 Method 3010A	HNO_3 Digestion	4
Total Metals, Solid	SW-846 Method 3050B	$HNO_3 + H_2O_2$ Digestion	4

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Parameter Table References:

1. "Methods of Chemical Analysis of Water and Wastes". EPA-60014-79-020.
2. "Standard Methods for Examination of Water and Wastewater", Joint Editorial Board, American Public Health Association, 18th – 23nd Editions.
4. "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" USEPA, SW-846, Updates III, IVA, IVB, V & VI.
5. "Test Methods for Chemical Analysis of Municipal and Industrial Wastewater." EPA 600/4-82-057, July 1982.
6. “Methods for the Determination of Organic Compounds in Drinking Water” USEPA, July 1990, et. al.
7. “ASTM International” 100 Barr Harbor Drive, West Conshocken, PA, 19428.
8. “Prescribed Procedures for Measurement of Radioactivity in Drinking Water”, EPA 600/4-80-032, August 1980.
9. Langlois, I. and Oehme, M. “Structural Identification of Isomers Present In Technical Perfluorooctane Sulfonate By Tandem Mass Spectrometry.” Rapid Commun. Mass Spectrom. 2006, 20, 844-850.
10. Alternate Testing Procedure SGS AXYS Method 16130, “Polychlorinated Dibenzo-p-Dioxins (PCDDs) and Polychlorinated Dibenzofuran (PCDFs) by High-Resolution Gas Chromatography/Tandem Mass Spectrometry (HRGC-MS/MS)”, August 2020.
11. Department of Toxic Substances Control (DTSC). "Waste Extraction Test (WET) Procedures," CCR Title 22, Division 4.5, Chapter 11, Article 5, Appendix 2.

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Appendix B: Crosswalk of ISO 17025:2017, DoD/DoE QSM 6.0, and TNI 2016 Requirements to QAM Sections.

TNI 2016 Reference	DOD QSM 6.0 Reference	ISO 17025:2017 Reference	Alliance Technical Group, LLC – Quality Manual Reference
Introduction and Scope (V1M2 Clause 1.0)	Introduction and Scope (Module 2 Clause 1.0)	Introduction and Scope (Clause 1)	Refer section 1
Normative References (V1M2 Clause 2.0)	Normative References (Module 2 Clause 2.0)	Normative Reference (Clause 2)	Refer section 1.3
Terms and Definitions (V1M2 Clause 3.0)	Terms and Definitions (Module 2 Clause 3.0)	Terms and Definitions (Clause 3)	Refer section 1.4
General management requirement for Laboratory (V1M2 Clause 4.1.5)	Impartiality (Module 2 Clause 4.1)	Impartiality (Clause 4.1)	Refer section 2.1
Additional Management System requirement (V1M2 Clause 4.2.8)	Confidentiality (Module 2 Clause 4.2)	Confidentiality (Clause 4.2)	Refer section 2.2
Technical Requirements (V1M2 Clause 5.0)	Structural requirements (Module 2 Clause 5)	Structural requirements (Clause 5)	Refer section 3
Additional Management System requirement (V1M2 Clause 4.2.8.4)	Resource requirement (Module 2 Clause 6.0)	Resource requirement (Clause 6)	Refer section 4
Personnel (V1M2 Clause 5.2)	Personnel (Module 2 Clause 6.2)	Personnel (Clause 6.2)	Refer section 4.1
Accommodation and Environmental Conditions (V1M2 Clause 5.3)	Facilities and environmental conditions (Module 2 Clause 6.3)	Facilities and environmental conditions (Clause 6.3)	Refer section 4.2
Support Equipment (V1M2 Clause 5.5.13.1)	Equipment (Module 2 Clause 6.4)	Equipment (Clause 6.4)	Refer section 4.3
Measurement Traceability (V1M2 Clause 5.6)	Metrological traceability (Module 2 Clause 6.5)	Metrological traceability (Clause 6.5)	Refer section 4.3
Purchasing Services and Supplies (V1M2 Clause 4.6)	Externally provided products and services (Module 2 Clause 6.6)	Externally provided products and services (Clause 6.6)	Refer section 4.4
Management Requirement (V1M2	Process requirements (Module 2 Clause 7)	Process requirements (Clause	Refer section 5

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TNI 2016 Reference	DOD QSM 6.0 Reference	ISO 17025:2017 Reference	Alliance Technical Group, LLC – Quality Manual Reference
Clause 4.0)		7)	
Review of Request, Tenders, and Contracts (V1M2 Clause 4.4)	Review of requests, tenders and contracts (Module 2 Clause 7.1)	Review of requests, tenders and contracts (Clause 7.1)	Refer section 5.1
Environmental Methods and method Validation (V1M2 Clause 5.4)	Section, verification and validation of method (Module 2 Clause 7.2)	Section, verification and validation of method (Clause 7.2)	Refer section 5.2
Collection of Samples (V1M2 Clause 5.7)	Sampling (Module 2 Clause 7.3)	Sampling (Clause 7.3)	Refer section 5.3
Handling Samples and Test Items (V1M2 Clause 5.8)	Handling of test or calibration items (Module 2 Clause 7.4)	Handling of test or calibration items (Clause 7.4)	Refer section 5.4
Technical Records (V1M2 Clause 4.13.2)	Technical Records (Module 2 Clause7.5)	Technical Records (Clause7.5)	Refer section 5.5
Estimation of Analytical Uncertainty (V1M2 Clause 5.4.6)	Evaluation of measurement uncertainty (Module 2 Clause 7.6)	Evaluation of measurement uncertainty (Clause 7.6)	Refer section 5.6
Reporting the Results (V1M2 Clause 5.10)	Ensuring the Validity of results (Module 2 Clause 7.7)	Ensuring the Validity of results (Clause 7.7)	Refer section 5.7
Reporting the Results (V1M2 Clause 5.10)	Reporting of results (Module 2 Clause 7.8)	Reporting of results (Clause 7.8)	Refer section 5.8
Complaints (V1M2 Clause 4.8)	Complaints (Module 2 Clause 7.9)	Complaints (Clause 7.9)	Refer section 5.9
Control of nonconforming Environmental Testing Work (V1M2 Clause 4.9)	Nonconforming work (Module 2 Clause 7.10)	Nonconforming work (Clause 7.10)	Refer section 5.10
Control of Records (V1M2 Clause 4.13)	Control of data and information management (Module 2 Clause 7.11)	Control of data and information management (Clause 7.11)	Refer section 5.11
Management Requirements (V1M2 Clause 4.0)	Management system requirements (Module 2 Clause 8)	Management system requirements (Clause 8)	Refer section 6
Management (V1M2 Clause 4.2)	Management system documentation (Module 2 Clause 8.2)	Management system documentation (Clause 8.2)	Refer section 6.1

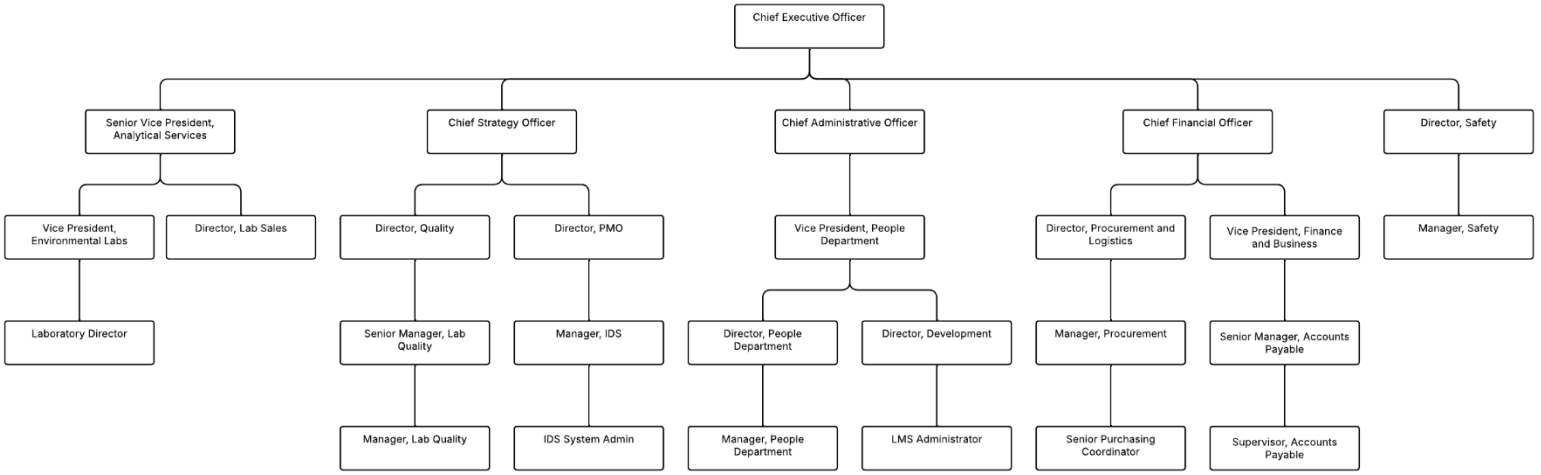
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TNI 2016 Reference	DOD QSM 6.0 Reference	ISO 17025:2017 Reference	Alliance Technical Group, LLC – Quality Manual Reference
Document Control (V1M2 Clause 4.3)	Control of management system documents (Module 2 Clause 8.3)	Control of management system documents (Clause 8.3)	Refer section 6.2
Document Approval and Issue (V1M2 Clause 4.3.2 & 4.3.3)	Control of records (Module 2 Clause 8.4)	Control of records (Clause 8.4)	Refer section 6.3
Preventive Action (V1M2 Clause 4.12)	Actions to address risks and opportunities (Module 2 Clause 8.5)	Actions to address risks and opportunities (Clause 8.5)	Refer section 6.4
Improvement (V1M2 Clause 4.10)	Improvement (Module 2 Clause 8.6)	Improvement (Clause 8.6)	Refer section 6.5
Corrective Action (V1M2 Clause 4.11)	Corrective action (Module 2 Clause 8.7)	Corrective action (Clause 8.7)	Refer section 6.6
Internal Audits (V1M2 Clause 4.14)	Internal audits (Module 2 Clause 8.8)	Internal audits (Clause 8.8)	Refer section 6.7
Management Review (V1M2 Clause 4.15)	Management Review (Module 2 Clause 8.9)	Management Review (Clause 8.9)	Refer section 6.8

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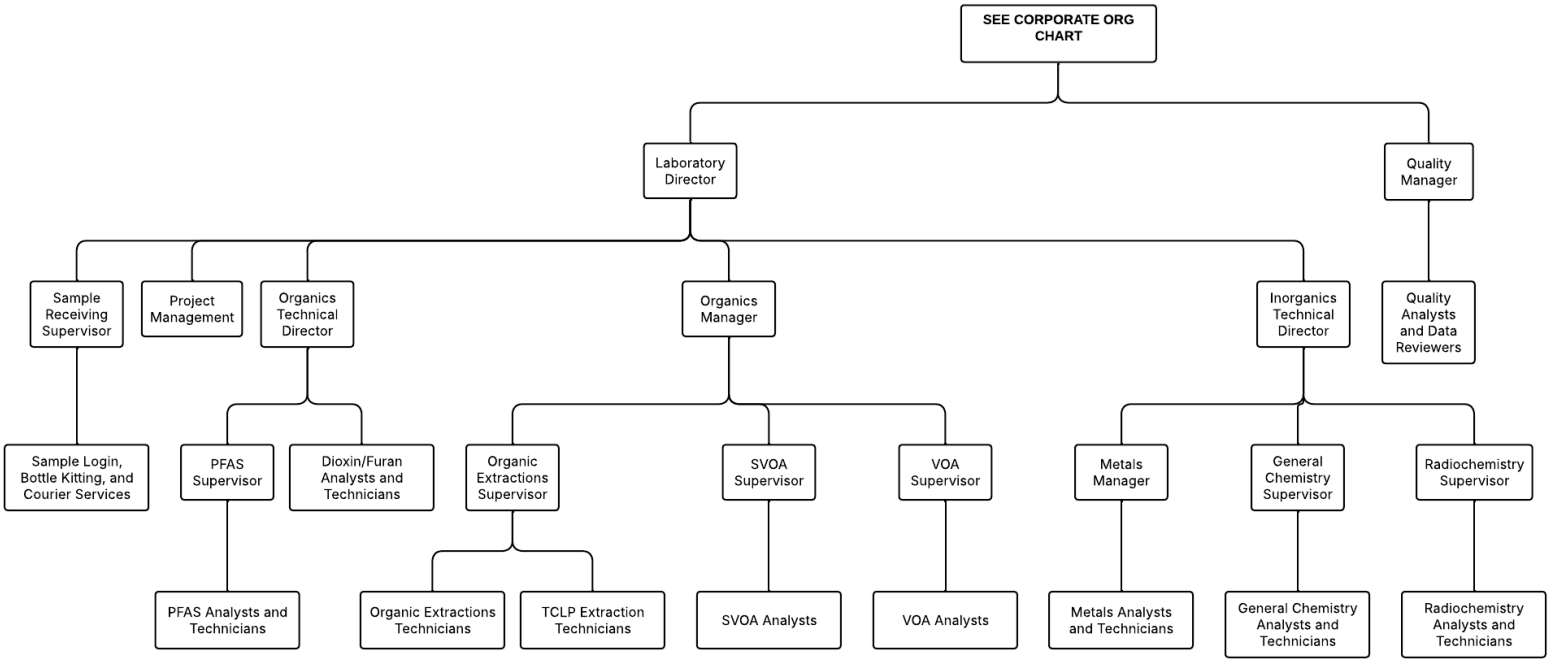
1.31 Appendix C: Organizational Charts. (Corporate and lab-level organizational chart(s), showing reporting structure, names/titles [Lab Name] should replace placeholders with actual names/titles for their organization. Also possibly an example of a responsibilities matrix if needed.)

Corporate Org Chart



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Site-Level Org Chart



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Appendix D: The laboratory maintains a listing of analytical data qualifiers to indicate any abnormal conditions during sample analysis. The following is a listing of common data qualifiers. A complete listing of qualifiers is maintained by Project Management.

U	The compound was analyzed for but not detected above the MDL.
J	The reported value is between the MDL and < RL.
H	Hold time for sample preparation and/or analysis was exceeded. Not CWA compliant.
D	The result is reported from a dilution.
E	The result exceeded the range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound limit.
*	The result exceeds the regulatory limit or Maximum Contamination Limit (MCL).
m	Manual integration was used to determine the area response.
d	Manual integration in which peak was deleted.
N	The result is presumptive based on a Mass Spectral library search.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS analysis was performed.
B	The analyte was detected in the Method Blank at a concentration > RL.
MB+	The analyte was detected in the Method Blank at a concentration > MDL.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
W	Samples were received outside temperature limits (0-6°C). Not CWA compliant.
Z	A deviation from the method was performed, refer to case narrative.

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Appendix E: Floorplan and description of location

Total area of the laboratory is approximately 31,000 square feet.

All activities within the laboratory are segregated as follows:

- Administration and customer service areas
- Sample login
- Bottle preparation
- Chemical storage room
- Sample storage areas
- Metals digestion lab
- Radiochemistry preparation lab
- ICP and ICP-MS Metals analysis lab
- Radiochemistry alpha/beta analysis lab (Ultra Low Level a/ß Counter)
- Radiochemistry gamma analysis lab
- Volatiles analysis labs (GC, GC/MS)
- Semi-Volatiles extraction lab
- Semi-Volatiles analysis lab (GC, GC/MS, HPLC)
- TCLP/SPLP preparation lab
- Low-level mercury lab
- Halide analysis lab
- Dioxin (HRMS), PFAS (LC-Triple Quad) Semi-Volatiles (GC) analysis lab
- Dioxin, PFAS, Semi-Volatiles extraction lab
- Hazardous waste storage area
- Oil analysis lab

Refer to the posted Emergency Evacuation Route for lab layout.

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Appendix F: Equipment List

Instrument	Model	Manufacturer
Gamma Counter Photon Detector	GMX25P4-76-SMN	Ortec
PFAS Auto Extractor	SPE-003 Gen 4	Promochrom
SVOC Auto Extractor	SPE-003 Gen 4	Promochrom
GC w/ purge/trap and AS	Atomx	Teledyne
GC/MS w/ purge/trap and AS (Atomx)	5890/5972	HP
GC/MS	5890/5972	HP
GC/MS	7890/5975	Agilent
GC/MS w/ purge & trap (Atomx)	7890/5977	Agilent
GC/MS	6890N ms 5973	Agilent
GC Triple Quad MS 7010C	8890/G7010C	Agilent
GC/FID/PID w/ purge & trap (Atomx)	5890 Series II	HP
GC/FID	5890 Series II	HP
GC/ECD	5890 Series II	HP
GC/FID	7890A	Agilent
GC/FID	5890 Series II	HP
HPLC	UltiMate 3000	Dionex
HPLC	ICS-1100	Dionex
LC Triple Quad MS	1290 Infinity II/G6495A	Agilent
LC Triple Quad MS	1290 Infinity II/G6495C	Agilent
Separatory Funnel Shaker	3D Shaker	Glas-Col
PFAS Shaker	Orbital Shaker	Ohaus
ICP	5110	Agilent
ICP	iCAP 6000/Cetac ASX-260	Thermo Jarrel Ash
ICP/MS	NEXION 300	Perkin Elmer
Mercury Analyzer	M-7600	CETAC
Low Level Mercury	Series 2600	Tekran
Evaporator	RapidVap N2	Labconco
Evaporator	TurboVap II/LV	Biotage
Evaporator	N-EVAP 111	Organomation
TOC	TOC-L	Shimadzu
Solvent Extractor	ASE200	Dionex
Sonicator	Virsonic 475	VirTis
TPH Analyzer	HC-404	Buck
AOX/EOX Analyzer	multi X 2500	Analytikjena
AOX Extractor	APU28	Analytikjena
Ion Chromatograph	ICS-1100	Dionex
Ion Chromatograph	ICS-2000	Dionex
Ion Chromatograph	ICS-3000	Dionex
Gas Proportional Counters	MPC 9604	Protean
Automatic API/SG/Density Meter	DA-130N	Kyoto Electronics
Bomb Calorimeter	6300	Parr
Bomb Calorimeter	M7576	Parr

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Instrument	Model	Manufacturer
Vacuum Distillation	D1160	B/R Instruments
X-Ray Fluorescence	Spectro 200	Spectro
X-Ray Fluorescence Spectrometer	NexQC	Rigaku
Flash Point Tester	PMA500	Anton Paar
Viscosity Bath	K23702	Koehler
Viscosity Bath	K23700	Koehler
Distillation Unit	K45000	Koehler
Oil Comparator	K13200	Koehler
Karl-Fisher Analyzer	831	Metrohm
Gas Detector	Gas Alert MicroClip XT	BW Technologies
Spectrophotometer	200	Thermo Scientific
Spectrophotometer	UV300	Unicam
Refractometer	ABBE-3L	Thermo Scientific
Aniline Point Apparatus	K10020	Koehler
Viscometer for Dynamic Viscometer	DV-E Viscometer	Brookfield
Dissolved Oxygen Meter	602167	Orion
Automatic pH Meter	Accumet AB150 pH/mV	Fisher Scientific
Ammonia Meter	4Star	Orion
Turbidimeter	2100N4	Hach
Turbidimeter	Aquafast	Orion
Top-Loading Balance	Various	Various
Analytical Balance	Various	Various
Astoria Pacific AQ-2A	AQ-2	Astoria Pacific
Conductivity Meter	Con 510 Series	Oakton
Automatic Flash Point Tester	Petrotest	PMA4
rAPID-T analyzer	4600	Astoria Pacific
UV/VIS Spectrometer Unicam	UV300	Thermo/Spectronic
HPLC	Vanquish-Core	Thermo Scientific
PFAS Auto Extractor	Presto	Promochrom

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Revision History

Revision	Effective Date	Change
26.0	02/17/2026	Initial Issue

Alliance Technical Group, LLC-Akron
3310 Win Street
Cuyahoga Falls, OH 44223
330-253-8211

I have read, understood, and agree to follow all of the policies & directions within the attached document. I will contact and get approval from my Supervisor or Lab Manager if I intend to modify any of these procedures.

#	Employee Signature	#	Employee Signature
1		11	
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3		13	
4		14	
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7		17	
8		18	
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10		20	

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Alliance Technical Group, LLC - Akron

Quality Assurance Manual

3310 Win Street

Cuyahoga Falls, Ohio 44223

Approved By:

_____

Reza Tand, Laboratory Director

_____

Sara Duran, Quality Assurance Manager

_____

Christopher Stefan, Inorganics Technical Director

_____

Ryan Smith, Organics Technical Director

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1. Introduction and Scope

1.1 Purpose: This Quality Assurance Manual outlines the management system policies and procedures that ensure all laboratory activities are conducted to produce data of known, documented, and defensible quality, meeting customer and regulatory requirements. It defines the commitment of management to maintain an effective quality system in conformance with ISO/IEC 17025/TNI/DoD/DoE standards. The manual applies to all analytical testing services offered by Alliance Environmental Laboratories across all laboratory locations in the Alliance Technical Group Environmental Laboratories network. It is the overarching corporate quality manual that provides a template for each laboratory location; each lab will incorporate local details (personnel, methods, etc.) while adhering to the corporate policies herein.

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1.2 Scope of Testing and Accreditation: Alliance Environmental Laboratories are accredited to perform testing in the environmental sector under ISO/IEC 17025:2017, DoD/DoE, and/or the 2016 TNI Environmental Laboratory Standard, with accreditations varying between the laboratories. The individual laboratory's *Scope of Accreditation* (see Appendix A) lists the fields of testing, matrices, and analytes for which it is accredited (e.g., drinking water, wastewater, soil, etc.). This manual and referenced Standard Operating Procedures (SOPs) are designed to ensure compliance with the ISO 17025, 2016 TNI Standard (Volume 1, Modules 1–7 as applicable) and DoD/DoE QSM 6.0 requirements as applicable for each laboratory scope for all accredited activities. The manual addresses both management and technical requirements of these standards, and where DoD/DoE or TNI impose additional requirements and the laboratory has those requirements due to certification, those are indicated in the relevant sections or crosswalk table (see Appendix B).

1.3 Normative References: The following documents are integral to the quality system. Wherever this manual refers to "the Standard" it implies the collective requirements of these references, as applicable:

- ISO/IEC 17025:2017 – General requirements for the competence of testing and calibration laboratories
- TNI Environmental Laboratory Sector Standard Volume 1 (2016, Rev 2.1) – *Management and Technical Requirements for Laboratories Performing Environmental Analysis*, including Module 1 (Proficiency Testing), Module 2 (Quality Systems General Requirements), Module 4 (Quality Systems for Chemical Testing), and other modules as applicable.
- DoD/DoE Quality Systems Manual for Environmental Laboratories (DoD/DoE QSM) Version 6.0 – Module 2 and related modules (aligned with TNI 2016 and ISO/IEC 17025:2017).
- Any applicable regulatory program requirements, e.g., state environmental laboratory certification rules or methods manuals (SW-846, Standard Methods, EPA methods, etc.), which are to be followed if relevant.

1.4 Terms and Definitions: Unless defined otherwise herein, terms used in this manual follow the definitions in ISO/IEC 17025:2017, DoD/DoE QSM 6.0 and the TNI 2016 Standard. Key definitions include *laboratory*, *management*, *quality manager*, *technical manager*, *impartiality*, *laboratory activities*, *nonconforming work*, etc. Abbreviations: QA – Quality Assurance; QC – Quality Control; SOP – Standard Operating Procedure; LIMS – Laboratory Information Management System.

1.5 Management System Overview: The policies and procedures in this manual, together with the laboratory's SOPs and quality system documents, form the management system that governs all operations of Alliance Technical Group Environmental Laboratories. This manual outlines the structure of quality documentation and either contains or references all required elements of the quality system. All personnel in the laboratory are required to be familiar with, and implement, the policies in this manual and associated procedures in their daily work. The quality manual is a controlled document; the Quality Manager ensures it is reviewed periodically (at least annually or as standards/regulations change) and updated under document control (see Section 6.2) to remain current. Each revision is approved by top management (Laboratory Director and Quality Manager) before implementation. Copies of the current manual are made available to staff. Obsolete versions are archived and marked as such to prevent unintended use.

1.6 Crosswalk to Standards: Appendix B provides a cross-reference mapping of the sections of this manual to the relevant clauses of ISO/IEC 17025:2017, TNI 2016 Standard, and DoD/DOE QSM 6.0 to demonstrate compliance. This mapping ensures that for each requirement of the standards, corresponding policies or procedures are documented in this manual or referenced SOPs.

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2. General Requirements

2.1 Impartiality

Alliance Environmental Laboratories and its personnel commit to performing all laboratory activities with impartiality, free from any undue internal or external influences that could compromise the objectivity of work. The laboratory has policies and procedures to avoid involvement in any activities that would diminish confidence in its competence, impartiality, judgment, or operational integrity. All staff, from top management to laboratory analysts, must conduct testing and reporting without bias or conflict of interest. If any situation arises that may present a conflict of interest or undue pressure (financial, commercial, or other), it must be disclosed to management and resolved to ensure continued impartiality.

- **Independence:** Alliance Environmental Laboratories is organized and operates in a manner that safeguards impartiality. The laboratory is a legally identifiable entity that is responsible for its testing activities. It is independent from external organizations or parent companies in terms of reporting results; where the laboratory is part of a larger organization, arrangements are in place (e.g. reporting structure, confidentiality agreements) to prevent undue influence on laboratory decisions.

- **Conflict of Interest:** Personnel are required to avoid any conflict of interest with clients' work. They shall not participate in testing, review, or approval of results for a sample in which they have any personal stake or prior involvement that could affect their objectivity. If such a situation is identified, another qualified individual will be assigned to the work.

- **Management Commitment:** Top management demonstrates commitment to impartiality by formal policy (see Quality Policy in Section 3.3) and by actively promoting a culture of integrity and ethical behavior. Management ensures that all employees understand the importance of impartiality—this is reinforced through annual ethics and data integrity training and signed ethics statements in personnel files. Any attempt to influence results for commercial advantage or other reasons is strictly prohibited; unethical or improper actions are subject to disciplinary action, up to termination.

- **Risk to Impartiality:** The Quality Manager periodically (at least annually) conducts a risk assessment regarding impartiality. This assessment reviews relationships, contracts, and other potential sources of bias to identify any conditions that could present a risk to impartiality. Documented records of these reviews and any identified risks are maintained. If risks are identified, the laboratory takes appropriate action to eliminate or mitigate them, and records the decisions and actions taken.

2.2 Confidentiality

Alliance Technical Group Environmental Laboratories maintains a strict policy of client confidentiality. All personnel, including employees, contract staff, and any external providers with access to confidential information, are bound by confidentiality agreements. This ensures that proprietary information about clients, test items, methods, and results are not disclosed to any unauthorized parties without the client's written consent, except as required by law or accreditation bodies.

All original client data, records, and reports are kept secure (electronically in access-controlled systems and/or physically secure storage). Discussion of client projects or results is limited to authorized personnel on a need-to-know basis. Results are only released to the client or persons designated by the client.

When compelled by law or contract to release confidential information (e.g., subpoena, regulatory reporting), the laboratory will, unless prohibited, notify the client of the information provided.

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The laboratory's commitment to confidentiality extends to information obtained during subcontracting or from suppliers. Information about Alliance Environmental Laboratories' own processes that is confidential or proprietary (such as unpublished method details, trade secrets, etc.) is also protected under internal policy.

All personnel are trained on confidentiality requirements during onboarding and sign a confidentiality and ethics agreement acknowledging their responsibilities. The Quality Manager monitors compliance with confidentiality policies, and breaches of confidentiality are treated as serious misconduct, with investigations and corrective actions implemented if they occur.

3. Structural Requirements

3.1 Legal Entity and Organizational Structure

Alliance Technical Group, LLC is a privately held corporation established in 2000 in the state of Alabama. It operates as a full-service environmental compliance provider with an environmental laboratory division with facilities in Newark NJ, Greenville SC, Columbia SC, Akron OH, Haddock GA, Seattle WA, Phoenix AZ, Tustin CA, Beaumont TX, Rapid City SD, and Wilmington NC. Each laboratory is a distinct entity that can be held legally responsible for its testing activities and results.

This laboratory's EPA ID numbers and acquisition information are as follows:

Laboratory Name	Previous Name	EPA ID	Date Established	Date Acquired
Alliance Technical Group, LLC - Akron	Summit Environmental Technologies, Inc.	OH00923	1994	October 2023

Alliance Environmental Laboratories is a business unit of Alliance Technical Group, LLC. The organizational structure of Alliance Technical Group Environmental Laboratories and its relationship within any parent organization is documented in an Organizational Chart (see Appendix C for the corporate organizational chart and lines of responsibility). This chart clearly shows the positions of key personnel (Lab Director, Quality Manager, Technical Managers, etc.) and reporting lines, ensuring that roles and responsibilities are defined without ambiguity.

Management and Key Personnel: Top management of Alliance Environmental Laboratories consists of the Laboratory Director, Technical Directors, and the Quality Assurance Manager, supported by technical managers/supervisors for each functional area of the lab. If key personnel are absent for a period that exceeds what is permissible by the AB or TNI/DoD, the appropriate regulatory agencies will be notified. The following key roles are identified (one person may cover multiple roles if qualified, but their responsibilities are delineated):

Job Title: Director, Laboratory
FLSA: Exempt
Reports to: Vice President or Senior Vice President of Environmental Labs

Job Summary:
The Laboratory Director holds overall responsibility for the operation and technical validity of one or more laboratory locations. This role sets strategic direction in alignment with corporate policies, ensures compliance with regulatory and client requirements, and maintains robust quality and safety systems. The Director oversees workflows, manages resources, and supports advanced testing projects, while also

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serving as a key liaison for internal and external stakeholders.

Supervisory Responsibilities:

- Supervises staff, including hiring, scheduling, and assigning work, reviewing performance, and
- recommends salary increases, promotions, transfers, demotions, or terminations.

Duties/Responsibilities:

- Provide strategic leadership and direction for laboratory operations.
- Ensure technical validity of testing and compliance with regulatory and client standards.
- Approve the Quality Manual and major laboratory policies.
- Oversee quality systems and ensure adequate resources are allocated.
- Coordinate workflows across departments to ensure timely and accurate sample processing.
- Develop and maintain tracking systems for sample receipt, processing, and reporting.
- Ensure documentation accuracy, including proposals, orders, reports, and invoices.
- Lead customer communications related to laboratory work and business objectives

Required Skills/Abilities:

- Strong leadership and organizational skills.
- In-depth knowledge of environmental testing methods and regulatory standards (e.g., EPA, ISO).
- Excellent communication and interpersonal skills.
- Ability to manage multiple priorities and coordinate cross-functional teams.
- Proficiency in laboratory information management systems (LIMS) and quality management systems.
- Strong analytical and problem-solving abilities.
- Attention to detail and commitment to quality and safety.

Education and Experience:

- Bachelor's degree in Environmental Science, Chemistry, Biology, or a related field (Master's or Ph.D. preferred).
- Minimum of 7–10 years of experience in an environmental laboratory setting.
- At least 3–5 years in a leadership or management role.
- Experience with regulatory compliance and quality assurance programs.

Job Title: Lab Technical Director
FLSA: Exempt
Reports to: Laboratory Director

Job Summary:
The Technical Director is responsible for the overall technical leadership, strategic direction, and operational oversight of the laboratory. This role ensures the integrity and validity of testing procedures, compliance with regulatory standards (including TNI), and alignment with corporate policies. The Technical Director manages technical staff, oversees instrumentation and policy decisions, and plays a key role in maintaining high-quality, efficient laboratory operations. The technical director(s) will meet all regulatory requirements for the role.

Supervisory Responsibilities:
Supervises staff, including hiring, scheduling, and assigning work, reviewing performance, and recommends salary increases, promotions, transfers, demotions, or terminations.

Duties/Responsibilities:

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- Provide strategic and technical leadership for laboratory operations.
- Ensure the accuracy, reliability, and regulatory compliance of all laboratory testing.
- Approve the Quality Manual and major laboratory policies.
- Oversee and manage Technical Managers and Department Managers across technical disciplines.
- Make decisions regarding instrumentation, technical procedures, and laboratory policies.
- Ensure compliance with The NELAC Institute (TNI) standards, including maintaining required qualifications and transcripts on file.
- Coordinate cross-departmental workflows to ensure timely and accurate sample processing.
- Support advanced testing projects and provide technical guidance for complex analyses.
- Develop and maintain systems for tracking sample receipt, processing, and reporting.
- Ensure alignment between proposals, orders, reports, and invoices.
- Lead technical communications with clients and regulatory agencies.
- Oversee operations at one or more laboratory locations, ensuring safety and quality standards.
- Train and mentor technical staff, fostering a culture of continuous improvement and compliance.

Required Skills/Abilities:

- Strong leadership and decision-making skills.
- Deep understanding of laboratory testing methods and regulatory standards (e.g., TNI, EPA, ISO).
- Excellent communication and interpersonal skills.
- Proficiency in laboratory information management systems (LIMS).
- Strong analytical and problem-solving abilities.
- Ability to manage multiple priorities and lead cross-functional teams.
- Commitment to quality, safety, and regulatory compliance.

Education and Experience:

- Bachelor's degree in a scientific or technical field (e.g., Chemistry, Biology, Environmental Science); Master's or Ph.D. preferred.
- Minimum of 8–10 years of experience in a laboratory or technical environment.
- At least 5 years in a technical leadership or management role.
- Must meet the qualifications outlined in the TNI standard, with transcripts on file as evidence.
- Experience with quality assurance programs and regulatory compliance.

Physical Requirements:

- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 25 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Manager, Operations
FLSA: Non-Exempt
Reports to: Laboratory Director, Client Services Manager, Operations Manager

Job Summary:
The Laboratory Operations Manager is responsible for overseeing the day-to-day operations of multiple laboratory departments, including MSV, MSS, Organic Prep, Wet Chemistry, Metals, Air, and others. This role ensures operational efficiency, quality compliance, and team performance across functional groups. The Operations Manager may supervise Department Managers and works closely with the Laboratory Director to implement strategic initiatives, optimize workflows, and support client satisfaction.

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Supervisory Responsibilities:

- Manages staff including hiring, training, development and engagement of self and team members, evaluating performance, providing compensation recommendations, and performance management

Duties/Responsibilities:

- Manage and coordinate activities across multiple laboratory departments to ensure timely and accurate sample processing.
- Supervise Department Managers and team leads, providing guidance, performance feedback, and development opportunities.
- Monitor operational metrics and implement process improvements to enhance efficiency, throughput, and quality.
- Ensure compliance with regulatory standards, internal policies, and client requirements.
- Collaborate with the Laboratory Director to align operational goals with strategic objectives.
- Support resource planning, including staffing, equipment, and supply needs across departments.
- Resolve escalated operational issues and coordinate cross-functional problem-solving efforts.
- Oversee scheduling and capacity planning to meet client deadlines and optimize lab performance.
- Participate in budget planning and monitor expenditures related to operational activities.
- Lead or support special projects, including new service implementation, workflow redesign, and technology upgrades.
- Promote a culture of safety, quality, and continuous improvement throughout the laboratory.
- Represent operations in client meetings, audits, and internal leadership discussions.

Required Skills/Abilities:

- Strong leadership and team management skills.
- In-depth understanding of laboratory operations and analytical methods.
- Excellent organizational and problem-solving abilities.
- Effective communication and interpersonal skills.
- Proficiency in laboratory information management systems (LIMS) and operational reporting tools.
- Ability to manage multiple priorities and drive results in a fast-paced environment.
- Knowledge of regulatory and quality standards (e.g., ISO/IEC 17025, NELAC, EPA).

Education and Experience:

- Bachelor’s degree in Chemistry, Biology, Environmental Science, or a related field (Master’s preferred).
- Minimum of 5–7 years of laboratory experience, with at least 3 years in a supervisory or management role.
- Experience managing multiple departments or teams in a laboratory setting is strongly preferred.
- OR an equivalent combination of education, training, and experience

Physical Requirements:

- Ability to sit, stand, and move throughout laboratory and office environments.
- Manual dexterity to operate and computer systems.
- Occasional lifting of up to 25 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

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Job Title: Lab Quality Assurance Manager
FLSA: Exempt
Reports to: Senior Quality Manager

Job Summary:
The Laboratory Quality Assurance (QA) Manager is responsible for implementing, maintaining, and continuously improving the quality management system across the laboratory network. This role ensures compliance with the Quality Assurance Manual (QAM), standard operating procedures (SOPs), and applicable regulatory requirements. The QA Manager coordinates internal audits and management reviews, oversees training in quality and ethics, and has the authority to halt non-compliant work.

Supervisory Responsibilities:
Supervises staff, including hiring, scheduling, and assigning work, reviewing performance, and recommends salary increases, promotions, transfers, demotions, or terminations.

Duties/Responsibilities:
- Implement and maintain the laboratory's quality management system in accordance with regulatory and corporate standards.
- Monitor compliance with the Quality Assurance Manual (QAM), SOPs, and applicable regulations.
- Plan, coordinate, and conduct internal audits and facilitate management reviews.
- Oversee training programs related to quality assurance, ethics, and regulatory compliance.
- Maintain documentation and records related to quality activities, audits, and corrective actions.
- Identify and investigate quality issues, lead root cause analysis, and implement corrective and preventive actions.
- Serve as the primary point of contact for quality-related matters with clients, auditors, and regulatory agencies.
- Authorize the halting of laboratory work that does not meet quality standards.
- Collaborate with laboratory leadership to promote a culture of continuous improvement and quality excellence.
- Ensure timely updates and revisions to quality policies, procedures, and manuals.

Required Skills/Abilities:
- Strong knowledge of quality management systems (e.g., ISO/IEC 17025, NELAC, or similar).
- Excellent organizational and analytical skills.
- Strong written and verbal communication skills.
- Ability to lead audits and facilitate training sessions.
- Proficiency in quality management software and laboratory information systems (LIMS).
- High attention to detail and ability to manage multiple priorities.
- Strong interpersonal skills and the ability to work collaboratively across departments.

Education and Experience:
- Bachelor's degree in Chemistry, Biology, Environmental Science, or a related field (Master's preferred).
- Minimum of 5 years of experience in a laboratory quality assurance role.
- Experience with regulatory compliance and audit processes.

Physical Requirements:
- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 25 pounds.

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- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Manager II, Department
FLSA: Exempt
Reports to: Operations Manager, Client Services Manager, or Laboratory Director

Job Summary:
The Laboratory Manager II is responsible for overseeing the daily operations of one or more laboratory units, ensuring high standards of quality, safety, and efficiency. This role involves managing staff, coordinating complex workflows, supporting technical and regulatory compliance, and contributing to strategic planning. The Laboratory Manager II also plays a key role in client communication, project oversight, and continuous improvement initiatives, serving as a senior leader within the laboratory network.

Supervisory Responsibilities:
Supervises staff, including hiring, scheduling, and assigning work, reviewing performance, and recommends salary increases, promotions, transfers, demotions, or terminations.

Duties/Responsibilities:
- Manage day-to-day laboratory operations, including scheduling, staffing, and resource allocation.
- Supervise and mentor laboratory personnel, including supervisors, analysts, and technicians.
- Ensure compliance with all applicable regulatory, accreditation, and safety standards (e.g., ISO/IEC 17025, NELAC, EPA).
- Oversee the implementation and maintenance of quality assurance and control procedures.
- Collaborate with QA and technical teams to resolve non-conformances and implement corrective actions.
- Monitor laboratory performance metrics and drive continuous improvement initiatives.
- Coordinate with clients and internal stakeholders to ensure timely and accurate delivery of results.
- Support budgeting, procurement, and inventory management for laboratory supplies and equipment.
- Participate in audits, inspections, and management reviews.
- Contribute to the development of new methods, services, and operational strategies.
- Serve as acting Laboratory Director when needed, depending on qualifications and experience.

Required Skills/Abilities:
- Strong leadership and team management skills.
- Advanced knowledge of laboratory operations, instrumentation, and analytical methods.
- Excellent organizational and problem-solving abilities.
- Effective communication skills, both written and verbal.
- Proficiency in laboratory information management systems (LIMS) and quality systems.
- Ability to manage multiple priorities in a fast-paced environment.
- Strong understanding of regulatory and accreditation requirements.

Education and Experience:
- Bachelor's degree in Chemistry, Biology, Environmental Science, or a related field (Master's preferred).
- Minimum of 7 years of laboratory experience, with at least 3 years in a supervisory or management role.
- Experience in environmental, clinical, or industrial laboratory settings preferred.

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Physical Requirements:

- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 25 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Manager I, Department

FLSA: Exempt

Reports to: Operations Manager, Client Services Manager, or Laboratory Director

Job Summary:

The Laboratory Department Manager is responsible for managing the day-to-day operations of a specific technical section within the laboratory (e.g., Inorganics, Organics, Metals, Microbiology, or Sample Management). This role ensures that testing is performed accurately and in compliance with quality standards, oversees technical training, resolves technical issues, and supports continuous improvement. The Department Manager plays a key role in maintaining regulatory compliance and supporting the laboratory's overall operational goals.

Supervisory Responsibilities:

Supervises staff, including hiring, scheduling, and assigning work, reviewing performance, and recommends salary increases, promotions, transfers, demotions, or terminations.

Duties/Responsibilities:

- Supervise daily operations within the assigned laboratory department.
- Ensure test methods are executed accurately and in accordance with SOPs and regulatory standards.
- Implement and monitor quality control procedures to maintain data integrity and compliance.
- Provide technical training and mentorship to laboratory analysts and technicians.
- Troubleshoot and resolve technical issues related to testing and instrumentation.
- Collaborate with QA and other departments to support audits, corrective actions, and continuous improvement initiatives.
- Maintain proper documentation of procedures, results, and quality records.
- Monitor workload distribution and adjust staffing or priorities as needed to meet turnaround times.
- Ensure laboratory safety protocols are followed and promote a culture of safety and accountability.
- Participate in method development, validation, and implementation as needed.
- Ensure department operations align with TNI and accreditation requirements.

Required Skills/Abilities:

- Strong technical knowledge in environmental laboratory testing and instrumentation.
- Familiarity with regulatory standards such as TNI, NELAC, EPA, and ISO/IEC 17025.
- Excellent leadership, organizational, and problem-solving skills.
- Ability to train and mentor staff effectively.
- Strong communication and interpersonal skills.
- Proficiency with laboratory information management systems (LIMS) and Microsoft Office Suite.
- Ability to manage multiple priorities in a fast-paced environment.

Education and Experience:

- Bachelor's degree in Chemistry, Environmental Science, Biology, or a related field (Master's preferred).

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- Minimum of 5 years of experience in an environmental laboratory, with at least 2 years in a supervisory or technical lead role.
- Must meet the education and experience qualifications required by TNI and relevant accreditation bodies.

Physical Requirements:
- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 25 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Analyst III
FLSA: Non-Exempt
Reports to: Lab Department Supervisor, Lab Department Manager

Job Summary:
The Laboratory Analyst III is a senior-level analyst responsible for independently performing complex analyses, leading laboratory documentation and quality practices, and mentoring junior staff. This role includes designing and validating investigation tests, improving workflows and methods, and ensuring that laboratory operations meet client expectations and industry standards. The Lab Analyst III plays a key role in maintaining high-quality data, supporting continuous improvement, and driving technical excellence across the lab.

Supervisory Responsibilities:
No supervisory responsibilities

Duties/Responsibilities:
- Independently manage laboratory documentation and oversee documentation practices for others; identify and implement workflow improvements.
- Prepare complex standards and reagents independently; serve as a training resource for junior analysts.
- Lead calibration protocols, develop maintenance schedules, and train staff on instrument care and troubleshooting.
- Independently set up and load instruments for analysis; train others in proper setup and operation.
- Ensure accurate flagging and narrative documentation with minimal corrections; guide others in best practices.
- Design, perform, validate, and summarize investigation tests; monitor corrective actions for effectiveness.
- Prepare, analyze, and track sample progress; ensure timely completion and communicate delays appropriately.
- Evaluate results against client requirements and industry standards; recommend and implement method improvements to meet performance targets.
- Demonstrate advanced knowledge of test codes, SOPs, and the chemistry employed in laboratory methods.
- Collaborate with management on technical projects, method development, and continuous improvement initiatives.

Required Skills/Abilities:
- Advanced knowledge of laboratory techniques, instrumentation, and analytical chemistry.
- Strong leadership and mentoring skills.

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- Proven ability to troubleshoot complex technical issues and improve laboratory processes.
- Excellent documentation and communication skills.
- High attention to detail and commitment to data integrity and quality.
- Proficiency in laboratory information management systems (LIMS) and quality systems.

Education and Experience:

- Bachelor's degree in Chemistry, Biology, Environmental Science, or a related field (Master's preferred).
- 5+ years of laboratory experience, with demonstrated progression in technical and leadership responsibilities.

Physical Requirements:

- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 50 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Analyst II
FLSA: Non-Exempt
Reports to: Lab Department Supervisor, Lab Department Manager

Job Summary:
The Laboratory Analyst II is a mid-level analyst position responsible for independently performing complex laboratory tasks, supporting junior staff, and ensuring the accuracy and efficiency of analytical workflows. This role includes preparing advanced reagents, calibrating and maintaining instruments, troubleshooting issues, and guiding others in documentation and analysis. The Lab Analyst II demonstrates a solid understanding of laboratory methods, quality standards, and regulatory requirements, contributing to investigations and continuous improvement efforts.

Supervisory Responsibilities:
No supervisory responsibilities

Duties/Responsibilities:

- Independently manage laboratory documentation and assist junior staff with proper recordkeeping.
- Prepare complex standards and reagents in accordance with SOPs.
- Calibrate instrumentation and perform routine maintenance independently; conduct basic troubleshooting.
- Set up and load instruments for analysis with minimal oversight.
- Analyze samples and ensure accurate flagging and narrative documentation; guide others in these practices.
- Track sample progress, ensure timely completion, and communicate delays appropriately.
- Support and mentor junior analysts in laboratory techniques and procedures.
- Collaborate with management to design and execute investigation tests.
- Demonstrate solid understanding of test codes, SOPs, and parent methods.
- Ensure compliance with safety protocols and quality standards.
- Participate in training and development initiatives to enhance technical expertise.

Required Skills/Abilities:

- Intermediate to advanced knowledge of laboratory techniques and instrumentation.
- Strong understanding of quality assurance practices and regulatory compliance.

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- Ability to troubleshoot equipment and resolve routine technical issues.
- Effective communication and mentoring skills.
- Strong organizational and time management abilities.
- Proficiency in laboratory information management systems (LIMS) and documentation practices.

Education and Experience:
- Bachelor's degree in Chemistry, Biology, Environmental Science, or a related field.
- 2–5 years of laboratory experience, preferably in an environmental or analytical testing lab.

Physical Requirements:
- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 50 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Analyst I

FLSA: Non-Exempt

Reports to: Lab Supervisor or Lab Manager

Job Summary:
The Laboratory Analyst I is an entry-level analyst position responsible for supporting routine laboratory operations under supervision. This role involves preparing reagents and standards, performing basic analyses, maintaining instruments, and documenting results in accordance with standard operating procedures (SOPs). The Analyst I contributes to the accuracy and efficiency of laboratory workflows while developing foundational technical skills and knowledge.

Supervisory Responsibilities:
No supervisory responsibilities

Duties/Responsibilities:
- Prepare basic standards and reagents following SOPs with minimal oversight.
- Set up and load instruments for routine analyses with guidance.
- Perform basic laboratory tests and procedures under supervision.
- Conduct investigation tests with oversight as part of training and development.
- Complete laboratory documentation accurately and consistently.
- Track sample progress and ensure timely processing and reporting.
- Perform routine maintenance and calibration of laboratory instruments with guidance.
- Support senior analysts and supervisors in daily lab operations.
- Follow all safety protocols and maintain a clean, organized work environment.
- Participate in training programs to build technical and quality system knowledge.

Required Skills/Abilities:
- Basic understanding of laboratory techniques and equipment.
- Ability to follow written procedures and work instructions.
- Strong attention to detail and commitment to accuracy.
- Good organizational and time management skills.
- Effective communication and teamwork abilities.
- Willingness to learn and adapt in a fast-paced environment.

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Education and Experience:

- Bachelor's degree in Chemistry, Biology, Environmental Science, or a related field.
- 0–2 years of laboratory experience

Physical Requirements:

- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 50 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Technician II
FLSA: Non-Exempt
Reports to: Lab Department Supervisor, Lab Department Manager

Job Summary:
The Laboratory Technician II performs a wide range of laboratory tasks with increasing independence and technical proficiency. This role is responsible for complex sample preparation, routine and specialized analyses, instrument maintenance, and accurate documentation. The Technician II also supports quality and safety initiatives, mentors junior staff, and contributes to continuous improvement efforts within the lab.

Supervisory Responsibilities:
No supervisory responsibilities

Duties/Responsibilities:

- Independently log, label, and acknowledge receipt of samples, ensuring accuracy and traceability.
- Maintain and organize lab space proactively, identifying and resolving issues as needed.
- Perform complex sample preparations and analyses with minimal supervision.
- Prepare specialized reagents and media according to SOPs.
- Conduct routine maintenance and calibration of lab instruments; troubleshoot minor issues.
- Accurately document and compile analytical data into formal reports and systems.
- Perform full analyses or lead portions of testing procedures independently or with limited oversight.
- Oversee cleaning and calibration of specialized equipment and ensure readiness for use.
- Ensure proper disposal of hazardous and non-hazardous waste in compliance with safety protocols.
- Consistently follow and actively promote Quality Assurance and Environmental Health & Safety procedures.
- Identify and report non-conformances and suggest areas for improvement.
- Support a culture of safety, compliance, and continuous improvement within the team.
- May assist in training and mentoring Laboratory Technician I staff.
- Take on additional projects or responsibilities as assigned by supervisors or senior staff.

Required Skills/Abilities:

- Proficient in laboratory techniques and instrumentation.
- Strong attention to detail and ability to follow complex procedures.
- Good troubleshooting and problem-solving skills.
- Effective communication and teamwork abilities.

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- Ability to work independently and manage time efficiently.
- Familiarity with quality systems and safety protocols.

Education and Experience:
- High school diploma or equivalent required; Associate's degree or coursework in Chemistry, Biology, Environmental Science, or a related field preferred.
- 0–2 years of laboratory experience.

Physical Requirements:
- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 50 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Technician I
FLSA: Non-Exempt
Reports to: Lab Department Supervisor, Lab Department Manager

Job Summary:
The Laboratory Technician I is an entry-level position responsible for supporting routine laboratory operations under direct supervision. This role includes sample handling, basic laboratory procedures, equipment maintenance, and adherence to safety and quality protocols. The Lab Technician I plays a key role in maintaining a clean and organized lab environment while gaining foundational experience in laboratory practices.

Supervisory Responsibilities:
No supervisory responsibilities

Duties/Responsibilities:
- Log and label incoming samples according to standard procedures under supervision.
- Maintain a clean and organized laboratory space, including routine cleaning of surfaces and equipment.
- Perform basic laboratory operations such as sample preparation and simple analyses.
- Prepare standard reagents and media following established SOPs.
- Conduct routine maintenance of laboratory instruments (daily/weekly tasks) with guidance.
- Document work clearly and accurately in lab notebooks or electronic systems.
- Assist with specific portions of analyses under direct supervision.
- Clean and maintain glassware and basic laboratory tools.
- Dispose of laboratory waste in accordance with safety and environmental protocols.
- Follow all Quality Assurance and Environmental Health & Safety procedures.
- Report any observed non-conformances to senior staff or the Lab Manager.
- Perform other assigned duties as directed by senior technicians or supervisors.

Required Skills/Abilities:
- Basic understanding of laboratory procedures and safety practices.
- Ability to follow written and verbal instructions accurately.
- Strong attention to detail and organizational skills.
- Good communication and teamwork abilities.
- Willingness to learn and take direction in a fast-paced environment.

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Education and Experience:

- High school diploma or equivalent required; Associate's degree or coursework in science preferred.
- 0–2 years of laboratory experience (academic or internship experience is acceptable).

Physical Requirements:

- Ability to sit, stand, and walk for extended periods.
- Manual dexterity to operate laboratory instruments and computer systems.
- Occasional lifting of up to 50 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Courier
FLSA: Non-Exempt
Reports to: Supervisor, Department Manager, or Client Service Manager

Job Summary:
The Environmental Laboratory Courier/Driver is responsible for the timely and safe delivery of bottle kits to clients and the pickup of environmental samples for laboratory analysis. This role ensures proper handling and documentation of samples during transport to maintain sample integrity. When courier duties are not required, the individual may assist in the laboratory as a Technician I, supporting basic lab functions.

Supervisory Responsibilities:
No supervisory responsibilities

Duties/Responsibilities:

- Deliver sample collection kits and supplies to clients in a timely and professional manner.
- Pick up environmental samples from client locations and ensure proper chain-of-custody documentation.
- Maintain sample integrity by following proper handling, storage, and transport procedures.
- Communicate effectively with clients and internal staff regarding delivery schedules and sample issues.
- Perform vehicle inspections and routine maintenance checks to ensure safe operation.
- Assist with basic laboratory tasks when not performing courier duties, including but not limited to: Sample receiving and logging, Bottle preparation and labeling, General lab housekeeping and support
- Follow all safety protocols and company policies during transport and lab work.
- Maintain accurate records of deliveries, pickups, mileage, and vehicle maintenance.

Required Skills/Abilities:

- Valid driver's license with a clean driving record.
- Strong time management and organizational skills.
- Ability to work independently and follow detailed instructions.
- Good communication and customer service skills.
- Basic understanding of sample handling and environmental testing procedures (preferred).
- Ability to adapt to changing schedules and priorities.

Education and Experience:

- High school diploma or equivalent required.
- Previous driving or courier experience preferred.

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Physical Requirements:
- Ability to drive for extended periods and lift up to 50 pounds.
- Frequent bending, lifting, and carrying of sample coolers and supply boxes.
- Ability to work in varying weather conditions during deliveries and pickups.
- Use of personal protective equipment (PPE) as required in lab or field settings.

Job Title: Lab Project Manager II
FLSA: Non-Exempt
Reports to: Laboratory Director, Client Services Manager, Operations Manager

Job Summary:
The Project Manager II is responsible for managing the full lifecycle of client projects, including setup, sample receipt, progress tracking, reporting, and closure. This role serves as the primary point of contact for clients, ensuring that projects are executed in alignment with client expectations and regulatory requirements. The Project Manager II may manage a portfolio of and plays a key role in client retention, issue resolution, and cross-functional collaboration.

Supervisory Responsibilities:
- None

Duties/Responsibilities:
- Onboard new clients, provide training on services, and ensure accurate setup in LIMS.
- Serve as the primary liaison for client communications, addressing intermediate-level concerns and coordinating with internal teams for resolution.
- Monitor project status, sample receipt, and analysis progress to ensure timely and accurate deliverables.
- Review project deliverables for quality and compliance with client requirements.
- Collaborate with sales and operations to identify upsell opportunities and support contract renewals.
- Develop and maintain strong client relationships through regular check-ins and proactive communication.
- Prepare and deliver project status reports, highlighting risks, issues, and progress.
- Lead project closure activities, including final deliverables, invoicing, and post-project evaluation.
- Support cross-functional initiatives and contribute to process improvements.
- Train and mentor junior project management staff as needed.

Required Skills/Abilities:
- Intermediate-level project management and client relationship skills.
- Strong problem-solving and decision-making abilities.
- Excellent written and verbal communication skills.
- Ability to manage multiple projects and prioritize effectively.
- Proficiency in LIMS, Microsoft Office, and project tracking tools.
- Ability to train others and contribute to team development.

Education and Experience:
- Bachelor’s degree in Business Administration, Chemistry, Biology, or a related field.
- Minimum of 3 years of experience in project management or client services, preferably in a laboratory or technical services environment.
- OR an equivalent combination of education, training, and experience

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Physical Requirements:

- Ability to sit, stand, and move throughout laboratory and office environments.
- Manual dexterity to operate and computer systems.
- Occasional lifting of up to 25 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

Job Title: Lab Project Manager
FLSA: Non-Exempt
Reports to: Laboratory Director, Client Services Manager, Operations Manager

Job Summary:
The Project Manager I is responsible for supporting the coordination and execution of client projects from setup through closure. This entry-level role focuses on ensuring accurate project setup, monitoring sample receipt and progress, and maintaining communication with internal teams and clients. The Project Manager I ensures that client requirements are met while developing foundational project management skills.

Supervisory Responsibilities:

- None

Duties/Responsibilities:

- Assist with project setup in LIMS, ensuring accurate client data, pricing, and documentation.
- Monitor sample receipt and coordinate with sample receiving/log-in teams to ensure timely intake.
- Serve as a point of contact for routine client inquiries and direct more complex issues to senior staff.
- Track project status and communicate updates to internal teams and clients.
- Support project closure activities, including confirming deliverables, invoicing, and documentation.
- Maintain accurate records and assist in preparing project status reports.
- Collaborate with cross-functional teams to ensure alignment with client expectations.
- Contribute to continuous improvement by identifying and communicating process inefficiencies.
- Promote a positive and professional client experience through courteous and responsive service.

Required Skills/Abilities:

- Strong organizational and time management skills.
- Basic understanding of project management principles.
- Effective written and verbal communication skills.
- Ability to work collaboratively in a team environment.
- Proficiency in Microsoft Office and data entry systems.
- Attention to detail and ability to follow procedures accurately.

Education and Experience:

- Bachelor’s degree in Business Administration, Chemistry, Biology, or a related field.
- 1–2 years of experience in customer service, project coordination, or a laboratory environment.
- OR an equivalent combination of education, training, and experience

Physical Requirements:

- Ability to sit, stand, and move throughout laboratory and office environments.

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- Manual dexterity to operate and computer systems.
- Occasional lifting of up to 25 pounds.
- Ability to work in a laboratory environment with exposure to chemicals and environmental samples, using appropriate PPE.

All personnel have job descriptions defining their duties, authority, and inter-relationships. Appendix C may include a generic organizational chart illustrating reporting lines. Each lab will insert its site-specific organizational chart in this appendix, showing titles of current staff in key roles. In the absence of any of the key managers, the deputies are distinguished on the organizational chart in the appendix.

Signatures of all laboratory staff are kept on file in the Quality Assurance office and/or electronically on laboratory servers.

Authority and Resources: Top management ensures that authorities, responsibilities, and accountabilities are communicated to all personnel. The Lab Director and QA Manager have organizational freedom and authority to:

• Implement actions to ensure the integrity of the quality system.

• Initiate corrective actions, including halting testing when quality may be compromised.

• Access all parts of the laboratory and records as needed to verify compliance.

• Allocate resources (personnel, equipment, training, etc.) for maintaining the quality system.

Resources are committed by corporate management to maintain and improve the laboratory. This includes financial support for equipment purchases, hiring qualified staff, and training, as needed to uphold quality standards.

Authorized signatories for client reports are the Project Manager, the Laboratory Manager or Director, and/or Quality Manager.

Authorized signatories for technical documents are Quality Assurance staff, Technical Directors and Department Supervisors.

Impartiality in Structure: The organizational arrangements are such that the QA Manager (and any QA staff) have direct access to the highest level of management and are not subordinated exclusively to operational or financial managers. This ensures that decisions related to quality and impartiality are not overridden by other interests. The laboratory's structure and position in any parent company are documented such that any potential conflicts are addressed (for example, if the lab is part of a consulting firm, policies ensure testing is conducted objectively regardless of consulting outcomes).

3.2 Organizational Departments and Responsibilities

For effective operation, Alliance Environmental Laboratories' laboratory activities are divided into functional departments (or sections), each focusing on specific parts of the testing process. Each individual laboratory is typically organized into departments such as: Sample Receiving, Analytical Departments (e.g., Inorganic Chemistry, Organic Chemistry, Metals, Microbiology), Field Sampling (if performed), and Administrative/Support. Each department's major responsibilities are defined to avoid gaps or overlaps. For example:

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- **Sample Receiving/Log-in Department**: Handles receipt of samples, verifies sample condition (temperature, preservation), logs samples into the LIMS with unique IDs, and ensures chain-of-custody (CoC) documentation is intact. They notify clients or managers of any discrepancies (e.g., missing samples, improper preservation) and coordinate sample distribution to analytical sections. They also manage sample storage and disposal after analysis.

- **Inorganics Department**: Performs inorganic chemical analyses (e.g., metals by ICP (if not separated into its own department), anions by IC, nutrients). Responsible for maintaining calibration records (standard curves), performing method- specific QC (blanks, LCS, matrix spikes, etc.), preparing standards and reagents, and maintaining instrumentation and logbooks. They ensure results are entered or uploaded into the LIMS accurately.

- **Organics Department**: Performs organic compound analyses (e.g., GC/MS for volatiles/ semivolatiles, GC for pesticides/PCBs). Often subdivided into Extraction and Instrumentation sub-sections. They maintain proper records for standard curves and QC, carry out sample extractions and analysis per SOPs, and handle solvent and reagent preparation. Data is reviewed for QC compliance and uploaded to the LIMS.

- **Metals Department**: If separate from Inorganics, focuses on metals analysis by ICP-OES, ICP-MS, etc. Possibly subdivided into sample digestion and analysis. They maintain calibration and QC records, prepare digestions, and ensure instrument maintenance and performance.

- **Microbiology Department**: Performs microbiological testing (e.g., fecal coliform, E. coli). They maintain sterile technique, culture records, and required QC (positive/negative controls). They also ensure equipment like incubators and autoclaves are properly calibrated and maintained.

- **Radiochemistry:** Performs radiochemistry sample prep and analysis (e.g., Gross Alpha/Beta, Radium-226/228, Gamma Emitters, etc.). They maintain calibration and QC records, prepare samples for analysis, and ensure instrument maintenance and performance. The Radiation Safety Officer is responsible for the laboratory's compliance with state and federal requirements for the handling and storage of radioactive materials.

- **Air Analysis:** Performs analysis on air samples and handles inventory, cleaning, and client orders for canisters.

- **PFAS:** Performs PFAS sample prep and analysis (e.g., EPA methods 533, 537.1, and 1633). They maintain calibration and QC records, prepare samples for analysis, and ensure instrument maintenance and performance.

- **Oil Lab:** Performs sample prep and analysis for used oil samples (e.g., flashpoint, PCBs, metals by ICP). They maintain calibration and QC records, prepare samples for analysis, and ensure instrument maintenance and performance.

- **Dioxin Analysis**: Performs Dioxin/Furan sample prep and analysis (e.g., SGS AXYS method 16130).They maintain calibration and QC records, prepare samples for analysis, and ensure instrument maintenance and performance.

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- **Field Sampling (if applicable**): Coordinates and performs sampling at client sites or in the field. Responsibilities include scheduling sample collections, using appropriate sampling methods, containers, and preservation, and maintaining field measurement equipment. Field sampling staff ensure samples are preserved and transported correctly and that field data (like pH, chlorine, dissolved oxygen readings) are taken and recorded. They also maintain sampling equipment and vehicle logs.

- **Client Services (if separate from Project Management)**: Discusses orders from clients for incoming orders, processes payment from clients, and communicates with lab staff about incoming projects and rush requests.

- **Project Management**: The Project Manager is responsible for establishing and maintaining good client relations. Their responsibilities include, but are not limited to, client project management which involves ensuring that the laboratory is meeting the needs of a client, and their specific projects, for all stages of project development (i.e., from the point of project conception to the final stages of laboratory result reporting)

- **Quality Assurance:** The Quality Manager is responsible for the oversight and review of quality control data. It is their responsibility to serve as a focal point for QA/QC**,** evaluate data objectively and perform assessments without outside (e.g., managerial) influence, and have documented training and/or experience in QA/QC procedures and the laboratory's quality system. They must have a general knowledge of the analytical methods for which data review is performed. They arrange for and/or conduct internal audits annually and notify laboratory management of deficiencies in the quality system as well as monitor corrective actions.

Each department is headed by a manager or lead who ensures that the section's work complies with the quality system. Department Managers and Supervisors have defined authority to implement quality procedures in their area and are accountable to the Lab Manager/Director for both technical quality and meeting production timelines. Cross-department communication is encouraged to ensure an integrated approach to quality (for instance, sample receiving communicates any issues to both the QA Manager and the relevant analytical department immediately).

3.3 Quality Policy and Objectives

Corporate Quality Policy: Alliance Environmental Laboratories have an established Quality Policy statement, endorsed by top management, that is communicated to and understood by all employees. The Quality Policy (usually posted in the lab and included here in the manual) states the lab's mission to produce accurate, reliable data and its commitment to continuous improvement and customer satisfaction.

Alliance Technical Group (ATG) is committed to setting the standard for environmental services and regulatory compliance support. Our core objective is to fulfill or surpass the expectations of our clients, both external and internal, by providing technically sound, scientifically valid, and legally defensible data and insights. We achieve our core objectives through our commitment to quality, integrity, and continuous improvement.

ALLIANCE MANAGEMENT

To realize this commitment to quality, ATG will focus on the following:

1.7 People: Building expertise and opportunities for continued education and certification;

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- Processes: Standardizing procedures and setting benchmarks that meet or exceed standards; and
- Technology: Creating tools for efficiency and continuous improvement.

ALLIANCE EMPLOYEES

We are a team and together we succeed. Quality, integrity, and continuous improvement are the responsibility of every individual. Concerns related to ethics, compliance, and integrity may be reported anonymously through AllVoices at Alliance (via the portal at https://alliancetg.allvoices.co/ or toll-free at 866-357-5326).

ATG's dedication to quality and client satisfaction is foundational to our business practices. By upholding these principles, we ensure that we remain a trusted leader in the field of environmental and regulatory support.

This policy includes management's commitment to the Standard's requirements and to the maintenance of the integrity of the quality management system. It also emphasizes meeting customer requirements, regulatory obligations, and the importance of continual improvement. All employees must understand how their work contributes to these quality objectives.

Quality Objectives: Measurable quality objectives are established and reviewed at least annually during Management Review (Section 6.8). These objectives align with the quality policy and may include goals such as: maintaining accreditation and approvals, successful Proficiency Testing performance (e.g., ≥95% of results acceptable), client satisfaction metrics (e.g., prompt complaint resolution within 30 days), internal quality metrics, turnaround time targets, etc.. Quality objectives are documented (for example, in an annual Quality Plan or in management review minutes) and tracked by the QA Manager. Progress is communicated to staff to encourage continual improvement.

Management provides the resources and support needed to achieve quality objectives and encourages a culture of openness where staff can report problems or improvement suggestions without fear. The quality policy and objectives are communicated through training sessions, postings, and inclusion in this manual, so that all personnel are aware of their role in achieving them. Employees can report any ethical concerns by accessing the Quality Page in Alliance Connect: Quality and emailing the email address provided or calling the number provided. This process is anonymous.

4. Resource Requirements

4.1 Personnel Competence and Training

Personnel Competence: All laboratory personnel performing tests, calibrations, data review, or other quality-critical tasks shall be competent on the basis of appropriate education, training, experience, and demonstrated skills. Each technical staff member's qualifications (degrees, certifications, and experience) are documented in their personnel file and meet or exceed the requirements of applicable standards and regulations for the tests they perform. These requirements may vary by regulatory agency or accrediting body.

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Job Descriptions: Every position has a job description detailing required qualifications and responsibilities. These documents are maintained and used to assess competence. Key positions (e.g., Lab Director, Technical Manager, QA Manager) have specified minimum requirements per TNI and/or DoD/DoE QSM (such as years of experience and educational background) – the lab ensures these positions are filled by individuals meeting those criteria.

Training Program: Alliance Environmental Laboratories maintain a structured training program for new hires, ongoing training for existing staff, and cross-training as needed. New technical employees undergo a defined training period (typically 1–6 months, depending on experience) that includes orientation to company policies, quality system, health & safety, ethics, and specific analytical methods they will perform. During this time, they work under supervision of experienced personnel. Training covers:

- **Quality System and Ethics**: All new employees are trained on the lab's QA Manual and critical SOPs. They must read the Quality Manual and relevant procedures; a signed statement is obtained from each employee acknowledging that they have read and understood the latest version of the QA Manual and SOPs applicable to their job. They also receive ethics and data-integrity training and sign an Ethics Statement and Confidentiality Agreement acknowledging their ethical and legal responsibilities.

- **Method Training**: Each analyst is trained in the specific analytical methods they will perform, by an experienced analyst or supervisor. Training includes instrument operation, sample preparation (if applicable), calculation and interpretation of results, manual integration training for chromatography, and troubleshooting. Method training uses approved SOPs as the basis.

- **Health and Safety**: Initial safety training (chemical hygiene, waste handling, PPE use, etc.) is provided and must be completed before independent work in the laboratory.

Demonstration of Capability: Before performing any test method or important task independently, each analyst must successfully perform an Initial Demonstration of Capability (IDOC) as required by TNI Module 2 and Module 4. This typically involves the trainee analyst analyzing a set of known samples (e.g., a quality control sample or standard reference material) for the target analytes and achieving acceptable accuracy and precision. The acceptance criteria for a DOC are defined in each analytical SOP (usually comparing results against known values within certain limits). A DOC may also include evaluation of detection capability (MDL or LOQ studies) if the analyst is establishing those. Records of initial competency demonstrations are maintained in the personnel training file.

If the laboratory introduces a new test or if an instrument or method has a significant change (e.g. major instrument repair or new software), affected analysts perform a new demonstration of capability as needed (for example, bringing a new method online would require a full DOC study, whereas after replacing a GC column or major maintenance on an MS, the analyst may run a single standard or QC sample to verify performance).

Ongoing Training and Competency: Alliance Environmental Laboratories ensures continued competence of personnel through ongoing training and Continuous Demonstration of Capability. Each analyst must have an *Annual or Ongoing DOC* for each test they perform. This may be achieved by: regular successful analysis of quality control samples (e.g., at least four consecutive Laboratory Control Samples within control limits for each method) or acceptable performance in blind proficiency samples. The laboratory tracks these ongoing proficiency indicators.

Additionally:

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- The laboratory provides opportunities for external training, workshops, or seminars to keep staff updated on new techniques, regulatory changes, and best practices. These are documented in the laboratory's training records.

- Cross-training is encouraged to build depth; analysts may train in additional methods or sections as workload permits, to ensure backup personnel for all tasks.

Training Records: A complete training record is kept for each employee (often maintained by the QA Manager or HR department). This includes their CV/resume, job description, degrees/certificates, internal training checklists, records of SOP reviews (with sign-off dates), results of initial and ongoing DOCs, external training certificates, and annual ethics training acknowledgments. The Technical Director or designee verifies that each technical staff member has the appropriate qualifications to perform their accredited tests; this verification is documented (e.g., via a statement in the file or a qualification matrix).

Personnel are only authorized to perform specific tests or operate certain instruments after they have met the training and competency requirements. A list or matrix of *Authorized Analysts* and their approved test methods is maintained and updated as needed by the Quality Manager. Analysts must not perform tests for which they are not trained and approved.

Supervision and Support: New or less experienced analysts work under supervision until competency is demonstrated. Senior staff or supervisors review their data closely (e.g., double-check calculations, observe technique) until they are fully authorized. The lab maintains an adequate number of competent staff to handle the volume and scope of work—workload and competency are reviewed in management review to ensure no overstretch that could compromise quality.

4.2 Facilities and Environmental Conditions

Facility Requirements: Alliance Environmental Laboratories provides and maintains facilities and environmental conditions suitable for the laboratory activities carried out, in order not to compromise the quality of results. The laboratory's layout and environmental controls meet the requirements of the test methods and relevant regulations (e.g., OSHA safety standards). Key points include:

- **Laboratory Space**: The laboratory workspace is sufficient and arranged to prevent cross-contamination and mix-ups. Incompatible activities are segregated (e.g., microbiology is in a separate area from chemistry where chemicals might affect the analysis; volatile organics analysis is in a designated room/hood away from where organic solvents are handled, etc.). Good housekeeping is practiced to maintain clean and orderly work areas. Workbenches, fume hoods, and storage areas are designated for specific uses to contain contamination (for example, volatile standards are prepared in an area designated for organics, or flashpoint is done in a fume hood that does not contain flammable solvents).

- **Environmental Control**: The lab monitors and controls environmental factors such as temperature, humidity, and light where they could influence test results. For instance, temperature-critical areas (incubators, refrigerators, the laboratory ambient if required for balances or certain instruments) are monitored with calibrated thermometers and kept within specified ranges. Where tests require or protection from vibrations appropriate measures are taken (anti-vibration slab stones to limit the vibration, limited access). Environmental conditions that could affect results are documented; for example, the temperature of the microbiology incubator is recorded twice daily. If environmental conditions fall outside acceptable limits, related tests are evaluated for impact and may be repeated or qualified if necessary.

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- **Utilities and Services**: The lab ensures reliable provision of necessary utilities – e.g., electricity (with backup power or surge protection for critical instruments), distilled or deionized water supply for analytical use (monitored for purity), gas supplies (carrier gases for GC, etc.), vacuum and air where needed. Water quality for lab use is regularly tested for purity (resistivity, TOC, etc.) as per method requirements.

- **Safety and Hygiene**: Environmental conditions also relate to safety which in turn affects quality. The lab has proper ventilation (chemical fume hoods that are tested annually for adequate face velocity), biological safety cabinets for microbiological work if needed, proper storage for flammable and hazardous chemicals, and waste disposal procedures. A clean and safe environment reduces the risk of accidents or contamination of samples.

- **Access Control**: Access to the laboratory areas is controlled to ensure that only authorized personnel enter testing areas, especially areas that could impact quality. For example, the lab may restrict access by key card or signs indicating “Authorized Personnel Only”. During off-hours, the lab is secured by locks and an alarm system. Visitors are logged and escorted. This protects the integrity of samples and records.

- **Separation of Activities**: Where certain specialized operations are performed (e.g., preparation of standards, media preparation), these activities are done in designated rooms or laminar flow hoods as appropriate to avoid contamination.

- **Cleanliness:** Procedures are in place for regular cleaning of lab benches, glassware, and instruments. Spills are cleaned immediately following safety protocols. Eating, drinking, or smoking in laboratory areas is prohibited to maintain both safety and sample integrity. Food and drinks must be stored separately from any refrigerators or freezers containing samples, standards, or chemicals.

The laboratory maintains a facility floor plan (see site-specific documents or safety manual) that illustrates the arrangement of work areas, storage, waste accumulation points, etc., to demonstrate suitable segregation and flow.

If at any point the facility conditions are observed to jeopardize the quality of tests (for example, airborne dust interfering with gravimetric analysis, or vibration affecting balances), testing is halted and management is notified. Corrective actions (such as servicing HVAC, relocating equipment, etc.) are taken before resuming affected tests.

4.3 Laboratory Equipment and Metrological Traceability

Equipment Inventory: Alliance Environmental Laboratories maintains an up-to-date Equipment Inventory List (see Appendix D) for a template or reference to the master equipment list) of all major equipment and instruments used for testing. Each item of equipment critical to the quality of tests (e.g., analytical balances, ovens, thermometers, pipettes, chromatographs, spectrometers, incubators, etc.) is uniquely identified (by ID or serial number) and tracked. The inventory record includes the equipment name, manufacturer, model, serial number, date of acquisition, current location, and the status of calibration/verification.

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Equipment Maintenance and Calibration: Proper maintenance and calibration of laboratory equipment are essential to generating reliable results. The laboratory follows a preventive maintenance schedule for each instrument as recommended by the manufacturer or internal SOPs. Routine maintenance tasks (e.g., cleaning, replacing consumables, lubrication) are defined in equipment SOPs and logged in maintenance records. A supply of common spare parts (e.g., lamps, seals, syringes) is kept on hand for critical instruments to minimize downtime.

Calibration and verification procedures are established for equipment that directly or significantly affects test results:

1.8 Calibration: All equipment used for measurements (balances, thermometers, pipettes, instruments that measure analytical signals, etc.) is calibrated against traceable standards (NIST-traceable or equivalent) at specified intervals. For example, analytical balances are verified each day of use wherever possible and verified daily or before use with weights class S or better. Thermometers are calibrated or verified at least annually at points of use. Digital thermometers are verified quarterly for DoD/DoE accredited laboratories, and IR thermometers are verified quarterly. IR thermometers at sample receiving are verified daily for drinking water certified laboratories. Volumetric glassware is class A or verified by calibration. Instruments like IC, ICP, GC/MS, etc., are calibrated via multipoint calibration curves using certified standards for each batch of samples as part of test method procedure (this is considered part of the test method QC). Relative error is verified as required by the method or the regulatory program.

- **Metrological Traceability**: Calibration of equipment provides traceability to the International System of Units (SI). Where SI-traceable calibration is not possible (e.g., for certain reference materials or qualitative analyses), the lab uses consensus standards or certified reference materials to ensure measurement quality. Certificates of calibration for externally calibrated equipment are retained, and they indicate the standards used (with traceability) and uncertainty of calibration.

1.9 Intermediate Checks: For critical equipment, intermediate performance checks are done to maintain confidence between full calibrations. For example, for a balance: daily check with a designated, calibrated check-weight; for pipettes: quarterly (TNI)/daily (DoD/DoE) volume check using gravimetric method; for temperature devices: compare against a reference thermometer before use. If any check fails, the equipment is taken out of service until recalibrated or repaired.

Equipment Use and Authorization: Only trained and authorized personnel are allowed to use specific instruments. Training on each instrument is part of the personnel training record (Section 4.1). Instruments come with operating manuals (either hardcopy or electronic) that are readily available to users. Operating instructions and SOPs include proper startup, shutdown, and any tolerances or QC checks required (like tuning a mass spectrometer or verifying a test kit's performance).

Equipment Labeling and Status: Each piece of equipment is labeled or otherwise indicated with its identity and calibration status. For example, instruments have stickers or tags showing the last calibration date and due date (except those calibrated so frequently or via daily internal QC that external labeling is impractical). If equipment is not in service or has limitations, it is clearly marked (e.g., "OUT OF SERVICE – Under Repair" or "Limited Use – For Training Only").

If an instrument is found to be defective, out of calibration, or giving suspect results:

- It is immediately taken out of service (removed from use or tagged to prevent use).
- An investigation is initiated (see Section 5.10 on nonconforming work) to determine if any test results were adversely affected. If so, those results are evaluated and clients are notified as appropriate.

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- The instrument is repaired and calibrated or verified for correct performance before being returned to service. The repair and calibration records are documented.

Equipment Records: For each major instrument or piece of equipment, records are maintained (often in an instrument logbook or electronic system) including:

- Manufacturer, model, serial number (unique identifier).
- Copy of manufacturer's manual (or reference to its location).
- Date received and placed in service, condition on receipt (new, used, etc.).
- Current location (e.g., "Chemistry Lab, bench 2").
- Maintenance history: dates and details of preventive maintenance and any repairs performed.
- Calibration history: dates of calibration, results, who performed, certificates or reports, and due date of next calibration. This includes internal calibration curves if applicable to the method (though method calibration data is often kept with test records, a summary may be noted).
- Verification and check records: routine daily/weekly checks, control charts for critical parameters if used (e.g., balance check weight readings).
- Any observed deviations, damage, or malfunction incidents and the corrective actions taken.

All equipment records are part of quality records (see Section 6.3) and are retained for at least the minimum period required by TNI/QSM or contract (often 5 years or the life of the instrument plus a few years, 5 or 10 years for Drinking Water data, and 12 years for Lead (Pb) and Copper (Cu) Drinking Water data depending on the regulatory program

Handling, Transport, Storage: The lab ensures equipment is handled and stored properly to maintain its accuracy. For instance, delicate instruments are on stable benches; any on-site transportation of instruments (e.g., field portable instruments) is done with protective cases and recalibration/verification upon return if needed.

Computer Systems and Software: Equipment includes computerized systems, software, and firmware. Alliance Environmental Laboratories validates critical software (e.g., LIMS, spreadsheet templates for calculations, instrument data systems) to ensure they are functioning correctly for their intended use (see Section 7.11). Software versions are documented. Access to instrument software is controlled by user logins where possible, to prevent unauthorized adjustments.

Metrological Traceability of Results: The laboratory ensures that all measurement results are traceable to SI units through an unbroken chain of comparisons or to certified reference materials. For chemical tests, traceability is achieved by using certified standard solutions or materials from accredited providers for calibration. The preparation of working standards from these stocks is documented. Balances and volumetric devices used to prepare standards are calibrated, ensuring the concentrations have traceability. [If the lab performs its own calibrations (like thermometer or weights), it adheres to suitable procedures and uses traceable references.] When results are reported in units not directly tied to SI (like pH, which is operationally defined), the lab follows standard methods that ensure comparability (e.g., buffer solutions traceable to NIST).

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Uncertainty of Measurement: (Related to traceability) For tests where relevant, the lab estimates the measurement uncertainty. This is documented for key quantitative methods (especially where results are compared to limits or when required by clients or QSM). The uncertainty takes into account instrument precision, calibration uncertainties, environmental factors, etc. (Details are in Section(5.6.)

4.4 Externally Provided Products and Services

Alliance Environmental Laboratories ensures that any products and services procured from outside (that affect the quality of laboratory operations) meet established requirements. This includes:

- **Suppliers of Critical Supplies**: Suppliers of reagents, calibration standards, certified reference materials, culture media, and disposables (like sample containers) are evaluated and approved. The lab purchases critical reagents and standards from reputable, traceable sources (ISO 17034 or NIST traceable where possible). Receiving procedures verify that chemicals and standards meet specification (e.g., checking certificates of analysis, lot numbers, and expiration dates). When preparing reagents or media in-house, standard formulas and QC checks (e.g., pH of media, sterility tests) are applied.

- **External Calibration Services**: Calibration of equipment by external service providers (balances, thermometers, weights, etc.) is done by calibration laboratories accredited to ISO/IEC 17025 where available. Copies of their accreditation scope and certificates are kept to ensure their competence. Alliance Environmental Laboratories verifies upon return that the equipment calibrated externally is functioning and, if applicable, within tolerance (for example, by doing a quick check against a reference).

- **Subcontracted Testing (Subcontract Laboratories)**: If Alliance Environmental Laboratories needs to outsource any tests (e.g., when a client requests an analysis not performed in-house or due to capacity issues), the laboratory subcontracting procedure is followed:

    - The subcontract lab is preferably accredited to ISO 17025 (and for environmental samples, it should be accredited under NELAP or DoD ELAP as applicable) for the relevant analytes.

    - The subcontractor's qualifications are evaluated – Alliance Environmental Laboratories' QA department maintains a list of approved subcontract labs that have been vetted for certification, acceptable PT performance, and quality system adequacy.

1.10 For DoD/DoE projects, any subcontracted laboratory must have a quality system complying with DoD/DoE QSM requirements and often needs DoD/DoE client approval before use. The client is informed in writing (in advance) if any portion of the work will be performed by a subcontractor. This may require a waiver from the customer-identified point of contact, per QSM 6.0 7.1.5.a.

    - A record of subcontracted work is kept, and results from subcontract labs are clearly identified in reports as having been performed by the subcontract lab (with that lab's name and credentials). The subcontracted results undergo review by the individual laboratory's QA Manager to ensure they meet our quality standards and any client requirements.

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- **External Services**: Other services that can affect quality include: proficiency test providers, sampling services (if using contract samplers), courier services for sample transport, etc. The lab selects only those external services that are competent and suitable. For instance, proficiency test sample providers must be accredited to ISO 17043; contract samplers should follow the same procedures as our in-house sampling (or be trained to do so). If using a courier for samples, we ensure they can maintain required temperature conditions (e.g., overnight shipping with ice packs).

Purchasing and Verification: The laboratory has a purchasing procedure that defines how to specify requirements for critical supplies and services, how to select vendors, and how to inspect received goods. For example, when buying a new batch of certified reference standard, the purchase order will specify the needed purity or certification, and upon receipt staff will verify the certificate). If supplies do not meet requirements (expired, contaminated, damaged in shipping), they are not used and are returned or discarded, and the incident is recorded.

All external providers are evaluated to ensure quality – e.g., checking if our supplies consistently meet criteria, or reviewing subcontract lab performance (if a subcontract lab produces repeated errors, it would be disqualified). Records of evaluations and approvals of suppliers/providers are maintained.

For traceability, critical materials and services are linked to test records: for instance, analytical batch records note the lot numbers of standards and reagents used, so if a problem is later found with a particular lot, affected test results can be identified.

5. Process Requirements

5.1 Review of Requests, Tenders and Contracts

The laboratory has a defined procedure for contract review to ensure that it fully understands and can meet the client's requirements before work commences Alliance Environmental Laboratories (often through a Project Manager or Sample Receiving Supervisor) performs the following steps for each new project or sample batch:

1.11 **Initial Inquiry/Quote**: When a client requests testing (via phone, email, or LIMS portal), the scope of the work is identified: the analytes or tests needed, the sample matrix, number of samples, required detection limits, turnaround time, any specific regulatory program requirements (e.g., EPA method versions, DoD/DoE QSM compliance, particular data package deliverables), and any client-specific quality criteria. If the client provides a written statement of work or QAPP (Quality Assurance Project Plan), the lab will review it. Based on this, the lab confirms it has the capability and accreditation for the tests (check against our scope in Appendix A) and that required resources (personnel, instruments, capacity) are available for the timeframe requested. A quote or proposal is then provided if needed, including the list of tests, price, and expected reporting date.

- **Contract Review and Acceptance**: Before accepting the work (signing contract or agreeing to proceed), the Quality Manager or designee verifies that all requirements can be met. This includes technical review of method detection limits vs required limits, sample preservation and handling needs, any unusual QC or reporting requirements, and ensuring any subcontracting needs are identified. If any requirement is unclear or if the lab cannot meet something (e.g., a requested method is not in our accredited scope, or turnaround is too short), the lab negotiates modifications with the client. Any changes or exclusions are documented. Once both the lab and client agree on the conditions, the work is accepted. Acceptance is usually documented by assignment of a project ID or login of samples into the LIMS, which indicates contract acceptance.

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- **Coordination for Sample Receipt**: The lab ensures that it is ready to receive samples as per the agreed schedule. If this is a tender or proposal stage (e.g., bidding on a larger contract), the formal agreement (if won) will be reviewed again to ensure alignment with proposal assumptions. People are encouraged to use the legal support function in the Okta dashboard for contract review.

During review, any discrepancies between client requests and standard operating procedures or accreditation are resolved. For example, if a client asks for a method that the lab is not accredited for, the lab either: (a) informs the client and arranges a subcontract to an accredited partner (with client approval), or (b) declines that portion of work, or (c) seeks to obtain accreditation if feasible (for long-term contracts). In all cases, clients are informed of what the lab can or cannot do and any caveats (like if a result will be reported as “not accredited”).

Documentation of Contract Review: The laboratory uses a form or electronic system to document the review . This includes listing the methods to be used, any deviations or additional requirements, and approvals by the responsible staff. The review record often appears as part of the Chain-of-Custody (CoC) or login form where the project manager signs off on the requested analyses vs. lab capabilities. If the client’s request is verbal or via email, the lab will Document the conversation to provide traceability.

Changes to Contracts: If at any time after acceptance, the contract requirements change (client adds more samples, changes scope, or if the lab finds a need to change methods due to unforeseen circumstances), such changes are communicated and agreed with the client. The contract review process is repeated for the changes to ensure continued capability. All changes and client authorizations are recorded (e.g., in the project file or via a revised quote).

The lab ensures that personnel responsible for sample login and project management are trained in contract review so that all aspects (technical, timeline, quality level) are considered. The Quality Manager may assist or oversee contract reviews especially for complex or non-routine projects to ensure compliance with quality system and accreditation conditions.

No work is started until the contract review is completed satisfactorily. In particular, samples are not analyzed under methods or conditions that have not been agreed upon. If an issue is discovered only after analysis has begun (e.g., an unexpected matrix interference requiring a method change), work may pause and the client is consulted for decision.

5.2 Selection, Verification, and Validation of Methods

Method Selection: Alliance Environmental Laboratories uses test methods that are appropriate for client requirements and that are recognized by the relevant accreditation and regulatory programs. Preferably, standard methods from organizations such as EPA, Standard Methods, ASTM, etc., are used. For environmental testing, the laboratory follows methods that are mandated by regulation or requested by the client (e.g., EPA 8260 for VOCs in water, SM 2540D for TSS, etc.). A list of standard test methods within the lab’s accredited scope is maintained (see Appendix A or the Scope of Accreditation document).

When the client does not specify a method, the lab will choose a suitable method based on the nature of the test and its expertise, ensuring it meets the intended purpose (detection limits, accuracy, etc.). The chosen method is communicated to the client if needed. The lab ensures it has the latest effective version of the method (including any regulatory updates).

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Method Verification: For all standard methods (i.e., methods published in standards or by reputable sources) that are within the scope of the lab's accreditation, Alliance Environmental Laboratories performs a method verification before using them on real samples. Verification involves confirming that the lab can achieve the method's performance specifications (such as precision, accuracy, detection limits) in its own facility and with its matrices. For example, upon adopting a new EPA method, the lab will run a quality control sample or reference material and perhaps matrix spikes in a relevant matrix to ensure it meets recovery and precision criteria. If the method has a published detection limit, the lab verifies it by performing an MDL study as per EPA or TNI requirements. Records of method verification (like initial precision and recovery studies, calibration linearity checks, etc.) are kept in the Method Validation/Verification file.

Method Validation (Non-Standard Methods): If the lab needs to use a *non-standard method*, a *laboratory- developed method*, or significantly modify a standard method (beyond allowed adjustments), it will perform a full validation. Validation includes determining or confirming method performance characteristics such as accuracy (bias), precision, range, detection limit, quantitation limit, selectivity, and robustness. For example, if the lab develops a new chromatographic method for a compound not covered in standard methods, it will design a validation plan: analyze known standards, perform spike recoveries in sample matrices, check interferences, etc., to provide evidence that the method is fit for purpose. The extent of validation is proportional to the method's intended use and client needs. The Quality Manager reviews and approves method validation plans and reports to ensure they satisfy ISO/TNI criteria where applicable. Only once validation demonstrates acceptable performance will the method be used for client samples. There are additional DoD/DoE requirements in 6.0 for modifications where they must be validated with a process that includes field samples in the matrix of concern and containing at least a subset of target analytes. See M2 5.1.5-5.1.7 of the QSM 6.0.

Documentation: Each test method used by the lab has an SOP (or the standard method document itself) that is controlled under the document control system (Section 8.3). The SOP details the procedure, required reagents, calibration and QC requirements (like frequency of calibration verification, control samples), calculation formulas, and any specific data acceptance criteria. Methods and SOPs also reference any required sample preservation and holding times as per regulations. The method documentation also indicates if any sections of a standard method are not applicable or are modified (with justification).

Confirmation of Method Capability: Before putting any method into routine use (even if it's a standard method), analysts must perform a Demonstration of Capability (as covered in Section 4.1) on that method. Additionally, for critical projects, the lab may perform a trial analysis on a sample or reference to demonstrate to the client that the method works as expected.

Continuous Suitability: The lab continuously monitors method performance through quality control measures (Section 5.7). If ongoing QC indicates a method is not in control or meeting required performance, the method is reviewed, and if necessary, re-verified or adjusted. For instance, if recoveries of spikes start trending low consistently, the method might need maintenance (like cleaning an instrument) or perhaps an adjustment (within allowed flexibility).

Deviations from Methods: Any deviations from standard methods are avoided unless absolutely necessary. If deviations or modifications are necessary (for example, using a smaller sample volume due to limited sample, or modifying a cleanup step), they must be technically justified, authorized by lab management, and accepted by the client. Such deviations are documented in test records and reported with the results (see Section 5.8 Reporting).

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Method Updates: When a referenced standard method is updated by the issuing body (e.g., EPA releases a new revision), the laboratory reviews the changes and transitions to the new version as required by accreditation agencies. Before implementing the updated method, any needed verification (especially if there are substantive changes) is performed. The Quality Manager ensures that the lab's scope and SOPs are updated accordingly.

5.3 Sampling

Sampling Services: Alliance Environmental Laboratories performs sampling in support of analytical tests when requested by clients at some locations. Sampling is carried out by trained field technicians following documented sampling plans and procedures to ensure that samples are representative and uncontaminated, and that all environmental conditions relevant to the sampling are recorded.

Sampling Plans: For routine sampling, standard operating procedures (SOPs) for sampling are followed (for example, SOP for groundwater sampling using low-flow purge, SOP for soil sampling with Encore samplers, etc.). For project-specific needs, a Sampling Plan is prepared or referenced (often provided by the client or developed as part of a project QAPP). The sampling plan or SOP defines: the target population (e.g., site location, well IDs), sampling methods and equipment, the number of samples and any field duplicates or blanks required, preservation requirements, and any in situ measurements. It also specifies conditions such as holding times from collection to analysis, and safety considerations.

Sample Collection Procedures: Field personnel ensure that:

- Proper sample containers (pre-cleaned and of appropriate type) are used for each test (e.g., amber glass with septa for VOCs, polyethylene for metals, etc.). Containers and preservatives comply with method requirements and client guidelines.
- Each sample is given a unique field identification and labeled with time, date, sampler's initials, and any preservative added.
- Field measurements (e.g., pH, temperature, chlorine residual) are taken as required and recorded immediately. For example, temperature of every cooler on receipt is measured; some parameters like residual chlorine may be tested at collection.
- Preservation is applied immediately (cooling to ≤6°C, chemical preservatives like H_2SO_4 for certain bottles, zero headspace for VOCs, etc.). If filtration is required (e.g., dissolved metals), it is done in the field or as specified, within allowed time.
- Chain-of-Custody (CoC) forms are initiated at sampling, capturing sample IDs, times, and the requested analyses. Custody seals may be used on sample containers or coolers as appropriate to detect tampering.

Environmental Conditions & Records: The sampling personnel note any environmental conditions that might affect sample integrity or interpretation of results. For instance, weather conditions, ambient temperature, unusual odors or appearance, or deviations from normal sampling procedure are recorded in a field logbook or on the CoC. They also document any field observations relevant to analysis (e.g., well purging details, turbidity, etc.). If sampling requires a diagram or specific location coordinates, those are recorded as well (e.g., GPS coordinates of each soil sample point). Photographs may be taken if allowed to illustrate conditions.

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Sample Handling and Transport: After collection, samples are packed with sufficient ice or cooling packs to maintain temperature and transported to the laboratory under chain-of-custody. The goal is to deliver samples to the lab as soon as possible, ideally on the same day or within 24 hours (especially for time-sensitive tests). CoC forms accompany the samples; each transfer (e.g., field to courier, courier to lab) is signed with date/time. Upon receipt at the lab, Section 5.4 procedures (sample receipt) take over.

Sampling Equipment and Decontamination: Sampling devices (pumps, bailers, tubing, augers, etc.) are either single-use disposable or decontaminated between samples to avoid cross-contamination. The sampling SOP's specific to the laboratories that perform sampling define the cleaning steps (e.g., Alconox wash, distilled water rinse, solvent rinse if needed) and any verification (like rinsate blanks). If using on-site instrumentation (like a field turbidity meter or multi-parameter probe), those are calibrated in the field or just prior using standards, and calibration results are noted.

Ensuring Sample Integrity: The lab treats sampling as part of the quality process. Field blanks, trip blanks, and duplicate samples are taken as required by method or client to check for contamination or variability in sampling and transport. For example, a trip blank accompanies VOC samples from lab to field and back to lab unopened to detect any contamination during transport. Field duplicates check sampling precision. Results from these are reviewed as part of data quality assessment.

Training of Samplers: Individuals who perform sampling are trained in the above procedures and the specific techniques for the matrices they handle. Training includes not only technical aspects but also health and safety (e.g., HAZWOPER training if required for environmental sampling). They also receive the same ethics and quality training as lab analysts, as their work can critically impact data quality.

Sampling Uncertainties: The laboratory recognizes that sampling can introduce significant variability. While formal uncertainty estimation for sampling is complex, the lab addresses it by rigorous procedures and by including sampling replicates. If a client requests, the lab can provide an estimate of sampling uncertainty or at least describe factors that may affect results (e.g., heterogeneous matrices).

Link to Analysis: Each sample collected by [Lab Name] has a clear identifier that flows into the laboratory information system, linking it to the field records. The lab ensures that any conditions noted at sampling that could influence analysis (like high sediment content requiring extra preparation) are communicated to the analytical team.

5.4 Handling of Test Items (Samples)

This section details how Alliance Environmental Laboratories handles samples from the moment they arrive at the laboratory (or are collected by lab personnel) through to disposal, to maintain sample integrity and traceability.

Sample Receipt and Chain-of-Custody: Upon arrival at the laboratory, samples are received by the Sample Receiving or Login staff in a designated area. They check the following:

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- **Condition of Shipping Container:** Check cooler or package integrity, presence and condition of custody seals (if any) on cooler and sample bottles. Note if the cooler arrived intact or if there were leaks/spills.

1.12 Temperature: Measure and record the temperature of the cooler or an appropriate sample immediately (using a calibrated thermometer). Typically, environmental samples should be at 0-6°C with drinking water samples <4°C (with ice still present) if preserved by chilling; the measured temperature is documented on the CoC (e.g., "Cooler temp = 4°C"). If temperature is out of range (e.g., >10°C) and beyond any grace criteria, it is flagged for the project manager and likely noted as a qualifier on results. For drinking water samples and non-potable water samples - depending on the accrediting body- samples that arrive the same day as sampled and are on ice where the chilling process has begun are also considered acceptable.

- **Completeness and Preservation:** Reconcile sample IDs and quantities against the Chain-of-Custody form or shipping manifest. For each sample, verify that the container type and preservative match the requested test. For example, confirm that samples requiring pH < 2 have appropriate acid preservative (like HNO_3 for metals), that chlorine check was done for certain samples if needed, etc. Also check that holding times have not been exceeded in transit (e.g., if a sample was taken yesterday for BOD, it's still within the holding time on receipt). If any sample is missing, extra, broken, or improperly preserved (e.g., no acid in a bottle that should have it), these discrepancies are recorded. The client is notified of any issues as soon as possible.

- **Unique Lab Identification:** The lab assigns a unique Laboratory ID number to each sample (or each batch, with subsample identifiers). This is often a barcode or alphanumeric code. It is written on each container (or a label affixed) and entered into the Laboratory Information Management System (LIMS) along with the sample metadata (client, project, date/time of collection, matrix, tests required). The link between client's sample ID and the lab ID is maintained in the LIMS and on the CoC form.

The chain-of-custody form is then signed off by the receiver, transferring custody from the transporter to the lab. From this point on, the LIMS or manual logs track the custody of samples within the lab. Typically, the sample is logged in to the specific departments for analysis (electronic chain-of-custody).

Storage Conditions: After check-in, samples are stored under conditions required by the method until analysis. Generally, samples are kept refrigerated at 2-6°C unless the method calls for a different condition (e.g., some metals extracts may be at room temp). Light-sensitive samples (like chlorophyll) are stored in dark conditions. Samples that require freezing (rare for routine environmental except maybe soil for certain organics) are frozen if needed. Each storage area (fridge, freezer) is monitored daily for temperature and has corrective action procedures if out of range. Samples containing hazardous levels of contaminants or radiological samples are stored in compliance with safety regulations (with appropriate labeling and segregation). Some regulatory programs, such as the USDA Regulated Soil Protocol will require segregated storage and special handling and disposal procedures. These requirements will be adhered to by the applicable laboratories.

Handling During Analysis: Laboratory analysts retrieve samples as needed from storage. . Analysts mix samples thoroughly (if required) before sub-sampling to ensure homogeneity (especially for solids or multipart liquids). Aliquots for different tests are taken in the order least likely to compromise others; for instance, volatile organics are typically taken first to avoid aeration, then other tests. The lab's procedures specify how to split samples for multiple tests while preserving integrity (e.g., use clean pipettes, avoid cross-contamination between aliquots).

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Sub-sampling and Sample Prep: If the method requires any preliminary preparation (like filtration, digestion, extraction), it is done according to the SOP and within holding time. Solids for semivolatiles might be dried or sieved as specified. Each preparation is logged (with date/time) in the prep log or LIMS, which helps demonstrate compliance with holding times and conditions.

Avoiding Contamination: The lab employs practices to avoid cross-contamination during sample handling: dedicated tools or rinsing between samples, using clean disposable pipette tips, processing known high-concentration samples last or separate from low-level samples (especially for volatiles or metals). If any sample is suspected to have extremely high concentrations (like an oily sludge), it may be segregated or diluted to minimize cross-contamination risk. Laboratory blanks and preparation blanks are used to monitor for any cross-contamination in each batch. Reusable glassware is scrupulously cleaned and randomly assigned to batch QC samples to ensure the system remains free of contaminants. Segregating specific glassware for QC sample preparation, such as method blanks, is prohibited.

Sample Retention and Disposal: After analysis is completed, the lab retains the remaining sample for a specified period (typically at least the regulatory minimum or as per client contract). For most environmental samples, a common retention is 30 days after the report, unless instructed otherwise. Some laboratories may utilize different retention times depending on laboratory policy or regulatory requirement. During this period, samples are kept in case the client requests re-analysis or additional tests. After the retention time, the samples are disposed of following environmental and safety regulations: for example, liquids are bulked and disposed as laboratory chemical waste (if hazardous), or down the drain if known to be non-hazardous and permitted; solids are disposed in chemical waste or biohazard as appropriate. The disposal date of each sample batch may be recorded (some labs log when sample was disposed, to ensure retention compliance).

Any sample remaining after the retention period is considered lab waste and handled accordingly. If a client requires return of samples or longer storage (for legal holds etc.), the lab will store as directed (often in a separate freezer for long-term archive) or ship back to client following hazardous material shipment rules.

Chain-of-Custody to External Labs: If the lab must send a sample or a portion to a subcontract lab (see Section 4.4), the chain-of-custody continues: the lab prepares a new CoC form to accompany the sample to the subcontractor and packages it appropriately. While at [Lab Name], the sample is under our custody; when shipped out, it's recorded, and upon receipt, the subcontractor signs their CoC (a copy is kept). Results from subcontract come back linked to our original sample ID.

Traceability of Samples: Throughout these processes, every sample and any subsample or extract is traceable by its ID. For example, extracts or digestates are labeled with sample ID and extraction date, and logged. If subsamples are taken (like multiple fractions of one sample for different tests), their identities are traceable to the original sample.

Deviations in Sample Condition: If at any point a sample is found to not meet requirements (e.g., holding time exceeded, incorrect container, insufficient volume, or it arrived leaking or broken), the lab documents the issue and notifies the client. Depending on client direction and the nature of the test, the lab may either proceed with analysis with appropriate qualifiers (noting the condition) or cancel the test. Depending on the AB, there may be prohibitions regarding accepting client approved deviations (such as for micro samples with the state of Washington). For instance, if a sample for VOCs arrives with headspace (not ideal), the lab can either reject it or proceed and flag the result (as long as the client is informed). Such conditions are noted in the final report with qualifiers or footnotes, indicating potential data limitations.

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Handling Hazardous Samples: Sometimes samples may be hazardous (highly contaminated or biohazard). The lab has procedures to ensure staff handling such samples have appropriate personal protective equipment (PPE) and that storage is safe (e.g., flammable samples in flammable cabinets, radioactive samples in controlled area if any, biohazard samples autoclaved after analysis, etc.).

5.5 Technical Records

Alliance technical Group maintains technical records for each test and calibration carried out. Technical records are all the original observations, raw data, calculations, and derived data that support the test results, as well as information on the handling of samples and the quality control results. These records enable the laboratory to trace the history of each test and, if necessary, repeat the test under conditions as close as possible to the original.

Key aspects of technical records include:

- **Raw Data Capture:** All raw data are recorded at the time of observation, either manually in controlled worksheets/logbooks or electronically in the LIMS or instrument data systems. This includes instrument readings, observations such as color changes or titration endpoints, weight measurements, chromatograms, spectra, etc. Records are identified with the sample ID, date, and the person who performed the test. For example, an analyst will record peak areas or C_t values, or attach the instrument printout to the worksheet, ensuring it's labeled with the sample number and run date. Chromatograms are captured both before and after manual integration. The reason for the manual integration is documented, along with the analyst's signature or initials and date.

- **Result Calculations:** Any calculations performed (conversions, dilutions, quantitation from calibration curves, uncertainty calculations, etc.) are either done by validated software (like LIMS, Excel templates, instrument software) or manually using formulas defined in SOPs. The lab retains evidence of calculations: for manual, showing steps or formula used; for automated, the parameters and output. Calculation sheets or LIMS records will show, for instance, how a concentration was derived (peak area × calibration factor, etc.). If spreadsheets are used, they are template-locked or verified to ensure correct formulas.

- **Calibration and QC data:** Technical records include associated calibration curves, calibration verification results, and quality control sample results (blanks, LCS, matrix spikes, duplicates). These are integral to demonstrating the test validity. For each batch of samples, a QC summary form might be used to log these values and check against acceptance criteria. For example, the recorded recovery of a matrix spike or the RPD (relative percent difference) of duplicates is documented.

- **Traceability Info:** Records link each result to the method used, the instrument used (with instrument ID), and any standards or reagents ultimately traceable to the lot number which is traceable to the certificate of analysis. For instance, an ICP metals analysis record will note the calibration standard lot number or unique ID of that standard or reagent , making it possible to trace back in case of any issue. The identity of the analyst and any reviewer is also recorded.

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- **Corrections and Amendments:** If an error is discovered in a record (e.g., transcription mistake or calculation error), corrections are made following good documentation practices. Original entries are not erased or whited-out; instead, a single line is drawn through the error (for paper records) leaving it legible, the correct value is entered nearby, and the change is initialed and dated by the person making the correction. In electronic records, any changes after initial entry are tracked by the system (audit trail) or documented via a revision process. The reason for correction may also be noted (e.g., “dilution factor updated”). This ensures that the record clearly shows both original and corrected data, maintaining transparency.

- **Electronic Records:** Where electronic systems are used (LIMS, instrument output files), the lab ensures data integrity by regular backups and access control. The LIMS holds sample results and can reproduce the final results and key inputs. If changes are made in LIMS (like re-calculation), the system logs who made the change and when (audit trail). We consider the combination of electronic raw data and printed reports as the complete record. For critical data systems, backups are done [daily/weekly] and stored securely.

- **Record Retention:** All technical records are retained for a defined period in accordance with accreditation and client requirements. [Lab Name] keeps test records for at least [5 years] (TNI requires a minimum of 5 years for environmental labs, DoD may require longer for specific projects). Some specific programs may require longer retention (e.g., 10 years for drinking water data, certain DoD projects, or projects under litigation hold and 12 years for lead and copper drinking water data). The retention policy is to ensure records are available for audits, inquiries, or data reviews. After the retention period, records may be archived or disposed of securely (paper shredded, electronic deleted) to maintain confidentiality.

- **Protection of Records:** Physical records (notebooks, forms, printouts) are stored in designated file cabinets or archive rooms that are protected from environmental damage (excessive heat, moisture, pests) and secured from unauthorized access (in a locked room or area) with a log of access records maintained. Electronic records are protected via regular backups as mentioned, and by user permissions such that only authorized staff can modify or approve records. The lab also has measures against data loss (UPS for computers, IT support for data recovery if needed). Once a physical record is scanned into the electronic record, the electronic record becomes the official retained version.

- **Legibility and Identification:** All entries in records are made in permanent black or blue ink (for paper) and are clearly legible. Each page of a bound notebook or worksheet is labeled with at least the project or sample identifiers and dated. Loose worksheets are identified by document ID and page numbers, and ideally all pages of a record set for a batch are kept together. If any records are amended after initial completion (like an amended report or reanalysis data added), these additions are clearly marked with date and responsible person. Blank logbook pages or substantial portions of pages with no entries are marked with a large “X” or “Z” to indicate that they were deliberately left blank and are not available for addition of new data at a later date.

Technical Records Contents: A typical analytical batch record, for example, will contain: the job/sample list, the method SOP reference, raw instrument outputs (chromatograms, etc.), sample preparation logs (digestion volumes, etc.), calculations (dilution factors applied, final concentrations), QC results for that batch, and a checklist or signature sign-off by the analyst and reviewer. All this combined constitutes the technical record supporting the final test report.

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Access for Review: During internal audits or external assessments, these technical records are made available for review. They should demonstrate that tests were carried out in accordance with methods and that all QC met acceptance (or if not, how it was handled). The completeness of records (no omissions of data, all samples accounted for, all corrections properly done) is something the lab's internal data review (Section 5.8 and 8.8) checks before results are released.

In summary, technical records are maintained such that any competent person could follow what was done and evaluate the test's validity. They are objective evidence of the lab's adherence to methods and quality protocols. By preserving these records, [Lab Name] can answer any questions about a particular result, even years after the fact, and can also perform any required reconstructive analysis or root cause investigation should a problem arise.

5.6 Evaluation of Measurement Uncertainty

Estimation of Uncertainty: [Lab Name] evaluates measurement uncertainty for its quantitative test results to the extent appropriate for the method and client needs. In environmental testing, certain methods have well-defined precision and bias criteria, and the focus is on controlling those. However, the laboratory recognizes the importance of understanding uncertainty, especially when results are near regulatory limits or when a client specifically requests an uncertainty estimate.

For each major quantitative method (especially calibration-type analyses), the laboratory has determined estimates of uncertainty components and, where required, a combined measurement uncertainty. This is typically done using method validation data, ongoing quality control data (like control charts for precision), and published sources: for example, contributions from instrument calibration, reagent purity, volume and weight measurements, etc. We primarily express uncertainty as a standard uncertainty or expanded uncertainty at a certain confidence level (often 95% coverage, k≈2).

Approach: In practice, the lab's approach to uncertainty is:

- For well-established methods with rigorous QC (e.g., EPA methods for water), the lab relies on method performance data (precision and bias studies, LCS recoveries over time, etc.) as a basis for uncertainty. For instance, if historical data for a metals analysis method shows an RSD of 5% for LCS at relevant levels, and calibration uncertainty is minimal, the overall uncertainty might be approximated from that precision.

1.13 For methods where an uncertainty is needed (like for certain clients or DoD/DoE projects requiring it in reports), the lab uses either a bottom-up component approach or a top-down approach (using reproducibility data). A bottom-up might include contributions from calibration curve fitting, instrument repeatability, extraction efficiency, etc. A top-down might use long-term RSDs of matrix spike recoveries and duplicate analyses as an aggregate measure.

- When required for reporting, an expanded uncertainty (U) is calculated. For example, if the lab needs to state uncertainty for a result: "10.5 ± 1.2 mg/L (U, k=2)" meaning at 95% confidence.

Documentation: The method SOPs or an Uncertainty SOP outlines how we estimate uncertainty. The Quality Manager Maintains the uncertainty SOP.

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Inclusion in Results: Generally, routine environmental testing does not require stating uncertainty on test reports; instead, results are compared to regulatory limits using established QC criteria. However, if a client (e.g., for research or a specific contract) requests the uncertainty, the lab will provide it. DoD/DoE QSM 6.0 requires that where applicable and requested, a statement of uncertainty be provided. [Lab Name] complies by providing uncertainty for measurements like calibration standards, or special tests (e.g., radiochemical analyses where uncertainty is commonly reported).

Examples: For a gravimetric total solids test, uncertainty might come from balance calibration and repeatability—if the balance has ±0.2 mg uncertainty and sample variability adds ±1 mg, for a typical 50 mg residue the relative uncertainty might be a few percent. For instrumental methods like GC/MS, major contributors could be injection volume precision and calibration linearity. The lab uses control chart data (like Laboratory Control Sample recoveries, surrogate recovery variability, and calibration checks) to empirically gauge uncertainty.

Qualitative/Presence-Absence Tests: For tests that are qualitative (presence/absence, or reported as detected vs ND with a detection limit), uncertainty of measurement in a numerical sense is not applicable. Instead, the lab ensures method detection limits are determined (for ND reporting) and that identification criteria (for presence) meet the method requirements. **Continuous Improvement:** The laboratory periodically re-evaluates uncertainty estimates as more data become available (for example, after a year of PT samples and routine QC, we might refine the estimate for bias and variability). If any major equipment or method change occurs, uncertainty analysis is revisited.

5.7 Ensuring the Validity of Results (Quality Assurance of Test Results)

Alliance Environmental Laboratories implements a comprehensive Quality Control (QC) program to monitor the validity of tests and calibrations on an ongoing basis. The quality of results is routinely checked so that trends can be detected and any deviations can prompt corrective actions. The key elements of our QC and assurance of validity include:

- **Use of Certified Reference Materials (CRMs) and QC Samples:** Wherever available and appropriate, we analyze certified reference materials or standard reference materials as quality control samples to verify accuracy. For example, a certified reference water sample with known concentrations of metals is run periodically to ensure the analytical process recovers the true value within uncertainty. In the absence of CRMs, we use Laboratory Control Samples (LCS) to serve as a check on accuracy. Each analytical batch typically includes an LCS. Acceptance criteria (often ± e.g. 10-20% of true value) are defined by method or internally from method validation data.

- **Control Charts:** The laboratory maintains control charts or running records for critical QC parameters such as LCS recovery, duplicate precision, or calibration check results. This statistical monitoring allows detection of trends (e.g., gradual drift in recovery) and helps in evaluating long-term method performance. For instance, if LCS recoveries start trending toward one of the control limits, it signals a potential issue (instrument calibration or reagent degradation) to address before a failure occurs. We use Westgard-like rules or similar to interpret control charts where appropriate.

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- **Proficiency Testing (PT):** Alliance Technical Group participates in external proficiency testing programs (also known as performance evaluation studies) for all analytes/methods as required by our accreditation (typically at least twice per year per field of testing, however some AB's require less). These PT samples are treated as blind samples and analyzed like regular samples. We compare our reported results to the known values assigned by the PT provider. Successful PT performance (results within acceptance limits) provides an independent check on our accuracy. Any failures in PT are investigated via corrective action (root cause analysis, etc.) and resolved; corrective action reports are maintained and, if required, submitted to accrediting bodies.

- **Internal Audits of Technical Activities:** (Though internal audits are covered in Section 8.8 as a management requirement, they also ensure validity by periodically reviewing technical operations). Trained internal auditors or QA staff observe analysts, inspect records, and perform method audits to ensure procedures are followed and identify any gaps.

- **Replicate/Repeat Analyses:** The lab uses replicate analyses as needed to check precision. This can include duplicate sample analyses (one sample split and analyzed twice independently within the same batch) to measure the method/sample variability. Many methods require a laboratory duplicate for every batch – we calculate the relative percent difference (RPD) and check it against method criteria. If duplicates exceed the limit, it indicates possible inhomogeneity or method precision issues which are investigated (and results qualified if necessary). In some cases, we also do matrix spike duplicates to assess both accuracy and precision in one sample.

- **Matrix Spikes and Surrogates:** For chemistry tests, matrix spikes (addition of known amounts of analyte to a client sample) are routinely performed to gauge matrix effects. Recovery of spiked analytes informs us if the sample matrix is causing bias (suppression or enhancement). Acceptable recovery ranges (often 75-125% or per method) are predefined. If a matrix spike recovery is out of range and LCS was fine, it indicates matrix interference in that sample – the data might be reported with a qualifier noting potential bias. Surrogate compounds (for organic analysis) are added to every sample – these act like internal spikes that measure recovery in each individual sample. Surrogate recoveries outside control limits trigger review and possible re-extraction or dilution of the sample.

- **Blank Samples:** Method blanks (reagent blanks that undergo all sample preparation steps) are included in each batch to check for contamination. Ideally, method blanks should be free of target analytes above detection limits. If any contaminants are detected (above 1/2 the reporting limit or a defined threshold), we investigate the source (reagents, carryover, etc.) and affected samples are evaluated. Field blanks/trip blanks results are also reviewed; if they show contamination, associated data may be qualified for potential contamination.

- **Instrumentation QC:** Instruments have their own QC checks: e.g., tuning criteria for mass spectrometers must be met before analysis (tune verification); continuing calibration checks (CCVs) are analyzed every 10 samples or batch to ensure the instrument calibration remains valid. If a CCV is out of acceptance (above method-defined limits, like >±15%), the lab takes action: either re-calibrate and re-run samples or qualify data that can't be re-run, per method allowances. Similarly, retention time windows, resolution checks, etc., are monitored for chromatographic systems.

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- **Second-source Verification:** As part of ensuring no standard preparation error, the initial calibration of many instruments is verified by analyzing a standard obtained from a different manufacturer (second source) at a mid-range concentration. This catches any possible calibration standard degradation or mis-preparation. It's often required by TNI for each calibration. If the second-source check is not within its defined error tolerance (e.g., 5-10%), the calibration is suspect and must be redone.

- **Peer/Data Review:** Each analytical data set undergoes a second-level review by a qualified individual (often a supervisor or the QA department) before results are reported (see Section 5.8). This review checks that all QC met criteria and that calculations are correct. If any QC was out, the reviewer verifies that appropriate actions were taken (e.g., re-run, data qualified) and that such results are not reported without flagging. This step is a quality gate to catch issues not flagged by the analyst. Additionally, a spot-check by the QA Manager on ~10% of all completed reports provides an extra layer of oversight.

- **Inter-laboratory Comparisons:** Beyond formal PTs, if opportunities arise, the lab sometimes participates in inter-lab studies or compares results with a reference lab. For example, for new methods, we might split samples with another accredited lab to compare results. If significant differences are found, we investigate potential causes (method bias, calibration differences).

- **Personnel Competency Monitoring:** Ongoing DOCs as mentioned in Section 4.1 also ensure that each analyst continues to be capable. If an analyst's QC results or PT results indicate a problem, they may be retrained or their work under closer supervision until resolved.

If any quality control result indicates that the testing was not within control (e.g., LCS failed, calibration drifted, etc.), the laboratory's policy is to halt and correct the issue before proceeding. Affected samples are either re-run after correction or, if not possible (like sample volume exhausted or holding time expired), the data is reported with appropriate qualifiers and the client is notified of the data quality issue. For example, if a batch's matrix spike failed high but re-run is not feasible, results might be qualified as estimated. If the issue calls into question earlier results, those too may be evaluated (see Section 7.10 on nonconforming work).

Through the above ongoing QA/QC practices, [Lab Name] ensures confidence in the day-to-day validity of its results. The combination of preventative measures (calibrations, maintenance) and monitoring measures (blanks, spikes, etc.) provides assurance that results produced are accurate and reliable within known limits.

5.8 Reporting of Results

General: Test results are reported accurately, clearly, and objectively, in accordance with ISO 17025 requirements and any specific format requested by the client or required by regulation. Alliance Environmental Laboratories issues reports (or certificates of analysis) that include all information necessary for the interpretation of the results and that identify any deviations or qualifiers. Reports are prepared under the authority of the Laboratory Director or Quality Manager and are reviewed for correctness before release.

Report Format: The laboratory has a standard report template that can be customized per client needs. Reports are typically issued as PDF documents on Alliance Environmental Laboratories letterhead (or electronically via a secure portal) and include at least the following elements:

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- **Title and Identification:** A title like “Analytical Test Report” or “Certificate of Analysis” along with a unique report identification number and each page numbered (e.g., Page X of Y).

- **Lab Identification:** The full name, address, and contact information of the Laboratory as the issuing laboratory. This includes the specific location if multiple labs, so the client knows which site performed the work.

- **Client Identification:** Name and address of the client (company or individual who commissioned the tests). If the client has a specific project name or number, that is referenced.

- **Sample Identification and Description:** Each sample is listed with the client’s identifier and/or Lab ID. Include a description (matrix type, appearance if relevant), sampling location, and date of sampling (if provided) or date of receipt. If Alliance Environmental Laboratories performed the sampling, the sample description includes where, when, and by whom (possibly referencing a field ID or CoC). If sampling was not done by our lab, we note “Sample(s) received from client” and the date received.

- **Dates of Testing:** For each sample or for the report as a whole, the dates of analysis (or date of preparation, extraction, etc., if relevant) and the date of report issue. This provides timeline context and demonstration of meeting holding times as needed.

- **Test Methods:** For each analyte or test performed, the method is identified (e.g., EPA 8260D, SM 9223B, etc.). Our reports either list the reference method next to each result or in a separate column. If a lab-specific SOP number is used, we ensure it references a recognized method or is fully described in an accompanying documentation. Any deviation from the standard method is noted (for example, if a smaller sample volume was used due to high turbidity, etc.).

- **Results:** The measured values for each analyte/test, with units of measurement clearly indicated (e.g., mg/L, µg/kg). Results are typically presented in a tabular format. If a result is below the detection or reporting limit, it is reported as “< [RL]” (e.g., <0.5 µg/L) or ND (not detected) with the detection limit specified. If above a certain threshold like a regulatory limit, that might be highlighted.

- **Units and Basis:** Units are given for each parameter. If results are reported on a specific basis (dry weight vs wet weight, or “as received”), that is stated for clarity. We indicate if results are corrected for any dilutions.

- **Uncertainty (if required):** Typically for environmental lab reports, uncertainty is not included unless requested. However, if included or required (for calibration results or certain analytes), the expanded uncertainty is reported (e.g., ± value, coverage factor, and confidence level). Otherwise, a statement might be: “Uncertainties available on request.”

- **Qualifiers and Footnotes:** Data qualifiers are used to flag results that need additional context (see Appendix D for the list of standard qualifiers and their definitions used by [Lab Name]). Common qualifiers include: “U” for not detected, “J” for estimated value (e.g., below quantitation limit or due to QC issue), “B” for analyte detected in blank, etc. Each qualified result on the report will have the qualifier symbol and an explanatory footnote either on that page or in an attached definitions page. For example, a footnote might say “J: Result is estimated; value is below the quantitation limit”. We include any required definitions of data qualifiers so the client can interpret them.

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1.14 Quality Control Information: The report itself typically does not list all QC data, but it will include a statement that QC results met the method criteria unless otherwise noted. Some clients require a summary of QC (like LCS recovery, surrogate recoveries, RPDs). For standard reports, we often include surrogates in the result table for organic analyses, with their percent recoveries and control ranges. If any QC failure affected the data, a narrative or qualifier indicates it (e.g., “Matrix spike recovery low – data may be biased low”). For DoD/DoE or other comprehensive deliverables, a detailed QC package is attached as needed.

- **Comments/Deviations:** A section for any observations or deviations from standard procedure: e.g., “Sample received past holding time – result may be biased low” (with an appropriate qualifier on result), or “High bias in LCS – associated results qualified as estimated.” Also, if any specific client instructions were followed that differ from normal, mention them. For sampling, if unusual conditions (like sample received unpreserved but acid added in lab), note it.

- **Compliance Statement:** Where relevant, we include statements such as “This report shall not be reproduced except in full without written approval of [Lab Name].”, or “Results relate only to the samples as received.”. If the lab is accredited, the accreditation logo or statement is included (per accreditor’s rules) along with which tests are covered by the scope. If any result is from a non-accredited method, we mark it clearly (often with an asterisk and note “* Not covered by lab’s accreditation” as required).

- **Signatory:** Each report is reviewed and approved by authorized personnel. The name, title, and signature (or electronic equivalent) of the person authorizing the release of the report (e.g., Laboratory Director or QA Manager) and the date of approval are included. If reports are electronic, a certification or name in lieu of signature is provided with a statement that it’s an electronic report.

Review Process: Prior to release, the report (and underlying data) undergoes technical review and quality review. The technical reviewer verifies calculations and that all results make sense (no missing results, units correct, any anomalies explained). The quality review verifies that all required quality control is acceptable or appropriately qualified and that the report meets formatting and compliance requirements. Only after both reviews are passed does the Lab Director/authorized signatory sign the report.

Transmittal: Final reports are delivered to the client via the agreed mechanism (email, secure web portal, hard copy courier). The transmittal includes the report and any agreed attachments (like full data package, electronic data deliverable files). The laboratory keeps a copy of the final report and a record of when and to whom it was sent.

Amended Reports: If after issuing a report, an error or new information is discovered (for example, transcription error, or a late revision of a result after a dilution re-run), an amended report is issued. The amended report clearly indicates it supersedes the previous report (by revision number or “Amended” notation) and highlights what change was made. Both the original and amended reports are retained in the record, and the client is notified of the amendment.

Retention of Reports: Reports are kept as part of lab records for the same retention period as technical records (at least 5 years or per contract). Even if electronic, the exact content is preserved (e.g., PDF archived).

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Supplemental Report Information: In certain cases, additional details are required in reports for interpretation. For example, if results are reported on a dry weight basis (for solids), the report will indicate the moisture content or that results are dry-weight. If sampling was done, information such as diagrams or maps of sampling locations might be appended if needed for clarity. The lab can include a statement of compliance or non-compliance with a specification if agreed (e.g., "Result exceeds EPA MCL" or similar), but typically we provide the data and the client or regulator makes compliance decisions. When opinions or interpretations are given (which is rare and only if requested, such as regulatory limit comparisons), they are clearly marked as such and the basis explained.

5.9 Complaints

Alliance Environmental Laboratories has a documented procedure for handling complaints received from clients or other parties. Our goal is to address and resolve complaints promptly, effectively, and to use them as opportunities for improvement. The complaint handling process includes receiving, recording, investigating, resolving, and responding to the complainant, as well as taking any necessary corrective action.

Receiving Complaints: Complaints may be received via email, phone call, letter, or during client meetings. They can range from issues with results (e.g., client questions a result's accuracy), timeliness (missed turnaround time), service (communication problems), or any other dissatisfaction. All staff are trained that if they receive a complaint, they must forward it to management (typically the Quality Manager or Lab Director) to ensure it is logged and handled formally. If the complainant is not obviously a client (e.g., a regulatory body or member of the public), it still gets handled through the same system.

Logging and Tracking: The QA Manager maintains a Complaints Log or uses a Corrective Action Report (CAR) system to document complaints. Each complaint is assigned a reference number and entry in the log noting: date received, complainant's name and contact, description of the issue, and the person responsible for follow-up. If the complaint is via phone, the receiver writes a summary (time, date, content) for the record. This ensures no complaint is overlooked.

Acknowledgment: We acknowledge receipt of the complaint to the complainant, typically within [1-2 business days]. If the complaint comes via email, a reply is sent saying we are investigating. If via phone, a verbal acknowledgment with an expected timeline for resolution is given.

Investigation: The Quality Manager (or assigned investigator independent of the area of concern) conducts a thorough investigation. This may involve reviewing all relevant technical records (for example, if it's about a result, pulling the entire data package and rechecking calculations, QC, etc.), interviewing staff involved, checking instrument performance records, or even re-analysis of samples if available. The objective is to determine whether the complaint has merit (was there an error or issue on our side?), and if so, what the root cause was. We ensure the investigation covers both immediate factors and any systemic issues.

For example, if a client says "your reported value for Sample X seems incorrect because our field screening indicated something else," we would re-examine Sample X's analysis – check the calibration, see if transcription error occurred, possibly re-run the sample (if within holding time or on backup aliquot). If the complaint is "sample pick-up was delayed" – we'd check our scheduling and see what went wrong logistically. All steps of investigation are documented.

Resolution and Corrective Action: After investigating, the lab formulates a resolution. If the complaint is valid (lab error or oversight), we take corrective action to fix the specific issue. For instance, if a calculation error is confirmed, we immediately correct the result, issue an amended report (Section 5.8), and communicate it. If an instrument was found to be malfunctioning and caused bad data, we might invalidate affected results and repeat analyses if possible (or notify the client of limitation).

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We also determine root cause and implement broader corrective or preventive actions to prevent recurrence (see Section 8.7). A thorough root cause analysis is performed, using a root cause analysis technique such as 5 Why, 4M or Fishbone. Once the root cause analysis is determined, potential corrective actions are evaluated and ranked, with a final corrective action chosen. After corrective action is determined, a preventive action is also implemented to eliminate the problem from recurring. For example, if root cause was analyst transcription error, perhaps implement second-person verification step or better LIMS import. The preventive action might be to extend this fix to other areas of the laboratory. If turnaround was missed due to scheduling oversight, implement a system alert for due dates, etc. A Corrective Action Report is generated for internal tracking with these actions.

If the complaint is not due to lab error (for instance, a misunderstanding by the client or an issue outside our control, like shipping delays by courier), we still document it and consider if any improvement on our part could help (better communication, etc.). Regardless, we aim to satisfy the client within reason.

Communication to Complainant: We formally respond to the complainant with the outcome. This usually includes an explanation of findings and any measures taken. For example, a letter or email might say “Upon investigation, we found that a transcription error occurred in your report. We have corrected the error and attached an amended report. We apologize for the inconvenience and have taken steps to prevent this in the future by …” If the complaint was not an error (e.g., “field kit was not as sensitive as our lab method, so discrepancy is explained by that”), we courteously explain the situation with supporting data. We aim for transparency and acknowledgement of any fault on our side.

The response and date are recorded in the complaint file. Typically, the Lab Director or QA Manager will sign off on the response.

Follow-up: We verify that the complainant is satisfied with the resolution. If further issues or dialogue is needed, we continue until closure.

Records: All documentation of the complaint – original complaint, investigation notes, analytical records reviewed, findings, correspondence, and corrective action documentation – are kept together. The Complaints Log is updated with resolution and date closed. These records are retained at least as long as other quality records (minimum 5 years).

Management Review: Complaints and their status/resolution are reviewed in annual Management Reviews (Section 6.8). Management looks for trends (e.g., multiple complaints about turnaround or a particular department) to identify areas for improvement. The number and nature of complaints can be a quality indicator.

Our complaint handling process ensures every complaint is taken seriously and handled systematically. This not only resolves the immediate issue but often drives improvements in our processes. The policy is made known to clients (some labs include a note in terms & conditions like “If you have any questions or concerns about this report, contact QA Manager at… and it will be investigated promptly”).

5.10 Management of Nonconforming Work

Nonconforming work refers to any aspect of the laboratory’s testing process or results that deviates from established procedures or fails to meet quality standards. This could include instrument failures, QC sample failures that invalidate data, handling errors, or any situation where the validity of results is suspect. Alliance Environmental Laboratories has a procedure to identify, document, evaluate, and correct nonconforming work to prevent the release of incorrect results and to implement corrective actions.

Identification of Nonconforming Work: Nonconformities can be discovered at various points, such as:

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- During routine QC checks or data review (e.g., a calibration check out of tolerance indicating results in that batch may be invalid; LCS recovery failed; holding time exceeded).
- By staff noticing an error (e.g., an analyst realizes they used the wrong dilution factor, or a sample mix-up might have occurred).
- Through quality audits or supervision (auditor finds an SOP step was skipped).
- Via customer complaints (client questions a result leading to finding an internal issue).

All personnel are instructed that if they suspect or identify that something has gone wrong with a test or result, they must immediately inform their supervisor or the Quality Manager. A culture of transparency is promoted so staff report issues rather than hide them.

Control and Halt: When nonconforming work is identified, we take immediate action to contain the issue. This often means halting further testing related to the issue and segregating affected results or samples. For example, if an analytical batch's QC fails and cannot be resolved, the batch is flagged and those results are not reported to the client yet. If an instrument is found to be malfunctioning, it is taken out of service right away (tagged "Do Not Use"). If a sample mix-up is suspected, involved samples are put on hold until resolved.

Evaluation of Impact: The laboratory's technical management and QA staff evaluate the scope and severity of the nonconformance. Key questions: which samples/results are affected? Have any erroneous results been already reported? What is the root cause, and does it affect other work? We prioritize determining if the issue casts doubt on the correctness or validity of results. For instance, if a balance was discovered out-of-calibration, we review all results since the last valid calibration to see if those might be biased. If a transcription error in a final report is found, we check if similar errors occurred in other reports. The evaluation is documented, often via a Corrective Action Request form.

Decision and Correction: Based on evaluation, we decide on the appropriate disposition of the work:

- **Repeat/Correct the Work:** If possible, affected tests are repeated. Example: an entire batch with failed QC is re-prepared and re-analyzed to produce valid results. Or a sample that was mis-labelled is re-run if available.
- **Invalidate and Notify:** If re-testing is not possible (sample used up or holding time passed), the results are marked as invalid. In such cases, we typically cannot report those results except with clear qualification. The client is notified that those particular analyses could not be validated and will not be reported or are reported as invalid.
- **Segregation of Data:** Erroneous data or reports are clearly marked (e.g., in LIMS flagged as "Rejected" or files moved to an "invalid" folder) to ensure they are not inadvertently released.

If some results were already reported before discovering the nonconformance, the client is promptly notified in writing within e.g. 2 business days or as required. We explain the nature of the issue and whether it potentially invalidates those results. An amended report or withdrawal of report is then issued as appropriate. For example, *"During an internal review, it was found that the calibration for lead on 10/5/2025 was out of acceptance criteria. Therefore, lead results reported on Report XYZ for samples collected 10/4/2025 are considered invalid. We will re-run those samples if still available and provide an updated report."* This communication is crucial in maintaining transparency and client trust.

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In certain regulatory contexts, we may also need to notify accrediting bodies if required by regulation (for significant issues affecting compliance).

Investigation and Root Cause: As part of handling the nonconformance, we perform a root cause analysis (similar to corrective action process in Section 8.7). We examine why the nonconformance occurred – was it human error (e.g., SOP not followed), equipment issue, training gap, etc. This might overlap with the corrective action process, and often the nonconformance record will convert into a corrective action request for long-term fix.

Corrective/Preventive Action: Following root cause determination, appropriate actions are taken: retraining staff, revising SOPs, fixing or recalibrating equipment, adding an extra check in the process, etc., to prevent recurrence. These are documented in the corrective action log (see Section 8.7).

Records: All instances of nonconforming work are recorded, typically in a Nonconformance/Corrective Action form or log. The record includes description of the problem, samples affected, immediate actions taken (e.g., re-run, client notified), investigation findings, root cause, and corrective measures. Sign-offs by responsible management indicate the issue was addressed.

Trend Analysis: The Quality Manager periodically reviews nonconformance records to see if there are patterns (e.g., multiple nonconformances of a similar type). This could indicate deeper issues requiring management attention (like recurring instrument failures or a need for more staff training in a particular area).

By rigorously managing nonconforming work, [Lab Name] ensures that data of questionable validity is not delivered (or is quickly corrected if already delivered), thus maintaining the overall integrity of its services. This process also feeds into continuous improvement by flagging where our system can be strengthened.

5.11 Control of Data and Information Management

Alliance Technical Group utilizes both computerized and manual systems to collect, process, store, and report data. Ensuring the integrity and security of data is paramount. This section describes how we manage electronic information (Laboratory Information Management System, instrument software, etc.) as well as any manual records in terms of access, backup, and protection from loss or unauthorized alteration.

Adobe Digital Signatures: The laboratory utilizes Adobe digital signatures as a form of electronic authorization for controlled quality system documents, including but not limited to Standard Operating Procedures (SOPs), data review checklists, manual integrations, and other quality records.

Digital signatures are uniquely assigned to individual personnel upon initial onboarding and are logically linked to the signer. Signature application is password protected and may only be executed by the individual to whom the signature is assigned. Signature passwords are maintained confidentially by the user and are not shared.

Use of a digital signature constitutes the signer’s attestation that the document has been reviewed and approved in accordance with the laboratory’s quality system requirements and the individual’s assigned authority and training.

Electronically signed documents maintain traceability to the individual signer, including the signer’s identity and the date and time of signature application. Any modification to a document after signature application invalidates the prior signature(s) and requires re-review and re-authorization before the document may be reissued or used.

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Access to apply digital signatures is restricted to authorized personnel and is controlled through individual user credentials. Unauthorized use of another individual's digital signature is prohibited and subject to corrective action under the laboratory's quality system.

Electronic records and signatures are retained in a manner that preserves record integrity, authenticity, and legibility, consistent with the requirements of TNI 2016, Volume 1, Module 2.

Laboratory Information Management System (LIMS): The Khemia Omega 12 LIMS handles sample log-in, test assignment, result entry, and report generation. This LIMS has user access controls: each user has a unique login with permissions appropriate to their role (analysts can input results, QA can review/approve, etc.). The system maintains an audit trail of key actions (e.g., data modifications, approvals) so that any changes to data after initial entry are logged with user and timestamp. This satisfies requirements for traceability of electronic data changes.

We validate the LIMS configuration when initially implemented or after significant updates – for example, verifying that calculations it performs (like unit conversions or summing components) are accurate, and that custom report templates correctly capture data.

LIMS Digital Signatures: The laboratory utilizes its Laboratory Information Management System (LIMS), Khemia Omega 12, to apply digital signatures to analytical reports generated and issued by the laboratory.

All analytical reports issued through the LIMS are electronically stamped with the digital signature of the employee issuing the report. Digital signatures are uniquely associated with individual personnel and are assigned upon initial onboarding. Signature application is controlled through the employee's individual LIMS login credentials and is password protected.

Application of a LIMS digital signature serves as confirmation that the issuing employee has reviewed the analytical data and report contents and has authorized release in accordance with the laboratory's quality system and their assigned authority.

Electronically issued reports retain traceability to the individual issuing employee, including identity and date/time of report issuance. Access to apply report signatures is restricted to authorized personnel based on role and training. Use of another individual's login credentials or digital signature is prohibited and subject to corrective action.

Electronic analytical reports are maintained in the LIMS in a manner that preserves data integrity, authenticity, and traceability, consistent with the requirements of TNI 2016, Volume 1, Module 2. Any changes to analytical data or reports after issuance require appropriate documentation, review, and reauthorization in accordance with laboratory procedures.

Instrument Software and Electronic Data: Many instruments (GC/MS, ICP, etc.) have their own data systems. The raw data (e.g., chromatograms, spectra) are stored electronically on secure servers or local drives that are regularly backed up. Workstations are password-protected to prevent tampering. Method files and sequence files for instruments are maintained to ensure consistency in data processing parameters. We often print or PDF the instrument outputs which become part of the record, but the original electronic files are kept as well for reprocessing if needed.

Where instruments are networked, the data may directly transfer to LIMS; where manual, analysts transcribe or upload results to LIMS. Data may also be exported from the instrument and subsequently uploaded into the LIMS. Any manual transcription is double-checked to avoid errors.

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Backup and Recovery: All critical electronic data (LIMS database, instrument data, report files) are backed up on a routine schedule. For example, the LIMS database is backed up to an offsite server or cloud storage nightly. Instrument PCs have backups of their data directories weekly or after each major batch to a central server. The IT procedure ensures that in event of hardware failure, data can be restored from the most recent backup with minimal loss. Restoration process is tested periodically (e.g., IT performs test restores to verify backups are viable).

Additionally, we often keep redundant copies of final reports (the PDF that was sent to client is also saved on a secure server or document management system).

Security and Confidentiality in IT: The lab's network and computers are protected by firewalls and antivirus software. External access to systems is limited and secure (e.g., if remote login is allowed, it's via VPN). Data in the LIMS related to clients can only be accessed by authorized users; client-specific portals (if provided) require credentials. We comply with confidentiality (Section 2.2) in the digital realm by not leaving data accessible to unauthorized parties. For example, if using cloud services for backup, we ensure they are reputable and secure.

Prevention of Data Loss or Alteration: To prevent inadvertent changes or loss: certain critical data fields in LIMS become locked after approval. Only the QA Manager or IT admin could unlock if a legitimate change is needed. Any such changes follow a documented amendment procedure. For raw data files, generally no one edits raw instrument data; reprocessing is done by creating a new method file or copy of raw data, preserving the original. Calculations performed outside LIMS (like Excel spreadsheets for uncertainty or specific projects) are treated carefully – the spreadsheets are locked or formulas protected to avoid accidental modification. All calculations are verified prior to locking.

Software Version Control: We maintain records of the versions of software and firmware used (LIMS version, instrument firmware). Updates/patches are applied in a controlled manner. Before an update is deployed, we assess if it could affect data calculations or interfacing – if so, we validate key functions afterwards.

Manual Data Management: For any data that remains manual (like handwritten logbooks for temperature or analog instrument readings), those are integrated into the quality system by regular review and transcription into electronic format if needed. We protect manual records as described in Section 5.5 and 5.4 (bound books, pen only, etc.).

Client Data and Reports: Completed data sets and reports are archived such that they are easily retrievable if needed. We maintain an index or database of projects so that years later we can pull up old results. If clients need their data years later, we can retrieve it given the unique identifiers or dates. Electronic archives are on stable media with redundancy (e.g., two separate drives or cloud plus local). Physical archives (if any, like flash drives or paper) are stored securely.

Contingency Planning: In case of IT system downtime (network or LIMS outage), the lab can revert to manual processes temporarily: use paper bench sheets and manual CoC tracking, then later input data when systems are restored. We have instructions for such scenarios to ensure continuity of operations. For prolonged outages, IT and management will coordinate priorities (like focusing on tests with short hold times first manually).

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Compliance with Standards: Our information management practices comply with TNI and DoD/DoE QSM provisions which require data integrity safeguards. For example, DoD/DoE QSM emphasizes that manual integrations in chromatography must follow defined procedures and be documented (we have a SOP for manual integration with justification, and our data system marks those peaks appropriately). The lab also ensures calculations for results outside calibration range are handled (such as flagging results above highest standard as estimated or re-run with dilution), which ties into both data processing and reporting.

Audit Trail of Calculations: For any intermediate data processing (like if a custom script is used to calculate totals), we save the intermediate data. Nothing is done that isn't reproducible from the stored inputs. If specialized software (like for microbiology colony counting) is used, we maintain validation and a record of outputs.

By implementing robust data management and IT controls, Alliance Environmental Laboratories ensures that the information we produce remains accurate, secure, and accessible throughout its retention period. This gives confidence that the reported results are supported by traceable and tamper-evident records.

6. Management System Requirements

Our management system is documented through this Quality Manual, associated quality procedures, and supporting documents, which collectively ensure the consistent implementation and continual improvement of the laboratory's operations.

6.1 Management System Documentation

The core of our management system documentation is this Quality Assurance Manual, which is approved by top management and is the governing document for quality practices in the lab. It outlines our quality policies, objectives, and the structure of the system. In addition to the QAM, we maintain a set of Standard Operating Procedures (SOPs) that detail how specific requirements are implemented (e.g., Document Control SOP, Internal Audit SOP, Corrective Action SOP, etc.), as well as technical SOPs for each test method.

Key points about our documentation:

1.15 The Quality Manual and associated procedures address all elements required by ISO 17025, TNI, and DoD/DoE QSM (as demonstrated by the crosswalk in Appendix B), including those governing technical activities and those for management (e.g., auditing, management review, etc.).

- We maintain a Master List of Documents (or document registry) that shows the current revision of each quality document (Quality Manual, SOPs, forms). This ensures only up-to-date versions are in use.
- Each document is identified with a document number, title, version/revision number, and effective date. For example, this Quality Manual might be Document QM-001, Rev 1.0, effective [date]. Every SOP similarly has an ID, like SOP-Analytical-007 Rev 3.2, etc.
- Documents include the approval signatures of responsible authorities (Lab Director, QA Manager, etc.) on a controlled master copy or documented electronic approval, indicating review and approval prior to issue.

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- The structure of documentation is outlined in the manual: policies in the manual, detailed procedures in SOPs, and worksheets or forms for records. This hierarchical structure is communicated to staff so they know where to find information (Quality Manual for overarching policy, SOPs for instructions, forms for recording data). New staff are trained in the use of these documents.

- Supporting documents like reference standards, regulations, client contracts, etc., are referenced within procedures as needed, and copies (or accessible links) are maintained in a reference library (physical or electronic).

Changes to any part of the management system documentation follow the controlled process described in 6.3 (Document Control). We ensure the Quality Manual remains current; it is reviewed at least annually and updated if any change in standards or internal process occurs that warrants a revision. Even if no changes are made, an annual review is documented.

All personnel have access to the portions of management system documentation relevant to their duties (the Quality Manual is available to all staff, and each department has access to the SOPs they need). We may provide electronic access (like a read-only network drive with PDF SOPs or a document management system) to ensure they are using the latest versions.

6.2 Control of Management System Documents

Document Approval and Issue: Every controlled quality document (Quality Manual, SOPs, test methods, forms) is reviewed and approved by authorized personnel before initial issue or any revision. Typically, technical SOPs are written by a Technical Manager or senior analyst, then reviewed by the QA Manager, and finally approved by the Lab Director (or designee). Approvals are indicated by signatures (physical or electronic) and date on a master document or within a document control system.

Document Distribution: Once approved, documents are distributed in a controlled manner. We maintain an electronic master file for each document on the QA network drive – read-only for general staff. Electronic copies of the finalized SOP's are made available for the laboratory staff on a network drive. Any printed SOP's are considered uncontrolled and marked as such.

A Document Register (or Master List) shows current revision status of each document. Outdated versions are promptly removed from points of use and either archived or destroyed to prevent accidental use. Archived obsolete documents are removed to an archive file in a directory not available to general staff – we keep them on file for historical reference (for at least 5 years, or as required) but not in active use.

Document Changes: When a controlled document needs revision (due to improvement, client requirement change, etc.), the change is drafted by the responsible person and goes through the same review/approval process. Changes in documents are clearly identified (for example, we may use change bars or highlight sections changed in the new revision, or list changes in a document revision history section). The new revision is given an incremented revision number or date, and once issued, the old revision is archived. If the change is minor (typo, format), QA may allow a simpler approval process, but significant technical changes always involve full review.

We communicate new or revised documents to affected staff via training or memo. For instance, if an SOP change affects analysts, the QA Manager will brief them or require them to read the new revision and acknowledge understanding (sign-off sheet), especially if it introduces new steps or criteria.

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External Documents: We also control external documents critical to operations, such as standards and regulations (e.g., ISO 17025 standard text, EPA method manuals). We ensure we have the current versions (via subscription or checks). These may not be "controlled" in the same way, but we maintain a list and check periodically for updates (for example, if EPA issues a new Method Update Rule, we obtain updated methods).

Prevention of Unintended Use: If a document is obsolete or replaced, the QA Manager ensures all departments dispose of outdated copies. Electronic systems help – e.g., only current version is on the shared drive. For physical lab postings, we retrieve and discard outdated ones. This prevents someone accidentally following an old procedure.

Legibility and Identification: All controlled documents are kept legible and readily identifiable. They have headings or footers with at least document title, document number, revision number, page number, and effective date. This way, even printed pages can be recognized as part of a controlled document and which version. We often use a template that includes this info on each page.

Forms and Worksheets: Blank forms that are part of the system (e.g., Corrective Action form, sample receipt checklist) are also controlled by version. They might have version dates on them. We distribute blank forms either via the intranet or printed logbooks that are updated when forms change. Data recorded on obsolete forms inadvertently is still acceptable if content is equivalent, but we prefer to always use the latest.

By adhering to strict document control, Alliance Environmental Laboratories ensures that everyone is following the same up-to-date procedures, thus maintaining consistency and meeting all quality requirements. Document control is periodically checked in internal audits to confirm compliance (e.g., auditor will verify that an analyst's bench SOP copy is the current version listed on Master List).

6.3 Control of Records (Clause 8.4)

The laboratory implements control over all quality and technical records to ensure they are readily retrievable, protected against damage or loss, and retained for specified periods. Records include all those mentioned in previous sections: personnel training records, instrument calibration and maintenance logs, test data and reports, internal audit and management review records, complaints and corrective action records, etc..

Identification and Indexing: Each record or set of records is identified by at least a title, date, and reference to the activity or sample it pertains to. For example, a calibration certificate for a balance is identified by instrument ID and date; a test bench sheet is identified by sample IDs and analytical batch number and date. We maintain organized filing systems: physically, records are in labeled binders or folders grouped by year or by test batch; electronically, records are in structured directories or in LIMS with indexing by sample and date. Additionally, we keep a Record Inventory or matrix that outlines what types of records are kept, where, and for how long (to make it easy during retrieval or audits).

Protection and Storage: Active records are stored in the lab or office area in secure cabinets (for paper) or on servers (for electronic). Access to quality records is given to authorized personnel only – for instance, only QA and management might access confidential records like employee training files or complaint logs, whereas analysts have access to test data relevant to their work until those records are archived. We protect paper records from environmental risks by storing in dry, shaded places (no direct sunlight or damp). Critical records may be kept in fire-resistant cabinets if required (e.g., important contracts or raw data with no digital backup). Electronic records are safeguarded by the backup and security measures described in Section 5.11. We also guard against unauthorized alterations – once a result is finalized, the record is effectively read-only (with version history if changed as per document control).

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Retention Period: The default retention period for quality and technical records is at least five (5) years after the completion of the test or the lifecycle of the record, unless a longer period is specified by regulation or contract. For example, test data for DoD projects might be required to be kept 7 years; certain projects under litigation might be indefinite until release. We comply accordingly. The retention times are documented in our Record Inventory or in each SOP (some labs put a statement like "retain raw data for X years" in the quality manual or procedures). Even after the retention period, if disposing of records, we consider any regulatory obligations before destruction.

Disposition of Records: When the retention time is met, records may be disposed of securely. Paper records are shredded or incinerated; electronic files are deleted in a way that prevents recovery (especially if containing sensitive client data). We ensure confidentiality is preserved through the disposal process (e.g., using a certified shredding service if needed). A log of destroyed records can be kept (listing what was destroyed and when) as proof of proper disposition in case of any future queries.

Access for Personnel: While preserving confidentiality, we do allow staff to access records necessary for their duties. For example, an analyst can look at past calibration records of an instrument to understand performance trends; or QA can retrieve past proficiency tests data to compile statistics. We consider client-owned data as confidential, so any external requests for records (like a client asking for all raw data) are managed carefully under our confidentiality agreements and typically provided to them since it's their data.

Record Corrections: If an error is found in a record after the fact (say an audit finds a missing detail in a log), any additions or corrections are made in a traceable manner: dated and initialed, without obscuring original information (as described in Section 5.5). This applies to quality system records too (e.g., if a date was wrong on a training record, we would correct it and initial).

Electronic Records Integrity: For records kept electronically, we ensure that metadata (like file timestamps, author info) is preserved. Scanned copies of important paper records are made to have an electronic backup, but we treat the scanned version with the same confidentiality and retention rules.

Audit of Records: As part of internal audits (Section 8.8), we periodically review record-keeping practices: verifying that records are complete, signed where required, filed correctly, and accessible. Any deficiencies in record control are addressed via corrective actions.

By rigorously controlling our records, we maintain an auditable trail of our laboratory's activities and uphold transparency and accountability to clients and accrediting bodies. Proper record control ensures that years later, if data are questioned, we can provide the supporting documentation to demonstrate how results were obtained.

6.4 Actions to Address Risks and Opportunities

In line with ISO/IEC 17025:2017, Alliance Environmental Laboratories takes a proactive approach to managing risks and opportunities associated with our laboratory activities. While not requiring a formal risk management process, the standard expects us to identify and consider factors that could impact the quality of our tests or the effectiveness of our management system, and to plan actions accordingly.

Identifying Risks and Opportunities: Management and staff identify risks and opportunities through various inputs: during management review meetings, internal audits, day-to-day observations, and discussions. Examples of *risks* include: potential for sample cross-contamination, loss of key personnel, equipment downtime, cybersecurity threats to data, or changes in regulations that could catch us unprepared. Examples of *opportunities* might be: adopting new technology to improve efficiency or accuracy, expanding our scope to meet client needs, or cross-training staff to increase flexibility.

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Management and staff shall consider and plan mitigation for the risks and opportunities associated with the following laboratory activities:

1.16 *Determination of any effects the matrix may have when validating modification to the analytical portion of a method.*

1.17 Determination of the need for metrological traceability and the impact to data validity and uncertainty.

1.18 Use of externally provided products and services

1.19 Identifying likely contaminants which may be encountered in the laboratory facilities or supplies.

1.20 Determining minimum qualifications for technical, supervisory, and quality management personnel

1.21 Ensuring alternate personnel are designated, trained, and authorized for key roles and responsibilities

1.22 Determination of LOD and LOQ verifications will be performed quarterly, and which will be performed with each batch analyzed

1.23 Use of electronic signatures

1.24 Determination which versions of methods best fit the needs of the laboratory's customers

1.25 Determination of frequency and content of periodic in-depth monitoring for improper, inappropriate, or prohibited actions

1.26 Determination of frequency and content of periodic quality record reviews to ensure data integrity

1.27 Determining the need for procedures when not specifically required for accreditation

1.28 Application of correction factors, including how differing correction factors resulting from verification across a range of values will be applied to auxiliary equipment

1.29 Determining acceptance criteria for auxiliary equipment verification and calibration, where acceptance criteria are not specified

1.30 Selecting a subset of analytes for validation of method modifications.

We maintain a simple Risk and Opportunity Register (or incorporate this in meeting minutes) where we note identified issues. For instance, an internal audit might note a risk that "Documentation of reagent preparation is sometimes inconsistent – risk of using incorrect concentrations." Or an opportunity like "High demand for PFAS analysis – opportunity to develop capability." These registers are reviewed during the annual managerial review.

Evaluation and Prioritization: Not all risks are equal; we qualitatively evaluate the likelihood and potential impact of each risk. For significant risks, we determine what actions (controls or preventive measures) are needed to mitigate them to an acceptable level. Opportunities are evaluated for benefit and feasibility.

Planning Actions: For each high-priority risk or opportunity, management decides on actions. These actions are integrated into our routine processes or quality objectives. For example:

- *Risk:* Chances of power outage affecting sample storage or instrument runs. *Action:* Ensure backup generator is maintained (quarterly tests) and UPS are installed on critical instruments. Also plan to have dry ice on hand for freezers if long outage.

- *Risk:* Loss of key analyst might cause delays. *Action:* Cross-train a second analyst for each major method (documented in training plans) to provide coverage (opportunity to increase team skill breadth).

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- *Risk:* New regulatory limit approaching our detection limit capabilities. *Action:* Investigate method enhancements or procure more sensitive equipment (opportunity to invest and gain competitive edge).

- *Opportunity:* Frequent client inquiries for a new analysis we don't offer. *Action:* Evaluate adding that analysis – maybe train existing staff or hire an expert, get necessary equipment, then seek accreditation for it.

- *Opportunity:* Automation or LIMS upgrade could reduce manual errors. *Action:* Plan in budget and training to implement new LIMS module in next year, reducing risk of transcription errors.

We ensure actions are assigned to responsible persons and deadlines (often these become part of our management review action items).

Implementation and Monitoring: The QA Manager or designated personnel implement these risk mitigation actions as part of normal operations and check their effectiveness. For instance, if we identified risk in sample ID handling, and the action was to start using barcode labels, we implement that and then monitor if sample mix-up incidents drop to zero. For opportunities pursued (like new tests added), we track progress (getting method accredited, new revenue, etc.).

Integration with QMS processes: Many risk-control actions align with existing processes (training, maintenance, QC improvements). We treat them not as separate silo tasks but integrated. For example, internal audit schedules might be adjusted to focus on areas of higher risk. Management review (Section 8.9) includes discussing risks and opportunities – ensuring we revisit them regularly. We document in the management review minutes what was considered and the status of actions.

Record and Communication: While formal risk management documents aren't mandated, we keep records of significant decisions (like in management review or CAPA records if relevant). We communicate to staff particularly relevant risk-based decisions – e.g., if cross-contamination risk was high in a certain process, and we decided to purchase disposable pipette tips for that process, we inform all analysts of the change and why it's important.

Continuous Improvement: Addressing risks and opportunities ties into our continual improvement (Section 6.6). By proactively dealing with potential issues before they lead to nonconformities, we strengthen our system. By seizing opportunities, we improve our service and efficiency. This dynamic approach becomes part of our culture, where employees feel empowered to suggest improvements (which are essentially identifying opportunities or mitigating risks at their level).

In summary, Alliance Environmental Laboratories uses a risk-based thinking approach: using knowledge and experience to foresee what could go wrong (or right) and act on it. This approach is evidenced in how we allocate resources (e.g., more maintenance on an old critical instrument – risk mitigation), how we plan training (e.g., focusing on complex tests that have higher error rates), and how we plan for the future of the lab in strategy meetings.

6.5 Improvement

Alliance Environmental Laboratories is committed to continuous improvement of its management system and laboratory activities. Beyond reacting to problems, we actively seek ways to enhance quality, efficiency, and client satisfaction.

Continuous improvement is embedded in many of the processes described: analyzing feedback, internal audits, management reviews, training programs, etc., all feed into identifying improvement opportunities.

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Sources of Improvement Ideas: We gather input on potential improvements from:

- **Employee Feedback:** Staff are encouraged to suggest improvements in procedures or resources. We maintain an open-door policy and/or a suggestion program (even an informal one where suggestions can be emailed to QA or dropped in a box). Many improvements come from analysts who perform tests daily and see chances to streamline or clarify processes.

- **Client Feedback:** Apart from formal complaints, we listen to what clients say about our service. If a client mentions that our report format is hard to read, we consider redesigning it. If they need a certain new service, we consider training/upgrading to offer it. Client satisfaction surveys provide structured feedback on what we can do better.

- **Internal Audits and Management Reviews:** As described, these are structured to not only find compliance issues but also note opportunities for improvement. The management review explicitly includes consideration of *"changes that could affect the management system"* and *"improvement opportunities"*. Each year we set quality objectives (Section 3.3) and review our success; new objectives often aim at improvements (for example, "reduce turnaround time by 10% by implementing XYZ").

- **Data Trends:** Ongoing QC trending might highlight where processes can be tightened (like if control charts show too much variability, we might improve instrument maintenance or training). Likewise, a trend of many corrective actions in a certain area signals need for a systemic improvement.

- **External Inputs:** Changes in industry best practices, new technology, or updates in accreditation criteria can drive improvement. We stay informed (via training, webinars, etc.) and adopt improvements to stay current.

Implementing Improvements: When an improvement opportunity is identified and decided upon, we plan its implementation. This might involve revising an SOP, acquiring new equipment, changing workflow, or providing training. We manage this like a mini project: assign responsibility, set timeline, and communicate the change to everyone it affects.

Examples of improvements we have implemented or plan to:

- Simplifying the sample login process by adopting barcoding (reducing errors and saving time) where applicable.

- Conducting cross-training in multiple sections to improve flexibility (leading to faster turnaround and better coverage during absences).

- Increasing the frequency of micro-meetings among sections to share quick lessons learned weekly, fostering a culture of ongoing improvement.

- Using statistical process control not just on QC but also on operational metrics like instrument uptime or sample delivery timeliness, to identify where improvements can be made.

Monitoring Improvement Actions: We track major improvement initiatives to see if they achieved desired results. For instance, if we implemented a new LIMS module to reduce manual data entry, we might measure error rates before and after, or gather user feedback on the new process. This is often discussed in management review: *"We did X, result was Y – did it solve the issue/improve as expected?"* If not fully, we may tweak further.

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Recognition: We also recognize contributions to improvement. If an employee's idea leads to a significant positive change, management acknowledges this (sometimes in performance reviews or by a simple shout-out in meetings), to encourage engagement in continuous improvement.

Quality Policy Commitment: Our quality policy explicitly mentions continual improvement and management demonstrates this commitment by providing needed resources (budget for training or new tools, time for improvement projects, etc.). For example, management approved purchase of an autoclave upgrade when staff highlighted it would improve consistency for sterilization vs. using an old unit. This not only improved quality (fewer failed sterility checks) but also morale (staff see that suggestions are taken seriously).

Documenting Changes: Improvements that lead to procedural changes are integrated back into the management system documentation. We revise documents (under document control) and train staff, closing the loop so the improvement becomes the new standard practice.

Continual vs. One-time: We view improvement as an ongoing cycle – even after implementing one, we continue to look for the next. Even if our KPIs (Key Performance Indicators) are currently all within targets, we ask if targets should be raised or if new, more ambitious goals can be set.

In summary, continuous improvement at [Lab Name] is not a separate activity but part of our culture and system – ensuring we not only maintain compliance but evolve and excel in our performance and service quality. This approach helps us remain competitive, adaptable, and capable of providing better data and service to our customers over time.

6.6 Corrective Action

Whenever a deviation or nonconformity is detected in our operations or results (through incidents, audit findings, QC failures, complaints, etc.), Alliance Environmental Laboratories implements a formal corrective action process to investigate and eliminate the root cause, and to prevent recurrence. This process is outlined in our Corrective/Preventive Action SOP (QA-CPA-SOP) and aligns with ISO 17025 and TNI requirements. Key steps are:

Initiation: A corrective action report (CAR) is triggered when we identify a nonconformance or quality problem that goes beyond an immediate fix. Triggers include: failed proficiency tests, repeated QC out-of-control events, client complaints of serious nature, audit findings of deficiencies, or trends indicating a systematic issue. Staff are encouraged to report problems; management or the QA Manager can issue a CAR. We log it with a unique CAR number and date.

Problem Description: We clearly document the issue – what happened, how it was detected, and the scope. For example, *"Mercury PT failed low (60% recovery vs acceptable range 85-115%). Preliminary check found calibration std was prepared incorrectly. Potentially affects all Hg results in last 2 months."* Or *"Internal audit found SOP for VOC analysis is not being strictly followed regarding calibration frequency – risk of noncompliance with method."*

Immediate Correction (Containment): If not already done under Section 5.10, we take necessary immediate action to deal with the consequences. E.g., inform clients of affected results, re-run samples if possible, put instrument on hold, etc. This minimizes damage while we work on the deeper fix.

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Root Cause Analysis: The CAR is assigned to a responsible person or team (often the QA Manager working with the relevant Technical Manager). They investigate to find the root cause(s) of the issue, using methods like the "5 Whys" or fishbone diagrams, depending on complexity. They consider various factors: was it human error (if so, why did it occur – training gap, workload, unclear procedure?), equipment-related (lack of maintenance, wear-out, not following schedule?), method flaw, environmental factor, etc. All potential causes are evaluated.

Corrective Action Plan: Based on the identified root cause, we develop actions to correct and prevent recurrence. This plan is documented in the CAR form and typically includes:

- Specific actions: e.g., "Revise SOP to require verification of stock standard concentration every 3 months with independent reference material. Train all analysts on this new step." Or "Re-train analyst on VOC SOP focusing on calibration protocol; supervisor to review the next 5 batches to ensure compliance."

- Responsibilities and Timeline: We assign who will do each action and set target dates. Some actions might be immediate (fix equipment today), others short-term (training within one week), others may be longer (purchase new equipment by next quarter). We also consider if the action requires notifying accrediting body (certain serious issues may require notification under some accreditation rules – we adhere to those, e.g., if a PT failure, we follow the AB's corrective action submission requirement within 30 days).

- Preventive aspect: Ensuring the solution addresses not just this instance but future potential occurrences even in slightly different scenarios. For example, if the issue was mislabeling samples, action might include implementing barcode or automated labelling system lab-wide (preventive improvement beyond just admonishing the one mistake).

Implementation: The assigned personnel implement corrective actions. The QA Manager oversees progress to ensure actions are completed on schedule. They provide resources needed (time for training sessions, budget for new standard or tools, etc.).

Effectiveness Check: After actions are implemented, we verify that they are effective in resolving the issue. This could involve: follow-up audits, additional QC data or PT to ensure the problem is gone, or monitoring a certain number of future batches. We often mark a CAR "closed" only after verifying no recurrence over a defined period or that performance has improved. For instance, after retraining and SOP revision, the next PT for mercury is passed successfully, confirming the fix worked. Or an internal audit 3 months later shows SOP calibration step is now being followed.

We document evidence of effectiveness (like "QA audit on [date] confirmed new standard verification logs are being maintained, and recoveries improved to ~95%"). If corrective action turns out not fully effective, the CAR might be re-opened or new actions considered (iterative improvement).

Records: All CARs and related investigation notes, emails, etc., are kept in the Corrective Action file. The CAR log includes a summary, date opened/closed, and outcome. We also link the CAR to the originating incident record (like internal audit finding number or PT result reference) for traceability.

Trend Analysis: Periodically, usually during management review, we analyze all CARs to spot any recurring themes. If multiple CARs point to a similar underlying cause (e.g., training issues across sections), management will allocate effort to a broader fix (like revamp training program). Conversely, seeing fewer CARs in an area over time indicates our system is stabilizing and previous actions were successful.

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Preventive Action: ISO 17025:2017 rolled preventive action concept into risk-based thinking, but we still take proactive actions when we foresee a potential issue even if it hasn't happened yet. We treat those as improvement tasks (Section 6.4) rather than CARs, but the mindset is similar: identify weakness, fix before it causes nonconformance.

By diligently following the corrective action process, Alliance Environmental Laboratories ensures that problems are not only fixed once but are less likely to happen again, thereby continuously improving the reliability of our operations and results. This systematic approach to problem-solving is a cornerstone of our quality management system.

6.7 Internal Audits

Alliance Technical Group conducts internal audits of its activities at planned intervals to verify that operations continue to comply with the requirements of the management system, ISO 17025, TNI standards, DoD QSM, and our own procedures. The internal audit program is a critical tool for self-assessment and continuous improvement.

Audit Program and Schedule: We maintain an Internal Audit Schedule covering all elements of the quality system (management and technical) over a 12-month cycle. Typically, we audit each major laboratory technology and each clause of the standard at least once annually, however all drinking water methods and DoD/DoE methods must be audited annually. The schedule may break audits into sections; for example: Q1 – General Requirements & Sample Management; Q2 – Analytical Sections (Inorganics, Organics) & QA processes; Q3 – Metals/Microbiology & Equipment, etc.; Q4 – Remaining sections (e.g., reporting, data integrity). The schedule is flexible and may be adjusted based on previous audit results or changes (e.g., if a new method is added, an audit might focus on its implementation).

The QA Manager is responsible for overall audit planning. Audits are usually spread out to even the workload and allow focus. Each area of lab activity (sample receipt, calibration, each test discipline, support processes like purchasing, IT, etc.) is audited at least annually, and critical areas possibly more frequently or via spot checks.

Audit Team and Independence: Internal audits are conducted by trained personnel who are, wherever possible, independent of the area being audited. For example, a chemist from the organics section might audit the metals section, and vice versa, or the QA Manager audits all sections but not their own work without oversight. We sometimes use cross-location audits (if multi-site), or bring in an external auditor/ consultant to perform an internal audit for impartiality. Auditors are trained in auditing techniques and familiar with standard requirements.

Audit Preparation: Before each audit, the auditor reviews relevant documents (previous audit findings, SOPs, quality manual sections, external audit reports, etc.). An audit checklist is prepared based on ISO 17025 and TNI criteria and our own procedures, tailored to the specific activities of that section. For example, a checklist for an analytical department will include checking instrument maintenance logs, training records, example sample traceability from login to report, adherence to method SOP in practice, and QC results. Our checklists are updated annually to incorporate new requirements and follow-up on previous corrective actions.

Audit Execution: The auditor conducts the audit typically through interviews, observation of activities, and review of records. They may: observe sample login or an analysis in progress to see if SOPs are followed; inspect records such as CoC forms, maintenance logs, calibration records, worksheets; ask staff questions about processes and knowledge of policies; and verify the laboratory's compliance against each item on the checklist. They also verify that any nonconformities noted in previous audits have been addressed (follow- up). Audits cover both technical activities and support functions (e.g., make sure reagents are labeled and not expired, waste disposal being logged, etc.).

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We encourage a collegial audit approach where auditors also identify good practices and opportunities for improvement, not just nonconformities.

Recording Findings: Audit findings are documented in an Internal Audit Report. Each finding is classified typically as either, *nonconformity* (deviation from requirement), or *observation/suggestion* (not a direct nonconformance but something that could be improved). Nonconformities are described clearly with evidence (e.g., "SOP ABC requires thermometer calibration annually, but thermometer ID#T4 last calibrated 18 months ago"). We reference the relevant standard or procedure clause. Supporting evidence may include copy of record or note of observation.

The report or checklist is reviewed by the QA Manager and then communicated to the management and staff of the audited area. The seriousness of each nonconformance is assessed so appropriate urgency can be applied.

Correction and Corrective Action: For each nonconformance found, the laboratory initiates corrective actions per Section 6.6. We typically log them in the CAR system. The lab staff, with QA oversight, correct the immediate issue and investigate root cause. For example, if an SOP wasn't followed, root cause might be unclear instructions or training lapse – so action could be retraining or revising SOP. These actions and their completion are documented. A response to the internal audit is prepared by the audited area, explaining actions taken or planned for each finding, with due dates.

The QA Manager verifies these responses for adequacy and then tracks them to completion. We aim to implement corrective actions promptly (depending on severity – critical issues immediately, others within a few weeks).

Follow-up: In subsequent audits (or separate follow-up audits), we verify the effectiveness of actions on past findings. If a nonconformance persists or was not effectively addressed, it is escalated to management for further action. Repeat findings are something we focus on to avoid chronic issues.

Audit Records and Reporting: Completed audit reports are kept on file, and a summary of audit program results is presented in management review. Top management reviews the overall internal audit results to ensure the lab is in control and to allocate resources if systemic issues are noted.

Management Involvement: Laboratory management is kept informed throughout the audit process – significant issues discovered might be immediately brought to Lab Director's attention especially if they impact data validity (triggering possibly stopping work or client notifications as needed). We consider internal audits as a tool not to blame but to fix and improve processes, and management fosters a culture of cooperation with audits.

Annual Audit Completion: We ensure that by year-end, all required audits have been completed. If schedule slips for unforeseen reasons, we reschedule covering missed areas as soon as possible. It's critical for sustaining accreditation that our internal audit cycle is fully executed.

Through diligent internal audits, Alliance Environmental Laboratories verifies day-to-day that we are doing what we say we do (following our quality system) and that the system is effective. It helps catch issues early internally, rather than through external audits or client issues, thereby continuously ensuring and strengthening compliance and quality.

6.8 Management Review

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Top management of Alliance Environmental Laboratories conducts a comprehensive review of the laboratory's management system at least annually to ensure its continuing suitability, adequacy, and effectiveness. The Management Review is a critical opportunity to evaluate performance, identify needed changes or improvements, and set goals for the future.

Frequency and Attendance: Formal management reviews are held annually (typically [e.g., each December] to review the year's performance and plan for the next). Additional interim reviews or focused meetings may be held if significant events warrant (e.g., major changes in standards or persistent quality issues). Attendees include the Laboratory Director (and/or senior company management if applicable), Quality Manager, Technical Managers/Supervisors of major lab sections, and other key personnel as needed (e.g., Health & Safety Officer, if topics relevant). We may also invite representatives from support functions like IT or HR if their input is needed.

Inputs to Management Review: The review meeting agenda covers all required inputs as per ISO 17025 and TNI, including:

- **Status of Actions from Previous Reviews:** We start by reviewing whether the decisions and action items from the last management review were implemented and their effectiveness. For example, if last year we planned to buy a new GC/MS, did it happen and did it resolve capacity issues?

- **Quality Policy and Objectives:** Consider whether our quality policy is still appropriate and whether quality objectives were met. If an objective was to improve client satisfaction scores by 5%, we check the outcome. Suitability of the policy and any need to update it are discussed.

- **Results of Internal and External Audits:** A summary of findings from all internal audits

  (Section 6.7) and any external assessments (accreditation audits, regulatory inspections) since the last review is presented. We discuss recurring issues, root causes, and whether corrective actions have been effective. If external audits had nonconformities, ensure those were resolved.

- **Status of Corrective and Preventive Actions:** A report on all significant CARs undertaken, their status (closed or pending), and whether further action is needed. Trends in corrective actions are considered (e.g., multiple CARs in sample login area?). Preventive actions or risk management steps (Section 6.4) are also reviewed – did we address identified risks successfully?

- **Assessments by External Bodies:** This includes any feedback from accreditation bodies, results of proficiency tests (PT) etc. We highlight any PT failures or marginal scores and how they were handled. Also, any new accreditation requirements or standards changes on horizon (e.g., upcoming TNI standard update) are raised so we can plan.

- **Results of Interlaboratory Comparisons or PT:** Summarize PT performance for the period (pass rate, any issues and lessons). Also any interlab studies we participated in. Good performance is noted, and any problems already addressed via corrective action are confirmed.

- **Customer Feedback and Complaints:** We present an analysis of client feedback – including formal complaints (see Section 5.9 for details of each) and also general feedback from surveys or communications. Are clients generally satisfied? Have there been complaints or recurring requests? We examine if any systematic changes are needed to improve customer experience. For example, if multiple clients commented on slow report delivery, we consider changes in process.

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- **Key Performance Indicators (KPIs):** Metrics such as turnaround time statistics, number of samples processed, QC pass/fail rates, cost of poor quality (rework, etc.), staff overtime, etc., are reviewed. These help gauge efficiency and areas of strain. If, say, instrument downtime increased by 20%, that might prompt action (like more maintenance or new instrument purchase).

- **Changes in Volume and Type of Work:** Review any significant changes in sample volume, matrix types, or new services introduced. Did an increase in workload stress our resources? Did we successfully add that new analytical capability we planned? Also forecast – upcoming projects or market changes.

- **Resource Needs:** Evaluate if current resources (staffing, training, equipment, facilities) are adequate. If an area is understaffed or lacking redundancy, management can plan hiring or cross-training. Training needs are addressed (e.g., new skills needed for new methods or cross-training to mitigate risk of key person dependency).

- **Effectiveness of Improvements Implemented:** If we undertook improvement initiatives (like LIMS upgrade, new QA procedure), assess if they achieved the desired effect or need tweaking.

- **Follow-up on Risks and Opportunities:** We revisit the risk register and see if identified risks are being managed and if any new risks/opportunities emerged since last review. For example, if a competitor lab closed (opportunity for more business) or if new regulatory demands are coming (risk if not prepared).

- **Any Need for Change in the Management System:** After reviewing all above, discuss whether the QMS as documented needs any changes – perhaps new or revised procedures, changes to scope of accreditation, updates to quality policy or objectives.

Discussion and Decisions: During the review, management deliberates on each input. We note successes (e.g., “Proficiency test performance was 100% acceptable – keep up current practices”) and areas needing action (e.g., “Complaint response time was slow – implement a tracking tool to improve that”). We may set new or revised quality objectives for the next period, for instance: reduce sample check-in time by 15%, achieve zero PT failures, increase training hours per analyst, etc. We also decide on any resource allocations (hire 1 more technician by Q2, budget for new IC by Q4, etc.).

Outputs of Management Review: The outputs include decisions and actions related to:

- Improvement of the management system and its processes (e.g., “Revise document control process to include electronic approval workflow by March”).

- Improvement of lab activities (e.g., “Optimize the sample extraction scheduling to shorten TAT – pilot in Organics section”).

- Resource needs (e.g., “Purchase new freezer for sample storage, replace aging GC, and include funds for analyst training on new PFAS method”).

- Any changes to the quality policy or objectives (e.g., update quality policy to include commitment to data integrity explicitly; set new objective on client satisfaction rating).

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These decisions are recorded in the management review minutes with assigned responsibilities and target dates for actions. The Lab Director or QA Manager ensures these actions are entered into our quality action plan (or CAPA system) so they are tracked to completion in the coming year.

Documentation: We prepare Minutes of the Management Review Meeting, which include the agenda, a summary of discussions for each item, the conclusions, and all agreed actions with persons responsible. These minutes are distributed to attendees and any other concerned staff (for awareness of decisions). They are stored as quality records (retained similarly like other records, typically 5+ years).

Follow-up: Progress on management review action items is often checked in management meetings throughout the year or at the next review. This ensures accountability. For example, if we decided to hire staff, by mid-year we'll check if that happened.

By performing a thorough management review, Alliance Environmental Laboratories leadership stays engaged with the health of the quality system and ensures strategic and resource decisions are aligned with delivering technically valid results and continuous improvement. It closes the loop of the Plan-Do-Check-Act cycle at the highest level.

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Appendices:

Appendix A: Scope of Accreditation and Services. (Placeholder for listing fields of testing, analytes, methods, matrices that [Lab Name] is accredited for. Include any accreditation identifiers, certificate numbers, effective dates.)

Alliance Technical Group, LLC-Akron is an accredited environmental laboratory. Accreditations may be added or dropped as appropriate. At the time of this revision, Alliance Technical Group, LLC-Akron is accredited (or has accreditation pending) by the following agencies:

1. State of Florida (E87688)
2. State of Ohio Drinking Water (4170)
3. State of Alabama (41600)
4. State of Arkansas (88-00735)
5. State of California (2943)
6. State of Colorado (OH0923)
7. State of Connecticut (PH-0108)
8. State of Georgia (C058)
9. State of Idaho (OH00923)
10. State of Illinois (200061)
11. State of Indiana (C-OH-03)
12. State of Iowa (438)
13. State of Kansas (E-10347)
14. State of Kentucky Drinking Water (KY90146)
15. State of Kentucky NPW (KY90146)
16. State of Kentucky UST (113767)
17. State of Louisiana (99051)
18. State of Maine (2023005)
19. State of Maryland (339)
20. State of Michigan (9988)
21. State of Minnesota (039-999-385)
22. State of New Hampshire (2996)
23. State of New Jersey (OH006)
24. State of New York (11777)
25. State of North Carolina NPW & SCM (631)
26. State of North Carolina Drinking Water (39705)
27. State of Oklahoma (1903)
28. State of Oregon (OH200001)
29. State of Pennsylvania (68-01335)
30. State of Rhode Island (LAO00317)
31. State of South Carolina (92016)
32. State of South Dakota
33. State of Texas (T104704466)
34. State of Utah (OH00923)
35. State of Virginia (460141)
36. State of Washington (C891)
37. State of West Virginia Drinking Water (9957C)
38. USDA / APHIS Regulated Soil Permit (525-23-223-08848)

The QA Department maintains a current record of all Certificates and Scopes of Accreditation.

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State accreditations for specific analytes or method certifications are available.
Some analyses may not be accredited and are run only for non-compliance reporting.
Test procedures used to analyze samples are summarized as follows:

Table 1 - Drinking Water Parameters

PARAMETER	METHOD	DESCRIPTION	REFERENCE
Alkalinity	SM 2320B-1997	Titration	2
Amenable Cyanide	SM 4500CN-G, 18th Ed.	Colorimetric Manual Distillation	2
Chlorine	SM 4500Cl-G	Colorimetric	2
Color	SM 2120B-2001	Colorimetric	2
Conductivity	SM 2510B-1997	probe	2
Corrosivity	SM 2330B	ICP/Calculation	2
Dissolved Organic Carbon	SM 5310B-2000	High Temperature Combustion	2
Hardness	SM 2340B-1997	calculation	2
pH	SM 4500H^+-B-2000	Electrometric	2
Surfactants (MBAS)	SM 5540C	Colorimetric	2
Total Cyanide	SM 4500CN-E, 18th Ed.	Colorimetric Manual Distillation	2
Total Dissolved Solids	SM 2540C-1997	Gravimetric	2
Total Organic Carbon (TOC)	SM 5310B-2000	High Temperature Combustion	2
Total Organic Halides (TOX)	SM 5320B	Pyrolysis/microcoulometry	2
Turbidity	EPA 180.1	Nephelometric	1
Volatile Organics Trihalomethanes	EPA 524.2	GC/MS	5
Purgeable Organic Compounds	EPA 524.2	GC/MS	5
Organochlorine Pesticides	EPA 525.3	GC/MS	5
Chlorinated Herbicides	EPA 555, EPA 552.3	HPLC, GC/ECD	5
1,4-Dioxane	EPA 522	GC/MS	5
Haloacetic Acids	EPA 552.3	GC/ECD	5
2,3,7,8-TCDD	EPA 1613B	Hi Res GC/MS	5
Extractable Organics	EPA 525.3	GC/MS	5
EDB, DBCP, 1,2,3-Trichloropropane	EPA 504.1	GC/ECD	5
Endothall	EPA 548.1	GC/MS	5
Diquat, Paraquat	EPA 549.2	HPLC	5
Glyphosate	EPA 547	HPLC	5

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PARAMETER	METHOD	DESCRIPTION	REFERENCE
Alachlor, Atrazine, Simazine	EPA 525.3	GC/MS	5
Perchlorate	EPA 314.0	IC	1
Inorganic Anions	EPA 300.0	IC	1
Disinfection Byproducts	EPA 300.1	IC	1
Gross alpha Gross beta	EPA 900.0	Gas Flow Proportional	8
Gross alpha	SM 7110C-2000	Gas Flow Proportional	8
PFAS	EPA 533	LC Triple Quad MS	9
PFAS	EPA 537.1 Rev. 2	LC Triple Quad MS	9
Radionuclides (Gamma Emitters)	EPA 901.1	Gamma Spectroscopy	8
Radium 226	EPA 903.0	Gas Flow Proportional	8
Radium 228	EPA 904.0	Gas Flow Proportional	8
Uranium	EPA 908.0	Gas Flow Proportional	8
Metals	EPA 200.7 EPA 200.8	ICP ICP/MS	1
Hardness (calc.)	SM 2340B-1997	ICP/Calculation	1
Mercury	EPA 245.1	CVAA	1

Table 2 - Non-Potable Water Parameters

PARAMETER	METHOD	DESCRIPTION	REFERENCE
Metals	EPA 200.7, EPA 200.8, EPA 6010D, EPA 6020B	ICP/ICPMS	1, 4
Hardness (calc.)	EPA 200.7	ICP/Calculation	1
Mercury	EPA 1631E, EPA 245.1, EPA 7470A	Low level, Manual-cold vapor	1, 4
Acidity, as CaCO3	SM 2310B (4a)-2020	Phenolphthalein endpoint	2
AOX	EPA 1650	Colorimetric	1, 4
Alkalinity as CaCO3	SM 2320B-2021	Titration	2
Amenable Cyanide	EPA 9010C/9014, SM 4500CN-G-2021	Colorimetric Manual Distillation	2, 4
Ammonia as N	EPA 350.1	Gas-Permeable Membrane	1, 4
Ammonia as N	SM 4500NH_3-D-2021	Distillation / Nesslerization	2
Ammonium	ASTM D-6919-03	General Chemistry	7
Biochemical Oxygen Demand (BOD)	SM 5210B-2016	Probe	2

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PARAMETER	METHOD	DESCRIPTION	REFERENCE
Carbonaceous BOD (CBOD)	SM 5210B-2016	Probe	2
Chemical Oxygen Demand	SM 5220D-2011	Colorimetric	1, 2, 4
Chlorine	SM 4500Cl-G	Colorimetric	2
Chromium VI	EPA 7196A	General Chemistry	1, 4
Color	SM 2120B-2021	Colorimetric	2
Conductivity	EPA 9050A, SM 2510B	Probe	1, 2, 4
Corrosivity (Langelier Index)	SM 2330B-18th Ed.	General Chemistry	2
Corrosivity (pH)	EPA 9045D	General Chemistry	1, 4
Cyanide	SM 4500CN-E	Colorimetric manual Distillation	2
Flashpoint/Ignitability	EPA 1010B	Manual	1, 4
Inorganic Anions	EPA 300.0, 9056A	IC	1, 4
Hardness	SM 2340B-2021	Calculation	2
Kjeldahl nitrogen, total (TKN)	EPA 351.2	Gas-Permeable membrane/Spectrometer	1, 4
Kjeldahl nitrogen, total (TKN)	SM 4500 NH3-D-2021	Digestion/Distillation	1, 4
Oil & Grease	EPA 1664A, EPA 9070A	Gravimetric	1, 4
Organic Nitrogen	TKN minus AMMONIA	Calculation	
Perchlorate	EPA 314.1	IC	1, 4
pH	SM 4500H^{+}-B-2021	Electrometric	2
Total Phenolics	EPA 9065	Photospectrometer	1, 5
Total Phosphorous	SM 4500P-E-2021	Colorimetric	2
Reactive cyanide**	EPA 7.3.3.2	Gas Evolution	1, 4
Reactive sulfide**	EPA 7.3.4.2	Gas Evolution	1, 4
Residue, filterable (TDS)	SM 2540C-2020	Gravimetric	2
Residue, non-filterable (TSS)	SM 2540D-2020	Gravimetric	2
Residue, total	SM 2540B-2020	Gravimetric	2
Residue, volatile	EPA 160.4	Gravimetric	1, 4
Sulfide	EPA 9030B/9034	Titration	1, 4
Sulfite (SO_3)	SM 4500SO_3-B-2011	Titration	2
Surfactants (MBAS)	SM5540C-2021	Colorimetric	1, 2, 4
Tannin & Lignin	SM 5550B	General Chemistry	2
Total Cyanide	EPA 9010C/9014, SM 4500CN-E-2021	Colorimetric Manual Distillation	1, 2, 4
Total Organic Carbon	EPA 9060A, SM 5310B-2014	High Temperature Combustion	1, 2, 4
Total organic halides (TOX)	EPA 9020B	Pyrolysis / Microcoulemetry	1, 4
Total Petroleum Hydrocarbons (TPH)	EPA 1664A	General Chemistry	1, 4

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PARAMETER	METHOD	DESCRIPTION	REFERENCE
Total Phenolics	EPA 420.1, EPA 9065	Colorimetric	1, 4
Total Sulfides	EPA 9030B/9034	Titration	1, 4
Gamma emitters	EPA 901.1	Radiochemistry	1, 4
Gross Alpha	EPA 9310, SM 7110C	Radiochemistry	1, 2, 4
Gross Beta	EPA 9310	Radiochemistry	1, 4
Radium-228	EPA 9320	Radiochemistry	1, 4
Total Radium	EPA 9315	Radiochemistry	1, 4
Total Petroleum Hydrocarbons (TPH)	TCEQ 1005	GC/FID	1, 4
Dissolved Gas	RSK-175	GC/FID	1, 4
Formaldehyde	EPA 8315A	HPLC	1, 4
Non-Halogenated Organics	EPA 8015C	GC/FID	1, 4
Gluteraldehyde	EPA 8015C	GC/FID	1, 4
GRO	EPA 8015C	GC/FID	1, 4
DRO	EPA 8015C	GC/FID	1, 4
PAH	EPA 8270E	GC/MS	1, 4
Volatile Organics	EPA 624.1, EPA 8260D	GC/MS	1, 4
Organochlorine Pesticides	EPA 608.3, EPA 8081B	GC/ECD	1, 4
Herbicides	EPA 8321B	HPLC	1, 4
Organophosphorus Pesticides	EPA 8270E	GC/MS	1, 4
PCBs	EPA 608.3, EPA 8082A	GC/ECD	1, 4
Extractable Organics	EPA 625.1, EPA 8270E	GC/MS	1, 4
Chlorinated Phenolics	EPA 1653A	GC/MS	1, 4
Fatty Acids	SM 5560D-2019	GC/FID	1, 4
Dioxins/Furans	SGS AXYS Method 16130	GC Triple Quad MS	10
PFAS	SET-PFOA/PFAS-LC/MS60034017MS_NPW	LC Triple Quad MS	9
PFAS	EPA 1633	LC Triple Quad MS	9

**Reactive Cyanide and Sulfide are no longer approved analytical methods.
Note - Method 418.1 for TPH (IR) is no longer an approved analytical method. Total petroleum hydrocarbons are now determined by EPA Methods 1664 or 8015.

Table 3 - Solid and Chemical Waste Parameters

PARAMETER	METHOD	DESCRIPTION	REFERENCE
Amenable Cyanide	EPA 9010C/9014	Gas Evolution	4
Anions	EPA 9056A	IC	4
Chromium VI	EPA 7196A	Colorimetric	4
Corrosivity (pH)	EPA 9040C	calculation	4

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PARAMETER	METHOD	DESCRIPTION	REFERENCE
Extractable Organic Halides (EOX)	EPA 9023	Pyrolysis / microcoulometry	4
Ignitability	EPA 1010B, 1030	Pensky Martens closed cup	4
Oil & grease	EPA 9071B	Gravimetric	4
Paint Filter Liquid Test	EPA 9095B	Gravimetric	4
pH	EPA 9045D	Electrometric	4
Reactive Cyanide**	EPA 7.3.3.2	Gas Evolution	4
Reactive Sulfide**	EPA 7.3.4.2	Gas Evolution	4
Total Cyanide	EPA 9010C/9014	Gas Evolution	4
Total Organic Halides (TOX)	EPA 9020B	Pyrolysis / microcoulometry	4
Total Sulfides	EPA 9030B/9034	Gas Evolution	4
Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311	Manual extraction	4
Metals	EPA 6010D, EPA 6020B	ICP, ICPMS	4
Mercury	EPA 7470A, 7471B	Manual cold vapor	4
Gross-alpha	EPA 9310	Radiochemistry	4
Gross-Beta	EPA 9310	Radiochemistry	4
Radium 228	EPA 9320	Radiochemistry	4
Total Radium	EPA 9315	Radiochemistry	4
Non-Halogenated Organics	8015C	GC/FID	4
Total Petroleum Hydrocarbons (TPH)	TCEQ 1005	GC/FID	1, 4
GRO	EPA 8015C	GC/FID	4
DRO	EPA 8015C	GC/FID	4
PAH	EPA 8270E	GC/MS	4
Volatile Organics	EPA 8260D	GC/MS	4
Organochlorine Pesticides	EPA 8081B	GC/ECD	4
PCBs	EPA 8082A	GC/ECD	4
Herbicides	EPA 8321B	HPLC	4
Extractable Organics	EPA 8270E	GC/MS	4
Oil & Grease	EPA 9071B	Gravimetric	1, 4
Dioxins/Furans	SGS AXYS Method 16130	GC Triple Quad MS	10
PFAS	EPA 1633	LC Triple Quad MS	9
PFAS	SET-PFOA/PFAS-LC/MS60034017MS_Solids	LC Triple Quad MS	9

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Table 4 - Oil Parameters

PARAMETER	METHOD	DESCRIPTION	REFERENCE
Chlorine & Sulfur	EPA 9075	X-ray Fluorescence	4
Chlorine	EPA 9076	Combustion & Microcoulometry	4
Viscosity	ASTM D445	Capillary Viscometer	7
Flash Point	ASTM D92, D93	Pensky Martin	7
Cetane Index	ASTM D1160, D976	Vacuum Distillation	7
% Water	ASTM D6304	Karl Fisher	7
Sulfur & Chlorine	ASTM D4294	XRF	7
BTU	ASTM D240	Bomb Calorimeter	7
Pour Point	ASTM D97	Ice Bath	7
Copper Corrosion	ASTM D130	Water Bath	7
Water and Sediment (BSW)	ASTM D4007	Distillation	7
Color	ASTM D1500	Comparator	7

Table 5 - Organic Sample Preparation

Description	Method	Technique	Reference
TCLP Extraction	SW-846 Method 1311	16-20 Hours Extraction	4
Waste Extraction Test	CA Title 22 W.E.T.	48 Hour Extraction	11
Liquid/Liquid Extraction	SW-846 Method 3510C	Separatory Funnel	4
Micro-Extraction	SW-846 Method 3511	Micro-extraction	4
Solid/Liquid Extraction	SW-846 Method 3540C	Soxhlet Extractor	4
Microwave Extraction	SW-846 Method 3546	Microwave Oven	4
Solid/Liquid Extraction	SW-846 Method 3550B	Sonicator	4
Waste Sample	SW-846 Method 3580A	Waste Dilution	4
Florisil Clean-up	SW-846 Method 3620B	Florisil Column	4
Silica Gel Clean-up	SW-846 Method 3630C	Silica Gel Column	4
Volatile Sample	SW-846 Method 5030A, B & C	Purge and Trap	4
Volatile Sample	SW-846 Method 5035 & 5035A	Closed System Purge and Trap	4

Table 6 - Metal Sample Digestion

Description	Method	Technique	Reference
Total Recoverable Metals	SW-846 Method 3005A	$HCl+HNO_3$ Digestion	4
Total Metals, Aqueous	SW-846 Method 3010A	HNO_3 Digestion	4
Total Metals, Solid	SW-846 Method 3050B	$HNO_3 + H_2O_2$ Digestion	4

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Parameter Table References:

1. "Methods of Chemical Analysis of Water and Wastes". EPA-60014-79-020.
2. "Standard Methods for Examination of Water and Wastewater", Joint Editorial Board, American Public Health Association, 18th – 23nd Editions.
4. "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" USEPA, SW-846, Updates III, IVA, IVB, V & VI.
5. "Test Methods for Chemical Analysis of Municipal and Industrial Wastewater." EPA 600/4-82-057, July 1982.
6. “Methods for the Determination of Organic Compounds in Drinking Water” USEPA, July 1990, et. al.
7. “ASTM International” 100 Barr Harbor Drive, West Conshocken, PA, 19428.
8. “Prescribed Procedures for Measurement of Radioactivity in Drinking Water”, EPA 600/4-80-032, August 1980.
9. Langlois, I. and Oehme, M. “Structural Identification of Isomers Present In Technical Perfluorooctane Sulfonate By Tandem Mass Spectrometry.” Rapid Commun. Mass Spectrom. 2006, 20, 844-850.
10. Alternate Testing Procedure SGS AXYS Method 16130, “Polychlorinated Dibenzo-p-Dioxins (PCDDs) and Polychlorinated Dibenzofuran (PCDFs) by High-Resolution Gas Chromatography/Tandem Mass Spectrometry (HRGC-MS/MS)”, August 2020.
11. Department of Toxic Substances Control (DTSC). "Waste Extraction Test (WET) Procedures," CCR Title 22, Division 4.5, Chapter 11, Article 5, Appendix 2.

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Appendix B: Crosswalk of ISO 17025:2017, DoD/DoE QSM 6.0, and TNI 2016 Requirements to QAM Sections.

TNI 2016 Reference	DOD QSM 6.0 Reference	ISO 17025:2017 Reference	Alliance Technical Group, LLC – Quality Manual Reference
Introduction and Scope (V1M2 Clause 1.0)	Introduction and Scope (Module 2 Clause 1.0)	Introduction and Scope (Clause 1)	Refer section 1
Normative References (V1M2 Clause 2.0)	Normative References (Module 2 Clause 2.0)	Normative Reference (Clause 2)	Refer section 1.3
Terms and Definitions (V1M2 Clause 3.0)	Terms and Definitions (Module 2 Clause 3.0)	Terms and Definitions (Clause 3)	Refer section 1.4
General management requirement for Laboratory (V1M2 Clause 4.1.5)	Impartiality (Module 2 Clause 4.1)	Impartiality (Clause 4.1)	Refer section 2.1
Additional Management System requirement (V1M2 Clause 4.2.8)	Confidentiality (Module 2 Clause 4.2)	Confidentiality (Clause 4.2)	Refer section 2.2
Technical Requirements (V1M2 Clause 5.0)	Structural requirements (Module 2 Clause 5)	Structural requirements (Clause 5)	Refer section 3
Additional Management System requirement (V1M2 Clause 4.2.8.4)	Resource requirement (Module 2 Clause 6.0)	Resource requirement (Clause 6)	Refer section 4
Personnel (V1M2 Clause 5.2)	Personnel (Module 2 Clause 6.2)	Personnel (Clause 6.2)	Refer section 4.1
Accommodation and Environmental Conditions (V1M2 Clause 5.3)	Facilities and environmental conditions (Module 2 Clause 6.3)	Facilities and environmental conditions (Clause 6.3)	Refer section 4.2
Support Equipment (V1M2 Clause 5.5.13.1)	Equipment (Module 2 Clause 6.4)	Equipment (Clause 6.4)	Refer section 4.3
Measurement Traceability (V1M2 Clause 5.6)	Metrological traceability (Module 2 Clause 6.5)	Metrological traceability (Clause 6.5)	Refer section 4.3
Purchasing Services and Supplies (V1M2 Clause 4.6)	Externally provided products and services (Module 2 Clause 6.6)	Externally provided products and services (Clause 6.6)	Refer section 4.4
Management Requirement (V1M2	Process requirements (Module 2 Clause 7)	Process requirements (Clause	Refer section 5

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TNI 2016 Reference	DOD QSM 6.0 Reference	ISO 17025:2017 Reference	Alliance Technical Group, LLC – Quality Manual Reference
Clause 4.0)		7)	
Review of Request, Tenders, and Contracts (V1M2 Clause 4.4)	Review of requests, tenders and contracts (Module 2 Clause 7.1)	Review of requests, tenders and contracts (Clause 7.1)	Refer section 5.1
Environmental Methods and method Validation (V1M2 Clause 5.4)	Section, verification and validation of method (Module 2 Clause 7.2)	Section, verification and validation of method (Clause 7.2)	Refer section 5.2
Collection of Samples (V1M2 Clause 5.7)	Sampling (Module 2 Clause 7.3)	Sampling (Clause 7.3)	Refer section 5.3
Handling Samples and Test Items (V1M2 Clause 5.8)	Handling of test or calibration items (Module 2 Clause 7.4)	Handling of test or calibration items (Clause 7.4)	Refer section 5.4
Technical Records (V1M2 Clause 4.13.2)	Technical Records (Module 2 Clause7.5)	Technical Records (Clause7.5)	Refer section 5.5
Estimation of Analytical Uncertainty (V1M2 Clause 5.4.6)	Evaluation of measurement uncertainty (Module 2 Clause 7.6)	Evaluation of measurement uncertainty (Clause 7.6)	Refer section 5.6
Reporting the Results (V1M2 Clause 5.10)	Ensuring the Validity of results (Module 2 Clause 7.7)	Ensuring the Validity of results (Clause 7.7)	Refer section 5.7
Reporting the Results (V1M2 Clause 5.10)	Reporting of results (Module 2 Clause 7.8)	Reporting of results (Clause 7.8)	Refer section 5.8
Complaints (V1M2 Clause 4.8)	Complaints (Module 2 Clause 7.9)	Complaints (Clause 7.9)	Refer section 5.9
Control of nonconforming Environmental Testing Work (V1M2 Clause 4.9)	Nonconforming work (Module 2 Clause 7.10)	Nonconforming work (Clause 7.10)	Refer section 5.10
Control of Records (V1M2 Clause 4.13)	Control of data and information management (Module 2 Clause 7.11)	Control of data and information management (Clause 7.11)	Refer section 5.11
Management Requirements (V1M2 Clause 4.0)	Management system requirements (Module 2 Clause 8)	Management system requirements (Clause 8)	Refer section 6
Management (V1M2 Clause 4.2)	Management system documentation (Module 2 Clause 8.2)	Management system documentation (Clause 8.2)	Refer section 6.1

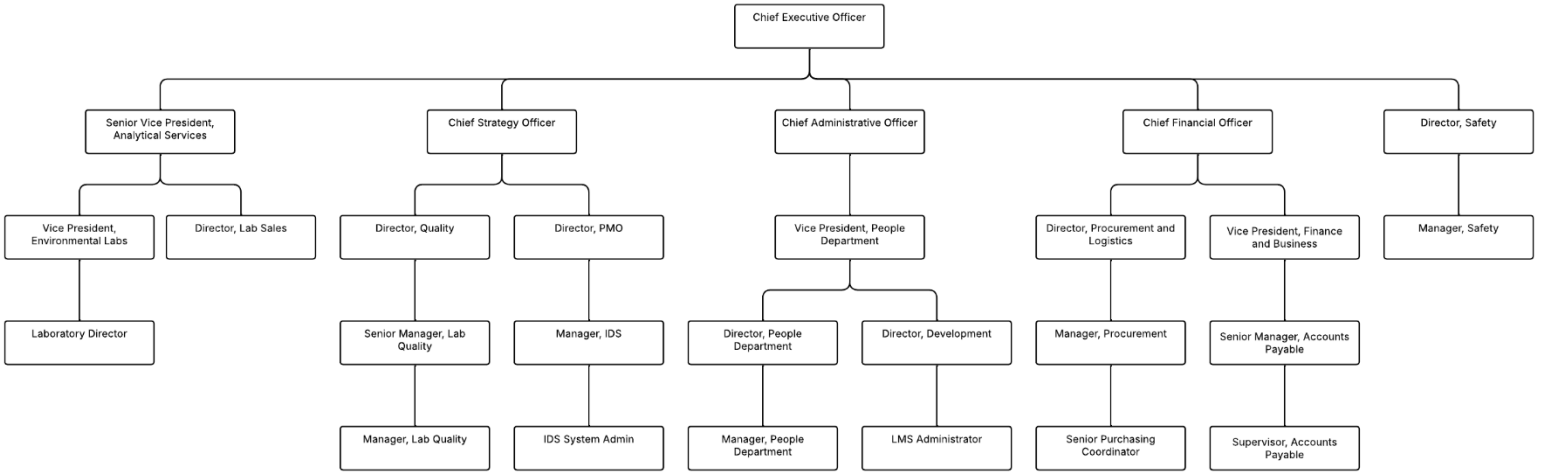
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TNI 2016 Reference	DOD QSM 6.0 Reference	ISO 17025:2017 Reference	Alliance Technical Group, LLC – Quality Manual Reference
Document Control (V1M2 Clause 4.3)	Control of management system documents (Module 2 Clause 8.3)	Control of management system documents (Clause 8.3)	Refer section 6.2
Document Approval and Issue (V1M2 Clause 4.3.2 & 4.3.3)	Control of records (Module 2 Clause 8.4)	Control of records (Clause 8.4)	Refer section 6.3
Preventive Action (V1M2 Clause 4.12)	Actions to address risks and opportunities (Module 2 Clause 8.5)	Actions to address risks and opportunities (Clause 8.5)	Refer section 6.4
Improvement (V1M2 Clause 4.10)	Improvement (Module 2 Clause 8.6)	Improvement (Clause 8.6)	Refer section 6.5
Corrective Action (V1M2 Clause 4.11)	Corrective action (Module 2 Clause 8.7)	Corrective action (Clause 8.7)	Refer section 6.6
Internal Audits (V1M2 Clause 4.14)	Internal audits (Module 2 Clause 8.8)	Internal audits (Clause 8.8)	Refer section 6.7
Management Review (V1M2 Clause 4.15)	Management Review (Module 2 Clause 8.9)	Management Review (Clause 8.9)	Refer section 6.8

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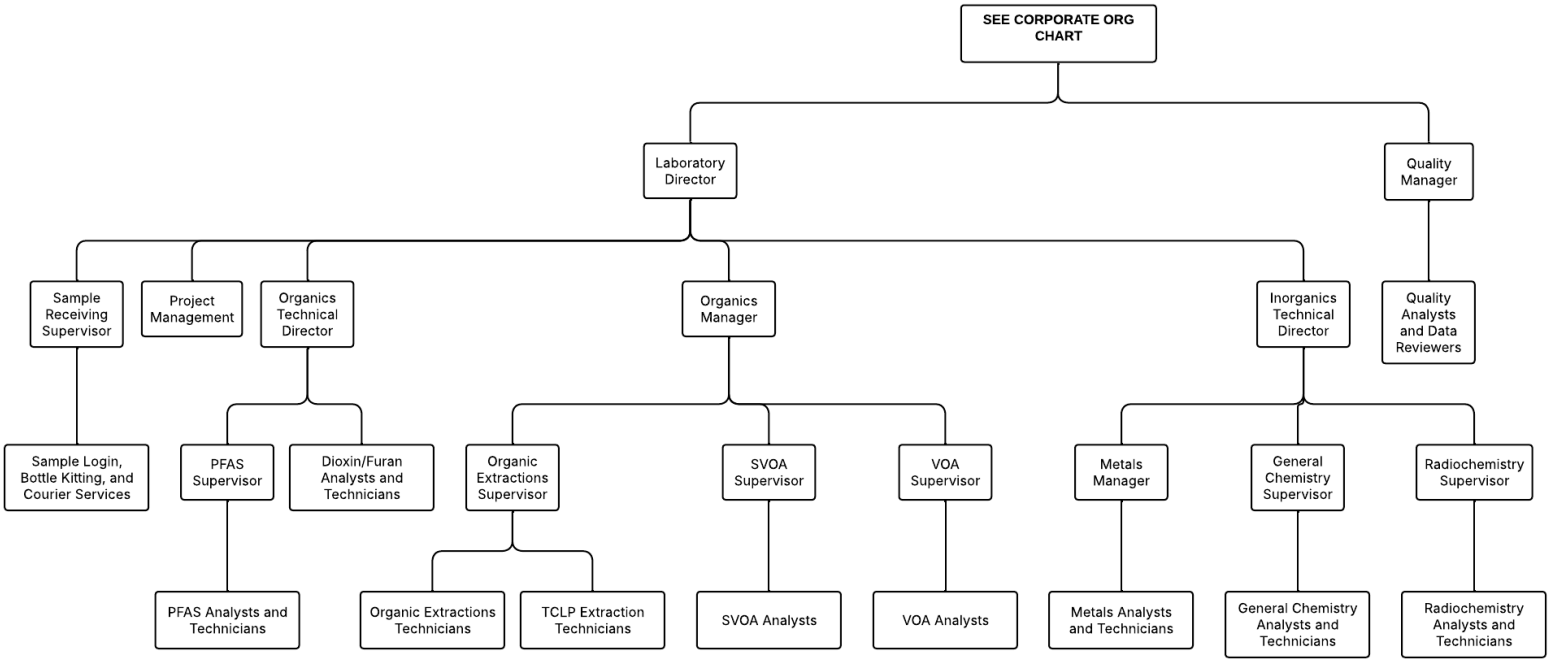
1.31 Appendix C: Organizational Charts. (Corporate and lab-level organizational chart(s), showing reporting structure, names/titles [Lab Name] should replace placeholders with actual names/titles for their organization. Also possibly an example of a responsibilities matrix if needed.)

Corporate Org Chart



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Site-Level Org Chart



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Appendix D: The laboratory maintains a listing of analytical data qualifiers to indicate any abnormal conditions during sample analysis. The following is a listing of common data qualifiers. A complete listing of qualifiers is maintained by Project Management.

U	The compound was analyzed for but not detected above the MDL.
J	The reported value is between the MDL and < RL.
H	Hold time for sample preparation and/or analysis was exceeded. Not CWA compliant.
D	The result is reported from a dilution.
E	The result exceeded the range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound limit.
*	The result exceeds the regulatory limit or Maximum Contamination Limit (MCL).
m	Manual integration was used to determine the area response.
d	Manual integration in which peak was deleted.
N	The result is presumptive based on a Mass Spectral library search.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS analysis was performed.
B	The analyte was detected in the Method Blank at a concentration > RL.
MB+	The analyte was detected in the Method Blank at a concentration > MDL.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
W	Samples were received outside temperature limits (0-6°C). Not CWA compliant.
Z	A deviation from the method was performed, refer to case narrative.

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Appendix E: Floorplan and description of location

Total area of the laboratory is approximately 31,000 square feet.

All activities within the laboratory are segregated as follows:

- Administration and customer service areas
- Sample login
- Bottle preparation
- Chemical storage room
- Sample storage areas
- Metals digestion lab
- Radiochemistry preparation lab
- ICP and ICP-MS Metals analysis lab
- Radiochemistry alpha/beta analysis lab (Ultra Low Level a/ß Counter)
- Radiochemistry gamma analysis lab
- Volatiles analysis labs (GC, GC/MS)
- Semi-Volatiles extraction lab
- Semi-Volatiles analysis lab (GC, GC/MS, HPLC)
- TCLP/SPLP preparation lab
- Low-level mercury lab
- Halide analysis lab
- Dioxin (HRMS), PFAS (LC-Triple Quad) Semi-Volatiles (GC) analysis lab
- Dioxin, PFAS, Semi-Volatiles extraction lab
- Hazardous waste storage area
- Oil analysis lab

Refer to the posted Emergency Evacuation Route for lab layout.

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Appendix F: Equipment List

Instrument	Model	Manufacturer
Gamma Counter Photon Detector	GMX25P4-76-SMN	Ortec
PFAS Auto Extractor	SPE-003 Gen 4	Promochrom
SVOC Auto Extractor	SPE-003 Gen 4	Promochrom
GC w/ purge/trap and AS	Atomx	Teledyne
GC/MS w/ purge/trap and AS (Atomx)	5890/5972	HP
GC/MS	5890/5972	HP
GC/MS	7890/5975	Agilent
GC/MS w/ purge & trap (Atomx)	7890/5977	Agilent
GC/MS	6890N ms 5973	Agilent
GC Triple Quad MS 7010C	8890/G7010C	Agilent
GC/FID/PID w/ purge & trap (Atomx)	5890 Series II	HP
GC/FID	5890 Series II	HP
GC/ECD	5890 Series II	HP
GC/FID	7890A	Agilent
GC/FID	5890 Series II	HP
HPLC	UltiMate 3000	Dionex
HPLC	ICS-1100	Dionex
LC Triple Quad MS	1290 Infinity II/G6495A	Agilent
LC Triple Quad MS	1290 Infinity II/G6495C	Agilent
Separatory Funnel Shaker	3D Shaker	Glas-Col
PFAS Shaker	Orbital Shaker	Ohaus
ICP	5110	Agilent
ICP	iCAP 6000/Cetac ASX-260	Thermo Jarrel Ash
ICP/MS	NEXION 300	Perkin Elmer
Mercury Analyzer	M-7600	CETAC
Low Level Mercury	Series 2600	Tekran
Evaporator	RapidVap N2	Labconco
Evaporator	TurboVap II/LV	Biotage
Evaporator	N-EVAP 111	Organomation
TOC	TOC-L	Shimadzu
Solvent Extractor	ASE200	Dionex
Sonicator	Virsonic 475	VirTis
TPH Analyzer	HC-404	Buck
AOX/EOX Analyzer	multi X 2500	Analytikjena
AOX Extractor	APU28	Analytikjena
Ion Chromatograph	ICS-1100	Dionex
Ion Chromatograph	ICS-2000	Dionex
Ion Chromatograph	ICS-3000	Dionex
Gas Proportional Counters	MPC 9604	Protean
Automatic API/SG/Density Meter	DA-130N	Kyoto Electronics
Bomb Calorimeter	6300	Parr
Bomb Calorimeter	M7576	Parr

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Instrument	Model	Manufacturer
Vacuum Distillation	D1160	B/R Instruments
X-Ray Fluorescence	Spectro 200	Spectro
X-Ray Fluorescence Spectrometer	NexQC	Rigaku
Flash Point Tester	PMA500	Anton Paar
Viscosity Bath	K23702	Koehler
Viscosity Bath	K23700	Koehler
Distillation Unit	K45000	Koehler
Oil Comparator	K13200	Koehler
Karl-Fisher Analyzer	831	Metrohm
Gas Detector	Gas Alert MicroClip XT	BW Technologies
Spectrophotometer	200	Thermo Scientific
Spectrophotometer	UV300	Unicam
Refractometer	ABBE-3L	Thermo Scientific
Aniline Point Apparatus	K10020	Koehler
Viscometer for Dynamic Viscometer	DV-E Viscometer	Brookfield
Dissolved Oxygen Meter	602167	Orion
Automatic pH Meter	Accumet AB150 pH/mV	Fisher Scientific
Ammonia Meter	4Star	Orion
Turbidimeter	2100N4	Hach
Turbidimeter	Aquafast	Orion
Top-Loading Balance	Various	Various
Analytical Balance	Various	Various
Astoria Pacific AQ-2A	AQ-2	Astoria Pacific
Conductivity Meter	Con 510 Series	Oakton
Automatic Flash Point Tester	Petrotest	PMA4
rAPID-T analyzer	4600	Astoria Pacific
UV/VIS Spectrometer Unicam	UV300	Thermo/Spectronic
HPLC	Vanquish-Core	Thermo Scientific
PFAS Auto Extractor	Presto	Promochrom

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Revision History

Revision	Effective Date	Change
26.0	02/17/2026	Initial Issue

Alliance Technical Group, LLC-Akron
3310 Win Street
Cuyahoga Falls, OH 44223
330-253-8211

I have read, understood, and agree to follow all of the policies & directions within the attached document. I will contact and get approval from my Supervisor or Lab Manager if I intend to modify any of these procedures.

#	Employee Signature	#	Employee Signature
1		11	
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Appendix H Proposed Groundwater Monitoring Program

Southern Illinois Power Cooperative

Groundwater Monitoring Plan - Pond 1/2

November 02, 2026

GLA21467997.4465

Document distribution

Southern Illinois Power Cooperative

November 02, 2026

GLA21467997.4465

Prepared for

Southern Illinois Power Cooperative
11543 Lake of Egypt Road
Marion, IL 62959

Submitted to

Illinois Environmental Protection Agency

Prepared by

WSP
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Attachment A Laboratory Reports and Field Forms

Attachment B Data Validation

Attachment C Statistical Evaluation

1. Introduction

This Groundwater Monitoring Plan (GMP) was prepared for Southern Illinois Power Cooperative's (SIPC's) Coal Combustion Residual (CCR) surface impoundment, Pond 1/2, at the Marion Power Plan in Marion, Illinois (Site). The CCR surface impoundment is subject to 40 Code of Federal Regulations (CFR) Part 257 (until the United States Environmental Protection Agency (USEPA) approves the Illinois CCR program in lieu of Part 257), and the corresponding Title 35 of the Illinois Administrative Code (IAC) Part 845. Pond 1 and Pond 2 were formally separated by a berm which was removed in 2021, therefore Pond 1 and Pond 2 are currently considered one CCR surface impoundment (Pond 1/2, Figure 1). This GMP provides the proposed groundwater monitoring program that includes the minimum of eight independent samples for each background and downgradient well in accordance with 35 IAC 845.650.

This GMP includes procedures for establishment of groundwater quality, monitoring frequency, and reporting requirements for Pond 1/2. A complementary document, the Groundwater Sampling and Analysis Plan (SAP; WSP, 2026a) provides the procedures for the operation, maintenance, and sampling of the groundwater monitoring well network at Pond 1/2 as well as the management and evaluation of field and analytical data gathered through the groundwater monitoring program. The SAP also provides information supporting the statistical methods used to evaluate groundwater monitoring data in accordance with 40 CFR §257.93(f)(6) and 35 IAC 845.640(f)(2). The Design and Construction Plan (DCP; WSP, 2026b) provides the technical basis for the groundwater monitoring network and the requisite information upon which the Illinois professional engineer is relying to certify the design and construction of the monitoring well network pursuant to 40 CFR 257.91(f) and 35 IAC 845.630(g).

2. Conceptual site model

The conceptual site model (CSM) for Pond 1/2 is presented in the Hydrogeologic Site Characterization for Pond 1/2 (WSP, 2026c). The CSM was developed using historical site information, subsurface investigations, monitoring well installation data, and literature review to characterize site geology, hydrogeologic conditions, and groundwater flow. The CSM provides the basis for development of the groundwater monitoring network and implementation of the GMP. Selection information from the Hydrogeologic Site Characterization is summarized in the following sections.

2.1 Site geology and hydrogeology

The Site is located in the Shawnee Hills section of the Illinois Basin of the Interior Low Plateaus physiographic region and near the southern extent of glaciation during the Illinois Episode glaciation. The Site's location near the glacial margin is reflected in the distribution of glacial deposits, with evidence of ice-contact erosion and till deposition in lower-elevation areas and limited or absent till along higher-elevation ridges (Grimley et. al, 2020). Younger loess of the Wisconsin Episode glaciation was deposited in the region of the Site, and the loess remains in upland topographic reaches where it has not been removed by erosion. Glacial deposits are underlain by weathered to competent Pennsylvanian-age bedrock of the Tradewater Formation, with the thickess of weathered bedrock varying in part due to erosion associated with glaciation.

A weathered bedrock zone is present at the Site where glacial erosion did not remove the transition between the overlying unconsolidated deposits and competent bedrock. In areas affected by glacial erosion, till was deposited directly over scoured, relatively competent bedrock. In the immediate vicinity of the Site, sandstone of the Tradewater Formation is present at the bedrock surface. No mapped faults or other regional structural features have been identified at or immediately adjacent to the Site that are interpreted to significantly influence Site hydrogeology. In summary, unconsolidated deposits, including loess and till, overlie weathered to competent sandstone bedrock of the Tradewater Formation. The Tradewater Formation exhibits a gentle north-northeastward dip of approximately 1 to 5 degrees toward the structural center of the Illinois Basin (Jacobson, 1992).

The Site is located within the South Fork Saline River/Lake of Egypt watershed (IEPA, 2008). Regional groundwater flow is interpreted to be toward the Lake of Egypt reservoir and the South Fork Saline River and its tributaries, which represent groundwater-discharge features. Pond 1/2 is located west of the Lake of Egypt dam, in an area where groundwater is interpreted to flow primarily north and northeast toward the South Fork Saline River drainage system downstream of the dam.

Based on Site-specific investigations and hydrogeologic measurements, a single hydrostratigraphic unit is evaluated in the vicinity of Pond 1/2, consisting of the saturated unconsolidated materials overlying competent bedrock. Although heterogeneous, these materials are interpreted to form a hydraulically interconnected, unconfined water-bearing unit. The primary zone of groundwater flow may vary laterally

with changes in lithology, including from the partially weathered rock zone in the southern portion of the Site to materials near the upper surface of the clay-rich till in the central and northern portions of the Site. Groundwater-flow directions within this unit are strongly influenced by Site topography, the configuration of the competent bedrock surface, and nearby surface-water features. The observed groundwater-elevation distribution and resulting potentiometric-surface configuration are consistent with these controls and support the interpretation of a single unconsolidated hydrostratigraphic unit under the current CSM.

2.2 Pond 1/2 relationship to the uppermost water-bearing zone

As described in Section 2.1 above, an appropriate groundwater monitoring zone within unconsolidated geologic materials above competent rock was identified for the Site. Under the current CSM, this zone exhibits hydraulic connection to Pond 1/2 and represents a potential migration pathway for CCR constituents. Although this zone was not identified during this phase of work to meet the definition of an uppermost aquifer, it represents the appropriate zone for groundwater monitoring is hereafter referred to as the Uppermost Water-bearing Zone (UWBZ).

Pond 1 and Pond 2 were constructed within the shallow unconsolidated materials described above. Accordingly, the proposed groundwater monitoring network was designed to monitor saturated materials adjacent to and downgradient of the CCR surface impoundment at depths representative of potential migration from the unit, considering the estimated surface water and base elevation of Pond 1/2. As presented in the Hydrogeologic Site Characterization (WSP, 2026c), potentiometric-surface data indicate that groundwater elevations and flow directions in the vicinity of Pond 1/2 are influenced by surface elevations in Pond 1/2 and the adjacent Pond 4 (Figures 2 through 13). Locally, groundwater-flow direction varies from northwest to northeast, depending on location relative to Pond 1/2 and Pond 4 and their surface water elevations. Portions of Pond 1/2 are interpreted to receive groundwater discharge, while other portions, particularly along the northern extent, exhibit hydraulic connection with the UWBZ and a generally north-northeastern groundwater-flow direction. Local groundwater-flow direction varies in response to precipitation and stormwater inflow to Pond 1/2, with observed variations generally corresponding to changes in the surface water elevation in Pond 1/2 (and adjacent Pond 4).

Based on the available groundwater elevation and well construction data, groundwater is generally encountered at depths ranging from approximately 11.0 to 19.5 ft bgs, and the saturated thickness of the UWBZ is approximately 8 to 18 ft. Groundwater elevations observed within the monitoring network range from approximately 496 to 508 ft above the North American Vertical Datum of 1988 (NAVD88).

3. Groundwater monitoring

This GMP is being provided to propose a groundwater monitoring program specific to Pond 1/2 that will comply with 35 IAC 845 regulations. Monitoring systems and programs that apply to other CCR units are not discussed in this GMP. Historically, groundwater monitoring of Pond 1 and Pond 2 (separately or in combination) was not required, and no previous monitoring system exists.

3.1 Well installation and monitoring

In September 2025, six monitoring wells (MW-101 through MW-106) were installed along the perimeter of Pond 1/2 and a seventh monitoring well (MW-109) was installed 625 feet southwest of Pond 1/2. The seven monitoring wells are screened within the UWBZ, comprising heterogenous saturated loess, fill, till, and locally saprolite/partially weathered rock above compotent bedrock. A staff gauge was also installed on the northern end of Pond 1/2 to support water surface elevation monitoring.

Following installation, groundwater elevations were measured on a monthly basis between October 2025 and September 2026 to evaluate groundwater flow conditions and characterize site hydrogeology. Eight groundwater samples were also collected from the monitoring wells to establish background groundwater quality conditions in accordance with 35 IAC Part 845 requirements. Well construction details and boring logs are provided in the DCP (WSP, 2026b).

3.2 Proposed monitoring well system

The proposed monitoring well system summarized in Table 1 includes one background well MW-109 and six downgradient monitoring wells located along the perimeter of Pond 1/2. Well locations and the approximate extent of Pond 1/2 are shown on Figure 1.

The groundwater samples collected from the seven monitoring wells will be used to monitor and evaluate groundwater quality and demonstrate compliance with the groundwater quality standards listed in 35 IAC 845.600(a). The proposed monitoring wells will yield groundwater samples that represent the quality of downgradient groundwater at the CCR surface impoundment boundary (as required by 35 IAC 845.630(a)(2)). Monitoring well purposes and depths are summarized in embedded Table 1 below.

Table 1 – Proposed Monitoring Well System

Well ID	Well Purpose	Screen Depth (ft bgs)
MW-101	Downgradient	22.5 – 27.5
MW-102	Downgradient	21.0 – 26.0
MW-103	Downgradient	24.0 – 29.0
MW-104	Downgradient	24.0 – 29.0
MW-105	Downgradient	20.0 – 25.0
MW-106	Downgradient	24.0 – 29.0
MW-109	Background	16.0 – 21.0

ft bgs = feet below ground surface

3.3 Completed background monitoring events

Prospective monitoring wells installed in accordance with 35 IAC Part 845 were sampled and analyzed during eight background monitoring events conducted between October 2025 and September 2026. The resulting groundwater quality data were used to characterize baseline groundwater conditions and to support selection of the Pond 1/2 groundwater monitoring system. Groundwater samples collected during the background monitoring period were analyzed for all constituents identified in 35 IAC 845.600. The completed background monitoring program provides the baseline groundwater-quality dataset for future compliance monitoring and evaluation of applicable groundwater quality standards.

The eight background rounds were completed within approximately one year of monitoring-system installation. Background monitoring was conducted during eight separate sampling events between October 2025 and September 2026 to characterize groundwater quality conditions and to establish the background dataset for the Pond 1/2 monitoring system. The completed background monitoring events and associated sampling dates are summarized in Table 2 below.

Table 2 – Background Monitoring Event Summary

Background Monitoring Event	Date(s) Completed
Event 1	October 27-28, 2025
Event 2	December 1-3, 2025
Event 3	January 20-21, 2026
Event 4	March 2-3, 2026

Background Monitoring Event	Date(s) Completed
Event 5	April 15-16, 2026
Event 6	June 2-3, 2026
Event 7	July 15, 2026
Event 8	September 2-3, 2026

The analytical results from the eight background sampling events are summarized in Table 3. The corresponding lab reports are provided in Attachment A and data validation summaries are provided in Attachment B.

4. Groundwater elevations and flow evaluation

4.1 Water level monitoring

Following installation, groundwater elevations were measured on a monthly basis between October 2025 and September 2026 to evaluate groundwater flow conditions and characterize site hydrogeology. Depth to water measurements and the corresponding water level elevations are provided in Table 4. Water levels were collected in accordance with the SAP (WSP, 2026a), except for the water levels collected in December 2025, January 2026, March 2026, and April 2026. Due to field oversight, static water levels were not collected prior to sampling during these months. The water levels reported in Table 4 correspond to the pre-purge water levels.

Until Pond 1/2 has been dewatered as part of CCR unit closure activities, the water surface elevation within the CCR unit will be measured at staff gauge SG-P1 during each monthly groundwater monitoring event. The monitoring record will include the observation date, time, staff gauge reading, and calculated water surface elevation. The data will be retained and evaluated in conjunction with the groundwater elevation measurements to support ongoing assessment of site groundwater and surface water conditions. Due to field oversight staff gauge measurements were not collected between November 2025 and August 2026.

4.2 Groundwater flow direction and rate

Groundwater elevations measured during each monitoring event were referenced to NAVD 88. Potentiometric-surface maps prepared from the monthly groundwater-elevation events were used to evaluate groundwater flow direction. Hydraulic gradients were calculated along representative groundwater flow paths. Groundwater flow rates were estimated using site-specific hydraulic conductivity and effective-porosity information and are presented in the Hydrogeologic Site Characterization (WSP, 2026c).

During the background monitoring period, groundwater elevations were collected monthly at each monitoring well within the proposed monitoring well system. Monthly potentiometric surface maps developed for the UWBZ are presented in Figures 2 through 13. These figures were used to evaluate groundwater flow direction, monthly variations in groundwater elevations, and overall groundwater flow conditions within each monitored geologic unit.

5. Background groundwater quality and proposed GWPS

5.1 Statistical evaluation of background groundwater quality

Background groundwater quality was evaluated using the groundwater data collected from MW-109 between October 2025 and September 2026 using the statistical methods described is included in Section 4 of the SAP (WSP, 2026a). The statistical analysis plan has been developed to describe the procedures that will be used to establish background conditions and implement compliance monitoring as necessary and required by 35 IAC 845.640 and 35 IAC 845.650. The statistical analysis plan was prepared in accordance with requirements of 35 IAC 845.640(f) with reference to the acceptable statistical procedures provided in the *Unified Guidance* (USEPA, 2009). The resulting background concentrations are summarized on Table 5. The results from the statistical analysis are provided in Attachment C.

5.1.1 Data Evaluation

WSP assessed the background analytical data for outliers, anomalies, and trends that might be an indication of sampling or analytical error. Outliers and anomalies are generally defined as inconsistently large or small values that can occur because of sampling, laboratory, transportation, or transcription errors, or even by change alone. Significant trends may indicate natural geochemical variability, a source of systematic error, influence of an upgradient/off-site source, or an actual occurrence of the CCR surface impoundment influence upon groundwater quality. Prior to the calculation of statistical limits, WSP used appropriate statistical methods to remove outliers from the dataset and manage trends with detrending routines.

To assess the data for outliers, anomalies, and trends, WSP assessed the data using time vs. concentration graphs and statistical routines included in Sanitas™ statistical analysis software package. Based on these evaluations, WSP identified and removed one outlier from the background dataset. The removed outlier was the September 2026 turbidity result detected at monitoring well MW-109. The result was identified as an outlier and removed from the dataset for the following reasons:

- Statistical testing, including the Dixon outlier test (Attachment C), identified the result as an outlier, and
- Removal of the outlier resulted in a conservative (lower) background limit and corresponding GPS.

WSP evaluated the background data set for trends using Sanitas™ statistical analysis software package (Attachment C). Chloride concentrations detected in the groundwater samples collected from MW-109 show a decreasing trend. All chloride concentrations are below the IAC Part 845 Standard, therefore, the

GPS is equal to the IAC Part 845 Standard. No detrending routines are required. WSP will continue to monitor all trends and apply detrending routines, if applicable, before using these data to calculate GPS.

5.2 Proposed groundwater protection standards

The proposed GPS were established in accordance with 35 IAC 845.600(a) (greater of the background concentration or numerical limit specified in 35 IAC 600(a)(1)). The *Unified Guidance* (USEPA, 2009) and the statistical analysis plan included in Section 4 of the SAP (WSP, 2026a) provide two acceptable approaches for establishing a background-based GPS: a tolerance interval approach or a prediction interval approach. Either of these approaches can be used in all cases except if all values are non-detect, in which case the background-based GPS is set equal to the laboratory reporting limit.

If the background dataset is normally or transformed normally distributed, the statistical analysis plan states that the tolerance interval approach is used. The background-based GPS is based on a 95 percent coverage/95 percent confidence tolerance limit. If the background data are non-normal (even after transformation) then a non-parametric prediction limit interval approach is used. The background-based GPS, including the statistical method used to calculate the limit, are summarized on Table 5.

The results from the statistical analysis of background groundwater data (Table 5) indicate that most background concentrations in the UWBZ are less than the groundwater quality standards listed in 35 IAC 845.600(a)(1). Therefore, for these parameters, the groundwater quality standards listed in 35 IAC 845.600(a)(1) will be applied to the results from the proposed groundwater monitoring system. The exceptions include calcium and turbidity in which there are no 35 IAC 845.600(a)(1) standards. In these instances, the proposed GPS is the background concentration.

Evaluation of the GPS will occur in conjunction with the analysis of groundwater quality results. Background calculations and the resulting concentration may be updated, as appropriate, in accordance with the statistical analysis plan.

6. Groundwater monitoring plan

The proposed groundwater monitoring plan will monitor and evaluate groundwater quality to demonstrate compliance with the groundwater quality standards included in 35 IAC 845.600(a). The groundwater monitoring program will include sampling and analysis procedures that provide an accurate representation of groundwater quality at the background compliance wells as required by 35 IAC 845.630.

6.1 Monitoring system and parameters

The proposed monitoring system will consist of seven groundwater monitoring wells strategically located to evaluate groundwater quality conditions and demonstrate compliance with applicable groundwater quality standards. Groundwater elevations will be measured prior to each sampling event to evaluate groundwater flow conditions and support the preparation of groundwater elevation contour maps. Groundwater samples will be collected in accordance with the sampling schedule presented in Section 5.2 and analyzed for the laboratory and field parameters provided in Table 6 below.

Table 6 – Laboratory and Field Parameters

Parameter Category	Parameters
Field Parameters	Temperature, pH, Specific Conductance, Oxidation-Reduction Potential, Dissolved Oxygen, and Turbidity
Inorganic Constituents	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chloride, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Sulfate, and Thallium
Radionuclides	Radium 226 & 228
General Chemistry	Total Dissolved Solids

6.2 Sample schedule

Groundwater sampling for the proposed monitoring system will initially be performed quarterly according to the schedule provided in Table 7 below.

Table 7 – Quarterly Sampling Schedule

Frequency	Duration
Monthly (groundwater elevations only)	Began: September 2025 Ends: Following the 30-year post closure care period and following Illinois Environmental Protection Agency (IEPA) approval of documentation that groundwater concentrations are below standards in 35 IAC 845.600 and concentrations exceeding background are no increasing and meet requirements in 35 IAC 845.780(c)(2)(B)(i) and (ii).
Quarterly (groundwater quality)	Began: Fourth quarter 2026 Ends: Following the 30-year post closure care period and following IEPA approval of documentation that groundwater concentrations are below standards in 35 IAC 845.600 and concentrations exceeding background are no increasing and meet requirements in 35 IAC 845.780(c)(2)(B)(i) and (ii), or upon IEPA approval of an alternative schedule as allowed by 35 IAC 845.650(b)(4).
Semi-annual (groundwater quality)	Begins: Following 5 years of quarterly groundwater monitoring and IEPA approval of a demonstration that groundwater concentrations are below standards in 35 IAC 845.600 and not exhibiting statistically-significant increasing trends, monitoring effectiveness is not compromised by the semi-annual schedule, and sufficient data has been collected to characterize groundwater. Ends: Following a detection of a statistically-significant increasing trend in groundwater concentrations or an exceedance of the standards in 35 IAC 845.600, the monitoring frequency will return to quarterly. Following the 30-year post closure care period and following IEPA approval of documentation that groundwater concentrations are below standards in 35 IAC 845.600 and concentrations exceeding background are no increasing and meet requirements in 35 IAC 845.780(c)(2)(B)(i) and (ii).

6.3 Groundwater sample collection

Groundwater sampling procedures have been established in the SAP (WSP, 2026a). Quality assurance samples will be collected as described in the SAP. Laboratory analysis will be performed consistent with the requirements of 35 IAC 845.640(j) by a state-certified laboratory using methods approved by IEPA and USEPA. Laboratory requirements are specified in the SAP.

6.4 Groundwater monitoring system maintenance plan

The groundwater monitoring system maintenance plan is described in SAP (WSP, 2026a).

6.5 Statistical Analysis

Statistical analysis will be consistent with the procedures listed in 35 IAC 845.640(f). A statistical analysis plan, included in Section 4 of the SAP (WSP, 2026a), has been developed to summarize the statistical procedures that will be used to evaluate the groundwater results.

6.6 Data reporting

Groundwater monitoring results will be documents and reported in accordance with the applicable requirements of 35 IAC Part 845. Following each groundwater sampling event, the analytical results and supporting data evaluations will be submitted to the IEPA within 60 days after completion of sampling and placed in the facility's operating record. Required information will be posted to the facility's publicly accessible website within 14 days after placement in the operating record.

An Annual Groundwater Monitoring and Corrective Action Report will be prepared to document the status of groundwater monitoring and corrective action program for Pond 1/2. The annual report will summarize groundwater monitoring activities completed during the reporting period, including the monitoring wells sampled, the number and dates of samples collected, groundwater elevation, and analytical results and evaluations, applicable groundwater protection standards, and any changes that are made to the monitoring system or program. The report will also discuss any issues encountered during monitoring, actions taken to address the issues, and status of corrective actions. The report will be submitted annually by January 31st as required by 35 IAC 845.550.

6.7 Compliance with groundwater protection standard

If one or more constituents detected above the GPS and confirmed by immediate resample, to be greater than the GPS in any sampling event, an Alternative Source Demonstrations (ASD) will be evaluated.

6.7.1 Response to an SSL

If an SSL has been triggered, then SIPC must complete the following four actions as described in 40 CFR 257.95(g) and 35 IAC 845.640(d):

1. Prepare a notification identifying the constituents that have exceeded the Pond 1/2 specific GPS. This notification must be placed in the facilities operating record within 30 days of identifying the SSL;

2. Define the nature and extent of the release and any relevant site conditions that may affect the corrective action remedy that is ultimately selected. The characterization must be sufficient to support a complete and accurate assessment of the corrective measures necessary to effectively clean up releases from the CCR Unit and must include at least the following:

    a. Installation of additional monitoring wells to define the contaminant plume.

b. Collect data on the nature and estimated quantity of the material released.

c. Install and sample at least one additional monitoring well at the facility boundary in the direction of the contaminant plume migration;

3. Notify off-site property owners if the contamination plume has migrated off-site on to their property; and

4. If possible, provide an ASD that determines that the SSL is not caused by a release at the facility within 60 days of completing the statistical evaluation. If no ASD can be made and the plume is determined to have come from the CCR unit then initiate corrective action. If a successful ASD is made (i.e., the Agency is in concurrence with the ASD), then groundwater monitoring and statistical evaluation will continue without initiating corrective action.

Actions 1-3 must be completed regardless of whether or not an alternate source demonstration can be made.

6.7.2 Alternative source demonstration

Following detection of an exceedance of the GPS, as ASD will be evaluated and, if completed, submitted to IEPA within 60 days. In accordance with 35 IAC 845.650(e), the ASD will provide lines of evidence that a source other than Pond 1/2 caused the contamination and Pond 1/2 did not contribute to the contamination, or that the exceedance of the GPS resulted from error in sampling, analysis, statistical evaluation, natural variation in groundwater quality, or a change in groundwater flow direction.

The ASD will include information and analysis that supports the conclusions and a certification by a qualified professional engineer. Once the ASD is approved by IEPA, groundwater monitoring will continue as described in this GMP. If the ASD is not approved by IEPA, an assessment of corrective measures (ACM) will be initiated.

6.7.3 Assessment of corrective measures

An ACM will be initiated within 90 days of the detection above the GPS (i.e., completion of the statistical evaluation of 150 days after completion of the groundwater sampling event). In accordance with 35 IAC 845.660(c), at a minimum the ACM will include:

- The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;
- The time required to begin and complete the corrective action plan; and
- The institutional requirements, such as State or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the corrective action plan.

Within one year of completing the ACM, a corrective action plan will be developed to identify the selected remedy in accordance with 35 IAC 845.670.

6.8 Corrective action monitoring

The statistical analysis completed for corrective action monitoring (CAM) will at a minimum meet the requirements of 4 35 IAC 845.640(f) and (g). The details of the CAM program statistical analysis will be described in a unit-specific CAM Plan, prepared in accordance with 35 IAC 845.670.

6.9 Post-closure care period

In accordance with 35 IAC 845.780(c)(2), at the end of the 30-year post-closure care period, groundwater monitoring will continue to be conducted in post-closure care until the groundwater results show the concentrations are:

- Below the GPS; and
- Not increasing for those constituents over background, using the statistical procedures and performance standards in 35 IAC 845.640(f) and (g), provided that:
  - Concentrations have been reduced to the maximum extent feasible; and
  - Concentrations are protective of human health and the environment.

7. References

Illinois Environmental Protection Agency (IEPA). 2008.South Fork Saline – Lake of Eqypt Watershed TMDL Report, June 2008.

Jacobson, R. J., 1992. *Geology of the Goreville Quadrangle, Johnson and Williamson Counties, Illinois.* Illinois State Geological Survey, Bulletin 97, Champaign, Illinois, 32 p.

Grimley, D.A., L.R. Follmer, and W. J. Nelson. 2020. Surficial Geology of Williamson County, Illinois: Illinois State Geological Survey, STATEMAP Williamson County-SG, 1:62,500, report, 11 p., 2020.

United States Environmental Protection Agency (USEPA). 2009. Statistical Analysis for Groundwater Monitoring Data at RCRA Facilities: Unified Guidance, March 2009.

WSP. 2026a. Groundwater Sampling and Analysis Plan, Southern Illinois Power Cooperative Marion Plant, November 2, 2026.

WSP. 2026b. Design and Construction Plan – Pond 1/2, Southern Illinois Power Cooperative Marion Plant, November 2, 2026.

WSP. 2026c. Hydrogeologic Site Characterization – Pond 1/2, Southern Illinois Power Cooperative Marion Plant, November 2, 2026.

Table 3
Pond 1/2 Groundwater Analytical Data
Groundwater Monitoring Plan - Pond 1/2
Southern Illinois Power Cooperative, Marion, Illinois

Sample Location		MW-101								MW-102								
Sample Date		10/28/2025	12/1/2025	1/20/2026	3/3/2026	4/15/2026	6/3/2026	7/15/2026	9/2/2026	10/28/2025	12/2/2025	1/20/2026	3/3/2026	4/15/2026		6/3/2026	7/15/2026	9/2/2026
Sample Type		N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	N
Analyte	**Unit**																	
Antimony	mg/L	< 0.001 U	0.0006 J	< 0.001 U	< 0.001 U	0.0008 BJ	< 0.001 U	< 0.001 U	< 0.001 UB	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0009 BJ	0.0008 BJ	< 0.001 U	< 0.001 U	< 0.001 UB
Arsenic	mg/L	< 0.001 U	0.0004 J	< 0.001 U	< 0.001 U	0.0004 J	0.0004 J	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0005 J	0.0004 J	< 0.001 U	< 0.001 U	0.0006 J
Barium	mg/L	0.0679	0.0781	0.0915	0.109	0.114	0.115	0.106	0.124	0.0430	0.0346	0.0322	0.0294	0.0325	0.0334	0.0297	0.0288	0.0316
Beryllium	mg/L	< 0.001 U	0.0003 J	0.0003 BJ	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 UB	< 0.001 U	< 0.001 U	0.0003 J	0.0003 BJ	< 0.001 U	< 0.001 U	0.0005 J	< 0.001 U	< 0.001 U	< 0.001 U
Boron	mg/L	0.0965	0.0836	0.0606	0.0530	0.0339	0.0322	0.0277	0.0260	0.126	0.0524	0.0534	0.0389	0.0288	0.0281	0.0282	0.0270	0.0275
Cadmium	mg/L	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0003 J	0.0002 J	0.0002 J	0.0002 J	0.0005 J	0.0004 J	< 0.001 U	0.0002 J	0.0003 J
Calcium	mg/L	60.7	65.6	60.9	63.9	60.3 S	62.0	59.8	64.8	174	170	132	112	99.7	103	101	89.7	92.1
Chloride	mg/L	200	186	206	206	194	204	205	205	149	131	144	146	134	135	147	145	141
Chromium	mg/L	0.0009 J	0.0014 J	0.0009 J	< 0.0015 UB	0.0030	0.0027	0.0019	< 0.0015 U	0.0008 J	< 0.0015 U	< 0.0015 U	0.0009 BJ	0.0007 J	0.0011 J	< 0.0015 U	0.0007 J	< 0.0015 U
Cobalt	mg/L	0.0004 J	0.0003 J	0.0001 J	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0013	0.0003 J	0.0008 J	0.0004 J	0.0001 J	0.0002 J	< 0.001 U	0.0003 J	0.0002 J
Fluoride	mg/L	0.40 J	0.45 J	0.51	0.57	0.54	0.56	0.54	0.47 J	0.18 J	0.26 J	0.22 J	0.15 J	0.16 J	0.16 J	0.19 J	0.11 J	0.10 J
Lead	mg/L	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0009 J	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0007 J	0.0009 J	< 0.001 U	< 0.001 U	< 0.001 U
Lithium	mg/L	0.0339	0.0365	0.0365	0.0274	0.0293	0.0314	0.0216	0.0286	0.0055	0.0057	0.0070	0.0040	0.0026 J	0.0046	0.0051	0.0042	0.0038
Mercury	mg/L	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U
Molybdenum	mg/L	0.0035	0.0042	0.0078	0.0022	0.0014 J	0.0016	0.0013 J	0.0013 J	0.0008 J	0.0018	0.0037	0.0015 J	0.0011 J	0.0013 J	0.0010 J	0.0007 J	0.0009 J
pH, field measured	SU	6.79	6.46	7.02	6.81	6.67	6.78	6.68	6.75	6.37	5.50	6.48	6.59	6.54	6.54	6.45	6.28	6.17
Radium 226 + 228	pCi/L	< 2 U	< 2 U	< 2 U	< 2 U	1.31	1.19	0.848	3.85	< 2 U	< 2 U	< 2 U	< 2 U	0.862	0.679	1.11	0.927	1.67
Radium-226	pCi/L	< 0.627 U	< 1 U	< 0.627 U	< 1 U	0.461	0.492	0.205	0.343	< 0.627 U	< 1 U	< 0.627 U	< 1 U	0.19	< 0.162 U	< 0.214 U	< 0.181 U	< 0.337 U
Radium-228	pCi/L	< 0.640 U	< 1 U	< 0.640 U	< 1 U	0.85	< 1.05 UG	< 0.841 U	3.51	< 0.640 U	< 1 U	< 0.640 U	< 1 U	< 0.734 U	< 0.616 U	0.978	< 0.812 U	1.44
Selenium	mg/L	0.0010	0.0009 J	< 0.001 U	< 0.001 U	0.0009 BJ	0.0007 J	< 0.001 U	< 0.001 U	0.0009 J	0.0016	0.0010 J	< 0.001 U	< 0.001 UB	< 0.001 UB	0.0017	0.0055	< 0.001 U
Sulfate	mg/L	123	113	102	106	99.8	106	102	116	735	743	632	581	538	540	541	533	587
Thallium	mg/L	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
Total Dissolved Solids	mg/L	796	780	766	804	796	824	812	816	1520	1550	1370	1250	1210	1210	1360	1270	1170
Turbidity	NTU	5.0	5.1	5.1	4.6	7.0	2.9	9.4	100	2.5	5.4	2.8	4.0	8.7	8.7	1.8	8.4	77

Notes:
FD = field duplicate
mg/L = milligram per liter
N = normal sample
NTU = Nephelometric Turbidity Unit
pCi/L = picocuries per liter
SU = standard pH unit

Qualifiers:
B = Indicates the analyte was detected in the associated method blank.
G = The sample minimum detectable concentration is greater than the requested reporting limit.
J = Indicates the result was detected below quantitation limts.
S = Indicates the spike recovery is outside accepted recovery limits.
U = Indicates the analyte was not detected above the laboratory reporting limit, laboratory reporting limit is provided.

Table 3
Pond 1/2 Groundwater Analytical Data
Groundwater Monitoring Plan - Pond 1/2
Southern Illinois Power Cooperative, Marion, Illinois

Sample Location		MW-103								MW-104									
Sample Date		10/27/2025	12/2/2025	1/20/2026	3/2/2026	4/15/2026	6/3/2026	7/15/2026	9/2/2026	10/27/2025		12/2/2025	1/20/2026		3/2/2026	4/15/2026	6/3/2026	7/15/2026	9/2/2026
Sample Type		N	N	N	N	N	N	N	N	FD	N	N	FD	N	N	N	N	N	N
Analyte	**Unit**																		
Antimony	mg/L	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0008 BJ	< 0.001 U	< 0.001 U	< 0.001 UB	0.0014	0.0012	0.0018	0.0018	0.0017	0.0006 J	0.0114 B	0.0115	0.0113	0.0084 B
Arsenic	mg/L	0.0032	0.0031	0.0035	0.0032	0.0031	0.0051	0.0029	0.0046	0.378	0.371	0.58	0.707	0.675	0.263	2.03	0.848	1.39	1.600
Barium	mg/L	0.0360	0.0399	0.0460	0.0451	0.0466	0.0462	0.0466	0.0496	0.0405	0.0410	0.0381	0.0384	0.0382	0.0377	0.0391	0.0432	0.0404	0.0476
Beryllium	mg/L	< 0.001 U	< 0.001 U	< 0.001 UB	< 0.001 U	0.0003 J	< 0.001 U	< 0.001 UB	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 UB	< 0.001 UB	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U
Boron	mg/L	8.71	8.97	7.65	7.21	7.81	8.3 S	7.79	8.640	5.35	5.50	6.6	6.29	6.19	5.86	6.33	6.61	6.4	7.580
Cadmium	mg/L	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.02 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U
Calcium	mg/L	113	129	105	102	104	106 S	99.1	109	651	666	660	622	617	615	664	684	668	745
Chloride	mg/L	404	386	407	397	373	389	405	406	41.1	42.3	34.7	34.9	34.5	47.9	23.8	25.0	25.0	23.2
Chromium	mg/L	< 0.0015 U	0.0015	< 0.0015 U	< 0.0015 U	0.0015	< 0.0015 U	< 0.0015 U	< 0.0015 U	< 0.0015 U	< 0.0015 U	< 0.03 U	0.0030	0.0031	< 0.0015 U	< 0.0015 U	< 0.0075 U	< 0.0015 UB	< 0.0015 U
Cobalt	mg/L	0.570	0.575	0.537	0.475	0.535	0.588	0.51	0.487	< 0.001 U	< 0.001 U	< 0.02 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0003 J	< 0.005 U	< 0.001 U	< 0.001 U
Fluoride	mg/L	< 0.5 U	0.05 J	0.06 J	0.10 J	0.06 J	0.09 J	0.10 J	< 0.50 U	4.04	4.27	4.16	3.25	3.23	3.58	3.66	4.61	4.61	4.83
Lead	mg/L	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0012	< 0.001 U	< 0.001 U	< 0.001 U	0.0010 J	0.0009 J	0.0008 J	< 0.001 U	< 0.001 U	< 0.001 U	0.0015	0.0018	< 0.001 U	< 0.001 U
Lithium	mg/L	0.0069	0.0078	0.0050	0.0053	0.0052	0.0074	0.0033	0.0074	0.0094	0.0089	0.0065	0.0047	0.0045	0.0037	0.0023 J	< 0.015 U	0.0038	0.0126
Mercury	mg/L	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	0.00007 J	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U
Molybdenum	mg/L	0.0009 BJ	< 0.0015 U	< 0.0015 UB	< 0.0015 U	< 0.0015 U	< 0.0015 U	0.0006 J	< 0.0015 U	0.0545	0.0482	0.022 J	0.0010 J	0.0009 J	0.0174	0.0063	0.0059 J	0.0040	0.0038
pH, field measured	SU	5.75	5.87	5.87	5.91	5.63	5.75	5.85	5.63	8.31	8.31	8.84	9.01	9.01	8.96	9.15	9.22	9.24	9.38
Radium 226 + 228	pCi/L	< 2 U	< 2 U	< 2 U	< 2 U	< 0.928 U	1.28	1.3	0.941	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 0.930 U	< 1.51 U	< 1.56 U	< 1.18 U
Radium-226	pCi/L	< 0.627 U	< 1 U	< 0.627 U	< 1 U	0.228	0.254	0.357	< 0.429 U	< 0.627 U	< 0.627 U	< 1 U	< 0.627 U	< 0.627 U	< 1 U	< 0.246 U	< 0.458 U	< 0.409 U	< 0.524 U
Radium-228	pCi/L	0.65 J	< 1 U	< 0.640 U	< 1 U	< 0.928 U	1.03	< 1.15 UG	0.735	0.66 J	< 0.640 U	< 1 U	< 0.640 U	0.75 J	< 1 U	< 0.930 U	< 1.51 UG	< 1.56 UG	< 1.18 UG
Selenium	mg/L	< 0.001 U	0.0008 J	< 0.001 U	< 0.001 U	< 0.001 UB	0.0009 J	< 0.001 U	0.0007 J	0.0037	0.0038	< 0.02 U	0.0035	0.0037	< 0.005 U	0.0083 B	< 0.005 U	0.0046	0.008 J
Sulfate	mg/L	633	664	593	571	582	585	603	701	1930	1950	1770	1760	1760	1800	1700	1740	1710	1890
Thallium	mg/L	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
Total Dissolved Solids	mg/L	1710	1720	1610	1750	1670	1860	1860	1820	2900	2880	2570	2630	2630	2690	2610	2770	2660	2650
Turbidity	NTU	4.9	6.0	2.6	11	7.8	5.4	9.2	130	4.2	4.2	5.3	4.7	4.7	4.3	3.7	4.0	8.4	100

Notes:
FD = field duplicate
mg/L = milligram per liter
N = normal sample
NTU = Nephelometric Turbidity Unit
pCi/L = picocuries per liter
SU = standard pH unit

Qualifiers:
B = Indicates the analyte was detected in the associated method blank.
G = The sample minimum detectable concentration is greater than the requested reporting limit.
J = Indicates the result was detected below quantitation limts.
S = Indicates the spike recovery is outside accepted recovery limits.
U = Indicates the analyte was not detected above the laboratory reporting limit, laboratory reporting limit is provided.

Table 3
Pond 1/2 Groundwater Analytical Data
Groundwater Monitoring Plan - Pond 1/2
Southern Illinois Power Cooperative, Marion, Illinois

Sample Location		MW-105									MW-106							
Sample Date		10/27/2025	12/3/2025	1/21/2026	3/2/2026	4/15/2026	6/3/2026	7/15/2026		9/3/2026	10/27/2025	12/3/2025	1/21/2026	3/2/2026	4/16/2026	6/3/2026	7/15/2026	9/3/2026
Sample Type		N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N
Analyte	**Unit**																	
Antimony	mg/L	< 0.001 U	< 0.001 UB	< 0.001 U	< 0.001 U	0.0008 BJ	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 UB	< 0.001 US	< 0.001 U	0.0036	< 0.001 U	< 0.001 U	< 0.001 U
Arsenic	mg/L	0.0006 J	< 0.001 U	0.0005 J	< 0.001 U	0.0023	0.0006 J	< 0.001 U	0.0005 J	0.0007 J	< 0.001 U	0.0008 J	0.0019	< 0.001 U	0.0007 J	0.0006 J	0.0006 J	0.0007 J
Barium	mg/L	0.0643	0.0594	0.0449	0.0360	0.0354	0.0296	0.0245	0.0243	0.0255	0.0783	0.0682	0.0573	0.0529	0.0570	0.0489	0.0462	0.0448
Beryllium	mg/L	< 0.001 U	< 0.001 U	0.0004 J	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 UB	< 0.001 U	< 0.001 U	< 0.001 U	0.0003 J	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 UB	< 0.001 U
Boron	mg/L	0.138	0.125	0.0707	0.0524	0.031	0.0209	< 0.02 U	0.01 J	0.015 J	0.0323	0.0349	0.0368	0.0439	0.0312	0.0246	0.019 J	0.0226
Cadmium	mg/L	< 0.001 U	< 0.001 U	0.0002 J	< 0.001 U	0.0002 J	0.0003 J	< 0.001 U	0.0002 J	0.0002 J	< 0.001 U	< 0.001 U	< 0.001 US	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U
Calcium	mg/L	170	181	172	174	163	165	156	155	153	96.8	88.5	82.4 S	88.4 S	88.0	98.1	92.3	97.6
Chloride	mg/L	270	260	262	262	225	226	207	205	187	39.5	39.2	42.1	46.4	46.1	47.7	46.3	41.9
Chromium	mg/L	< 0.0015 U	< 0.0015 U	0.0038	< 0.0015 U	0.0027	< 0.0015 U	0.0027	< 0.0015 U	0.0008 J	0.0012 J	< 0.0015 U	0.0037	< 0.0015 U	0.0018	< 0.0015 U	< 0.0015 U	< 0.0015 U
Cobalt	mg/L	0.0005 J	0.0003 J	< 0.001 U	0.0002 J	0.0005 J	< 0.001 U	0.0003 J	0.0002 J	0.0008 J	0.0005 J	0.0007 J	0.0002 J	< 0.001 U	0.0005 J	< 0.001 U	< 0.001 U	< 0.001 U
Fluoride	mg/L	0.15 J	0.17 J	0.15 J	0.14 J	0.10 J	0.21 J	0.10 J	0.08 J	0.04 J	0.15 J	0.23 J	0.21 J	0.33 J	0.32 J	0.26 J	0.20 J	0.16 J
Lead	mg/L	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0024	< 0.001 U	< 0.001 U	< 0.001 U	0.0025	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 UB
Lithium	mg/L	0.0624	0.0553	0.0494	0.0417	0.0308	0.0432	0.0178	0.0187	0.0294	0.0425	0.0405	0.0391	0.0331	0.0384	0.0482	0.0299	0.0333
Mercury	mg/L	< 0.0002 U	< 0.0002 U	< 0.0002 U	0.00007 J	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U
Molybdenum	mg/L	0.0030	0.0014 J	0.0014 J	0.0006 J	0.0011 J	0.0007 J	0.0007 J	0.0007 J	< 0.0015 U	0.0008 BJ	0.0028	0.0068	0.0029	0.0018	0.0008 J	0.0008 J	0.0008 J
pH, field measured	SU	6.89	6.90	6.75	6.56	6.52	6.22	6.17	6.17	6.06	6.95	6.66	6.95	6.91	6.66	6.56	6.58	6.51
Radium 226 + 228	pCi/L	< 2 U	< 2 U	< 2 U	< 2 U	0.688	< 0.756 U	< 0.938 U	< 0.592 U	< 0.618 U	< 2 U	< 2 U	< 2 U	< 2 U	0.801	< 1.02 U	1.19	< 0.708 U
Radium-226	pCi/L	< 0.627 U	< 1 U	< 0.627 U	< 1 U	0.178	< 0.218 U	< 0.195 U	< 0.197 U	< 0.258 U	< 0.627 U	< 1 U	< 0.627 U	< 1 U	0.208	0.255	0.253	< 0.318 U
Radium-228	pCi/L	< 0.640 U	< 1 U	< 0.640 U	< 1 U	< 0.563 U	< 0.756 U	< 0.938 U	< 0.592 U	< 0.618 U	< 0.640 U	< 1 U	< 0.640 U	< 1 U	< 0.654 U	< 1.02 UG	0.942	< 0.708 U
Selenium	mg/L	0.0015	0.0016	0.0015	0.0007 J	< 0.001 UB	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0008 J	0.0014	0.0021	0.0015	0.0007 BJ	< 0.001 U	0.0015	0.0012
Sulfate	mg/L	671	686	731	777	769	773	764	757	855	468	447	435	447	438	563	516	594
Thallium	mg/L	< 0.002 U	< 0.002 U	0.0014 J	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
Total Dissolved Solids	mg/L	1620	1630	1710	1810	1690	1880	1680	1690	1610	972	946	914	970	944	1260	1060	1010
Turbidity	NTU	4.5	5.4	1.6	5.4	8.7	4.6	6.2	6.2	56	4.4	5.8	3.4	5.8	8.1	2.3	5.0	11

Notes:
FD = field duplicate
mg/L = milligram per liter
N = normal sample
NTU = Nephelometric Turbidity Unit
pCi/L = picocuries per liter
SU = standard pH unit

Qualifiers:
B = Indicates the analyte was detected in the associated method blank.
G = The sample minimum detectable concentration is greater than the requested reporting limit.
J = Indicates the result was detected below quantitation limts.
S = Indicates the spike recovery is outside accepted recovery limits.
U = Indicates the analyte was not detected above the laboratory reporting limit, laboratory reporting limit is provided.

Table 3
Pond 1/2 Groundwater Analytical Data
Groundwater Monitoring Plan - Pond 1/2
Southern Illinois Power Cooperative, Marion, Illinois

Sample Location		MW-109								
Sample Date		10/28/2025	12/3/2025	1/21/2026	3/3/2026	4/16/2026	6/3/2026	7/15/2026	9/3/2026	
Sample Type		N	N	N	N	N	N	N	N	FD
Analyte	**Unit**									
Antimony	mg/L	0.0005 J	< 0.001 UB	< 0.001 U	< 0.001 U	0.0018	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U
Arsenic	mg/L	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0004 J	0.0004 J
Barium	mg/L	0.124	0.138	0.109	0.119	0.124	0.119	0.124	0.127	0.128
Beryllium	mg/L	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0004 J	0.0005 J
Boron	mg/L	0.0306	0.0219	0.0380	0.0262	0.0253	0.016 J	0.011 J	0.011 J	0.012 J
Cadmium	mg/L	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U
Calcium	mg/L	62.6	60.3	54.8	58.4	57.4	55.9	56.4	59.7 S	59.5
Chloride	mg/L	93.8	80.7	81.4	62.4	65.4	64.3	61.9	60.7	62.8
Chromium	mg/L	< 0.0015 U	0.0008 J	0.0051	< 0.0015 U	0.0014 J	< 0.0015 U	< 0.0015 U	< 0.0015 U	< 0.0015 U
Cobalt	mg/L	< 0.001 U	< 0.001 U	< 0.001 U	0.0001 J	0.0002 J	< 0.001 U	0.0001 J	< 0.001 U	0.0001 J
Fluoride	mg/L	0.31 J	0.32 J	0.36 J	0.37 J	0.45 J	0.38 J	0.35 J	0.22 J	0.26 J
Lead	mg/L	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0007 BJ	0.0006 BJ
Lithium	mg/L	0.0058	0.0073	0.0067	0.0060	0.0075	0.0143	0.0114	0.0112	0.0114
Mercury	mg/L	< 0.0002 U	< 0.0002 U	< 0.0002 U	0.00007 J	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U
Molybdenum	mg/L	0.0044	0.0043	0.0079	0.0032	0.0049	0.0033	0.0023	0.0015	0.0015
pH, field measured	SU	7.05	7.58	7.29	7.26	7.07	6.96	7.21	7.15	7.15
Radium 226 + 228	pCi/L	< 2 U	< 2 U	< 2 U	< 2 U	0.981	0.86	0.838	0.565	0.805
Radium-226	pCi/L	< 0.627 U	< 1 U	< 0.627 U	< 1 U	< 0.130 U	0.258	0.218	< 0.250 U	< 0.263 U
Radium-228	pCi/L	0.73 J	< 1 U	< 0.640 U	< 1 U	0.865	0.602	< 0.801 U	0.565	0.727
Selenium	mg/L	< 0.001 U	0.0013	0.0008 J	0.0015	< 0.001 UB	< 0.001 U	0.0007 J	< 0.001 U	< 0.001 U
Sulfate	mg/L	122	127	123	144	129	143	142	155	160
Thallium	mg/L	0.0010 J	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
Total Dissolved Solids	mg/L	626	636	580	556	592	626	624	590	600
Turbidity	NTU	4.1	5.5	4.4	< 1 U	9.2	4.8	5.7	160	160

Notes:
FD = field duplicate
mg/L = milligram per liter
N = normal sample
NTU = Nephelometric Turbidity Unit
pCi/L = picocuries per liter
SU = standard pH unit

Created by: SLG
Checked by: MRS
Reviewed by: DFSC

Qualifiers:
B = Indicates the analyte was detected in the associated method blank.
G = The sample minimum detectable concentration is greater than the requested reporting limit.
J = Indicates the result was detected below quantitation limts.
S = Indicates the spike recovery is outside accepted recovery limits.
U = Indicates the analyte was not detected above the laboratory reporting limit, laboratory reporting limit is provided.

Table 4
Well Construction and Water Level Summary
Groundwater Monitoring Plan - Pond 1/2
Southern Illinois Power Cooperative, Marion, Illinois

Well Construction Information							10/08/2025		11/17/2025		12/01–12/03/2025		01/20–01/21/2026	
Well ID	Easting (ft)	Northing (ft)	Reference Elevation (ft NAVD 88)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Sounded Well Depth (ft btoc)	DTW (ft btoc)	Elevation (ft NAVD 88)	DTW (ft btoc)	Elevation (ft NAVD 88)	DTW (ft btoc)	Elevation (ft NAVD 88)	DTW (ft btoc)	Elevation (ft NAVD 88)
MW-101	804679.65	348462.30	516.32	22.50	27.50	31.55	16.90	499.42	15.40	500.92	16.02	500.30	15.74	500.58
MW-102	804725.69	348748.53	518.11	21.00	26.00	30.10	14.35	503.76	15.60	502.51	15.52	502.59	15.61	502.50
MW-103	804654.26	349065.15	512.34	24.00	29.00	31.94	11.50	500.84	12.50	499.84	13.12	499.22	13.73	498.61
MW-104	804349.67	349098.01	512.52	24.00	29.00	33.85	12.90	499.62	12.20	500.32	12.36	500.16	13.18	499.34
MW-105	804305.74	348721.24	513.44	20.00	25.00	28.83	11.90	501.54	12.00	501.44	11.22	502.22	12.38	501.06
MW-106	804329.60	348498.92	515.94	24.00	29.00	31.85	15.50	500.44	16.00	499.94	16.45	499.49	16.16	499.78
MW-109	803759.39	348533.26	512.55	16.00	21.00	24.98	8.63	503.92	6.60	505.95	6.21	506.34	8.68	503.87
SG-P1	804479.09	349025.26	500.50	NA	NA	NA	0.56	501.06	NM	NM	NM	NM	NM	NM

Notes:
1) Generally, static water levels were collected and provided on this table. However, due to field oversight, static water levels were not collected in December 2025, Janaury 2026, March 2026, and April 2026. For these months, the provided water levels correspond to pre-purge water levels.
DTW = depth to water
ft = feet
ft bgs= feet below ground surface
ft btoc = feet below top of casing
NA = not applicable
NAVD 88 = North American Vertical Datum 1988
NM = not measured due to field oversight, the water level at the staff gauge was not recorded

Table 4
Well Construction and Water Level Summary
Groundwater Monitoring Plan - Pond 1/2
Southern Illinois Power Cooperative, Marion, Illinois

Well Construction Information							02/26/2026		03/02–03/03/2026		04/15–04/16/2026		05/18/2026	
Well ID	Easting (ft)	Northing (ft)	Reference Elevation (ft NAVD 88)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Sounded Well Depth (ft btoc)	DTW (ft btoc)	Elevation (ft NAVD 88)	DTW (ft btoc)	Elevation (ft NAVD 88)	DTW (ft btoc)	Elevation (ft NAVD 88)	DTW (ft btoc)	Elevation (ft NAVD 88)
MW-101	804679.65	348462.30	516.32	22.50	27.50	31.55	15.80	500.52	15.90	500.42	15.24	501.08	15.40	500.92
MW-102	804725.69	348748.53	518.11	21.00	26.00	30.10	15.50	502.61	15.11	503.00	14.97	503.14	15.70	502.41
MW-103	804654.26	349065.15	512.34	24.00	29.00	31.94	13.00	499.34	13.19	499.15	12.90	499.44	13.30	499.04
MW-104	804349.67	349098.01	512.52	24.00	29.00	33.85	12.90	499.62	13.25	499.27	16.30	496.22	14.50	498.02
MW-105	804305.74	348721.24	513.44	20.00	25.00	28.83	12.60	500.84	11.82	501.62	16.71	496.73	15.10	498.34
MW-106	804329.60	348498.92	515.94	24.00	29.00	31.85	16.30	499.64	16.90	499.04	19.54	496.40	19.00	496.94
MW-109	803759.39	348533.26	512.55	16.00	21.00	24.98	9.00	503.55	8.95	503.60	11.06	501.49	9.60	502.95
SG-P1	804479.09	349025.26	500.50	NA	NA	NA	NM	NM	NM	NM	NM	NM	NM	NM

Notes:
1) Generally, static water levels were collected and provided on this table. However, due to field oversight, static water levels were not collected in December 2025, Janaury 2026, March 2026, and April 2026. For these months, the provided water levels correspond to pre-purge water levels.
DTW = depth to water
ft = feet
ft bgs= feet below ground surface
ft btoc = feet below top of casing
NA = not applicable
NAVD 88 = North American Vertical Datum 1988
NM = not measured due to field oversight, the water level at the staff gauge was not recorded

Table 4
Well Construction and Water Level Summary
Groundwater Monitoring Plan - Pond 1/2
Southern Illinois Power Cooperative, Marion, Illinois

Well Construction Information							06/03/2026		07/15/2026		8/10/2026		9/3/2026	
Well ID	Easting (ft)	Northing (ft)	Reference Elevation (ft NAVD 88)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Sounded Well Depth (ft btoc)	DTW (ft btoc)	Elevation (ft NAVD 88)	DTW (ft btoc)	Elevation (ft NAVD 88)	DTW (ft btoc)	Elevation (ft NAVD 88)	DTW (ft btoc)	Elevation (ft NAVD 88)
MW-101	804679.65	348462.30	516.32	22.50	27.50	31.55	15.13	501.19	14.86	501.46	14.50	501.82	14.36	501.96
MW-102	804725.69	348748.53	518.11	21.00	26.00	30.10	15.91	502.20	14.68	503.43	15.10	503.01	16.52	501.59
MW-103	804654.26	349065.15	512.34	24.00	29.00	31.94	14.71	497.63	12.14	500.20	12.00	500.34	11.50	500.84
MW-104	804349.67	349098.01	512.52	24.00	29.00	33.85	11.89	500.63	11.09	501.43	11.30	501.22	11.02	501.50
MW-105	804305.74	348721.24	513.44	20.00	25.00	28.83	12.84	500.60	11.46	501.98	11.80	501.64	12.97	500.47
MW-106	804329.60	348498.92	515.94	24.00	29.00	31.85	15.47	500.47	14.89	501.05	15.00	500.94	14.89	501.05
MW-109	803759.39	348533.26	512.55	16.00	21.00	24.98	7.13	505.42	4.39	508.16	6.50	506.05	8.14	504.41
SG-P1	804479.09	349025.26	500.50	NA	NA	NA	NM	NM	NM	NM	NM	NM	1.00	501.50

Notes:
1) Generally, static water levels were collected and provided on this table. However, due to field oversight, static water levels were not collected in December 2025, Janaury 2026, March 2026, and April 2026. For these months, the provided water levels correspond to pre-purge water levels.
DTW = depth to water
ft = feet
ft bgs= feet below ground surface
ft btoc = feet below top of casing
NA = not applicable
NAVD 88 = North American Vertical Datum 1988
NM = not measured due to field oversight, the water level at the staff gauge was not recorded

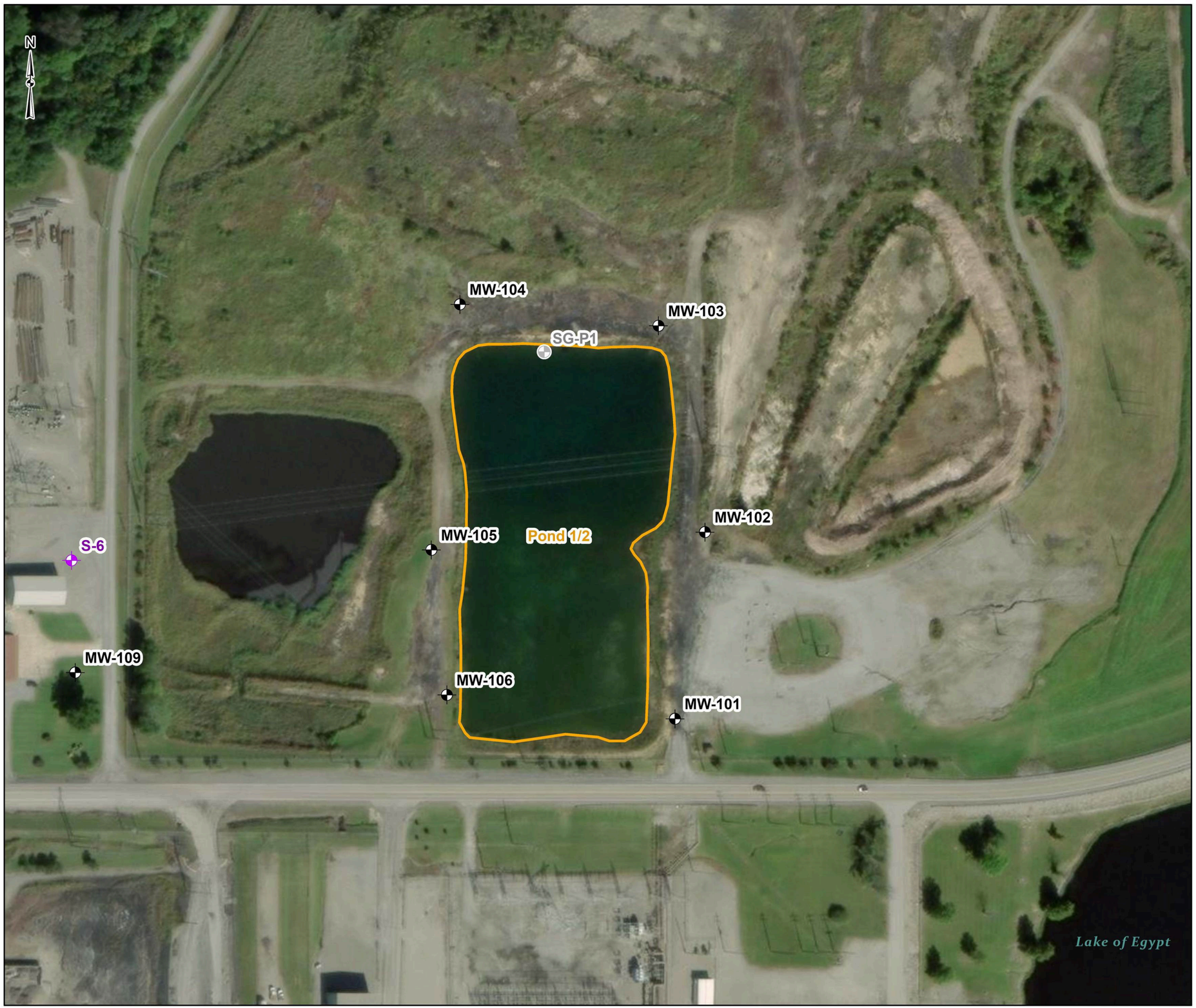
Created by: JDV 10/1/2026
Checked by: SEB 10/5/2026
Reviewed by: DFSC

Table 5
Background Groundwater Quality Statistical Summary
Groundwater Monitoing Plan - Pond 1/2
Southern Illinois Power Cooperative, Marion, Illinois

Parameter	Significant Trend?	Percent Non-Detect	Distribution	Statistical Calculation Method	Background Limit	IAC Part 845 Standard[1]	GPS	Unit
Antimony	No	75%	non-normal	UPL	0.0018	0.0060	0.0060	mg/L
Arsenic	No	87.5%	non-normal	UPL	0.00040	0.010	0.010	mg/L
Barium	No	0%	normal	UTL	0.149	2.0	2.0	mg/L
Beryllium	No	87.5%	non-normal	UPL	0.00045	0.0040	0.0040	mg/L
Boron	No	0%	normal	UTL	0.0526	2.0	2.0	mg/L
Cadmium	No	100%	non-normal	DQR	0.0010	0.0050	0.0050	mg/L
Calcium	No	0%	normal	UTL	66.4	-	66.4	mg/L
Chloride	Yes[2]	0%	non-normal	UPL	93.8	200	200	mg/L
Chromium	No	62.5%	non-normal	UPL	0.0051	0.10	0.10	mg/L
Cobalt	No	50%	non-normal	UPL	0.00020	0.0060	0.0060	mg/L
Combined Radium	No	50%	non-normal	UPL	1.0	5.0	5.0	pCi/L
Fluoride	No	0%	normal	UTL	0.54	4.0	4.0	mg/L
Lead	No	87.5%	non-normal	UPL	0.00065	0.0075	0.0075	mg/L
Lithium	No	0%	normal	UTL	0.0188	0.040	0.040	mg/L
Mercury	No	87.5%	non-normal	UPL	0.000070	0.0020	0.0020	mg/L
Molybdenum	No	0%	normal	UTL	0.010	0.10	0.10	mg/L
pH	No	0%	normal	LTL-UTL	6.48-7.91	6.5-9.0	6.48-9.0	SU
Selenium	No	50%	non-normal	UPL	0.0015	0.050	0.050	mg/L
Sulfate	No	0%	normal	UTL	176	400	400	mg/L
Thallium	No	87.5%	non-normal	UPL	0.0010	0.0020	0.0020	mg/L
Total Dissolved Solids	No	0%	normal	UTL	694	1200	1200	mg/L
Turbidity	No	14.29%	normal	UTL	13.6	-	13.6	NTU

Notes:
1) Groundwater standard provided in 35 IAC 845.600(a)(1).
2) Statistically significant decreasing trend identified for chloride, however, all results are below the IEPA Part 845 Standard. The GPS is equal to the IEPA Part 845 Standard, no detrending routines are required.
Dash (-) = no information available
DQR = double quantification rule
GPS = groundwater protection standard
IAC = Illinois Administrative Code
LTL= lower tolerance limit
mg/L= milligram per liter
NTU= Nephelometric Turbidity Unit
pCi/L = picocuries per liter
SU= standard unit
UPL = upper prediction limit
UTL = upper tolerance limit

Prepared By: JV
Checked By: SLG
Reviewed By: DFSC



LEGEND

- Monitoring Wells
- Staff Gauge
- Piezometer
- Approximate Waste Boundary of Pond 1/2

0 150 300

1 inch equals 150 ft

Feet

NOTE(S)

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: VANTOR
3. MONITORING LOCATIONS ARE BASED ON SURVEY BY INGENAE, LLC (OCTOBER 2025)

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

GROUNDWATER MONITORING PLAN - POND 1/2

TITLE

GROUNDWATER MONITORING WELL LOCATION MAP

CONSULTANT

wsp

YYYY-MM-DD	10/16/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	DSC
APPROVED	JP

PROJECT NO. CONTROL	REV.	FIGURE
GLA21467997.4465	-	1

B:\Southern Illinois Power Cooperative\Marion Power Plant\99 PROJ\21467997 Operations Permit Application\0010 Site wide GWE\0010 gis arcfp gws aprx

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 250 500

1 inch equals 250 ft

Feet

NOTE(S)

1. WATER LEVEL MEASUREMENTS COLLECTED ON OCTOBER 8, 2025.
2. * = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

GROUNDWATER MONITORING PROGRAM - POND 1/2

TITLE

OCTOBER 2025 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO. CONTROL: GLA21467997.4465

REV.: -

FIGURE: 2

B:\Southern_Illinois_Power_Cooperative\Marion_Power_Plant\99_PRO\21467997_Operating_Permit_Application\0011_GWE_2026\0011_GWE_2026.aprx

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)
1. WATER LEVEL MEASUREMENTS COLLECTED ON NOVEMBER 17, 2025.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

GROUNDWATER MONITORING PROGRAM - POND 1/2

TITLE

NOVEMBER 2025 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	3

B:\Southern_Illinois_Power_Cooperative\Marion_Power_Plant\99_PROJ\21467997_Operating_Permit_Application\0011_GWE_2026\0011_GWE_2026.aprx

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)
1. WATER LEVEL MEASUREMENTS COLLECTED ON DECEMBER 2 AND 3, 2025.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

GROUNDWATER MONITORING PROGRAM - POND 1/2

TITLE

DECEMBER 2025 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	4

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)
1. WATER LEVEL MEASUREMENTS COLLECTED ON JANUARY 20 AND 21, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

GROUNDWATER MONITORING PROGRAM - POND 1/2

TITLE

JANUARY 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	5

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

Feet

1 inch equals 165 ft

NOTE(S)

1. WATER LEVEL MEASUREMENTS COLLECTED ON FEBRUARY 26, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

GROUNDWATER MONITORING PROGRAM - POND 1/2

TITLE

FEBRUARY 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	6

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)

1. WATER LEVEL MEASUREMENTS COLLECTED ON MARCH 2 AND 3, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

GROUNDWATER MONITORING PROGRAM - POND 1/2

TITLE

MARCH 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	7

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)
1. WATER LEVEL MEASUREMENTS COLLECTED ON APRIL 15 AND 16, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

GROUNDWATER MONITORING PROGRAM - POND 1/2

TITLE

APRIL 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	8

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)
1. WATER LEVEL MEASUREMENTS COLLECTED ON MAY 18, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

GROUNDWATER MONITORING PROGRAM - POND 1/2

TITLE

MAY 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	9

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0

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LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)
1. ATER LEVEL MEASUREMENTS COLLECTED ON JUNE 3, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

GROUNDWATER MONITORING PROGRAM - POND 1/2

TITLE

JUNE-2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	10

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0

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LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)
1. WATER LEVEL MEASUREMENTS COLLECTED ON JULY 15, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

GROUNDWATER MONITORING PROGRAM - POND 1/2

TITLE

JULY 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	11

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

Feet

1 inch equals 165 ft

NOTE(S)

1. WATER LEVEL MEASUREMENTS COLLECTED ON AUGUST 10, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

GROUNDWATER MONITORING PROGRAM - POND 1/2

TITLE

AUGUST 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	12

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0



LEGEND

- Monitoring Well
- Staff Gauge
- Piezometer
- Inferred Flow Direction
- Groundwater Elevation (1 ft-msl interval)
- Inferred Groundwater Elevation (1 ft-msl interval)
- Approximate Limits of Pond 1/2

0 165 330

1 inch equals 165 ft

Feet

NOTE(S)

1. WATER LEVEL MEASUREMENTS COLLECTED ON SEPTEMBER 3, 2026.
2. NM= NOT MEASURED
3.* = NOT USED FOR CONTOUR INTERPRETATION

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE ILLINOIS EAST FIPS 1201 FEET
2. IMAGERY WORLD IMAGERY: MICROSOFT, VANTOR
3. MONITORING WELL LOCATION DATA RECEIVED FROM SOUTHERN ILLINOIS POWER COOPERATIVE

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE

PROJECT

GROUNDWATER MONITORING PROGRAM - POND 1/2

TITLE

SEPTEMBER 2026 GROUNDWATER ELEVATION CONTOURS

CONSULTANT

wsp

YYYY-MM-DD	10/30/2026
DESIGNED	JV
PREPARED	EM
REVIEWED	JV
APPROVED	DFSC

PROJECT NO.	CONTROL	REV.	FIGURE
GLA21467997.4465		-	13

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

0

Attachment A Laboratory Reports and Field Forms

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 25102435
Monitoring Point: Field Duplicate
Sample ID: 001
Date (s): 10/27/2025

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 53 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 10/27/25 10:55 AM
Static Water Level: 12.38 feet below TOC
Total Depth: 33.68 feet below TOC
Water Column: 21.30 feet

Purging Activities

Purged By: FB Purge Date: 10/27/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 21.3 ft. x 0.022 = 0.47 L x 3 Vol. = 1.41 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.00 L
Physical appearance of purge water: Clear Odor: Moderate Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:55	0.0	130	purge start time						
11:09	1.8	↓	8.30	2,974.00	16.10	7.36	-263.10	4.35	
11:12	2.2		8.31	2,975.00	16.10	7.37	-263.00	4.25	
11:15	2.6		8.31	2,975.00	16.10	7.39	-263.10	4.04	
11:18	3.0		8.31	2,975.00	16.10	7.40	-263.20	4.16	

Sampling Activities

Sampled By: FB Sample Date/Time: 10/27/2025 11:18
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 8.31 pH 2,975.00 Spec. Cond. 16.10 Temp
Field Filtered: No Filter Type:
Water Level: 14.71 feet below TOC Drawdown: 2.33 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210765
- Collected at MW-104

Form Completed By: Date: 10/27/2025

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 25102435
Monitoring Point: MW-103
Sample ID: 002
Date (s): 10/27/2025

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 54 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☐ None ☑ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 10/27/25 11:58 AM
Static Water Level: 12.70 feet below TOC
Total Depth: 31.69 feet below TOC
Water Column: 18.99 feet

Purging Activities

Purged By: FB Purge Date: 10/27/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 18.99 ft. x 0.022 = 0.42 L x 3 Vol. = 1.26 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 6.00 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
11:58	0.0	188	purge start time						
12:21	4.3	↓	5.75	2,361.00	17.40	1.68	-9.70	9.53	
12:24	4.9		5.75	2,361.00	17.40	1.67	-9.70	5.42	
12:27	5.4		5.75	2,363.00	17.40	1.67	-9.80	4.46	
12:30	6.0		5.75	2,364.00	17.40	1.67	-9.80	4.88	

Sampling Activities

Sampled By: FB Sample Date/Time: 10/27/2025 12:30
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 5.75 pH 2,364.00 Spec. Cond. 17.40 Temp
Field Filtered: No Filter Type:
Water Level: 16.18 feet below TOC Drawdown: 3.48 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210765
- Increased turbidity mid-sample

Form Completed By:  **Date:** 10/27/2025

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 25102435
Monitoring Point: MW-104
Sample ID: 003
Date (s): 10/27/2025

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 53 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 10/27/25 10:55 AM
Static Water Level: 12.38 feet below TOC
Total Depth: 33.68 feet below TOC
Water Column: 21.30 feet

Purging Activities

Purged By: FB Purge Date: 10/27/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 21.3 ft. x 0.022 = 0.47 L x 3 Vol. = 1.41 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.00 L
Physical appearance of purge water: Clear Odor: Moderate Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:55	0.0	130	purge start time						
11:09	1.8	↓	8.30	2,974.00	16.10	7.36	-263.10	4.35	
11:12	2.2		8.31	2,975.00	16.10	7.37	-263.00	4.25	
11:15	2.6		8.31	2,975.00	16.10	7.39	-263.10	4.04	
11:18	3.0		8.31	2,975.00	16.10	7.40	-263.20	4.16	

Sampling Activities

Sampled By: FB Sample Date/Time: 10/27/2025 11:18
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 8.31 pH 2,975.00 Spec. Cond. 16.10 Temp
Field Filtered: No Filter Type:
Water Level: 14.71 feet below TOC Drawdown: 2.33 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210765
- Duplicate collected

Form Completed By: Date: 10/27/2025

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 25102435
Monitoring Point: MW-105
Sample ID: 004
Date (s): 10/27/2025

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 53 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 10/27/25 10:22 AM
Static Water Level: 12.61 feet below TOC
Total Depth: 28.65 feet below TOC
Water Column: 16.04 feet

Purging Activities

Purged By: FB Purge Date: 10/27/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 16.04 ft. x 0.022 = 0.35 L x 3 Vol. = 1.05 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 2.50 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:22	0.0	156	purge start time						
10:29	1.1	↓	6.92	2,425.00	17.10	5.27	87.30	5.07	
10:32	1.6		6.90	2,428.00	17.10	5.27	96.20	6.56	
10:35	2.0		6.89	2,429.00	17.10	5.26	98.50	4.58	
10:38	2.5		6.89	2,429.00	17.10	5.25	98.90	4.47	

Sampling Activities

Sampled By: FB Sample Date/Time: 10/27/2025 10:38
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.89 pH 2,429.00 Spec. Cond. 17.10 Temp
Field Filtered: No Filter Type:
Water Level: 20.48 feet below TOC Drawdown: 7.87 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210765

Form Completed By: Date: 10/27/2025

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 25102435
Monitoring Point: MW-106
Sample ID: 005
Date (s): 10/27/2025

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 52 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☐ None ☑ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 10/27/25 9:22 AM
Static Water Level: 15.84 feet below TOC
Total Depth: 31.46 feet below TOC
Water Column: 15.62 feet

Purging Activities

Purged By: FB Purge Date: 10/27/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 15.62 ft. x 0.022 = 0.34 L x 3 Vol. = 1.02 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 6.00 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:36	0.0	176	purge start time						
10:01	4.4	↓	6.95	1,430.00	17.10	5.18	148.90	4.07	
10:04	4.9		6.95	1,429.00	17.10	5.17	148.90	4.39	
10:07	5.5		6.95	1,430.00	17.10	5.17	148.90	4.79	
10:10	6.0		6.95	1,429.00	17.10	5.17	148.90	4.43	

Sampling Activities

Sampled By: FB Sample Date/Time: 10/27/2025 10:10
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.95 pH 1,429.00 Spec. Cond. 17.10 Temp
Field Filtered: No Filter Type:
Water Level: 21.64 feet below TOC Drawdown: 5.80 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210765

Form Completed By: Date: 10/27/2025

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 25102435
Monitoring Point: Equipment Blank
Sample ID: 006
Date (s): 10/28/2025

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Drew Nieters Affiliation: TekLab, Inc.

Weather Conditions

Temp: 54 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☐ None ☑ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured:
Static Water Level: feet below TOC
Total Depth: feet below TOC
Water Column: feet

Purging Activities

Purged By: Purge Date:
Purge Method: Direct Grab Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other

Sampling Activities

Sampled By: FB Sample Date/Time: 10/28/2025 11:30
Sample Method: Direct Sample Sample Equipment: Direct Grab
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: No Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Collected of Dipper-T

Form Completed By: **Date:** 10/28/2025

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 25102435
Monitoring Point: Field Blank
Sample ID: 007
Date (s): 10/28/2025

Field Team Members

Name: Frank Barthol — Affiliation: TekLab, Inc.
Name: Drew Nieters — Affiliation: TekLab, Inc.

Weather Conditions

Temp: 54 °F — Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☐ None ☑ Light ☐ Heavy — Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured:
Static Water Level: feet below TOC
Total Depth: feet below TOC
Water Column: feet

Purging Activities

Purged By: — Purge Date:
Purge Method: Direct Grab — Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: — Odor: — Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other

Sampling Activities

Sampled By: FB — Sample Date/Time: 10/28/2025 11:35
Sample Method: Direct Sample — Sample Equipment: Direct Grab
Sample Parameters: pH — Spec. Cond. — Temp
Field Filtered: No — Filter Type:
Water Level: feet below TOC — Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Collected at MW-109

Form Completed By:  **Date:** 10/28/2025

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 25102435
Monitoring Point: MW-101
Sample ID: 008
Date (s): 10/28/2025

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 53 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 10/28/25 9:22 AM
Static Water Level: 15.02 feet below TOC
Total Depth: 31.11 feet below TOC
Water Column: 16.09 feet

Purging Activities

Purged By: FB Purge Date: 10/28/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 16.09 ft. x 0.022 = 0.35 L x 3 Vol. = 1.05 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.25 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:22	0.0	202	purge start time						
9:34	2.4	↓	6.79	1,391.00	17.50	6.00	112.30	5.81	
9:37	3.0		6.79	1,391.00	17.50	6.00	112.30	4.68	
9:40	3.6		6.79	1,390.00	17.50	6.00	112.30	4.94	
9:43	4.3		6.79	1,390.00	17.50	6.00	112.20	4.95	

Sampling Activities

Sampled By: FB Sample Date/Time: 10/28/2025 9:43
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.79 pH 1,390.00 Spec. Cond. 17.50 Temp
Field Filtered: No Filter Type:
Water Level: 23.32 feet below TOC Drawdown: 8.30 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210765

Form Completed By: Date: 10/28/2025

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-102
Project Location:	Marion, IL	**Sample ID:**	009
W.O. Number (s):	25102435	**Date (s):**	10/28/2025

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 54 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 10/28/25 10:01 AM

Static Water Level: 15.14 feet below TOC

Total Depth: 29.79 feet below TOC

Water Column: 14.65 feet

Purging Activities

Purged By: FB Purge Date: 10/28/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 14.65 ft. x 0.022 = 0.32 L x 3 Vol. = 0.96 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:01	0.0	174	purge start time						
10:12	1.9	↓	6.40	2,181.00	17.40	5.57	127.60	2.56	
10:15	2.4		6.38	2,173.00	17.40	5.55	132.90	2.61	
10:18	3.0		6.37	2,170.00	17.40	5.55	134.10	5.51	
10:21	3.5		6.37	2,167.00	17.40	5.58	134.70	2.50	
10:24	4.0		6.37	2,163.00	17.40	5.59	135.10	2.48	

Sampling Activities

Sampled By: FB Sample Date/Time: 10/28/2025 10:24

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.37 pH 2,163.00 Spec. Cond. 17.40 Temp

Field Filtered: No Filter Type:

Water Level: 22.74 feet below TOC Drawdown: 7.60 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210765

Form Completed By: Date: 10/28/2025

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 25102435
Monitoring Point: MW-109
Sample ID: 010
Date (s): 10/28/2025

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Drew Nieters Affiliation: TekLab, Inc.

Weather Conditions

Temp: 55 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 10/28/25 11:00 AM
Static Water Level: 6.85 feet below TOC
Total Depth: 24.82 feet below TOC
Water Column: 17.97 feet

Purging Activities

Purged By: DN Purge Date: 10/28/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 17.97 ft. x 0.022 = 0.4 L x 3 Vol. = 1.2 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.25 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
11:00	0.0	152	purge start time						
11:19	2.9	↓	7.07	1,038.00	17.30	5.92	88.90	5.61	
11:22	3.3		7.06	1,039.00	17.40	5.99	93.80	4.99	
11:25	3.8		7.06	1,043.00	17.50	6.11	98.50	4.36	
11:28	4.3		7.05	1,046.00	17.60	6.23	101.50	4.11	

Sampling Activities

Sampled By: DN Sample Date/Time: 10/28/2025 11:28
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 7.05 pH 1,046.00 Spec. Cond. 17.60 Temp
Field Filtered: No Filter Type:
Water Level: 9.17 feet below TOC Drawdown: 2.32 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210765

Form Completed By: A Nieters Date: 10/28/2025

Site Samping Event: Groundwater Monitoring
LIMS Workorder: 25102435
Technician(s): FB, DN

Field Calibration Log(s)
SIPC Background- 1st Event

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 210765 Technician(s): Frank Barthol Date: 10/27/2025

pH Standards	LIMS ID	Calibration reading	Date/Time
4.0 Buffer	WC251017A	4.00	10/27/25 9:22
7.0 Buffer	WC251017B	7.00	10/27/25 9:17
10.0 Buffer	WC251017C	10.00	10/27/25 9:27
LCS/CCV (7.0 Buffer)	WC251017D		

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	107107	1412	10/27/25 9:32

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.29	10/27/25 9:34
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading	Date/Time

D.O. Saturation	LIMS ID/Lot#	Reading	Date/Time
100%	N/A		

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-1	LCS	10/27/25 9:35	13.7	7.00	1,412	0.27		
CCV-1	CCV	10/27/25 12:36	14.5	7.06	1,400	0.33		

Comments:

Field Meter ID: Pine 210765 Technician(s): Frank Barthol Date: 10/28/2025

pH Standards	LIMS ID	Calibration reading	Date/Time
4.0 Buffer	WC251017A	4.00	10/28/25 9:06
7.0 Buffer	WC251017B	7.00	10/28/25 9:01
10.0 Buffer	WC251017C	10.00	10/28/25 9:12
LCS/CCV (7.0 Buffer)	WC251017D		

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	107107	1412	10/28/25 9:17

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.33	10/28/25 9:19
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading	Date/Time

D.O. Saturation	LIMS ID/Lot#	Reading	Date/Time
100%	N/A		

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-2	LCS	10/28/25 9:22	14.6	7.00	1,412	0.36		
CCV-2	CCV	10/28/25 11:52	14.5	7.07	1,388	0.44		

Comments:

January 05, 2026

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:

Illinois	100226
Illinois	1004652024-2
Kansas	E-10438
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: Groundwater Monitoring **WorkOrder:** 25102435

Dear Jason McLaurin:

TEKLAB, INC received 10 samples on 10/28/2025 2:34:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Director of Customer Service
(618)344-1004
ehurley@teklabinc.com

Report Contents

Client: Southern Illinois Power Cooperation
Work Order: 25102435
Client Project: Groundwater Monitoring
Report Date: 05-Jan-26

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Quality Control Results	19
Receiving Check List	32
Chain of Custody	Appended

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

Abbr	Definition
*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
NC	Data is not acceptable for compliance purposes
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

Case Narrative

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 25102435
Client Project: Groundwater Monitoring
Report Date: 05-Jan-26

Cooler Receipt Temp: 8.9 °C

An employee of Teklab, Inc. collected the sample(s).

Ra226/228 analyses were performed by Alliance Technical Group - Akron. See attached report for results and QC data.

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville

Address 120 United Drive
Collinsville, IL 62234-7433
Phone (618) 344-1004
Fax
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air

Address 120 United Drive
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2026	Collinsville
Illinois	IEPA	1004652024-2	NELAP	4/30/2026	Collinsville
Kansas	KDHE	E-10438	NELAP	7/31/2026	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2026	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2026	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2026	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2025	Collinsville
Arkansas	ADEQ	88-0966		3/14/2026	Collinsville
Illinois	IDPH	17584		5/31/2025	Collinsville
Iowa	IDNR	430		6/1/2026	Collinsville
Kentucky	KWLCP	KY98050		12/31/2026	Collinsville
Kentucky	KWLCP	KY98006		12/31/2026	Collinsville
Kentucky	UST	0073		1/31/2026	Collinsville
Mississippi	MSDH			4/30/2026	Collinsville
Missouri	MDNR	930		1/31/2028	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

Lab ID: 25102435-001 **Client Sample ID:** Field Duplicate

Matrix: GROUNDWATER **Collection Date:** 10/27/2025 0:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**2900**	mg/L	1	10/28/2025 12:03	R373802
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**4.04**	mg/L	10	10/28/2025 10:57	R373713
Chloride	NELAP	1.00	5.00		**41.1**	mg/L	10	10/28/2025 10:57	R373713
Sulfate	NELAP	0.99	10.0		**1930**	mg/L	10	10/28/2025 10:57	R373713
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.0007	0.0025		**0.0405**	mg/L	1	10/28/2025 14:49	246983
Boron	NELAP	0.0090	0.0200		**5.35**	mg/L	1	10/28/2025 14:49	246983
Calcium	NELAP	0.0350	0.100		**651**	mg/L	1	10/28/2025 14:49	246983
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		**0.0014**	mg/L	5	10/29/2025 18:42	246983
Arsenic	NELAP	0.0004	0.0010		**0.378**	mg/L	5	10/29/2025 18:42	246983
Beryllium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	10/29/2025 18:42	246983
Cadmium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	10/29/2025 18:42	246983
Chromium	NELAP	0.0007	0.0015		**< 0.0015**	mg/L	5	10/29/2025 18:42	246983
Cobalt	NELAP	0.0001	0.0010		**< 0.0010**	mg/L	5	10/29/2025 18:42	246983
Lead	NELAP	0.0006	0.0010	J	**0.0010**	mg/L	5	10/29/2025 18:42	246983
Lithium	*	0.0015	0.0030		**0.0094**	mg/L	5	10/29/2025 18:42	246983
Molybdenum	NELAP	0.0006	0.0015		**0.0545**	mg/L	5	10/30/2025 11:36	246983
Selenium	NELAP	0.0006	0.0010		**0.0037**	mg/L	5	10/29/2025 18:42	246983
Thallium	NELAP	0.0010	0.0020		**< 0.0020**	mg/L	5	10/29/2025 18:42	246983
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		**< 0.00020**	mg/L	1	10/29/2025 11:24	247025
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070
Radium-228	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

Lab ID: 25102435-002 **Client Sample ID:** MW-103

Matrix: GROUNDWATER **Collection Date:** 10/27/2025 12:30

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**12.70**	ft	1	10/27/2025 12:30	R373801
Elevation of groundwater surface	*	0	0		**499.64**	ft	1	10/27/2025 12:30	R373801
Measuring Point Elevation	*	0	0		**512.34**	ft	1	10/27/2025 12:30	R373801
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.60**	gal	1	10/27/2025 12:30	R373801
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**4.9**	NTU	1	10/27/2025 12:30	R373801
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-10**	mV	1	10/27/2025 12:30	R373801
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.364**	mS/cm	1	10/27/2025 12:30	R373801
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**17.4**	°C	1	10/27/2025 12:30	R373801
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**1.67**	mg/L	1	10/27/2025 12:30	R373801
SW-846 9040B FIELD									
pH	*	0	1.00		**5.75**		1	10/27/2025 12:30	R373801
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1710**	mg/L	1	10/28/2025 12:03	R373802
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	10/28/2025 11:10	R373713
Chloride	NELAP	1.00	5.00		**404**	mg/L	10	10/28/2025 11:10	R373713
Sulfate	NELAP	0.99	10.0		**633**	mg/L	10	10/28/2025 11:10	R373713
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.0007	0.0025		**0.0360**	mg/L	1	10/28/2025 14:50	246983
Boron	NELAP	0.0090	0.0200		**8.71**	mg/L	1	10/28/2025 14:50	246983
Calcium	NELAP	0.0350	0.100		**113**	mg/L	1	10/28/2025 14:50	246983
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		**< 0.0010**	mg/L	5	10/29/2025 18:48	246983
Arsenic	NELAP	0.0004	0.0010		**0.0032**	mg/L	5	10/29/2025 18:48	246983
Beryllium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	10/29/2025 18:48	246983
Cadmium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	10/29/2025 18:48	246983
Chromium	NELAP	0.0007	0.0015		**< 0.0015**	mg/L	5	10/29/2025 18:48	246983
Cobalt	NELAP	0.0001	0.0010		**0.570**	mg/L	5	10/29/2025 18:48	246983
Lead	NELAP	0.0006	0.0010		**< 0.0010**	mg/L	5	10/29/2025 18:48	246983
Lithium	*	0.0015	0.0030		**0.0069**	mg/L	5	10/29/2025 18:48	246983
Molybdenum	NELAP	0.0006	0.0015	BJ	**0.0009**	mg/L	5	10/29/2025 18:48	246983
Selenium	NELAP	0.0006	0.0010		**< 0.0010**	mg/L	5	10/29/2025 18:48	246983
Thallium	NELAP	0.0010	0.0020		**< 0.0020**	mg/L	5	10/29/2025 18:48	246983
Contamination present in the MBLK for Mo. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		**< 0.00020**	mg/L	1	10/29/2025 11:27	247025
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070
Radium-228	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

Lab ID: 25102435-003 **Client Sample ID:** MW-104

Matrix: GROUNDWATER **Collection Date:** 10/27/2025 11:18

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**12.38**	ft	1	10/27/2025 11:18	R373801
Elevation of groundwater surface	*	0	0		**500.14**	ft	1	10/27/2025 11:18	R373801
Measuring Point Elevation	*	0	0		**512.52**	ft	1	10/27/2025 11:18	R373801
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**0.80**	gal	1	10/27/2025 11:18	R373801
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**4.2**	NTU	1	10/27/2025 11:18	R373801
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-263**	mV	1	10/27/2025 11:18	R373801
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.975**	mS/cm	1	10/27/2025 11:18	R373801
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**16.1**	°C	1	10/27/2025 11:18	R373801
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**7.40**	mg/L	1	10/27/2025 11:18	R373801
SW-846 9040B FIELD									
pH	*	0	1.00		**8.31**		1	10/27/2025 11:18	R373801
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**2880**	mg/L	1	10/28/2025 12:03	R373802
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**4.27**	mg/L	10	10/28/2025 11:23	R373713
Chloride	NELAP	1.00	5.00		**42.3**	mg/L	10	10/28/2025 11:23	R373713
Sulfate	NELAP	0.99	10.0		**1950**	mg/L	10	10/28/2025 11:23	R373713
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.0007	0.0025		**0.0410**	mg/L	1	10/28/2025 14:50	246983
Boron	NELAP	0.0090	0.0200		**5.50**	mg/L	1	10/28/2025 14:50	246983
Calcium	NELAP	0.0350	0.100		**666**	mg/L	1	10/28/2025 14:50	246983
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		**0.0012**	mg/L	5	10/29/2025 18:54	246983
Arsenic	NELAP	0.0004	0.0010		**0.371**	mg/L	5	10/29/2025 18:54	246983
Beryllium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	10/29/2025 18:54	246983
Cadmium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	10/29/2025 18:54	246983
Chromium	NELAP	0.0007	0.0015		**< 0.0015**	mg/L	5	10/29/2025 18:54	246983
Cobalt	NELAP	0.0001	0.0010		**< 0.0010**	mg/L	5	10/29/2025 18:54	246983
Lead	NELAP	0.0006	0.0010	J	**0.0009**	mg/L	5	10/29/2025 18:54	246983
Lithium	*	0.0015	0.0030		**0.0089**	mg/L	5	10/29/2025 18:54	246983
Molybdenum	NELAP	0.0006	0.0015		**0.0482**	mg/L	5	10/30/2025 12:55	246983
Selenium	NELAP	0.0006	0.0010		**0.0038**	mg/L	5	10/29/2025 18:54	246983
Thallium	NELAP	0.0010	0.0020		**< 0.0020**	mg/L	5	10/29/2025 18:54	246983
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		**< 0.00020**	mg/L	1	10/29/2025 11:29	247025
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070
Radium-228	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

Lab ID: 25102435-004 **Client Sample ID:** MW-105

Matrix: GROUNDWATER **Collection Date:** 10/27/2025 10:38

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**12.61**	ft	1	10/27/2025 10:38	R373801
Elevation of groundwater surface	*	0	0		**500.83**	ft	1	10/27/2025 10:38	R373801
Measuring Point Elevation	*	0	0		**513.44**	ft	1	10/27/2025 10:38	R373801
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**0.70**	gal	1	10/27/2025 10:38	R373801
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**4.5**	NTU	1	10/27/2025 10:38	R373801
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**99**	mV	1	10/27/2025 10:38	R373801
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.429**	mS/cm	1	10/27/2025 10:38	R373801
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**17.1**	°C	1	10/27/2025 10:38	R373801
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**5.25**	mg/L	1	10/27/2025 10:38	R373801
SW-846 9040B FIELD									
pH	*	0	1.00		**6.89**		1	10/27/2025 10:38	R373801
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1620**	mg/L	1	10/28/2025 12:12	R373802
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.15**	mg/L	10	10/28/2025 11:35	R373713
Chloride	NELAP	1.00	5.00		**270**	mg/L	10	10/28/2025 11:35	R373713
Sulfate	NELAP	0.99	10.0		**671**	mg/L	10	10/28/2025 11:35	R373713
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.0007	0.0025		**0.0643**	mg/L	1	10/28/2025 14:55	246983
Boron	NELAP	0.0090	0.0200		**0.138**	mg/L	1	10/28/2025 14:55	246983
Calcium	NELAP	0.0350	0.100		**170**	mg/L	1	10/28/2025 14:55	246983
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		**< 0.0010**	mg/L	5	10/29/2025 18:59	246983
Arsenic	NELAP	0.0004	0.0010	J	**0.0006**	mg/L	5	10/29/2025 18:59	246983
Beryllium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	10/29/2025 18:59	246983
Cadmium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	10/29/2025 18:59	246983
Chromium	NELAP	0.0007	0.0015		**< 0.0015**	mg/L	5	10/29/2025 18:59	246983
Cobalt	NELAP	0.0001	0.0010	J	**0.0005**	mg/L	5	10/29/2025 18:59	246983
Lead	NELAP	0.0006	0.0010		**< 0.0010**	mg/L	5	10/29/2025 18:59	246983
Lithium	*	0.0015	0.0030		**0.0624**	mg/L	5	10/29/2025 18:59	246983
Molybdenum	NELAP	0.0006	0.0015		**0.0030**	mg/L	5	10/30/2025 13:01	246983
Selenium	NELAP	0.0006	0.0010		**0.0015**	mg/L	5	10/29/2025 18:59	246983
Thallium	NELAP	0.0010	0.0020		**< 0.0020**	mg/L	5	10/29/2025 18:59	246983
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		**< 0.00020**	mg/L	1	10/29/2025 11:31	247025
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070
Radium-228	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

Lab ID: 25102435-005 **Client Sample ID:** MW-106

Matrix: GROUNDWATER **Collection Date:** 10/27/2025 10:10

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**15.84**	ft	1	10/27/2025 10:10	R373801
Elevation of groundwater surface	*	0	0		**500.10**	ft	1	10/27/2025 10:10	R373801
Measuring Point Elevation	*	0	0		**515.94**	ft	1	10/27/2025 10:10	R373801
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.60**	gal	1	10/27/2025 10:10	R373801
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**4.4**	NTU	1	10/27/2025 10:10	R373801
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**149**	mV	1	10/27/2025 10:10	R373801
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.429**	mS/cm	1	10/27/2025 10:10	R373801
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**17.1**	°C	1	10/27/2025 10:10	R373801
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**5.17**	mg/L	1	10/27/2025 10:10	R373801
SW-846 9040B FIELD									
pH	*	0	1.00		**6.95**		1	10/27/2025 10:10	R373801
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**972**	mg/L	1	10/28/2025 12:12	R373802
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.15**	mg/L	10	10/28/2025 11:48	R373713
Chloride	NELAP	1.00	5.00		**39.5**	mg/L	10	10/28/2025 11:48	R373713
Sulfate	NELAP	0.99	10.0		**468**	mg/L	10	10/28/2025 11:48	R373713
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.0007	0.0025		**0.0783**	mg/L	1	10/28/2025 14:56	246983
Boron	NELAP	0.0090	0.0200		**0.0323**	mg/L	1	10/28/2025 14:56	246983
Calcium	NELAP	0.0350	0.100		**96.8**	mg/L	1	10/28/2025 14:56	246983
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		**< 0.0010**	mg/L	5	10/29/2025 19:05	246983
Arsenic	NELAP	0.0004	0.0010		**< 0.0010**	mg/L	5	10/29/2025 19:05	246983
Beryllium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	10/29/2025 19:05	246983
Cadmium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	10/29/2025 19:05	246983
Chromium	NELAP	0.0007	0.0015	J	**0.0012**	mg/L	5	10/30/2025 13:47	246983
Cobalt	NELAP	0.0001	0.0010	J	**0.0005**	mg/L	5	10/29/2025 19:05	246983
Lead	NELAP	0.0006	0.0010		**< 0.0010**	mg/L	5	10/29/2025 19:05	246983
Lithium	*	0.0015	0.0030		**0.0425**	mg/L	5	10/29/2025 19:05	246983
Molybdenum	NELAP	0.0006	0.0015	BJ	**0.0008**	mg/L	5	10/29/2025 19:05	246983
Selenium	NELAP	0.0006	0.0010	J	**0.0008**	mg/L	5	10/29/2025 19:05	246983
Thallium	NELAP	0.0010	0.0020		**< 0.0020**	mg/L	5	10/29/2025 19:05	246983
Contamination present in the MBLK for Mo. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		**< 0.00020**	mg/L	1	10/29/2025 11:34	247025
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070
Radium-228	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

Lab ID: 25102435-006 **Client Sample ID:** Equipment Blank

Matrix: GROUNDWATER **Collection Date:** 10/28/2025 11:30

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**< 20**	mg/L	1	10/30/2025 11:06	R373844
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	10/29/2025 17:42	R373797
Chloride	NELAP	1.00	5.00		**ND**	mg/L	10	10/29/2025 17:42	R373797
Sulfate	NELAP	0.99	10.0		**ND**	mg/L	10	10/29/2025 17:42	R373797
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.0007	0.0025		**< 0.0025**	mg/L	1	10/29/2025 18:53	247065
Boron	NELAP	0.0090	0.0200		**< 0.0200**	mg/L	1	10/29/2025 18:53	247065
Calcium	NELAP	0.0350	0.100		**< 0.100**	mg/L	1	10/29/2025 18:53	247065
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		**< 0.0010**	mg/L	5	11/04/2025 14:10	247065
Arsenic	NELAP	0.0004	0.0010		**< 0.0010**	mg/L	5	11/03/2025 17:35	247065
Beryllium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	11/03/2025 17:35	247065
Cadmium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	11/03/2025 17:35	247065
Chromium	NELAP	0.0007	0.0015		**< 0.0015**	mg/L	5	11/03/2025 17:35	247065
Cobalt	NELAP	0.0001	0.0010		**< 0.0010**	mg/L	5	11/03/2025 17:35	247065
Lead	NELAP	0.0006	0.0010		**< 0.0010**	mg/L	5	11/03/2025 17:35	247065
Lithium	*	0.0015	0.0030		**< 0.0030**	mg/L	5	11/03/2025 17:35	247065
Molybdenum	NELAP	0.0006	0.0015	J	**0.0007**	mg/L	5	11/04/2025 14:10	247065
Selenium	NELAP	0.0006	0.0010		**< 0.0010**	mg/L	5	11/03/2025 17:35	247065
Thallium	NELAP	0.0010	0.0020		**< 0.0020**	mg/L	5	11/04/2025 14:10	247065

LCS recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.

Contamination present in the CCB for Tl. Sample results below the reporting limit are reportable per the TNI Standard.

LCS recovered outside upper control limits for Cd. Sample results are below the reporting limit. Data is reportable per the TNI Standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		**< 0.00020**	mg/L	1	10/29/2025 15:58	247083
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070
Radium-228	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

Lab ID: 25102435-007 **Client Sample ID:** Field Blank

Matrix: GROUNDWATER **Collection Date:** 10/28/2025 11:35

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**< 20**	mg/L	1	10/30/2025 11:06	R373844
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	10/29/2025 17:55	R373797
Chloride	NELAP	1.00	5.00		**ND**	mg/L	10	10/29/2025 17:55	R373797
Sulfate	NELAP	0.99	10.0		**ND**	mg/L	10	10/29/2025 17:55	R373797
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.0007	0.0025		**< 0.0025**	mg/L	1	10/29/2025 18:54	247065
Boron	NELAP	0.0090	0.0200		**< 0.0200**	mg/L	1	10/29/2025 18:54	247065
Calcium	NELAP	0.0350	0.100		**< 0.100**	mg/L	1	10/29/2025 18:54	247065
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		**< 0.0010**	mg/L	5	11/04/2025 14:16	247065
Arsenic	NELAP	0.0004	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:32	247065
Beryllium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:32	247065
Cadmium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:32	247065
Chromium	NELAP	0.0007	0.0015		**< 0.0015**	mg/L	5	11/03/2025 18:32	247065
Cobalt	NELAP	0.0001	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:32	247065
Lead	NELAP	0.0006	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:32	247065
Lithium	*	0.0015	0.0030		**< 0.0030**	mg/L	5	11/03/2025 18:32	247065
Molybdenum	NELAP	0.0006	0.0015		**< 0.0015**	mg/L	5	11/04/2025 14:16	247065
Selenium	NELAP	0.0006	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:32	247065
Thallium	NELAP	0.0010	0.0020		**< 0.0020**	mg/L	5	11/04/2025 14:16	247065

LCS recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.

Contamination present in the CCB for Tl. Sample results below the reporting limit are reportable per the TNI Standard.

LCS recovered outside upper control limits for Cd. Sample results are below the reporting limit. Data is reportable per the TNI Standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		**< 0.00020**	mg/L	1	10/29/2025 16:01	247083
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070
Radium-228	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

Lab ID: 25102435-008 **Client Sample ID:** MW-101

Matrix: GROUNDWATER **Collection Date:** 10/28/2025 9:43

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**15.02**	ft	1	10/28/2025 9:43	R373801
Elevation of groundwater surface	*	0	0		**501.30**	ft	1	10/28/2025 9:43	R373801
Measuring Point Elevation	*	0	0		**516.32**	ft	1	10/28/2025 9:43	R373801
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.10**	gal	1	10/28/2025 9:43	R373801
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**5.0**	NTU	1	10/28/2025 9:43	R373801
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**112**	mV	1	10/28/2025 9:43	R373801
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.390**	mS/cm	1	10/28/2025 9:43	R373801
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**17.5**	°C	1	10/28/2025 9:43	R373801
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**6.00**	mg/L	1	10/28/2025 9:43	R373801
SW-846 9040B FIELD									
pH	*	0	1.00		**6.79**		1	10/28/2025 9:43	R373801
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**796**	mg/L	1	10/30/2025 11:06	R373844
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.40**	mg/L	10	10/29/2025 18:08	R373797
Chloride	NELAP	1.00	5.00		**200**	mg/L	10	10/29/2025 18:08	R373797
Sulfate	NELAP	0.99	10.0		**123**	mg/L	10	10/29/2025 18:08	R373797
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.0007	0.0025		**0.0679**	mg/L	1	10/29/2025 18:56	247065
Boron	NELAP	0.0090	0.0200		**0.0965**	mg/L	1	10/29/2025 18:56	247065
Calcium	NELAP	0.0350	0.100		**60.7**	mg/L	1	10/29/2025 18:56	247065
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		**< 0.0010**	mg/L	5	11/04/2025 14:22	247065
Arsenic	NELAP	0.0004	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:38	247065
Beryllium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:38	247065
Cadmium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:38	247065
Chromium	NELAP	0.0007	0.0015	J	**0.0009**	mg/L	5	11/03/2025 18:38	247065
Cobalt	NELAP	0.0001	0.0010	J	**0.0004**	mg/L	5	11/03/2025 18:38	247065
Lead	NELAP	0.0006	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:38	247065
Lithium	*	0.0015	0.0030		**0.0339**	mg/L	5	11/03/2025 18:38	247065
Molybdenum	NELAP	0.0006	0.0015		**0.0035**	mg/L	5	11/04/2025 14:22	247065
Selenium	NELAP	0.0006	0.0010		**0.0010**	mg/L	5	11/03/2025 18:38	247065
Thallium	NELAP	0.0010	0.0020		**< 0.0020**	mg/L	5	11/04/2025 14:22	247065

LCS recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.
Contamination present in the CCB for Tl. Sample results below the reporting limit are reportable per the TNI Standard.
LCS recovered outside upper control limits for Cd. Sample results are below the reporting limit. Data is reportable per the TNI Standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		**< 0.00020**	mg/L	1	10/29/2025 16:08	247083
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070

Client: Southern Illinois Power Cooperation
Work Order: 25102435
Client Project: Groundwater Monitoring
Report Date: 05-Jan-26
Lab ID: 25102435-008
Client Sample ID: MW-101
Matrix: GROUNDWATER
Collection Date: 10/28/2025 9:43

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-228	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

Lab ID: 25102435-009 **Client Sample ID:** MW-102

Matrix: GROUNDWATER **Collection Date:** 10/28/2025 10:24

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**15.14**	ft	1	10/28/2025 10:24	R373801
Elevation of groundwater surface	*	0	0		**502.97**	ft	1	10/28/2025 10:24	R373801
Measuring Point Elevation	*	0	0		**518.11**	ft	1	10/28/2025 10:24	R373801
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.10**	gal	1	10/28/2025 10:24	R373801
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**2.5**	NTU	1	10/28/2025 10:24	R373801
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**135**	mV	1	10/28/2025 10:24	R373801
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.163**	mS/cm	1	10/28/2025 10:24	R373801
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**17.4**	°C	1	10/28/2025 10:24	R373801
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**5.59**	mg/L	1	10/28/2025 10:24	R373801
SW-846 9040B FIELD									
pH	*	0	1.00		**6.37**		1	10/28/2025 10:24	R373801
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1520**	mg/L	1	10/30/2025 11:06	R373844
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.18**	mg/L	10	10/29/2025 18:20	R373797
Chloride	NELAP	1.00	5.00		**149**	mg/L	10	10/29/2025 18:20	R373797
Sulfate	NELAP	0.99	10.0		**735**	mg/L	10	10/29/2025 18:20	R373797
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.0007	0.0025		**0.0430**	mg/L	1	10/29/2025 18:57	247065
Boron	NELAP	0.0090	0.0200		**0.126**	mg/L	1	10/29/2025 18:57	247065
Calcium	NELAP	0.0350	0.100		**174**	mg/L	1	10/29/2025 18:57	247065
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		**< 0.0010**	mg/L	5	11/04/2025 14:27	247065
Arsenic	NELAP	0.0004	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:43	247065
Beryllium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:43	247065
Cadmium	NELAP	0.0002	0.0010	J	**0.0003**	mg/L	5	11/03/2025 18:43	247065
Chromium	NELAP	0.0007	0.0015	J	**0.0008**	mg/L	5	11/03/2025 18:43	247065
Cobalt	NELAP	0.0001	0.0010		**0.0013**	mg/L	5	11/03/2025 18:43	247065
Lead	NELAP	0.0006	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:43	247065
Lithium	*	0.0015	0.0030		**0.0055**	mg/L	5	11/03/2025 18:43	247065
Molybdenum	NELAP	0.0006	0.0015	J	**0.0008**	mg/L	5	11/04/2025 14:27	247065
Selenium	NELAP	0.0006	0.0010	J	**0.0009**	mg/L	5	11/03/2025 18:43	247065
Thallium	NELAP	0.0010	0.0020		**< 0.0020**	mg/L	5	11/04/2025 14:27	247065

LCS recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.
Contamination present in the CCB for Tl. Sample results below the reporting limit are reportable per the TNI Standard.
LCS recovered outside upper control limits for Cd. Sample results are below the reporting limit. Data is reportable per the TNI Standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		**< 0.00020**	mg/L	1	10/29/2025 16:10	247083
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070

Client: Southern Illinois Power Cooperation
Work Order: 25102435
Client Project: Groundwater Monitoring
Report Date: 05-Jan-26
Lab ID: 25102435-009
Client Sample ID: MW-102
Matrix: GROUNDWATER
Collection Date: 10/28/2025 10:24

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-228	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

Lab ID: 25102435-010 **Client Sample ID:** MW-109

Matrix: GROUNDWATER **Collection Date:** 10/28/2025 11:28

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**6.85**	ft	1	10/28/2025 11:28	R373801
Elevation of groundwater surface	*	0	0		**505.70**	ft	1	10/28/2025 11:28	R373801
Measuring Point Elevation	*	0	0		**512.55**	ft	1	10/28/2025 11:28	R373801
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.10**	gal	1	10/28/2025 11:28	R373801
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**4.1**	NTU	1	10/28/2025 11:28	R373801
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**102**	mV	1	10/28/2025 11:28	R373801
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.046**	mS/cm	1	10/28/2025 11:28	R373801
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**17.6**	°C	1	10/28/2025 11:28	R373801
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**6.23**	mg/L	1	10/28/2025 11:28	R373801
SW-846 9040B FIELD									
pH	*	0	1.00		**7.05**		1	10/28/2025 11:28	R373801
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**626**	mg/L	1	10/30/2025 11:06	R373844
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.31**	mg/L	10	10/29/2025 18:58	R373797
Chloride	NELAP	1.00	5.00		**93.8**	mg/L	10	10/29/2025 18:58	R373797
Sulfate	NELAP	0.99	10.0		**122**	mg/L	10	10/29/2025 18:58	R373797
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.0007	0.0025		**0.124**	mg/L	1	10/29/2025 19:07	247065
Boron	NELAP	0.0090	0.0200		**0.0306**	mg/L	1	10/29/2025 19:07	247065
Calcium	NELAP	0.0350	0.100		**62.6**	mg/L	1	10/29/2025 19:07	247065
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010	J	**0.0005**	mg/L	5	11/04/2025 15:42	247065
Arsenic	NELAP	0.0004	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:49	247065
Beryllium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:49	247065
Cadmium	NELAP	0.0002	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:49	247065
Chromium	NELAP	0.0007	0.0015		**< 0.0015**	mg/L	5	11/03/2025 18:49	247065
Cobalt	NELAP	0.0001	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:49	247065
Lead	NELAP	0.0006	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:49	247065
Lithium	*	0.0015	0.0030		**0.0058**	mg/L	5	11/03/2025 18:49	247065
Molybdenum	NELAP	0.0006	0.0015		**0.0044**	mg/L	5	11/05/2025 10:52	247065
Selenium	NELAP	0.0006	0.0010		**< 0.0010**	mg/L	5	11/03/2025 18:49	247065
Thallium	NELAP	0.0010	0.0020	J	**0.0010**	mg/L	5	11/05/2025 10:52	247065
LCS recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
LCS recovered outside upper control limits for Cd. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		**< 0.00020**	mg/L	1	10/29/2025 16:17	247083
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070
Radium-228	*	0	0		**See Attached**	pci/L	1	12/23/2025 13:52	R377070

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

STANDARD METHODS 2510 B FIELD

Batch R373801 **SampType:** LCS Units **mS/cm**
SampID: LCS-1

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.412**	1.412	0	100.0	90	110	10/27/2025

Batch R373801 **SampType:** LCS Units **mS/cm**
SampID: LCS-2

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.412**	1.412	0	100.0	90	110	10/28/2025

SW-846 9040B FIELD

Batch R373801 **SampType:** LCS Units
SampID: LCS-1

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.00**	7.000	0	100.0	98.57	101.4	10/27/2025

Batch R373801 **SampType:** LCS Units
SampID: LCS-2

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.00**	7.000	0	100.0	98.57	101.4	10/28/2025

STANDARD METHODS 2540 C (TOTAL) 2020

Batch R373802 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	10/28/2025
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	10/28/2025
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	10/28/2025

Batch R373802 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**254**	250.0	0	101.6	90	110	10/28/2025
Total Dissolved Solids		20		**240**	250.0	0	96.0	90	110	10/28/2025
Total Dissolved Solids		20		**252**	250.0	0	100.8	90	110	10/28/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

STANDARD METHODS 2540 C (TOTAL) 2020

Batch R373802 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 25102435-004ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**1640**				1622	0.98	10/28/2025

Batch R373802 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 25100456-019ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**596**				602.0	1.00	10/28/2025

Batch R373802 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 25102260-002ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**1050**				1058	0.76	10/28/2025

Batch R373844 **SampType:** MBLK Units **mg/L**

SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	10/29/2025
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	10/30/2025

Batch R373844 **SampType:** LCS Units **mg/L**

SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**264**	250.0	0	105.6	90	110	10/29/2025
Total Dissolved Solids		20		**244**	250.0	0	97.6	90	110	10/30/2025

Batch R373844 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 25100456-024ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		40		**3860**				3892	0.72	10/29/2025

Batch R373844 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 25102444-001ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**550**				550.0	0.00	10/30/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R373713 **SampType:** MBLK Units **mg/L**
SampID: MBLK/ICB

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**	0.0040	0	0	0	100	10/28/2025
Chloride		0.50		**ND**	0.1000	0	0	0	100	10/28/2025
Sulfate		1.00		**ND**	0.0990	0	0	0	100	10/28/2025

Batch R373713 **SampType:** LCS Units **mg/L**
SampID: LCS/ICV/QCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**1.02**	1.000	0	102.2	90	110	10/28/2025
Chloride		0.50		**21.1**	20.00	0	105.4	90	110	10/28/2025
Sulfate		1.00		**19.4**	20.00	0	96.8	90	110	10/28/2025

Batch R373713 **SampType:** MS Units **mg/L**
SampID: 25100456-049BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.3**	10.00	0.2590	100.7	80	120	10/28/2025
Chloride		5.00		**249**	200.0	39.01	105.0	80	120	10/28/2025
Sulfate		10.0		**501**	200.0	299.7	100.6	80	120	10/28/2025

Batch R373713 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 25100456-049BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.3**	10.00	0.2590	100.0	10.32	0.67	10/28/2025
Chloride		5.00		**247**	200.0	39.01	103.9	248.9	0.85	10/28/2025
Sulfate		10.0		**495**	200.0	299.7	97.9	500.8	1.08	10/28/2025

Batch R373713 **SampType:** MS Units **mg/L**
SampID: 25100456-051AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.98**	10.00	0.2190	97.6	80	120	10/28/2025
Chloride		5.00		**749**	200.0	527.9	110.4	80	120	10/28/2025
Sulfate		10.0		**2870**	200.0	2689	92.9	80	120	10/28/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R373713 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25100456-051AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.98**	10.00	0.2190	97.7	9.975	0.10	10/28/2025
Chloride		5.00		**749**	200.0	527.9	110.5	748.7	0.03	10/28/2025
Sulfate		10.0		**2880**	200.0	2689	93.3	2875	0.02	10/28/2025

Batch R373713 **SampType:** MS Units **mg/L**

SampID: 25100456-070AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.6**	10.00	0.4890	101.4	80	120	10/28/2025
Chloride		5.00		**261**	200.0	45.86	107.4	80	120	10/28/2025
Sulfate		10.0		**1470**	200.0	1257	106.2	80	120	10/28/2025

Batch R373713 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25100456-070AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.5**	10.00	0.4890	100.2	10.63	1.14	10/28/2025
Chloride		5.00		**258**	200.0	45.86	106.0	260.7	1.11	10/28/2025
Sulfate		10.0		**1460**	200.0	1257	102.5	1469	0.49	10/28/2025

Batch R373713 **SampType:** MS Units **mg/L**

SampID: 25102439-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.23**	10.00	0.1540	90.8	80	120	10/28/2025
Chloride		5.00		**263**	200.0	47.58	107.7	80	120	10/28/2025
Sulfate		10.0		**233**	200.0	39.75	96.5	80	120	10/28/2025

Batch R373713 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25102439-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.08**	10.00	0.1540	89.2	9.233	1.69	10/28/2025
Chloride		5.00		**260**	200.0	47.58	106.3	263.0	1.09	10/28/2025
Sulfate		10.0		**230**	200.0	39.75	95.0	232.7	1.28	10/28/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R373797 **SampType:** MBLK Units **mg/L**
SampID: MBLK/ICB

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**	0.0040	0	0	0	100	10/29/2025
Chloride		0.50		**ND**	0.1000	0	0	0	100	10/29/2025
Sulfate		1.00		**ND**	0.0990	0	0	0	100	10/29/2025

Batch R373797 **SampType:** LCS Units **mg/L**
SampID: LCS/ICV/QCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**1.02**	1.000	0	102.2	90	110	10/29/2025
Chloride		0.50		**21.1**	20.00	0	105.3	90	110	10/29/2025
Sulfate		1.00		**19.4**	20.00	0	96.9	90	110	10/29/2025

Batch R373797 **SampType:** MS Units **mg/L**
SampID: 25100456-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.1**	10.00	0.3400	97.9	80	120	10/29/2025
Chloride		5.00		**226**	200.0	16.14	105.1	80	120	10/29/2025
Sulfate		10.0		**1480**	200.0	1267	105.9	80	120	10/29/2025

Batch R373797 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 25100456-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.0**	10.00	0.3400	96.7	10.13	1.16	10/29/2025
Chloride		5.00		**224**	200.0	16.14	103.9	226.3	1.07	10/29/2025
Sulfate		10.0		**1480**	200.0	1267	106.2	1478	0.04	10/29/2025

Batch R373797 **SampType:** MS Units **mg/L**
SampID: 25102425-001BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.0**	10.00	0.2100	98.3	80	120	10/29/2025
Chloride		5.00		**257**	200.0	46.09	105.3	80	120	10/29/2025
Sulfate		10.0		**272**	200.0	80.52	95.9	80	120	10/29/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R373797 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25102425-001BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.0**	10.00	0.2100	98.0	10.04	0.31	10/29/2025
Chloride		5.00		**256**	200.0	46.09	104.8	256.7	0.39	10/29/2025
Sulfate		10.0		**271**	200.0	80.52	95.2	272.2	0.51	10/29/2025

Batch R373797 **SampType:** MS Units **mg/L**

SampID: 25102435-009AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.0**	10.00	0.1840	98.4	80	120	10/29/2025
Chloride		5.00		**368**	200.0	149.1	109.4	80	120	10/29/2025
Sulfate		10.0		**940**	200.0	735.4	102.2	80	120	10/29/2025

Batch R373797 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25102435-009AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.1**	10.00	0.1840	98.7	10.03	0.27	10/29/2025
Chloride		5.00		**369**	200.0	149.1	109.9	367.8	0.26	10/29/2025
Sulfate		10.0		**942**	200.0	735.4	103.2	939.8	0.21	10/29/2025

Batch R373797 **SampType:** MS Units **mg/L**

SampID: 25102444-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**2.12**	2.000	0.2014	95.8	80	120	10/30/2025
Chloride		1.00		**69.2**	40.00	24.44	111.9	80	120	10/30/2025
Sulfate		2.00		**147**	40.00	104.4	106.2	80	120	10/30/2025

Batch R373797 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25102444-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		**2.07**	2.000	0.2014	93.7	2.116	2.00	10/30/2025
Chloride		1.00		**68.4**	40.00	24.44	109.8	69.21	1.24	10/30/2025
Sulfate		2.00		**146**	40.00	104.4	104.3	146.9	0.51	10/30/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R373797 **SampType:** MS Units **mg/L**

SampID: 25102546-005AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**13.2**	10.00	3.066	101.3	80	120	10/29/2025
Chloride		5.00		**558**	200.0	332.6	112.6	80	120	10/29/2025
Sulfate		10.0		**379**	200.0	179.5	100.0	80	120	10/29/2025

Batch R373797 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25102546-005AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**13.0**	10.00	3.066	98.9	13.20	1.87	10/29/2025
Chloride		5.00		**551**	200.0	332.6	109.0	557.8	1.31	10/29/2025
Sulfate		10.0		**374**	200.0	179.5	97.2	379.4	1.48	10/29/2025

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 246983 **SampType:** MBLK Units **mg/L**

SampID: MBLK-246983

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		0.0025		**< 0.0025**	0.0007	0	0	-100	100	10/28/2025
Boron		0.0200		**< 0.0200**	0.0090	0	0	-100	100	10/28/2025
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	10/28/2025

Batch 246983 **SampType:** LCS Units **mg/L**

SampID: LCS-246983

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		0.0025		**1.86**	2.000	0	92.8	85	115	10/28/2025
Boron		0.0200		**0.909**	1.000	0	90.9	85	115	10/28/2025
Calcium		0.100		**4.52**	5.000	0	90.4	85	115	10/28/2025

Batch 246983 **SampType:** MS Units **mg/L**

SampID: 25102404-001BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Boron		0.0200		**4.90**	1.000	4.043	85.2	75	125	10/28/2025

Batch 246983 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 25102404-001BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Boron		0.0200		**4.85**	1.000	4.043	81.1	4.895	0.84	10/28/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 246983 **SampType:** MS Units **mg/L**

SampID: 25102405-001CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		0.0025		**2.12**	2.000	0.1735	97.3	75	125	10/28/2025
Boron		0.0200		**4.95**	1.000	3.836	111.6	75	125	10/28/2025

Batch 246983 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 25102405-001CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium		0.0025		**1.98**	2.000	0.1735	90.3	2.120	6.83	10/28/2025
Boron		0.0200		**4.74**	1.000	3.836	90.2	4.952	4.42	10/28/2025

Batch 246983 **SampType:** MS Units **mg/L**

SampID: 25102425-001DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		0.0025		**1.98**	2.000	0.03080	97.7	75	125	10/28/2025
Calcium		0.100		**57.2**	5.000	52.06	102.8	75	125	10/28/2025

Batch 246983 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 25102425-001DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium		0.0025		**1.95**	2.000	0.03080	96.0	1.984	1.74	10/28/2025
Calcium		0.100	S	**58.8**	5.000	52.06	134.2	57.20	2.71	10/28/2025

Batch 246983 **SampType:** MS Units **mg/L**

SampID: 25102428-001CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		0.0025		**1.98**	2.000	0.03080	97.7	75	125	10/28/2025

Batch 246983 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 25102428-001CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium		0.0025		**1.95**	2.000	0.03080	96.0	1.984	1.74	10/28/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 247065 **SampType:** MBLK Units **mg/L**

SampID: MBLK-247065

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		0.0025		**< 0.0025**	0.0007	0	0	-100	100	10/29/2025
Boron		0.0200		**< 0.0200**	0.0090	0	0	-100	100	10/29/2025
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	10/29/2025

Batch 247065 **SampType:** LCS Units **mg/L**

SampID: LCS-247065

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		0.0025		**2.07**	2.000	0	103.5	85	115	10/29/2025
Boron		0.0200		**1.00**	1.000	0	100.4	85	115	10/29/2025
Calcium		0.100		**5.20**	5.000	0	104.0	85	115	10/29/2025

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 246983 **SampType:** MBLK Units **mg/L**

SampID: MBLK-246983

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**< 0.0010**	0.0004	0	0	-100	100	10/29/2025
Antimony		0.0010	JS	**0.0005**	0.0004	0	114.0	-100	100	10/28/2025
Arsenic		0.0010		**< 0.0010**	0.0004	0	0	-100	100	10/29/2025
Beryllium		0.0010		**< 0.0010**	0.0002	0	0	-100	100	10/28/2025
Cadmium		0.0010		**< 0.0010**	0.0001	0	0	-100	100	10/28/2025
Chromium		0.0015		**< 0.0015**	0.0007	0	0	-100	100	10/29/2025
Cobalt		0.0010		**< 0.0010**	0.0001	0	0	-100	100	10/28/2025
Lead		0.0010		**< 0.0010**	0.0006	0	0	-100	100	10/28/2025
Lithium	*	0.0030		**< 0.0030**	0.0015	0	0	-100	100	10/28/2025
Molybdenum		0.0015		**< 0.0015**	0.0006	0	0	-100	100	10/30/2025
Molybdenum		0.0015	JS	**0.0011**	0.0006	0	175.7	-100	100	10/29/2025
Selenium		0.0010		**< 0.0010**	0.0006	0	0	-100	100	10/28/2025
Thallium		0.0020		**< 0.0020**	0.0010	0	0	-100	100	10/28/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 246983 **SampType:** LCS Units **mg/L**

SampID: LCS-246983

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010	B	**1.05**	1.000	0	104.9	85	115	10/28/2025
Arsenic		0.0010		**1.02**	1.000	0	101.5	85	115	10/29/2025
Beryllium		0.0010		**0.920**	1.000	0	92.0	85	115	10/28/2025
Cadmium		0.0010		**1.87**	2.000	0	93.6	85	115	10/28/2025
Chromium		0.0015		**0.912**	1.000	0	91.2	85	115	10/29/2025
Cobalt		0.0010		**0.925**	1.000	0	92.5	85	115	10/28/2025
Lead		0.0010		**1.82**	2.000	0	90.8	85	115	10/28/2025
Lithium	*	0.0030		**0.926**	1.000	0	92.6	85	115	10/28/2025
Molybdenum		0.0015	B	**0.912**	1.000	0	91.2	85	115	10/29/2025
Selenium		0.0010		**0.965**	1.000	0	96.5	85	115	10/28/2025
Thallium		0.0020		**0.915**	1.000	0	91.5	85	115	10/28/2025

Batch 246983 **SampType:** MS Units **mg/L**

SampID: 25102405-001CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010	B	**1.07**	1.000	0	107.0	70	130	10/29/2025
Selenium		0.0010		**0.954**	1.000	0	95.4	70	130	10/29/2025
Thallium		0.0020		**0.943**	1.000	0	94.3	70	130	10/29/2025

Batch 246983 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 25102405-001CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010	B	**1.04**	1.000	0	103.7	1.070	3.15	10/29/2025
Selenium		0.0010		**0.929**	1.000	0	92.9	0.9544	2.69	10/29/2025
Thallium		0.0020		**0.922**	1.000	0	92.2	0.9428	2.18	10/29/2025

Batch 246983 **SampType:** MS Units **mg/L**

SampID: 25102425-001DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**1.26**	1.000	0.0007463	125.8	70	130	10/29/2025
Arsenic		0.0010		**0.970**	1.000	0.001189	96.9	70	130	10/30/2025
Cadmium		0.0010		**2.00**	2.000	0	100.2	70	130	10/29/2025
Lead		0.0010		**1.96**	2.000	0.001796	97.9	70	130	10/30/2025
Selenium		0.0010		**1.18**	1.000	0.003227	117.8	70	130	10/29/2025
Thallium		0.0010		**0.929**	1.000	0	92.9	70	130	10/29/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 246983 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 25102425-001DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		**1.28**	1.000	0.0007463	128.4	1.259	2.07	10/29/2025
Arsenic		0.0010		**1.03**	1.000	0.001189	103.1	0.9703	6.19	10/30/2025
Cadmium		0.0010		**2.04**	2.000	0	102.1	2.003	1.86	10/29/2025
Lead		0.0010		**2.00**	2.000	0.001796	99.9	1.960	2.04	10/30/2025
Selenium		0.0010		**1.20**	1.000	0.003227	119.2	1.181	1.23	10/29/2025
Thallium		0.0010		**0.966**	1.000	0	96.6	0.9291	3.84	10/29/2025

Batch 246983 **SampType:** MS Units **mg/L**

SampID: 25102428-001CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Selenium		0.0010		**1.18**	1.000	0.003227	117.8	70	130	10/29/2025
Thallium		0.0010		**0.929**	1.000	0	92.9	70	130	10/29/2025

Batch 246983 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 25102428-001CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Selenium		0.0010		**1.20**	1.000	0.003227	119.2	1.181	1.23	10/29/2025
Thallium		0.0010		**0.966**	1.000	0	96.6	0.9291	3.84	10/29/2025

Batch 247065 **SampType:** MBLK Units **mg/L**

SampID: MBLK-247065

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		**< 0.0010**	0.0004	0	0	-100	100	11/04/2025
Arsenic		0.0010		**< 0.0010**	0.0004	0	0	-100	100	11/03/2025
Beryllium		0.0010		**< 0.0010**	0.0002	0	0	-100	100	11/03/2025
Cadmium		0.0010		**< 0.0010**	0.0001	0	0	-100	100	11/03/2025
Chromium		0.0015		**< 0.0015**	0.0007	0	0	-100	100	11/03/2025
Cobalt		0.0010		**< 0.0010**	0.0001	0	0	-100	100	11/03/2025
Lead		0.0010		**< 0.0010**	0.0006	0	0	-100	100	11/03/2025
Lithium	*	0.0030		**< 0.0030**	0.0015	0	0	-100	100	11/03/2025
Molybdenum		0.0015		**< 0.0015**	0.0006	0	0	-100	100	11/04/2025
Molybdenum		0.0015		**< 0.0015**	0.0006	0	0	-100	100	11/05/2025
Selenium		0.0010		**< 0.0010**	0.0006	0	0	-100	100	11/03/2025
Thallium		0.0020		**< 0.0020**	0.0010	0	0	-100	100	11/04/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 247065 **SampType:** LCS Units **mg/L**

SampID: LCS-247065

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010	S	**1.22**	1.000	0	121.7	85	115	11/04/2025
Antimony		0.0010		**0.862**	1.000	0	86.2	80	120	11/05/2025
Arsenic		0.0010		**0.977**	1.000	0	97.7	85	115	11/03/2025
Beryllium		0.0010		**0.990**	1.000	0	99.0	85	115	11/03/2025
Cadmium		0.0010		**2.21**	2.000	0	110.6	85	115	11/04/2025
Cadmium		0.0010	S	**2.33**	2.000	0	116.3	85	115	11/03/2025
Chromium		0.0015		**0.979**	1.000	0	97.9	85	115	11/03/2025
Cobalt		0.0010		**0.952**	1.000	0	95.2	85	115	11/03/2025
Lead		0.0010		**2.02**	2.000	0	101.2	85	115	11/03/2025
Lithium	*	0.0030		**0.986**	1.000	0	98.6	85	115	11/03/2025
Molybdenum		0.0015		**1.02**	1.000	0	101.5	85	115	11/04/2025
Selenium		0.0010		**1.07**	1.000	0	107.3	85	115	11/03/2025
Thallium		0.0020		**0.926**	1.000	0	92.6	85	115	11/04/2025

SW-846 7470A (TOTAL)

Batch 247025 **SampType:** MBLK Units **mg/L**

SampID: MBLK-247025

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**< 0.00020**	0.0001	0	0	-100	100	10/29/2025

Batch 247025 **SampType:** LCS Units **mg/L**

SampID: LCS-247025

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00434**	0.0050	0	86.9	85	115	10/29/2025

Batch 247025 **SampType:** MS Units **mg/L**

SampID: 25102425-001DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00509**	0.0050	0	101.7	75	125	10/29/2025

Batch 247025 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25102425-001DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		**0.00505**	0.0050	0	101.0	0.005086	0.69	10/29/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25102435

Client Project: Groundwater Monitoring **Report Date:** 05-Jan-26

SW-846 7470A (TOTAL)

Batch 247083 **SampType:** MBLK Units **mg/L**
SampID: MBLK-247083

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**< 0.00020**	0.0001	0	0	-100	100	10/29/2025

Batch 247083 **SampType:** LCS Units **mg/L**
SampID: LCS-247083

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00515**	0.0050	0	103.0	85	115	10/29/2025

Batch 247083 **SampType:** MS Units **mg/L**
SampID: 25102435-007CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00504**	0.0050	0	100.9	75	125	10/29/2025

Batch 247083 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 25102435-007CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		**0.00502**	0.0050	0	100.5	0.005045	0.43	10/29/2025

Batch 247083 **SampType:** MS Units **mg/L**
SampID: 25102544-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00392**	0.0050	0	78.5	75	125	10/29/2025

Batch 247083 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 25102544-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		**0.00382**	0.0050	0	76.5	0.003924	2.59	10/29/2025

Batch 247083 **SampType:** MS Units **mg/L**
SampID: 25102692-001DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		**0.00529**	0.0050	0	105.9	75	125	10/30/2025

Batch 247083 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 25102692-001DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		**0.00528**	0.0050	0	105.6	0.005293	0.26	10/30/2025

Receiving Check List

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 25102435
Client Project: Groundwater Monitoring
Report Date: 05-Jan-26

Carrier: Frank Barthol
Received By: LEH

Completed by: Laura E Henson
On: 27-Oct-25

Reviewed by: Amber Dilallo
On: 28-Oct-25

Pages to follow: Chain of custody 2 Extra pages included 22

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 8.9
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☑	Lab ☐	NA ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☐	No ☐	No VOA vials ☑
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑

Any No responses must be detailed below or on the COC.

pH strip #104524. -DM/ lhenson - 10/27/2025 4:02:14 PM

Cooler #2 9.1C LTG#9. LH 10/27/25

Samples were received on 10/28/2025 at 14:34 on ice [8.3C and 11.5C - LTG5]. pH strip #104524. - DM/ekossakoski - 10/28/2025 4:39:52 PM

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 1 Work order # 25102435

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 8.9/9.1 °C LTG# 9
Preserved in: ☐ LAB ☒ FIELD
FOR LAB USE ONLY
Lab Notes: PH: 104524 Δ: 10.27.25

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

Field: Elevations, DO, ORP, pH, Conductivity (mS/cm), Temperature (°C), Turbidity and Purge Volume
ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Project Name/Number: Groundwater Monitoring
Sample Collector's Name: Frank Bartholl

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
	Equipment Blank	—	1	3	X		X		X	X	X	X	X
	Field Blank	—	1	3	X		X		X	X	X	X	X
25102435-001	Field Duplicate	10.27 / —	1	3		X	X	X	X	X	X	X	X
	MW-101	—	1	3		X	X	X	X	X	X	X	X
	MW-102	—	1	3		X	X	X	X	X	X	X	X
002	MW-103	10.27 / 1230	1	3		X	X	X	X	X	X	X	X
003	MW-104	10.27 / 1118	1	3		X	X	X	X	X	X	X	X
004	MW-105	10.27 / 1038	1	3		X	X	X	X	X	X	X	X
005	MW-106	10.27 / 1010	1	3		X	X	X	X	X	X	X	X
	MW-109	—	1	3		X	X	X	X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
[signature]	10.27 / 1530	[signature]	10/27/25 1530

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 105039

25102435

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 1 Work order # ~~25102551~~ TEEK 10/28/25

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 8.3/11.5 °C LTG# 5

Preserved in: ☐ LAB ☒ FIELD

FOR LAB USE ONLY

Lab Notes:
pH: 10 4524 AM: 10.28.25

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

Field: Elevations, DO, ORP, pH, Conductivity (mS/cm), Temperature (°C), Turbidity and Purge Volume
ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Project Name/Number	**Sample Collector's Name**
Groundwater Monitoring	Frank Bartholl

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ____ ☐ 3 Day (50% Surcharge)

Billing/PO#

25102435 TEEK 10/28/25

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
25102435F006	Equipment Blank	10.28/ 1130	1	3	X		X		X	X	X	X	X
-007	Field Blank	10.28/ 1135	1	3	X		X		X	X	X	X	X
	Field Duplicate	—	1	3		X	X	X	X	X	X	X	X
-008	MW-101	10.28/ 943	1	3		X	X	X	X	X	X	X	X
-009	MW-102	10.28/ 1024	1	3		X	X	X	X	X	X	X	X
	MW-103		1	3		X	X	X	X	X	X	X	X
	MW-104		1	3		X	X	X	X	X	X	X	X
	MW-105		1	3		X	X	X	X	X	X	X	X
-010	MW-106		1	3		X	X	X	X	X	X	X	X
-005	MW-109	10.28/ 1128	1	3		X	X	X	X	X	X	X	X

TEEK 10/28/25

Relinquished By	Date/Time	Received By	Date/Time
M Winters	10.28/14:34	Emily Kossakoski	10/28/25 1434

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 105039

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

December 31, 2025

Elizabeth Hurley
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 25102435

Dear Elizabeth Hurley:

Order No.: 25110032

Alliance Technical Group - Akron received 10 sample(s) on 10/31/2025 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0828, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Case Narrative

WO#: **25110032**
Date: **12/31/2025**

CLIENT: TEKLAB Inc,
Project: 25102435

WorkOrder Narrative:
25110032: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Alliance Technical Group Work Order Number assigned to this report.

Alliance Technical Group holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Alliance Technical Group and that of the customer. It cannot be reproduced in any form without the consent of Alliance Technical Group or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Alliance Technical Group is not responsible for use or interpretation of the data included herein.

All results for solid samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Sequence QC Notes:
LCS/LCSD-90529 Radium-228_DW(904.0): LCS/LCSD exhibits high RPD. Individually each LCS/LCSD meet required criteria

Original

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Qualifiers and Acronyms

WO#: **25110032**
Date: **12/31/2025**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected above the MDL.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
d	Manual integration in which peak was deleted
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B	The analyte was detected in the Method Blank at a concentration greater than the RL.
MB+	The analyte was detected in the Method Blank at a concentration greater than the MDL.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
W	Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

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Workorder Sample Summary

WO#: **25110032**

31-Dec-25

CLIENT: TEKLAB Inc,
Project: 25102435

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
25110032-001	25102435-001B		10/27/2025	10/31/2025 10:15:00 AM	Non-Potable Water
25110032-002	25102435-002B		10/27/2025 12:30:00 PM	10/31/2025 10:15:00 AM	Non-Potable Water
25110032-003	25102435-003B		10/27/2025 11:18:00 AM	10/31/2025 10:15:00 AM	Non-Potable Water
25110032-004	25102435-004B		10/27/2025 10:38:00 AM	10/31/2025 10:15:00 AM	Non-Potable Water
25110032-005	25102435-005B		10/27/2025 10:10:00 AM	10/31/2025 10:15:00 AM	Non-Potable Water
25110032-006	25102435-006B		10/28/2025 11:30:00 AM	10/31/2025 10:15:00 AM	Non-Potable Water
25110032-007	25102435-007B		10/28/2025 11:35:00 AM	10/31/2025 10:15:00 AM	Non-Potable Water
25110032-008	25102435-008B		10/28/2025 9:43:00 AM	10/31/2025 10:15:00 AM	Non-Potable Water
25110032-009	25102435-009B		10/28/2025 10:24:00 AM	10/31/2025 10:15:00 AM	Non-Potable Water
25110032-010	25102435-010B		10/28/2025 11:28:00 AM	10/31/2025 10:15:00 AM	Non-Potable Water

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DATES REPORT

WO#: **25110032**

31-Dec-25

Client: TEKLAB Inc,
Project: 25102435

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
25110032-001A	25102435-001B	10/27/2025	Non-Potable Water	Combined Radium (EPA903+904)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-226 (EPA 903.0)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-228 (EPA 904.0)		12/9/2025 8:15:00 AM	12/23/2025 1:52:00 PM
25110032-002A	25102435-002B	10/27/2025 12:30:00 PM		Combined Radium (EPA903+904)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-226 (EPA 903.0)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-228 (EPA 904.0)		12/9/2025 8:15:00 AM	12/23/2025 1:52:00 PM
25110032-003A	25102435-003B	10/27/2025 11:18:00 AM		Combined Radium (EPA903+904)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-226 (EPA 903.0)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-228 (EPA 904.0)		12/9/2025 8:15:00 AM	12/23/2025 1:52:00 PM
25110032-004A	25102435-004B	10/27/2025 10:38:00 AM		Combined Radium (EPA903+904)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-226 (EPA 903.0)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-228 (EPA 904.0)		12/9/2025 8:15:00 AM	12/23/2025 1:52:00 PM
25110032-005A	25102435-005B	10/27/2025 10:10:00 AM		Combined Radium (EPA903+904)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-226 (EPA 903.0)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-228 (EPA 904.0)		12/9/2025 8:15:00 AM	12/23/2025 1:52:00 PM
25110032-006A	25102435-006B	10/28/2025 11:30:00 AM		Combined Radium (EPA903+904)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-226 (EPA 903.0)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-228 (EPA 904.0)		12/9/2025 8:15:00 AM	12/23/2025 1:52:00 PM
25110032-007A	25102435-007B	10/28/2025 11:35:00 AM		Combined Radium (EPA903+904)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-226 (EPA 903.0)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-228 (EPA 904.0)		12/9/2025 8:15:00 AM	12/23/2025 1:52:00 PM
25110032-008A	25102435-008B	10/28/2025 9:43:00 AM		Combined Radium (EPA903+904)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-226 (EPA 903.0)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM

Original

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DATES REPORT

WO#: **25110032**

31-Dec-25

Client: TEKLAB Inc,
Project: 25102435

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
25110032-008A	25102435-008B	10/28/2025 9:43:00 AM	Non-Potable Water	Radium-228 (EPA 904.0)		12/9/2025 8:15:00 AM	12/23/2025 1:52:00 PM
25110032-009A	25102435-009B	10/28/2025 10:24:00 AM		Combined Radium (EPA903+904)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-226 (EPA 903.0)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-228 (EPA 904.0)		12/9/2025 8:15:00 AM	12/23/2025 1:52:00 PM
25110032-010A	25102435-010B	10/28/2025 11:28:00 AM		Combined Radium (EPA903+904)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-226 (EPA 903.0)		12/9/2025 8:15:00 AM	12/26/2025 10:07:00 AM
				Radium-228 (EPA 904.0)		12/9/2025 8:15:00 AM	12/23/2025 1:52:00 PM

Original

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Analytical Report

(consolidated)

WO#: **25110032**

Date Reported: **12/31/2025**

CLIENT: TEKLAB Inc,
Collection Date: 10/27/2025
Project: 25102435
Lab ID: 25110032-001
Matrix: NON-POTABLE WATER
Client Sample ID: 25102435-001B

Analyses	Result	MDL	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**EPA903+904**	**900 SERIES**	Analyst: **SEE**
COMBINED RADIUM (EPA903+904)								
Radium-226/Radium-228	0.71	2.00	2.00	U	pCi/L	± 0.43	1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 903.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-226 (EPA 903.0)								
Radium-226	0.05	0.627	1.00	U	pCi/L	± 0.05	1	12/26/2025 10:07:00 AM
Yield	0.970						1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 904.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-228 (EPA 904.0)								
Radium-228	0.66	0.640	1.00	J	pCi/L	± 0.38	1	12/23/2025 1:52:00 PM
Yield	0.940						1	12/23/2025 1:52:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

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Analytical Report

(consolidated)

WO#: **25110032**

Date Reported: **12/31/2025**

CLIENT: TEKLAB Inc,
Collection Date: 10/27/2025 12:30:00 PM

Project: 25102435

Lab ID: 25110032-002
Matrix: NON-POTABLE WATER

Client Sample ID: 25102435-002B

Analyses	Result	MDL	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**EPA903+904**	**900 SERIES**	Analyst: **SEE**
COMBINED RADIUM (EPA903+904)								
Radium-226/Radium-228	1.02	2.00	2.00	U	pCi/L	± 0.46	1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 903.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-226 (EPA 903.0)								
Radium-226	0.37	0.627	1.00	U	pCi/L	± 0.1	1	12/26/2025 10:07:00 AM
Yield	0.960						1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 904.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-228 (EPA 904.0)								
Radium-228	0.65	0.640	1.00	J	pCi/L	± 0.36	1	12/23/2025 1:52:00 PM
Yield	0.940						1	12/23/2025 1:52:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

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Analytical Report

(consolidated)

WO#: **25110032**

Date Reported: **12/31/2025**

CLIENT: TEKLAB Inc,
Collection Date: 10/27/2025 11:18:00 AM

Project: 25102435

Lab ID: 25110032-003
Matrix: NON-POTABLE WATER

Client Sample ID: 25102435-003B

Analyses	Result	MDL	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**EPA903+904**	**900 SERIES**	Analyst: **SEE**
COMBINED RADIUM (EPA903+904)								
Radium-226/Radium-228	0.82	2.00	2.00	U	pCi/L	± 0.43	1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 903.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-226 (EPA 903.0)								
Radium-226	0.21	0.627	1.00	U	pCi/L	± 0.08	1	12/26/2025 10:07:00 AM
Yield	1.00						1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 904.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-228 (EPA 904.0)								
Radium-228	0.61	0.640	1.00	U	pCi/L	± 0.35	1	12/23/2025 1:52:00 PM
Yield	1.00						1	12/23/2025 1:52:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

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Analytical Report

(consolidated)

WO#: **25110032**

Date Reported: **12/31/2025**

CLIENT: TEKLAB Inc,
Collection Date: 10/27/2025 10:38:00 AM

Project: 25102435

Lab ID: 25110032-004
Matrix: NON-POTABLE WATER

Client Sample ID: 25102435-004B

Analyses	Result	MDL	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**EPA903+904**	**900 SERIES**	Analyst: **SEE**
COMBINED RADIUM (EPA903+904)								
Radium-226/Radium-228	0.38	2.00	2.00	U	pCi/L	± 0.39	1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 903.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-226 (EPA 903.0)								
Radium-226	0.24	0.627	1.00	U	pCi/L	± 0.08	1	12/26/2025 10:07:00 AM
Yield	1.00						1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 904.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-228 (EPA 904.0)								
Radium-228	0.14	0.640	1.00	U	pCi/L	± 0.31	1	12/23/2025 1:52:00 PM
Yield	1.00						1	12/23/2025 1:52:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

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Analytical Report

(consolidated)

WO#: **25110032**

Date Reported: **12/31/2025**

CLIENT: TEKLAB Inc,
Collection Date: 10/27/2025 10:10:00 AM

Project: 25102435

Lab ID: 25110032-005
Matrix: NON-POTABLE WATER

Client Sample ID: 25102435-005B

Analyses	Result	MDL	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**EPA903+904**	**900 SERIES**	Analyst: **SEE**
COMBINED RADIUM (EPA903+904)								
Radium-226/Radium-228	0.81	2.00	2.00	U	pCi/L	± 0.43	1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 903.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-226 (EPA 903.0)								
Radium-226	0.28	0.627	1.00	U	pCi/L	± 0.08	1	12/26/2025 10:07:00 AM
Yield	1.00						1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 904.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-228 (EPA 904.0)								
Radium-228	0.53	0.640	1.00	U	pCi/L	± 0.35	1	12/23/2025 1:52:00 PM
Yield	1.00						1	12/23/2025 1:52:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

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Analytical Report

(consolidated)

WO#: **25110032**

Date Reported: **12/31/2025**

CLIENT: TEKLAB Inc,
Collection Date: 10/28/2025 11:30:00 AM

Project: 25102435

Lab ID: 25110032-006
Matrix: NON-POTABLE WATER

Client Sample ID: 25102435-006B

Analyses	Result	MDL	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**EPA903+904**	**900 SERIES**	Analyst: **SEE**
COMBINED RADIUM (EPA903+904)								
Radium-226/Radium-228	0.59	2.00	2.00	U	pCi/L	± 0.39	1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 903.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-226 (EPA 903.0)								
Radium-226	0.09	0.627	1.00	U	pCi/L	± 0.06	1	12/26/2025 10:07:00 AM
Yield	1.00						1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 904.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-228 (EPA 904.0)								
Radium-228	0.5	0.640	1.00	U	pCi/L	± 0.33	1	12/23/2025 1:52:00 PM
Yield	1.00						1	12/23/2025 1:52:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Alliance Technical Group - Akron
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Analytical Report

(consolidated)

WO#: **25110032**

Date Reported: **12/31/2025**

CLIENT: TEKLAB Inc,
Collection Date: 10/28/2025 11:35:00 AM

Project: 25102435

Lab ID: 25110032-007
Matrix: NON-POTABLE WATER

Client Sample ID: 25102435-007B

Analyses	Result	MDL	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**EPA903+904**	**900 SERIES**	Analyst: **SEE**
COMBINED RADIUM (EPA903+904)								
Radium-226/Radium-228	0.65	2.00	2.00	U	pCi/L	± 0.44	1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 903.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-226 (EPA 903.0)								
Radium-226	0	0.627	1.00	U	pCi/L	± 0.05	1	12/26/2025 10:07:00 AM
Yield	0.990						1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 904.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-228 (EPA 904.0)								
Radium-228	0.65	0.640	1.00	J	pCi/L	± 0.39	1	12/23/2025 1:52:00 PM
Yield	1.00						1	12/23/2025 1:52:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

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Analytical Report

(consolidated)

WO#: **25110032**

Date Reported: **12/31/2025**

CLIENT: TEKLAB Inc,
Collection Date: 10/28/2025 9:43:00 AM

Project: 25102435

Lab ID: 25110032-008
Matrix: NON-POTABLE WATER

Client Sample ID: 25102435-008B

Analyses	Result	MDL	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**EPA903+904**	**900 SERIES**	Analyst: **SEE**
COMBINED RADIUM (EPA903+904)								
Radium-226/Radium-228	0.64	2.00	2.00	U	pCi/L	± 0.44	1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 903.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-226 (EPA 903.0)								
Radium-226	0.52	0.627	1.00	U	pCi/L	± 0.12	1	12/26/2025 10:07:00 AM
Yield	0.950						1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 904.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-228 (EPA 904.0)								
Radium-228	0.12	0.640	1.00	U	pCi/L	± 0.32	1	12/23/2025 1:52:00 PM
Yield	1.00						1	12/23/2025 1:52:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **25110032**

Date Reported: **12/31/2025**

CLIENT: TEKLAB Inc,
Collection Date: 10/28/2025 10:24:00 AM
Project: 25102435
Lab ID: 25110032-009
Matrix: NON-POTABLE WATER
Client Sample ID: 25102435-009B

Analyses	Result	MDL	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**EPA903+904**	**900 SERIES**	Analyst: **SEE**
COMBINED RADIUM (EPA903+904)								
Radium-226/Radium-228	0.56	2.00	2.00	U	pCi/L	± 0.42	1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 903.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-226 (EPA 903.0)								
Radium-226	0.22	0.627	1.00	U	pCi/L	± 0.07	1	12/26/2025 10:07:00 AM
Yield	1.00						1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 904.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-228 (EPA 904.0)								
Radium-228	0.34	0.640	1.00	U	pCi/L	± 0.35	1	12/23/2025 1:52:00 PM
Yield	1.00						1	12/23/2025 1:52:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

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Analytical Report

(consolidated)

WO#: **25110032**

Date Reported: **12/31/2025**

CLIENT: TEKLAB Inc,
Collection Date: 10/28/2025 11:28:00 AM

Project: 25102435

Lab ID: 25110032-010
Matrix: NON-POTABLE WATER

Client Sample ID: 25102435-010B

Analyses	Result	MDL	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**EPA903+904**	**900 SERIES**	Analyst: **SEE**
COMBINED RADIUM (EPA903+904)								
Radium-226/Radium-228	0.87	2.00	2.00	U	pCi/L	± 0.44	1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 903.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-226 (EPA 903.0)								
Radium-226	0.14	0.627	1.00	U	pCi/L	± 0.06	1	12/26/2025 10:07:00 AM
Yield	0.900						1	12/26/2025 10:07:00 AM
RAD226/228						**EPA 904.0 1980**	**900 SERIES**	Analyst: **SEE**
RADIUM-228 (EPA 904.0)								
Radium-228	0.73	0.640	1.00	J	pCi/L	± 0.38	1	12/23/2025 1:52:00 PM
Yield	0.930						1	12/23/2025 1:52:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at testcode

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **25110032**

31-Dec-25

Client: TEKLAB Inc,
Project: 25102435 **BatchID:** **90529**

Sample ID: **MB-90529** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **12/9/2025** RunNo: **223645**
Client ID: **BatchQC** Batch ID: **90529** TestNo: **E904.0** **E903-904** Analysis Date: **12/23/2025** SeqNo: **5962270**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0						U
Yield	0.990			0	0						

Sample ID: **LCS-90529** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **12/9/2025** RunNo: **223645**
Client ID: **BatchQC** Batch ID: **90529** TestNo: **E904.0** **E903-904** Analysis Date: **12/23/2025** SeqNo: **5962271**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	4.27	1.00	5.000	0	85.4	50	130				QLR
Yield	0.970			0	0						

Sample ID: **LCSD-90529** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **12/9/2025** RunNo: **223645**
Client ID: **BatchQC** Batch ID: **90529** TestNo: **E904.0** **E903-904** Analysis Date: **12/23/2025** SeqNo: **5962272**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	3.02	1.00	5.000	0	60.4	50	130	4.270	34.3	20	R
Yield	1.00			0	0			0.9700	3.05		

Qualifiers:

H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as spec

Original

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Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **25110032**

31-Dec-25

Client: TEKLAB Inc,
Project: 25102435 **BatchID:** **90529**

Sample ID: **25110081-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **12/9/2025** RunNo: **223645**
Client ID: **BatchQC** Batch ID: **90529** TestNo: **E904.0** **E903-904** Analysis Date: **12/23/2025** SeqNo: **5962334**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0			0	0	20	U
Yield	1.00			0	0			1.000	0		

Sample ID: **25110081-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **12/9/2025** RunNo: **223645**
Client ID: **BatchQC** Batch ID: **90529** TestNo: **E904.0** **E903-904** Analysis Date: **12/23/2025** SeqNo: **5962336**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0			0	0	20	U
Yield	1.00			0	0			1.000	0		

Qualifiers:

H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as spec

Original

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Cuyahoga Falls, Ohio 44223
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QC SUMMARY REPORT

WO#: **25110032**

31-Dec-25

Client: TEKLAB Inc,
Project: 25102435 **BatchID:** **90529**

Sample ID: **MB-90529**	SampType: **MBLK**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **12/9/2025**	RunNo: **223648**
Client ID: **BatchQC**	Batch ID: **90529**	TestNo: **E903.0**	**E903-904**	Analysis Date: **12/26/2025**	SeqNo: **5962360**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00									U
Yield	0.970										

Sample ID: **LCS-90529**	SampType: **LCS**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **12/9/2025**	RunNo: **223648**
Client ID: **BatchQC**	Batch ID: **90529**	TestNo: **E903.0**	**E903-904**	Analysis Date: **12/26/2025**	SeqNo: **5962361**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	5.36	1.00	5.000	0	107	70	130				

Sample ID: **LCSD-90529**	SampType: **LCSD**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **12/9/2025**	RunNo: **223648**
Client ID: **BatchQC**	Batch ID: **90529**	TestNo: **E903.0**	**E903-904**	Analysis Date: **12/26/2025**	SeqNo: **5962362**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	4.97	1.00	5.000	0	99.4	70	130	5.360	7.55	20	

Sample ID: **25110081-001ADUP**	SampType: **DUP**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **12/9/2025**	RunNo: **223648**
Client ID: **BatchQC**	Batch ID: **90529**	TestNo: **E903.0**	**E903-904**	Analysis Date: **12/26/2025**	SeqNo: **5962381**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as spec

Original

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QC SUMMARY REPORT

WO#: **25110032**

31-Dec-25

Client: TEKLAB Inc,
Project: 25102435 **BatchID:** **90529**

Sample ID: **25110081-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **12/9/2025** RunNo: **223648**
Client ID: **BatchQC** Batch ID: **90529** TestNo: **E903.0** **E903-904** Analysis Date: **12/26/2025** SeqNo: **5962381**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00						0	0	20	U
Yield	1.00							1.000	0	0	

Sample ID: **25110081-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **12/9/2025** RunNo: **223648**
Client ID: **BatchQC** Batch ID: **90529** TestNo: **E903.0** **E903-904** Analysis Date: **12/26/2025** SeqNo: **5962383**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00						0	0	20	U
Yield	1.00							1.000	0	0	

Qualifiers:

H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as spec

Original

25110032

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp: | Sampler: Teklab employee | QC Level: 2

Comments: **Please Issue reports and invoices via email only**
Analyze for Radium 226/228 per your usual method/s.
Any changes to analysis/methods must be approved by Teklab, Inc.
Batch QC is required for all analyses requested.

Project# 25102435

Contact: Elizabeth Hurley | Email: ehurley@teklabinc.com
Requested Due Date: Standard TAT | Billing/PO: 39695
Phone: (618) 344-1004 ext. 33 State of Sample Origin = IL

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Radium 226/228	Radium 226	Radium 228									
COM: 22,26	25102435-001B pH<2,2	10/27/2025	HNO3	Groundwater	✔	✔	✔									
CPM: 30,28	25102435-002B pH<2,2	10/27/2025 12:30	HNO3	Groundwater	✔	✔	✔									
CPM: 32,38	25102435-003B pH<2,2	10/27/2025 11:18	HNO3	Groundwater	✔	✔	✔									
COM: 32,36	25102435-004B pH<2,2	10/27/2025 10:38	HNO3	Groundwater	✔	✔	✔									
CPM: 26,40	25102435-005B pH<2,2	10/27/2025 10:10	HNO3	Groundwater	✔	✔	✔									
CPM: 42,30	25102435-006B pH<2,2	10/28/2025 11:30	HNO3	Groundwater	✔	✔	✔									
CPM: 52,54	25102435-007B pH<2,2	10/28/2025 11:35	HNO3	Groundwater	✔	✔	✔									
CPM: 48,42	25102435-008B pH<2,2	10/28/2025 09:43	HNO3	Groundwater	✔	✔	✔									
CPM: 42,38	25102435-009B pH<2,2	10/28/2025 10:24	HNO3	Groundwater	✔	✔	✔									
CPM: 36,32	25102435-010B pH<2,2	10/28/2025 11:28	HNO3	Groundwater	✔	✔	✔									
			HNO3	Groundwater												

*Relinquished By	Date/Time	Received By	Date/Time
Emily Kossakoski		10/31/25 UPS 1015	Custody intact
		21.3+0.2=21.5	10/29/25 4626

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Sample Log-In Check List

Client Name: **TEK-IL-62234-A** Work Order Number: **25110032** RcptNo: **1**

Logged by:	**Spencer M. Hartwell**	**10/31/2025 10:15:00 AM**	Spencer M. Hartwell
Completed By:	**Spencer M. Hartwell**	**11/1/2025 12:54:00 PM**	Spencer M. Hartwell
Reviewed By:	**Jennifer Woolf**	**11/4/2025 1:16:46 PM**	Jennifer Woolf

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☑ Not Present ☐
2. How was the sample delivered? FedEx

Log In

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☑ No ☐ Not Present ☐ NA ☐
   No. 4364 Seal Date: 10/29/2025 Signed By:
5. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:
    relinquish date/ttime & receive date not included

Cooler Information

Cooler No	Temp ºC	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.3	Good	Yes	4626	10/29/2025	

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EBG
Project Location:	Marion, IL	**Sample ID:**	001
W.O. Number (s):	25111334	**Date (s):**	12/1/2025

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.

Name: Drew Nieters Affiliation: TekLab, Inc.

Weather Conditions

Temp: 32 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 12/1/25 10:46 AM

Static Water Level: 12.51 feet below TOC

Total Depth: 28.13 feet below TOC

Water Column: 15.62 feet

Purging Activities

Purged By: AL Purge Date: 12/1/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 15.62 ft. x 0.022 = 0.34 L x 3 Vol. = 1.02 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:25	0.0	83	purge start time						
11:04	3.3	↓	6.68	550.80	13.27	5.47	144.50	4.51	
11:07	3.5		6.69	544.10	13.33	5.44	146.40	4.58	
11:10	3.7		6.69	537.60	13.42	5.45	148.10	3.62	
11:13	4.0		6.70	535.50	13.73	5.50	149.60	2.59	

Sampling Activities

Sampled By: AL Sample Date/Time: 12/1/2025 11:13

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.70 pH 535.50 Spec. Cond. 13.73 Temp

Field Filtered: No Filter Type:

Water Level: 14.31 feet below TOC Drawdown: 1.80 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45280

Form Completed By: Allison Lampe **Date:** 12/1/2025

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-1
Project Location:	Marion, IL	**Sample ID:**	002
W.O. Number (s):	25111334	**Date (s):**	12/2/2025

Field Team Members

Name: Allison Lampe — Affiliation: TekLab, Inc.

Name: Drew Nieters — Affiliation: TekLab, Inc.

Weather Conditions

Temp: 26 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 12/2/25 9:51 AM

Static Water Level: 8.78 feet below TOC

Total Depth: 33.65 feet below TOC

Water Column: 24.87 feet

Purging Activities

Purged By: DN — Purge Date: 12/2/2025

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 24.87 ft. x 0.022 = 0.55 L x 3 Vol. = 1.65 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear — Odor: None — Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:30	0.0	111	purge start time						
10:00	3.3	↓	6.63	2,594.40	14.71	4.51	155.00	0.80	
10:03	3.7		6.62	2,577.40	14.71	4.15	158.80	0.49	
10:06	4.0		6.62	2,561.50	14.81	3.94	161.80	0.39	
10:09	4.3		6.62	2,550.30	14.78	3.87	164.10	0.48	
10:12	4.7		6.63	2,539.00	14.73	3.83	165.90	0.41	
10:15	5.0		6.64	2,530.30	14.93	3.84	167.20	0.66	

Sampling Activities

Sampled By: AL — Sample Date/Time: 12/2/2025 10:15

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 6.64 pH — 2,530.30 Spec. Cond. — 14.93 Temp

Field Filtered: No — Filter Type:

Water Level: 14.15 feet below TOC — Drawdown: 5.37 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45280

Form Completed By: A Nieters — **Date:** 12/2/2025

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-2
Project Location:	Marion, IL	**Sample ID:**	003
W.O. Number (s):	25111334	**Date (s):**	12/3/2025

Field Team Members

Name: Allison Lampe — Affiliation: TekLab, Inc.

Name: Drew Nieters — Affiliation: TekLab, Inc.

Weather Conditions

Temp: 28 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 12/3/25 10:26 AM

Static Water Level: 11.84 feet below TOC

Total Depth: 17.64 feet below TOC

Water Column: 5.80 feet

Purging Activities

Purged By: AL — Purge Date: 12/3/2025

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 5.8 ft. x 0.022 = 0.13 L x 3 Vol. = 0.39 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Clear — Odor: None — Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:12	0.0	222	purge start time						
10:23	2.4	↓	6.78	2,734.00	16.99	4.06	37.20	0.93	
10:26	3.1		6.77	2,742.40	16.94	3.67	37.30	-0.33	
10:29	3.8		6.76	2,747.10	17.01	3.39	37.80	-0.69	
10:32	4.4		6.76	2,751.50	16.99	3.22	38.40	-0.57	
10:35	5.1		6.77	2,751.70	16.73	3.09	39.20	-0.59	
10:38	5.8		6.77	2,746.10	16.45	2.98	39.90	-0.73	

Sampling Activities

Sampled By: AL — Sample Date/Time: 12/3/2025 10:39

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 6.77 pH — 2,746.10 Spec. Cond. — 16.45 Temp

Field Filtered: No — Filter Type:

Water Level: 16.01 feet below TOC — Drawdown: 4.17 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45280

Form Completed By: A Nieters — **Date:** 12/3/2025

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-3
Project Location:	Marion, IL	**Sample ID:**	004
W.O. Number (s):	25111334	**Date (s):**	12/2/2025

Field Team Members

Name: Allison Lampe — Affiliation: TekLab, Inc.

Name: Drew Nieters — Affiliation: TekLab, Inc.

Weather Conditions

Temp: 26 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☐ None ☑ Light ☐ Heavy — Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 12/2/25 11:50 AM

Static Water Level: 17.14 feet below TOC

Total Depth: 29.21 feet below TOC

Water Column: 12.07 feet

Purging Activities

Purged By: DN — Purge Date: 12/2/2025

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 12.07 ft. x 0.022 = 0.27 L x 3 Vol. = 0.81 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 17.00 L

Physical appearance of purge water: Clear — Odor: Slight — Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
11:35	0.0	200	purge start time						
12:31	11.2	↓	6.45	1,217.10	17.70	1.68	61.00	5.05	
12:34	11.8		6.45	1,217.60	17.90	1.62	60.20	5.18	
12:50	15.0		6.44	1,206.40	17.92	1.86	57.10	4.81	
12:53	15.6		6.44	1,204.40	17.87	1.82	56.60	4.15	
12:56	16.2		6.43	1,204.30	17.94	1.79	56.00	3.72	
12:59	16.8		6.44	1,199.50	17.85	1.75	55.40	3.97	

Sampling Activities

Sampled By: AL — Sample Date/Time: 12/2/2025 13:00

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 6.44 pH — 1,199.50 Spec. Cond. — 17.85 Temp

Field Filtered: No — Filter Type:

Water Level: 19.02 feet below TOC — Drawdown: 1.88 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45280
- Oily substance on purge water surface

Form Completed By: A Nieters — **Date:** 12/2/2025

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-4
Project Location:	Marion, IL	**Sample ID:**	005
W.O. Number (s):	25111334	**Date (s):**	12/3/2025

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.

Name: Drew Nieters Affiliation: TekLab, Inc.

Weather Conditions

Temp: 28 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 12/3/25 9:24 AM

Static Water Level: 8.21 feet below TOC

Total Depth: 21.17 feet below TOC

Water Column: 12.96 feet

Purging Activities

Purged By: AL Purge Date: 12/3/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 12.96 ft. x 0.022 = 0.29 L x 3 Vol. = 0.87 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 10.00 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:08	0.0	185	purge start time						
9:56	8.9	↓	6.35	2,430.50	18.96	2.85	48.90	4.85	
9:59	9.4		6.36	2,421.00	18.89	2.69	49.20	4.95	
10:02	10.0		6.37	2,407.90	18.38	2.56	49.50	4.62	

Sampling Activities

Sampled By: AL Sample Date/Time: 12/3/2025 10:02

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.37 pH 2,407.90 Spec. Cond. 18.38 Temp

Field Filtered: No Filter Type:

Water Level: 8.22 feet below TOC Drawdown: 0.01 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45280
- Orange when first purged

Form Completed By: Allison Lampe **Date:** 12/3/2025

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-5
Project Location:	Marion, IL	**Sample ID:**	006
W.O. Number (s):	25111334	**Date (s):**	12/1/2025

Field Team Members

Name: Allison Lampe — Affiliation: TekLab, Inc.

Name: Drew Nieters — Affiliation: TekLab, Inc.

Weather Conditions

Temp: 32 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 12/1/25 11:25 AM

Static Water Level: 13.95 feet below TOC

Total Depth: 15.79 feet below TOC

Water Column: 1.84 feet

Purging Activities

Purged By: DN — Purge Date: 12/1/2025

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 1.84 ft. x 0.022 = 0.04 L x 3 Vol. = 0.12 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 8.00 L

Physical appearance of purge water: Clear — Odor: None — Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
11:35	0.0	348	purge start time						
10:00	-33.0	↓	6.63	2,596.00	14.71	4.54	154.70	0.89	
11:46	3.8		6.81	409.20	15.65	7.06	134.80	0.86	
11:49	4.9		6.72	409.40	15.82	6.77	139.20	0.26	
11:52	5.9		6.67	410.40	15.74	6.53	143.20	0.30	
11:55	7.0		6.65	410.70	15.69	6.35	146.70	1.24	
11:58	8.0		6.65	410.50	15.73	6.23	149.50	2.60	

Sampling Activities

Sampled By: AL — Sample Date/Time: 12/1/2025 12:58

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 6.65 pH — 410.50 Spec. Cond. — 15.73 Temp

Field Filtered: No — Filter Type:

Water Level: 16.25 feet below TOC — Drawdown: 2.30 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45280

Form Completed By: A Nieters — **Date:** 12/1/2025

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-6
Project Location:	Marion, IL	**Sample ID:**	007
W.O. Number (s):	25111334	**Date (s):**	12/3/2025

Field Team Members

Name: Allison Lampe — Affiliation: TekLab, Inc.

Name: Drew Nieters — Affiliation: TekLab, Inc.

Weather Conditions

Temp: 28 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 12/3/25 10:54 AM

Static Water Level: 3.25 feet below TOC

Total Depth: 13.12 feet below TOC

Water Column: 9.87 feet

Purging Activities

Purged By: DN — Purge Date: 12/3/2025

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 9.87 ft. x 0.022 = 0.22 L x 3 Vol. = 0.66 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 7.00 L

Physical appearance of purge water: Clear — Odor: None — Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:55	0.0	159	purge start time						
11:27	5.1	↓	5.41	315.60	13.67	5.44	101.30	4.95	
11:30	5.6		5.38	314.70	13.86	5.13	107.50	4.36	
11:33	6.0		5.36	313.90	13.93	4.88	112.30	4.08	
11:36	6.5		5.34	312.70	13.94	4.68	116.30	3.64	
11:39	7.0		5.32	311.40	13.89	4.49	119.50	3.59	

Sampling Activities

Sampled By: AL — Sample Date/Time: 12/3/2025 11:39

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 5.32 pH — 311.40 Spec. Cond. — 13.89 Temp

Field Filtered: No — Filter Type:

Water Level: 8.32 feet below TOC — Drawdown: 5.07 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45280

Form Completed By: A Nieters — **Date:** 12/3/2025

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-7
Project Location:	Marion, IL	**Sample ID:**	008
W.O. Number (s):	25111334	**Date (s):**	12/2/2025

Field Team Members

Name: Allison Lampe — Affiliation: TekLab, Inc.

Name: Drew Nieters — Affiliation: TekLab, Inc.

Weather Conditions

Temp: 26 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 12/2/25 10:35 AM

Static Water Level: 14.35 feet below TOC

Total Depth: 18.00 feet below TOC

Water Column: 3.65 feet

Purging Activities

Purged By: DN — Purge Date: 12/2/2025

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 3.65 ft. x 0.022 = 0.08 L x 3 Vol. = 0.24 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 18.00 L

Physical appearance of purge water: Clear — Odor: None — Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:30	0.0	321	purge start time						
11:16	14.8	↓	5.94	1,458.20	16.67	1.79	108.30	5.07	
11:19	15.8		5.94	1,457.10	16.99	1.71	107.50	3.20	
11:22	16.7		5.94	1,449.60	17.08	1.65	106.80	2.55	
11:25	17.7		5.95	1,444.80	16.74	1.60	106.20	2.29	

Sampling Activities

Sampled By: AL — Sample Date/Time: 12/2/2025 11:26

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 5.95 pH — 1,444.80 Spec. Cond. — 16.74 Temp

Field Filtered: No — Filter Type:

Water Level: 15.73 feet below TOC — Drawdown: 1.38 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45280

Form Completed By: A Nieters — **Date:** 12/2/2025

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 25111334
Monitoring Point: Equipment Blank
Sample ID: 009
Date (s): 12/4/2025

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 40 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured:
Static Water Level: feet below TOC
Total Depth: feet below TOC
Water Column: feet

Purging Activities

Purged By: Purge Date:
Purge Method: Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other

Sampling Activities

Sampled By: BG Sample Date/Time: 12/4/2025 11:27
Sample Method: Direct Sample Sample Equipment: Direct Grab
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- QA/QC Sample
- Collected off Dipper-T (Water Meter)

Form Completed By: Brett Gillihan **Date:** 12/4/2025

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 25111334
Monitoring Point: Field Blank
Sample ID: 010
Date (s): 12/3/2025

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Drew Nieters Affiliation: TekLab, Inc.

Weather Conditions

Temp: 35 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured:
Static Water Level: feet below TOC
Total Depth: feet below TOC
Water Column: feet

Purging Activities

Purged By: AL Purge Date:
Purge Method: Direct Grab Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other

Sampling Activities

Sampled By: AL Sample Date/Time: 12/3/2025 12:40
Sample Method: Direct Sample Sample Equipment: Direct Grab
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- QA/QC Sample
- Collected at MW-109

Form Completed By: A Nieters **Date:** 12/3/2025

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	Field Duplicate
Project Location:	Marion, IL	**Sample ID:**	011
W.O. Number (s):	25111334	**Date (s):**	12/3/2025

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.

Name: Drew Nieters Affiliation: TekLab, Inc.

Weather Conditions

Temp: 28 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

		Locks	Yes	No
Well Pad	Good			
Casing	Good	Protective Casing		X
Protective Casing	Good	Well		X
Reference Mark/Identification	Yes			

Groundwater Level Measurements

Date/Time Measured: 12/3/25 9:24 AM

Static Water Level: 8.21 feet below TOC

Total Depth: 21.17 feet below TOC

Water Column: 12.96 feet

Purging Activities

Purged By: AL Purge Date: 12/3/2025

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 12.96 ft. x 0.022 = 0.29 L x 3 Vol. = 0.87 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 10.00 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:08	0.0	185	purge start time						
9:56	8.9	↓	6.35	2,430.50	18.96	2.85	48.90	4.85	
9:59	9.4		6.36	2,421.00	18.89	2.69	49.20	4.95	
10:02	10.0		6.37	2,407.90	18.38	2.56	49.50	4.62	

Sampling Activities

Sampled By: AL Sample Date/Time: 12/3/2025 10:02

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.37 pH 2,407.90 Spec. Cond. 18.38 Temp

Field Filtered: No Filter Type:

Water Level: 8.22 feet below TOC Drawdown: 0.01 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45280
- Collected at EP-4
- Orange when first purged

Form Completed By: Allison Lampe **Date:** 12/3/2025

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-101
Project Location:	Marion, IL	**Sample ID:**	012
W.O. Number (s):	25111334	**Date (s):**	12/1/2025

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 31 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☑ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 12/1/25 10:19 AM

Static Water Level: 16.02 feet below TOC

Total Depth: 33.68 feet below TOC

Water Column: 17.66 feet

Purging Activities

Purged By: BG Purge Date: 12/1/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 17.66 ft. x 0.022 = 0.39 L x 3 Vol. = 1.17 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:19	0.0	81	purge start time						
10:32	1.0	↓	6.50	1,418.50	11.46	4.60	89.40	9.92	
10:35	1.3		6.54	1,399.40	11.19	4.63	88.90	9.31	
10:38	1.5		6.56	1,389.40	10.72	4.63	88.90	9.16	
10:41	1.8		6.53	1,381.30	10.65	4.66	89.10	9.55	
10:44	2.0		6.52	1,386.10	10.56	4.61	89.40	9.30	
10:47	2.3		6.49	1,385.10	10.55	4.56	89.80	16.25	
10:50	2.5		6.31	1,387.80	10.77	3.85	89.10	42.91	
10:53	2.7		6.14	1,404.60	11.60	3.22	86.60	38.38	
10:56	3.0		6.17	1,422.40	11.96	3.15	83.60	43.63	
10:59	3.2		6.12	1,429.90	11.93	2.96	80.10	63.10	
11:02	3.5		6.17	1,430.70	11.77	2.72	76.60	32.85	
11:05	3.7		6.32	1,420.00	11.25	3.25	75.80	15.40	
11:08	4.0		6.40	1,409.80	11.39	3.75	76.50	8.97	
11:11	4.2		6.44	1,412.40	11.18	3.96	77.80	7.52	
11:14	4.4		6.46	1,404.60	11.04	4.18	79.50	5.91	
11:17	4.7		6.47	1,402.50	11.14	4.27	81.20	5.22	
11:20	4.9		6.46	1,406.80	11.29	4.37	83.00	5.07	

Sampling Activities

Sampled By: BG Sample Date/Time: 12/1/2025 11:21

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.46 pH 1,406.80 Spec. Cond. 11.29 Temp

Field Filtered: No Filter Type:

Water Level: 23.83 feet below TOC Drawdown: 7.81 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 223358

Form Completed By: Brett Gillihan **Date:** 12/1/2025

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 25111334
Monitoring Point: MW-102
Sample ID: 013
Date (s): 12/2/2025

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 27 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 12/2/25 10:10 AM
Static Water Level: 15.52 feet below TOC
Total Depth: 31.11 feet below TOC
Water Column: 15.59 feet

Purging Activities

Purged By: BG Purge Date: 12/2/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 15.59 ft. x 0.022 = 0.34 L x 3 Vol. = 1.02 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.00 L
Physical appearance of purge water: Clear Odor: None Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:10	0.0	231	purge start time						
10:11	0.2	↓	6.07	2,774.00	12.92	2.20	158.20	6.44	
10:14	0.9		5.79	2,727.10	12.35	2.39	157.50	6.31	
10:17	1.6		5.59	2,456.50	6.99	2.77	158.10	5.87	
10:20	2.3		5.56	2,442.90	9.49	3.02	157.00	5.63	
10:23	3.0		5.50	2,484.20	10.54	2.71	155.10	5.43	

Sampling Activities

Sampled By: BG Sample Date/Time: 12/2/2025 10:23
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 5.50 pH 2,484.20 Spec. Cond. 10.54 Temp
Field Filtered: No Filter Type:
Water Level: 18.36 feet below TOC Drawdown: 2.84 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 223358

Form Completed By: Brett Gillihan **Date:** 12/2/2025

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 25111334
Monitoring Point: MW-103
Sample ID: 014
Date (s): 12/2/2025

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 27 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 12/2/25 10:54 AM
Static Water Level: 13.12 feet below TOC
Total Depth: 29.79 feet below TOC
Water Column: 16.67 feet

Purging Activities

Purged By: BG Purge Date: 12/2/2025
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 16.67 ft. x 0.022 = 0.37 L x 3 Vol. = 1.11 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.00 L
Physical appearance of purge water: Clear Odor: Slight Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:54	0.0	111	purge start time						
11:03	1.0	↓	6.31	2,459.40	11.90	1.63	88.90	8.06	
11:06	1.3		6.22	2,442.00	11.43	1.57	81.40	7.84	
11:09	1.7		6.21	2,426.90	11.06	1.58	77.20	7.74	
11:12	2.0		6.16	2,566.60	4.87	1.67	75.10	7.41	
11:15	2.3		6.02	2,167.30	9.48	2.49	65.70	6.81	
11:18	2.7		5.90	2,339.60	11.24	2.18	54.40	7.29	
11:21	3.0		5.89	2,383.30	11.77	1.87	74.10	6.90	
11:24	3.3		5.85	2,401.80	12.04	1.67	72.30	7.08	
11:27	3.7		5.86	2,406.50	11.39	1.64	71.60	6.15	
11:30	4.0		5.87	2,379.30	10.80	1.64	71.70	5.98	

Sampling Activities

Sampled By: BG Sample Date/Time: 12/2/2025 11:30
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 5.87 pH 2,379.30 Spec. Cond. 10.80 Temp
Field Filtered: No Filter Type:
Water Level: 17.68 feet below TOC Drawdown: 4.56 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 223358

Form Completed By: Brett Gillihan **Date:** 12/2/2025

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-104
Project Location:	Marion, IL	**Sample ID:**	015
W.O. Number (s):	25111334	**Date (s):**	12/2/2025

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 29 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 12/2/25 11:55 AM

Static Water Level: 12.36 feet below TOC

Total Depth: 31.69 feet below TOC

Water Column: 19.33 feet

Purging Activities

Purged By: BG Purge Date: 12/2/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 19.33 ft. x 0.022 = 0.43 L x 3 Vol. = 1.29 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 3.00 L

Physical appearance of purge water: Clear Odor: Strong Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
11:55	0.0	125	purge start time						
12:07	1.5	↓	8.11	2,677.30	9.61	0.99	-142.20	5.77	
12:10	1.9		8.42	2,605.70	8.56	0.87	-135.70	5.49	
12:13	2.3		8.81	2,571.40	8.29	0.84	-130.20	5.28	
12:16	2.6		8.83	2,554.00	7.59	0.83	-124.50	5.73	
12:19	3.0		8.84	2,503.70	6.93	0.75	-245.10	5.26	

Sampling Activities

Sampled By: BG Sample Date/Time: 12/2/2025 12:19

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 8.84 pH 2,503.70 Spec. Cond. 6.93 Temp

Field Filtered: No Filter Type:

Water Level: 15.44 feet below TOC Drawdown: 3.08 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 223358

Form Completed By: Brett Gillihan **Date:** 12/2/2025

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-105
Project Location:	Marion, IL	**Sample ID:**	016
W.O. Number (s):	25111334	**Date (s):**	12/3/2025

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 33 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 12/3/25 11:22 AM

Static Water Level: 11.22 feet below TOC

Total Depth: 33.68 feet below TOC

Water Column: 22.46 feet

Purging Activities

Purged By: BG Purge Date: 12/3/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 22.46 ft. x 0.022 = 0.49 L x 3 Vol. = 1.47 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
11:22	0.0	227	purge start time						
11:32	2.3	↓	6.76	2,614.70	11.47	2.98	31.80	6.99	
11:35	3.0		6.80	2,589.40	11.35	2.74	32.10	6.39	
11:38	3.6		6.84	2,578.50	11.30	2.57	32.40	5.92	
11:41	4.3		6.88	2,571.80	11.14	2.46	32.50	5.61	
11:44	5.0		6.90	2,567.00	11.02	2.41	32.70	5.44	

Sampling Activities

Sampled By: BG Sample Date/Time: 12/3/2025 11:44

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.90 pH 2,567.00 Spec. Cond. 11.02 Temp

Field Filtered: No Filter Type:

Water Level: 16.28 feet below TOC Drawdown: 5.06 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 223358

Form Completed By: Brett Gillihan **Date:** 12/3/2025

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-106
Project Location:	Marion, IL	**Sample ID:**	017
W.O. Number (s):	25111334	**Date (s):**	12/3/2025

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 31 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 12/3/25 10:03 AM

Static Water Level: 16.45 feet below TOC

Total Depth: 28.65 feet below TOC

Water Column: 12.20 feet

Purging Activities

Purged By: BG Purge Date: 12/3/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 12.2 ft. x 0.022 = 0.27 L x 3 Vol. = 0.81 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:03	0.0	98	purge start time						
10:06	0.3	↓	6.88	1,573.00	11.41	3.29	26.80	8.30	
10:09	0.6		6.80	1,544.80	11.21	3.57	29.10	7.66	
10:12	0.9		6.76	1,525.60	11.26	3.44	29.90	7.01	
10:15	1.2		6.76	1,507.40	11.06	3.30	30.30	6.56	
10:18	1.5		6.74	1,499.70	11.26	3.18	30.60	6.32	
10:21	1.8		6.74	1,488.00	11.38	3.08	30.70	6.90	
10:24	2.1		6.75	1,488.20	11.28	3.02	30.90	6.85	
10:27	2.4		6.75	1,484.80	11.38	2.92	31.00	7.21	
10:30	2.6		6.74	1,491.70	11.15	2.86	31.00	7.22	
10:33	2.9		6.74	1,487.40	10.97	2.82	31.30	7.00	
10:36	3.2		6.76	1,482.80	11.11	2.76	31.50	6.87	
10:39	3.5		6.72	1,480.10	11.25	2.74	31.60	6.88	
10:42	3.8		6.74	1,479.40	11.63	2.72	31.50	6.65	
10:45	4.1		6.73	1,490.10	11.35	2.70	31.40	6.88	
10:48	4.4		6.74	1,482.70	11.59	2.66	31.50	6.46	
10:51	4.7		6.71	1,483.50	11.67	2.61	31.50	6.12	
10:54	5.0		6.66	1,486.80	11.80	2.58	31.50	5.79	

Sampling Activities

Sampled By: BG Sample Date/Time: 12/3/2025 10:54

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.66 pH 1,486.80 Spec. Cond. 11.80 Temp

Field Filtered: No Filter Type:

Water Level: 20.43 feet below TOC Drawdown: 3.98 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 223358

Form Completed By: Brett Gillihan **Date:** 12/3/2025

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-109
Project Location:	Marion, IL	**Sample ID:**	018
W.O. Number (s):	25111334	**Date (s):**	12/3/2025

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 35 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 12/3/25 12:08 PM

Static Water Level: 6.21 feet below TOC

Total Depth: 31.46 feet below TOC

Water Column: 25.25 feet

Purging Activities

Purged By: BG Purge Date: 12/3/2025

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 25.25 ft. x 0.022 = 0.56 L x 3 Vol. = 1.68 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 3.00 L

Physical appearance of purge water: Clear Odor: None Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
12:08	0.0	150	purge start time						
12:13	0.7	↓	7.72	1,123.70	12.68	6.12	29.60	5.84	
12:16	1.2		7.68	1,120.60	12.87	6.04	31.10	5.62	
12:19	1.6		7.64	1,124.90	12.68	5.97	31.30	5.54	
12:22	2.1		7.59	1,126.50	12.75	5.85	31.60	5.44	
12:25	2.5		7.58	1,123.10	12.56	5.77	31.80	5.53	
12:28	3.0		7.58	1,129.90	12.84	5.68	32.00	5.50	

Sampling Activities

Sampled By: BG Sample Date/Time: 12/3/2025 12:28

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 7.58 pH 1,129.90 Spec. Cond. 12.84 Temp

Field Filtered: No Filter Type:

Water Level: 10.21 feet below TOC Drawdown: 4.00 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 223358

Form Completed By: Brett Gillihan **Date:** 12/3/2025

Site Samping Event: Groundwater Monitoring
LIMS Workorder: 25111334
Technician(s): BG, AL, DN

Field Calibration Log(s)
SIPC- 4Q 2025

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45280 Technician(s): A.Lampe Date: 12/1/2025

pH Standards	LIMS ID	Calibration reading	Date/Time
4.0 Buffer	WC251017A	4.00	12/1/25 10:23
7.0 Buffer	WC251017B	7.00	12/1/25 10:27
10.0 Buffer	WC251017C	10.00	12/1/25 10:31
LCS/CCV (7.0 Buffer)	WC251017D		

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	107107	1412	12/1/25 10:35

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.56	12/1/25 10:38
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading	Date/Time

D.O. Saturation	LIMS ID/Lot#	Reading	Date/Time
100%	N/A		

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-1-AL	LCS	12/1/25 10:39	16.2	7.09	1,415	0.56		
CCV-1-AL	CCV	12/1/25 12:28	14.2	7.02	1,386	0.52		

Comments:

Field Meter ID: Pine 45280 Technician(s): A.Lampe Date: 12/2/2025

pH Standards	LIMS ID	Calibration reading	Date/Time
4.0 Buffer	WC251017A	4.00	12/2/25 9:34
7.0 Buffer	WC251017B	7.00	12/2/25 9:37
10.0 Buffer	WC251017C	10.00	12/2/25 9:40
LCS/CCV (7.0 Buffer)	WC251017D		

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	107107	1412	12/2/25 9:42

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.34	12/2/25 9:45
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading	Date/Time

D.O. Saturation	LIMS ID/Lot#	Reading	Date/Time
100%	N/A		

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-2-AL	LCS	12/2/25 9:46	13.5	7.09	1,413	0.34		
CCV-2-AL	CCV	12/2/25 13:13	10.9	6.93	1,410	0.34		

Comments:

Site Samping Event: Groundwater Monitoring
LIMS Workorder: 25111334
Technician(s): BG, AL, DN

Field Calibration Log(s)
SIPC- 4Q 2025

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45280 Technician(s): A.Lampe Date: 12/3/2025

pH Standards	LIMS ID	Calibration reading	Date/Time
4.0 Buffer	WC251017A	4.00	12/3/25 9:13
7.0 Buffer	WC251017B	7.00	12/3/25 9:15
10.0 Buffer	WC251017C	10.00	12/3/25 9:17
LCS/CCV (7.0 Buffer)	WC251017D		

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	107107	1412	12/3/25 9:24

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.62	12/3/25 9:25
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading	Date/Time
			12/3/25 12:31

D.O. Saturation	LIMS ID/Lot#	Reading	Date/Time
100%	N/A		

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-3-AL	LCS	12/3/25 9:29	6.3	7.09	1,411	0.62		
CCV-3-AL	CCV	12/3/25 11:50	5.7	7.10	1,391	0.62		

Comments:

Site Samping Event: Groundwater Monitoring
LIMS Workorder: 25111334
Technician(s): BG, AL, DN

Field Calibration Log(s)
SIPC- 4Q 2025

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 223358 Technician(s): Brett Gillihan Date: 12/1/2025

pH Standards	LIMS ID	Calibration reading	Date/Time
4.0 Buffer	WC251017A	4.00	12/1/25 10:06
7.0 Buffer	WC251017B	7.02	1/0/00 0:00
10.0 Buffer	WC251017C	10.01	12/1/25 10:10
LCS/CCV (7.0 Buffer)	WC251017D		

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	107107	1420	12/1/25 10:12

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.32	12/1/25 10:15
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading	Date/Time

D.O. Saturation	LIMS ID/Lot#	Reading	Date/Time
100%	N/A		

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-1-BG	LCS	12/1/25 10:19	16.5	7.03	1,447	0.42		
CCV-1-BG	CCV	12/1/25 12:27	16.3	7.02	1,449	0.48		

Comments:

Field Meter ID: Pine 223358 Technician(s): Brett Gillihan Date: 12/2/2025

pH Standards	LIMS ID	Calibration reading	Date/Time
4.0 Buffer	WC251017A	4.01	12/2/25 9:59
7.0 Buffer	WC251017B	7.00	12/2/25 9:55
10.0 Buffer	WC251017C	10.00	12/2/25 10:04
LCS/CCV (7.0 Buffer)	WC251017D		

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	107107	1419	12/2/25 10:07

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.38	12/2/25 10:10
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading	Date/Time

D.O. Saturation	LIMS ID/Lot#	Reading	Date/Time
100%	N/A		

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-2-BG	LCS	12/2/25 10:12	14.3	7.02	1,441	0.49		
CCV-2-BG	CCV	12/2/25 12:49	16.2	7.01	1,448	0.52		

Comments:

Site Samping Event: Groundwater Monitoring
LIMS Workorder: 25111334
Technician(s): BG, AL, DN

Field Calibration Log(s)
SIPC- 4Q 2025

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 223358 Technician(s): Brett Gillihan Date: 12/3/2025

pH Standards	LIMS ID	Calibration reading	Date/Time
4.0 Buffer	WC251017A	4.00	12/3/25 9:47
7.0 Buffer	WC251017B	7.00	12/3/25 9:41
10.0 Buffer	WC251017C	10.00	12/3/25 9:50
LCS/CCV (7.0 Buffer)	WC251017D		

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	107107	1428	#REF!

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.32	12/3/25 9:58
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading	Date/Time

D.O. Saturation	LIMS ID/Lot#	Reading	Date/Time
100%	N/A		

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-3-BG	LCS	12/3/25 10:01	15.3	7.01	1,433	0.41		
CCV-3-BG	CCV	12/3/25 12:37	16.7	7.02	1,437	0.48		

Comments:

January 30, 2026

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:

Illinois	100226
Kansas	E-10374
Kansas	E-10438
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: Groundwater Monitoring **WorkOrder:** 25111334

Dear Jason McLaurin:

TEKLAB, INC received 9 samples for Ponds 1 and 2 on 12/4/2025 11:49:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report,Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Director of Customer Service
(618)344-1004
ehurley@teklabinc.com

Client: Southern Illinois Power Cooperation
Work Order: 25111334
Client Project: Groundwater Monitoring
Report Date: 30-Jan-26

This reporting package includes the following:

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Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

Abbr	Definition
*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
NC	Data is not acceptable for compliance purposes
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

Case Narrative

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Client Project: Groundwater Monitoring

Work Order: 25111334
Report Date: 30-Jan-26

Cooler Receipt Temp: 4.5 °C

An employee of Teklab, Inc. collected the sample(s).

MW-101 collection time per field file. EAH 12/10/25

Ra226/228 analyses were performed by Alliance Technical Group - Akron. See attached report for results and QC data.

Per Danielle Sylvia Cofelice's request, only Ponds 1 and 2 data is included in this report. EAH 1/30/26

Locations

Collinsville
Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville
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Collinsville, IL 62234-7433
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Springfield
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Springfield, IL 62711-9415
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Kansas City
Address 8421 Nieman Road
Lenexa, KS 66214
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Collinsville Air
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Collinsville, IL 62234-7425
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Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2027	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2026	Collinsville
Kansas	KDHE	E-10438	NELAP	7/31/2026	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2026	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2026	Collinsville
Oklahoma	ODEQ	9978	NELAP	1/31/2026	Collinsville
Arkansas	ADEQ	88-0966		3/14/2026	Collinsville
Illinois	IDPH	17584		5/31/2026	Collinsville
Iowa	IDNR	430		6/1/2026	Collinsville
Kansas	KDHE	E-92716		1/31/2027	Collinsville
Kentucky	KWLCP	KY98050		12/31/2026	Collinsville
Kentucky	KWLCP	KY98006		12/31/2026	Collinsville
Kentucky	UST	0073		1/31/2027	Collinsville
Mississippi	MSDH			4/30/2026	Collinsville
Missouri	MDNR	930		1/31/2028	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville

Client: Southern Illinois Power Cooperation
Work Order: 25111334
Client Project: Groundwater Monitoring
Report Date: 30-Jan-26
Lab ID: 25111334-009
Client Sample ID: Equipment Blank
Matrix: AQUEOUS
Collection Date: 12/04/2025 11:27

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**< 20**	mg/L	1	12/05/2025 13:23	R375863
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	12/05/2025 15:41	R375838
Chloride	NELAP	1.00	5.00		**ND**	mg/L	10	12/05/2025 15:41	R375838
Sulfate	NELAP	0.99	10.0		**ND**	mg/L	10	12/05/2025 15:41	R375838
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**< 2.5**	µg/L	1	12/08/2025 16:33	248872
Boron	NELAP	9.0	20.0		**< 20.0**	µg/L	1	12/11/2025 11:13	248872
Calcium	NELAP	0.035	0.100		**< 0.100**	mg/L	1	12/11/2025 11:13	248872
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	12/10/2025 5:00	248872
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	12/10/2025 5:00	248872
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	12/10/2025 5:00	248872
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	12/10/2025 5:00	248872
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	12/10/2025 5:00	248872
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	12/10/2025 5:00	248872
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	12/10/2025 5:00	248872
Lithium	*	1.4	3.0		**< 3.0**	µg/L	5	12/10/2025 5:00	248872
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	12/10/2025 5:00	248872
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	12/10/2025 5:00	248872
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	12/10/2025 5:00	248872
LCS recovered outside upper control limits for Sb and Cd. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	12/08/2025 12:10	248903
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.0	2.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556
Combined 226/228 Uncertainty	*	0	0		**0.53**	+/-	1	01/14/2026 7:54	R377556
Radium-226	*	1.0	1.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556
Radium-226 Uncertainty	*	0	0		**0.080**	+/-	1	01/14/2026 7:54	R377556
Radium-228	*	1.0	1.0		**ND**	pCi/L	1	01/13/2026 10:26	R377558
Radium-228 Uncertainty	*	0	0		**0.45**	+/-	1	01/13/2026 10:26	R377558

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

Lab ID: 25111334-010 **Client Sample ID:** Field Blank

Matrix: AQUEOUS **Collection Date:** 12/03/2025 12:40

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**< 20**	mg/L	1	12/04/2025 14:50	R375863
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	12/04/2025 16:19	R375764
Chloride	NELAP	1.00	5.00		**ND**	mg/L	10	12/04/2025 16:19	R375764
Sulfate	NELAP	0.99	10.0		**ND**	mg/L	10	12/04/2025 16:19	R375764
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**< 2.5**	µg/L	1	12/10/2025 19:58	248870
Boron	NELAP	9.0	20.0		**< 20.0**	µg/L	1	12/10/2025 19:58	248870
Calcium	NELAP	0.035	0.100		**< 0.100**	mg/L	1	12/10/2025 19:58	248870
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	B	**< 1.0**	µg/L	5	12/09/2025 21:35	248870
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	12/09/2025 21:35	248870
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	12/09/2025 21:35	248870
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	12/09/2025 21:35	248870
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	12/09/2025 21:35	248870
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	12/09/2025 21:35	248870
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	12/09/2025 21:35	248870
Lithium	*	1.4	3.0		**< 3.0**	µg/L	5	12/09/2025 21:35	248870
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	12/09/2025 21:35	248870
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	12/09/2025 21:35	248870
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	12/09/2025 21:35	248870
LCS recovered outside upper control limits for Sb and Cd. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	12/08/2025 12:12	248903
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.0	2.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556
Combined 226/228 Uncertainty	*	0	0		**0.44**	+/-	1	01/14/2026 7:54	R377556
Radium-226	*	1.0	1.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556
Radium-226 Uncertainty	*	0	0		**0.080**	+/-	1	01/14/2026 7:54	R377556
Radium-228	*	1.0	1.0		**ND**	pCi/L	1	01/13/2026 10:26	R377558
Radium-228 Uncertainty	*	0	0		**0.36**	+/-	1	01/13/2026 10:26	R377558

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

Lab ID: 25111334-012 **Client Sample ID:** MW-101

Matrix: GROUNDWATER **Collection Date:** 12/01/2025 11:20

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**16.02**	ft	1	12/01/2025 11:20	R375859
Elevation of groundwater surface	*	0	0		**516.66**	ft	1	12/01/2025 11:20	R375859
Measuring Point Elevation	*	0	0		**516.32**	ft	1	12/01/2025 11:20	R375859
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.30**	gal	1	12/01/2025 11:20	R375859
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**5.1**	NTU	1	12/01/2025 11:20	R375859
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**83**	mV	1	12/01/2025 11:20	R375859
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.407**	mS/cm	1	12/01/2025 11:20	R375859
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**11.3**	°C	1	12/01/2025 11:20	R375859
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**4.37**	mg/L	1	12/01/2025 11:20	R375859
SW-846 9040B FIELD									
pH	*	0	1.00		**6.46**		1	12/01/2025 11:20	R375859
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**780**	mg/L	1	12/02/2025 13:38	R375647
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.45**	mg/L	10	12/03/2025 12:58	R375683
Chloride	NELAP	1.00	5.00		**186**	mg/L	10	12/03/2025 12:58	R375683
Sulfate	NELAP	0.99	10.0		**113**	mg/L	10	12/03/2025 12:58	R375683
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**78.1**	µg/L	1	12/03/2025 19:57	248709
Boron	NELAP	9.0	20.0		**83.6**	µg/L	1	12/03/2025 19:57	248709
Calcium	NELAP	0.035	0.100		**65.6**	mg/L	1	12/03/2025 19:57	248709
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	J	**0.6**	µg/L	5	12/09/2025 7:44	248709
Arsenic	NELAP	0.4	1.0	J	**0.4**	µg/L	5	12/06/2025 14:12	248709
Beryllium	NELAP	0.2	1.0	J	**0.3**	µg/L	5	12/09/2025 7:44	248709
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	12/06/2025 14:12	248709
Chromium	NELAP	0.7	1.5	J	**1.4**	µg/L	5	12/09/2025 7:44	248709
Cobalt	NELAP	0.1	1.0	J	**0.3**	µg/L	5	12/09/2025 7:44	248709
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	12/06/2025 14:12	248709
Lithium	*	1.4	3.0		**36.5**	µg/L	5	12/09/2025 7:44	248709
Molybdenum	NELAP	0.6	1.5		**4.2**	µg/L	5	12/09/2025 7:44	248709
Selenium	NELAP	0.6	1.0	J	**0.9**	µg/L	5	12/06/2025 14:12	248709
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	12/09/2025 7:44	248709
CCV recovered outside the upper control limits for Se. Sample results are below the reporting limit. Data is reportable per the TNI standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	12/03/2025 18:19	248774
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.0	2.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556
Combined 226/228 Uncertainty	*	0	0		**0.51**	+/-	1	01/14/2026 7:54	R377556
Radium-226	*	1.0	1.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556

Client: Southern Illinois Power Cooperation
Work Order: 25111334
Client Project: Groundwater Monitoring
Report Date: 30-Jan-26
Lab ID: 25111334-012
Client Sample ID: MW-101
Matrix: GROUNDWATER
Collection Date: 12/01/2025 11:20

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**0.10**	+/-	1	01/14/2026 7:54	R377556
Radium-228	*	1.0	1.0		**ND**	pCi/L	1	01/13/2026 10:26	R377558
Radium-228 Uncertainty	*	0	0		**0.41**	+/-	1	01/13/2026 10:26	R377558

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

Lab ID: 25111334-013 **Client Sample ID:** MW-102

Matrix: GROUNDWATER **Collection Date:** 12/02/2025 10:23

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**15.52**	ft	1	12/02/2025 10:23	R375859
Elevation of groundwater surface	*	0	0		**503.70**	ft	1	12/02/2025 10:23	R375859
Measuring Point Elevation	*	0	0		**518.11**	ft	1	12/02/2025 10:23	R375859
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**0.80**	gal	1	12/02/2025 10:23	R375859
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**5.4**	NTU	1	12/02/2025 10:23	R375859
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**155**	mV	1	12/02/2025 10:23	R375859
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.484**	mS/cm	1	12/02/2025 10:23	R375859
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**10.5**	°C	1	12/02/2025 10:23	R375859
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**2.71**	mg/L	1	12/02/2025 10:23	R375859
SW-846 9040B FIELD									
pH	*	0	1.00		**5.50**		1	12/02/2025 10:23	R375859
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1550**	mg/L	1	12/03/2025 13:08	R375647
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.26**	mg/L	10	12/03/2025 13:36	R375683
Chloride	NELAP	1.00	5.00		**131**	mg/L	10	12/03/2025 13:36	R375683
Sulfate	NELAP	0.99	10.0		**743**	mg/L	10	12/03/2025 13:36	R375683
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**34.6**	µg/L	1	12/04/2025 17:55	248744
Boron	NELAP	9.0	20.0		**52.4**	µg/L	1	12/04/2025 17:55	248744
Calcium	NELAP	0.035	0.100		**170**	mg/L	1	12/04/2025 17:55	248744
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	12/09/2025 5:26	248744
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	12/06/2025 11:58	248744
Beryllium	NELAP	0.2	1.0	J	**0.3**	µg/L	5	12/09/2025 5:26	248744
Cadmium	NELAP	0.2	1.0	J	**0.2**	µg/L	5	12/06/2025 11:58	248744
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	12/09/2025 5:26	248744
Cobalt	NELAP	0.1	1.0	J	**0.3**	µg/L	5	12/09/2025 5:26	248744
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	12/06/2025 11:58	248744
Lithium	*	1.4	3.0		**5.7**	µg/L	5	12/09/2025 5:26	248744
Molybdenum	NELAP	0.6	1.5		**1.8**	µg/L	5	12/10/2025 13:13	248744
Selenium	NELAP	0.6	1.0		**1.6**	µg/L	5	12/10/2025 13:13	248744
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	12/09/2025 5:26	248744
LCS recovered outside upper control limits for Tl. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	12/03/2025 18:21	248774
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.0	2.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556
Combined 226/228 Uncertainty	*	0	0		**0.43**	+/-	1	01/14/2026 7:54	R377556
Radium-226	*	1.0	1.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556

Client: Southern Illinois Power Cooperation
Work Order: 25111334
Client Project: Groundwater Monitoring
Report Date: 30-Jan-26
Lab ID: 25111334-013
Client Sample ID: MW-102
Matrix: GROUNDWATER
Collection Date: 12/02/2025 10:23

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**0.090**	+/-	1	01/14/2026 7:54	R377556
Radium-228	*	1.0	1.0		**ND**	pCi/L	1	01/13/2026 10:26	R377558
Radium-228 Uncertainty	*	0	0		**0.34**	+/-	1	01/13/2026 10:26	R377558

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

Lab ID: 25111334-014 **Client Sample ID:** MW-103

Matrix: GROUNDWATER **Collection Date:** 12/02/2025 11:30

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**13.12**	ft	1	12/02/2025 11:30	R375859
Elevation of groundwater surface	*	0	0		**498.27**	ft	1	12/02/2025 11:30	R375859
Measuring Point Elevation	*	0	0		**512.34**	ft	1	12/02/2025 11:30	R375859
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.10**	gal	1	12/02/2025 11:30	R375859
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**6.0**	NTU	1	12/02/2025 11:30	R375859
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**72**	mV	1	12/02/2025 11:30	R375859
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.379**	mS/cm	1	12/02/2025 11:30	R375859
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**10.8**	°C	1	12/02/2025 11:30	R375859
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**1.64**	mg/L	1	12/02/2025 11:30	R375859
SW-846 9040B FIELD									
pH	*	0	1.00		**5.87**		1	12/02/2025 11:30	R375859
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	32	40		**1720**	mg/L	2	12/03/2025 13:13	R375647
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.05**	mg/L	10	12/03/2025 13:49	R375683
Chloride	NELAP	1.00	5.00		**386**	mg/L	10	12/03/2025 13:49	R375683
Sulfate	NELAP	0.99	10.0		**664**	mg/L	10	12/03/2025 13:49	R375683
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**39.9**	µg/L	1	12/04/2025 17:55	248744
Boron	NELAP	9.0	20.0		**8970**	µg/L	1	12/04/2025 17:55	248744
Calcium	NELAP	0.035	0.100		**129**	mg/L	1	12/04/2025 17:55	248744
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	12/09/2025 5:32	248744
Arsenic	NELAP	0.4	1.0		**3.1**	µg/L	5	12/06/2025 12:43	248744
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	12/09/2025 5:32	248744
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	12/06/2025 12:43	248744
Chromium	NELAP	0.7	1.5		**1.5**	µg/L	5	12/09/2025 5:32	248744
Cobalt	NELAP	0.1	1.0		**575**	µg/L	5	12/09/2025 5:32	248744
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	12/06/2025 12:43	248744
Lithium	*	1.4	3.0		**7.8**	µg/L	5	12/09/2025 5:32	248744
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	12/09/2025 5:32	248744
Selenium	NELAP	0.6	1.0	J	**0.8**	µg/L	5	12/06/2025 12:43	248744
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	12/09/2025 5:32	248744
LCS recovered outside upper control limits for Tl. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
CCV recovered outside the upper control limits for Se. Sample results are below the reporting limit. Data is reportable per the TNI standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	12/03/2025 18:23	248774
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.0	2.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556
Combined 226/228 Uncertainty	*	0	0		**0.59**	+/-	1	01/14/2026 7:54	R377556

Client: Southern Illinois Power Cooperation
Work Order: 25111334
Client Project: Groundwater Monitoring
Report Date: 30-Jan-26
Lab ID: 25111334-014
Client Sample ID: MW-103
Matrix: GROUNDWATER
Collection Date: 12/02/2025 11:30

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	1.0	1.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556
Radium-226 Uncertainty	*	0	0		**0.090**	+/-	1	01/14/2026 7:54	R377556
Radium-228	*	1.0	1.0		**ND**	pCi/L	1	01/13/2026 10:26	R377558
Radium-228 Uncertainty	*	0	0		**0.50**	+/-	1	01/13/2026 10:26	R377558

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

Lab ID: 25111334-015 **Client Sample ID:** MW-104

Matrix: GROUNDWATER **Collection Date:** 12/02/2025 12:19

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**12.36**	ft	1	12/02/2025 12:19	R375859
Elevation of groundwater surface	*	0	0		**505.83**	ft	1	12/02/2025 12:19	R375859
Measuring Point Elevation	*	0	0		**512.52**	ft	1	12/02/2025 12:19	R375859
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**0.80**	gal	1	12/02/2025 12:19	R375859
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**5.3**	NTU	1	12/02/2025 12:19	R375859
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-245**	mV	1	12/02/2025 12:19	R375859
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.504**	mS/cm	1	12/02/2025 12:19	R375859
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**6.9**	°C	1	12/02/2025 12:19	R375859
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.75**	mg/L	1	12/02/2025 12:19	R375859
SW-846 9040B FIELD									
pH	*	0	1.00		**8.84**		1	12/02/2025 12:19	R375859
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	23	29		**2570**	mg/L	1.43	12/03/2025 13:08	R375647
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**4.16**	mg/L	10	12/03/2025 14:02	R375683
Chloride	NELAP	1.00	5.00		**34.7**	mg/L	10	12/03/2025 14:02	R375683
Sulfate	NELAP	0.99	10.0		**1770**	mg/L	10	12/03/2025 14:02	R375683
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**38.1**	µg/L	1	12/04/2025 17:48	248760
Boron	NELAP	9.0	20.0		**6600**	µg/L	1	12/04/2025 17:48	248760
Calcium	NELAP	0.035	0.100		**660**	mg/L	1	12/04/2025 17:48	248760
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**1.8**	µg/L	5	12/09/2025 7:49	248760
Arsenic	NELAP	8.0	20.0		**580**	µg/L	100	12/09/2025 8:21	248760
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	12/09/2025 7:49	248760
Cadmium	NELAP	3.0	20.0		**< 20.0**	µg/L	100	12/09/2025 8:21	248760
Chromium	NELAP	14.0	30.0		**< 30.0**	µg/L	100	12/09/2025 8:21	248760
Cobalt	NELAP	2.3	20.0		**< 20.0**	µg/L	100	12/09/2025 8:21	248760
Lead	NELAP	0.6	1.0	J	**0.8**	µg/L	5	12/06/2025 14:18	248760
Lithium	*	1.4	3.0		**6.5**	µg/L	5	12/09/2025 7:49	248760
Molybdenum	NELAP	12	30	J	**22**	µg/L	100	12/09/2025 8:21	248760
Selenium	NELAP	12.0	20.0		**< 20.0**	µg/L	100	12/09/2025 8:21	248760
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	12/09/2025 7:49	248760

Elevated reporting limit due to high levels of target and/or non-target analytes.

CCV recovered outside the upper control limits for Se. Sample results are below the reporting limit. Data is reportable per the TNI standard.

LCS recovered outside upper control limits for Tl. Sample results are below the reporting limit. Data is reportable per the TNI Standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	12/03/2025 18:26	248774
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.0	2.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556

Client: Southern Illinois Power Cooperation
Work Order: 25111334
Client Project: Groundwater Monitoring
Report Date: 30-Jan-26
Lab ID: 25111334-015
Client Sample ID: MW-104
Matrix: GROUNDWATER
Collection Date: 12/02/2025 12:19

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228 Uncertainty	*	0	0		**0.46**	+/-	1	01/14/2026 7:54	R377556
Radium-226	*	1.0	1.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556
Radium-226 Uncertainty	*	0	0		**0.070**	+/-	1	01/14/2026 7:54	R377556
Radium-228	*	1.0	1.0		**ND**	pCi/L	1	01/13/2026 10:26	R377558
Radium-228 Uncertainty	*	0	0		**0.39**	+/-	1	01/13/2026 10:26	R377558

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

Lab ID: 25111334-016 **Client Sample ID:** MW-105

Matrix: GROUNDWATER **Collection Date:** 12/03/2025 11:44

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**11.22**	ft	1	12/03/2025 11:44	R375859
Elevation of groundwater surface	*	0	0		**507.38**	ft	1	12/03/2025 11:44	R375859
Measuring Point Elevation	*	0	0		**513.44**	ft	1	12/03/2025 11:44	R375859
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.30**	gal	1	12/03/2025 11:44	R375859
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**5.4**	NTU	1	12/03/2025 11:44	R375859
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**33**	mV	1	12/03/2025 11:44	R375859
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.567**	mS/cm	1	12/03/2025 11:44	R375859
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**11.0**	°C	1	12/03/2025 11:44	R375859
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**2.41**	mg/L	1	12/03/2025 11:44	R375859
SW-846 9040B FIELD									
pH	*	0	1.00		**6.90**		1	12/03/2025 11:44	R375859
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	32	40		**1630**	mg/L	2	12/04/2025 14:50	R375863
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.17**	mg/L	10	12/04/2025 17:23	R375764
Chloride	NELAP	1.00	5.00		**260**	mg/L	10	12/04/2025 17:23	R375764
Sulfate	NELAP	0.99	10.0		**686**	mg/L	10	12/04/2025 17:23	R375764
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**59.4**	µg/L	1	12/10/2025 20:03	248870
Boron	NELAP	9.0	20.0		**125**	µg/L	1	12/10/2025 20:03	248870
Calcium	NELAP	0.035	0.100		**181**	mg/L	1	12/10/2025 20:03	248870
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	B	**< 1.0**	µg/L	5	12/09/2025 21:46	248870
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	12/09/2025 21:46	248870
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	12/09/2025 21:46	248870
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	12/09/2025 21:46	248870
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	12/09/2025 21:46	248870
Cobalt	NELAP	0.1	1.0	J	**0.3**	µg/L	5	12/09/2025 21:46	248870
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	12/09/2025 21:46	248870
Lithium	*	1.4	3.0		**55.3**	µg/L	5	12/09/2025 21:46	248870
Molybdenum	NELAP	0.6	1.5	J	**1.4**	µg/L	5	12/10/2025 13:23	248870
Selenium	NELAP	0.6	1.0		**1.6**	µg/L	5	12/09/2025 21:46	248870
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	12/09/2025 21:46	248870
LCS recovered outside upper control limits for Sb and Cd. Sample results are below the reporting limit. Data is reportable per the TNI Standard. Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	12/08/2025 12:17	248903
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.0	2.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556
Combined 226/228 Uncertainty	*	0	0		**0.47**	+/-	1	01/14/2026 7:54	R377556

Client: Southern Illinois Power Cooperation
Work Order: 25111334
Client Project: Groundwater Monitoring
Report Date: 30-Jan-26
Lab ID: 25111334-016
Client Sample ID: MW-105
Matrix: GROUNDWATER
Collection Date: 12/03/2025 11:44

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	1.0	1.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556
Radium-226 Uncertainty	*	0	0		**0.050**	+/-	1	01/14/2026 7:54	R377556
Radium-228	*	1.0	1.0		**ND**	pCi/L	1	01/13/2026 10:26	R377558
Radium-228 Uncertainty	*	0	0		**0.42**	+/-	1	01/13/2026 10:26	R377558

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

Lab ID: 25111334-017 **Client Sample ID:** MW-106

Matrix: GROUNDWATER **Collection Date:** 12/03/2025 10:54

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**16.45**	ft	1	12/03/2025 10:54	R375859
Elevation of groundwater surface	*	0	0		**516.37**	ft	1	12/03/2025 10:54	R375859
Measuring Point Elevation	*	0	0		**515.94**	ft	1	12/03/2025 10:54	R375859
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.30**	gal	1	12/03/2025 10:54	R375859
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**5.8**	NTU	1	12/03/2025 10:54	R375859
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**32**	mV	1	12/03/2025 10:54	R375859
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.487**	mS/cm	1	12/03/2025 10:54	R375859
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**11.8**	°C	1	12/03/2025 10:54	R375859
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**2.58**	mg/L	1	12/03/2025 10:54	R375859
SW-846 9040B FIELD									
pH	*	0	1.00		**6.66**		1	12/03/2025 10:54	R375859
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**946**	mg/L	1	12/04/2025 14:50	R375863
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.23**	mg/L	10	12/04/2025 17:35	R375764
Chloride	NELAP	1.00	5.00		**39.2**	mg/L	10	12/04/2025 17:35	R375764
Sulfate	NELAP	0.99	10.0		**447**	mg/L	10	12/04/2025 17:35	R375764
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**68.2**	µg/L	1	12/10/2025 20:03	248870
Boron	NELAP	9.0	20.0		**34.9**	µg/L	1	12/10/2025 20:03	248870
Calcium	NELAP	0.035	0.100		**88.5**	mg/L	1	12/10/2025 20:03	248870
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	B	**< 1.0**	µg/L	5	12/09/2025 21:52	248870
Arsenic	NELAP	0.4	1.0	J	**0.8**	µg/L	5	12/09/2025 21:52	248870
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	12/09/2025 21:52	248870
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	12/09/2025 21:52	248870
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	12/09/2025 21:52	248870
Cobalt	NELAP	0.1	1.0	J	**0.7**	µg/L	5	12/09/2025 21:52	248870
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	12/09/2025 21:52	248870
Lithium	*	1.4	3.0		**40.5**	µg/L	5	12/09/2025 21:52	248870
Molybdenum	NELAP	0.6	1.5		**2.8**	µg/L	5	12/10/2025 13:28	248870
Selenium	NELAP	0.6	1.0		**1.4**	µg/L	5	12/09/2025 21:52	248870
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	12/09/2025 21:52	248870
LCS recovered outside upper control limits for Sb and Cd. Sample results are below the reporting limit. Data is reportable per the TNI Standard. Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	12/08/2025 12:19	248903
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.0	2.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556
Combined 226/228 Uncertainty	*	0	0		**0.52**	+/-	1	01/14/2026 7:54	R377556

Client: Southern Illinois Power Cooperation
Work Order: 25111334
Client Project: Groundwater Monitoring
Report Date: 30-Jan-26
Lab ID: 25111334-017
Client Sample ID: MW-106
Matrix: GROUNDWATER
Collection Date: 12/03/2025 10:54

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	1.0	1.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556
Radium-226 Uncertainty	*	0	0		**0.11**	+/-	1	01/14/2026 7:54	R377556
Radium-228	*	1.0	1.0		**ND**	pCi/L	1	01/13/2026 10:26	R377558
Radium-228 Uncertainty	*	0	0		**0.41**	+/-	1	01/13/2026 10:26	R377558

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

Lab ID: 25111334-018 **Client Sample ID:** MW-109

Matrix: GROUNDWATER **Collection Date:** 12/03/2025 12:28

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**6.21**	ft	1	12/03/2025 12:28	R375859
Elevation of groundwater surface	*	0	0		**488.66**	ft	1	12/03/2025 12:28	R375859
Measuring Point Elevation	*	0	0		**512.55**	ft	1	12/03/2025 12:28	R375859
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**0.80**	gal	1	12/03/2025 12:28	R375859
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**5.5**	NTU	1	12/03/2025 12:28	R375859
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**32**	mV	1	12/03/2025 12:28	R375859
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.130**	mS/cm	1	12/03/2025 12:28	R375859
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**12.8**	°C	1	12/03/2025 12:28	R375859
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**5.68**	mg/L	1	12/03/2025 12:28	R375859
SW-846 9040B FIELD									
pH	*	0	1.00		**7.58**		1	12/03/2025 12:28	R375859
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**636**	mg/L	1	12/04/2025 14:50	R375863
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.32**	mg/L	10	12/04/2025 17:48	R375764
Chloride	NELAP	1.00	5.00		**80.7**	mg/L	10	12/04/2025 17:48	R375764
Sulfate	NELAP	0.99	10.0		**127**	mg/L	10	12/04/2025 17:48	R375764
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**138**	µg/L	1	12/10/2025 20:04	248870
Boron	NELAP	9.0	20.0		**21.9**	µg/L	1	12/10/2025 20:04	248870
Calcium	NELAP	0.035	0.100		**60.3**	mg/L	1	12/10/2025 20:04	248870
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	B	**< 1.0**	µg/L	5	12/09/2025 21:58	248870
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	12/09/2025 21:58	248870
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	12/09/2025 21:58	248870
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	12/09/2025 21:58	248870
Chromium	NELAP	0.7	1.5	J	**0.8**	µg/L	5	12/09/2025 21:58	248870
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	12/09/2025 21:58	248870
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	12/09/2025 21:58	248870
Lithium	*	1.4	3.0		**7.3**	µg/L	5	12/09/2025 21:58	248870
Molybdenum	NELAP	0.6	1.5		**4.3**	µg/L	5	12/10/2025 14:08	248870
Selenium	NELAP	0.6	1.0		**1.3**	µg/L	5	12/09/2025 21:58	248870
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	12/09/2025 21:58	248870

LCS recovered outside upper control limits for Sb and Cd. Sample results are below the reporting limit. Data is reportable per the TNI Standard.
Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	12/08/2025 12:33	248903
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.0	2.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556
Combined 226/228 Uncertainty	*	0	0		**0.48**	+/-	1	01/14/2026 7:54	R377556

Client: Southern Illinois Power Cooperation
Work Order: 25111334
Client Project: Groundwater Monitoring
Report Date: 30-Jan-26
Lab ID: 25111334-018
Client Sample ID: MW-109
Matrix: GROUNDWATER
Collection Date: 12/03/2025 12:28

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	1.0	1.0		**ND**	pCi/L	1	01/14/2026 7:54	R377556
Radium-226 Uncertainty	*	0	0		**0.080**	+/-	1	01/14/2026 7:54	R377556
Radium-228	*	1.0	1.0		**ND**	pCi/L	1	01/13/2026 10:26	R377558
Radium-228 Uncertainty	*	0	0		**0.40**	+/-	1	01/13/2026 10:26	R377558

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

STANDARD METHODS 2510 B FIELD

Batch R375859 **SampType:** LCS Units **mS/cm**
SampID: LCS-1-AL

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.415**	1.412	0	100.2	90	110	12/01/2025

Batch R375859 **SampType:** LCS Units **mS/cm**
SampID: LCS-1-BG

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.447**	1.412	0	102.5	90	110	12/01/2025

Batch R375859 **SampType:** LCS Units **mS/cm**
SampID: LCS-2-AL

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.413**	1.412	0	100.1	90	110	12/02/2025

Batch R375859 **SampType:** LCS Units **mS/cm**
SampID: LCS-2-BG

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.441**	1.412	0	102.1	90	110	12/02/2025

Batch R375859 **SampType:** LCS Units **mS/cm**
SampID: LCS-3-AL

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.411**	1.412	0	99.9	90	110	12/03/2025

Batch R375859 **SampType:** LCS Units **mS/cm**
SampID: LCS-3-BG

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.433**	1.412	0	101.5	90	110	12/03/2025

SW-846 9040B FIELD

Batch R375859 **SampType:** LCS Units
SampID: LCS-1-AL

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.09**	7.000	0	101.3	98.57	101.4	12/01/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW-846 9040B FIELD

Batch R375859 **SampType:** LCS Units

SampID: LCS-1-BG

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.03**	7.000	0	100.4	98.57	101.4	12/01/2025

Batch R375859 **SampType:** LCS Units

SampID: LCS-2-AL

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.09**	7.000	0	101.3	98.57	101.4	12/02/2025

Batch R375859 **SampType:** LCS Units

SampID: LCS-2-BG

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.02**	7.000	0	100.3	98.57	101.4	12/02/2025

Batch R375859 **SampType:** LCS Units

SampID: LCS-3-AL

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.09**	7.000	0	101.3	98.57	101.4	12/03/2025

Batch R375859 **SampType:** LCS Units

SampID: LCS-3-BG

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.01**	7.000	0	100.1	98.57	101.4	12/03/2025

STANDARD METHODS 2540 C (TOTAL) 2020

Batch R375647 **SampType:** MBLK Units **mg/L**

SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	12/03/2025
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	12/02/2025

Batch R375647 **SampType:** LCS Units **mg/L**

SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**242**	250.0	0	96.8	90	110	12/03/2025
Total Dissolved Solids		20		**238**	250.0	0	95.2	90	110	12/02/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

STANDARD METHODS 2540 C (TOTAL) 2020

Batch R375647 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 25111334-013ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**1540**				1554	0.65	12/03/2025

Batch R375647 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 25110892-006BDUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		29		**506**				509.1	0.56	12/02/2025

Batch R375647 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 25111839-001ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		400	H	**15700**				14640	6.86	12/02/2025

Batch R375863 **SampType:** MBLK Units **mg/L**

SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	12/04/2025

Batch R375863 **SampType:** LCS Units **mg/L**

SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**244**	250.0	0	97.6	90	110	12/04/2025

Batch R375863 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 25120235-002ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		40		**2370**				2372	0.00	12/04/2025

Batch R375863 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 25120407-001ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**968**				970.0	0.21	12/05/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R375683 **SampType:** MBLK Units **mg/L**
SampID: MBLK/ICB

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**	0.0040	0	0	0	100	12/03/2025
Chloride		0.50		**ND**	0.1000	0	0	0	100	12/03/2025
Sulfate		1.00		**ND**	0.0990	0	0	0	100	12/03/2025

Batch R375683 **SampType:** LCS Units **mg/L**
SampID: LCS/ICV/QCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**1.08**	1.000	0	107.7	90	110	12/03/2025
Chloride		0.50		**21.4**	20.00	0	107.0	90	110	12/03/2025
Sulfate		1.00		**19.9**	20.00	0	99.7	90	110	12/03/2025

Batch R375683 **SampType:** MS Units **mg/L**
SampID: 25110893-004AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**11.8**	10.00	1.130	106.3	80	120	12/03/2025
Chloride		5.00		**228**	200.0	15.26	106.2	80	120	12/03/2025
Sulfate		10.0		**222**	200.0	24.54	98.9	80	120	12/03/2025

Batch R375683 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 25110893-004AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**11.7**	10.00	1.130	105.7	11.76	0.55	12/03/2025
Chloride		5.00		**226**	200.0	15.26	105.4	227.7	0.72	12/03/2025
Sulfate		10.0		**221**	200.0	24.54	98.2	222.3	0.58	12/03/2025

Batch R375683 **SampType:** MS Units **mg/L**
SampID: 25111334-012AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**11.2**	10.00	0.4520	107.9	80	120	12/03/2025
Chloride		5.00		**424**	200.0	186.4	119.0	80	120	12/03/2025
Sulfate		10.0		**322**	200.0	112.9	104.5	80	120	12/03/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R375683 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25111334-012AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**11.2**	10.00	0.4520	107.6	11.24	0.23	12/03/2025
Chloride		5.00		**423**	200.0	186.4	118.2	424.4	0.40	12/03/2025
Sulfate		10.0		**321**	200.0	112.9	104.0	321.9	0.32	12/03/2025

Batch R375683 **SampType:** MS Units **mg/L**

SampID: 25120007-001BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.5**	10.00	0.3080	102.3	80	120	12/04/2025
Chloride		5.00		**205**	200.0	2.390	101.2	80	120	12/04/2025
Sulfate		10.0		**249**	200.0	56.03	96.3	80	120	12/04/2025

Batch R375683 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25120007-001BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.6**	10.00	0.3080	102.8	10.54	0.42	12/04/2025
Chloride		5.00		**206**	200.0	2.390	101.8	204.8	0.58	12/04/2025
Sulfate		10.0		**250**	200.0	56.03	96.9	248.6	0.53	12/04/2025

Batch R375683 **SampType:** MS Units **mg/L**

SampID: 25120132-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		1.00		**21.5**	20.00	0.2580	106.2	80	120	12/03/2025
Chloride		10.0		**673**	400.0	223.3	112.5	80	120	12/03/2025
Sulfate		20.0		**2300**	400.0	1875	105.1	80	120	12/03/2025

Batch R375683 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25120132-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		1.00		**21.6**	20.00	0.2580	106.8	21.50	0.57	12/03/2025
Chloride		10.0		**670**	400.0	223.3	111.6	673.2	0.53	12/03/2025
Sulfate		20.0		**2250**	400.0	1875	93.4	2296	2.08	12/03/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R375683 **SampType:** MS Units **mg/L**

SampID: 25120184-002AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**8.46**	10.00	0.3000	81.6	80	120	12/03/2025
Chloride		5.00		**330**	200.0	104.1	113.0	80	120	12/03/2025
Sulfate		10.0		**304**	200.0	100.5	101.6	80	120	12/03/2025

Batch R375683 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25120184-002AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**8.51**	10.00	0.3000	82.1	8.455	0.65	12/03/2025
Chloride		5.00		**331**	200.0	104.1	113.3	330.1	0.18	12/03/2025
Sulfate		10.0		**304**	200.0	100.5	102.0	303.7	0.22	12/03/2025

Batch R375683 **SampType:** MS Units **mg/L**

SampID: 25120194-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.7**	10.00	0.2020	104.7	80	120	12/04/2025
Chloride		5.00		**225**	200.0	13.92	105.4	80	120	12/04/2025
Sulfate		10.0		**440**	200.0	232.9	103.3	80	120	12/04/2025

Batch R375683 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25120194-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.6**	10.00	0.2020	103.6	10.68	1.02	12/04/2025
Chloride		5.00		**222**	200.0	13.92	104.1	224.8	1.23	12/04/2025
Sulfate		10.0		**437**	200.0	232.9	102.1	439.5	0.59	12/04/2025

Batch R375764 **SampType:** MBLK Units **mg/L**

SampID: MBLK/ICB

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**	0.0040	0	0	0	100	12/04/2025
Chloride		0.50		**ND**	0.1000	0	0	0	100	12/04/2025
Sulfate		1.00		**ND**	0.0990	0	0	0	100	12/04/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R375764 **SampType:** LCS Units **mg/L**

SampID: LCS/ICV/QCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**1.07**	1.000	0	107.2	90	110	12/04/2025
Chloride		0.50		**21.4**	20.00	0	107.0	90	110	12/04/2025
Sulfate		1.00		**19.9**	20.00	0	99.6	90	110	12/04/2025

Batch R375764 **SampType:** MS Units **mg/L**

SampID: 25111334-003AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.9**	10.00	0.3480	105.3	80	120	12/04/2025
Chloride		5.00		**288**	200.0	66.21	110.8	80	120	12/04/2025
Sulfate		10.0		**1820**	200.0	1607	108.9	80	120	12/04/2025

Batch R375764 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25111334-003AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.7**	10.00	0.3480	104.0	10.88	1.21	12/04/2025
Chloride		5.00		**285**	200.0	66.21	109.4	287.8	1.00	12/04/2025
Sulfate		10.0		**1820**	200.0	1607	108.7	1824	0.01	12/04/2025

Batch R375764 **SampType:** MS Units **mg/L**

SampID: 25120236-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.25		**5.76**	5.000	0.4870	105.5	80	120	12/04/2025
Chloride		2.50		**168**	100.0	55.15	113.0	80	120	12/04/2025
Sulfate		5.00		**205**	100.0	100.8	104.2	80	120	12/04/2025

Batch R375764 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25120236-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.25		**5.79**	5.000	0.4870	106.1	5.763	0.49	12/04/2025
Chloride		2.50		**168**	100.0	55.15	113.2	168.2	0.11	12/04/2025
Sulfate		5.00		**205**	100.0	100.8	104.5	205.0	0.16	12/04/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R375764 **SampType:** MS Units **mg/L**

SampID: 25120314-003AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**11.1**	10.00	0.4470	106.6	80	120	12/04/2025
Chloride		5.00		**292**	200.0	68.14	111.8	80	120	12/04/2025
Sulfate		10.0		**316**	200.0	110.4	102.7	80	120	12/04/2025

Batch R375764 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25120314-003AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**11.1**	10.00	0.4470	106.1	11.11	0.51	12/04/2025
Chloride		5.00		**291**	200.0	68.14	111.3	291.7	0.31	12/04/2025
Sulfate		10.0		**315**	200.0	110.4	102.2	315.8	0.29	12/04/2025

Batch R375838 **SampType:** MBLK Units **mg/L**

SampID: MBLK/ICB

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**	0.0040	0	0	0	100	12/05/2025
Chloride		0.50		**ND**	0.1000	0	0	0	100	12/05/2025
Sulfate		1.00		**ND**	0.0990	0	0	0	100	12/05/2025

Batch R375838 **SampType:** LCS Units **mg/L**

SampID: LCS/ICV/QCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**1.01**	1.000	0	101.5	90	110	12/05/2025
Chloride		0.50		**20.4**	20.00	0	101.8	90	110	12/05/2025
Sulfate		1.00		**19.0**	20.00	0	95.2	90	110	12/05/2025

Batch R375838 **SampType:** MS Units **mg/L**

SampID: 25120386-003AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**11.1**	10.00	0.6120	105.2	80	120	12/05/2025
Chloride		5.00		**447**	200.0	217.8	114.8	80	120	12/05/2025
Sulfate		10.0		**247**	200.0	49.04	99.2	80	120	12/05/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R375838 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25120386-003AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**11.2**	10.00	0.6120	105.7	11.13	0.49	12/05/2025
Chloride		5.00		**447**	200.0	217.8	114.8	447.4	0.01	12/05/2025
Sulfate		10.0		**248**	200.0	49.04	99.6	247.4	0.32	12/05/2025

Batch R375838 **SampType:** MS Units **mg/L**

SampID: 25120408-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		5.00		**105**	100.0	10.33	95.0	80	120	12/05/2025
Chloride		50.0		**12900**	2000	11000	94.7	80	120	12/05/2025
Sulfate		100		**5570**	2000	3484	104.5	80	120	12/05/2025

Batch R375838 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25120408-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		5.00		**105**	100.0	10.33	94.8	105.3	0.17	12/05/2025
Chloride		50.0		**12900**	2000	11000	92.9	12890	0.28	12/05/2025
Sulfate		100		**5550**	2000	3484	103.4	5574	0.39	12/05/2025

Batch R375838 **SampType:** MS Units **mg/L**

SampID: 25120515-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.5**	10.00	0.1570	103.6	80	120	12/05/2025
Chloride		5.00		**224**	200.0	13.83	105.3	80	120	12/05/2025
Sulfate		10.0		**657**	200.0	440.8	108.0	80	120	12/05/2025

Batch R375838 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25120515-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.3**	10.00	0.1570	101.6	10.52	1.96	12/05/2025
Chloride		5.00		**220**	200.0	13.83	103.1	224.3	1.92	12/05/2025
Sulfate		10.0		**650**	200.0	440.8	104.7	656.8	1.00	12/05/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R375838 **SampType:** MS Units **mg/L**

SampID: 25120517-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**2.12**	2.000	0.1846	96.8	80	120	12/05/2025
Chloride		1.00		**56.8**	40.00	13.53	108.3	80	120	12/05/2025
Sulfate		2.00		**501**	40.00	464.4	91.9	80	120	12/05/2025

Batch R375838 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25120517-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		**2.12**	2.000	0.1846	97.0	2.120	0.18	12/05/2025
Chloride		1.00		**57.1**	40.00	13.53	108.9	56.84	0.47	12/05/2025
Sulfate		2.00		**501**	40.00	464.4	91.6	501.2	0.02	12/05/2025

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 248709 **SampType:** MBLK Units **µg/L**

SampID: MBLK-248709

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0.7000	0	0	-100	100	12/03/2025
Barium		2.5		**< 2.5**	0.7000	0	0	-100	100	12/19/2025
Boron		20.0		**< 20.0**	9.000	0	0	-100	100	12/03/2025
Boron		20.0		**< 20.0**	9.000	0	0	-100	100	12/19/2025
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	12/03/2025

Batch 248709 **SampType:** LCS Units **µg/L**

SampID: LCS-248709

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**2030**	2000	0	101.5	85	115	12/03/2025
Boron		20.0		**980**	1000	0	98.0	85	115	12/03/2025
Calcium		0.100		**4.84**	5.000	0	96.8	85	115	12/03/2025

Batch 248709 **SampType:** MS Units **µg/L**

SampID: 25111334-006CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**2020**	2000	45.90	98.7	75	125	12/04/2025
Boron		20.0		**996**	1000	0	99.6	75	125	12/04/2025
Calcium		0.100		**18.6**	5.000	14.01	90.8	75	125	12/04/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 248709 **SampType:** MSD Units µg/L RPD Limit 20

SampID: 25111334-006CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium		2.5		**2000**	2000	45.90	97.7	2020	1.00	12/04/2025
Boron		20.0		**983**	1000	0	98.3	995.7	1.24	12/04/2025
Calcium		0.100		**18.7**	5.000	14.01	93.0	18.55	0.59	12/04/2025

Batch 248744 **SampType:** MBLK Units µg/L

SampID: MBLK-248744

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0.7000	0	0	-100	100	12/19/2025
Barium		2.5		**< 2.5**	0.7000	0	0	-100	100	12/03/2025
Boron		20.0		**< 20.0**	9.000	0	0	-100	100	12/19/2025
Boron		20.0		**< 20.0**	9.000	0	0	-100	100	12/03/2025
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	12/03/2025

Batch 248744 **SampType:** LCS Units µg/L

SampID: LCS-248744

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**2210**	2000	0	110.5	85	115	12/19/2025
Barium		2.5		**2120**	2000	0	106.0	85	115	12/03/2025
Boron		20.0		**1100**	1000	0	110.0	85	115	12/19/2025
Boron		20.0		**1030**	1000	0	102.9	85	115	12/03/2025
Calcium		0.100		**4.83**	5.000	0	96.6	85	115	12/03/2025

Batch 248744 **SampType:** MS Units mg/L

SampID: 25120007-002DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100	S	**188**	5.000	181.8	126.0	75	125	12/04/2025

Batch 248744 **SampType:** MSD Units mg/L RPD Limit 20

SampID: 25120007-002DMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Calcium		0.100	S	**185**	5.000	181.8	62.8	188.2	1.69	12/04/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 248760 **SampType:** MBLK Units µg/L

SampID: MBLK-248760

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0.7000	0	0	-100	100	12/03/2025
Boron		20.0		**< 20.0**	9.000	0	0	-100	100	12/03/2025
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	12/03/2025

Batch 248760 **SampType:** LCS Units µg/L

SampID: LCS-248760

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**2140**	2000	0	107.0	85	115	12/03/2025
Boron		20.0		**1060**	1000	0	105.6	85	115	12/03/2025
Calcium		0.100		**5.06**	5.000	0	101.2	85	115	12/03/2025

Batch 248870 **SampType:** MBLK Units µg/L

SampID: MBLK-248870

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0.7000	0	0	-100	100	12/10/2025
Boron		20.0		**< 20.0**	9.000	0	0	-100	100	12/10/2025
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	12/19/2025
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	12/10/2025
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	12/09/2025

Batch 248870 **SampType:** LCS Units µg/L

SampID: LCS-248870

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**2090**	2000	0	104.5	85	115	12/10/2025
Boron		20.0		**986**	1000	0	98.6	85	115	12/10/2025
Calcium		0.100		**5.11**	5.000	0	102.2	85	115	12/09/2025
Calcium		0.100		**4.94**	5.000	0	98.8	85	115	12/10/2025
Calcium		0.100		**4.83**	5.000	0	96.5	85	115	12/19/2025

Batch 248872 **SampType:** MBLK Units µg/L

SampID: MBLK-248872

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0.7000	0	0	-100	100	12/11/2025
Boron		20.0		**< 20.0**	9.000	0	0	-100	100	12/11/2025
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	12/08/2025
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	12/11/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 248872 **SampType:** LCS Units µg/L

SampID: LCS-248872

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**2130**	2000	0	106.5	85	115	12/11/2025
Boron		20.0		**1050**	1000	0	105.2	85	115	12/11/2025
Calcium		0.100		**4.58**	5.000	0	91.6	85	115	12/08/2025
Calcium		0.100		**4.89**	5.000	0	97.8	85	115	12/11/2025

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 248709 **SampType:** MBLK Units µg/L

SampID: MBLK-248709

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**< 1.0**	0.4500	0	0	-100	100	12/09/2025
Arsenic		1.0		**< 1.0**	0.3750	0	0	-100	100	12/06/2025
Beryllium		1.0		**< 1.0**	0.2500	0	0	-100	100	12/09/2025
Cadmium		1.0		**< 1.0**	0.1340	0	0	-100	100	12/06/2025
Chromium		1.5		**< 1.5**	0.7000	0	0	-100	100	12/06/2025
Cobalt		1.0		**< 1.0**	0.1150	0	0	-100	100	12/06/2025
Lead		1.0		**< 1.0**	0.6000	0	0	-100	100	12/06/2025
Lithium	*	3.0		**< 3.0**	1.450	0	0	-100	100	12/09/2025
Molybdenum		1.5		**< 1.5**	0.6000	0	0	-100	100	12/09/2025
Selenium		1.0		**< 1.0**	0.6000	0	0	-100	100	12/06/2025
Thallium		2.0		**< 2.0**	0.9500	0	0	-100	100	12/09/2025

Batch 248709 **SampType:** LCS Units µg/L

SampID: LCS-248709

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**1110**	1000	0	110.9	80	120	12/09/2025
Arsenic		1.0		**1030**	1000	0	103.2	80	120	12/06/2025
Beryllium		1.0		**984**	1000	0	98.4	80	120	12/09/2025
Cadmium		1.0		**2300**	2000	0	114.9	80	120	12/06/2025
Chromium		1.5		**1040**	1000	0	103.9	80	120	12/06/2025
Cobalt		1.0		**974**	1000	0	97.4	80	120	12/06/2025
Lead		1.0		**2030**	2000	0	101.5	80	120	12/06/2025
Lithium	*	3.0		**963**	1000	0	96.3	80	120	12/09/2025
Molybdenum		1.5		**1000**	1000	0	100.3	80	120	12/09/2025
Selenium		1.0		**1090**	1000	0	108.7	80	120	12/06/2025
Thallium		2.0		**1120**	1000	0	112.2	80	120	12/09/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 248709 **SampType:** MS Units µg/L

SampID: 25111334-006CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**1080**	1000	0	107.7	75	125	12/09/2025
Arsenic		1.0		**984**	1000	0	98.4	75	125	12/06/2025
Beryllium		1.0		**1030**	1000	0	102.8	75	125	12/09/2025
Cadmium		1.0		**2170**	2000	0	108.5	75	125	12/06/2025
Chromium		1.5		**934**	1000	1.227	93.2	75	125	12/09/2025
Cobalt		1.0		**929**	1000	0	92.9	75	125	12/09/2025
Lead		1.0		**1950**	2000	0	97.4	75	125	12/06/2025
Lithium	*	3.0		**1020**	1000	3.529	102.0	75	125	12/09/2025
Molybdenum		1.5		**1000**	1000	1.025	100.3	75	125	12/09/2025
Selenium		1.0		**1040**	1000	0	104.5	75	125	12/06/2025
Thallium		2.0		**1250**	1000	0	124.6	75	125	12/09/2025

Batch 248709 **SampType:** MSD Units µg/L RPD Limit **20**

SampID: 25111334-006CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		1.0		**1090**	1000	0	109.0	1077	1.22	12/09/2025
Arsenic		1.0		**964**	1000	0	96.4	984.0	2.04	12/06/2025
Beryllium		1.0		**1030**	1000	0	103.2	1028	0.42	12/09/2025
Cadmium		1.0		**2210**	2000	0	110.6	2171	1.92	12/06/2025
Chromium		1.5		**938**	1000	1.227	93.7	933.6	0.48	12/09/2025
Cobalt		1.0		**935**	1000	0	93.5	929.4	0.55	12/09/2025
Lead		1.0		**1970**	2000	0	98.6	1947	1.24	12/06/2025
Lithium	*	3.0		**1030**	1000	3.529	102.7	1024	0.61	12/09/2025
Molybdenum		1.5		**999**	1000	1.025	99.8	1004	0.55	12/09/2025
Selenium		1.0		**1030**	1000	0	103.0	1045	1.41	12/06/2025
Thallium		2.0		**1220**	1000	0	121.8	1246	2.28	12/09/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 248744 **SampType:** MBLK Units µg/L

SampID: MBLK-248744

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**< 1.0**	0.4500	0	0	-100	100	12/09/2025
Arsenic		1.0		**< 1.0**	0.3750	0	0	-100	100	12/06/2025
Beryllium		1.0		**< 1.0**	0.2500	0	0	-100	100	12/09/2025
Boron		25.0		**< 25.0**	9.250	0	0	-100	100	12/09/2025
Cadmium		1.0		**< 1.0**	0.1340	0	0	-100	100	12/06/2025
Chromium		1.5		**< 1.5**	0.7000	0	0	-100	100	12/09/2025
Cobalt		1.0		**< 1.0**	0.1150	0	0	-100	100	12/09/2025
Lead		1.0		**< 1.0**	0.6000	0	0	-100	100	12/06/2025
Lithium	*	3.0		**< 3.0**	1.450	0	0	-100	100	12/09/2025
Molybdenum		1.5		**< 1.5**	0.6000	0	0	-100	100	12/06/2025
Selenium		1.0		**< 1.0**	0.6000	0	0	-100	100	12/06/2025
Thallium		2.0		**< 2.0**	0.9500	0	0	-100	100	12/09/2025

Batch 248744 **SampType:** LCS Units µg/L

SampID: LCS-248744

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**1100**	1000	0	110.4	80	120	12/09/2025
Arsenic		1.0		**1000**	1000	0	100.3	80	120	12/06/2025
Beryllium		1.0		**1010**	1000	0	101.2	80	120	12/09/2025
Boron		25.0		**1010**	1000	0	100.8	80	120	12/09/2025
Cadmium		1.0		**2290**	2000	0	114.4	80	120	12/06/2025
Chromium		1.5		**1030**	1000	0	103.4	80	120	12/09/2025
Cobalt		1.0		**968**	1000	0	96.8	80	120	12/09/2025
Lead		1.0		**1990**	2000	0	99.3	80	120	12/06/2025
Lithium	*	3.0		**994**	1000	0	99.4	80	120	12/09/2025
Molybdenum		1.5		**1020**	1000	0	101.6	80	120	12/06/2025
Selenium		1.0		**1060**	1000	0	106.3	80	120	12/06/2025
Thallium		2.0	S	**1300**	1000	0	129.5	80	120	12/09/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 248760 **SampType:** MBLK Units **µg/L**

SampID: MBLK-248760

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**< 1.0**	0.4500	0	0	-100	100	12/09/2025
Arsenic		1.0		**< 1.0**	0.3750	0	0	-100	100	12/06/2025
Beryllium		1.0		**< 1.0**	0.2500	0	0	-100	100	12/09/2025
Cadmium		1.0		**< 1.0**	0.1340	0	0	-100	100	12/06/2025
Chromium		1.5		**< 1.5**	0.7000	0	0	-100	100	12/06/2025
Cobalt		1.0		**< 1.0**	0.1150	0	0	-100	100	12/06/2025
Lead		1.0		**< 1.0**	0.6000	0	0	-100	100	12/06/2025
Molybdenum		1.5		**< 1.5**	0.6000	0	0	-100	100	12/06/2025
Selenium		1.0		**< 1.0**	0.6000	0	0	-100	100	12/06/2025
Thallium		2.0		**< 2.0**	0.9500	0	0	-100	100	12/09/2025

Batch 248760 **SampType:** LCS Units **µg/L**

SampID: LCS-248760

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**1060**	1000	0	105.9	80	120	12/09/2025
Arsenic		1.0		**916**	1000	0	91.6	80	120	12/06/2025
Beryllium		1.0		**964**	1000	0	96.4	80	120	12/09/2025
Cadmium		1.0		**2220**	2000	0	110.9	80	120	12/06/2025
Chromium		1.5		**945**	1000	0	94.5	80	120	12/06/2025
Cobalt		1.0		**882**	1000	0	88.2	80	120	12/06/2025
Lead		1.0		**1870**	2000	0	93.6	80	120	12/06/2025
Molybdenum		1.5		**973**	1000	0	97.3	80	120	12/06/2025
Selenium		1.0		**980**	1000	0	98.0	80	120	12/06/2025
Thallium		2.0		**1190**	1000	0	118.7	80	120	12/09/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 248870 **SampType:** MBLK Units µg/L

SampID: MBLK-248870

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0	JS	**0.5**	0.4500	0	121.8	-100	100	12/09/2025
Antimony		1.0		**< 1.0**	0.4500	0	0	-100	100	12/10/2025
Arsenic		1.0		**< 1.0**	0.3750	0	0	-100	100	12/09/2025
Barium		1.0		**< 1.0**	0.7000	0	0	-100	100	12/09/2025
Beryllium		1.0		**< 1.0**	0.2500	0	0	-100	100	12/09/2025
Cadmium		1.0		**< 1.0**	0.1340	0	0	-100	100	12/09/2025
Chromium		1.5		**< 1.5**	0.7000	0	0	-100	100	12/09/2025
Cobalt		1.0		**< 1.0**	0.1150	0	0	-100	100	12/09/2025
Lead		1.0		**< 1.0**	0.6000	0	0	-100	100	12/09/2025
Lithium	*	3.0		**< 3.0**	1.450	0	0	-100	100	12/09/2025
Molybdenum		1.5		**< 1.5**	0.6000	0	0	-100	100	12/09/2025
Selenium		1.0		**< 1.0**	0.6000	0	0	-100	100	12/09/2025
Thallium		2.0		**< 2.0**	0.9500	0	0	-100	100	12/09/2025

Batch 248870 **SampType:** LCS Units µg/L

SampID: LCS-248870

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**1050**	1000	0	105.3	80	120	12/10/2025
Antimony		1.0	BS	**1260**	1000	0	125.6	80	120	12/09/2025
Arsenic		1.0		**1070**	1000	0	106.8	80	120	12/09/2025
Barium		1.0		**2250**	2000	0	112.4	80	120	12/09/2025
Beryllium		1.0		**1050**	1000	0	105.2	80	120	12/09/2025
Cadmium		1.0	S	**2410**	2000	0	120.5	80	120	12/09/2025
Chromium		1.5		**1010**	1000	0	101.3	80	120	12/09/2025
Cobalt		1.0		**1030**	1000	0	102.5	80	120	12/09/2025
Lead		1.0		**2100**	2000	0	105.2	80	120	12/09/2025
Lithium	*	3.0		**1030**	1000	0	102.5	80	120	12/09/2025
Molybdenum		1.5		**1080**	1000	0	108.2	80	120	12/09/2025
Selenium		1.0		**1120**	1000	0	112.5	80	120	12/09/2025
Thallium		2.0		**914**	1000	0	91.4	80	120	12/09/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 248872 **SampType:** MBLK Units µg/L

SampID: MBLK-248872

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**< 1.0**	0.4500	0	0	-100	100	12/10/2025
Arsenic		1.0		**< 1.0**	0.3750	0	0	-100	100	12/10/2025
Beryllium		1.0		**< 1.0**	0.2500	0	0	-100	100	12/10/2025
Cadmium		1.0		**< 1.0**	0.1340	0	0	-100	100	12/10/2025
Chromium		1.5		**< 1.5**	0.7000	0	0	-100	100	12/10/2025
Cobalt		1.0		**< 1.0**	0.1150	0	0	-100	100	12/10/2025
Lead		1.0		**< 1.0**	0.6000	0	0	-100	100	12/10/2025
Lithium	*	3.0		**< 3.0**	1.450	0	0	-100	100	12/10/2025
Molybdenum		1.5		**< 1.5**	0.6000	0	0	-100	100	12/10/2025
Selenium		1.0		**< 1.0**	0.6000	0	0	-100	100	12/10/2025
Thallium		2.0		**< 2.0**	0.9500	0	0	-100	100	12/10/2025

Batch 248872 **SampType:** LCS Units µg/L

SampID: LCS-248872

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0	S	**1310**	1000	0	130.7	80	120	12/10/2025
Arsenic		1.0		**1050**	1000	0	105.5	80	120	12/10/2025
Beryllium		1.0		**1050**	1000	0	104.7	80	120	12/10/2025
Cadmium		1.0	S	**2520**	2000	0	126.0	80	120	12/10/2025
Chromium		1.5		**988**	1000	0	98.8	80	120	12/10/2025
Cobalt		1.0		**1010**	1000	0	101.3	80	120	12/10/2025
Lead		1.0		**2090**	2000	0	104.7	80	120	12/10/2025
Lithium	*	3.0		**1040**	1000	0	104.0	80	120	12/10/2025
Molybdenum		1.5		**1120**	1000	0	111.6	80	120	12/10/2025
Selenium		1.0		**1140**	1000	0	113.9	80	120	12/10/2025
Thallium		2.0		**980**	1000	0	98.0	80	120	12/10/2025

SW-846 7470A (TOTAL)

Batch 248774 **SampType:** MBLK Units µg/L

SampID: MBLK-248774

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**< 0.20**	0.0550	0	0	-100	100	12/03/2025

Client: Southern Illinois Power Cooperation **Work Order:** 25111334

Client Project: Groundwater Monitoring **Report Date:** 30-Jan-26

SW-846 7470A (TOTAL)

Batch 248774 **SampType:** LCS Units µg/L
SampID: LCS-248774

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.96**	5.000	0	99.3	85	115	12/03/2025

Batch 248774 **SampType:** MS Units µg/L
SampID: 25111334-004CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**3.81**	5.000	0	76.3	75	125	12/04/2025

Batch 248774 **SampType:** MSD Units µg/L RPD Limit **15**
SampID: 25111334-004CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.20		**3.78**	5.000	0	75.6	3.813	0.92	12/04/2025

Batch 248903 **SampType:** MBLK Units µg/L
SampID: MBLK-248903

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**< 0.20**	0.0550	0	0	-100	100	12/08/2025

Batch 248903 **SampType:** LCS Units µg/L
SampID: LCS-248903

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.54**	5.000	0	90.9	85	115	12/08/2025

Batch 248903 **SampType:** MS Units µg/L
SampID: 25111334-007CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.84**	5.000	0	96.9	75	125	12/08/2025

Batch 248903 **SampType:** MSD Units µg/L RPD Limit **15**
SampID: 25111334-007CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.20		**4.78**	5.000	0	95.7	4.843	1.24	12/08/2025

Receiving Check List

Teklab, Inc. Environmental Laboratory

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 25111334
Client Project: Groundwater Monitoring
Report Date: 30-Jan-26

Carrier: Allison Lampe
Received By: JMD

Completed by: Emily Kossakoski
On: 01-Dec-25
Emily Kossakoski

Reviewed by: Elizabeth A. Hurley
On: 05-Dec-25
Elizabeth A. Hurley

Pages to follow: Chain of custody 7 Extra pages included 33

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 4.5
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☑	Lab ☐	NA ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water – at least one vial per sample has zero headspace?	Yes ☐	No ☐	No VOA vials ☑	
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☑	NA ☐	
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑	

Any No responses must be detailed below or on the COC.

pH strip #104524. - JD/ekossakoski - 12/1/2025 3:29:48 PM

Samples were received on 12/02/2025 at 1530 on ice [4.3C and 4.9C - LTG#5]. pH strip #104524. - JD/ekossakoski - 12/2/2025 3:57:29 PM

Samples were received on 12/3/25 at 1530 on ice [4.7C, 5.9C, and 4.3C - LTG#9]. pH#104524. Added nitric acid (107836) to EP-2 upon arrival at the laboratory. - JD/lhenson - 12/4/2025 9:20:06 AM

Samples were received on 12/4/2025 at 1149 on ice [4.5C - LTG#5]. pH strip #104524. - DM/ekossakoski - 12/4/2025 3:26:07 PM

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 2 Work order # 25111334

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 4.5 °C LTG# 5

Preserved in: ☐ LAB ☒ FIELD

FOR LAB USE ONLY

Lab Notes: PH104524

SD 12/1/25

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No

Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Brett Gilcrease

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers UNP	HNO3	MATRIX Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
25111334-001	EBG	12-01-25 1113	1	3		X	X	X	X	X	X	X	X
-002	EP-1		1	3		X	X	X	X	X	X	X	X
-003	EP-2		1	3		X	X	X	X	X	X	X	X
-004	EP-3		1	3		X	X	X	X	X	X	X	X
-005	EP-4		1	3		X	X	X	X	X	X	X	X
-006	EP-5	12-01-25 1258	1	3		X	X	X	X	X	X	X	X
-007	EP-6		1	3		X	X	X	X	X	X	X	X
-008	EP-7		1	3		X	X	X	X	X	X	X	X
-009	Equipment Blank		1	3	X		X		X	X	X	X	X
-010	Field Blank		1	3	X		X		X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
Allen Boyd	12-01-25 1444	James Davis	12/1/25 14:44

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 105918

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 2 of 2 Work order # 25111334

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☐ ICE ☐ BLUE ICE ☒ NO ICE _____ °C LTG# _____
Preserved in: ☐ LAB ☐ FIELD
FOR LAB USE ONLY
Lab Notes:

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Bret Gillihan

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date _____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
25111334-011	Field Duplicate	~~12-1-25 11:21~~ AL	1	3		X	X	X	X	X	X	X	X
-012	MW-101	12-01-25 1121	1	3		X	X	X	X	X	X	X	X
-013	MW-102		1	3		X	X	X	X	X	X	X	X
-014	MW-103		1	3		X	X	X	X	X	X	X	X
-015	MW-104		1	3		X	X	X	X	X	X	X	X
-016	MW-105		1	3		X	X	X	X	X	X	X	X
-017	MW-106		1	3		X	X	X	X	X	X	X	X
-018	MW-109		1	3		X	X	X	X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
Clem Tapp	12-01-25 1444	[signature]	12/1/25 14:44

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 105918

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 2 Work order # 25111334

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 4.3, 4.9 °C LTG# 5
Preserved in: ☐ LAB ☒ FIELD
Lab Notes: PH104524

FOR LAB USE ONLY

SO 12/2/25

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Bret Gillihan

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
25111334-001	EBG		1	3		X	X	X	X	X	X	X	X
-002	EP-1	12-02-25 1015	1	3		X	X	X	X	X	X	X	X
-003	EP-2		1	3		X	X	X	X	X	X	X	X
-004	EP-3	12-02-25 1300	1	3		X	X	X	X	X	X	X	X
-005	EP-4		1	3		X	X	X	X	X	X	X	X
-006	EP-5		1	3		X	X	X	X	X	X	X	X
-007	EP-6		1	3		X	X	X	X	X	X	X	X
-008	EP-7	12-02-25 1126	1	3		X	X	X	X	X	X	X	X
-009	Equipment Blank		1	3	X		X		X	X	X	X	X
-010	Field Blank		1	3	X		X		X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
Bret Gillihan	12-2-25 1530	Emily Kossakoski	12/2/25 1530

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 105918

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 2 of 2 Work order # 25111334

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C LTG# _____
Preserved in: ☐ LAB ☐ FIELD
FOR LAB USE ONLY
Lab Notes:

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Brett Gillihan

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date _____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
25111334-011	Field Duplicate		1	3		X	X	X	X	X	X	X	X
-012	MW-101		1	3		X	X	X	X	X	X	X	X
-013	MW-102	12-2-25 1023	1	3		X	X	X	X	X	X	X	X
-014	MW-103	12-2-25 1130	1	3		X	X	X	X	X	X	X	X
-015	MW-104	12-2-25 1219	1	3		X	X	X	X	X	X	X	X
-016	MW-105		1	3		X	X	X	X	X	X	X	X
-017	MW-106		1	3		X	X	X	X	X	X	X	X
-018	MW-109		1	3		X	X	X	X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
Brett Gillihan	12-2-25 1530	Emily Kosakowski	12/2/25 1530

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BottleOrder 105918

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 2 Work order # 25111334

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Samples on: ~~☒ ICE~~ ☐ BLUE ICE ☐ NO ICE 4.7, 5.9, 4.3 °C LTG# 9
Preserved in: ~~☒ LAB~~ ☐ FIELD Pk#104524 **FOR LAB USE ONLY**
Lab Notes: ~~Added HNO3~~ 107936)
1/2 1 Liter EP-2 SD 12/4/25

Client Comments Report QC LVL: 2

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Brett Gillihan

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
25111334-001	EBG		1	3		X	X	X	X	X	X	X	X
-002	EP-1		1	3		X	X	X	X	X	X	X	X
-003	EP-2	12-03-25 1039	1	3		X	X	X	X	X	X	X	X
-004	EP-3		1	3		X	X	X	X	X	X	X	X
-005	EP-4	12-03-25 1002	1	3		X	X	X	X	X	X	X	X
-006	EP-5		1	3		X	X	X	X	X	X	X	X
-007	EP-6	12-03-25 1139	1	3		X	X	X	X	X	X	X	X
-008	EP-7		1	3		X	X	X	X	X	X	X	X
-009	Equipment Blank		1	3	X		X		X	X	X	X	X
-010	Field Blank	12-3-25 1240	1	3	X		X		X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
Brett Gillihan	12.3.25 1530	Grace Schneider	12/3/25 15:30

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BottleOrder 105918

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 2 of 2 Work order # 25111334

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C LTG# _____
Preserved in: ☐ LAB ☐ FIELD **FOR LAB USE ONLY**
Lab Notes:

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number
Groundwater Monitoring

Sample Collector's Name

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date _____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
25111334-011	Field Duplicate	12-03-25 1002	1	3		X	X	X	X	X	X	X	X
-012	MW-101		1	3		X	X	X	X	X	X	X	X
-013	MW-102		1	3		X	X	X	X	X	X	X	X
-014	MW-103		1	3		X	X	X	X	X	X	X	X
-015	MW-104		1	3		X	X	X	X	X	X	X	X
-016	MW-105	12-3-25 1144	1	3		X	X	X	X	X	X	X	X
-017	MW-106	12-3-25 1054	1	3		X	X	X	X	X	X	X	X
-018	MW-109	12-3-25 1228	1	3		X	X	X	X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
[signature]	12.3.25 1530	Grace Schneider	12/3/25 15:30

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BottleOrder 105918

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☐ Collinsville, IL

CHAIN OF CUSTODY pg. ___ of ___ Work order # 25111334

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 4.5 °C LTG# 5
Preserved in: ☐ LAB ☒ FIELD **FOR LAB USE ONLY**
Lab Notes: PH: 104524 An: 12.4.25

Client Comments Report QC LVL:___

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☐ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☐ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☐ Yes ☐ No

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Brett Gillihan

Results Requested (call for PFAS TAT and surcharges)
☐ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ___ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
	EBG		1	3		X	X	X	X	X	X	X	X
	EP-1		1	3		X	X	X	X	X	X	X	X
	EP-2		1	3		X	X	X	X	X	X	X	X
	EP-3		1	3		X	X	X	X	X	X	X	X
	EP-4		1	3		X	X	X	X	X	X	X	X
	EP-5		1	3		X	X	X	X	X	X	X	X
	EP-6		1	3		X	X	X	X	X	X	X	X
	EP-7		1	3		X	X	X	X	X	X	X	X
25111334-009	Equipment Blank	12-4-25 11:27	1	3	X		X		X	X	X	X	X
	Field Blank		1	3	X		X		X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
Brett Gillihan	12-4-25 11:49	Cindy Kassakoski	12/4/25 1149

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BottleOrder 105918

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

January 15, 2026

Elizabeth Hurley
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 25111334

Dear Elizabeth Hurley:

Order No.: 25120591

Alliance Technical Group - Akron received 18 sample(s) on 12/8/2025 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Sarah MacGillivray

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0828, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Case Narrative

WO#: **25120591**
Date: **1/15/2026**

CLIENT: TEKLAB Inc,
Project: 25111334

WorkOrder Narrative:
25120591: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Alliance Technical Group Work Order Number assigned to this report.

Alliance Technical Group holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Alliance Technical Group and that of the customer. It cannot be reproduced in any form without the consent of Alliance Technical Group or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Alliance Technical Group is not responsible for use or interpretation of the data included herein.

All results for solid samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

Qualifiers and Acronyms

WO#: **25120591**
Date: **1/15/2026**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected above the MDL.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
d	Manual integration in which peak was deleted
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B	The analyte was detected in the Method Blank at a concentration greater than the RL.
MB+	The analyte was detected in the Method Blank at a concentration greater than the MDL.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
W	Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

Workorder Sample Summary

WO#: **25120591**

15-Jan-26

CLIENT: TEKLAB Inc,
Project: 25111334

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
25120591-001	25111334-001B		12/1/2025 11:13:00 AM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-002	25111334-002B		12/2/2025 10:15:00 AM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-003	25111334-003B		12/3/2025 10:38:00 AM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-004	25111334-004B		12/2/2025 12:59:00 PM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-005	25111334-005B		12/3/2025 10:02:00 AM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-006	25111334-006B		12/1/2025 11:58:00 AM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-007	25111334-007B		12/3/2025 11:39:00 AM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-008	25111334-008B		12/2/2025 11:25:00 AM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-009	25111334-009B		12/4/2025 11:27:00 AM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-010	25111334-010B		12/3/2025 12:40:00 PM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-011	25111334-011B		12/3/2025 10:02:00 AM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-012	25111334-012B		12/1/2025 11:20:00 AM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-013	25111334-013B		12/2/2025 10:23:00 AM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-014	25111334-014B		12/2/2025 11:30:00 AM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-015	25111334-015B		12/2/2025 12:19:00 PM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-016	25111334-016B		12/2/2025 11:44:00 AM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-017	25111334-017B		12/3/2025 10:54:00 AM	12/8/2025 12:00:00 PM	Non-Potable Water
25120591-018	25111334-018B		12/3/2025 12:28:00 PM	12/8/2025 12:00:00 PM	Non-Potable Water

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

DATES REPORT

WO#: **25120591**

15-Jan-26

Client: TEKLAB Inc,
Project: 25111334

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
25120591-001A	25111334-001B	12/1/2025 11:13:00 AM	Non-Potable Water	Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-002A	25111334-002B	12/2/2025 10:15:00 AM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-003A	25111334-003B	12/3/2025 10:38:00 AM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-004A	25111334-004B	12/2/2025 12:59:00 PM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-005A	25111334-005B	12/3/2025 10:02:00 AM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-006A	25111334-006B	12/1/2025 11:58:00 AM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-007A	25111334-007B	12/3/2025 11:39:00 AM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-008A	25111334-008B	12/2/2025 11:25:00 AM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM

Original

Alliance Technical Group - Akron
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Website: http://www.settek.com

DATES REPORT

WO#: **25120591**

15-Jan-26

Client: TEKLAB Inc,
Project: 25111334

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
25120591-008A	25111334-008B	12/2/2025 11:25:00 AM	Non-Potable Water	Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-009A	25111334-009B	12/4/2025 11:27:00 AM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-010A	25111334-010B	12/3/2025 12:40:00 PM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-011A	25111334-011B	12/3/2025 10:02:00 AM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-012A	25111334-012B	12/1/2025 11:20:00 AM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-013A	25111334-013B	12/2/2025 10:23:00 AM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-014A	25111334-014B	12/2/2025 11:30:00 AM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-015A	25111334-015B	12/2/2025 12:19:00 PM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-016A	25111334-016B	12/2/2025 11:44:00 AM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM

Original

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DATES REPORT

WO#: **25120591**

15-Jan-26

Client: TEKLAB Inc,
Project: 25111334

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
25120591-016A	25111334-016B	12/2/2025 11:44:00 AM	Non-Potable Water	Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-017A	25111334-017B	12/3/2025 10:54:00 AM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM
25120591-018A	25111334-018B	12/3/2025 12:28:00 PM		Combined Radium (EPA903+904)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-226 (EPA 903.0)		1/2/2026 8:30:00 AM	1/14/2026 7:54:00 AM
				Radium-228 (EPA 904.0)		1/2/2026 8:30:00 AM	1/13/2026 10:26:00 AM

Original

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Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,

Collection Date: 12/1/2025 11:13:00 AM

Project: 25111334

Lab ID: 25120591-001

Matrix: NON-POTABLE WATER

Client Sample ID 25111334-001B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.400	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0800	1	1/14/2026 7:54:00 AM
Yield	0.990					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.320	1	1/13/2026 10:26:00 AM
Yield	1.00					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,

Collection Date: 12/2/2025 10:15:00 AM

Project: 25111334

Lab ID: 25120591-002

Matrix: NON-POTABLE WATER

Client Sample ID 25111334-002B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.500	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0600	1	1/14/2026 7:54:00 AM
Yield	0.990					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.440	1	1/13/2026 10:26:00 AM
Yield	1.00					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,

Collection Date: 12/3/2025 10:38:00 AM

Project: 25111334

Lab ID: 25120591-003

Matrix: NON-POTABLE WATER

Client Sample ID 25111334-003B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.380	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0700	1	1/14/2026 7:54:00 AM
Yield	1.00					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.310	1	1/13/2026 10:26:00 AM
Yield	1.00					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,
Collection Date: 12/2/2025 12:59:00 PM
Project: 25111334
Lab ID: 25120591-004
Matrix: NON-POTABLE WATER
Client Sample ID 25111334-004B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)						**E903-904**	Analyst: **TAL**
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.550	1	1/14/2026 7:54:00 AM
RAD226/228 RADIUM-226 (EPA 903.0)						**E903-904**	Analyst: **TAL**
Radium-226	ND	1.00		pCi/L	± 0.120	1	1/14/2026 7:54:00 AM
Yield	0.960					1	1/14/2026 7:54:00 AM
RAD226/228 RADIUM-228 (EPA 904.0)						**E903-904**	Analyst: **TAL**
Radium-228	ND	1.00		pCi/L	± 0.430	1	1/13/2026 10:26:00 AM
Yield	1.00					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,
Collection Date: 12/3/2025 10:02:00 AM
Project: 25111334
Lab ID: 25120591-005
Matrix: NON-POTABLE WATER
Client Sample ID 25111334-005B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.530	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0900	1	1/14/2026 7:54:00 AM
Yield	1.00					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.440	1	1/13/2026 10:26:00 AM
Yield	1.00					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,

Collection Date: 12/1/2025 11:58:00 AM

Project: 25111334

Lab ID: 25120591-006

Matrix: NON-POTABLE WATER

Client Sample ID 25111334-006B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.410	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0600	1	1/14/2026 7:54:00 AM
Yield	1.00					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.350	1	1/13/2026 10:26:00 AM
Yield	1.00					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

Alliance Technical Group - Akron
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Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,

Collection Date: 12/3/2025 11:39:00 AM

Project: 25111334

Lab ID: 25120591-007

Matrix: NON-POTABLE WATER

Client Sample ID 25111334-007B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.330	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0500	1	1/14/2026 7:54:00 AM
Yield	1.00					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.280	1	1/13/2026 10:26:00 AM
Yield	0.890					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

Alliance Technical Group - Akron
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Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,

Collection Date: 12/2/2025 11:25:00 AM

Project: 25111334

Lab ID: 25120591-008

Matrix: NON-POTABLE WATER

Client Sample ID 25111334-008B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.390	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.110	1	1/14/2026 7:54:00 AM
Yield	0.890					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.280	1	1/13/2026 10:26:00 AM
Yield	0.990					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,

Collection Date: 12/4/2025 11:27:00 AM

Project: 25111334

Lab ID: 25120591-009

Matrix: NON-POTABLE WATER

Client Sample ID 25111334-009B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.530	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0800	1	1/14/2026 7:54:00 AM
Yield	0.950					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.450	1	1/13/2026 10:26:00 AM
Yield	1.00					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,
Collection Date: 12/3/2025 12:40:00 PM
Project: 25111334
Lab ID: 25120591-010
Matrix: NON-POTABLE WATER
Client Sample ID 25111334-010B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.440	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0800	1	1/14/2026 7:54:00 AM
Yield	0.980					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.360	1	1/13/2026 10:26:00 AM
Yield	1.00					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,
Collection Date: 12/3/2025 10:02:00 AM
Project: 25111334
Lab ID: 25120591-011
Matrix: NON-POTABLE WATER
Client Sample ID 25111334-011B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.530	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0800	1	1/14/2026 7:54:00 AM
Yield	0.960					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.450	1	1/13/2026 10:26:00 AM
Yield	1.00					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

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TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,
Collection Date: 12/1/2025 11:20:00 AM
Project: 25111334
Lab ID: 25120591-012
Matrix: NON-POTABLE WATER
Client Sample ID 25111334-012B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.510	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.100	1	1/14/2026 7:54:00 AM
Yield	1.00					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.410	1	1/13/2026 10:26:00 AM
Yield	1.00					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,
Collection Date: 12/2/2025 10:23:00 AM

Project: 25111334

Lab ID: 25120591-013
Matrix: NON-POTABLE WATER

Client Sample ID 25111334-013B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.430	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0900	1	1/14/2026 7:54:00 AM
Yield	1.00					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.340	1	1/13/2026 10:26:00 AM
Yield	1.00					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,
Collection Date: 12/2/2025 11:30:00 AM
Project: 25111334
Lab ID: 25120591-014
Matrix: NON-POTABLE WATER
Client Sample ID 25111334-014B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.590	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0900	1	1/14/2026 7:54:00 AM
Yield	1.00					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.500	1	1/13/2026 10:26:00 AM
Yield	1.00					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,
Collection Date: 12/2/2025 12:19:00 PM
Project: 25111334
Lab ID: 25120591-015
Matrix: NON-POTABLE WATER
Client Sample ID 25111334-015B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.460	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0700	1	1/14/2026 7:54:00 AM
Yield	1.00					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.390	1	1/13/2026 10:26:00 AM
Yield	1.00					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,

Collection Date: 12/2/2025 11:44:00 AM

Project: 25111334

Lab ID: 25120591-016

Matrix: NON-POTABLE WATER

Client Sample ID 25111334-016B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.470	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0500	1	1/14/2026 7:54:00 AM
Yield	0.980					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.420	1	1/13/2026 10:26:00 AM
Yield	1.00					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

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3310 Win St.
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TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,
Collection Date: 12/3/2025 10:54:00 AM
Project: 25111334
Lab ID: 25120591-017
Matrix: NON-POTABLE WATER
Client Sample ID 25111334-017B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.520	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.110	1	1/14/2026 7:54:00 AM
Yield	0.890					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.410	1	1/13/2026 10:26:00 AM
Yield	0.950					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

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3310 Win St.
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Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **25120591**

Date Reported: **1/15/2026**

CLIENT: TEKLAB Inc,
Collection Date: 12/3/2025 12:28:00 PM
Project: 25111334
Lab ID: 25120591-018
Matrix: NON-POTABLE WATER
Client Sample ID 25111334-018B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.480	1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0800	1	1/14/2026 7:54:00 AM
Yield	0.890					1	1/14/2026 7:54:00 AM
RAD226/228						**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.400	1	1/13/2026 10:26:00 AM
Yield	1.00					1	1/13/2026 10:26:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
RL	Reporting Detection Limit
M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

Original

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **25120591**

15-Jan-26

Client: TEKLAB Inc,
Project: 25111334 **BatchID:** **92223**

Sample ID: **25120591-017ADUP**	SampType: **DUP**	TestCode: **Radium-228_**	Units: **pCi/L**	Prep Date: **1/2/2026**	RunNo: **224797**
Client ID: **25111334-017B**	Batch ID: **92223**	TestNo: **E904.0**	**E903-904**	Analysis Date: **1/13/2026**	SeqNo: **5991542**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0			0	0	30	
Yield	1.00			0	0			0.9500	5.13		

Sample ID: **25120591-018ADUP**	SampType: **DUP**	TestCode: **Radium-228_**	Units: **pCi/L**	Prep Date: **1/2/2026**	RunNo: **224797**
Client ID: **25111334-018B**	Batch ID: **92223**	TestNo: **E904.0**	**E903-904**	Analysis Date: **1/13/2026**	SeqNo: **5991544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0			0	0	30	
Yield	1.00			0	0			1.000	0		

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	RL	Reporting Detection Limit	W	Sample container temperature is out of limit as spe

Original

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Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **25120591**

15-Jan-26

Client: TEKLAB Inc,
Project: 25111334 **BatchID:** **92223**

Sample ID: **LCS-92223**	SampType: **LCS**	TestCode: **Radium-228_**	Units: **pCi/L**	Prep Date: **1/2/2026**	RunNo: **224797**
Client ID: **BatchQC**	Batch ID: **92223**	TestNo: **E904.0**	**E903-904**	Analysis Date: **1/13/2026**	SeqNo: **5991520**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	3.09	1.00	5.000	0	61.8	50	130				
Yield	1.00			0	0						

Sample ID: **LCSD-92223**	SampType: **LCSD**	TestCode: **Radium-228_**	Units: **pCi/L**	Prep Date: **1/2/2026**	RunNo: **224797**
Client ID: **BatchQC**	Batch ID: **92223**	TestNo: **E904.0**	**E903-904**	Analysis Date: **1/13/2026**	SeqNo: **5991521**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	3.42	1.00	5.000	0	68.4	50	130	3.090	10.1	20	
Yield	1.00			0	0			1.000	0		

Sample ID: **MB-92223**	SampType: **MBLK**	TestCode: **Radium-228_**	Units: **pCi/L**	Prep Date: **1/2/2026**	RunNo: **224797**
Client ID: **BatchQC**	Batch ID: **92223**	TestNo: **E904.0**	**E903-904**	Analysis Date: **1/13/2026**	SeqNo: **5991547**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0						
Yield	1.00			0	0						

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	RL	Reporting Detection Limit	W	Sample container temperature is out of limit as spec

Original

Alliance Technical Group - Akron
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Cuyahoga Falls, Ohio 44223
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QC SUMMARY REPORT

WO#: **25120591**

15-Jan-26

Client: TEKLAB Inc,
Project: 25111334 **BatchID:** **92223**

Sample ID: **25120591-017ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **1/2/2026** RunNo: **224799**
Client ID: **25111334-017B** Batch ID: **92223** TestNo: **E903.0** **E903-904** Analysis Date: **1/14/2026** SeqNo: **5991765**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00						0	0	30	
Yield	1.00							0.8900	11.6	0	

Sample ID: **25120591-018ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **1/2/2026** RunNo: **224799**
Client ID: **25111334-018B** Batch ID: **92223** TestNo: **E903.0** **E903-904** Analysis Date: **1/14/2026** SeqNo: **5991767**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00						0	0	30	
Yield	0.940							0.8900	5.46	0	

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	RL	Reporting Detection Limit	W	Sample container temperature is out of limit as spe

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QC SUMMARY REPORT

WO#: **25120591**

15-Jan-26

Client: TEKLAB Inc,
Project: 25111334 **BatchID:** **92223**

Sample ID: **MB-92223**	SampType: **MBLK**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **1/2/2026**	RunNo: **224799**
Client ID: **BatchQC**	Batch ID: **92223**	TestNo: **E903.0**	**E903-904**	Analysis Date: **1/14/2026**	SeqNo: **5991742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00									
Yield	1.00										

Sample ID: **LCS-92223**	SampType: **LCS**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **1/2/2026**	RunNo: **224799**
Client ID: **BatchQC**	Batch ID: **92223**	TestNo: **E903.0**	**E903-904**	Analysis Date: **1/14/2026**	SeqNo: **5991743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	4.51	1.00	5.000	0	90.2	70	130				

Sample ID: **LCSD-92223**	SampType: **LCSD**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **1/2/2026**	RunNo: **224799**
Client ID: **BatchQC**	Batch ID: **92223**	TestNo: **E903.0**	**E903-904**	Analysis Date: **1/14/2026**	SeqNo: **5991744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	5.30	1.00	5.000	0	106	70	130	4.510	16.1	20	

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	RL	Reporting Detection Limit	W	Sample container temperature is out of limit as spe

Original

Alliance Technical Group - Akron
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Cuyahoga Falls, Ohio 44223
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QC SUMMARY REPORT

WO#: **25120591**

15-Jan-26

Client: TEKLAB Inc,
Project: 25111334 **BatchID:** **92223**

Sample ID: **25120591-017ADUP**	SampType: **DUP**	TestCode: **CombinedRa**	Units: **pCi/L**	Prep Date: **1/2/2026**	RunNo: **224799**
Client ID: **25111334-017B**	Batch ID: **92223**	TestNo: **Calculation**	**E903-904**	Analysis Date: **1/14/2026**	SeqNo: **5991826**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226/Radium-228	ND	2.00		0	0			0	0	30	

Sample ID: **25120591-018ADUP**	SampType: **DUP**	TestCode: **CombinedRa**	Units: **pCi/L**	Prep Date: **1/2/2026**	RunNo: **224799**
Client ID: **25111334-018B**	Batch ID: **92223**	TestNo: **Calculation**	**E903-904**	Analysis Date: **1/14/2026**	SeqNo: **5991828**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226/Radium-228	ND	2.00		0	0			0	0	30	

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	RL	Reporting Detection Limit	W	Sample container temperature is out of limit as spe

Original

Pg ___ of ___ 25120591

TEKLAB, INC. Chain of Custody

120 United Drive, Collinsville, IL 62234 Phone (618) 344-1004

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
120 United Drive
Collinsville, IL 62234

Cooler Temp: Sampler: Client QC Level: 2

Comments: **Please Issue reports and invoices via email only**
SHIP to ATG-Akron. Please analyze for Combined Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.

Project# 25111334

Contact: Elizabeth Hurley Email: ehurley@teklabinc.com
Requested Due Date: Standard TAT Billing/PO: 39997
Phone: (618) 344-1004 ext. 1007 State of Sample Origin = IL

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Radium 226/228								PH			Cl
-	25111334-001B	12/1/2025 11:13	HNO3	Groundwater	✔								6.8			44, 38
-	25111334-002B	12/2/2025 10:15	HNO3	Groundwater	✔								6.5			36, 30
-	25111334-003B	12/3/2025 10:39	HNO3	Groundwater	✔								7.3			38, 36
-	25111334-004B	12/2/2025 13:00	HNO3	Groundwater	✔								6.0			48, 38
-	25111334-005B	12/3/2025 10:02	HNO3	Groundwater	✔								6.5			40, 22
-	25111334-006B	12/1/2025 12:58	HNO3	Groundwater	✔								6.8			26, 22
-	25111334-007B	12/3/2025 11:39	HNO3	Groundwater	✔								6.5			32, 24
-	25111334-008B	12/2/2025 11:26	HNO3	Groundwater	✔								6.5			32, 40
-	25111334-009B	12/4/2025 11:27	HNO3	Groundwater	✔								6.5			38, 30
-	25111334-010B	12/3/2025 12:40	HNO3	Groundwater	✔								6.5			20, 30
-	25111334-011B	12/3/2025 10:02	HNO3	Groundwater	✔								6.5			40, 32

*Relinquished By	Date/Time	Received By		Date/Time
Cindy Kasakoski			UPS FEDEX	12-8-25 12:00

6.5+0.0=6.8
6.5+0.0=6.5
7.3+0.0=7.3
6.0+0.0=6.0

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevA
3/2/2016

6.5+0.0=6.5

C.S. INTACT #4562 12/4/25 C.S. INTACT#4347 12/4/25 C.S. INTACT# 4400 12/4/25
C.S. INTACT #4346 12/4/25 C.S. INTACT # 4561 12/4/25

Pg ___ of ___

25120591

TEKLAB, INC. Chain of Custody

120 United Drive, Collinsville, IL 62234 Phone (618) 344-1004

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
120 United Drive
Collinsville, IL 62234

Cooler Temp: | Sampler: Client | QC Level: 2

Comments: **Please Issue reports and invoices via email only**
SHIP to ATG-Akron. Please analyze for Combined Radium 226/228 per your usual methods.
Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.

Project# 25111334

Contact: Elizabeth Hurley | Email: ehurley@teklabinc.com
Requested Due Date: Standard TAT | Billing/PO: 39997
Phone: (618) 344-1004 ext. 1007 State of Sample Origin = IL

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	Radium 226/228												
-	25111334-012B	12/1/2025 11:21	HNO3	Groundwater	✔									PH			40, 28
-	25111334-013B	12/2/2025 10:23	HNO3	Groundwater	✔												32, 52
-	25111334-014B	12/2/2025 11:30	HNO3	Groundwater	✔												36, 26
-	25111334-015B	12/2/2025 12:19	HNO3	Groundwater	✔												24, 26
-	25111334-016B	12/2/2025 11:44	HNO3	Groundwater	✔												28, 18
	25111334-017B	12/3/2025 10:54	HNO3	Groundwater	✔												34, 22
	25111334-018B	12/3/2025 12:28	HNO3	Groundwater	✔												24, 40
			HNO3	Groundwater													
			HNO3	Groundwater													
			HNO3	Groundwater													
			HNO3	Groundwater													

*Relinquished By	Date/Time	Received By	Date/Time
Cindy Kassabaum		FEDEX	12-8-25 12:00

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SubCocRevA
3/2/2016

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Sample Log-In Check List

Client Name: **TEK-IL-62234-A** Work Order Number: **25120591** RcptNo: **1**

Logged by:	**Paige J. Yerick**	**12/8/2025 12:00:00 PM**	Paige Yerich
Completed By:	**Paige J. Yerick**	**12/9/2025 11:24:51 AM**	Paige Yerich
Reviewed By:	**Jennifer Woolf**	**12/11/2025 12:54:10 PM**	Jennifer Woolf

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☑ Not Present ☐
2. How was the sample delivered? FedEx

Log In

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☑ No ☐ Not Present ☐ NA ☐
   No. 4562 Seal Date: 12/4/2025 Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:
    sample dates/times updated per email

Cooler Information

Cooler No	Temp ºC	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	6.5	Good	Yes	4562		

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26010277
Monitoring Point: MW-101
Sample ID: 001
Date (s): 1/20/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 17 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 1/20/26 9:07 AM
Static Water Level: 15.74 feet below TOC
Total Depth: 31.11 feet below TOC
Water Column: 15.37 feet

Purging Activities

Purged By: FB Purge Date: 1/20/2026
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 15.37 ft. x 0.022 = 0.34 L x 3 Vol. = 1.02 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.50 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:07	0.0	183	purge start time						
9:28	3.8	↓	7.02	1,312.00	16.30	5.20	101.60	8.09	
9:31	4.4		7.02	1,311.00	16.30	5.20	101.80	5.98	
9:34	4.9		7.02	1,311.00	16.30	5.20	102.00	5.38	
9:37	5.5		7.02	1,311.00	16.30	5.20	102.20	5.11	

Sampling Activities

Sampled By: FB Sample Date/Time: 1/20/2026 9:37
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 7.02 pH 1,311.00 Spec. Cond. 16.30 Temp
Field Filtered: No Filter Type:
Water Level: 19.23 feet below TOC Drawdown: 3.49 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

Form Completed By: Date: 1/20/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26010277
Monitoring Point: MW-102
Sample ID: 002
Date (s): 1/20/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 19 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 1/20/26 9:53 AM
Static Water Level: 15.61 feet below TOC
Total Depth: 29.79 feet below TOC
Water Column: 14.18 feet

Purging Activities

Purged By: FB Purge Date: 1/20/2026
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 14.18 ft. x 0.022 = 0.31 L x 3 Vol. = 0.93 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.50 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:53	0.0	225	purge start time						
10:04	2.5	↓	6.48	1,916.00	15.90	0.96	37.00	9.62	
10:07	3.2		6.48	1,915.00	15.90	0.96	37.60	3.38	
10:10	3.8		6.48	1,914.00	15.90	0.96	38.30	3.16	
10:13	4.5		6.48	1,914.00	15.90	0.96	38.90	2.75	

Sampling Activities

Sampled By: FB Sample Date/Time: 1/20/2026 10:13
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.48 pH 1,914.00 Spec. Cond. 15.90 Temp
Field Filtered: No Filter Type:
Water Level: 18.67 feet below TOC Drawdown: 3.06 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

Form Completed By: Frank Barthol **Date:** 1/20/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26010277
Monitoring Point: MW-103
Sample ID: 003
Date (s): 1/20/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 22 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 1/20/26 10:36 AM
Static Water Level: 13.73 feet below TOC
Total Depth: 31.69 feet below TOC
Water Column: 17.96 feet

Purging Activities

Purged By: FB Purge Date: 1/20/2026
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 17.96 ft. x 0.022 = 0.4 L x 3 Vol. = 1.2 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.50 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:36	0.0	196	purge start time						
10:50	2.7	↓	5.86	2,229.00	16.60	0.67	-17.30	5.77	
10:53	3.3		5.86	2,228.00	16.70	0.67	-17.30	9.07	
10:56	3.9		5.87	2,228.00	16.70	0.67	-17.40	3.63	
10:59	4.5		5.87	2,227.00	16.70	0.67	-17.50	2.65	

Sampling Activities

Sampled By: FB Sample Date/Time: 1/20/2026 10:59
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 5.87 pH 2,227.00 Spec. Cond. 16.70 Temp
Field Filtered: No Filter Type:
Water Level: 16.96 feet below TOC Drawdown: 3.23 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

Form Completed By: Date: 1/20/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26010277
Monitoring Point: MW-104
Sample ID: 004
Date (s): 1/20/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 26 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 1/20/26 11:33 AM
Static Water Level: 13.18 feet below TOC
Total Depth: 33.68 feet below TOC
Water Column: 20.50 feet

Purging Activities

Purged By: FB Purge Date: 1/20/2026
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 20.5 ft. x 0.022 = 0.45 L x 3 Vol. = 1.35 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.00 L
Physical appearance of purge water: Clear Odor: Moderate Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
11:33	0.0	200	purge start time						
11:44	2.2	↓	9.01	2,576.00	15.20	0.42	-346.20	4.63	
11:47	2.8		9.01	2,577.00	15.20	0.42	-346.50	4.83	
11:50	3.4		9.01	2,576.00	15.20	0.42	-346.80	5.17	
11:53	4.0		9.01	2,574.00	15.30	0.42	-347.20	4.68	

Sampling Activities

Sampled By: FB Sample Date/Time: 1/20/2026 11:53
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 9.01 pH 2,574.00 Spec. Cond. 15.30 Temp
Field Filtered: No Filter Type:
Water Level: 15.99 feet below TOC Drawdown: 2.81 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612
- Field duplicate collected

Form Completed By: Frank Barthol **Date:** 1/20/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-105
Project Location:	Marion, IL	**Sample ID:**	005
W.O. Number (s):	26010277	**Date (s):**	1/21/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 38 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☐ None ☑ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 1/21/26 9:51 AM

Static Water Level: 12.38 feet below TOC

Total Depth: 28.65 feet below TOC

Water Column: 16.27 feet

Purging Activities

Purged By: FB Purge Date: 1/21/2026

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 16.27 ft. x 0.022 = 0.36 L x 3 Vol. = 1.08 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:51	0.0	200	purge start time						
10:07	3.2	↓	6.75	2,319.00	14.50	5.00	69.70	1.73	
10:10	3.8		6.75	2,320.00	14.50	4.98	69.70	1.68	
10:13	4.4		6.75	2,324.00	14.50	4.98	69.80	1.74	
10:16	5.0		6.75	2,326.00	14.40	4.96	70.00	1.60	

Sampling Activities

Sampled By: FB Sample Date/Time: 1/21/2026 10:16

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.75 pH 2,326.00 Spec. Cond. 14.40 Temp

Field Filtered: No Filter Type:

Water Level: 16.12 feet below TOC Drawdown: 3.74 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

Form Completed By: Date: 1/21/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-106
Project Location:	Marion, IL	**Sample ID:**	006
W.O. Number (s):	26010277	**Date (s):**	1/21/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 37 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☐ None ☑ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 1/21/26 9:06 AM

Static Water Level: 16.16 feet below TOC

Total Depth: 31.46 feet below TOC

Water Column: 15.30 feet

Purging Activities

Purged By: FB Purge Date: 1/21/2026

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 15.3 ft. x 0.022 = 0.34 L x 3 Vol. = 1.02 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.50 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:06	0.0	196	purge start time						
9:20	2.7	↓	6.95	1,305.00	15.80	4.28	41.00	3.64	
9:23	3.3		6.95	1,304.00	15.80	4.27	40.80	3.56	
9:26	3.9		6.95	1,305.00	15.80	4.27	40.60	3.56	
9:29	4.5		6.95	1,305.00	15.80	4.27	40.30	3.45	

Sampling Activities

Sampled By: FB Sample Date/Time: 1/21/2026 9:29

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.95 pH 1,305.00 Spec. Cond. 15.80 Temp

Field Filtered: No Filter Type:

Water Level: 18.59 feet below TOC Drawdown: 2.43 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

Form Completed By:  **Date:** 1/21/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-109
Project Location:	Marion, IL	**Sample ID:**	007
W.O. Number (s):	26010277	**Date (s):**	1/21/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 38 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 1/21/26 10:44 AM

Static Water Level: 8.68 feet below TOC

Total Depth: 24.82 feet below TOC

Water Column: 16.14 feet

Purging Activities

Purged By: FB Purge Date: 1/21/2026

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 16.14 ft. x 0.022 = 0.36 L x 3 Vol. = 1.08 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:44	0.0	200	purge start time						
10:35	-1.8	↓	7.29	980.00	15.00	3.29	48.39	5.47	
10:38	-1.2		7.29	980.00	15.00	3.28	48.80	3.74	
10:41	-0.6		7.29	980.00	15.00	3.27	48.80	4.99	
10:44	0.0		7.29	980.00	15.00	3.27	48.80	4.36	

Sampling Activities

Sampled By: FB Sample Date/Time: 1/21/2026 10:44

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 7.29 pH 980.00 Spec. Cond. 15.00 Temp

Field Filtered: No Filter Type:

Water Level: 12.45 feet below TOC Drawdown: 3.77 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

Form Completed By: Frank Barthol **Date:** 1/21/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26010277
Monitoring Point: Field Duplicate
Sample ID: 008
Date (s): 1/20/2026

Field Team Members

Name: Frank Barthol — Affiliation: TekLab, Inc.
Name: — Affiliation:

Weather Conditions

Temp: 26 °F — Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 1/20/26 11:33 AM
Static Water Level: 13.18 feet below TOC
Total Depth: 33.68 feet below TOC
Water Column: 20.50 feet

Purging Activities

Purged By: FB — Purge Date: 1/20/2026
Purge Method: Peristaltic Pump — Well Diameter: 2"
Purge Volume Calculation (L): 20.5 ft. x 0.022 = 0.45 L x 3 Vol. = 1.35 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.00 L
Physical appearance of purge water: Clear — Odor: Moderate — Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
11:33	0.0	200	purge start time						
11:44	2.2	↓	9.01	2,576.00	15.20	0.42	-346.20	4.63	
11:47	2.8		9.01	2,577.00	15.20	0.42	-346.50	4.83	
11:50	3.4		9.01	2,576.00	15.20	0.42	-346.80	5.17	
11:53	4.0		9.01	2,574.00	15.30	0.42	-347.20	4.68	

Sampling Activities

Sampled By: FB — Sample Date/Time: 1/20/2026 11:53
Sample Method: Low Flow — Sample Equipment: Peristaltic Pump
Sample Parameters: 9.01 pH — 2,574.00 Spec. Cond. — 15.30 Temp
Field Filtered: No — Filter Type:
Water Level: 15.99 feet below TOC — Drawdown: 2.81 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612
- Collected at MW-104

Form Completed By:  **Date:** 1/20/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26010277
Monitoring Point: Equipment Blank
Sample ID: 009
Date (s): 1/21/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 38 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured:
Static Water Level: feet below TOC
Total Depth: - feet below TOC
Water Column: feet

Purging Activities

Purged By: FB Purge Date:
Purge Method: Direct Grab Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other

Sampling Activities

Sampled By: FB Sample Date/Time: 1/21/2026 11:06
Sample Method: Direct Sample Sample Equipment: Direct Grab
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: No Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- QA/QC Sample
- Collected from Dippeer-T

Form Completed By:  **Date:** 1/21/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26010277
Monitoring Point: Field Blank
Sample ID: 010
Date (s): 1/21/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 38 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured:
Static Water Level: feet below TOC
Total Depth: - feet below TOC
Water Column: feet

Purging Activities

Purged By: FB Purge Date:
Purge Method: Direct Grab Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other

Sampling Activities

Sampled By: FB Sample Date/Time: 1/21/2026 10:50
Sample Method: Direct Sample Sample Equipment: Direct Grab
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: No Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- QA/QC Sample
- Collected at MW-109

Form Completed By:  **Date:** 1/21/2026

Site Samping Event: Groundwater Monitoring
LIMS Workorder: 26010277
Technician(s): FB

Field Calibration Log(s)
SIPC- New Wells- 1Q 2026

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45612 Technician(s): Frank Barthol Date: 1/20/2026

pH Standards	LIMS ID	Reading (SU & mV)	Date/Time
4.0 Buffer	WC251017A	4.00	1/20/26 8:52
7.0 Buffer	WC251017B	7.00	1/20/26 8:47
10.0 Buffer	WC251017C	10.00	1/20/26 8:58
LCS/CCV (7.0 Buffer)	WC251017D		

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	108769	1412	1/20/26 9:02

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.18	1/20/26 9:05
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading	Date/Time

D.O. Saturation	LIMS ID/Lot#	Reading	Date/Time
100%	N/A		

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-1	LCS	1/20/26 9:07	22.7	7.00	1,413	0.16		
CCV-1	CCV	1/20/26 12:59	23.1	7.02	1,399	0.23		

Comments:

Field Meter ID: Pine 45612 Technician(s): Frank Barthol Date: 1/21/2026

pH Standards	LIMS ID	Reading (SU & mV)	Date/Time
4.0 Buffer	WC251017A	4.00	1/21/26 8:54
7.0 Buffer	WC251017B	7.00	1/21/26 8:49
10.0 Buffer	WC251017C	10.00	1/21/26 8:59
LCS/CCV (7.0 Buffer)	WC251017D		

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	108769	1412	1/21/26 9:02

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.3	1/21/26 9:04
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading	Date/Time

D.O. Saturation	LIMS ID/Lot#	Reading	Date/Time
100%	N/A		

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-2	LCS	1/21/26 9:06	19.5	6.99	1,413	0.26		
CCV-2	CCV	1/21/26 11:15	20	7.02	1,409	0.23		

Comments:

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC

11669 Lilburn Park Rd.
St. Louis, MO 63146
Office: 314.344.1079

Pine Environmental Services, Inc.

Instrument ID 45612
Description YSI PRO DSS - 10 meter cable
Calibrated 12/30/2025 4:52:18PM

Manufacturer YSI
Model Number Pro DSS
Serial Number/ Lot Number 19D104677
Location St. Louis
Department ENV

State Certified
Status Pass
Temp °C 22.2
Humidity % 43

Calibration Specifications

Group # 1
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.000

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.523	1.413	0.00%	Pass

Group # 2
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.36	7.02	0.29%	Pass
4.00 / 4.00	PH	4.00	PH	4.52	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	10.27	10.05	0.50%	Pass

Group # 3
Group Name Redox (ORP)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	232.50	240.00	0.00%	Pass

Group # 4
Group Name Disolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	%	100.00	%	93.20	100.30	0.30%	Pass

Group # 5
Group Name Turbidity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.00 / 0.00	FNU	0.00	FNU	-0.44	0.00	0.00%	Pass

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC

11669 Lilburn Park Rd.
St. Louis, MO 63146
Office: 314.344.1079

Pine Environmental Services, Inc.

Instrument ID 45612
Description YSI PRO DSS - 10 meter cable
Calibrated 12/30/2025 4:52:18PM

Group # 5
Group Name Turbidity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
124.00 / 124.00	FNU	124.00	FNU	71.60	124.00	0.00%	Pass

Test Instruments Used During the Calibration **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
STL 126 NTU L#25F24022377	STL 126 NTU L#25F24022377	YSI	126 NTU	25F24022377	8/4/2025	6/30/2026
STL 1413 COND L#5GC0680	STL 1413 COND L#5GC0680	AquaPhoenix Scientific	31986	5GC0680		3/25/2026
STL AUTOCAL LOT# 24021650	Auto Cal Solution 0 NTU/PH 4	GFS	8483	24021650		6/25/2026
STL ORP 240MV L# 5GG1949	STL ORP SOLUTION 240MV L#5GG1949	AquaPhoenix Scientific	ORP Solution	5GG1949		4/1/2026
STL PH10 #5GH0395	STL PH10 #5GH0395	AquaPhoenix Scientific	PH 10	5GH0395		8/25/2027
STL PH4 L#5GC0771	STL pH4 L#5GC0771	AquaPhoenix Scientific	pH 4	5GC0771		2/25/2027
STL PH7 L#5GH0389	STL PH7 L#5GH0389	AquaPhoenix Scientific	PH7	5GH0389		8/25/2027

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Chris Harkins

All instruments are calibrated by Pine Environmental Services LLC according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services LLC of any defect within 24 hours of receipt of equipment
Please call 800-301-9663 for Technical Assistance

March 03, 2026

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:

Illinois	100226
Kansas	E-10374
Kansas	E-10438
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: Groundwater Monitoring **WorkOrder:** 26010277

Dear Jason McLaurin:

TEKLAB, INC received 10 samples on 1/20/2026 2:40:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Director of Customer Service
(618)344-1004
ehurley@teklabinc.com

Report Contents

Client: Southern Illinois Power Cooperation
Work Order: 26010277
Client Project: Groundwater Monitoring
Report Date: 03-Mar-26

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Quality Control Results	25
Receiving Check List	37
Chain of Custody	Appended

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
NC	Data is not acceptable for compliance purposes
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

Case Narrative

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 26010277
Client Project: Groundwater Monitoring
Report Date: 03-Mar-26

Cooler Receipt Temp: 1.2 °C

An employee of Teklab, Inc. collected the sample(s).

Radium 226/228 analyses were performed by Alliance Technical Group - Akron. See attached report for results and QC data.

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville

Address 120 United Drive
Collinsville, IL 62234-7433
Phone (618) 344-1004
Fax
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air

Address 120 United Drive
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2027	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2026	Collinsville
Kansas	KDHE	E-10438	NELAP	7/31/2026	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2026	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2026	Collinsville
Oklahoma	ODEQ	9978	NELAP	12/31/2026	Collinsville
Arkansas	ADEQ	88-0966		3/14/2026	Collinsville
Illinois	IDPH	17584		5/31/2026	Collinsville
Iowa	IDNR	430		6/1/2026	Collinsville
Kansas	KDHE	E-92716		1/31/2027	Collinsville
Kentucky	KWLCP	KY98050		12/31/2026	Collinsville
Kentucky	KWLCP	KY98006		12/31/2026	Collinsville
Kentucky	UST	0073		1/31/2027	Collinsville
Mississippi	MSDH			4/30/2026	Collinsville
Missouri	MDNR	930		1/31/2028	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Lab ID: 26010277-001 **Client Sample ID:** MW-101

Matrix: GROUNDWATER **Collection Date:** 01/20/2026 9:37

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**15.74**	ft	1	01/20/2026 9:37	R377918
Elevation of groundwater surface	*	0	0		**500.58**	ft	1	01/20/2026 9:37	R377918
Measuring Point Elevation	*	0	0		**516.32**	ft	1	01/20/2026 9:37	R377918
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.50**	gal	1	01/20/2026 9:37	R377918
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**5.1**	NTU	1	01/20/2026 9:37	R377918
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**102**	mV	1	01/20/2026 9:37	R377918
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.311**	mS/cm	1	01/20/2026 9:37	R377918
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**16.3**	°C	1	01/20/2026 9:37	R377918
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**5.20**	mg/L	1	01/20/2026 9:37	R377918
SW-846 9040B FIELD									
pH	*	0	1.00		**7.02**		1	01/20/2026 9:37	R377918
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**766**	mg/L	1	01/21/2026 14:43	R377964
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**0.51**	mg/L	10	01/21/2026 15:46	R377853
Chloride	NELAP	1.00	5.00		**206**	mg/L	10	01/21/2026 15:46	R377853
Sulfate	NELAP	0.99	10.0		**102**	mg/L	10	01/21/2026 15:46	R377853
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**91.5**	µg/L	1	01/21/2026 13:34	250613
Boron	NELAP	9.0	20.0		**60.6**	µg/L	1	01/21/2026 13:34	250613
Calcium	NELAP	0.035	0.100		**60.9**	mg/L	1	01/21/2026 13:34	250613
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	02/02/2026 16:26	250613
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	02/02/2026 16:26	250613
Beryllium	NELAP	0.2	1.0	BJ	**0.3**	µg/L	5	02/02/2026 16:26	250613
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	02/02/2026 16:26	250613
Chromium	NELAP	0.7	1.5	J	**0.9**	µg/L	5	02/12/2026 12:34	251587
Cobalt	NELAP	0.1	1.0	J	**0.1**	µg/L	5	02/06/2026 23:04	250613
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	02/06/2026 23:04	250613
Lithium	*	1.4	3.0		**36.5**	µg/L	5	02/09/2026 17:20	250613
Molybdenum	NELAP	0.6	1.5		**7.8**	µg/L	5	02/13/2026 12:11	251587
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	02/02/2026 16:26	250613
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	02/02/2026 16:26	250613

LCS recovered outside upper control limits for Co and Pb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.
Contamination present in the MBLK for Be. Sample results below the reporting limit are reportable per the TNI Standard.
CCV recovered outside the upper control limits for Be & Tl. Sample results are below the reporting limit. Data is reportable per the TNI standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	01/24/2026 10:29	250620
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**0.75**	pci/L	1	02/09/2026 9:51	R379887

Client: Southern Illinois Power Cooperation
Work Order: 26010277
Client Project: Groundwater Monitoring
Report Date: 03-Mar-26
Lab ID: 26010277-001
Client Sample ID: MW-101
Matrix: GROUNDWATER
Collection Date: 01/20/2026 9:37

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228 Uncertainty	*	0	0		**0.440**	+/-	1	02/09/2026 9:51	R379887
Radium-226	*	0.627	1.00		**0.36**	pci/L	1	02/09/2026 9:51	R379887
Radium-226 Uncertainty	*	0	0		**0.070**	+/-	1	02/09/2026 9:51	R379887
Radium-228	*	0.640	1.00		**0.39**	pci/L	1	02/06/2026 13:24	R379887
Radium-228 Uncertainty	*	0	0		**0.370**	+/-	1	02/06/2026 13:24	R379887

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Lab ID: 26010277-002 **Client Sample ID:** MW-102

Matrix: GROUNDWATER **Collection Date:** 01/20/2026 10:13

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**15.61**	ft	1	01/20/2026 10:13	R377918
Elevation of groundwater surface	*	0	0		**502.50**	ft	1	01/20/2026 10:13	R377918
Measuring Point Elevation	*	0	0		**518.11**	ft	1	01/20/2026 10:13	R377918
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.20**	gal	1	01/20/2026 10:13	R377918
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**2.8**	NTU	1	01/20/2026 10:13	R377918
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**39**	mV	1	01/20/2026 10:13	R377918
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.914**	mS/cm	1	01/20/2026 10:13	R377918
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**15.9**	°C	1	01/20/2026 10:13	R377918
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.96**	mg/L	1	01/20/2026 10:13	R377918
SW-846 9040B FIELD									
pH	*	0	1.00		**6.48**		1	01/20/2026 10:13	R377918
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1370**	mg/L	1	01/21/2026 14:43	R377964
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.22**	mg/L	10	01/21/2026 16:36	R377853
Chloride	NELAP	1.00	5.00		**144**	mg/L	10	01/21/2026 16:36	R377853
Sulfate	NELAP	0.99	10.0		**632**	mg/L	10	01/21/2026 16:36	R377853
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**32.2**	µg/L	1	01/21/2026 13:35	250613
Boron	NELAP	9.0	20.0		**53.4**	µg/L	1	01/21/2026 13:35	250613
Calcium	NELAP	0.035	0.100		**132**	mg/L	1	01/21/2026 13:35	250613
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	02/02/2026 16:33	250613
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	02/02/2026 16:33	250613
Beryllium	NELAP	0.2	1.0	BJ	**0.3**	µg/L	5	02/02/2026 16:33	250613
Cadmium	NELAP	0.2	1.0	J	**0.2**	µg/L	5	02/02/2026 16:33	250613
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	02/12/2026 12:39	251587
Cobalt	NELAP	0.1	1.0	J	**0.8**	µg/L	5	02/07/2026 0:01	250613
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	02/07/2026 0:01	250613
Lithium	*	1.4	3.0		**7.0**	µg/L	5	02/09/2026 17:25	250613
Molybdenum	NELAP	0.6	1.5		**3.7**	µg/L	5	02/13/2026 12:17	251587
Selenium	NELAP	0.6	1.0	J	**1.0**	µg/L	5	02/02/2026 16:33	250613
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	02/02/2026 16:33	250613

LCS recovered outside upper control limits for Co and Pb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.
Contamination present in the MBLK for Be. Sample results below the reporting limit are reportable per the TNI Standard.
CCV recovered outside the upper control limits for Be & Tl. Sample results are below the reporting limit. Data is reportable per the TNI standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	01/24/2026 10:31	250620
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**0.44**	pci/L	1	02/09/2026 9:51	R379887

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Lab ID: 26010277-002 **Client Sample ID:** MW-102

Matrix: GROUNDWATER **Collection Date:** 01/20/2026 10:13

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228 Uncertainty	*	0	0		**0.440**	+/-	1	02/09/2026 9:51	R379887
Radium-226	*	0.627	1.00		**0.08**	pci/L	1	02/09/2026 9:51	R379887
Radium-226 Uncertainty	*	0	0		**0.040**	+/-	1	02/09/2026 9:51	R379887
Radium-228	*	0.640	1.00		**0.36**	pci/L	1	02/06/2026 13:24	R379887
Radium-228 Uncertainty	*	0	0		**0.400**	+/-	1	02/06/2026 13:24	R379887

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Lab ID: 26010277-003 **Client Sample ID:** MW-103

Matrix: GROUNDWATER **Collection Date:** 01/20/2026 10:59

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**13.73**	ft	1	01/20/2026 10:59	R377918
Elevation of groundwater surface	*	0	0		**498.61**	ft	1	01/20/2026 10:59	R377918
Measuring Point Elevation	*	0	0		**512.34**	ft	1	01/20/2026 10:59	R377918
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.20**	gal	1	01/20/2026 10:59	R377918
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**2.6**	NTU	1	01/20/2026 10:59	R377918
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-18**	mV	1	01/20/2026 10:59	R377918
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.227**	mS/cm	1	01/20/2026 10:59	R377918
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**16.7**	°C	1	01/20/2026 10:59	R377918
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.67**	mg/L	1	01/20/2026 10:59	R377918
SW-846 9040B FIELD									
pH	*	0	1.00		**5.87**		1	01/20/2026 10:59	R377918
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1610**	mg/L	1	01/21/2026 14:43	R377964
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.06**	mg/L	10	01/21/2026 16:49	R377853
Chloride	NELAP	1.00	5.00		**407**	mg/L	10	01/21/2026 16:49	R377853
Sulfate	NELAP	0.99	10.0		**593**	mg/L	10	01/21/2026 16:49	R377853
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	7.0	25.0		**46.0**	µg/L	10	01/27/2026 15:36	250613
Boron	NELAP	90.0	200		**7650**	µg/L	10	01/27/2026 15:36	250613
Calcium	NELAP	3.50	10.0		**105**	mg/L	100	01/23/2026 8:19	250613
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	02/02/2026 16:40	250613
Arsenic	NELAP	0.4	1.0		**3.5**	µg/L	5	02/02/2026 16:40	250613
Beryllium	NELAP	0.2	1.0	B	**< 1.0**	µg/L	5	02/02/2026 16:40	250613
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	02/02/2026 16:40	250613
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	02/12/2026 12:44	251587
Cobalt	NELAP	0.1	1.0		**537**	µg/L	5	02/09/2026 17:31	250613
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	02/07/2026 0:07	250613
Lithium	*	1.4	3.0		**5.0**	µg/L	5	02/09/2026 17:31	250613
Molybdenum	NELAP	0.6	1.5	B	**< 1.5**	µg/L	5	02/09/2026 17:31	250613
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	02/02/2026 16:40	250613
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	02/02/2026 16:40	250613

Contamination present in the MBLK for Mo. Sample results below the reporting limit are reportable per the TNI Standard.

LCS recovered outside upper control limits for Pb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.

Contamination present in the MBLK for Be. Sample results below the reporting limit are reportable per the TNI Standard.

CCV recovered outside the upper control limits for Be & Tl. Sample results are below the reporting limit. Data is reportable per the TNI standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	01/24/2026 10:44	250620

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Lab ID: 26010277-003 **Client Sample ID:** MW-103

Matrix: GROUNDWATER **Collection Date:** 01/20/2026 10:59

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**0.53**	pci/L	1	02/09/2026 9:51	R379887
Combined 226/228 Uncertainty	*	0	0		**0.440**	+/-	1	02/09/2026 9:51	R379887
Radium-226	*	0.627	1.00		**0.22**	pci/L	1	02/09/2026 9:51	R379887
Radium-226 Uncertainty	*	0	0		**0.060**	+/-	1	02/09/2026 9:51	R379887
Radium-228	*	0.640	1.00		**0.31**	pci/L	1	02/06/2026 13:24	R379887
Radium-228 Uncertainty	*	0	0		**0.380**	+/-	1	02/06/2026 13:24	R379887

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Lab ID: 26010277-004 **Client Sample ID:** MW-104

Matrix: GROUNDWATER **Collection Date:** 01/20/2026 11:53

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**13.18**	ft	1	01/20/2026 11:53	R377918
Elevation of groundwater surface	*	0	0		**499.34**	ft	1	01/20/2026 11:53	R377918
Measuring Point Elevation	*	0	0		**512.52**	ft	1	01/20/2026 11:53	R377918
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.10**	gal	1	01/20/2026 11:53	R377918
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**4.7**	NTU	1	01/20/2026 11:53	R377918
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-347**	mV	1	01/20/2026 11:53	R377918
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.574**	mS/cm	1	01/20/2026 11:53	R377918
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**15.3**	°C	1	01/20/2026 11:53	R377918
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.42**	mg/L	1	01/20/2026 11:53	R377918
SW-846 9040B FIELD									
pH	*	0	1.00		**9.01**		1	01/20/2026 11:53	R377918
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	32	40		**2630**	mg/L	2	01/21/2026 14:57	R377964
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**3.23**	mg/L	10	01/21/2026 17:27	R377853
Chloride	NELAP	1.00	5.00		**34.5**	mg/L	10	01/21/2026 17:27	R377853
Sulfate	NELAP	0.99	10.0		**1760**	mg/L	10	01/21/2026 17:27	R377853
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**38.2**	µg/L	1	01/21/2026 13:38	250613
Boron	NELAP	9.0	20.0		**6190**	µg/L	1	01/21/2026 13:38	250613
Calcium	NELAP	0.035	0.100		**617**	mg/L	1	01/21/2026 13:38	250613
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**1.7**	µg/L	5	02/02/2026 16:47	250613
Arsenic	NELAP	0.4	1.0		**675**	µg/L	5	02/07/2026 0:13	250613
Beryllium	NELAP	0.2	1.0	B	**< 1.0**	µg/L	5	02/02/2026 16:47	250613
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	02/07/2026 0:13	250613
Chromium	NELAP	0.7	1.5		**3.1**	µg/L	5	02/13/2026 12:22	251587
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	02/07/2026 0:13	250613
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	02/07/2026 0:13	250613
Lithium	*	1.4	3.0		**4.5**	µg/L	5	02/09/2026 17:37	250613
Molybdenum	NELAP	0.6	1.5	J	**0.9**	µg/L	5	02/13/2026 12:22	251587
Selenium	NELAP	0.6	1.0		**3.7**	µg/L	5	02/02/2026 16:47	250613
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	02/02/2026 16:47	250613

LCS recovered outside upper control limits for Co and Pb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.
Contamination present in the MBLK for Be. Sample results below the reporting limit are reportable per the TNI Standard.
CCV recovered outside the upper control limits for Be & Tl. Sample results are below the reporting limit. Data is reportable per the TNI standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	01/24/2026 10:53	250620
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**0.87**	pci/L	1	02/09/2026 9:51	R379887

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Lab ID: 26010277-004 **Client Sample ID:** MW-104

Matrix: GROUNDWATER **Collection Date:** 01/20/2026 11:53

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228 Uncertainty	*	0	0		**0.440**	+/-	1	02/09/2026 9:51	R379887
Radium-226	*	0.627	1.00		**0.12**	pci/L	1	02/09/2026 9:51	R379887
Radium-226 Uncertainty	*	0	0		**0.050**	+/-	1	02/09/2026 9:51	R379887
Radium-228	*	0.64	1.0	J	**0.75**	pci/L	1	02/06/2026 13:24	R379887
Radium-228 Uncertainty	*	0	0		**0.390**	+/-	1	02/06/2026 13:24	R379887

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Lab ID: 26010277-005 **Client Sample ID:** MW-105

Matrix: GROUNDWATER **Collection Date:** 01/21/2026 10:16

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**12.38**	ft	1	01/21/2026 10:16	R377918
Elevation of groundwater surface	*	0	0		**501.06**	ft	1	01/21/2026 10:16	R377918
Measuring Point Elevation	*	0	0		**513.44**	ft	1	01/21/2026 10:16	R377918
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.30**	gal	1	01/21/2026 10:16	R377918
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**1.6**	NTU	1	01/21/2026 10:16	R377918
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**70**	mV	1	01/21/2026 10:16	R377918
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.326**	mS/cm	1	01/21/2026 10:16	R377918
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**14.4**	°C	1	01/21/2026 10:16	R377918
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**4.96**	mg/L	1	01/21/2026 10:16	R377918
SW-846 9040B FIELD									
pH	*	0	1.00		**6.75**		1	01/21/2026 10:16	R377918
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1710**	mg/L	1	01/21/2026 14:57	R377964
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.15**	mg/L	10	01/22/2026 11:37	R377962
Chloride	NELAP	1.00	5.00		**262**	mg/L	10	01/22/2026 11:37	R377962
Sulfate	NELAP	0.99	10.0		**731**	mg/L	10	01/22/2026 11:37	R377962
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**44.9**	µg/L	1	01/22/2026 15:12	250676
Boron	NELAP	9.0	20.0		**70.7**	µg/L	1	01/22/2026 15:12	250676
Calcium	NELAP	0.035	0.100		**172**	mg/L	1	01/22/2026 15:12	250676
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	01/29/2026 12:36	250676
Arsenic	NELAP	0.4	1.0	J	**0.5**	µg/L	5	01/29/2026 12:36	250676
Beryllium	NELAP	0.2	1.0	J	**0.4**	µg/L	5	01/29/2026 12:36	250676
Cadmium	NELAP	0.2	1.0	J	**0.2**	µg/L	5	01/29/2026 12:36	250676
Chromium	NELAP	0.7	1.5		**3.8**	µg/L	5	02/09/2026 17:48	250676
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	01/29/2026 12:36	250676
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	01/29/2026 12:36	250676
Lithium	*	1.4	3.0		**49.4**	µg/L	5	02/07/2026 1:10	250676
Molybdenum	NELAP	0.6	1.5	J	**1.4**	µg/L	5	01/29/2026 12:36	250676
Selenium	NELAP	0.6	1.0		**1.5**	µg/L	5	01/29/2026 12:36	250676
Thallium	NELAP	1.0	2.0	J	**1.4**	µg/L	5	01/29/2026 12:36	250676
LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	01/26/2026 9:10	250673
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**0.5**	pci/L	1	02/09/2026 9:51	R379887
Combined 226/228 Uncertainty	*	0	0		**0.420**	+/-	1	02/09/2026 9:51	R379887
Radium-226	*	0.627	1.00		**0.22**	pci/L	1	02/09/2026 9:51	R379887

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Lab ID: 26010277-005 **Client Sample ID:** MW-105

Matrix: GROUNDWATER **Collection Date:** 01/21/2026 10:16

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**0.060**	+/-	1	02/09/2026 9:51	R379887
Radium-228	*	0.640	1.00		**0.28**	pci/L	1	02/06/2026 13:24	R379887
Radium-228 Uncertainty	*	0	0		**0.360**	+/-	1	02/06/2026 13:24	R379887

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Lab ID: 26010277-006 **Client Sample ID:** MW-106

Matrix: GROUNDWATER **Collection Date:** 01/21/2026 9:29

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**16.16**	ft	1	01/21/2026 9:29	R377918
Elevation of groundwater surface	*	0	0		**499.78**	ft	1	01/21/2026 9:29	R377918
Measuring Point Elevation	*	0	0		**515.94**	ft	1	01/21/2026 9:29	R377918
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.20**	gal	1	01/21/2026 9:29	R377918
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**3.4**	NTU	1	01/21/2026 9:29	R377918
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**40**	mV	1	01/21/2026 9:29	R377918
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.305**	mS/cm	1	01/21/2026 9:29	R377918
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**15.8**	°C	1	01/21/2026 9:29	R377918
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**4.27**	mg/L	1	01/21/2026 9:29	R377918
SW-846 9040B FIELD									
pH	*	0	1.00		**6.95**		1	01/21/2026 9:29	R377918
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**914**	mg/L	1	01/21/2026 14:57	R377964
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.21**	mg/L	10	01/23/2026 2:50	R377962
Chloride	NELAP	1.00	5.00		**42.1**	mg/L	10	01/23/2026 2:50	R377962
Sulfate	NELAP	0.99	10.0		**435**	mg/L	10	01/23/2026 2:50	R377962
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**57.3**	µg/L	1	01/22/2026 16:50	250676
Boron	NELAP	9.0	20.0		**36.8**	µg/L	1	01/22/2026 16:50	250676
Calcium	NELAP	0.035	0.100	S	**82.4**	mg/L	1	01/22/2026 16:50	250676
Matrix spike control limits for Calcium are not applicable due to high sample/spike ratio.									
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	S	**< 1.0**	µg/L	5	01/29/2026 13:11	250676
Arsenic	NELAP	0.4	1.0		**1.9**	µg/L	5	01/29/2026 13:11	250676
Beryllium	NELAP	0.2	1.0	J	**0.3**	µg/L	5	01/29/2026 13:11	250676
Cadmium	NELAP	0.2	1.0	S	**< 1.0**	µg/L	5	01/29/2026 13:11	250676
Chromium	NELAP	0.7	1.5		**3.7**	µg/L	5	02/10/2026 13:54	250676
Cobalt	NELAP	0.1	1.0	J	**0.2**	µg/L	5	01/29/2026 13:11	250676
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	01/29/2026 13:11	250676
Lithium	*	1.4	3.0		**39.1**	µg/L	5	02/07/2026 0:18	250676
Molybdenum	NELAP	0.6	1.5		**6.8**	µg/L	5	02/10/2026 13:54	250676
Selenium	NELAP	0.6	1.0		**2.1**	µg/L	5	01/29/2026 13:11	250676
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	01/29/2026 13:11	250676
Matrix spike recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable.									
LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	01/26/2026 9:13	250673
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**0.27**	pci/L	1	02/09/2026 9:51	R379887

Client: Southern Illinois Power Cooperation
Work Order: 26010277
Client Project: Groundwater Monitoring
Report Date: 03-Mar-26
Lab ID: 26010277-006
Client Sample ID: MW-106
Matrix: GROUNDWATER
Collection Date: 01/21/2026 9:29

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228 Uncertainty	*	0	0		**0.440**	+/-	1	02/09/2026 9:51	R379887
Radium-226	*	0.627	1.00		**0.27**	pci/L	1	02/09/2026 9:51	R379887
Radium-226 Uncertainty	*	0	0		**0.070**	+/-	1	02/09/2026 9:51	R379887
Radium-228	*	0.640	1.00		**-0.17**	pci/L	1	02/06/2026 13:24	R379887
Radium-228 Uncertainty	*	0	0		**0.370**	+/-	1	02/06/2026 13:24	R379887

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Lab ID: 26010277-007 **Client Sample ID:** MW-109

Matrix: GROUNDWATER **Collection Date:** 01/21/2026 10:44

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**8.68**	ft	1	01/21/2026 10:44	R377918
Elevation of groundwater surface	*	0	0		**503.87**	ft	1	01/21/2026 10:44	R377918
Measuring Point Elevation	*	0	0		**512.55**	ft	1	01/21/2026 10:44	R377918
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.30**	gal	1	01/21/2026 10:44	R377918
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**4.4**	NTU	1	01/21/2026 10:44	R377918
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**49**	mV	1	01/21/2026 10:44	R377918
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**0.980**	mS/cm	1	01/21/2026 10:44	R377918
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**15.0**	°C	1	01/21/2026 10:44	R377918
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**3.27**	mg/L	1	01/21/2026 10:44	R377918
SW-846 9040B FIELD									
pH	*	0	1.00		**7.29**		1	01/21/2026 10:44	R377918
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**580**	mg/L	1	01/21/2026 14:57	R377964
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.36**	mg/L	10	01/22/2026 11:50	R377962
Chloride	NELAP	1.00	5.00		**81.4**	mg/L	10	01/22/2026 11:50	R377962
Sulfate	NELAP	0.99	10.0		**123**	mg/L	10	01/22/2026 11:50	R377962
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**109**	µg/L	1	01/22/2026 15:33	250676
Boron	NELAP	9.0	20.0		**38.0**	µg/L	1	01/22/2026 15:33	250676
Calcium	NELAP	0.035	0.100		**54.8**	mg/L	1	01/22/2026 15:33	250676
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	01/29/2026 12:43	250676
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	01/29/2026 12:43	250676
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	01/29/2026 12:43	250676
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	01/29/2026 12:43	250676
Chromium	NELAP	0.7	1.5		**5.1**	µg/L	5	02/09/2026 17:54	250676
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	01/29/2026 12:43	250676
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	01/29/2026 12:43	250676
Lithium	*	1.4	3.0		**6.7**	µg/L	5	02/07/2026 1:16	250676
Molybdenum	NELAP	0.6	1.5		**7.9**	µg/L	5	02/09/2026 17:54	250676
Selenium	NELAP	0.6	1.0	J	**0.8**	µg/L	5	01/29/2026 12:43	250676
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	01/29/2026 12:43	250676
LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	01/26/2026 9:15	250673
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**0.12**	pci/L	1	02/09/2026 9:51	R379887
Combined 226/228 Uncertainty	*	0	0		**0.380**	+/-	1	02/09/2026 9:51	R379887
Radium-226	*	0.627	1.00		**0.12**	pci/L	1	02/09/2026 9:51	R379887

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Lab ID: 26010277-007 **Client Sample ID:** MW-109

Matrix: GROUNDWATER **Collection Date:** 01/21/2026 10:44

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**0.050**	+/-	1	02/09/2026 9:51	R379887
Radium-228	*	0.640	1.00		**-0.06**	pci/L	1	02/06/2026 13:24	R379887
Radium-228 Uncertainty	*	0	0		**0.330**	+/-	1	02/06/2026 13:24	R379887

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Lab ID: 26010277-008 **Client Sample ID:** Field Duplicate

Matrix: GROUNDWATER **Collection Date:** 01/20/2026 0:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**13.18**	ft	1	01/20/2026 11:53	R377918
Elevation of groundwater surface	*	0	0		**506.56**	ft	1	01/20/2026 11:53	R377918
Measuring Point Elevation	*	0	0		**519.74**	ft	1	01/20/2026 11:53	R377918
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.10**	gal	1	01/20/2026 11:53	R377918
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**4.7**	NTU	1	01/20/2026 11:53	R377918
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-347**	mV	1	01/20/2026 11:53	R377918
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.574**	mS/cm	1	01/20/2026 11:53	R377918
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**15.3**	°C	1	01/20/2026 11:53	R377918
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.42**	mg/L	1	01/20/2026 11:53	R377918
SW-846 9040B FIELD									
pH	*	0	1.00		**9.01**		1	01/20/2026 11:53	R377918
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**2630**	mg/L	1	01/21/2026 14:57	R377964
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**3.25**	mg/L	10	01/21/2026 18:05	R377853
Chloride	NELAP	1.00	5.00		**34.9**	mg/L	10	01/21/2026 18:05	R377853
Sulfate	NELAP	0.99	10.0		**1760**	mg/L	10	01/21/2026 18:05	R377853
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**38.4**	µg/L	1	01/21/2026 13:40	250613
Boron	NELAP	9.0	20.0		**6290**	µg/L	1	01/21/2026 13:40	250613
Calcium	NELAP	0.035	0.100		**622**	mg/L	1	01/21/2026 13:40	250613
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**1.8**	µg/L	5	02/02/2026 17:22	250613
Arsenic	NELAP	0.4	1.0		**707**	µg/L	5	02/07/2026 1:05	250613
Beryllium	NELAP	0.2	1.0	B	**< 1.0**	µg/L	5	02/02/2026 17:22	250613
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	02/07/2026 1:05	250613
Chromium	NELAP	0.7	1.5		**3.0**	µg/L	5	02/13/2026 12:28	251587
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	02/07/2026 1:05	250613
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	02/07/2026 1:05	250613
Lithium	*	1.4	3.0		**4.7**	µg/L	5	02/09/2026 17:42	250613
Molybdenum	NELAP	0.6	1.5	J	**1.0**	µg/L	5	02/13/2026 12:28	251587
Selenium	NELAP	0.6	1.0		**3.5**	µg/L	5	02/02/2026 17:22	250613
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	02/02/2026 17:22	250613

LCS recovered outside upper control limits for Co and Pb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.
Contamination present in the MBLK for Be. Sample results below the reporting limit are reportable per the TNI Standard.
CCV recovered outside the upper control limits for Be & Tl. Sample results are below the reporting limit. Data is reportable per the TNI standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	01/24/2026 10:56	250620
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**0.15**	pci/L	1	02/09/2026 9:51	R379887

Client: Southern Illinois Power Cooperation
Work Order: 26010277
Client Project: Groundwater Monitoring
Report Date: 03-Mar-26
Lab ID: 26010277-008
Client Sample ID: Field Duplicate
Matrix: GROUNDWATER
Collection Date: 01/20/2026 0:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228 Uncertainty	*	0	0		**0.360**	+/-	1	02/09/2026 9:51	R379887
Radium-226	*	0.627	1.00		**0.15**	pci/L	1	02/09/2026 9:51	R379887
Radium-226 Uncertainty	*	0	0		**0.050**	+/-	1	02/09/2026 9:51	R379887
Radium-228	*	0.640	1.00		**-0.13**	pci/L	1	02/06/2026 13:24	R379887
Radium-228 Uncertainty	*	0	0		**0.310**	+/-	1	02/06/2026 13:24	R379887

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Lab ID: 26010277-009 **Client Sample ID:** Equipment Blank

Matrix: AQUEOUS **Collection Date:** 01/21/2026 11:06

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**< 20**	mg/L	1	01/21/2026 15:05	R377964
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	01/22/2026 12:28	R377962
Chloride	NELAP	1.00	5.00		**ND**	mg/L	10	01/22/2026 12:28	R377962
Sulfate	NELAP	0.99	10.0		**ND**	mg/L	10	01/22/2026 12:28	R377962
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**< 2.5**	µg/L	1	01/22/2026 15:35	250676
Boron	NELAP	9.0	20.0		**< 20.0**	µg/L	1	01/22/2026 15:35	250676
Calcium	NELAP	0.035	0.100		**< 0.100**	mg/L	1	01/22/2026 15:35	250676
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	01/29/2026 12:50	250676
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	01/29/2026 12:50	250676
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	01/29/2026 12:50	250676
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	01/29/2026 12:50	250676
Chromium	NELAP	0.7	1.5		**3.4**	µg/L	5	02/09/2026 18:57	250676
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	01/29/2026 12:50	250676
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	01/29/2026 12:50	250676
Lithium	*	1.4	3.0		**< 3.0**	µg/L	5	02/07/2026 1:22	250676
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	01/29/2026 12:50	250676
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	01/29/2026 12:50	250676
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	01/29/2026 12:50	250676
LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	01/26/2026 9:23	250673
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**0.96**	pci/L	1	02/09/2026 9:51	R379887
Combined 226/228 Uncertainty	*	0	0		**0.510**	+/-	1	02/09/2026 9:51	R379887
Radium-226	*	0.627	1.00		**0.05**	pci/L	1	02/09/2026 9:51	R379887
Radium-226 Uncertainty	*	0	0		**0.040**	+/-	1	02/09/2026 9:51	R379887
Radium-228	*	0.64	1.0	J	**0.91**	pci/L	1	02/06/2026 13:24	R379887
Radium-228 Uncertainty	*	0	0		**0.470**	+/-	1	02/06/2026 13:24	R379887

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

Lab ID: 26010277-010 **Client Sample ID:** Field Blank

Matrix: AQUEOUS **Collection Date:** 01/21/2026 10:50

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**< 20**	mg/L	1	01/21/2026 14:57	R377964
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	01/22/2026 12:41	R377962
Chloride	NELAP	1.00	5.00		**ND**	mg/L	10	01/22/2026 12:41	R377962
Sulfate	NELAP	0.99	10.0		**ND**	mg/L	10	01/22/2026 12:41	R377962
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**< 2.5**	µg/L	1	01/22/2026 15:36	250676
Boron	NELAP	9.0	20.0		**< 20.0**	µg/L	1	01/22/2026 15:36	250676
Calcium	NELAP	0.035	0.100		**< 0.100**	mg/L	1	01/22/2026 15:36	250676
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	01/29/2026 12:57	250676
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	01/29/2026 12:57	250676
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	01/29/2026 12:57	250676
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	01/29/2026 12:57	250676
Chromium	NELAP	0.7	1.5		**1.6**	µg/L	5	02/10/2026 16:00	250676
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	01/29/2026 12:57	250676
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	01/29/2026 12:57	250676
Lithium	*	1.4	3.0		**< 3.0**	µg/L	5	02/07/2026 1:27	250676
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	01/29/2026 12:57	250676
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	01/29/2026 12:57	250676
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	01/29/2026 12:57	250676
LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	01/26/2026 9:26	250673
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**0.26**	pci/L	1	02/09/2026 9:51	R379887
Combined 226/228 Uncertainty	*	0	0		**0.350**	+/-	1	02/09/2026 9:51	R379887
Radium-226	*	0.627	1.00		**0.03**	pci/L	1	02/09/2026 9:51	R379887
Radium-226 Uncertainty	*	0	0		**0.030**	+/-	1	02/09/2026 9:51	R379887
Radium-228	*	0.640	1.00		**0.23**	pci/L	1	02/06/2026 13:24	R379887
Radium-228 Uncertainty	*	0	0		**0.320**	+/-	1	02/06/2026 13:24	R379887

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

STANDARD METHODS 2510 B FIELD

Batch R377918 **SampType:** LCS Units **mS/cm**
SampID: LCS-1

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.413**	1.412	0	100.1	90	110	01/20/2026

Batch R377918 **SampType:** LCS Units **mS/cm**
SampID: LCS-2

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.413**	1.412	0	100.1	90	110	01/21/2026

SW-846 9040B FIELD

Batch R377918 **SampType:** LCS Units
SampID: LCS-1

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.00**	7.000	0	100.0	98.57	101.4	01/20/2026

Batch R377918 **SampType:** LCS Units
SampID: LCS-2

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**6.99**	7.000	0	99.9	98.57	101.4	01/21/2026

STANDARD METHODS 2540 C (TOTAL) 2020

Batch R377964 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	01/21/2026
Total Dissolved Solids		20		**< 20**	16.00	0	0	-100	100	01/22/2026

Batch R377964 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**228**	250.0	0	91.2	90	110	01/22/2026
Total Dissolved Solids		20		**230**	250.0	0	92.0	90	110	01/21/2026

Batch R377964 **SampType:** DUP Units **mg/L** RPD Limit **10**
SampID: 26010277-001ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**766**				766.0	0.00	01/21/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

STANDARD METHODS 2540 C (TOTAL) 2020

Batch R377964 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 26011032-001ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**236**				248.0	4.96	01/22/2026

Batch R377964 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 26011032-007ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**262**				260.0	0.77	01/22/2026

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R377853 **SampType:** MBLK Units **mg/L**

SampID: MBLK/ICB

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**	0.0040	0	0	0	100	01/21/2026
Chloride		0.50		**ND**	0.1000	0	0	0	100	01/21/2026
Sulfate		1.00		**ND**	0.0990	0	0	0	100	01/21/2026

Batch R377853 **SampType:** LCS Units **mg/L**

SampID: LCS/ICV/QCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**0.97**	1.000	0	96.7	90	110	01/21/2026
Chloride		0.50		**20.9**	20.00	0	104.3	90	110	01/21/2026
Sulfate		1.00		**18.9**	20.00	0	94.7	90	110	01/21/2026

Batch R377853 **SampType:** MS Units **mg/L**

SampID: 25122074-068BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.74**	10.00	0.1510	95.9	80	120	01/21/2026
Chloride		5.00		**232**	200.0	23.68	104.1	80	120	01/21/2026

Batch R377853 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 25122074-068BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.80**	10.00	0.1510	96.4	9.737	0.59	01/21/2026
Chloride		5.00		**234**	200.0	23.68	105.3	231.9	1.06	01/21/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R377853 **SampType:** MS Units **mg/L**
SampID: 26011425-001BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.1**	10.00	0.6620	94.6	80	120	01/21/2026
Chloride		5.00		**205**	200.0	0	102.3	80	120	01/21/2026
Sulfate		10.0		**201**	200.0	15.10	93.1	80	120	01/21/2026

Batch R377853 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 26011425-001BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.0**	10.00	0.6620	93.8	10.13	0.84	01/21/2026
Chloride		5.00		**203**	200.0	0	101.5	204.5	0.72	01/21/2026
Sulfate		10.0		**200**	200.0	15.10	92.5	201.3	0.60	01/21/2026

Batch R377853 **SampType:** MS Units **mg/L**
SampID: 26011425-008BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.61**	10.00	0.2530	93.6	80	120	01/21/2026
Chloride		5.00		**257**	200.0	47.32	104.7	80	120	01/21/2026
Sulfate		10.0		**224**	200.0	37.52	93.1	80	120	01/21/2026

Batch R377853 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 26011425-008BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.56**	10.00	0.2530	93.1	9.610	0.47	01/21/2026
Chloride		5.00		**256**	200.0	47.32	104.4	256.7	0.27	01/21/2026
Sulfate		10.0		**223**	200.0	37.52	92.8	223.7	0.27	01/21/2026

Batch R377962 **SampType:** MBLK Units **mg/L**
SampID: MBLK/ICB

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**	0.0040	0	0	0	100	01/22/2026
Chloride		0.50		**ND**	0.1000	0	0	0	100	01/22/2026
Sulfate		1.00		**ND**	0.0990	0	0	0	100	01/22/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R377962 **SampType:** LCS Units **mg/L**
SampID: LCS/ICV/QCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**0.93**	1.000	0	92.6	90	110	01/22/2026
Chloride		0.50		**19.9**	20.00	0	99.6	90	110	01/22/2026
Sulfate		1.00		**18.3**	20.00	0	91.3	90	110	01/22/2026

Batch R377962 **SampType:** MS Units **mg/L**
SampID: 25122074-068BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		20.0		**2720**	400.0	2318	100.4	80	120	01/23/2026

Batch R377962 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 25122074-068BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate		20.0		**2720**	400.0	2318	101.6	2719	0.17	01/23/2026

Batch R377962 **SampType:** MS Units **mg/L**
SampID: 26010277-006AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.63**	10.00	0.2130	94.2	80	120	01/23/2026
Chloride		5.00		**243**	200.0	42.09	100.3	80	120	01/23/2026
Sulfate		10.0		**633**	200.0	435.1	98.9	80	120	01/23/2026

Batch R377962 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 26010277-006AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.60**	10.00	0.2130	93.8	9.629	0.33	01/23/2026
Chloride		5.00		**243**	200.0	42.09	100.2	242.6	0.02	01/23/2026
Sulfate		10.0		**633**	200.0	435.1	98.8	632.9	0.05	01/23/2026

Batch R377962 **SampType:** MS Units **mg/L**
SampID: 26010277-007AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.70**	10.00	0.3590	93.4	80	120	01/22/2026
Chloride		5.00		**288**	200.0	81.43	103.3	80	120	01/22/2026
Sulfate		10.0		**310**	200.0	122.9	93.7	80	120	01/22/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R377962 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26010277-007AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.63**	10.00	0.3590	92.7	9.695	0.66	01/22/2026
Chloride		5.00		**285**	200.0	81.43	102.0	288.0	0.93	01/22/2026
Sulfate		10.0		**307**	200.0	122.9	92.1	310.2	1.00	01/22/2026

Batch R377962 **SampType:** MS Units **mg/L**

SampID: 26011032-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.27**	10.00	0	92.7	80	120	01/22/2026
Chloride		5.00		**210**	200.0	15.53	97.4	80	120	01/22/2026
Sulfate		10.0		**193**	200.0	15.31	88.6	80	120	01/22/2026

Batch R377962 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26011032-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.26**	10.00	0	92.6	9.274	0.11	01/22/2026
Chloride		5.00		**210**	200.0	15.53	97.4	210.3	0.01	01/22/2026
Sulfate		10.0		**193**	200.0	15.31	88.6	192.5	0.02	01/22/2026

Batch R377962 **SampType:** MS Units **mg/L**

SampID: 26011032-007AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.32**	10.00	0	93.2	80	120	01/22/2026
Chloride		5.00		**202**	200.0	7.577	97.2	80	120	01/22/2026
Sulfate		10.0		**190**	200.0	12.22	88.9	80	120	01/22/2026

Batch R377962 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26011032-007AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.33**	10.00	0	93.3	9.317	0.12	01/22/2026
Chloride		5.00		**202**	200.0	7.577	97.3	202.0	0.07	01/22/2026
Sulfate		10.0		**190**	200.0	12.22	89.0	190.0	0.11	01/22/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R377962 **SampType:** MS Units **mg/L**

SampID: 26011466-007AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**1.72**	2.000	0.09040	81.7	80	120	01/22/2026
Chloride		1.00		**334**	40.00	301.3	82.1	80	120	01/22/2026
Sulfate		2.00		**36.1**	40.00	0.3482	89.4	80	120	01/22/2026

Batch R377962 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26011466-007AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		**1.72**	2.000	0.09040	81.7	1.724	0.06	01/22/2026
Chloride		1.00		**334**	40.00	301.3	81.7	334.2	0.04	01/22/2026
Sulfate		2.00		**36.0**	40.00	0.3482	89.2	36.09	0.14	01/22/2026

Batch R377962 **SampType:** MS Units **mg/L**

SampID: 26011549-001BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.80**	10.00	0.3350	94.6	80	120	01/23/2026
Chloride		5.00		**198**	200.0	0	98.8	80	120	01/23/2026
Sulfate		10.0		**191**	200.0	10.44	90.4	80	120	01/23/2026

Batch R377962 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26011549-001BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.70**	10.00	0.3350	93.6	9.800	1.06	01/23/2026
Chloride		5.00		**194**	200.0	0	97.1	197.6	1.75	01/23/2026
Sulfate		10.0		**188**	200.0	10.44	88.9	191.2	1.55	01/23/2026

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 250613 **SampType:** MBLK Units **µg/L**

SampID: MBLK-250613

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0.7000	0	0	-100	100	01/21/2026
Barium		2.5		**< 2.5**	0.7000	0	0	-100	100	01/27/2026
Boron		20.0		**< 20.0**	9.000	0	0	-100	100	01/21/2026
Boron		20.0		**< 20.0**	9.000	0	0	-100	100	01/27/2026
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	01/21/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 250613 **SampType:** LCS Units µg/L

SampID: LCS-250613

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1870**	2000	0	93.5	85	115	01/21/2026
Barium		2.5		**1930**	2000	0	96.3	85	115	01/27/2026
Boron		20.0		**931**	1000	0	93.1	85	115	01/21/2026
Boron		20.0		**908**	1000	0	90.8	85	115	01/27/2026
Calcium		0.100		**4.71**	5.000	0	94.2	85	115	01/21/2026

Batch 250676 **SampType:** MBLK Units µg/L

SampID: MBLK-250676

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0.7000	0	0	-100	100	01/22/2026
Boron		20.0		**< 20.0**	9.000	0	0	-100	100	01/22/2026
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	01/22/2026
Calcium		0.100		**< 0.100**	0.0350	0	0	-100	100	01/27/2026

Batch 250676 **SampType:** LCS Units µg/L

SampID: LCS-250676

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1850**	2000	0	92.6	85	115	01/22/2026
Boron		20.0		**942**	1000	0	94.2	85	115	01/22/2026
Calcium		0.100		**4.74**	5.000	0	94.8	85	115	01/27/2026
Calcium		0.100		**4.72**	5.000	0	94.5	85	115	01/22/2026

Batch 250676 **SampType:** MS Units µg/L

SampID: 26010277-006CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1900**	2000	57.30	92.0	75	125	01/22/2026
Boron		20.0		**979**	1000	36.80	94.2	75	125	01/22/2026
Calcium		0.100		**87.1**	5.000	82.38	94.6	75	125	01/22/2026

Batch 250676 **SampType:** MSD Units µg/L RPD Limit **20**

SampID: 26010277-006CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium		2.5		**1940**	2000	57.30	94.1	1897	2.15	01/22/2026
Boron		20.0		**1000**	1000	36.80	96.6	978.8	2.45	01/22/2026
Calcium		0.100	S	**89.1**	5.000	82.38	135.0	87.11	2.29	01/22/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 250613 **SampType:** MBLK Units **µg/L**

SampID: MBLK-250613

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**< 1.0**	0.4500	0	0	-100	100	02/02/2026
Arsenic		1.0		**< 1.0**	0.3750	0	0	-100	100	02/02/2026
Beryllium		1.0	JS	**0.3**	0.2500	0	100.4	-100	100	02/02/2026
Cadmium		1.0		**< 1.0**	0.1340	0	0	-100	100	02/02/2026
Cobalt		1.0		**< 1.0**	0.1150	0	0	-100	100	02/06/2026
Lead		1.0		**< 1.0**	0.6000	0	0	-100	100	02/02/2026
Lead		1.0		**< 1.0**	0.6000	0	0	-100	100	02/06/2026
Lithium	*	3.0		**< 3.0**	1.450	0	0	-100	100	02/06/2026
Molybdenum		1.5	JS	**1.4**	0.6000	0	232.3	-100	100	02/10/2026
Molybdenum		1.5	S	**1.8**	0.6000	0	299.1	-100	100	02/09/2026
Selenium		1.0		**< 1.0**	0.6000	0	0	-100	100	02/02/2026
Thallium		2.0		**< 2.0**	0.9500	0	0	-100	100	02/02/2026

Batch 250613 **SampType:** LCS Units **µg/L**

SampID: LCS-250613

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**1030**	1000	0	102.5	80	120	02/02/2026
Arsenic		1.0		**958**	1000	0	95.8	80	120	02/02/2026
Beryllium		1.0	B	**1050**	1000	0	104.8	80	120	02/02/2026
Cadmium		1.0		**2070**	2000	0	103.7	80	120	02/02/2026
Cobalt		1.0		**1160**	1000	0	115.5	80	120	02/09/2026
Cobalt		1.0	S	**1200**	1000	0	120.1	80	120	02/06/2026
Lead		1.0	S	**2530**	2000	0	126.6	80	120	02/06/2026
Lithium	*	3.0		**1180**	1000	0	118.4	80	120	02/09/2026
Lithium	*	3.0	S	**1240**	1000	0	124.0	80	120	02/06/2026
Molybdenum		1.5	BS	**1340**	1000	0	133.7	80	120	02/09/2026
Selenium		1.0		**1030**	1000	0	103.3	80	120	02/02/2026
Thallium		2.0		**1090**	1000	0	109.0	80	120	02/02/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 250676 **SampType:** MBLK Units µg/L

SampID: MBLK-250676

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**< 1.0**	0.4500	0	0	-100	100	01/28/2026
Antimony		1.0		**< 1.0**	0.4500	0	0	-100	100	01/29/2026
Arsenic		1.0		**< 1.0**	0.3750	0	0	-100	100	01/29/2026
Beryllium		1.0		**< 1.0**	0.2500	0	0	-100	100	01/29/2026
Beryllium		1.0		**< 1.0**	0.2500	0	0	-100	100	01/28/2026
Cadmium		1.0		**< 1.0**	0.1340	0	0	-100	100	01/29/2026
Cadmium		1.0		**< 1.0**	0.1340	0	0	-100	100	02/06/2026
Chromium		1.5		**< 1.5**	0.7000	0	0	-100	100	02/09/2026
Lead		1.0		**< 1.0**	0.6000	0	0	-100	100	01/29/2026
Lithium	*	3.0		**< 3.0**	1.450	0	0	-100	100	02/06/2026
Lithium	*	3.0		**< 3.0**	1.450	0	0	-100	100	01/28/2026
Molybdenum		1.5		**< 1.5**	0.6000	0	0	-100	100	02/06/2026
Molybdenum		1.5		**< 1.5**	0.6000	0	0	-100	100	01/29/2026
Selenium		1.0		**< 1.0**	0.6000	0	0	-100	100	01/29/2026
Thallium		2.0		**< 2.0**	0.9500	0	0	-100	100	01/29/2026
Thallium		2.0		**< 2.0**	0.9500	0	0	-100	100	01/28/2026

Batch 250676 **SampType:** LCS Units µg/L

SampID: LCS-250676

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**1170**	1000	0	117.3	80	120	01/29/2026
Antimony		1.0		**1180**	1000	0	117.5	80	120	01/28/2026
Arsenic		1.0		**997**	1000	0	99.7	80	120	01/29/2026
Beryllium		1.0		**969**	1000	0	96.9	80	120	01/28/2026
Beryllium		1.0		**1000**	1000	0	100.4	80	120	01/29/2026
Cadmium		1.0		**2180**	2000	0	109.0	80	120	02/06/2026
Cadmium		1.0	S	**2810**	2000	0	140.6	80	120	01/29/2026
Chromium		1.5		**1030**	1000	0	103.2	80	120	02/09/2026
Lead		1.0		**2010**	2000	0	100.5	80	120	01/29/2026
Lithium	*	3.0		**1010**	1000	0	100.7	80	120	02/06/2026
Lithium	*	3.0		**988**	1000	0	98.8	80	120	01/28/2026
Molybdenum		1.5	S	**1440**	1000	0	143.7	80	120	01/29/2026
Molybdenum		1.5		**1170**	1000	0	117.2	80	120	02/06/2026
Selenium		1.0		**1040**	1000	0	103.5	80	120	01/29/2026
Thallium		2.0		**1030**	1000	0	103.1	80	120	01/28/2026
Thallium		2.0		**1000**	1000	0	100.4	80	120	01/29/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 250676 **SampType:** MS Units µg/L

SampID: 26010277-006CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**1170**	1000	0	116.8	75	125	01/29/2026
Arsenic		1.0		**990**	1000	1.853	98.8	75	125	01/29/2026
Beryllium		1.0		**998**	1000	0.2875	99.7	75	125	01/29/2026
Cadmium		1.0	S	**2750**	2000	0	137.6	75	125	01/29/2026
Chromium		1.5		**949**	1000	3.735	94.5	75	125	02/10/2026
Cobalt		1.0		**850**	1000	0.1701	85.0	75	125	01/29/2026
Lead		1.0		**1930**	2000	0	96.6	75	125	01/29/2026
Lithium	*	3.0		**1110**	1000	39.10	106.8	75	125	02/07/2026
Molybdenum		1.5		**959**	1000	6.792	95.2	75	125	02/10/2026
Selenium		1.0		**1030**	1000	2.110	102.5	75	125	01/29/2026
Thallium		2.0		**961**	1000	0	96.1	75	125	01/29/2026

Batch 250676 **SampType:** MSD Units µg/L RPD Limit **20**

SampID: 26010277-006CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		1.0	S	**1250**	1000	0	125.3	1168	7.03	01/29/2026
Arsenic		1.0		**1010**	1000	1.853	100.5	989.8	1.75	01/29/2026
Beryllium		1.0		**1060**	1000	0.2875	105.9	997.6	5.96	01/29/2026
Cadmium		1.0	S	**2960**	2000	0	148.2	2752	7.39	01/29/2026
Chromium		1.5		**1090**	1000	3.735	108.7	948.6	13.96	02/10/2026
Cobalt		1.0		**895**	1000	0.1701	89.5	850.3	5.17	01/29/2026
Lead		1.0		**1980**	2000	0	99.2	1932	2.67	01/29/2026
Lithium	*	3.0		**1150**	1000	39.10	111.0	1108	3.70	02/07/2026
Molybdenum		1.5		**1150**	1000	6.792	113.8	958.6	17.75	02/10/2026
Selenium		1.0		**1040**	1000	2.110	103.7	1027	1.14	01/29/2026
Thallium		2.0		**1000**	1000	0	100.1	961.4	4.07	01/29/2026

Batch 251587 **SampType:** MBLK Units µg/L

SampID: MBLK-251587

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**< 1.0**	0.4500	0	0	-100	100	02/12/2026
Chromium		1.5		**< 1.5**	0.7000	0	0	-100	100	02/12/2026
Molybdenum		1.5		**< 1.5**	0.6000	0	0	-100	100	02/13/2026
Thallium		2.0		**< 2.0**	0.9500	0	0	-100	100	02/14/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 251587 **SampType:** LCS Units µg/L
SampID: LCS-251587

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**1150**	1000	0	114.9	80	120	02/12/2026
Chromium		1.5		**929**	1000	0	92.9	80	120	02/12/2026
Molybdenum		1.5		**1030**	1000	0	103.2	80	120	02/13/2026
Thallium		2.0		**950**	1000	0	95.0	80	120	02/14/2026

SW-846 7470A (TOTAL)

Batch 250620 **SampType:** MBLK Units µg/L
SampID: MBLK-250620

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**< 0.20**	0.0550	0	0	-100	100	01/24/2026

Batch 250620 **SampType:** LCS Units µg/L
SampID: LCS-250620

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.54**	5.000	0	90.8	85	115	01/24/2026

Batch 250620 **SampType:** MS Units µg/L
SampID: 26010277-002CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.90**	5.000	0	98.0	75	125	01/24/2026

Batch 250620 **SampType:** MSD Units µg/L RPD Limit **15**
SampID: 26010277-002CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.20		**4.87**	5.000	0	97.4	4.901	0.67	01/24/2026

Batch 250620 **SampType:** MS Units µg/L
SampID: 26010277-003CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.29**	5.000	0	85.7	75	125	01/24/2026

Batch 250620 **SampType:** MSD Units µg/L RPD Limit **15**
SampID: 26010277-003CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.20		**4.21**	5.000	0	84.2	4.286	1.81	01/24/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26010277

Client Project: Groundwater Monitoring **Report Date:** 03-Mar-26

SW-846 7470A (TOTAL)

Batch 250673 **SampType:** MBLK Units µg/L

SampID: MBLK-250673

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**< 0.20**	0.0550	0	0	-100	100	01/26/2026

Batch 250673 **SampType:** LCS Units µg/L

SampID: LCS-250673

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.96**	5.000	0	99.3	85	115	01/26/2026

Batch 250673 **SampType:** MS Units µg/L

SampID: 26010277-007CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**5.10**	5.000	0	101.9	75	125	01/26/2026

Batch 250673 **SampType:** MSD Units µg/L RPD Limit **15**

SampID: 26010277-007CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.20		**5.10**	5.000	0	102.1	5.096	0.17	01/26/2026

Receiving Check List

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 26010277
Client Project: Groundwater Monitoring
Report Date: 03-Mar-26

Carrier: Frank Barthol
Received By: LEH

Completed by: Laura E Henson
On: 20-Jan-26

Reviewed by: Elizabeth A. Hurley
On: 21-Jan-26

Pages to follow: Chain of custody 2 Extra pages included 21

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 1.2
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☑	Lab ☐	NA ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water – at least one vial per sample has zero headspace?	Yes ☐	No ☐	No VOA vials ☑	
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐	
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑	

Any No responses must be detailed below or on the COC.

pH strip #104524. - DM/lhenson - 1/20/2026 3:31:20 PM

Cooler #2 4.6C LTG#9. LH 1/20/26

Samples were received on 1/21/26 at 13:00 on ice [temp = 2.4C, 4.8C - LTG#9]. pH#104524 - DM/lhenson - 1/21/2026 1:24:49 PM

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 1 Work order # 26010277

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 1.2/4.6 °C LTG# 9
Preserved in: ☐ LAB ☒ FIELD **FOR LAB USE ONLY**
Lab Notes: PH: 7/24524 1.20.26

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

Field: Elevations, DO, ORP, pH, Conductivity (mS/cm), Temperature (°C), Turbidity and Purge Volume
ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Project Name/Number: Groundwater Monitoring

Sample Collector's Name: Frank Barthol

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Date ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26010277-001	MW-101	1.20 / 937	1	5		X	X	X	X	X	X	X	X
-002	MW-102	1.20 / 1013	1	5		X	X	X	X	X	X	X	X
-003	MW-103	1.20 / 1059	1	5		X	X	X	X	X	X	X	X
-004	MW-104	1.20 / 1153	1	5		X	X	X	X	X	X	X	X
-005	MW-105		1	3		X	X	X	X	X	X	X	X
-006	MW-106		1	5		X	X	X	X	X	X	X	X
-007	MW-109		1	5		X	X	X	X	X	X	X	X
-008	Field Duplicate	1.20 / —	1	5		X	X	X	X	X	X	X	X
-009	Equipment Blank		1	5	X		X		X	X	X	X	X
-010	Field Blank		1	5	X		X		X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
FB	1.20 / 1440		1/20/26 1440

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 107371

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 1 Work order # 26010277

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 2.4/4.8 °C LTG# 9

Preserved in: ☐ LAB ☒ FIELD

FOR LAB USE ONLY

Lab Notes: PH: 104524 Am = 1-21-26

Client Comments Report QC LVL: 2

Field: Elevations, DO, ORP, pH, Conductivity (mS/cm), Temperature (°C), Turbidity and Purge Volume
ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Project Name/Number: Groundwater Monitoring

Sample Collector's Name: Frank Bartholl

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26010277-001	MW-101		1	5		X	X	X	X	X	X	X	X
-002	MW-102		1	5		X	X	X	X	X	X	X	X
-003	MW-103		1	5		X	X	X	X	X	X	X	X
-004	MW-104		1	5		X	X	X	X	X	X	X	X
-005	MW-105	1.21 1016	1	3		X	X	X	X	X	X	X	X
-006	MW-106	1.21 929	1	5		X	X	X	X	X	X	X	X
-007	MW-109	1.21 1044	1	5		X	X	X	X	X	X	X	X
-008	Field Duplicate		1	5		X	X	X	X	X	X	X	X
-009	Equipment Blank	1.21 1106	1	5	X		X		X	X	X	X	X
-010	Field Blank	1.21 1050	1	5	X		X		X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
	1.21 1300		1/21/26 1300

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 107371

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

March 03, 2026

Elizabeth Hurley
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 26010277 - REVISED REPORT

Dear Elizabeth Hurley:

Order No.: 26011642

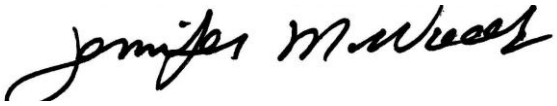
Alliance Technical Group - Akron received 10 sample(s) on 1/23/2026 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,



Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0828, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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Case Narrative

WO#: **26011642**
Date: **3/3/2026**

CLIENT: TEKLAB Inc,
Project: 26010277 - REVISED REPORT

WorkOrder Narrative:
26011642: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Alliance Technical Group Work Order Number assigned to this report.

Alliance Technical Group holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Alliance Technical Group and that of the customer. It cannot be reproduced in any form without the consent of Alliance Technical Group or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Alliance Technical Group is not responsible for use or interpretation of the data included herein.

All results for solid samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

REVISED REPORT 3/3/26: Corrected time for -008.

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Qualifiers and Acronyms

WO#: **26011642**
Date: **3/3/2026**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected above the MDL.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
d	Manual integration in which peak was deleted
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B	The analyte was detected in the Method Blank at a concentration greater than the RL.
MB+	The analyte was detected in the Method Blank at a concentration greater than the MDL.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
W	Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

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Workorder Sample Summary

WO#: **26011642**

03-Mar-26

CLIENT: TEKLAB Inc,
Project: 26010277 - REVISED REPORT

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
26011642-001	26010277-001B		1/20/2026 9:37:00 AM	1/23/2026 1:00:00 PM	Non-Potable Water
26011642-002	26010277-002B		1/20/2026 10:13:00 AM	1/23/2026 1:00:00 PM	Non-Potable Water
26011642-003	26010277-003B		1/20/2026 10:59:00 AM	1/23/2026 1:00:00 PM	Non-Potable Water
26011642-004	26010277-004B		1/20/2026 11:53:00 AM	1/23/2026 1:00:00 PM	Non-Potable Water
26011642-005	26010277-005B		1/21/2026 10:16:00 AM	1/23/2026 1:00:00 PM	Non-Potable Water
26011642-006	26010277-006B		1/21/2026 9:29:00 AM	1/23/2026 1:00:00 PM	Non-Potable Water
26011642-007	26010277-007B		1/21/2026 10:44:00 AM	1/23/2026 1:00:00 PM	Non-Potable Water
26011642-008	26010277-008B		1/20/2026	1/23/2026 1:00:00 PM	Non-Potable Water
26011642-009	26010277-009B		1/21/2026 11:06:00 AM	1/23/2026 1:00:00 PM	Non-Potable Water
26011642-010	26010277-010B		1/21/2026 10:50:00 AM	1/23/2026 1:00:00 PM	Non-Potable Water

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DATES REPORT

WO#: **26011642**

03-Mar-26

Client: TEKLAB Inc,

Project: 26010277 - REVISED REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
26011642-001A	26010277-001B	1/20/2026 9:37:00 AM	Non-Potable Water	Combined Radium (EPA903+904)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-226 (EPA 903.0)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-228 (EPA 904.0)		2/2/2026 11:10:00 AM	2/6/2026 1:24:00 PM
26011642-002A	26010277-002B	1/20/2026 10:13:00 AM		Combined Radium (EPA903+904)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-226 (EPA 903.0)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-228 (EPA 904.0)		2/2/2026 11:10:00 AM	2/6/2026 1:24:00 PM
26011642-003A	26010277-003B	1/20/2026 10:59:00 AM		Combined Radium (EPA903+904)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-226 (EPA 903.0)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-228 (EPA 904.0)		2/2/2026 11:10:00 AM	2/6/2026 1:24:00 PM
26011642-004A	26010277-004B	1/20/2026 11:53:00 AM		Combined Radium (EPA903+904)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-226 (EPA 903.0)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-228 (EPA 904.0)		2/2/2026 11:10:00 AM	2/6/2026 1:24:00 PM
26011642-005A	26010277-005B	1/21/2026 10:16:00 AM		Combined Radium (EPA903+904)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-226 (EPA 903.0)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-228 (EPA 904.0)		2/2/2026 11:10:00 AM	2/6/2026 1:24:00 PM
26011642-006A	26010277-006B	1/21/2026 9:29:00 AM		Combined Radium (EPA903+904)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-226 (EPA 903.0)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-228 (EPA 904.0)		2/2/2026 11:10:00 AM	2/6/2026 1:24:00 PM
26011642-007A	26010277-007B	1/21/2026 10:44:00 AM		Combined Radium (EPA903+904)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-226 (EPA 903.0)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-228 (EPA 904.0)		2/2/2026 11:10:00 AM	2/6/2026 1:24:00 PM
26011642-008A	26010277-008B	1/20/2026		Combined Radium (EPA903+904)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-226 (EPA 903.0)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM

Revision v1

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DATES REPORT

WO#: **26011642**

03-Mar-26

Client: TEKLAB Inc,

Project: 26010277 - REVISED REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
26011642-008A	26010277-008B	1/20/2026	Non-Potable Water	Radium-228 (EPA 904.0)		2/2/2026 11:10:00 AM	2/6/2026 1:24:00 PM
26011642-009A	26010277-009B	1/21/2026 11:06:00 AM		Combined Radium (EPA903+904)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-226 (EPA 903.0)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-228 (EPA 904.0)		2/2/2026 11:10:00 AM	2/6/2026 1:24:00 PM
26011642-010A	26010277-010B	1/21/2026 10:50:00 AM		Combined Radium (EPA903+904)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-226 (EPA 903.0)		2/2/2026 11:10:00 AM	2/9/2026 9:51:00 AM
				Radium-228 (EPA 904.0)		2/2/2026 11:10:00 AM	2/6/2026 1:24:00 PM

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Analytical Report

(consolidated)

WO#: **26011642**

Date Reported: **3/3/2026**

CLIENT: TEKLAB Inc,

Collection Date: 1/20/2026 9:37:00 AM

Project: 26010277 - REVISED REPORT

Lab ID: 26011642-001

Matrix: NON-POTABLE WATER

Client Sample ID: 26010277-001B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228					**CALCULATION**	**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	0.75	2.00	U	pCi/L	± 0.440	1	2/9/2026 9:51:00 AM
RAD226/228					**E903.0**	**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	0.36	1.00	U	pCi/L	± 0.0700	1	2/9/2026 9:51:00 AM
Yield	1.00					1	2/9/2026 9:51:00 AM
RAD226/228					**E904.0**	**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	0.39	1.00	U	pCi/L	± 0.370	1	2/6/2026 1:24:00 PM
Yield	1					1	2/6/2026 1:24:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at Receipt

Revision v1

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Analytical Report

(consolidated)

WO#: **26011642**

Date Reported: **3/3/2026**

CLIENT: TEKLAB Inc,
Collection Date: 1/20/2026 10:13:00 AM
Project: 26010277 - REVISED REPORT
Lab ID: 26011642-002
Matrix: NON-POTABLE WATER
Client Sample ID: 26010277-002B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228					**CALCULATION**	**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	0.44	2.00	U	pCi/L	± 0.440	1	2/9/2026 9:51:00 AM
RAD226/228					**E903.0**	**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	0.08	1.00	U	pCi/L	± 0.0400	1	2/9/2026 9:51:00 AM
Yield	1.00					1	2/9/2026 9:51:00 AM
RAD226/228					**E904.0**	**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	0.36	1.00	U	pCi/L	± 0.400	1	2/6/2026 1:24:00 PM
Yield	1					1	2/6/2026 1:24:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at Receipt

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Analytical Report

(consolidated)

WO#: **26011642**

Date Reported: **3/3/2026**

CLIENT: TEKLAB Inc,

Collection Date: 1/20/2026 10:59:00 AM

Project: 26010277 - REVISED REPORT

Lab ID: 26011642-003

Matrix: NON-POTABLE WATER

Client Sample ID: 26010277-003B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)					**CALCULATION**	**E903-904**	Analyst: **TAL**
Radium-226/Radium-228	0.53	2.00	U	pCi/L	± 0.440	1	2/9/2026 9:51:00 AM
RAD226/228 RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **TAL**
Radium-226	0.22	1.00	U	pCi/L	± 0.0600	1	2/9/2026 9:51:00 AM
Yield	1.00					1	2/9/2026 9:51:00 AM
RAD226/228 RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **TAL**
Radium-228	0.31	1.00	U	pCi/L	± 0.380	1	2/6/2026 1:24:00 PM
Yield	1					1	2/6/2026 1:24:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
U	Samples with CalcVal < MDL
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at Receipt

Revision v1

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Analytical Report

(consolidated)

WO#: **26011642**

Date Reported: **3/3/2026**

CLIENT: TEKLAB Inc,
Collection Date: 1/20/2026 11:53:00 AM
Project: 26010277 - REVISED REPORT
Lab ID: 26011642-004
Matrix: NON-POTABLE WATER
Client Sample ID: 26010277-004B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228					**CALCULATION**	**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	0.87	2.00	U	pCi/L	± 0.440	1	2/9/2026 9:51:00 AM
RAD226/228					**E903.0**	**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	0.12	1.00	U	pCi/L	± 0.0500	1	2/9/2026 9:51:00 AM
Yield	1.00					1	2/9/2026 9:51:00 AM
RAD226/228					**E904.0**	**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	0.75	1.00	J	pCi/L	± 0.390	1	2/6/2026 1:24:00 PM
Yield	1					1	2/6/2026 1:24:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at test code

Revision v1

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Analytical Report

(consolidated)

WO#: **26011642**

Date Reported: **3/3/2026**

CLIENT: TEKLAB Inc,

Collection Date: 1/21/2026 10:16:00 AM

Project: 26010277 - REVISED REPORT

Lab ID: 26011642-005

Matrix: NON-POTABLE WATER

Client Sample ID: 26010277-005B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)					**CALCULATION**	**E903-904**	Analyst: **TAL**
Radium-226/Radium-228	0.5	2.00	U	pCi/L	± 0.420	1	2/9/2026 9:51:00 AM
RAD226/228 RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **TAL**
Radium-226	0.22	1.00	U	pCi/L	± 0.0600	1	2/9/2026 9:51:00 AM
Yield	1.00					1	2/9/2026 9:51:00 AM
RAD226/228 RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **TAL**
Radium-228	0.28	1.00	U	pCi/L	± 0.360	1	2/6/2026 1:24:00 PM
Yield	1					1	2/6/2026 1:24:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
U	Samples with CalcVal < MDL
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at Receipt

Revision v1

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Analytical Report

(consolidated)

WO#: **26011642**

Date Reported: **3/3/2026**

CLIENT: TEKLAB Inc,

Collection Date: 1/21/2026 9:29:00 AM

Project: 26010277 - REVISED REPORT

Lab ID: 26011642-006

Matrix: NON-POTABLE WATER

Client Sample ID: 26010277-006B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228					**CALCULATION**	**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	0.27	2.00	U	pCi/L	± 0.440	1	2/9/2026 9:51:00 AM
RAD226/228					**E903.0**	**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	0.27	1.00	U	pCi/L	± 0.0700	1	2/9/2026 9:51:00 AM
Yield	0.990					1	2/9/2026 9:51:00 AM
RAD226/228					**E904.0**	**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	-0.17	1.00	U	pCi/L	± 0.370	1	2/6/2026 1:24:00 PM
Yield	1					1	2/6/2026 1:24:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at test code

Revision v1

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Analytical Report

(consolidated)

WO#: **26011642**

Date Reported: **3/3/2026**

CLIENT: TEKLAB Inc,
Collection Date: 1/21/2026 10:44:00 AM
Project: 26010277 - REVISED REPORT
Lab ID: 26011642-007
Matrix: NON-POTABLE WATER
Client Sample ID: 26010277-007B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228					**CALCULATION**	**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	0.12	2.00	U	pCi/L	± 0.380	1	2/9/2026 9:51:00 AM
RAD226/228					**E903.0**	**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	0.12	1.00	U	pCi/L	± 0.0500	1	2/9/2026 9:51:00 AM
Yield	0.960					1	2/9/2026 9:51:00 AM
RAD226/228					**E904.0**	**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	-0.06	1.00	U	pCi/L	± 0.330	1	2/6/2026 1:24:00 PM
Yield	1					1	2/6/2026 1:24:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at test code

Revision v1

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **26011642**

Date Reported: **3/3/2026**

CLIENT: TEKLAB Inc, **Collection Date:** 1/20/2026

Project: 26010277 - REVISED REPORT

Lab ID: 26011642-008 **Matrix:** NON-POTABLE WATER

Client Sample ID: 26010277-008B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228					**CALCULATION**	**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	0.15	2.00	U	pCi/L	± 0.360	1	2/9/2026 9:51:00 AM
RAD226/228					**E903.0**	**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	0.15	1.00	U	pCi/L	± 0.0500	1	2/9/2026 9:51:00 AM
Yield	1.00					1	2/9/2026 9:51:00 AM
RAD226/228					**E904.0**	**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	-.13	1.00	U	pCi/L	± 0.310	1	2/6/2026 1:24:00 PM
Yield	1					1	2/6/2026 1:24:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at test code

Revision v1

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Analytical Report

(consolidated)

WO#: **26011642**

Date Reported: **3/3/2026**

CLIENT: TEKLAB Inc,
Collection Date: 1/21/2026 11:06:00 AM
Project: 26010277 - REVISED REPORT
Lab ID: 26011642-009
Matrix: NON-POTABLE WATER
Client Sample ID: 26010277-009B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)					**CALCULATION**	**E903-904**	Analyst: **TAL**
Radium-226/Radium-228	0.96	2.00	U	pCi/L	± 0.510	1	2/9/2026 9:51:00 AM
RAD226/228 RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **TAL**
Radium-226	0.05	1.00	U	pCi/L	± 0.0400	1	2/9/2026 9:51:00 AM
Yield	1.00					1	2/9/2026 9:51:00 AM
RAD226/228 RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **TAL**
Radium-228	0.91	1.00	J	pCi/L	± 0.470	1	2/6/2026 1:24:00 PM
Yield	1					1	2/6/2026 1:24:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at Receipt

Revision v1

Alliance Technical Group - Akron
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Cuyahoga Falls, Ohio 44223
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Analytical Report

(consolidated)

WO#: **26011642**

Date Reported: **3/3/2026**

CLIENT: TEKLAB Inc,

Collection Date: 1/21/2026 10:50:00 AM

Project: 26010277 - REVISED REPORT

Lab ID: 26011642-010

Matrix: NON-POTABLE WATER

Client Sample ID: 26010277-010B

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228					**CALCULATION**	**E903-904**	Analyst: **TAL**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	0.26	2.00	U	pCi/L	± 0.350	1	2/9/2026 9:51:00 AM
RAD226/228					**E903.0**	**E903-904**	Analyst: **TAL**
RADIUM-226 (EPA 903.0)							
Radium-226	0.03	1.00	U	pCi/L	± 0.0300	1	2/9/2026 9:51:00 AM
Yield	1.00					1	2/9/2026 9:51:00 AM
RAD226/228					**E904.0**	**E903-904**	Analyst: **TAL**
RADIUM-228 (EPA 904.0)							
Radium-228	0.23	1.00	U	pCi/L	± 0.320	1	2/6/2026 1:24:00 PM
Yield	1					1	2/6/2026 1:24:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as specified at test code

Revision v1

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QC SUMMARY REPORT

WO#: **26011642**

03-Mar-26

Client: TEKLAB Inc,
Project: 26010277 - REVISED REPORT **BatchID:** **92907**

Sample ID: **LCSD-92907** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/2/2026** RunNo: **227626**
Client ID: **BatchQC** Batch ID: **92907** TestNo: **E904.0** **E903-904** Analysis Date: **2/6/2026** SeqNo: **6031071**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	4.44	1.00	5.000	0	88.8	50	130	2.700	48.7	20	R
Yield	1.00			0	0			1.000	0		

Sample ID: **26011564-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/2/2026** RunNo: **227626**
Client ID: **BatchQC** Batch ID: **92907** TestNo: **E904.0** **E903-904** Analysis Date: **2/6/2026** SeqNo: **6031078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0			0	0	20	U
Yield	1.00			0	0			1.000	0		

Sample ID: **26011641-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/2/2026** RunNo: **227626**
Client ID: **BatchQC** Batch ID: **92907** TestNo: **E904.0** **E903-904** Analysis Date: **2/6/2026** SeqNo: **6031086**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0			0	0	20	U
Yield	1.00			0	0			1.000	0		

Qualifiers:

H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as spec

Revision v1

Alliance Technical Group - Akron
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Cuyahoga Falls, Ohio 44223
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QC SUMMARY REPORT

WO#: **26011642**

03-Mar-26

Client: TEKLAB Inc,

Project: 26010277 - REVISED REPORT **BatchID:** **92907**

Sample ID: **MB-92907**	SampType: **MBLK**	TestCode: **Radium-228_**	Units: **pCi/L**	Prep Date: **2/2/2026**	RunNo: **227626**
Client ID: **BatchQC**	Batch ID: **92907**	TestNo: **E904.0**	**E903-904**	Analysis Date: **2/6/2026**	SeqNo: **6031097**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0						U
Yield	1.00			0	0						

Sample ID: **LCS-92907**	SampType: **LCS**	TestCode: **Radium-228_**	Units: **pCi/L**	Prep Date: **2/2/2026**	RunNo: **227626**
Client ID: **BatchQC**	Batch ID: **92907**	TestNo: **E904.0**	**E903-904**	Analysis Date: **2/6/2026**	SeqNo: **6031098**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	2.70	1.00	5.000	0	54.0	50	130				QLR
Yield	1.00			0	0						

Qualifiers:

H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area respons
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as spec

Revision v1

Alliance Technical Group - Akron
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QC SUMMARY REPORT

WO#: **26011642**

03-Mar-26

Client: TEKLAB Inc,

Project: 26010277 - REVISED REPORT **BatchID:** **92907**

Sample ID: **MB-92907**	SampType: **MBLK**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **2/2/2026**	RunNo: **227642**
Client ID: **BatchQC**	Batch ID: **92907**	TestNo: **E903.0**	**E903-904**	Analysis Date: **2/9/2026**	SeqNo: **6031321**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00									U
Yield	1.00										

Sample ID: **LCS-92907**	SampType: **LCS**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **2/2/2026**	RunNo: **227642**
Client ID: **BatchQC**	Batch ID: **92907**	TestNo: **E903.0**	**E903-904**	Analysis Date: **2/9/2026**	SeqNo: **6031322**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	5.02	1.00	5.000	0	100	70	130				

Sample ID: **LCSD-92907**	SampType: **LCSD**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **2/2/2026**	RunNo: **227642**
Client ID: **BatchQC**	Batch ID: **92907**	TestNo: **E903.0**	**E903-904**	Analysis Date: **2/9/2026**	SeqNo: **6031323**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	4.88	1.00	5.000	0	97.6	70	130	5.020	2.83	20	

Qualifiers:

H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	U	Samples with CalcVal < MDL	W	Sample container temperature is out of limit as spec

Revision v1

TEKLAB, INC. Chain of Custody

26011642

120 United Drive, Collinsville, IL 62234 Phone (618) 344-1004

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
120 United Drive
Collinsville, IL 62234

Cooler Temp: | Sampler: Teklab, Inc. | QC Level: 2

Comments: **Please Issue reports and invoices via email only**

SHIP to ATG-Akron. Include EDD. Please analyze for Radium 226/228 (including combined Radium) per your usual methods.

Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.

Project# 26010277

Contact: Elizaberh Hurley | Email: ehurley@teklabinc.com

Requested Due Date: 20-25 day TAT | Billing/PO: 40307 | Phone: (618) 344-1004 ext. 1007

Temp: 11.7 °C (11.7+0 Fruits cooler no ice

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Unpres	HNO3	H2SO4	NaOH	Other	Matrix	Radium 226	Radium 228	Ra226/228 combined			PH	CPM		PH	CPM		
	26010277-001B	1/20/26 937	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔	4		(1) 2	31		2	22	3	28
	26010277-002B	1/20/26 1013	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔			2	18		(4) 3	32	3	10
	26010277-003B	1/2026 1059	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔			2	24		3	22	3	26 (6)
	26010277-004B	1/20/26 1153	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔			2	19		3	12	3	26
	26010277-005B	1/21/26 1016	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔			(2) 2	26		3	48	3	30 3/10
	26010277-006B	1/21/26 929	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔			2	22		(8) 3	20	2	8 (7)
	26010277-007B	1/21/26 1044	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔			2	34		3	16	2	32
	26010277-008B	~~1/21/26~~ JEW 1/21/26 1/20/26	☐	☑	☐	☐	☐	Aqueous	✔	✔	✔			2	20		3	18	2	30
	26010277-009B	1/21/26 1106	☐	☑	☐	☐	☐	Aqueous	✔	✔	✔			(3) 2	28		3	32	2	25 (9) 2/34
	26010277-010B	1/21/26 1050	☐	☑	☐	☐	☐	Aqueous	✔	✔	✔			2	26		(5) 3	40	2	38
			☐	☐	☐	☐	☐	Groundwater	☐	☐	☐			2	32		3	18	2	20 2/40

*Relinquished By	Date/Time	Received By	Date/Time
	1/21/26 1700	Paige Myers	1/23/26 13.00

C.S. intact 1/22/26

(10) PH 2 2 2 | CPM 24 32 40

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevB 1/12/2026

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Sample Log-In Check List

Client Name: **TEK-IL-62234-A** Work Order Number: **26011642** RcptNo: **1**

Logged by:	**Paige J. Yerick**	**1/23/2026 1:00:00 PM**	Paige Yerich
Completed By:	**Paige J. Yerick**	**1/24/2026 10:45:18 AM**	Paige Yerich
Reviewed By:	**Jennifer Woolf**	**1/27/2026 8:24:31 PM**	Jennifer Woolf

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☑ Not Present ☐
2. How was the sample delivered? FedEx

Log In

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☑ No ☐ Not Present ☐ NA ☐
   No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

pH 3 for several samples
state not included: IL per email

Cooler Information

Cooler No	Temp ºC	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	11.7	Good	Yes			

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EBG
Project Location:	Marion, IL	**Sample ID:**	001
W.O. Number (s):	26020878	**Date (s):**	3/2/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.

Name: Drew Nieters Affiliation: TekLab, Inc.

Weather Conditions

Temp: 38 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☐ None ☑ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

		Locks	Yes	No
Well Pad	Good			
Casing	Good	Protective Casing		X
Protective Casing	Good	Well		X
Reference Mark/Identification	Yes			

Groundwater Level Measurements

Date/Time Measured: 3/2/26 9:35 AM

Static Water Level: 10.01 feet below TOC

Total Depth: 28.13 feet below TOC

Water Column: 18.12 feet

Purging Activities

Purged By: AL Purge Date: 3/2/2026

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 18.12 ft. x 0.022 = 0.4 L x 3 Vol. = 1.2 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:30	0.0	146	purge start time						
10:02	4.7	↓	6.78	0.5012	12.58	5.51	168.00	4.57	
10:05	5.1		6.78	0.5010	12.57	5.45	168.60	4.40	
10:08	5.6		6.78	0.5007	12.56	5.41	169.10	4.69	
10:11	6.0		6.78	0.5012	12.50	5.37	169.80	5.30	

Sampling Activities

Sampled By: DN Sample Date/Time: 3/2/2026 10:11

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.78 pH 0.50 Spec. Cond. 12.50 Temp

Field Filtered: No Filter Type:

Water Level: 15.42 feet below TOC Drawdown: 5.41 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 218076

Form Completed By: Allison Lampe **Date:** 3/2/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26020878
Monitoring Point: EP-1
Sample ID: 002
Date (s): 3/2/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Drew Nieters Affiliation: TekLab, Inc.

Weather Conditions

Temp: 38 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☐ None ☑ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

		Locks	Yes	No
Well Pad	Good			
Casing	Good	Protective Casing		X
Protective Casing	Good	Well		X
Reference Mark/Identification	Yes			

Groundwater Level Measurements

Date/Time Measured: 3/2/26 11:28 AM
Static Water Level: 5.64 feet below TOC
Total Depth: 33.65 feet below TOC
Water Column: 28.01 feet

Purging Activities

Purged By: AL Purge Date: 3/2/2026
Purge Method: Bladder Pump Well Diameter: 2"
Purge Volume Calculation (L): 28.01 ft. x 0.022 = 0.62 L x 3 Vol. = 1.86 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.00 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
11:25	0.0	174	purge start time						
11:39	2.4	↓	6.32	2.5191	12.25	3.20	190.70	0.91	
11:42	3.0		6.33	2.5192	12.30	3.09	192.60	0.64	
11:45	3.5		6.34	2.5178	12.47	2.96	194.20	0.13	
11:48	4.0		6.34	2.5205	12.44	2.88	195.60	-0.08	

Sampling Activities

Sampled By: DN Sample Date/Time: 3/2/2026 11:48
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 6.34 pH 2.52 Spec. Cond. 12.44 Temp
Field Filtered: No Filter Type:
Water Level: 8.25 feet below TOC Drawdown: 2.61 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 218076
- Duplicate Collected

Form Completed By: Allison Lampe **Date:** 3/2/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26020878
Monitoring Point: EP-2
Sample ID: 003
Date (s): 3/3/2026

Field Team Members

Name: Payton Yoch Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 59 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 3/3/26 9:49 AM
Static Water Level: 11.10 feet below TOC
Total Depth: 17.64 feet below TOC
Water Column: 6.54 feet

Purging Activities

Purged By: PY Purge Date: 3/3/2026
Purge Method: Bladder Pump Well Diameter: 2"
Purge Volume Calculation (L): 6.54 ft. x 0.022 = 0.14 L x 3 Vol. = 0.42 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 8.00 L
Physical appearance of purge water: Clear Odor: Strong Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:49	0.0	195	purge start time						
10:21	6.2	↓	6.32	2.9530	14.90	2.63	-20.10	0.91	
10:24	6.8		6.33	2.9550	14.90	2.64	-21.50	0.78	
10:27	7.4		6.32	2.9570	14.80	2.63	-22.50	0.88	
10:30	8.0		6.32	2.9590	14.80	2.61	-22.10	0.85	

Sampling Activities

Sampled By: PY Sample Date/Time: 3/3/2026 10:30
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 6.32 pH 2.96 Spec. Cond. 14.80 Temp
Field Filtered: No Filter Type:
Water Level: 13.25 feet below TOC Drawdown: 2.15 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

Form Completed By: Payton Yoch **Date:** 3/3/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26020878
Monitoring Point: EP-3
Sample ID: 004
Date (s): 3/2/2026

Field Team Members

Name: Payton Yoch Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 43 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☑ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 3/2/26 12:30 PM
Static Water Level: 16.68 feet below TOC
Total Depth: 29.21 feet below TOC
Water Column: 12.53 feet

Purging Activities

Purged By: PY Purge Date: 3/2/2026
Purge Method: Bladder Pump Well Diameter: 2"
Purge Volume Calculation (L): 12.53 ft. x 0.022 = 0.28 L x 3 Vol. = 0.84 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 9.00 L
Physical appearance of purge water: Slightly cloudy Odor: Moderate Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
12:30	0.0	231	purge start time						
13:00	6.9	↓	6.22	1.2500	17.00	0.51	-63.50	2.88	
13:03	7.6		6.22	1.2330	17.00	0.50	-63.50	2.60	
13:06	8.3		6.21	1.2270	17.00	0.49	-63.20	2.55	
13:09	9.0		6.21	1.2180	17.10	0.49	-62.90	2.45	

Sampling Activities

Sampled By: PY Sample Date/Time: 3/2/2026 13:09
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 6.21 pH 1.22 Spec. Cond. 17.10 Temp
Field Filtered: No Filter Type:
Water Level: 17.93 feet below TOC Drawdown: 1.25 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

Form Completed By: Payton Yoch **Date:** 3/2/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26020878
Monitoring Point: EP-4
Sample ID: 005
Date (s): 3/2/2026

Field Team Members

Name: Payton Yoch Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 41 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☐ None ☑ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 3/2/26 10:15 AM
Static Water Level: 7.48 feet below TOC
Total Depth: 21.17 feet below TOC
Water Column: 13.69 feet

Purging Activities

Purged By: PY Purge Date: 3/2/2026
Purge Method: Bladder Pump Well Diameter: 2"
Purge Volume Calculation (L): 13.69 ft. x 0.022 = 0.3 L x 3 Vol. = 0.9 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 16.00 L
Physical appearance of purge water: Slightly cloudy Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:15	0.0	144	purge start time						
11:57	14.7	↓	6.08	2.6410	14.00	0.51	-31.30	4.44	
12:00	15.1		6.07	2.6410	14.00	0.51	-31.40	4.68	
12:03	15.6		6.07	2.6410	14.00	0.50	-31.50	4.50	
12:06	16.0		6.07	2.6410	14.00	0.49	-31.70	4.08	

Sampling Activities

Sampled By: PY Sample Date/Time: 3/2/2026 12:06
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 6.07 pH 2.64 Spec. Cond. 14.00 Temp
Field Filtered: No Filter Type:
Water Level: 8.01 feet below TOC Drawdown: 0.53 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 45612

Form Completed By: Payton Yoch **Date:** 3/2/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-5
Project Location:	Marion, IL	**Sample ID:**	006
W.O. Number (s):	26020878	**Date (s):**	3/2/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.

Name: Drew Nieters Affiliation: TekLab, Inc.

Weather Conditions

Temp: 38 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☐ None ☑ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

		Locks	Yes	No
Well Pad	Good			
Casing	Good	Protective Casing		X
Protective Casing	Good	Well		X
Reference Mark/Identification	Yes			

Groundwater Level Measurements

Date/Time Measured: 3/2/26 10:32 AM

Static Water Level: 14.69 feet below TOC

Total Depth: 15.79 feet below TOC

Water Column: 1.10 feet

Purging Activities

Purged By: AL Purge Date: 3/2/2026

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 1.1 ft. x 0.022 = 0.02 L x 3 Vol. = 0.06 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 7.00 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:30	0.0	250	purge start time						
10:40	2.5	↓	6.72	0.3771	12.57	7.33	154.60	1.64	
10:43	3.3		6.70	0.3756	12.54	7.11	157.40	0.08	
10:46	4.0		6.69	0.3755	12.49	6.92	160.90	0.22	
10:49	4.8		6.68	0.3762	12.74	6.64	164.00	0.63	
10:52	5.5		6.71	0.3764	12.53	6.60	166.10	1.45	
10:55	6.3		6.71	0.3757	12.69	6.65	168.40	1.96	
10:58	7.0		6.72	0.3756	12.82	6.62	170.60	1.82	

Sampling Activities

Sampled By: DN Sample Date/Time: 3/2/2026 10:58

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.72 pH 0.38 Spec. Cond. 12.82 Temp

Field Filtered: No Filter Type:

Water Level: T.O.P. feet below TOC Drawdown: #VALUE! feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 218076
- TOP= 15.35'

Form Completed By: A Nieters Date: 3/2/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-6
Project Location:	Marion, IL	**Sample ID:**	007
W.O. Number (s):	26020878	**Date (s):**	3/2/2026

Field Team Members

Name: Allison Lampe — Affiliation: TekLab, Inc.

Name: Drew Nieters — Affiliation: TekLab, Inc.

Weather Conditions

Temp: 38 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 3/2/26 12:15 PM

Static Water Level: 3.55 feet below TOC

Total Depth: 13.12 feet below TOC

Water Column: 9.57 feet

Purging Activities

Purged By: AL — Purge Date: 3/2/2026

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 9.57 ft. x 0.022 = 0.21 L x 3 Vol. = 0.63 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 7.00 L

Physical appearance of purge water: Clear — Odor: None — Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
12:15	0.0	269	purge start time						
12:29	3.8	↓	5.20	0.3231	11.02	3.70	212.90	0.64	
12:32	4.6		5.18	0.3223	11.07	3.58	215.80	0.31	
12:35	5.4		5.17	0.3213	11.11	3.48	218.60	1.96	
12:38	6.2		5.15	0.3199	11.13	3.33	221.10	3.85	
12:41	7.0		5.14	0.3183	11.25	3.19	223.50	5.83	

Sampling Activities

Sampled By: DN — Sample Date/Time: 3/2/2026 12:41

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 5.14 pH — 0.32 Spec. Cond. — 11.25 Temp

Field Filtered: No — Filter Type:

Water Level: 10.21 feet below TOC — Drawdown: 6.66 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 218076

Form Completed By: A Nieters — **Date:** 3/2/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-7
Project Location:	Marion, IL	**Sample ID:**	008
W.O. Number (s):	26020878	**Date (s):**	3/3/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 49 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

			Yes	No
Well Pad	Good	**Locks**		
Casing	Good	Protective Casing		X
Protective Casing	Good	Well		X
Reference Mark/Identification	Yes			

Groundwater Level Measurements

Date/Time Measured: 3/3/26 9:22 AM

Static Water Level: 14.61 feet below TOC

Total Depth: 18.00 feet below TOC

Water Column: 3.39 feet

Purging Activities

Purged By: AL Purge Date: 3/3/2026

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 3.39 ft. x 0.022 = 0.07 L x 3 Vol. = 0.21 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 10.00 L

Physical appearance of purge water: Clear Odor: Slight Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:12	0.0	149	purge start time						
10:13	9.1	↓	5.99	1.8024	17.08	0.50	-16.10	4.97	
10:16	9.6		5.99	1.7982	17.13	0.49	-15.60	4.64	
10:19	10.0		5.99	1.8000	17.17	0.47	-15.40	5.13	

Sampling Activities

Sampled By: AL Sample Date/Time: 3/3/2026 10:19

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 5.99 pH 1.80 Spec. Cond. 17.17 Temp

Field Filtered: No Filter Type:

Water Level: 15.31 feet below TOC Drawdown: 0.70 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 218076

Form Completed By: Allison Lampe Date: 3/3/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26020878
Monitoring Point: Equipment Blank
Sample ID: 009
Date (s): 3/3/2026

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 61 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured:
Static Water Level: feet below TOC
Total Depth: - feet below TOC
Water Column: feet

Purging Activities

Purged By: BG Purge Date:
Purge Method: Direct Grab Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other

Sampling Activities

Sampled By: BG Sample Date/Time: 3/3/2026 11:24
Sample Method: Direct Sample Sample Equipment: Direct Grab
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: No Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- QA/QC Sample
- Collected off Dipper-T (Water Meter)

Form Completed By: Brett Gillihan **Date:** 3/3/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26020878
Monitoring Point: Field Blank
Sample ID: 010
Date (s): 3/3/2026

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 61 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured:
Static Water Level: feet below TOC
Total Depth: - feet below TOC
Water Column: feet

Purging Activities

Purged By: BG Purge Date:
Purge Method: Direct Grab Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other

Sampling Activities

Sampled By: BG Sample Date/Time: 3/3/2026 11:48
Sample Method: Direct Sample Sample Equipment: Direct Grab
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: No Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- QA/QC Sample
- Collected at MW-101

Form Completed By: Brett Gillihan **Date:** 3/3/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26020878
Monitoring Point: Field Duplicate
Sample ID: 011
Date (s): 3/2/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Drew Nieters Affiliation: TekLab, Inc.

Weather Conditions

Temp: 38 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☐ None ☑ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

		Locks	Yes	No
Well Pad	Good	Protective Casing		X
Casing	Good	Well		X
Protective Casing	Good			
Reference Mark/Identification	Yes			

Groundwater Level Measurements

Date/Time Measured: 3/2/26 11:28 AM
Static Water Level: 5.64 feet below TOC
Total Depth: 33.65 feet below TOC
Water Column: 28.01 feet

Purging Activities

Purged By: AL Purge Date: 3/2/2026
Purge Method: Bladder Pump Well Diameter: 2"
Purge Volume Calculation (L): 28.01 ft. x 0.022 = 0.62 L x 3 Vol. = 1.86 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.00 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
11:25	0.0	174	purge start time						
11:39	2.4	↓	6.32	2.5191	12.25	3.20	190.70	0.91	
11:42	3.0		6.33	2.5192	12.30	3.09	192.60	0.64	
11:45	3.5		6.34	2.5178	12.47	2.96	194.20	0.13	
11:48	4.0		6.34	2.5205	12.44	2.88	195.60	-0.08	

Sampling Activities

Sampled By: DN Sample Date/Time: 3/2/2026 11:48
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 6.34 pH 2.52 Spec. Cond. 12.44 Temp
Field Filtered: No Filter Type:
Water Level: 8.25 feet below TOC Drawdown: 2.61 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 218076
- QA/QC Sample
- Collected at EP-1

Form Completed By: Allison Lampe **Date:** 3/2/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-101
Project Location:	Marion, IL	**Sample ID:**	012
W.O. Number (s):	26020878	**Date (s):**	3/3/2026

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 61 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 3/3/26 10:39 AM

Static Water Level: 15.90 feet below TOC

Total Depth: 33.68 feet below TOC

Water Column: 17.78 feet

Purging Activities

Purged By: BG Purge Date: 3/3/2026

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 17.78 ft. x 0.022 = 0.39 L x 3 Vol. = 1.17 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: Moderate Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:39	0.0	156	purge start time						
10:50	1.7	↓	6.80	1.2583	17.85	4.73	31.80	6.52	
10:53	2.2		6.80	1.2574	17.85	4.74	37.90	7.40	
10:56	2.7		6.80	1.2568	17.93	4.81	42.60	11.07	
10:59	3.1		6.81	1.2559	18.18	4.90	48.00	7.04	
11:02	3.6		6.81	1.2569	18.28	5.02	52.40	7.73	
11:05	4.1		6.81	1.2575	18.43	5.07	55.90	7.92	
11:08	4.5		6.81	1.2575	18.39	5.05	58.90	7.46	
11:11	5.0		6.81	1.2597	18.68	5.02	61.40	4.57	

Sampling Activities

Sampled By: BG Sample Date/Time: 3/3/2026 11:11

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.81 pH 1.26 Spec. Cond. 18.68 Temp

Field Filtered: No Filter Type:

Water Level: 16.23 feet below TOC Drawdown: 0.33 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 217941

Form Completed By: Brett Gillihan **Date:** 3/3/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-102
Project Location:	Marion, IL	**Sample ID:**	013
W.O. Number (s):	26020878	**Date (s):**	3/3/2026

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 58 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 3/3/26 10:02 AM

Static Water Level: 15.11 feet below TOC

Total Depth: 31.11 feet below TOC

Water Column: 16.00 feet

Purging Activities

Purged By: BG Purge Date: 3/3/2026

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 16 ft. x 0.022 = 0.35 L x 3 Vol. = 1.05 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Clear Odor: None Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:02	0.0	286	purge start time						
10:04	0.6	↓	6.62	1.7019	17.70	6.27	109.40	6.20	
10:07	1.4		6.58	1.7087	17.56	5.43	101.50	5.19	
10:10	2.3		6.59	1.7073	17.59	5.28	95.30	4.77	
10:13	3.1		6.59	1.7034	17.59	5.16	91.80	4.35	
10:16	4.0		6.59	1.7040	17.57	5.08	90.00	4.04	

Sampling Activities

Sampled By: BG Sample Date/Time: 3/3/2026 10:16

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.59 pH 1.70 Spec. Cond. 17.57 Temp

Field Filtered: No Filter Type:

Water Level: 16.28 feet below TOC Drawdown: 1.17 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 217941

Form Completed By: Brett Gillihan **Date:** 3/3/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26020878
Monitoring Point: MW-103
Sample ID: 014
Date (s): 3/2/2026

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 43 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 3/2/26 12:48 PM
Static Water Level: 13.19 feet below TOC
Total Depth: 29.79 feet below TOC
Water Column: 16.60 feet

Purging Activities

Purged By: BG Purge Date: 3/2/2026
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 16.6 ft. x 0.022 = 0.37 L x 3 Vol. = 1.11 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.00 L
Physical appearance of purge water: Clear Odor: None Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
12:48	0.0	106	purge start time						
12:59	1.2	↓	5.89	2.3368	15.57	1.09	-68.20	9.36	
13:02	1.5		5.91	2.3150	14.45	1.15	-60.80	9.66	
13:05	1.8		5.94	2.2512	13.66	1.70	-56.30	11.12	
13:08	2.1		5.96	2.2079	13.79	1.73	-54.10	13.16	
13:11	2.4		5.97	2.1919	13.87	1.71	-52.10	12.41	
13:14	2.8		5.96	2.1429	14.56	1.43	-49.40	15.08	
13:17	3.1		6.00	2.1612	15.20	3.94	-44.90	12.93	
13:20	3.4		5.93	2.1820	14.81	1.44	-38.70	14.92	
13:23	3.7		5.91	2.1781	14.75	1.35	-35.80	17.09	
13:26	4.0		5.91	2.1797	14.62	1.32	-34.00	14.24	
13:29	4.4		5.91	2.1810	14.39	1.31	-32.70	16.09	
13:32	4.7		5.91	2.1815	14.19	1.32	-31.60	14.44	
13:35	5.0		5.91	2.1806	14.01	1.31	-30.50	10.93	

Sampling Activities

Sampled By: BG Sample Date/Time: 3/2/2026 13:35
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 5.91 pH 2.18 Spec. Cond. 14.01 Temp
Field Filtered: No Filter Type:
Water Level: 13.79 feet below TOC Drawdown: 0.60 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 217941

Form Completed By: Brett Gillihan **Date:** 3/2/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-104
Project Location:	Marion, IL	**Sample ID:**	015
W.O. Number (s):	26020878	**Date (s):**	3/2/2026

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 42 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 3/2/26 12:07 PM

Static Water Level: 13.25 feet below TOC

Total Depth: 31.69 feet below TOC

Water Column: 18.44 feet

Purging Activities

Purged By: BG Purge Date: 3/2/2026

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 18.44 ft. x 0.022 = 0.41 L x 3 Vol. = 1.23 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: Strong Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
12:07	0.0	238	purge start time						
12:13	1.4	↓	8.89	2.5642	14.08	0.76	-294.90	4.21	
12:16	2.1		8.92	2.5640	14.14	0.66	-304.00	4.04	
12:19	2.9		8.94	2.5602	14.24	0.68	-308.00	4.05	
12:22	3.6		8.94	2.5595	14.17	0.65	-309.30	6.18	
12:25	4.3		8.95	2.5584	14.18	0.72	-309.50	4.42	
12:28	5.0		8.96	2.5583	14.12	0.69	-310.50	4.31	

Sampling Activities

Sampled By: BG Sample Date/Time: 3/2/2026 12:28

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 8.96 pH 2.56 Spec. Cond. 14.12 Temp

Field Filtered: No Filter Type:

Water Level: 14.12 feet below TOC Drawdown: 0.87 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 217941

Form Completed By: Brett Gillihan **Date:** 3/2/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26020878
Monitoring Point: MW-105
Sample ID: 016
Date (s): 3/2/2026

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 41 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☐ None ☑ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 3/2/26 11:03 AM
Static Water Level: 11.82 feet below TOC
Total Depth: 33.68 feet below TOC
Water Column: 21.86 feet

Purging Activities

Purged By: BG Purge Date: 3/2/2026
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 21.86 ft. x 0.022 = 0.48 L x 3 Vol. = 1.44 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.00 L
Physical appearance of purge water: Clear Odor: None Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
11:03	0.0	119	purge start time						
11:09	0.7	↓	6.54	2.2828	14.38	2.61	128.40	7.45	
11:12	1.1		6.55	2.3090	12.65	2.78	131.90	8.62	
11:15	1.4		6.55	2.2791	12.12	3.05	133.50	8.18	
11:18	1.8		6.55	2.2721	12.30	2.84	134.30	7.33	
11:21	2.1		6.55	2.2812	12.11	2.82	135.00	7.18	
11:24	2.5		6.55	2.2854	11.91	2.85	135.50	6.74	
11:27	2.9		6.56	2.2853	11.72	2.90	135.80	6.77	
11:30	3.2		6.56	2.2849	11.55	2.87	136.10	6.46	
11:33	3.6		6.56	2.2850	11.40	2.82	136.20	6.36	
11:36	3.9		6.56	2.3433	9.74	2.86	136.80	6.32	
11:39	4.3		6.59	2.2080	10.03	4.04	137.40	6.84	
11:42	4.6		6.57	2.2011	11.59	3.63	137.20	6.05	
11:45	5.0		6.56	2.2163	12.19	3.17	137.20	5.41	

Sampling Activities

Sampled By: BG Sample Date/Time: 3/2/2026 11:45
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.56 pH 2.22 Spec. Cond. 12.19 Temp
Field Filtered: No Filter Type:
Water Level: 12.47 feet below TOC Drawdown: 0.65 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 217941

Form Completed By: Brett Gillihan **Date:** 3/2/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-106
Project Location:	Marion, IL	**Sample ID:**	017
W.O. Number (s):	26020878	**Date (s):**	3/2/2026

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 41 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☐ None ☑ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 3/2/26 10:17 AM

Static Water Level: 16.90 feet below TOC

Total Depth: 28.65 feet below TOC

Water Column: 11.75 feet

Purging Activities

Purged By: BG Purge Date: 3/2/2026

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 11.75 ft. x 0.022 = 0.26 L x 3 Vol. = 0.78 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:17	0.0	217	purge start time						
10:21	0.9	↓	6.94	1.3163	14.20	3.82	137.30	6.91	
10:24	1.5		6.90	1.3158	14.33	3.60	134.50	6.53	
10:27	2.2		6.89	1.3158	14.33	3.49	132.10	6.59	
10:30	2.8		6.89	1.3158	14.23	3.43	130.50	6.28	
10:33	3.5		6.89	1.3143	14.21	3.38	129.50	6.27	
10:36	4.1		6.89	1.3197	13.91	3.35	129.00	5.70	
10:39	4.8		6.91	1.3231	11.41	3.77	129.50	5.79	

Sampling Activities

Sampled By: BG Sample Date/Time: 3/2/2026 10:39

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.91 pH 1.32 Spec. Cond. 11.41 Temp

Field Filtered: No Filter Type:

Water Level: 17.41 feet below TOC Drawdown: 0.51 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 217941

Form Completed By: Brett Gillihan **Date:** 3/2/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-109
Project Location:	Marion, IL	**Sample ID:**	018
W.O. Number (s):	26020878	**Date (s):**	3/3/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 50 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 3/3/26 10:49 AM

Static Water Level: 8.95 feet below TOC

Total Depth: 31.46 feet below TOC

Water Column: 22.51 feet

Purging Activities

Purged By: AL Purge Date: 3/3/2026

Purge Method: Submersible Pump Well Diameter: 2"

Purge Volume Calculation (L): 22.51 ft. x 0.022 = 0.5 L x 3 Vol. = 1.5 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Clear Odor: None Color: none

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:45	0.0	273	purge start time						
11:01	4.4	↓	7.26	0.9838	16.40	2.81	39.60	4.05	
11:04	5.2		7.26	0.9804	16.42	2.58	40.20	1.78	
11:07	6.0		7.26	0.9757	16.89	2.48	40.40	0.91	

Sampling Activities

Sampled By: AL Sample Date/Time: 3/3/2026 11:07

Sample Method: Low Flow Sample Equipment: Submersible Pump

Sample Parameters: 7.26 pH 0.98 Spec. Cond. 16.89 Temp

Field Filtered: No Filter Type:

Water Level: 9.25 feet below TOC Drawdown: 0.30 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 218076

Form Completed By: Allison Lampe **Date:** 3/3/2026

Site Samping Event: Groundwater Monitoring
LIMS Workorder: 26020878
Technician(s): BG, AL, DN, PY

Field Calibration Log(s)
SIPC- 1Q 2026

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 217941 Technician(s): Brett Gillihan Date: 3/2/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC251017A	4.00	147.30	3/2/26 9:19
7.0 Buffer	WC251017B	7.00	-26.80	3/2/26 8:48
10.0 Buffer	WC251017C	10.00	-197.00	3/2/26 9:30
LCS/CCV (7.0 Buffer)	WC251017D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	108769	1412	3/2/26 9:37

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.34	3/2/26 9:45
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading		Date/Time

D.O. Saturation	LIMS ID/Lot#	Reading	Date/Time
100%	N/A		

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-1-BG	LCS	3/2/26 10:04	11.9	7.00	1,417	0.32		
CCV-1-BG	CCV	3/2/26 13:54	12.4	7.00	1,421	0.38		

Comments:

Field Meter ID: Pine 217941 Technician(s): Brett Gillihan Date: 3/3/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC251017A	4.00	141.70	3/3/26 9:36
7.0 Buffer	WC251017B	7.00	-30.40	3/3/26 9:33
10.0 Buffer	WC251017C	10.00	-197.40	3/3/26 9:43
LCS/CCV (7.0 Buffer)	WC251017D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	108769	1412	3/3/26 9:50

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.38	3/3/26 9:53
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading		Date/Time

D.O. Saturation	LIMS ID/Lot#	Reading	Date/Time
100%	N/A		

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-2-BG	LCS	3/3/26 10:02	12.1	7.02	1,409	0.35		
CCV-2-BG	CCV	3/3/26 13:54	13.4	7.03	1,413	0.41		

Comments:

Site Samping Event: Groundwater Monitoring
LIMS Workorder: 26020878
Technician(s): BG, AL, DN, PY

Field Calibration Log(s)
SIPC- 1Q 2026

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 45612 Technician(s): Payton Ycoh Date: 3/2/1936

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC251017A	4.00	143.30	3/2/26 10:13
7.0 Buffer	WC251017B	7.00	-29.10	3/2/26 10:08
10.0 Buffer	WC251017C	10.00	-197.00	3/2/26 10:18
LCS/CCV (7.0 Buffer)	WC251017D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	108769	1412	3/2/26 10:22

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1		
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading		Date/Time

D.O. Saturation	LIMS ID/Lot#	Reading	Date/Time
100%	N/A		

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-1-PY	LCS	3/2/26 10:23	6.6	7.05	1,412	0.88		
CCV-1-PY	CCV	3/2/26 13:25	9.7	7.06	1,407	0.86		

Comments:

Field Meter ID: Pine 45612 Technician(s): Payton Yoch Date: 3/3/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC251017A	4.00	143.40	3/3/26 9:54
7.0 Buffer	WC251017B	7.00	-29.20	3/3/26 9:50
10.0 Buffer	WC251017C	10.00	-198.80	3/3/26 9:58
LCS/CCV (7.0 Buffer)	WC251017D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	108769	1412	3/3/26 10:05

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1		
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading		Date/Time

D.O. Saturation	LIMS ID/Lot#	Reading	Date/Time
100%	N/A		

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-2-PY	LCS	3/3/26 10:11	9.5	7.07	1,412	0.75		
CCV-2-PY	CCV	3/3/26 10:57	11.4	7.04	1,407	0.81		

Comments:

Site Samping Event: Groundwater Monitoring
LIMS Workorder: 26020878
Technician(s): BG, AL, DN, PY

Field Calibration Log(s)
SIPC- 1Q 2026

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 218076 Technician(s): A.Lampe Date: 3/2/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC251017A	4.00	126.50	3/2/26 9:26
7.0 Buffer	WC251017B	7.00	-43.70	3/2/26 9:33
10.0 Buffer	WC251017C	10.00	-197.00	3/2/26 9:35
LCS/CCV (7.0 Buffer)	WC251017D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	108769	1412	3/2/26 9:38

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.27	3/2/26 9:41
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading		Date/Time

D.O. Saturation	LIMS ID/Lot#	Reading	Date/Time
100%	N/A		

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-1-AL	LCS	3/2/26 9:43	5.7	7.08	1,411	0.27		
CCV-1-AL	CCV	3/2/26 13:18	8.7	7.09	1,373	0.05		

Comments:

Field Meter ID: Pine 218076 Technician(s): A.Lampe Date: 3/3/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC251017A	4.00	126.90	3/3/26 9:15
7.0 Buffer	WC251017B	7.00	-44.80	3/3/26 9:16
10.0 Buffer	WC251017C	10.00	-210.40	3/3/26 9:20
LCS/CCV (7.0 Buffer)	WC251017D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	108769	1412	3/3/26 9:24

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.34	3/3/26 9:24
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading		Date/Time

D.O. Saturation	LIMS ID/Lot#	Reading	Date/Time
100%	N/A		

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-2-AL	LCS	3/3/26 9:25	7.4	7.07	1,415	0.34		
CCV-2-AL	CCV	3/3/26 11:21	10.1	7.03	1,393	0.37		

Comments:

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC

11669 Lilburn Park Rd.
St. Louis, MO 63146
Office: 314.344.1079

Pine Environmental Services, Inc.

Instrument ID 45612
Description YSI PRO DSS - 10 meter cable
Calibrated 12/30/2025 4:52:18PM

Manufacturer YSI
Model Number Pro DSS
Serial Number/ Lot Number 19D104677
Location St. Louis
Department ENV

State Certified
Status Pass
Temp °C 22.2
Humidity % 43

Calibration Specifications

Group # 1
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.000

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.523	1.413	0.00%	Pass

Group # 2
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.36	7.02	0.29%	Pass
4.00 / 4.00	PH	4.00	PH	4.52	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	10.27	10.05	0.50%	Pass

Group # 3
Group Name Redox (ORP)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	232.50	240.00	0.00%	Pass

Group # 4
Group Name Disolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	%	100.00	%	93.20	100.30	0.30%	Pass

Group # 5
Group Name Turbidity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.00 / 0.00	FNU	0.00	FNU	-0.44	0.00	0.00%	Pass

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC

11669 Lilburn Park Rd.
St. Louis, MO 63146
Office: 314.344.1079

Pine Environmental Services, Inc.

Instrument ID 45612
Description YSI PRO DSS - 10 meter cable
Calibrated 12/30/2025 4:52:18PM

Group # 5
Group Name Turbidity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
124.00 / 124.00	FNU	124.00	FNU	71.60	124.00	0.00%	Pass

Test Instruments Used During the Calibration **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
STL 126 NTU L#25F24022377	STL 126 NTU L#25F24022377	YSI	126 NTU	25F24022377	8/4/2025	6/30/2026
STL 1413 COND L#5GC0680	STL 1413 COND L#5GC0680	AquaPhoenix Scientific	31986	5GC0680		3/25/2026
STL AUTOCAL LOT# 24021650	Auto Cal Solution 0 NTU/PH 4	GFS	8483	24021650		6/25/2026
STL ORP 240MV L# 5GG1949	STL ORP SOLUTION 240MV L#5GG1949	AquaPhoenix Scientific	ORP Solution	5GG1949		4/1/2026
STL PH10 #5GH0395	STL PH10 #5GH0395	AquaPhoenix Scientific	PH 10	5GH0395		8/25/2027
STL PH4 L#5GC0771	STL pH4 L#5GC0771	AquaPhoenix Scientific	pH 4	5GC0771		2/25/2027
STL PH7 L#5GH0389	STL PH7 L#5GH0389	AquaPhoenix Scientific	PH7	5GH0389		8/25/2027

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Chris Harkins

All instruments are calibrated by Pine Environmental Services LLC according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services LLC of any defect within 24 hours of receipt of equipment
Please call 800-301-9663 for Technical Assistance

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
11669 Lilburn Park Rd.
St. Louis, MO 63146
Office: 314.344.1079

Pine Environmental Services, Inc.

Instrument ID 218076
Description YSI Pro DSS Sonde - 4m cable
Calibrated 1/29/2026 2:45:21PM

Manufacturer YSI
Model Number Pro DSS
Serial Number/ Lot Number 23F102667
Location St. Louis
Department ENV

State Certified
Status Pass
Temp °C 22.2
Humidity % 43

Calibration Specifications

Group # 1
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.74	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	PH	4.82	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	10.59	10.00	0.00%	Pass

Group # 2
Group Name Turbidity (NTU)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.00 / 0.00	NTU	0.00	NTU	1.32	0.00	0.00%	Pass
124.00 / 124.00	NTU	124.00	NTU	124.10	124.00	0.00%	Pass

Group # 3
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.000

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.447	1.413	0.00%	Pass

Group # 4
Group Name Redox (ORP)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	233.50	240.00	0.00%	Pass

Group # 5
Group Name Dissolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
11669 Lilburn Park Rd.
St. Louis, MO 63146
Office: 314.344.1079

Pine Environmental Services, Inc.

Instrument ID 217941
Description YSI Pro DSS Sonde - 4m
Calibrated 1/29/2026 2:47:44PM

Manufacturer YSI
Model Number Pro DSS
Serial Number/ Lot Number 23f102665
Location St. Louis
Department ENV

State Certified
Status Pass
Temp °C 22.2
Humidity % 43

Calibration Specifications

Group # 1
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.11	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	PH	4.03	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	10.06	10.00	0.00%	Pass

Group # 2
Group Name Turbidity (FNU)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.00 / 0.00	FNU	0.00	FNU	-8.91	0.00	0.00%	Pass
124.00 / 124.00	FNU	124.00	FNU	90.76	124.00	0.00%	Pass

Group # 3
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.000

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.627	1.413	0.00%	Pass

Group # 4
Group Name Redox (ORP)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	227.70	240.00	0.00%	Pass

Group # 5
Group Name Dissolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
11669 Lilburn Park Rd.
St. Louis, MO 63146
Office: 314.344.1079

Pine Environmental Services, Inc.

Instrument ID 217941
Description YSI Pro DSS Sonde - 4m
Calibrated 1/29/2026 2:47:44PM

Group # 5
Group Name Dissolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	%	100.00	%	102.80	99.70	-0.30%	Pass

Test Instruments Used During the Calibration (As Of Cal Entry Date)

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
STL 126 NTU L#25F24022377	STL 126 NTU L#25F24022377	YSI	126 NTU	25F24022377	8/4/2025	6/30/2026
STL 1413 COND L#5GC0680	STL 1413 COND L#5GC0680	AquaPhoenix Scientific	31986	5GC0680		3/25/2026
STL AUTOCAL LOT# 24021650	Auto Cal Solution 0 NTU/PH 4	GFS	8483	24021650		6/25/2026
STL ORP 240MV L# 5GG1949	STL ORP SOLUTION 240MV L#5GG1949	AquaPhoenix Scientific	ORP Solution	5GG1949		4/1/2026
STL PH10 #5GH0395	STL PH10 #5GH0395	AquaPhoenix Scientific	PH 10	5GH0395		8/25/2027
STL PH4 L#5GC0771	STL pH4 L#5GC0771	AquaPhoenix Scientific	pH 4	5GC0771		2/25/2027
STL PH7 L#5GH0389	STL PH7 L#5GH0389	AquaPhoenix Scientific	PH7	5GH0389		8/25/2027

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Austin Carter

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INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
11669 Lilburn Park Rd.
St. Louis, MO 63146
Office: 314.344.1079

Pine Environmental Services, Inc.

Instrument ID 218076
Description YSI Pro DSS Sonde - 4m cable
Calibrated 1/29/2026 2:45:21PM

Group # 5
Group Name Dissolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	%	100.00	%	100.40	98.90	-1.10%	Pass

Test Instruments Used During the Calibration **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
STL 126 NTU L#25F24022377	STL 126 NTU L#25F24022377	YSI	126 NTU	25F24022377	8/4/2025	6/30/2026
STL 1413 COND L#5GC0680	STL 1413 COND L#5GC0680	AquaPhoenix Scientific	31986	5GC0680		3/25/2026
STL AUTOCAL LOT# 24021650	Auto Cal Solution 0 NTU/PH 4	GFS	8483	24021650		6/25/2026
STL ORP 240MV L# 5GG1949	STL ORP SOLUTION 240MV L#5GG1949	AquaPhoenix Scientific	ORP Solution	5GG1949		4/1/2026
STL PH10 #5GH0395	STL PH10 #5GH0395	AquaPhoenix Scientific	PH 10	5GH0395		8/25/2027
STL PH4 L#5GC0771	STL pH4 L#5GC0771	AquaPhoenix Scientific	pH 4	5GC0771		2/25/2027
STL PH7 L#5GH0389	STL PH7 L#5GH0389	AquaPhoenix Scientific	PH7	5GH0389		8/25/2027

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Please call 800-301-9663 for Technical Assistance

April 07, 2026

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:

Illinois	100467
Kansas	E-10374
Kansas	E-10438
Louisiana	05002
Oklahoma	9978

RE: Groundwater Monitoring **WorkOrder:** 26020878

Dear Jason McLaurin:

TEKLAB, INC received 18 samples on 3/2/2026 3:49:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Director of Customer Service
(618)344-1004
ehurley@teklabinc.com

Report Contents

Client: Southern Illinois Power Cooperation
Work Order: 26020878
Client Project: Groundwater Monitoring
Report Date: 07-Apr-26

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Quality Control Results	23
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Chain of Custody	Appended

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
NC	Data is not acceptable for compliance purposes
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

Case Narrative

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 26020878
Client Project: Groundwater Monitoring
Report Date: 07-Apr-26

Cooler Receipt Temp: 6.6 °C

An employee of Teklab, Inc. collected the sample(s).

EP-3 and MW-103 collection times per field file. EAH 3/9/26

MW-106 collection time per field file. EAH 3/13/26

Radium-226/228 analyses were performed by Alliance Technical Group - Akron. See attached report for results and QC data.

Per WSP's request, only Ponds 1 & 2 data is included in this report. EAH 4/7/26

Locations

Collinsville
Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville
Address 120 United Drive
Collinsville, IL 62234-7433
Phone (618) 344-1004
Fax
Email jhriley@teklabinc.com

Springfield
Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City
Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air
Address 120 United Drive
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago
Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100467	NELAP	1/31/2027	Collinsville
Kansas	KDHE	E-10438	NELAP	7/31/2026	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2026	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2027	Collinsville
Oklahoma	ODEQ	9978	NELAP	12/31/2026	Collinsville
Arkansas	ADEQ	88-0966		3/14/2026	Collinsville
Illinois	IDPH	17584		5/31/2026	Collinsville
Iowa	IDNR	430		6/1/2026	Collinsville
Kansas	KDHE	E-92716		1/31/2027	Collinsville
Kentucky	KWLCP	KY98050		12/31/2026	Collinsville
Kentucky	KWLCP	KY98006		12/31/2026	Collinsville
Kentucky	UST	0073		1/31/2027	Collinsville
Louisiana	LDEQ	05003		6/30/2026	Collinsville
Mississippi	MSDH			4/30/2026	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville
Missouri	MDNR	930		1/31/2028	Collinsville

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

Lab ID: 26020878-009 **Client Sample ID:** Equipment Blank

Matrix: AQUEOUS **Collection Date:** 03/03/2026 11:24

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**< 20**	mg/L	1	03/04/2026 12:00	R380043
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	03/04/2026 14:27	R380022
Chloride	NELAP	1.00	5.00		**ND**	mg/L	10	03/04/2026 14:27	R380022
Sulfate	NELAP	0.99	10.0		**ND**	mg/L	10	03/04/2026 14:27	R380022
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5	J	**1.8**	µg/L	1	03/05/2026 20:01	252614
Boron	NELAP	9.0	20.0		**< 20.0**	µg/L	1	03/05/2026 20:01	252614
Calcium	NELAP	0.035	0.100		**0.145**	mg/L	1	03/05/2026 20:01	252614
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	03/07/2026 1:44	252614
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	03/07/2026 1:44	252614
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/07/2026 1:44	252614
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/07/2026 1:44	252614
Chromium	NELAP	0.7	1.5	B	**< 1.5**	µg/L	5	03/07/2026 1:44	252614
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	03/07/2026 1:44	252614
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	03/07/2026 1:44	252614
Lithium	*	1.4	3.0		**< 3.0**	µg/L	5	03/07/2026 1:44	252614
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	03/07/2026 1:44	252614
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	03/07/2026 1:44	252614
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	03/07/2026 1:44	252614

LCS recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.

Contamination present in the MBLK. Sample results below the reporting limit are reportable per the TNI Standard.

CCV recovered outside the upper control limits for TL. Sample results are below the reporting limit. Data is reportable per the TNI standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	03/09/2026 11:26	252618
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**ND**	pci/L	1	03/21/2026 8:22	R381764
Combined 226/228 Uncertainty	*	0	0		**0.520**	+/-	1	03/21/2026 8:22	R381764
Radium-226	*	1.00	1.00		**ND**	pci/L	1	03/21/2026 8:22	R381764
Radium-226 Uncertainty	*	0	0		**0.0300**	+/-	1	03/21/2026 8:22	R381764
Radium-228	*	1.00	1.00		**ND**	pci/L	1	03/20/2026 14:09	R381764
Radium-228 Uncertainty	*	0	0		**0.490**	+/-	1	03/20/2026 14:09	R381764

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

Lab ID: 26020878-010 **Client Sample ID:** Field Blank

Matrix: AQUEOUS **Collection Date:** 03/03/2026 11:48

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**< 20**	mg/L	1	03/04/2026 12:05	R380043
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	03/04/2026 14:40	R380022
Chloride	NELAP	1.00	5.00		**ND**	mg/L	10	03/04/2026 14:40	R380022
Sulfate	NELAP	0.99	10.0		**ND**	mg/L	10	03/04/2026 14:40	R380022
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**< 2.5**	µg/L	1	03/05/2026 20:03	252614
Boron	NELAP	9.0	20.0		**< 20.0**	µg/L	1	03/05/2026 20:03	252614
Calcium	NELAP	0.035	0.10	J	**0.037**	mg/L	1	03/05/2026 20:03	252614
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	03/07/2026 1:49	252614
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	03/07/2026 1:49	252614
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/07/2026 1:49	252614
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/07/2026 1:49	252614
Chromium	NELAP	0.7	1.5	B	**< 1.5**	µg/L	5	03/07/2026 1:49	252614
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	03/07/2026 1:49	252614
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	03/07/2026 1:49	252614
Lithium	*	1.4	3.0		**< 3.0**	µg/L	5	03/07/2026 1:49	252614
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	03/07/2026 1:49	252614
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	03/07/2026 1:49	252614
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	03/07/2026 1:49	252614

LCS recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.

Contamination present in the MBLK. Sample results below the reporting limit are reportable per the TNI Standard.

CCV recovered outside the upper control limits for TL. Sample results are below the reporting limit. Data is reportable per the TNI standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	03/09/2026 11:03	252618
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**ND**	pci/L	1	03/21/2026 8:22	R381764
Combined 226/228 Uncertainty	*	0	0		**0.440**	+/-	1	03/21/2026 8:22	R381764
Radium-226	*	1.00	1.00		**ND**	pci/L	1	03/21/2026 8:22	R381764
Radium-226 Uncertainty	*	0	0		**0.0400**	+/-	1	03/21/2026 8:22	R381764
Radium-228	*	1.00	1.00		**ND**	pci/L	1	03/20/2026 14:09	R381764
Radium-228 Uncertainty	*	0	0		**0.400**	+/-	1	03/20/2026 14:09	R381764

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

Lab ID: 26020878-012 **Client Sample ID:** MW-101

Matrix: GROUNDWATER **Collection Date:** 03/03/2026 11:11

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**15.90**	ft	1	03/03/2026 11:11	R380151
Elevation of groundwater surface	*	0	0		**500.42**	ft	1	03/03/2026 11:11	R380151
Measuring Point Elevation	*	0	0		**516.32**	ft	1	03/03/2026 11:11	R380151
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.30**	gal	1	03/03/2026 11:11	R380151
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**4.6**	NTU	1	03/03/2026 11:11	R380151
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**61**	mV	1	03/03/2026 11:11	R380151
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.2597**	mS/cm	1	03/03/2026 11:11	R380151
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**18.7**	°C	1	03/03/2026 11:11	R380151
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**5.02**	mg/L	1	03/03/2026 11:11	R380151
SW-846 9040B FIELD									
pH	*	0	1.00		**6.81**		1	03/03/2026 11:11	R380151
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**804**	mg/L	1	03/04/2026 12:05	R380043
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**0.57**	mg/L	10	03/04/2026 14:53	R380022
Chloride	NELAP	1.00	5.00		**206**	mg/L	10	03/04/2026 14:53	R380022
Sulfate	NELAP	0.99	10.0		**106**	mg/L	10	03/04/2026 14:53	R380022
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**109**	µg/L	1	03/05/2026 20:05	252614
Boron	NELAP	9.0	20.0		**53.0**	µg/L	1	03/05/2026 20:05	252614
Calcium	NELAP	0.035	0.100		**63.9**	mg/L	1	03/05/2026 20:05	252614
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	03/07/2026 1:55	252614
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	03/07/2026 1:55	252614
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/07/2026 1:55	252614
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/07/2026 1:55	252614
Chromium	NELAP	0.7	1.5	B	**< 1.5**	µg/L	5	03/07/2026 1:55	252614
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	03/07/2026 1:55	252614
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	03/07/2026 1:55	252614
Lithium	*	1.4	3.0		**27.4**	µg/L	5	03/07/2026 1:55	252614
Molybdenum	NELAP	0.6	1.5		**2.2**	µg/L	5	03/10/2026 8:31	252614
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	03/07/2026 1:55	252614
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	03/07/2026 1:55	252614

LCS recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.

Contamination present in the MBLK. Sample results below the reporting limit are reportable per the TNI Standard.

CCV recovered outside the upper control limits for TL. Sample results are below the reporting limit. Data is reportable per the TNI standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	03/09/2026 11:33	252618
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**ND**	pci/L	1	03/21/2026 8:22	R381764

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

Lab ID: 26020878-012 **Client Sample ID:** MW-101

Matrix: GROUNDWATER **Collection Date:** 03/03/2026 11:11

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228 Uncertainty	*	0	0		**0.570**	+/-	1	03/21/2026 8:22	R381764
Radium-226	*	1.00	1.00		**ND**	pci/L	1	03/21/2026 8:22	R381764
Radium-226 Uncertainty	*	0	0		**0.0500**	+/-	1	03/21/2026 8:22	R381764
Radium-228	*	1.00	1.00		**ND**	pci/L	1	03/20/2026 14:09	R381764
Radium-228 Uncertainty	*	0	0		**0.520**	+/-	1	03/20/2026 14:09	R381764

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

Lab ID: 26020878-013 **Client Sample ID:** MW-102

Matrix: GROUNDWATER **Collection Date:** 03/03/2026 10:16

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**15.11**	ft	1	03/03/2026 10:16	R380151
Elevation of groundwater surface	*	0	0		**503.00**	ft	1	03/03/2026 10:16	R380151
Measuring Point Elevation	*	0	0		**518.11**	ft	1	03/03/2026 10:16	R380151
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.10**	gal	1	03/03/2026 10:16	R380151
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**4.0**	NTU	1	03/03/2026 10:16	R380151
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**90**	mV	1	03/03/2026 10:16	R380151
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.7040**	mS/cm	1	03/03/2026 10:16	R380151
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**17.6**	°C	1	03/03/2026 10:16	R380151
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**5.08**	mg/L	1	03/03/2026 10:16	R380151
SW-846 9040B FIELD									
pH	*	0	1.00		**6.59**		1	03/03/2026 10:16	R380151
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1250**	mg/L	1	03/04/2026 12:05	R380043
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.15**	mg/L	10	03/04/2026 15:05	R380022
Chloride	NELAP	1.00	5.00		**146**	mg/L	10	03/04/2026 15:05	R380022
Sulfate	NELAP	0.99	10.0		**581**	mg/L	10	03/04/2026 15:05	R380022
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**29.4**	µg/L	1	03/05/2026 20:06	252614
Boron	NELAP	9.0	20.0		**38.9**	µg/L	1	03/05/2026 20:06	252614
Calcium	NELAP	0.035	0.100		**112**	mg/L	1	03/05/2026 20:06	252614
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	03/07/2026 2:00	252614
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	03/07/2026 2:00	252614
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/07/2026 2:00	252614
Cadmium	NELAP	0.2	1.0	J	**0.2**	µg/L	5	03/07/2026 2:00	252614
Chromium	NELAP	0.7	1.5	BJ	**0.9**	µg/L	5	03/07/2026 2:00	252614
Cobalt	NELAP	0.1	1.0	J	**0.4**	µg/L	5	03/07/2026 2:00	252614
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	03/07/2026 2:00	252614
Lithium	*	1.4	3.0		**4.0**	µg/L	5	03/07/2026 2:00	252614
Molybdenum	NELAP	0.6	1.5	J	**1.5**	µg/L	5	03/09/2026 10:21	252614
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	03/07/2026 2:00	252614
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	03/07/2026 2:00	252614

LCS recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.
Contamination present in the MBLK. Sample results below the reporting limit are reportable per the TNI Standard.
CCV recovered outside the upper control limits for TL. Sample results are below the reporting limit. Data is reportable per the TNI standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	03/09/2026 11:35	252618
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**ND**	pci/L	1	03/17/2026 8:53	R381764

Client: Southern Illinois Power Cooperation
Work Order: 26020878
Client Project: Groundwater Monitoring
Report Date: 07-Apr-26
Lab ID: 26020878-013
Client Sample ID: MW-102
Matrix: GROUNDWATER
Collection Date: 03/03/2026 10:16

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228 Uncertainty	*	0	0		**0.400**	+/-	1	03/17/2026 8:53	R381764
Radium-226	*	1.00	1.00		**ND**	pci/L	1	03/17/2026 8:53	R381764
Radium-226 Uncertainty	*	0	0		**0.0500**	+/-	1	03/17/2026 8:53	R381764
Radium-228	*	1.00	1.00		**ND**	pci/L	1	03/16/2026 13:32	R381764
Radium-228 Uncertainty	*	0	0		**0.350**	+/-	1	03/16/2026 13:32	R381764

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

Lab ID: 26020878-014 **Client Sample ID:** MW-103

Matrix: GROUNDWATER **Collection Date:** 03/02/2026 13:35

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**13.19**	ft	1	03/02/2026 13:35	R380151
Elevation of groundwater surface	*	0	0		**499.15**	ft	1	03/02/2026 13:35	R380151
Measuring Point Elevation	*	0	0		**512.34**	ft	1	03/02/2026 13:35	R380151
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.30**	gal	1	03/02/2026 13:35	R380151
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**11**	NTU	1	03/02/2026 13:35	R380151
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-30**	mV	1	03/02/2026 13:35	R380151
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.1806**	mS/cm	1	03/02/2026 13:35	R380151
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**14.0**	°C	1	03/02/2026 13:35	R380151
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**1.31**	mg/L	1	03/02/2026 13:35	R380151
SW-846 9040B FIELD									
pH	*	0	1.00		**5.91**		1	03/02/2026 13:35	R380151
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1750**	mg/L	1	03/04/2026 11:31	R380043
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.10**	mg/L	10	03/03/2026 19:31	R379928
Chloride	NELAP	1.00	5.00		**397**	mg/L	10	03/03/2026 19:31	R379928
Sulfate	NELAP	0.99	10.0		**571**	mg/L	10	03/03/2026 19:31	R379928
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**45.1**	µg/L	1	03/04/2026 20:08	252560
Boron	NELAP	9.0	20.0		**7210**	µg/L	1	03/04/2026 20:08	252560
Calcium	NELAP	0.035	0.100		**102**	mg/L	1	03/04/2026 20:08	252560
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	03/06/2026 20:13	252560
Arsenic	NELAP	0.4	1.0		**3.2**	µg/L	5	03/06/2026 20:13	252560
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/06/2026 20:13	252560
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/06/2026 20:13	252560
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	03/06/2026 20:13	252560
Cobalt	NELAP	0.1	1.0		**475**	µg/L	5	03/06/2026 20:13	252560
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	03/06/2026 20:13	252560
Lithium	*	1.4	3.0		**5.3**	µg/L	5	03/06/2026 20:13	252560
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	03/06/2026 20:13	252560
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	03/06/2026 20:13	252560
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	03/06/2026 20:13	252560
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	03/09/2026 11:37	252618
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**ND**	pci/L	1	03/17/2026 8:53	R381764
Combined 226/228 Uncertainty	*	0	0		**0.510**	+/-	1	03/17/2026 8:53	R381764
Radium-226	*	1.00	1.00		**ND**	pci/L	1	03/17/2026 8:53	R381764
Radium-226 Uncertainty	*	0	0		**0.0600**	+/-	1	03/17/2026 8:53	R381764

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

Lab ID: 26020878-014 **Client Sample ID:** MW-103

Matrix: GROUNDWATER **Collection Date:** 03/02/2026 13:35

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-228	*	1.00	1.00		**ND**	pci/L	1	03/16/2026 13:32	R381764
Radium-228 Uncertainty	*	0	0		**0.450**	+/-	1	03/16/2026 13:32	R381764

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

Lab ID: 26020878-015 **Client Sample ID:** MW-104

Matrix: GROUNDWATER **Collection Date:** 03/02/2026 12:28

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**13.25**	ft	1	03/02/2026 12:28	R380151
Elevation of groundwater surface	*	0	0		**499.27**	ft	1	03/02/2026 12:28	R380151
Measuring Point Elevation	*	0	0		**512.52**	ft	1	03/02/2026 12:28	R380151
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.30**	gal	1	03/02/2026 12:28	R380151
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**4.3**	NTU	1	03/02/2026 12:28	R380151
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-310**	mV	1	03/02/2026 12:28	R380151
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.5583**	mS/cm	1	03/02/2026 12:28	R380151
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**14.1**	°C	1	03/02/2026 12:28	R380151
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.69**	mg/L	1	03/02/2026 12:28	R380151
SW-846 9040B FIELD									
pH	*	0	1.00		**8.96**		1	03/02/2026 12:28	R380151
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**2690**	mg/L	1	03/04/2026 11:31	R380043
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**3.58**	mg/L	10	03/03/2026 19:44	R379928
Chloride	NELAP	1.00	5.00		**47.9**	mg/L	10	03/03/2026 19:44	R379928
Sulfate	NELAP	0.99	10.0		**1800**	mg/L	10	03/03/2026 19:44	R379928
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**37.7**	µg/L	1	03/04/2026 20:10	252560
Boron	NELAP	9.0	20.0		**5860**	µg/L	1	03/04/2026 20:10	252560
Calcium	NELAP	0.035	0.100		**615**	mg/L	1	03/04/2026 20:10	252560
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	J	**0.6**	µg/L	5	03/06/2026 20:18	252560
Arsenic	NELAP	0.4	1.0		**263**	µg/L	5	03/06/2026 20:18	252560
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/06/2026 20:18	252560
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/06/2026 20:18	252560
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	03/06/2026 20:18	252560
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	03/06/2026 20:18	252560
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	03/06/2026 20:18	252560
Lithium	*	1.4	3.0		**3.7**	µg/L	5	03/06/2026 20:18	252560
Molybdenum	NELAP	0.6	1.5		**17.4**	µg/L	5	03/06/2026 20:18	252560
Selenium	NELAP	3.0	5.0		**< 5.0**	µg/L	25	03/10/2026 0:21	252560
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	03/06/2026 20:18	252560
Elevated reporting limit due to matrix interference.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20	J	**0.07**	µg/L	1	03/09/2026 11:39	252618
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**ND**	pci/L	1	03/17/2026 8:53	R381764
Combined 226/228 Uncertainty	*	0	0		**0.370**	+/-	1	03/17/2026 8:53	R381764
Radium-226	*	1.00	1.00		**ND**	pci/L	1	03/17/2026 8:53	R381764

Client: Southern Illinois Power Cooperation
Work Order: 26020878
Client Project: Groundwater Monitoring
Report Date: 07-Apr-26
Lab ID: 26020878-015
Client Sample ID: MW-104
Matrix: GROUNDWATER
Collection Date: 03/02/2026 12:28

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**0.0300**	+/-	1	03/17/2026 8:53	R381764
Radium-228	*	1.00	1.00		**ND**	pci/L	1	03/16/2026 13:32	R381764
Radium-228 Uncertainty	*	0	0		**0.340**	+/-	1	03/16/2026 13:32	R381764

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

Lab ID: 26020878-016 **Client Sample ID:** MW-105

Matrix: GROUNDWATER **Collection Date:** 03/02/2026 11:45

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**11.82**	ft	1	03/02/2026 11:45	R380151
Elevation of groundwater surface	*	0	0		**501.62**	ft	1	03/02/2026 11:45	R380151
Measuring Point Elevation	*	0	0		**513.44**	ft	1	03/02/2026 11:45	R380151
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.30**	gal	1	03/02/2026 11:45	R380151
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**5.4**	NTU	1	03/02/2026 11:45	R380151
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**137**	mV	1	03/02/2026 11:45	R380151
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.2163**	mS/cm	1	03/02/2026 11:45	R380151
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**12.2**	°C	1	03/02/2026 11:45	R380151
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**3.17**	mg/L	1	03/02/2026 11:45	R380151
SW-846 9040B FIELD									
pH	*	0	1.00		**6.56**		1	03/02/2026 11:45	R380151
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1810**	mg/L	1	03/04/2026 11:31	R380043
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.14**	mg/L	10	03/03/2026 19:57	R379928
Chloride	NELAP	1.00	5.00		**262**	mg/L	10	03/03/2026 19:57	R379928
Sulfate	NELAP	0.99	10.0		**777**	mg/L	10	03/03/2026 19:57	R379928
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**36.0**	µg/L	1	03/04/2026 20:12	252560
Boron	NELAP	9.0	20.0		**52.4**	µg/L	1	03/04/2026 20:12	252560
Calcium	NELAP	0.035	0.100		**174**	mg/L	1	03/04/2026 20:12	252560
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	03/06/2026 20:24	252560
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	03/06/2026 20:24	252560
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/06/2026 20:24	252560
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/06/2026 20:24	252560
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	03/06/2026 20:24	252560
Cobalt	NELAP	0.1	1.0	J	**0.2**	µg/L	5	03/06/2026 20:24	252560
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	03/06/2026 20:24	252560
Lithium	*	1.4	3.0		**41.7**	µg/L	5	03/06/2026 20:24	252560
Molybdenum	NELAP	0.6	1.5	J	**0.6**	µg/L	5	03/06/2026 20:24	252560
Selenium	NELAP	0.6	1.0	J	**0.7**	µg/L	5	03/06/2026 20:24	252560
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	03/06/2026 20:24	252560
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20	J	**0.07**	µg/L	1	03/09/2026 11:59	252618
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**ND**	pci/L	1	03/17/2026 8:53	R381764
Combined 226/228 Uncertainty	*	0	0		**0.370**	+/-	1	03/17/2026 8:53	R381764
Radium-226	*	1.00	1.00		**ND**	pci/L	1	03/17/2026 8:53	R381764
Radium-226 Uncertainty	*	0	0		**0.0300**	+/-	1	03/17/2026 8:53	R381764

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

Lab ID: 26020878-016 **Client Sample ID:** MW-105

Matrix: GROUNDWATER **Collection Date:** 03/02/2026 11:45

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-228	*	1.00	1.00		**ND**	pci/L	1	03/16/2026 13:32	R381764
Radium-228 Uncertainty	*	0	0		**0.340**	+/-	1	03/16/2026 13:32	R381764

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

Lab ID: 26020878-017 **Client Sample ID:** MW-106

Matrix: GROUNDWATER **Collection Date:** 03/02/2026 10:39

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**16.90**	ft	1	03/02/2026 10:39	R380151
Elevation of groundwater surface	*	0	0		**499.04**	ft	1	03/02/2026 10:39	R380151
Measuring Point Elevation	*	0	0		**515.94**	ft	1	03/02/2026 10:39	R380151
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.30**	gal	1	03/02/2026 10:39	R380151
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**5.8**	NTU	1	03/02/2026 10:39	R380151
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**130**	mV	1	03/02/2026 10:39	R380151
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.3231**	mS/cm	1	03/02/2026 10:39	R380151
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**11.4**	°C	1	03/02/2026 10:39	R380151
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**3.77**	mg/L	1	03/02/2026 10:39	R380151
SW-846 9040B FIELD									
pH	*	0	1.00		**6.91**		1	03/02/2026 10:39	R380151
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**970**	mg/L	1	03/04/2026 11:43	R380043
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.33**	mg/L	10	03/03/2026 20:09	R379928
Chloride	NELAP	1.00	5.00		**46.4**	mg/L	10	03/03/2026 20:09	R379928
Sulfate	NELAP	0.99	10.0		**447**	mg/L	10	03/03/2026 20:09	R379928
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**52.9**	µg/L	1	03/04/2026 18:38	252609
Boron	NELAP	9.0	20.0		**43.9**	µg/L	1	03/04/2026 18:38	252609
Calcium	NELAP	0.035	0.100	S	**88.4**	mg/L	1	03/04/2026 18:38	252609
Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.									
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	03/06/2026 18:54	252609
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	03/06/2026 18:54	252609
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/06/2026 18:54	252609
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/06/2026 18:54	252609
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	03/06/2026 18:54	252609
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	03/06/2026 18:54	252609
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	03/06/2026 18:54	252609
Lithium	*	1.4	3.0		**33.1**	µg/L	5	03/06/2026 18:54	252609
Molybdenum	NELAP	0.6	1.5		**2.9**	µg/L	5	03/09/2026 8:35	252609
Selenium	NELAP	0.6	1.0		**1.5**	µg/L	5	03/09/2026 8:35	252609
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	03/06/2026 18:54	252609
LCS recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	03/09/2026 11:41	252618
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**ND**	pci/L	1	03/17/2026 8:53	R381764
Combined 226/228 Uncertainty	*	0	0		**0.380**	+/-	1	03/17/2026 8:53	R381764

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

Lab ID: 26020878-017 **Client Sample ID:** MW-106

Matrix: GROUNDWATER **Collection Date:** 03/02/2026 10:39

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	1.00	1.00		**ND**	pci/L	1	03/17/2026 8:53	R381764
Radium-226 Uncertainty	*	0	0		**0.0400**	+/-	1	03/17/2026 8:53	R381764
Radium-228	*	1.00	1.00		**ND**	pci/L	1	03/16/2026 13:32	R381764
Radium-228 Uncertainty	*	0	0		**0.340**	+/-	1	03/16/2026 13:32	R381764

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

Lab ID: 26020878-018 **Client Sample ID:** MW-109

Matrix: GROUNDWATER **Collection Date:** 03/03/2026 11:07

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**8.95**	ft	1	03/03/2026 11:07	R380151
Elevation of groundwater surface	*	0	0		**503.60**	ft	1	03/03/2026 11:07	R380151
Measuring Point Elevation	*	0	0		**512.55**	ft	1	03/03/2026 11:07	R380151
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.60**	gal	1	03/03/2026 11:07	R380151
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**< 1.0**	NTU	1	03/03/2026 11:07	R380151
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**40**	mV	1	03/03/2026 11:07	R380151
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**0.9757**	mS/cm	1	03/03/2026 11:07	R380151
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**16.9**	°C	1	03/03/2026 11:07	R380151
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**2.48**	mg/L	1	03/03/2026 11:07	R380151
SW-846 9040B FIELD									
pH	*	0	1.00		**7.26**		1	03/03/2026 11:07	R380151
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**556**	mg/L	1	03/04/2026 12:05	R380043
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.37**	mg/L	10	03/04/2026 15:43	R380022
Chloride	NELAP	1.00	5.00		**62.4**	mg/L	10	03/04/2026 15:43	R380022
Sulfate	NELAP	0.99	10.0		**144**	mg/L	10	03/04/2026 15:43	R380022
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**119**	µg/L	1	03/05/2026 20:16	252614
Boron	NELAP	9.0	20.0		**26.2**	µg/L	1	03/05/2026 20:16	252614
Calcium	NELAP	0.035	0.100		**58.4**	mg/L	1	03/05/2026 20:16	252614
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	03/07/2026 2:06	252614
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	03/07/2026 2:06	252614
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/07/2026 2:06	252614
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	03/07/2026 2:06	252614
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	03/09/2026 10:32	252614
Cobalt	NELAP	0.1	1.0	J	**0.1**	µg/L	5	03/07/2026 2:06	252614
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	03/07/2026 2:06	252614
Lithium	*	1.4	3.0		**6.0**	µg/L	5	03/07/2026 2:06	252614
Molybdenum	NELAP	0.6	1.5		**3.2**	µg/L	5	03/07/2026 2:06	252614
Selenium	NELAP	0.6	1.0		**1.5**	µg/L	5	03/07/2026 2:06	252614
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	03/07/2026 2:06	252614

LCS recovered outside upper control limits for Sb. Sample results are below the reporting limit. Data is reportable per the TNI Standard.

CCV recovered outside the upper control limits for TL. Sample results are below the reporting limit. Data is reportable per the TNI standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20	J	**0.07**	µg/L	1	03/09/2026 11:43	252618
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	2.00	2.00		**ND**	pci/L	1	03/17/2026 8:53	R381764
Combined 226/228 Uncertainty	*	0	0		**0.510**	+/-	1	03/17/2026 8:53	R381764

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

Lab ID: 26020878-018 **Client Sample ID:** MW-109

Matrix: GROUNDWATER **Collection Date:** 03/03/2026 11:07

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	1.00	1.00		**ND**	pci/L	1	03/17/2026 8:53	R381764
Radium-226 Uncertainty	*	0	0		**0.0400**	+/-	1	03/17/2026 8:53	R381764
Radium-228	*	1.00	1.00		**ND**	pci/L	1	03/16/2026 13:32	R381764
Radium-228 Uncertainty	*	0	0		**0.470**	+/-	1	03/16/2026 13:32	R381764

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

STANDARD METHODS 2510 B FIELD

Batch R380151 **SampType:** LCS Units **mS/cm**

SampID: LCS-1-AL

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4110**	1.412	0	99.9	90	110	03/02/2026

Batch R380151 **SampType:** LCS Units **mS/cm**

SampID: LCS-1-BG

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4170**	1.412	0	100.4	90	110	03/02/2026

Batch R380151 **SampType:** LCS Units **mS/cm**

SampID: LCS-1-PY

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4120**	1.412	0	100.0	90	110	03/02/2026

Batch R380151 **SampType:** LCS Units **mS/cm**

SampID: LCS-2-AL

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4150**	1.412	0	100.2	90	110	03/03/2026

Batch R380151 **SampType:** LCS Units **mS/cm**

SampID: LCS-2-BG

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4090**	1.412	0	99.8	90	110	03/03/2026

Batch R380151 **SampType:** LCS Units **mS/cm**

SampID: LCS-2-PY

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4120**	1.412	0	100.0	90	110	03/03/2026

SW-846 9040B FIELD

Batch R380151 **SampType:** LCS Units

SampID: LCS-1-AL

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.08**	7.000	0	101.1	98.57	101.4	03/02/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

SW-846 9040B FIELD

Batch R380151 **SampType:** LCS Units

SampID: LCS-1-BG

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.00**	7.000	0	100.0	98.57	101.4	03/02/2026

Batch R380151 **SampType:** LCS Units

SampID: LCS-1-PY

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.05**	7.000	0	100.7	98.57	101.4	03/02/2026

Batch R380151 **SampType:** LCS Units

SampID: LCS-2-AL

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.07**	7.000	0	101.0	98.57	101.4	03/03/2026

Batch R380151 **SampType:** LCS Units

SampID: LCS-2-BG

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.02**	7.000	0	100.3	98.57	101.4	03/03/2026

Batch R380151 **SampType:** LCS Units

SampID: LCS-2-PY

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.07**	7.000	0	101.0	98.57	101.4	03/03/2026

STANDARD METHODS 2540 C (TOTAL) 2020

Batch R380043 **SampType:** MBLK Units **mg/L**

SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**< 20**	0	0	0	0	0	03/03/2026
Total Dissolved Solids		20		**< 20**	0	0	0	0	0	03/03/2026
Total Dissolved Solids		20		**< 20**	0	0	0	0	0	03/04/2026

Batch R380043 **SampType:** LCS Units **mg/L**

SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**238**	250.0	0	95.2	90	110	03/03/2026
Total Dissolved Solids		20		**236**	250.0	0	94.4	90	110	03/03/2026
Total Dissolved Solids		20		**254**	250.0	0	101.6	90	110	03/04/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

STANDARD METHODS 2540 C (TOTAL) 2020

Batch R380043 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 26021074-012ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20	H	**680**				680.0	0.00	03/04/2026

Batch R380043 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 26021588-006BDUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**478**				478.0	0.00	03/03/2026

Batch R380043 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 26022232-001BDUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		40		**1640**				1628	0.98	03/03/2026

Batch R380043 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 26030108-001ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**1150**				1180	2.58	03/04/2026

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R379928 **SampType:** MBLK Units **mg/L**

SampID: MBLK/ICB

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**	0	0	0	0	0	03/03/2026
Chloride		0.50		**ND**	0	0	0	0	0	03/03/2026
Sulfate		1.00		**ND**	0	0	0	0	0	03/03/2026

Batch R379928 **SampType:** LCS Units **mg/L**

SampID: LCS/ICV/QCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**1.04**	1.000	0	103.8	90	110	03/03/2026
Chloride		0.50		**20.6**	20.00	0	103.1	90	110	03/03/2026
Sulfate		1.00		**19.0**	20.00	0	94.8	90	110	03/03/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R379928 **SampType:** MS Units **mg/L**

SampID: 26020878-007AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.3**	10.00	0	103.1	80	120	03/03/2026
Chloride		5.00		**229**	200.0	19.21	104.8	80	120	03/03/2026
Sulfate		10.0		**276**	200.0	80.46	97.9	80	120	03/03/2026

Batch R379928 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26020878-007AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.2**	10.00	0	102.1	10.31	0.97	03/03/2026
Chloride		5.00		**227**	200.0	19.21	104.1	228.8	0.66	03/03/2026
Sulfate		10.0		**274**	200.0	80.46	96.6	276.3	0.91	03/03/2026

Batch R379928 **SampType:** MS Units **mg/L**

SampID: 26020878-017AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.5**	10.00	0.3270	102.0	80	120	03/03/2026
Chloride		5.00		**258**	200.0	46.37	106.0	80	120	03/03/2026
Sulfate		10.0		**654**	200.0	447.1	103.6	80	120	03/03/2026

Batch R379928 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26020878-017AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.5**	10.00	0.3270	102.2	10.52	0.22	03/03/2026
Chloride		5.00		**258**	200.0	46.37	105.8	258.4	0.13	03/03/2026
Sulfate		10.0		**658**	200.0	447.1	105.3	654.4	0.50	03/03/2026

Batch R379928 **SampType:** MS Units **mg/L**

SampID: 26021587-006AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**11.4**	10.00	1.096	102.7	80	120	03/04/2026
Chloride		5.00		**237**	200.0	25.28	106.0	80	120	03/04/2026
Sulfate		10.0		**284**	200.0	88.20	98.0	80	120	03/04/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R379928 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26021587-006AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**11.4**	10.00	1.096	103.4	11.37	0.58	03/04/2026
Chloride		5.00		**236**	200.0	25.28	105.3	237.3	0.59	03/04/2026
Sulfate		10.0		**282**	200.0	88.20	97.0	284.1	0.68	03/04/2026

Batch R379928 **SampType:** MS Units **mg/L**

SampID: 26021588-006CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**11.5**	10.00	1.162	103.2	80	120	03/03/2026
Chloride		5.00		**236**	200.0	25.56	105.0	80	120	03/03/2026
Sulfate		10.0		**282**	200.0	86.78	97.5	80	120	03/03/2026

Batch R379928 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26021588-006CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**11.4**	10.00	1.162	102.6	11.48	0.48	03/03/2026
Chloride		5.00		**233**	200.0	25.56	103.7	235.6	1.12	03/03/2026
Sulfate		10.0		**280**	200.0	86.78	96.7	281.8	0.60	03/03/2026

Batch R379928 **SampType:** MS Units **mg/L**

SampID: 26030106-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.5**	10.00	0.2120	103.4	80	120	03/03/2026
Chloride		5.00		**552**	200.0	322.6	114.5	80	120	03/03/2026
Sulfate		10.0		**1950**	200.0	1754	96.8	80	120	03/03/2026

Batch R379928 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26030106-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.5**	10.00	0.2120	103.3	10.55	0.10	03/03/2026
Chloride		5.00		**554**	200.0	322.6	115.8	551.7	0.47	03/03/2026
Sulfate		10.0		**1950**	200.0	1754	97.1	1948	0.03	03/03/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R380022 **SampType:** MBLK Units **mg/L**
SampID: MBLK/ICB

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**	0	0	0	0	0	03/04/2026
Chloride		0.50		**ND**	0	0	0	0	0	03/04/2026
Sulfate		1.00		**ND**	0	0	0	0	0	03/04/2026

Batch R380022 **SampType:** LCS Units **mg/L**
SampID: LCS/ICV/QCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**1.04**	1.000	0	104.2	90	110	03/04/2026
Chloride		0.50		**21.0**	20.00	0	104.9	90	110	03/04/2026
Sulfate		1.00		**19.4**	20.00	0	96.8	90	110	03/04/2026

Batch R380022 **SampType:** MS Units **mg/L**
SampID: 26020878-013AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.6**	10.00	0.1530	104.0	80	120	03/04/2026
Chloride		5.00		**375**	200.0	146.0	114.6	80	120	03/04/2026
Sulfate		10.0		**799**	200.0	581.5	108.7	80	120	03/04/2026

Batch R380022 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 26020878-013AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.5**	10.00	0.1530	103.6	10.56	0.38	03/04/2026
Chloride		5.00		**375**	200.0	146.0	114.4	375.1	0.10	03/04/2026
Sulfate		10.0		**801**	200.0	581.5	109.6	798.8	0.23	03/04/2026

Batch R380022 **SampType:** MS Units **mg/L**
SampID: 26021587-003AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.6**	10.00	0.3230	102.3	80	120	03/04/2026
Chloride		5.00		**476**	200.0	241.7	117.0	80	120	03/04/2026
Sulfate		10.0		**238**	200.0	39.48	99.1	80	120	03/04/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R380022 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26021587-003AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.6**	10.00	0.3230	102.5	10.55	0.21	03/04/2026
Chloride		5.00		**473**	200.0	241.7	115.7	475.7	0.57	03/04/2026
Sulfate		10.0		**236**	200.0	39.48	98.3	237.7	0.68	03/04/2026

Batch R380022 **SampType:** MS Units **mg/L**

SampID: 26021588-002CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.6**	10.00	0.1460	104.6	80	120	03/04/2026
Chloride		5.00		**401**	200.0	168.9	116.1	80	120	03/04/2026
Sulfate		10.0		**331**	200.0	128.3	101.4	80	120	03/04/2026

Batch R380022 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26021588-002CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.4**	10.00	0.1460	102.6	10.61	1.89	03/04/2026
Chloride		5.00		**396**	200.0	168.9	113.5	401.2	1.32	03/04/2026
Sulfate		10.0		**331**	200.0	128.3	101.5	331.1	0.08	03/04/2026

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 252560 **SampType:** MBLK Units **µg/L**

SampID: MBLK-252560

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0	0	0	0	0	03/04/2026
Boron		20.0		**< 20.0**	0	0	0	0	0	03/04/2026
Calcium		0.100		**< 0.100**	0	0	0	0	0	03/04/2026

Batch 252560 **SampType:** LCS Units **µg/L**

SampID: LCS-252560

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1850**	2000	0	92.6	85	115	03/04/2026
Boron		20.0		**893**	1000	0	89.3	85	115	03/04/2026
Calcium		0.100		**4.67**	5.000	0	93.4	85	115	03/04/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 252560 **SampType:** MS Units µg/L

SampID: 26020878-001CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1920**	2000	49.20	93.4	75	125	03/04/2026
Boron		20.0		**909**	1000	12.00	89.7	75	125	03/04/2026
Calcium		0.100		**16.3**	5.000	11.44	97.2	75	125	03/04/2026

Batch 252560 **SampType:** MSD Units µg/L RPD Limit **20**

SampID: 26020878-001CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium		2.5		**1890**	2000	49.20	91.8	1917	1.68	03/04/2026
Boron		20.0		**891**	1000	12.00	87.9	908.7	1.96	03/04/2026
Calcium		0.100		**15.8**	5.000	11.44	87.8	16.30	2.93	03/04/2026

Batch 252609 **SampType:** MBLK Units µg/L

SampID: MBLK-252609

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0	0	0	0	0	03/04/2026
Boron		20.0		**< 20.0**	0	0	0	0	0	03/04/2026
Calcium		0.100		**< 0.100**	0	0	0	0	0	03/04/2026

Batch 252609 **SampType:** LCS Units µg/L

SampID: LCS-252609

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1870**	2000	0	93.6	85	115	03/04/2026
Boron		20.0		**910**	1000	0	91.0	85	115	03/04/2026
Calcium		0.100		**4.71**	5.000	0	94.3	85	115	03/04/2026

Batch 252609 **SampType:** MS Units µg/L

SampID: 26020878-017CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1940**	2000	52.90	94.2	75	125	03/04/2026
Boron		20.0		**973**	1000	43.90	92.9	75	125	03/04/2026
Calcium		0.100	S	**94.7**	5.000	88.41	126.6	75	125	03/04/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 252609 **SampType:** MSD Units µg/L RPD Limit 20

SampID: 26020878-017CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium		2.5		**1940**	2000	52.90	94.2	1936	0.01	03/04/2026
Boron		20.0		**970**	1000	43.90	92.6	972.6	0.24	03/04/2026
Calcium		0.100		**94.3**	5.000	88.41	118.2	94.74	0.44	03/04/2026

Batch 252614 **SampType:** MBLK Units µg/L

SampID: MBLK-252614

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0	0	0	0	0	03/05/2026
Boron		20.0		**< 20.0**	0	0	0	0	0	03/05/2026
Calcium		0.100		**< 0.100**	0	0	0	0	0	03/05/2026

Batch 252614 **SampType:** LCS Units µg/L

SampID: LCS-252614

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**2010**	2000	0	100.7	85	115	03/05/2026
Boron		20.0		**990**	1000	0	99.0	85	115	03/05/2026
Calcium		0.100		**5.09**	5.000	0	101.8	85	115	03/05/2026

Batch 252614 **SampType:** MS Units µg/L

SampID: 26020878-018CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**2120**	2000	119.0	100.0	75	125	03/05/2026
Boron		20.0		**1040**	1000	26.20	101.8	75	125	03/05/2026
Calcium		0.100		**64.4**	5.000	58.36	119.8	75	125	03/05/2026

Batch 252614 **SampType:** MSD Units µg/L RPD Limit 20

SampID: 26020878-018CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium		2.5		**2130**	2000	119.0	100.6	2120	0.47	03/05/2026
Boron		20.0		**1050**	1000	26.20	102.7	1044	0.80	03/05/2026
Calcium		0.100		**64.6**	5.000	58.36	124.0	64.35	0.33	03/05/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 252560 **SampType:** MBLK Units µg/L

SampID: MBLK-252560

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**< 1.0**	0	0	0	0	0	03/06/2026
Arsenic		1.0		**< 1.0**	0	0	0	0	0	03/06/2026
Beryllium		1.0		**< 1.0**	0	0	0	0	0	03/06/2026
Cadmium		1.0		**< 1.0**	0	0	0	0	0	03/06/2026
Chromium		1.5		**< 1.5**	0	0	0	0	0	03/06/2026
Cobalt		1.0		**< 1.0**	0	0	0	0	0	03/06/2026
Lead		1.0		**< 1.0**	0	0	0	0	0	03/06/2026
Lithium	*	3.0		**< 3.0**	0	0	0	0	0	03/06/2026
Molybdenum		1.5		**< 1.5**	0	0	0	0	0	03/06/2026
Selenium		1.0		**< 1.0**	0	0	0	0	0	03/06/2026
Thallium		2.0		**< 2.0**	0	0	0	0	0	03/06/2026

Batch 252560 **SampType:** LCS Units µg/L

SampID: LCS-252560

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**1160**	1000	0	115.7	80	120	03/06/2026
Arsenic		1.0		**1120**	1000	0	112.4	80	120	03/06/2026
Beryllium		1.0		**932**	1000	0	93.2	80	120	03/06/2026
Cadmium		1.0		**2270**	2000	0	113.4	80	120	03/06/2026
Chromium		1.5		**974**	1000	0	97.4	80	120	03/06/2026
Cobalt		1.0		**943**	1000	0	94.3	80	120	03/06/2026
Lead		1.0		**2070**	2000	0	103.5	80	120	03/06/2026
Lithium	*	3.0		**944**	1000	0	94.4	80	120	03/06/2026
Molybdenum		1.5		**1140**	1000	0	114.0	80	120	03/06/2026
Selenium		1.0		**1200**	1000	0	120.0	80	120	03/06/2026
Thallium		2.0		**962**	1000	0	96.2	80	120	03/06/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 252560 **SampType:** MS Units µg/L

SampID: 26020878-001CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**1170**	1000	0	116.6	75	125	03/06/2026
Arsenic		1.0		**1130**	1000	0	113.1	75	125	03/06/2026
Beryllium		1.0		**957**	1000	0	95.7	75	125	03/06/2026
Cadmium		1.0		**2300**	2000	0	115.0	75	125	03/06/2026
Chromium		1.5		**995**	1000	0	99.5	75	125	03/06/2026
Cobalt		1.0		**983**	1000	0.1358	98.3	75	125	03/06/2026
Lead		1.0		**2070**	2000	0	103.6	75	125	03/06/2026
Lithium	*	3.0		**983**	1000	18.38	96.5	75	125	03/06/2026
Molybdenum		1.5		**1190**	1000	1.686	118.4	75	125	03/06/2026
Selenium		1.0		**1180**	1000	0.7186	118.0	75	125	03/06/2026
Thallium		2.0		**989**	1000	1.104	98.8	75	125	03/06/2026

Batch 252560 **SampType:** MSD Units µg/L RPD Limit **20**

SampID: 26020878-001CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		1.0		**1140**	1000	0	114.4	1166	1.93	03/06/2026
Arsenic		1.0		**1140**	1000	0	114.3	1131	1.12	03/06/2026
Beryllium		1.0		**964**	1000	0	96.4	957.2	0.67	03/06/2026
Cadmium		1.0		**2280**	2000	0	113.9	2301	1.02	03/06/2026
Chromium		1.5		**972**	1000	0	97.2	994.8	2.28	03/06/2026
Cobalt		1.0		**969**	1000	0.1358	96.9	982.6	1.39	03/06/2026
Lead		1.0		**2060**	2000	0	103.1	2073	0.49	03/06/2026
Lithium	*	3.0		**982**	1000	18.38	96.3	983.0	0.12	03/06/2026
Molybdenum		1.5		**1160**	1000	1.686	115.6	1186	2.39	03/06/2026
Selenium		1.0		**1190**	1000	0.7186	118.7	1180	0.58	03/06/2026
Thallium		2.0		**972**	1000	1.104	97.1	989.3	1.75	03/06/2026

Batch 252609 **SampType:** LCS Units µg/L

SampID: LCS-252609

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**980**	1000	0	98.0	80	120	03/09/2026
Molybdenum		1.5		**1030**	1000	0	103.4	80	120	03/09/2026
Selenium		1.0		**1020**	1000	0	101.6	80	120	03/09/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 252609 **SampType:** MS Units **µg/L**

SampID: 26020878-017CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**1140**	1000	0	114.3	75	125	03/06/2026
Arsenic		1.0		**1150**	1000	0	115.1	75	125	03/06/2026
Beryllium		1.0		**944**	1000	0	94.4	75	125	03/06/2026
Cadmium		1.0		**2230**	2000	0	111.7	75	125	03/06/2026
Chromium		1.5		**963**	1000	0	96.3	75	125	03/06/2026
Cobalt		1.0		**949**	1000	0	94.9	75	125	03/06/2026
Lead		1.0		**2080**	2000	0	104.0	75	125	03/06/2026
Lithium	*	3.0		**982**	1000	33.11	94.9	75	125	03/06/2026
Molybdenum		1.5		**1030**	1000	2.863	102.5	75	125	03/09/2026
Selenium		1.0		**1000**	1000	1.540	100.1	75	125	03/09/2026
Thallium		2.0		**997**	1000	0	99.7	75	125	03/06/2026

Batch 252609 **SampType:** MSD Units **µg/L** RPD Limit **20**

SampID: 26020878-017CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		1.0		**1210**	1000	0	120.9	1143	5.62	03/06/2026
Arsenic		1.0		**1220**	1000	0	121.9	1151	5.69	03/06/2026
Beryllium		1.0		**943**	1000	0	94.3	943.8	0.06	03/06/2026
Cadmium		1.0		**2330**	2000	0	116.4	2235	4.08	03/06/2026
Chromium		1.5		**969**	1000	0	96.9	962.8	0.69	03/06/2026
Cobalt		1.0		**972**	1000	0	97.2	949.3	2.37	03/06/2026
Lead		1.0		**2100**	2000	0	105.2	2080	1.18	03/06/2026
Lithium	*	3.0		**988**	1000	33.11	95.5	982.0	0.61	03/06/2026
Molybdenum		1.5		**1030**	1000	2.863	102.7	1027	0.23	03/09/2026
Selenium		1.0		**1030**	1000	1.540	103.1	1002	2.95	03/09/2026
Thallium		2.0		**1020**	1000	0	101.7	997.2	1.99	03/06/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 252614 **SampType:** MBLK Units µg/L

SampID: MBLK-252614

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**< 1.0**	0	0	0	0	0	03/06/2026
Arsenic		1.0		**< 1.0**	0	0	0	0	0	03/06/2026
Beryllium		1.0		**< 1.0**	0	0	0	0	0	03/06/2026
Cadmium		1.0		**< 1.0**	0	0	0	0	0	03/06/2026
Chromium		1.5	JS	**0.8**	0	0	0	0	0	03/06/2026
Chromium		1.5		**< 1.5**	0	0	0	0	0	03/09/2026
Cobalt		1.0		**< 1.0**	0	0	0	0	0	03/06/2026
Lead		1.0		**< 1.0**	0	0	0	0	0	03/06/2026
Lithium	*	3.0		**< 3.0**	0	0	0	0	0	03/06/2026
Molybdenum		1.5		**< 1.5**	0	0	0	0	0	03/06/2026
Selenium		1.0		**< 1.0**	0	0	0	0	0	03/06/2026
Thallium		2.0		**< 2.0**	0	0	0	0	0	03/06/2026

Batch 252614 **SampType:** LCS Units µg/L

SampID: LCS-252614

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0	S	**1220**	1000	0	121.5	80	120	03/06/2026
Antimony		1.0		**1040**	1000	0	103.6	80	120	03/09/2026
Arsenic		1.0		**1000**	1000	0	100.2	80	120	03/06/2026
Beryllium		1.0		**1000**	1000	0	100.0	80	120	03/06/2026
Cadmium		1.0		**2360**	2000	0	118.2	80	120	03/06/2026
Chromium		1.5	B	**998**	1000	0	99.8	80	120	03/06/2026
Cobalt		1.0		**988**	1000	0	98.8	80	120	03/06/2026
Lead		1.0		**1990**	2000	0	99.4	80	120	03/06/2026
Lithium	*	3.0		**1010**	1000	0	100.9	80	120	03/06/2026
Molybdenum		1.5		**1160**	1000	0	115.9	80	120	03/06/2026
Selenium		1.0		**1050**	1000	0	104.7	80	120	03/06/2026
Thallium		2.0		**1030**	1000	0	102.8	80	120	03/06/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 252614 **SampType:** MS Units µg/L

SampID: 26020878-018CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**1150**	1000	0	115.2	75	125	03/07/2026
Arsenic		1.0		**994**	1000	0	99.4	75	125	03/07/2026
Beryllium		1.0		**982**	1000	0	98.2	75	125	03/07/2026
Cadmium		1.0		**2210**	2000	0	110.7	75	125	03/07/2026
Chromium		1.5		**955**	1000	0	95.5	75	125	03/09/2026
Cobalt		1.0		**962**	1000	0.1337	96.2	75	125	03/07/2026
Lead		1.0		**1960**	2000	0	97.9	75	125	03/07/2026
Lithium	*	3.0		**965**	1000	6.016	95.9	75	125	03/07/2026
Molybdenum		1.5		**1080**	1000	3.203	107.2	75	125	03/07/2026
Selenium		1.0		**1030**	1000	1.466	103.0	75	125	03/07/2026
Thallium		2.0		**970**	1000	0	97.0	75	125	03/07/2026

Batch 252614 **SampType:** MSD Units µg/L RPD Limit **20**

SampID: 26020878-018CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		1.0		**1240**	1000	0	123.8	1152	7.17	03/07/2026
Arsenic		1.0		**1030**	1000	0	103.3	993.9	3.82	03/07/2026
Beryllium		1.0		**1010**	1000	0	100.8	982.3	2.61	03/07/2026
Cadmium		1.0		**2360**	2000	0	118.0	2215	6.36	03/07/2026
Chromium		1.5		**984**	1000	0	98.4	954.9	2.98	03/09/2026
Cobalt		1.0		**990**	1000	0.1337	99.0	962.1	2.85	03/07/2026
Lead		1.0		**2040**	2000	0	101.9	1958	4.04	03/07/2026
Lithium	*	3.0		**988**	1000	6.016	98.2	964.9	2.34	03/07/2026
Molybdenum		1.5		**1160**	1000	3.203	116.0	1076	7.80	03/07/2026
Selenium		1.0		**1090**	1000	1.466	108.6	1032	5.24	03/07/2026
Thallium		2.0		**1030**	1000	0	103.0	970.5	5.93	03/07/2026

SW-846 7470A (TOTAL)

Batch 252618 **SampType:** MBLK Units µg/L

SampID: MBLK-252618

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**< 0.20**	0	0	0	0	0	03/09/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26020878

Client Project: Groundwater Monitoring **Report Date:** 07-Apr-26

SW-846 7470A (TOTAL)

Batch 252618 **SampType:** LCS Units µg/L

SampID: LCS-252618

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**5.14**	5.000	0	102.8	85	115	03/09/2026

Batch 252618 **SampType:** MS Units µg/L

SampID: 26020878-009CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**5.63**	5.000	0	112.6	75	125	03/09/2026

Batch 252618 **SampType:** MSD Units µg/L RPD Limit **15**

SampID: 26020878-009CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.20		**5.73**	5.000	0	114.7	5.631	1.80	03/09/2026

Batch 252618 **SampType:** MS Units µg/L

SampID: 26020878-016CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**5.72**	5.000	0.07080	113.0	75	125	03/09/2026

Batch 252618 **SampType:** MSD Units µg/L RPD Limit **15**

SampID: 26020878-016CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.20		**5.35**	5.000	0.07080	105.5	5.722	6.80	03/09/2026

Receiving Check List

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Client Project: Groundwater Monitoring

Work Order: 26020878
Report Date: 07-Apr-26

Carrier: Brett Gillihan

Received By: KTM

Completed by: Emily Kossakoski
On: 02-Mar-26
Emily Kossakoski

Reviewed by: Allison Simpson
On: 03-Mar-26
Allison Simpson

Pages to follow: Chain of custody 5 Extra pages included 36

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C	6.6	
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice	☐	
Chain of custody present?	Yes ☑	No ☐				
Chain of custody signed when relinquished and received?	Yes ☑	No ☐				
Chain of custody agrees with sample labels?	Yes ☑	No ☐				
Samples in proper container/bottle?	Yes ☑	No ☐				
Sample containers intact?	Yes ☑	No ☐				
Sufficient sample volume for indicated test?	Yes ☑	No ☐				
All samples received within holding time?	Yes ☑	No ☐				
Reported field parameters measured:	Field ☑	Lab ☐	NA ☐			
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐				

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☐	No ☐	No VOA vials ☑
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	NA ☐
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑

Any No responses must be detailed below or on the COC.

Additional cooler temperature 11.6C, 8.4C and 9.6C. EAK 3/2/2026

pH strip #104524. - KTM/ekossakoski - 3/2/2026 5:08:09 PM

Additional nitric acid (109168) was needed for all samples upon arrival at the laboratory. Unable to preserve Field Duplicate and MW-103 2L containers. - KTM/ekossakoski - 3/2/2026 5:08:36 PM

Samples were received on 3/3/26 at 13:33 on ice [temp13.0C, 16.2C, 15.8C - LTG#9]. pH# 104524- JD/lhenson - 3/3/2026 3:24:39 PM

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 3 Work order # 26020878

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☑ ICE ☐ BLUE ICE ☐ NO ICE 13.0, 16.2, 15.8°C LTG# 9

Preserved in: ☐ LAB ☐ FIELD

Lab Notes: PH 104524

FOR LAB USE ONLY

JD 3/3/26

Client Comments Report QC LVL: 2

Field: Elevations, DO, ORP, pH, Conductivity (mS/cm), Temperature (°C), Turbidity and Purge Volume
ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Bret Gillihan

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26020878-001	EBG		1	3		X	X	X	X	X	X	X	X
-002	EP-1		1	3		X	X	X	X	X	X	X	X
-003	EP-2	3/3/26 1030	1	3		X	X	X	X	X	X	X	X
-004	EP-3		1	3		X	X	X	X	X	X	X	X
-005	EP-4		1	3		X	X	X	X	X	X	X	X
-006	EP-5		1	3		X	X	X	X	X	X	X	X
-007	EP-6		1	3		X	X	X	X	X	X	X	X
-008	EP-7	3-3-26 1019	1	3		X	X	X	X	X	X	X	X
-009	Equipment Blank	3-3-26 1124	1	3	X		X		X	X	X	X	X
-010	Field Blank	3-3-26 1148	1	3	X		X		X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
Alex Hoppe	3-3-26 1333		3/3/26 1333

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 108328

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 3 of 3 Work order # 26020878

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C LTG# _____

Preserved in: ☐ LAB ☐ FIELD

FOR LAB USE ONLY

Lab Notes:

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No

Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

Field: Elevations, DO, ORP, pH, Conductivity (mS/cm), Temperature (°C), Turbidity and Purge Volume
ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
BrettGillihan

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date _____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26020878-012	MW-101	3-3-26 1111	1	3	X	X	X	X	X	X	X	X
-013	MW-102	3-3-26 1016	1	3	X	X	X	X	X	X	X	X
-014	MW-103		1	3	X	X	X	X	X	X	X	X
-015	MW-104		1	3	X	X	X	X	X	X	X	X
-016	MW-105		1	3	X	X	X	X	X	X	X	X
-017	MW-106		1	3	X	X	X	X	X	X	X	X
-018	MW-109	3-3-26 1107	1	3	X	X	X	X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
Allen Trader	3-3-26 1333	[signature]	3/3/26 1333

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 108329

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 3 Work order # 26020878

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 1.6, 1.8, 6.6, °C LTG# 3

Preserved in: ☐ LAB ☐ FIELD FOR LAB USE ONLY

Lab Notes: pH<2 on 4524. Added HNO3 (09168) to all. Unable to preserve Field Dup of MW 103 2L. KTM 3.2.26

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No

Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

Field: Elevations, DO, ORP, pH, Conductivity (mS/cm), Temperature (°C), Turbidity and Purge Volume
ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Project Name/Number: Groundwater Monitoring

Sample Collector's Name: Allison Lampe

Results Requested (call for PFAS TAT and surcharges): ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Date ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26020878-001	EBG	3-2-26 1011	1	3		X	X	X	X	X	X	X	X
-002	EP-1	3-2-26 1148	1	3		X	X	X	X	X	X	X	X
-003	EP-2		1	3		X	X	X	X	X	X	X	X
-004	EP-3	3/2/26 1308	1	3		X	X	X	X	X	X	X	X
-005	EP-4	3/2/26 1206	1	3		X	X	X	X	X	X	X	X
-006	EP-5 partial sample Dry	3-2-26 1058	1	3		X	X	X	X	X	X	X	X
-007	EP-6	3-2-26 1241	1	3		X	X	X	X	X	X	X	X
-008	EP-7		1	3		X	X	X	X	X	X	X	X
-009	Equipment Blank		1	3	X		X		X	X	X	X	X
-010	Field Blank		1	3	X		X		X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
Brett	3.2.26 1549	Kayla Moore	3.2.26 5:49

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 108328

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

 Work order # 26020878

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C LTG# _____
Preserved in: ☐ LAB ☐ FIELD **FOR LAB USE ONLY**
Lab Notes:

Client Comments Report QC LVL: 2

Field: Elevations, DO, ORP, pH, Conductivity (mS/cm), Temperature (°C), Turbidity and Purge Volume
ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Project Name/Number: Groundwater Monitoring

Sample Collector's Name: Allison Lampe

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date _____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26020878-011	Field Duplicate	3-2-26 1148	1	3		X	X	X	X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
Brett Oliver	3-2-26 1549	Kayla Moore	3-2-26 15:49

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BottleOrder 108328

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 3 of 3 Work order # 26020878

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C LTG# _____

Preserved in: ☐ LAB ☐ FIELD **FOR LAB USE ONLY**

Lab Notes:

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No

Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

Field: Elevations, DO, ORP, pH, Conductivity (mS/cm), Temperature (°C), Turbidity and Purge Volume
ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Bret Gillihan

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date _____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26020878-012	MW-101		1	3	X	X	X	X	X	X	X	X
-013	MW-102		1	3	X	X	X	X	X	X	X	X
-014	MW-103	3-2-26 1035	1	3	X	X	X	X	X	X	X	X
-015	MW-104	3-2-26 1228	1	3	X	X	X	X	X	X	X	X
-016	MW-105	3-2-26 1145	1	3	X	X	X	X	X	X	X	X
-017	MW-106	3-2-26 1040	1	3	X	X	X	X	X	X	X	X
-018	MW-109		1	3	X	X	X	X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
[signature]	3-2-26 1549	[signature]	3-2-26 15:49

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 108329

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

April 07, 2026

Elizabeth Hurley
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 26020878

Dear Elizabeth Hurley:

Order No.: 26030597

Alliance Technical Group - Akron received 18 sample(s) on 3/6/2026 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Sarah MacGillivray
Project Manager
3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0828, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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Website: http://www.settek.com

Case Narrative

WO#: **26030597**
Date: **4/7/2026**

CLIENT: TEKLAB Inc,
Project: 26020878

This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Alliance Technical Group Work Order Number assigned to this report.

Alliance Technical Group holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Alliance Technical Group and that of the customer. It cannot be reproduced in any form without the consent of Alliance Technical Group or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Alliance Technical Group is not responsible for use or interpretation of the data included herein.

All results for solid samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

Qualifiers and Acronyms

WO#: **26030597**
Date: **4/7/2026**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected above the MDL.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
d	Manual integration in which peak was deleted
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B	The analyte was detected in the Method Blank at a concentration greater than the RL.
MB+	The analyte was detected in the Method Blank at a concentration greater than the MDL.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
W	Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

Workorder Sample Summary

WO#: **26030597**

07-Apr-26

CLIENT: TEKLAB Inc,
Project: 26020878

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
26030597-001	26020878-001		3/2/2026 10:11:00 AM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-002	26020878-002		3/2/2026 11:48:00 AM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-003	26020878-003		3/3/2026 10:30:00 AM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-004	26020878-004		3/2/2026 1:09:00 PM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-005	26020878-005		3/2/2026 12:06:00 PM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-006	26020878-006		3/2/2026 10:58:00 AM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-007	26020878-007		3/2/2026 12:41:00 PM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-008	26020878-008		3/3/2026 10:19:00 AM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-009	26020878-009		3/3/2026 11:24:00 AM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-010	26020878-010		3/3/2026 11:48:00 AM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-011	26020878-011		3/2/2026 11:48:00 AM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-012	26020878-012		3/3/2026 11:11:00 AM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-013	26020878-013		3/3/2026 10:16:00 AM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-014	26020878-014		3/2/2026 1:35:00 PM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-015	26020878-015		3/2/2026 12:28:00 PM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-016	26020878-016		3/2/2026 11:45:00 AM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-017	26020878-017		3/2/2026 10:39:00 AM	3/6/2026 10:30:00 AM	Non-Potable Water
26030597-018	26020878-018		3/3/2026 11:07:00 AM	3/6/2026 10:30:00 AM	Non-Potable Water

Alliance Technical Group - Akron
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Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

DATES REPORT

WO#: **26030597**

07-Apr-26

Client: TEKLAB Inc,
Project: 26020878

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
26030597-001A	26020878-001	3/2/2026 10:11:00 AM	Non-Potable Water	Combined Radium (EPA903+904)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-226 (EPA 903.0)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-228 (EPA 904.0)		3/16/2026 9:00:00 AM	3/20/2026 2:09:08 PM
26030597-002A	26020878-002	3/2/2026 11:48:00 AM		Combined Radium (EPA903+904)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-226 (EPA 903.0)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-228 (EPA 904.0)		3/16/2026 9:00:00 AM	3/20/2026 2:09:08 PM
26030597-003A	26020878-003	3/3/2026 10:30:00 AM		Combined Radium (EPA903+904)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-226 (EPA 903.0)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-228 (EPA 904.0)		3/16/2026 9:00:00 AM	3/20/2026 2:09:08 PM
26030597-004A	26020878-004	3/2/2026 1:09:00 PM		Combined Radium (EPA903+904)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-226 (EPA 903.0)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-228 (EPA 904.0)		3/16/2026 9:00:00 AM	3/20/2026 2:09:08 PM
26030597-005A	26020878-005	3/2/2026 12:06:00 PM		Combined Radium (EPA903+904)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-226 (EPA 903.0)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-228 (EPA 904.0)		3/16/2026 9:00:00 AM	3/20/2026 2:09:08 PM
26030597-006A	26020878-006	3/2/2026 10:58:00 AM		Combined Radium (EPA903+904)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-226 (EPA 903.0)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-228 (EPA 904.0)		3/16/2026 9:00:00 AM	3/20/2026 2:09:08 PM
26030597-007A	26020878-007	3/2/2026 12:41:00 PM		Combined Radium (EPA903+904)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-226 (EPA 903.0)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-228 (EPA 904.0)		3/16/2026 9:00:00 AM	3/20/2026 2:09:08 PM
26030597-008A	26020878-008	3/3/2026 10:19:00 AM		Combined Radium (EPA903+904)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-226 (EPA 903.0)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM

Original

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
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Website: http://www.settek.com

DATES REPORT

WO#: **26030597**

07-Apr-26

Client: TEKLAB Inc,
Project: 26020878

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
26030597-008A	26020878-008	3/3/2026 10:19:00 AM	Non-Potable Water	Radium-228 (EPA 904.0)		3/16/2026 9:00:00 AM	3/20/2026 2:09:08 PM
26030597-009A	26020878-009	3/3/2026 11:24:00 AM		Combined Radium (EPA903+904)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-226 (EPA 903.0)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-228 (EPA 904.0)		3/16/2026 9:00:00 AM	3/20/2026 2:09:08 PM
26030597-010A	26020878-010	3/3/2026 11:48:00 AM		Combined Radium (EPA903+904)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-226 (EPA 903.0)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-228 (EPA 904.0)		3/16/2026 9:00:00 AM	3/20/2026 2:09:08 PM
26030597-011A	26020878-011	3/2/2026 11:48:00 AM		Combined Radium (EPA903+904)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-226 (EPA 903.0)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-228 (EPA 904.0)		3/16/2026 9:00:00 AM	3/20/2026 2:09:08 PM
26030597-012A	26020878-012	3/3/2026 11:11:00 AM		Combined Radium (EPA903+904)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-226 (EPA 903.0)		3/16/2026 9:00:00 AM	3/21/2026 8:22:05 AM
				Radium-228 (EPA 904.0)		3/16/2026 9:00:00 AM	3/20/2026 2:09:08 PM
26030597-013A	26020878-013	3/3/2026 10:16:00 AM		Combined Radium (EPA903+904)		3/12/2026 12:00:00 PM	3/17/2026 8:53:00 AM
				Radium-226 (EPA 903.0)		3/12/2026 12:00:00 PM	3/17/2026 8:53:00 AM
				Radium-228 (EPA 904.0)		3/12/2026 12:00:00 PM	3/16/2026 1:32:00 PM
26030597-014A	26020878-014	3/2/2026 1:35:00 PM		Combined Radium (EPA903+904)		3/12/2026 12:00:00 PM	3/17/2026 8:53:00 AM
				Radium-226 (EPA 903.0)		3/12/2026 12:00:00 PM	3/17/2026 8:53:00 AM
				Radium-228 (EPA 904.0)		3/12/2026 12:00:00 PM	3/16/2026 1:32:00 PM
26030597-015A	26020878-015	3/2/2026 12:28:00 PM		Combined Radium (EPA903+904)		3/12/2026 12:00:00 PM	3/17/2026 8:53:00 AM
				Radium-226 (EPA 903.0)		3/12/2026 12:00:00 PM	3/17/2026 8:53:00 AM
				Radium-228 (EPA 904.0)		3/12/2026 12:00:00 PM	3/16/2026 1:32:00 PM
26030597-016A	26020878-016	3/2/2026 11:45:00 AM		Combined Radium (EPA903+904)		3/12/2026 12:00:00 PM	3/17/2026 8:53:00 AM

Original

Alliance Technical Group - Akron
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TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

DATES REPORT

WO#: **26030597**

07-Apr-26

Client: TEKLAB Inc,
Project: 26020878

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
26030597-016A	26020878-016	3/2/2026 11:45:00 AM	Non-Potable Water	Radium-226 (EPA 903.0)		3/12/2026 12:00:00 PM	3/17/2026 8:53:00 AM
				Radium-228 (EPA 904.0)		3/12/2026 12:00:00 PM	3/16/2026 1:32:00 PM
26030597-017A	26020878-017	3/2/2026 10:39:00 AM		Combined Radium (EPA903+904)		3/12/2026 12:00:00 PM	3/17/2026 8:53:00 AM
				Radium-226 (EPA 903.0)		3/12/2026 12:00:00 PM	3/17/2026 8:53:00 AM
				Radium-228 (EPA 904.0)		3/12/2026 12:00:00 PM	3/16/2026 1:32:00 PM
26030597-018A	26020878-018	3/3/2026 11:07:00 AM		Combined Radium (EPA903+904)		3/12/2026 12:00:00 PM	3/17/2026 8:53:00 AM
				Radium-226 (EPA 903.0)		3/12/2026 12:00:00 PM	3/17/2026 8:53:00 AM
				Radium-228 (EPA 904.0)		3/12/2026 12:00:00 PM	3/16/2026 1:32:00 PM

Original

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,
Collection Date: 3/2/2026 10:11:00 AM
Project: 26020878
Lab ID: 26030597-001
Matrix: NON-POTABLE WATER
Client Sample ID 26020878-001

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)						**E903-904**	Analyst: **KM**
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.390	1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-226 (EPA 903.0)						**E903-904**	Analyst: **KM**
Radium-226	ND	1.00		pCi/L	± 0.0300	1	3/21/2026 8:22:05 AM
Yield	1.00					1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-228 (EPA 904.0)						**E903-904**	Analyst: **KM**
Radium-228	ND	1.00		pCi/L	± 0.360	1	3/20/2026 2:09:08 PM
Yield	0.970					1	3/20/2026 2:09:08 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode		

Original

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Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,

Collection Date: 3/2/2026 11:48:00 AM

Project: 26020878

Lab ID: 26030597-002

Matrix: NON-POTABLE WATER

Client Sample ID 26020878-002

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)						**E903-904**	Analyst: **KM**
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.420	1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-226 (EPA 903.0)						**E903-904**	Analyst: **KM**
Radium-226	ND	1.00		pCi/L	± 0.0300	1	3/21/2026 8:22:05 AM
Yield	1.00					1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-228 (EPA 904.0)						**E903-904**	Analyst: **KM**
Radium-228	ND	1.00		pCi/L	± 0.390	1	3/20/2026 2:09:08 PM
Yield	0.920					1	3/20/2026 2:09:08 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit

Original

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Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,

Collection Date: 3/3/2026 10:30:00 AM

Project: 26020878

Lab ID: 26030597-003

Matrix: NON-POTABLE WATER

Client Sample ID 26020878-003

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)						**E903-904**	Analyst: **KM**
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.650	1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-226 (EPA 903.0)						**E903-904**	Analyst: **KM**
Radium-226	ND	1.00		pCi/L	± 0.0600	1	3/21/2026 8:22:05 AM
Yield	1.00					1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-228 (EPA 904.0)						**E903-904**	Analyst: **KM**
Radium-228	ND	1.00		pCi/L	± 0.590	1	3/20/2026 2:09:08 PM
Yield	0.860					1	3/20/2026 2:09:08 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit

Original

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Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,

Collection Date: 3/2/2026 1:09:00 PM

Project: 26020878

Lab ID: 26030597-004

Matrix: NON-POTABLE WATER

Client Sample ID 26020878-004

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **KM**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.510	1	3/21/2026 8:22:05 AM
RAD226/228						**E903-904**	Analyst: **KM**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0600	1	3/21/2026 8:22:05 AM
Yield	1.00					1	3/21/2026 8:22:05 AM
RAD226/228						**E903-904**	Analyst: **KM**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.450	1	3/20/2026 2:09:08 PM
Yield	1.00					1	3/20/2026 2:09:08 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit

Original

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Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,

Collection Date: 3/2/2026 12:06:00 PM

Project: 26020878

Lab ID: 26030597-005

Matrix: NON-POTABLE WATER

Client Sample ID 26020878-005

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)						**E903-904**	Analyst: **KM**
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.500	1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-226 (EPA 903.0)						**E903-904**	Analyst: **KM**
Radium-226	ND	1.00		pCi/L	± 0.0400	1	3/21/2026 8:22:05 AM
Yield	1.00					1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-228 (EPA 904.0)						**E903-904**	Analyst: **KM**
Radium-228	ND	1.00		pCi/L	± 0.460	1	3/20/2026 2:09:08 PM
Yield	0.930					1	3/20/2026 2:09:08 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit

Original

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Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,
Project: 26020878
Lab ID: 26030597-006
Client Sample ID 26020878-006

Collection Date: 3/2/2026 10:58:00 AM
Matrix: NON-POTABLE WATER

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)						**E903-904**	Analyst: **KM**
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.690	1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-226 (EPA 903.0)						**E903-904**	Analyst: **KM**
Radium-226	ND	1.00		pCi/L	± 0.0500	1	3/21/2026 8:22:05 AM
Yield	1.00					1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-228 (EPA 904.0)						**E903-904**	Analyst: **KM**
Radium-228	1.12	1.00		pCi/L	± 0.640	1	3/20/2026 2:09:08 PM
Yield	0.950					1	3/20/2026 2:09:08 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit

Original

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Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,

Collection Date: 3/2/2026 12:41:00 PM

Project: 26020878

Lab ID: 26030597-007

Matrix: NON-POTABLE WATER

Client Sample ID 26020878-007

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **KM**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.480	1	3/21/2026 8:22:05 AM
RAD226/228						**E903-904**	Analyst: **KM**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0200	1	3/21/2026 8:22:05 AM
Yield	1.00					1	3/21/2026 8:22:05 AM
RAD226/228						**E903-904**	Analyst: **KM**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.460	1	3/20/2026 2:09:08 PM
Yield	1.00					1	3/20/2026 2:09:08 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit

Original

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Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,

Collection Date: 3/3/2026 10:19:00 AM

Project: 26020878

Lab ID: 26030597-008

Matrix: NON-POTABLE WATER

Client Sample ID 26020878-008

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)						**E903-904**	Analyst: **KM**
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.560	1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-226 (EPA 903.0)						**E903-904**	Analyst: **KM**
Radium-226	ND	1.00		pCi/L	± 0.0400	1	3/21/2026 8:22:05 AM
Yield	1.00					1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-228 (EPA 904.0)						**E903-904**	Analyst: **KM**
Radium-228	ND	1.00		pCi/L	± 0.520	1	3/20/2026 2:09:08 PM
Yield	0.920					1	3/20/2026 2:09:08 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit

Original

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Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,
Project: 26020878
Lab ID: 26030597-009
Client Sample ID 26020878-009

Collection Date: 3/3/2026 11:24:00 AM
Matrix: NON-POTABLE WATER

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)						**E903-904**	Analyst: **KM**
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.520	1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-226 (EPA 903.0)						**E903-904**	Analyst: **KM**
Radium-226	ND	1.00		pCi/L	± 0.0300	1	3/21/2026 8:22:05 AM
Yield	1.00					1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-228 (EPA 904.0)						**E903-904**	Analyst: **KM**
Radium-228	ND	1.00		pCi/L	± 0.490	1	3/20/2026 2:09:08 PM
Yield	1.00					1	3/20/2026 2:09:08 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit

Original

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Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,
Project: 26020878
Lab ID: 26030597-010
Client Sample ID 26020878-010

Collection Date: 3/3/2026 11:48:00 AM
Matrix: NON-POTABLE WATER

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228						**E903-904**	Analyst: **KM**
COMBINED RADIUM (EPA903+904)							
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.440	1	3/21/2026 8:22:05 AM
RAD226/228						**E903-904**	Analyst: **KM**
RADIUM-226 (EPA 903.0)							
Radium-226	ND	1.00		pCi/L	± 0.0400	1	3/21/2026 8:22:05 AM
Yield	1.00					1	3/21/2026 8:22:05 AM
RAD226/228						**E903-904**	Analyst: **KM**
RADIUM-228 (EPA 904.0)							
Radium-228	ND	1.00		pCi/L	± 0.400	1	3/20/2026 2:09:08 PM
Yield	1.00					1	3/20/2026 2:09:08 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit

Original

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Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,

Collection Date: 3/2/2026 11:48:00 AM

Project: 26020878

Lab ID: 26030597-011

Matrix: NON-POTABLE WATER

Client Sample ID 26020878-011

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)						**E903-904**	Analyst: **KM**
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.500	1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-226 (EPA 903.0)						**E903-904**	Analyst: **KM**
Radium-226	ND	1.00		pCi/L	± 0.0300	1	3/21/2026 8:22:05 AM
Yield	1.00					1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-228 (EPA 904.0)						**E903-904**	Analyst: **KM**
Radium-228	ND	1.00		pCi/L	± 0.470	1	3/20/2026 2:09:08 PM
Yield	1.00					1	3/20/2026 2:09:08 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit

Original

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Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,

Collection Date: 3/3/2026 11:11:00 AM

Project: 26020878

Lab ID: 26030597-012

Matrix: NON-POTABLE WATER

Client Sample ID 26020878-012

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)						**E903-904**	Analyst: **KM**
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.570	1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-226 (EPA 903.0)						**E903-904**	Analyst: **KM**
Radium-226	ND	1.00		pCi/L	± 0.0500	1	3/21/2026 8:22:05 AM
Yield	1.00					1	3/21/2026 8:22:05 AM
RAD226/228 RADIUM-228 (EPA 904.0)						**E903-904**	Analyst: **KM**
Radium-228	ND	1.00		pCi/L	± 0.520	1	3/20/2026 2:09:08 PM
Yield	1.00					1	3/20/2026 2:09:08 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit

Original

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Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,
Project: 26020878
Lab ID: 26030597-013
Client Sample ID 26020878-013

Collection Date: 3/3/2026 10:16:00 AM
Matrix: NON-POTABLE WATER

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)						**E903-904**	Analyst: **TAL**
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.400	1	3/17/2026 8:53:00 AM
RAD226/228 RADIUM-226 (EPA 903.0)						**E903-904**	Analyst: **TAL**
Radium-226	ND	1.00		pCi/L	± 0.0500	1	3/17/2026 8:53:00 AM
Yield	0.930					1	3/17/2026 8:53:00 AM
RAD226/228 RADIUM-228 (EPA 904.0)						**E903-904**	Analyst: **TAL**
Radium-228	ND	1.00		pCi/L	± 0.350	1	3/16/2026 1:32:00 PM
Yield	0.810					1	3/16/2026 1:32:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit

Original

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Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,
Project: 26020878
Lab ID: 26030597-014
Client Sample ID 26020878-014

Collection Date: 3/2/2026 1:35:00 PM
Matrix: NON-POTABLE WATER

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)						**E903-904**	Analyst: **TAL**
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.510	1	3/17/2026 8:53:00 AM
RAD226/228 RADIUM-226 (EPA 903.0)						**E903-904**	Analyst: **TAL**
Radium-226	ND	1.00		pCi/L	± 0.0600	1	3/17/2026 8:53:00 AM
Yield	0.990					1	3/17/2026 8:53:00 AM
RAD226/228 RADIUM-228 (EPA 904.0)						**E903-904**	Analyst: **TAL**
Radium-228	ND	1.00		pCi/L	± 0.450	1	3/16/2026 1:32:00 PM
Yield	0.820					1	3/16/2026 1:32:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit

Original

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Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,
Project: 26020878
Lab ID: 26030597-015
Client Sample ID 26020878-015

Collection Date: 3/2/2026 12:28:00 PM
Matrix: NON-POTABLE WATER

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)						**E903-904**	Analyst: **TAL**
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.370	1	3/17/2026 8:53:00 AM
RAD226/228 RADIUM-226 (EPA 903.0)						**E903-904**	Analyst: **TAL**
Radium-226	ND	1.00		pCi/L	± 0.0300	1	3/17/2026 8:53:00 AM
Yield	1.00					1	3/17/2026 8:53:00 AM
RAD226/228 RADIUM-228 (EPA 904.0)						**E903-904**	Analyst: **TAL**
Radium-228	ND	1.00		pCi/L	± 0.340	1	3/16/2026 1:32:00 PM
Yield	0.990					1	3/16/2026 1:32:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit

Original

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Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,

Collection Date: 3/2/2026 11:45:00 AM

Project: 26020878

Lab ID: 26030597-016

Matrix: NON-POTABLE WATER

Client Sample ID 26020878-016

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)						**E903-904**	Analyst: **TAL**
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.370	1	3/17/2026 8:53:00 AM
RAD226/228 RADIUM-226 (EPA 903.0)						**E903-904**	Analyst: **TAL**
Radium-226	ND	1.00		pCi/L	± 0.0300	1	3/17/2026 8:53:00 AM
Yield	0.980					1	3/17/2026 8:53:00 AM
RAD226/228 RADIUM-228 (EPA 904.0)						**E903-904**	Analyst: **TAL**
Radium-228	ND	1.00		pCi/L	± 0.340	1	3/16/2026 1:32:00 PM
Yield	1.00					1	3/16/2026 1:32:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode		

Original

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,

Collection Date: 3/2/2026 10:39:00 AM

Project: 26020878

Lab ID: 26030597-017

Matrix: NON-POTABLE WATER

Client Sample ID 26020878-017

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)						**E903-904**	Analyst: **TAL**
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.380	1	3/17/2026 8:53:00 AM
RAD226/228 RADIUM-226 (EPA 903.0)						**E903-904**	Analyst: **TAL**
Radium-226	ND	1.00		pCi/L	± 0.0400	1	3/17/2026 8:53:00 AM
Yield	0.930					1	3/17/2026 8:53:00 AM
RAD226/228 RADIUM-228 (EPA 904.0)						**E903-904**	Analyst: **TAL**
Radium-228	ND	1.00		pCi/L	± 0.340	1	3/16/2026 1:32:00 PM
Yield	0.940					1	3/16/2026 1:32:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit

Original

Alliance Technical Group - Akron
3310 Win St.
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Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **26030597**

Date Reported: **4/7/2026**

CLIENT: TEKLAB Inc,
Project: 26020878
Lab ID: 26030597-018
Client Sample ID 26020878-018

Collection Date: 3/3/2026 11:07:00 AM
Matrix: NON-POTABLE WATER

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)						**E903-904**	Analyst: **TAL**
Radium-226/Radium-228	ND	2.00		pCi/L	± 0.510	1	3/17/2026 8:53:00 AM
RAD226/228 RADIUM-226 (EPA 903.0)						**E903-904**	Analyst: **TAL**
Radium-226	ND	1.00		pCi/L	± 0.0400	1	3/17/2026 8:53:00 AM
Yield	0.980					1	3/17/2026 8:53:00 AM
RAD226/228 RADIUM-228 (EPA 904.0)						**E903-904**	Analyst: **TAL**
Radium-228	ND	1.00		pCi/L	± 0.470	1	3/16/2026 1:32:00 PM
Yield	0.710					1	3/16/2026 1:32:00 PM

Qualifiers:

H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit

Original

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

Accreditation Program Analytes Report

WO#: **26030597**

07-Apr-26

Client: TEKLAB Inc,
State: IL
Project: 26020878
Program Illinois EPA

Test Name	Matrix	Analyte	Status
Combined Radium (EPA903+904)	Non-Potable Water	Radium-226/Radium-228	N
Radium-226 (EPA 903.0)	Non-Potable Water	Radium-226	N
Radium-226 (EPA 903.0)	Non-Potable Water	Yield	N
Radium-228 (EPA 904.0)	Non-Potable Water	Radium-228	N
Radium-228 (EPA 904.0)	Non-Potable Water	Yield	N

Accreditation (Acc.) Status Key	
A: Accredited	N: Not Accredited
P: Provisional	U: Unavailable

Alliance Technical Group - Akron
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TEL: (330) 253-8211
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **26030597**

07-Apr-26

Client: TEKLAB Inc,
Project: 26020878 **BatchID:** **94873**

Sample ID: **MB-94873**	SampType: **MBLK**	TestCode: **Radium-228_**	Units: **pCi/L**	Prep Date: **3/12/2026**	RunNo: **232214**
Client ID: **BatchQC**	Batch ID: **94873**	TestNo: **E904.0**	**E903-904**	Analysis Date: **3/16/2026**	SeqNo: **6095441**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0						
Yield	0.900			0	0						

Sample ID: **LCS-94873**	SampType: **LCS**	TestCode: **Radium-228_**	Units: **pCi/L**	Prep Date: **3/12/2026**	RunNo: **232214**
Client ID: **BatchQC**	Batch ID: **94873**	TestNo: **E904.0**	**E903-904**	Analysis Date: **3/16/2026**	SeqNo: **6095442**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	3.81	1.00	5.000	0	76.2	50	130				
Yield	1.00			0	0						

Sample ID: **LCSD-94873**	SampType: **LCSD**	TestCode: **Radium-228_**	Units: **pCi/L**	Prep Date: **3/12/2026**	RunNo: **232214**
Client ID: **BatchQC**	Batch ID: **94873**	TestNo: **E904.0**	**E903-904**	Analysis Date: **3/16/2026**	SeqNo: **6095443**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	3.34	1.00	5.000	0	66.8	50	130	3.810	13.1	20	
Yield	1.00			0	0			1.000	0		

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode				

Original

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Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **26030597**

07-Apr-26

Client: TEKLAB Inc,
Project: 26020878 **BatchID:** **94873**

Sample ID: **26030627-002ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/12/2026** RunNo: **232214**
Client ID: **BatchQC** Batch ID: **94873** TestNo: **E904.0** **E903-904** Analysis Date: **3/16/2026** SeqNo: **6095455**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0			0	0	20	R
Yield	0.810			0	0			1.000	21.0		

Sample ID: **26030629-001ADUP** SampType: **DUP** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/12/2026** RunNo: **232214**
Client ID: **BatchQC** Batch ID: **94873** TestNo: **E904.0** **E903-904** Analysis Date: **3/16/2026** SeqNo: **6095456**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	1.55	1.00		0	0			3.870	85.6	20	R
Yield	0.790			0	0			1.000	23.5		

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode				

Original

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **26030597**

07-Apr-26

Client: TEKLAB Inc,
Project: 26020878 **BatchID:** **94873**

Sample ID: **MB-94873**	SampType: **MBLK**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **3/12/2026**	RunNo: **232216**
Client ID: **BatchQC**	Batch ID: **94873**	TestNo: **E903.0**	**E903-904**	Analysis Date: **3/17/2026**	SeqNo: **6095554**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00									
Yield	1.00										

Sample ID: **LCS-94873**	SampType: **LCS**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **3/12/2026**	RunNo: **232216**
Client ID: **BatchQC**	Batch ID: **94873**	TestNo: **E903.0**	**E903-904**	Analysis Date: **3/17/2026**	SeqNo: **6095555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	4.53	1.00	5.000	0	90.6	70	130				

Sample ID: **LCSD-94873**	SampType: **LCSD**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **3/12/2026**	RunNo: **232216**
Client ID: **BatchQC**	Batch ID: **94873**	TestNo: **E903.0**	**E903-904**	Analysis Date: **3/17/2026**	SeqNo: **6095556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	4.34	1.00	5.000	0	86.8	70	130	4.530	4.28	20	

Sample ID: **26030627-002ADUP**	SampType: **DUP**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **3/12/2026**	RunNo: **232216**
Client ID: **BatchQC**	Batch ID: **94873**	TestNo: **E903.0**	**E903-904**	Analysis Date: **3/17/2026**	SeqNo: **6095568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode				

Original

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **26030597**

07-Apr-26

Client: TEKLAB Inc,
Project: 26020878 **BatchID:** **94873**

Sample ID: **26030627-002ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/12/2026** RunNo: **232216**
Client ID: **BatchQC** Batch ID: **94873** TestNo: **E903.0** **E903-904** Analysis Date: **3/17/2026** SeqNo: **6095568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00						0	0	20	
Yield	1.00							1.000	0	0	

Sample ID: **26030629-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/12/2026** RunNo: **232216**
Client ID: **BatchQC** Batch ID: **94873** TestNo: **E903.0** **E903-904** Analysis Date: **3/17/2026** SeqNo: **6095570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	1.70	1.00						1.990	15.7	20	
Yield	1.00							1.000	0	0	

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode				

Original

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **26030597**

07-Apr-26

Client: TEKLAB Inc,
Project: 26020878 **BatchID:** **94991**

Sample ID: **MB-94991**	SampType: **MBLK**	TestCode: **RADIUM-228**	Units: **pCi/L**	Prep Date: **3/16/2026**	RunNo: **232650**
Client ID: **BatchQC**	Batch ID: **94991**	TestNo: **E904.0**	**E903-904**	Analysis Date: **3/20/2026**	SeqNo: **6107789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0						
Yield	0.910			0	0						

Sample ID: **LCSD-94991**	SampType: **LCSD**	TestCode: **RADIUM-228**	Units: **pCi/L**	Prep Date: **3/16/2026**	RunNo: **232650**
Client ID: **BatchQC**	Batch ID: **94991**	TestNo: **E904.0**	**E903-904**	Analysis Date: **3/20/2026**	SeqNo: **6107791**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	4.80	1.00	5.000	0	96.0	50	130	2.100	78.3	20	R
Yield	1.00			0	0			1.000	0		

Sample ID: **26030568-001ADUP**	SampType: **DUP**	TestCode: **Radium-228_**	Units: **pCi/L**	Prep Date: **3/16/2026**	RunNo: **232650**
Client ID: **BatchQC**	Batch ID: **94991**	TestNo: **E904.0**	**E903-904**	Analysis Date: **3/20/2026**	SeqNo: **6107798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	1.12	1.00		0	0			0.8000	33.3	20	R
Yield	1.00			0	0			1.000	0		

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode				

Original

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **26030597**

07-Apr-26

Client: TEKLAB Inc,
Project: 26020878 **BatchID:** **94991**

Sample ID: **MB-94991**	SampType: **MBLK**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **3/16/2026**	RunNo: **232683**
Client ID: **BatchQC**	Batch ID: **94991**	TestNo: **E903.0**	**E903-904**	Analysis Date: **3/21/2026**	SeqNo: **6107892**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00									
Yield	1.00										

Sample ID: **LCS-94991**	SampType: **LCS**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **3/16/2026**	RunNo: **232683**
Client ID: **BatchQC**	Batch ID: **94991**	TestNo: **E903.0**	**E903-904**	Analysis Date: **3/21/2026**	SeqNo: **6107893**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	4.91	1.00	5.000	0	98.2	70	130				

Sample ID: **LCSD-94991**	SampType: **LCSD**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **3/16/2026**	RunNo: **232683**
Client ID: **BatchQC**	Batch ID: **94991**	TestNo: **E903.0**	**E903-904**	Analysis Date: **3/21/2026**	SeqNo: **6107894**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	4.76	1.00	5.000	0	95.2	70	130	4.910	3.10	20	

Sample ID: **26030566-001ADUP**	SampType: **DUP**	TestCode: **Radium-226_**	Units: **pCi/L**	Prep Date: **3/16/2026**	RunNo: **232683**
Client ID: **BatchQC**	Batch ID: **94991**	TestNo: **E903.0**	**E903-904**	Analysis Date: **3/21/2026**	SeqNo: **6107899**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode				

Original

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **26030597**

07-Apr-26

Client: TEKLAB Inc,
Project: 26020878 **BatchID:** **94991**

Sample ID: **26030566-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/16/2026** RunNo: **232683**
Client ID: **BatchQC** Batch ID: **94991** TestNo: **E903.0** **E903-904** Analysis Date: **3/21/2026** SeqNo: **6107899**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00						0	0	20	
Yield	1.00							1.000	0	0	

Sample ID: **26030568-001ADUP** SampType: **DUP** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/16/2026** RunNo: **232683**
Client ID: **BatchQC** Batch ID: **94991** TestNo: **E903.0** **E903-904** Analysis Date: **3/21/2026** SeqNo: **6107901**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00						0	0	20	
Yield	1.00							1.000	0	0	

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode				

Original

TEKLAB, INC. Chain of Custody

26030597

120 United Drive, Collinsville, IL 62234 Phone (618) 344-1004

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
120 United Drive
Collinsville, IL 62234

Cooler Temp: | Sampler: Teklab, Inc. | QC Level: 2

Comments: **Please Issue reports and invoices via email only**

SHIP to ATG-Akron. Include EDD. Please analyze for Radium 226/228 (including combined Radium) per your usual methods. Site location = Illinois

Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.

Project# 26020878

Contact: Elizaberh Hurley | Email: ehurley@teklabinc.com

Requested Due Date: 20-25 day TAT | Billing/PO: 40572 | Phone: (618) 344-1004 ext. 1007

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Unpres	HNO3	H2SO4	NaOH	Other	Matrix	Radium 226	Radium 228	Ra226/228 combined									pH	CPM
	26020878-001	3/2/26 1011	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔	☐	☐	☐	☐	☐	☐	☐	☐	1,1	22,34
	26020878-002	3/2/26 1148	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔	☐	☐	☐	☐	☐	☐	☐	☐	1,1	28,42
	26020878-003	3/3/26 1030	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔	☐	☐	☐	☐	☐	☐	☐	☐	1,1	30,22
	26020878-004	3/2/26 1308	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔	☐	☐	☐	☐	☐	☐	☐	☐	1,1	44,16
	26020878-005	3/2/26 1206	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔	☐	☐	☐	☐	☐	☐	☐	☐	1,1	30,40
	26020878-006	3/2/26 1058	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔	☐	☐	☐	☐	☐	☐	☐	☐	1,1	46,34
	26020878-007	3/2/26 1241	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔	☐	☐	☐	☐	☐	☐	☐	☐	1,1	38,40
	26020878-008	3/3/26 1019	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔	☐	☐	☐	☐	☐	☐	☐	☐	1,1	36,30
	26020878-009	3/3/26 1124	☐	☑	☐	☐	☐	Aqueous	✔	✔	✔	☐	☐	☐	☐	☐	☐	☐	☐	1,1	30,32
	26020878-010	3/3/26 1148	☐	☑	☐	☐	☐	Aqueous	✔	✔	✔	☐	☐	☐	☐	☐	☐	☐	☐	1,1	38,32
	26020878-011	3/2/26 1148	☐	☐	☐	☐	☐	Groundwater	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	1,1	22,34

*Relinquished By	Date/Time	Received By	Date/Time
	3/3/26 1700	(FedEx)	3/6/2026 10:30AM

19.5 - 0.1 = 19.4

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevB 1/12/2026

C.S. Intact # 9890 3/3/26

TEKLAB, INC. Chain of Custody

120 United Drive, Collinsville, IL 62234 Phone (618) 344-1004

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
120 United Drive
Collinsville, IL 62234

Cooler Temp: | Sampler: Teklab, Inc. | QC Level: 2

Comments: **Please Issue reports and invoices via email only**

SHIP to ATG-Akron. Include EDD. Please analyze for Radium 226/228 (including combined Radium) per your usual methods. Site location = Illinois

Any changes to analysis/methods must be approved by Teklab, Inc. Batch QC is required.

Project# 26020878

Contact: Elizaberh Hurley | Email: ehurley@teklabinc.com

Requested Due Date: 20-25 day TAT | Billing/PO: 40572 | Phone: (618) 344-1004 ext. 1007

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Unpres	HNO3	H2SO4	NaOH	Other	Matrix	Radium 226	Radium 228	Ra226/228 combined										Alk	Chl
	26020878-012	3/3/26 1111	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔										1/1	28, 30
	26020878-013	3/3/26 1016	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔										1/1	34, 36
	26020878-014	3/2/26 1035	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔										1/1	36, 42
	26020878-015	3/2/26 1228	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔										1/1	20, 36
	26020878-016	3/2/26 1145	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔										1/1	22, 38
	26020878-017	3/2/26 1040	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔										1/1	20, 29
	26020878-018	3/3/26 1107	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔										1/1	16, 28
			☐	☑	☐	☐	☐	Groundwater	✔	✔	✔											
			☐	☑	☐	☐	☐	Groundwater	✔	✔	✔											
			☐	☑	☐	☐	☐	Groundwater	✔	✔	✔											
			☐	☐	☐	☐	☐	Groundwater														

*Relinquished By	Date/Time	Received By		Date/Time
	3/3/26 1700			3/6/26 10:30am

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SubCocRevB
1/12/2026

Alliance Technical Group - Akron
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Sample Log-In Check List

Client Name: **TEK-IL-62234-A** Work Order Number: **26030597** RcptNo: **1**

Logged by:	**Spencer M. Hartwell**	**3/6/2026 10:30:00 AM**	Spencer M. Hartwell
Completed By:	**Spencer M. Hartwell**	**3/9/2026 12:02:30 PM**	Spencer M. Hartwell
Reviewed By:	**Jennifer Woolf**	**3/22/2026 2:39:25 PM**	Jennifer Woolf

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☑ Not Present ☐
2. How was the sample delivered? FedEx

Log In

3. Coolers are present? Yes ☑ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☑ No ☐
   Custody seals intact on shipping container/cooler? Yes ☑ No ☐ Not Present ☐ NA ☐
   No. 9890 Seal Date: 3/3/2026 Signed By: Jackie Davis
5. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Not required
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:
    times updated per email

Cooler Information

Cooler No	Temp ºC	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	19.4	Good	Yes	9890	3/3/2026	Jackie Davis

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26040324
Monitoring Point: Equipment Blank
Sample ID: 001
Date (s): 4/16/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 68 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured:
Static Water Level: feet below TOC
Total Depth: - feet below TOC
Water Column: feet

Purging Activities

Purged By: Purge Date:
Purge Method: Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other

Sampling Activities

Sampled By: FB Sample Date/Time: 4/16/2026 10:45
Sample Method: Direct Sample Sample Equipment:
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- QA/QC Sample
- Collected off Dipper-T

Form Completed By:  **Date:** 4/16/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26040324
Monitoring Point: Field Blank
Sample ID: 002
Date (s): 4/16/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 68 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured:
Static Water Level: feet below TOC
Total Depth: - feet below TOC
Water Column: feet

Purging Activities

Purged By: Purge Date:
Purge Method: Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other

Sampling Activities

Sampled By: FB Sample Date/Time: 4/16/2026 10:50
Sample Method: Direct Sample Sample Equipment:
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- QA/QC Sample
- Collected at MW-109

Form Completed By:  **Date:** 4/16/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26040324
Monitoring Point: Field Duplicate
Sample ID: 003
Date (s): 4/15/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 70 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 4/15/26 9:53 AM
Static Water Level: 14.97 feet below TOC
Total Depth: 29.77 feet below TOC
Water Column: 14.80 feet

Purging Activities

Purged By: FB Purge Date: 4/15/2026
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 14.8 ft. x 0.022 = 0.33 L x 3 Vol. = 0.99 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.50 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:53	0.0	250	purge start time						
10:02	2.3	↓	6.54	1,783.00	18.90	5.87	181.50	8.51	
10:05	3.0		6.54	1,782.00	18.90	5.86	181.40	8.41	
10:08	3.8		6.54	1,781.00	18.90	5.83	181.10	8.48	
10:11	4.5		6.54	1,780.00	19.00	5.81	181.00	8.69	

Sampling Activities

Sampled By: FB Sample Date/Time: 4/15/2026 10:11
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.54 pH 1,780.00 Spec. Cond. 19.00 Temp
Field Filtered: No Filter Type:
Water Level: 16.89 feet below TOC Drawdown: 1.92 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760
- QA/QC Sample
- Collected at MW-102

Form Completed By: Frank Barthol **Date:** 4/15/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26040324
Monitoring Point: MW-101
Sample ID: 004
Date (s): 4/15/2026

Field Team Members

Name: Frank Barthol — Affiliation: TekLab, Inc.
Name: — Affiliation:

Weather Conditions

Temp: 70 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 4/15/26 9:17 AM

Static Water Level: 15.24 feet below TOC
Total Depth: 31.14 feet below TOC
Water Column: 15.90 feet

Purging Activities

Purged By: FB — Purge Date: 4/15/2026
Purge Method: Peristaltic Pump — Well Diameter: 2"
Purge Volume Calculation (L): 15.9 ft. x 0.022 = 0.35 L x 3 Vol. = 1.05 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.00 L
Physical appearance of purge water: Clear — Odor: None — Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:17	0.0	208	purge start time						
9:32	3.1	↓	6.67	1,360.00	18.40	4.01	203.30	17.22	
9:35	3.8		6.67	1,364.00	18.40	3.96	203.30	6.33	
9:38	4.4		6.67	1,364.00	18.40	3.96	203.00	5.48	
9:41	5.0		6.67	1,365.00	18.40	3.95	203.00	6.97	

Sampling Activities

Sampled By: FB — Sample Date/Time: 4/15/2026 9:41
Sample Method: Low Flow — Sample Equipment: Peristaltic Pump
Sample Parameters: 6.67 pH — 1,365.00 Spec. Cond. — 18.40 Temp
Field Filtered: No — Filter Type:
Water Level: 18.67 feet below TOC — Drawdown: 3.43 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

Form Completed By:  **Date:** 4/15/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26040324
Monitoring Point: MW-102
Sample ID: 005
Date (s): 4/15/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 70 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 4/15/26 9:53 AM
Static Water Level: 14.97 feet below TOC
Total Depth: 29.77 feet below TOC
Water Column: 14.80 feet

Purging Activities

Purged By: FB Purge Date: 4/15/2026
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 14.8 ft. x 0.022 = 0.33 L x 3 Vol. = 0.99 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.50 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:53	0.0	250	purge start time						
10:02	2.3	↓	6.54	1,783.00	18.90	5.87	181.50	8.51	
10:05	3.0		6.54	1,782.00	18.90	5.86	181.40	8.41	
10:08	3.8		6.54	1,781.00	18.90	5.83	181.10	8.48	
10:11	4.5		6.54	1,780.00	19.00	5.81	181.00	8.69	

Sampling Activities

Sampled By: FB Sample Date/Time: 4/15/2026 10:11
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.54 pH 1,780.00 Spec. Cond. 19.00 Temp
Field Filtered: No Filter Type:
Water Level: 16.89 feet below TOC Drawdown: 1.92 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760
- Field Duplicate collected

Form Completed By:  **Date:** 4/15/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26040324
Monitoring Point: MW-103
Sample ID: 006
Date (s): 4/15/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 74 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 4/15/26 10:24 AM
Static Water Level: 12.90 feet below TOC
Total Depth: 31.70 feet below TOC
Water Column: 18.80 feet

Purging Activities

Purged By: FB Purge Date: 4/15/2026
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 18.8 ft. x 0.022 = 0.41 L x 3 Vol. = 1.23 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.50 L
Physical appearance of purge water: Clear Odor: None Color: Light Brown

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
10:24	0.0	196	purge start time						
10:43	3.7	↓	5.63	2,159.00	18.70	3.53	69.40	14.76	
10:46	4.3		5.63	2,160.00	18.70	3.51	69.30	11.76	
10:49	4.9		5.63	2,158.00	18.80	3.48	69.30	9.96	
10:52	5.5		5.63	2,159.00	18.90	3.42	69.20	7.77	

Sampling Activities

Sampled By: FB Sample Date/Time: 4/15/2026 10:52
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 5.63 pH 2,159.00 Spec. Cond. 18.90 Temp
Field Filtered: No Filter Type:
Water Level: 15.74 feet below TOC Drawdown: 2.84 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

Form Completed By: Date: 4/15/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26040324
Monitoring Point: MW-104
Sample ID: 007
Date (s): 4/15/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 75 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 4/15/26 11:09 AM
Static Water Level: 16.30 feet below TOC
Total Depth: 33.67 feet below TOC
Water Column: 17.37 feet

Purging Activities

Purged By: FB Purge Date: 4/15/2026
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 17.37 ft. x 0.022 = 0.38 L x 3 Vol. = 1.14 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 6.00 L
Physical appearance of purge water: Clear Odor: Moderate Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
11:09	0.0	200	purge start time						
11:30	4.2	↓	9.15	2,704.00	18.20	3.30	-361.90	3.64	
11:33	4.8		9.15	2,703.00	18.20	3.27	-362.30	3.68	
11:36	5.4		9.15	2,701.00	18.30	3.23	-362.70	3.67	
11:39	6.0		9.15	2,700.00	18.40	3.18	-363.30	3.71	

Sampling Activities

Sampled By: FB Sample Date/Time: 4/15/2026 11:39
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 9.15 pH 2,700.00 Spec. Cond. 18.40 Temp
Field Filtered: No Filter Type:
Water Level: 16.90 feet below TOC Drawdown: 0.60 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

Form Completed By: Date: 4/15/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26040324
Monitoring Point: MW-105
Sample ID: 008
Date (s): 4/15/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 76 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 4/15/26 11:53 AM
Static Water Level: 16.71 feet below TOC
Total Depth: 28.66 feet below TOC
Water Column: 11.95 feet

Purging Activities

Purged By: FB Purge Date: 4/15/2026
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 11.95 ft. x 0.022 = 0.26 L x 3 Vol. = 0.78 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 7.50 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
11:53	0.0	192	purge start time						
12:23	5.8	↓	6.53	2,316.00	17.50	2.78	-102.60	12.79	
12:26	6.3		6.53	2,317.00	17.50	2.77	-102.00	8.96	
12:29	6.9		6.53	2,318.00	17.60	2.76	-101.50	9.64	
12:32	7.5		6.52	2,317.00	17.60	2.75	-101.00	8.74	

Sampling Activities

Sampled By: FB Sample Date/Time: 4/15/2026 12:32
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.52 pH 2,317.00 Spec. Cond. 17.60 Temp
Field Filtered: No Filter Type:
Water Level: 17.45 feet below TOC Drawdown: 0.74 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

Form Completed By: Date: 4/15/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-106
Project Location:	Marion, IL	**Sample ID:**	009
W.O. Number (s):	26040324	**Date (s):**	4/16/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 65 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 4/16/26 9:08 AM

Static Water Level: 19.54 feet below TOC

Total Depth: 31.46 feet below TOC

Water Column: 11.92 feet

Purging Activities

Purged By: FB Purge Date: 4/16/2026

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 11.92 ft. x 0.022 = 0.26 L x 3 Vol. = 0.78 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:08	0.0	200	purge start time						
9:26	3.6	↓	6.67	1,386.00	17.20	5.92	140.10	13.86	
9:29	4.2		6.66	1,385.00	17.20	5.89	139.90	9.81	
9:32	4.8		6.66	1,383.00	17.30	5.87	139.70	9.97	
9:35	5.4		6.66	1,382.00	17.30	5.84	139.40	8.59	
9:38	6.0		6.66	1,383.00	17.30	5.81	139.20	8.07	

Sampling Activities

Sampled By: FB Sample Date/Time: 4/15/2026 9:38

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.66 pH 1,383.00 Spec. Cond. 17.30 Temp

Field Filtered: No Filter Type:

Water Level: 20.15 feet below TOC Drawdown: 0.61 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

Form Completed By: Date: 4/15/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26040324
Monitoring Point: MW-109
Sample ID: 010
Date (s): 4/16/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 66 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☑ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 4/16/26 9:52 AM
Static Water Level: 11.06 feet below TOC
Total Depth: 24.84 feet below TOC
Water Column: 13.78 feet

Purging Activities

Purged By: FB Purge Date: 4/16/2026
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 13.78 ft. x 0.022 = 0.3 L x 3 Vol. = 0.9 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 7.50 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Other
9:52	0.0	203	purge start time						
10:20	5.7	↓	7.07	980.00	15.90	3.52	106.20	11.56	
10:23	6.3		7.07	980.00	15.90	3.50	106.00	8.88	
10:26	6.9		7.07	980.00	15.90	3.49	150.90	7.77	
10:29	7.5		7.07	979.00	15.90	3.47	150.70	9.16	

Sampling Activities

Sampled By: FB Sample Date/Time: 4/16/2026 10:29
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 7.07 pH 979.00 Spec. Cond. 15.90 Temp
Field Filtered: No Filter Type:
Water Level: 13.45 feet below TOC Drawdown: 2.39 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 210760

Form Completed By: Date: 4/16/2026

Site Samping Event: Groundwater Monitoring
LIMS Workorder: 26040324
Technician(s): FB

Field Calibration Log(s)
SIPC- 2Q 2026- Background Monitoirng

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 210760 Technician(s): Frank Barthol Date: 4/15/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC260306A	153.40	4.00	4/15/26 9:00
7.0 Buffer	WC251017B	-28.10	7.00	4/15/26 8:56
10.0 Buffer	WC251017C	-197.60	10.00	4/15/26 9:05
LCS/CCV (7.0 Buffer)	WC251017D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	110375	1412	4/15/26 9:11

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.16	4/15/26 9:13
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading		Date/Time

D.O. Saturation	Barometer (mmHg)	Reading	Date/Time
100%			

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-1	LCS	4/15/26 9:17	22.3	7.01	1,413	0.15		
CCV-1	CCV	4/15/26 12:59	23.1	6.97	1,399	0.19		

Comments:

Field Meter ID: Pine 210760 Technician(s): Frank Barthol Date: 4/16/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC251017A	143.90	4.00	4/16/26 8:49
7.0 Buffer	WC251017B	-35.50	7.00	4/16/26 8:42
10.0 Buffer	WC251017C	-202.40	10.00	4/16/26 8:52
LCS/CCV (7.0 Buffer)	WC251017D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	110375	1412	4/16/26 8:58

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.09	4/16/26 9:02
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading		Date/Time

D.O. Saturation	Barometer (mmHg)	Reading	Date/Time
100%			

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-2	LCS	4/16/26 9:07	18.6	7.02	1,414	0.11		
CCV-2	CCV	4/16/26 10:56	19.1	7.04	1,408	0.16		

Comments:

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
11669 Lilburn Park Rd.
St. Louis, MO 63146
Office: 314.344.1079

Pine Environmental Services, Inc.

Instrument ID 210760
Description YSI Pro DSS Sonde
Calibrated 3/27/2026 6:41:52PM

Manufacturer YSI
Model Number Pro DSS
Serial Number/ Lot Number 22C103125
Location St. Louis
Department

State Certified
Status Pass
Temp °C 22.2
Humidity % 43

Calibration Specifications

Group # 1
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.46	7.02	0.29%	Pass
4.00 / 4.00	PH	4.00	PH	4.48	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	10.15	10.05	0.50%	Pass

Group # 2
Group Name Turbidity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.00 / 0.00	NTU	0.00	NTU	0.42	0.00	0.00%	Pass
124.00 / 124.00	NTU	124.00	NTU	107.17	124.00	0.00%	Pass

Group # 3
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.000

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.396	1.413	0.00%	Pass

Group # 4
Group Name Redox (ORP)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	182.70	240.00	0.00%	Pass

Group # 5
Group Name Dissolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
11669 Lilburn Park Rd.
St. Louis, MO 63146
Office: 314.344.1079

Pine Environmental Services, Inc.

Instrument ID 210760
Description YSI Pro DSS Sonde
Calibrated 3/27/2026 6:41:52PM

Group # 5
Group Name Dissolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	%	100.00	%	91.50	99.50	-0.50%	Pass

Test Instruments Used During the Calibration **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
STL 126 NTU L#25F24022377	STL 126 NTU L#25F24022377	YSI	126 NTU	25F24022377	8/4/2025	6/30/2026
STL 1413 COND L#5GL2156	STL 1413 COND L#5GL2156	AquaPhoenix Scientific	31986	5GL2156		12/25/2026
STL AUTOCAL LOT# 24021650	Auto Cal Solution 0 NTU/PH 4	GFS	8483	24021650		6/25/2026
STL ORP 240MV L# 5GG1949	STL ORP SOLUTION 240MV L#5GG1949	AquaPhoenix Scientific	ORP Solution	5GG1949		4/1/2026
STL PH10 #5GH0395	STL PH10 #5GH0395	AquaPhoenix Scientific	PH 10	5GH0395		8/25/2027
STL PH4 L#5GH0393	STL pH4 L#5GH0393	AquaPhoenix Scientific	pH 4	5GH0393		8/25/2027
STL PH7 L#6GA0097	STL PH7 L#6GA0097	AquaPhoenix Scientific	PH7	6GA0097		1/25/2028

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Chris Harkins

All instruments are calibrated by Pine Environmental Services LLC according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services LLC of any defect within 24 hours of receipt of equipment
Please call 800-301-9663 for Technical Assistance

May 26, 2026

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:

Illinois	100467
Kansas	E-10374
Kansas	E-10438
Louisiana	05002
Oklahoma	9978

RE: Groundwater Monitoring **WorkOrder:** 26040324

Dear Jason McLaurin:

TEKLAB, INC received 10 samples on 4/16/2026 1:05:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Director of Customer Service
(618)344-1004
ehurley@teklabinc.com

Client: Southern Illinois Power Cooperation
Work Order: 26040324
Client Project: Groundwater Monitoring
Report Date: 26-May-26

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Quality Control Results	25
Receiving Check List	40
Chain of Custody	Appended

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
NC	Data is not acceptable for compliance purposes
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

Case Narrative

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 26040324
Client Project: Groundwater Monitoring
Report Date: 26-May-26

Cooler Receipt Temp: 5.8 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226/-228 analyses were performed by Eurofins St. Louis. See attached report for results and QC data.

Locations

Collinsville
Address 5445 Horseshoe Lake Road, Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville
Address 120 United Drive, Collinsville, IL 62234-7433
Phone (618) 344-1004
Fax
Email jhriley@teklabinc.com

Springfield
Address 3920 Pintail Dr, Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City
Address 8421 Nieman Road, Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air
Address 120 United Drive, Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago
Address 1319 Butterfield Rd., Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100467	NELAP	1/31/2027	Collinsville
Kansas	KDHE	E-10438	NELAP	7/31/2026	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2027	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2027	Collinsville
Oklahoma	ODEQ	9978	NELAP	12/31/2026	Collinsville
Arkansas	ADEQ	88-0966		3/14/2027	Collinsville
Illinois	IDPH	17584		5/31/2026	Collinsville
Iowa	IDNR	430		6/1/2026	Collinsville
Kansas	KDHE	E-92716		1/31/2027	Collinsville
Kentucky	KWLCP	KY98050		12/31/2026	Collinsville
Kentucky	KWLCP	KY98006		12/31/2026	Collinsville
Kentucky	UST	0073		1/31/2027	Collinsville
Louisiana	LDEQ	05003		6/30/2026	Collinsville
Mississippi	MSDH			4/30/2026	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville
Missouri	MDNR	930		1/31/2028	Collinsville

Client: Southern Illinois Power Cooperation
Work Order: 26040324
Client Project: Groundwater Monitoring
Report Date: 26-May-26
Lab ID: 26040324-001
Client Sample ID: Equipment Blank
Matrix: AQUEOUS
Collection Date: 04/16/2026 10:45

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**< 20**	mg/L	1	04/17/2026 9:32	R382542
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	04/19/2026 2:38	R382435
Chloride	NELAP	1.00	5.00		**ND**	mg/L	10	04/19/2026 2:38	R382435
Sulfate	NELAP	0.99	10.0		**ND**	mg/L	10	04/19/2026 2:38	R382435
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**< 2.5**	µg/L	1	04/21/2026 13:08	255090
Boron	NELAP	9.0	20.0		**< 20.0**	µg/L	1	04/21/2026 13:08	255090
Calcium	NELAP	0.035	0.100		**< 0.100**	mg/L	1	04/21/2026 13:08	255090
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	1.0	1.0		**3.9**	µg/L	5	05/04/2026 16:28	255090
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	05/04/2026 16:28	255090
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	04/29/2026 4:04	255090
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	04/30/2026 22:09	255090
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	05/04/2026 16:28	255090
Cobalt	NELAP	0.1	1.0	J	**0.1**	µg/L	5	05/04/2026 16:28	255090
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	04/29/2026 4:04	255090
Lithium	*	1.4	3.0	J	**1.6**	µg/L	5	04/29/2026 4:04	255090
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	05/04/2026 16:28	255090
Selenium	NELAP	0.6	1.0	B	**< 1.0**	µg/L	5	05/04/2026 16:28	255090
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	04/29/2026 4:04	255090

Contamination present in the MBLK for Se. Sample results below the reporting limit are reportable per the TNI Standard.
Be and Li - CCV recovered outside the upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	04/20/2026 12:40	255110
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.0833**	pci/L	1	05/14/2026 15:33	R384048
Combined 226/228 Uncertainty	*	0	0		**0.298**	+/-	1	05/14/2026 15:33	R384048
Radium-226	*	1.00	1.00		**0.0833**	pci/L	1	05/13/2026 18:15	R384048
Radium-226 Uncertainty	*	0	0		**0.0910**	+/-	1	05/13/2026 18:15	R384048
Radium-228	*	1.00	1.00		**-0.0170**	pci/L	1	05/11/2026 9:59	R384048
Radium-228 Uncertainty	*	0	0		**0.284**	+/-	1	05/11/2026 9:59	R384048

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

Lab ID: 26040324-002 **Client Sample ID:** Field Blank

Matrix: AQUEOUS **Collection Date:** 04/16/2026 10:50

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**< 20**	mg/L	1	04/17/2026 9:32	R382542
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	04/19/2026 2:50	R382435
Chloride	NELAP	1.00	5.00		**ND**	mg/L	10	04/19/2026 2:50	R382435
Sulfate	NELAP	0.99	10.0		**ND**	mg/L	10	04/19/2026 2:50	R382435
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**< 2.5**	µg/L	1	04/21/2026 13:09	255090
Boron	NELAP	9.0	20.0		**< 20.0**	µg/L	1	04/21/2026 13:09	255090
Calcium	NELAP	0.035	0.100		**< 0.100**	mg/L	1	04/21/2026 13:09	255090
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	1.0	1.0		**3.8**	µg/L	5	05/04/2026 16:31	255090
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	05/04/2026 16:31	255090
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	04/29/2026 4:08	255090
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	04/30/2026 22:35	255090
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	05/04/2026 16:31	255090
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	05/04/2026 16:31	255090
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	04/29/2026 4:08	255090
Lithium	*	1.4	3.0		**< 3.0**	µg/L	5	04/29/2026 4:08	255090
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	05/04/2026 16:31	255090
Selenium	NELAP	0.6	1.0	B	**< 1.0**	µg/L	5	05/04/2026 16:31	255090
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	04/29/2026 4:08	255090

Contamination present in the MBLK for Se. Sample results below the reporting limit are reportable per the TNI Standard.

Be and Li - CCV recovered outside the upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	04/20/2026 13:18	255110
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.594**	pci/L	1	05/14/2026 15:33	R384048
Combined 226/228 Uncertainty	*	0	0		**0.486**	+/-	1	05/14/2026 15:33	R384048
Radium-226	*	1.00	1.00		**0.00248**	pci/L	1	05/14/2026 7:31	R384048
Radium-226 Uncertainty	*	0	0		**0.0636**	+/-	1	05/14/2026 7:31	R384048
Radium-228	*	1.00	1.00		**0.591**	pci/L	1	05/12/2026 9:38	R384048
Radium-228 Uncertainty	*	0	0		**0.482**	+/-	1	05/12/2026 9:38	R384048

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

Lab ID: 26040324-003 **Client Sample ID:** Field Duplicate

Matrix: GROUNDWATER **Collection Date:** 04/15/2026 10:11

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**14.97**	ft	1	04/15/2026 10:11	R382448
Elevation of groundwater surface	*	0	0		**504.77**	ft	1	04/15/2026 10:11	R382448
Measuring Point Elevation	*	0	0		**519.74**	ft	1	04/15/2026 10:11	R382448
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.20**	gal	1	04/15/2026 10:11	R382448
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**8.7**	NTU	1	04/15/2026 10:11	R382448
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**181**	mV	1	04/15/2026 10:11	R382448
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.7800**	mS/cm	1	04/15/2026 10:11	R382448
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**19.0**	°C	1	04/15/2026 10:11	R382448
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**5.81**	mg/L	1	04/15/2026 10:11	R382448
SW-846 9040B FIELD									
pH	*	0	1.00		**6.54**		1	04/15/2026 10:11	R382448
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1210**	mg/L	1	04/17/2026 13:52	R382544
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.16**	mg/L	10	04/17/2026 4:10	R382393
Chloride	NELAP	1.00	5.00		**134**	mg/L	10	04/17/2026 4:10	R382393
Sulfate	NELAP	0.99	10.0		**538**	mg/L	10	04/17/2026 4:10	R382393
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**32.5**	µg/L	1	04/16/2026 17:14	254978
Boron	NELAP	9.0	20.0		**28.8**	µg/L	1	04/16/2026 17:14	254978
Calcium	NELAP	0.035	0.100		**99.7**	mg/L	1	04/16/2026 17:14	254978
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	BJ	**0.9**	µg/L	5	05/02/2026 16:15	254978
Arsenic	NELAP	0.4	1.0	J	**0.5**	µg/L	5	05/02/2026 16:15	254978
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	05/02/2026 16:15	254978
Cadmium	NELAP	0.2	1.0	J	**0.5**	µg/L	5	05/02/2026 16:15	254978
Chromium	NELAP	0.7	1.5	J	**0.7**	µg/L	5	05/02/2026 16:15	254978
Cobalt	NELAP	0.1	1.0	J	**0.1**	µg/L	5	05/02/2026 16:15	254978
Lead	NELAP	0.6	1.0	J	**0.7**	µg/L	5	05/02/2026 16:15	254978
Lithium	*	1.4	3.0	J	**2.6**	µg/L	5	05/02/2026 16:15	254978
Molybdenum	NELAP	0.6	1.5	J	**1.1**	µg/L	5	05/02/2026 16:15	254978
Selenium	NELAP	0.6	1.0	B	**< 1.0**	µg/L	5	05/02/2026 16:15	254978
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	05/02/2026 16:15	254978
LCS recovered outside upper control limits for Pb and Tl. Sample results are below the reporting limit. Data is reportable per the TNI Standard. Contamination present in the MBLK for Sb & Se. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	04/16/2026 15:12	254975
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.862**	pci/L	1	05/14/2026 15:33	R384048
Combined 226/228 Uncertainty	*	0	0		**0.500**	+/-	1	05/14/2026 15:33	R384048

Client: Southern Illinois Power Cooperation
Work Order: 26040324
Client Project: Groundwater Monitoring
Report Date: 26-May-26
Lab ID: 26040324-003
Client Sample ID: Field Duplicate
Matrix: GROUNDWATER
Collection Date: 04/15/2026 10:11

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	1.00	1.00		**0.190**	pci/L	1	05/14/2026 7:31	R384048
Radium-226 Uncertainty	*	0	0		**0.130**	+/-	1	05/14/2026 7:31	R384048
Radium-228	*	1.00	1.00		**0.672**	pci/L	1	05/12/2026 9:43	R384048
Radium-228 Uncertainty	*	0	0		**0.483**	+/-	1	05/12/2026 9:43	R384048

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

Lab ID: 26040324-004 **Client Sample ID:** MW-101

Matrix: GROUNDWATER **Collection Date:** 04/15/2026 9:41

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**15.24**	ft	1	04/15/2026 9:41	R382448
Elevation of groundwater surface	*	0	0		**501.08**	ft	1	04/15/2026 9:41	R382448
Measuring Point Elevation	*	0	0		**516.32**	ft	1	04/15/2026 9:41	R382448
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.30**	gal	1	04/15/2026 9:41	R382448
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**7.0**	NTU	1	04/15/2026 9:41	R382448
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**203**	mV	1	04/15/2026 9:41	R382448
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.3650**	mS/cm	1	04/15/2026 9:41	R382448
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**18.4**	°C	1	04/15/2026 9:41	R382448
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**3.95**	mg/L	1	04/15/2026 9:41	R382448
SW-846 9040B FIELD									
pH	*	0	1.00		**6.67**		1	04/15/2026 9:41	R382448
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**796**	mg/L	1	04/17/2026 13:52	R382544
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**0.54**	mg/L	10	04/17/2026 18:46	R382435
Chloride	NELAP	1.00	5.00		**194**	mg/L	10	04/17/2026 18:46	R382435
Sulfate	NELAP	0.99	10.0		**99.8**	mg/L	10	04/17/2026 4:23	R382393
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**114**	µg/L	1	04/16/2026 17:15	254978
Boron	NELAP	9.0	20.0		**33.9**	µg/L	1	04/16/2026 17:15	254978
Calcium	NELAP	0.035	0.100	S	**60.3**	mg/L	1	04/16/2026 17:15	254978
Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.									
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	BJ	**0.8**	µg/L	5	05/02/2026 16:17	254978
Arsenic	NELAP	0.4	1.0	J	**0.4**	µg/L	5	05/02/2026 16:17	254978
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	05/02/2026 16:17	254978
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	05/02/2026 16:17	254978
Chromium	NELAP	0.7	1.5		**3.0**	µg/L	5	05/02/2026 16:17	254978
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	05/02/2026 16:17	254978
Lead	NELAP	0.6	1.0	J	**0.9**	µg/L	5	05/02/2026 16:17	254978
Lithium	*	1.4	3.0		**29.3**	µg/L	5	05/02/2026 16:17	254978
Molybdenum	NELAP	0.6	1.5	J	**1.4**	µg/L	5	05/02/2026 16:17	254978
Selenium	NELAP	0.6	1.0	BJ	**0.9**	µg/L	5	05/02/2026 16:17	254978
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	05/02/2026 16:17	254978
LCS recovered outside upper control limits for Pb and Tl. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
Contamination present in the MBLK for Sb & Se. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	04/16/2026 15:18	254975
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**1.31**	pci/L	1	05/14/2026 15:33	R384048

Client: Southern Illinois Power Cooperation
Work Order: 26040324
Client Project: Groundwater Monitoring
Report Date: 26-May-26
Lab ID: 26040324-004
Client Sample ID: MW-101
Matrix: GROUNDWATER
Collection Date: 04/15/2026 9:41

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228 Uncertainty	*	0	0		**0.504**	+/-	1	05/14/2026 15:33	R384048
Radium-226	*	1.00	1.00		**0.461**	pci/L	1	05/14/2026 7:31	R384048
Radium-226 Uncertainty	*	0	0		**0.177**	+/-	1	05/14/2026 7:31	R384048
Radium-228	*	1.00	1.00		**0.850**	pci/L	1	05/12/2026 9:43	R384048
Radium-228 Uncertainty	*	0	0		**0.472**	+/-	1	05/12/2026 9:43	R384048

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

Lab ID: 26040324-005 **Client Sample ID:** MW-102

Matrix: GROUNDWATER **Collection Date:** 04/15/2026 10:11

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**14.97**	ft	1	04/15/2026 10:11	R382448
Elevation of groundwater surface	*	0	0		**503.14**	ft	1	04/15/2026 10:11	R382448
Measuring Point Elevation	*	0	0		**518.11**	ft	1	04/15/2026 10:11	R382448
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.20**	gal	1	04/15/2026 10:11	R382448
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**8.7**	NTU	1	04/15/2026 10:11	R382448
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**181**	mV	1	04/15/2026 10:11	R382448
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.7800**	mS/cm	1	04/15/2026 10:11	R382448
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**19.0**	°C	1	04/15/2026 10:11	R382448
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**5.81**	mg/L	1	04/15/2026 10:11	R382448
SW-846 9040B FIELD									
pH	*	0	1.00		**6.54**		1	04/15/2026 10:11	R382448
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1210**	mg/L	1	04/17/2026 14:24	R382544
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.16**	mg/L	10	04/17/2026 4:35	R382393
Chloride	NELAP	1.00	5.00		**135**	mg/L	10	04/17/2026 4:35	R382393
Sulfate	NELAP	0.99	10.0		**540**	mg/L	10	04/17/2026 4:35	R382393
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**33.4**	µg/L	1	04/16/2026 17:17	254978
Boron	NELAP	9.0	20.0		**28.1**	µg/L	1	04/16/2026 17:17	254978
Calcium	NELAP	0.035	0.100		**103**	mg/L	1	04/16/2026 17:17	254978
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	BJ	**0.8**	µg/L	5	05/02/2026 16:38	254978
Arsenic	NELAP	0.4	1.0	J	**0.4**	µg/L	5	05/02/2026 16:38	254978
Beryllium	NELAP	0.2	1.0	J	**0.5**	µg/L	5	05/02/2026 16:38	254978
Cadmium	NELAP	0.2	1.0	J	**0.4**	µg/L	5	05/02/2026 16:38	254978
Chromium	NELAP	0.7	1.5	J	**1.1**	µg/L	5	05/02/2026 16:38	254978
Cobalt	NELAP	0.1	1.0	J	**0.2**	µg/L	5	05/02/2026 16:38	254978
Lead	NELAP	0.6	1.0	J	**0.9**	µg/L	5	05/02/2026 16:38	254978
Lithium	*	1.4	3.0		**4.6**	µg/L	5	05/02/2026 16:38	254978
Molybdenum	NELAP	0.6	1.5	J	**1.3**	µg/L	5	05/02/2026 16:38	254978
Selenium	NELAP	0.6	1.0	B	**< 1.0**	µg/L	5	05/02/2026 16:38	254978
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	05/02/2026 16:38	254978
LCS recovered outside upper control limits for Pb and Tl. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
Contamination present in the MBLK for Sb & Se. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	04/16/2026 15:20	254975
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.679**	pci/L	1	05/14/2026 15:33	R384048
Combined 226/228 Uncertainty	*	0	0		**0.420**	+/-	1	05/14/2026 15:33	R384048

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

Lab ID: 26040324-005 **Client Sample ID:** MW-102

Matrix: GROUNDWATER **Collection Date:** 04/15/2026 10:11

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	1.00	1.00		**0.158**	pci/L	1	05/14/2026 7:31	R384048
Radium-226 Uncertainty	*	0	0		**0.118**	+/-	1	05/14/2026 7:31	R384048
Radium-228	*	1.00	1.00		**0.521**	pci/L	1	05/12/2026 9:43	R384048
Radium-228 Uncertainty	*	0	0		**0.403**	+/-	1	05/12/2026 9:43	R384048

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

Lab ID: 26040324-006 **Client Sample ID:** MW-103

Matrix: GROUNDWATER **Collection Date:** 04/15/2026 10:52

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**12.90**	ft	1	04/15/2026 10:52	R382448
Elevation of groundwater surface	*	0	0		**499.44**	ft	1	04/15/2026 10:52	R382448
Measuring Point Elevation	*	0	0		**512.34**	ft	1	04/15/2026 10:52	R382448
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.50**	gal	1	04/15/2026 10:52	R382448
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**7.8**	NTU	1	04/15/2026 10:52	R382448
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**69**	mV	1	04/15/2026 10:52	R382448
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.1590**	mS/cm	1	04/15/2026 10:52	R382448
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**18.9**	°C	1	04/15/2026 10:52	R382448
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**3.42**	mg/L	1	04/15/2026 10:52	R382448
SW-846 9040B FIELD									
pH	*	0	1.00		**5.63**		1	04/15/2026 10:52	R382448
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1670**	mg/L	1	04/17/2026 14:24	R382544
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.06**	mg/L	10	04/17/2026 4:48	R382393
Chloride	NELAP	1.00	5.00		**373**	mg/L	10	04/17/2026 4:48	R382393
Sulfate	NELAP	0.99	10.0		**582**	mg/L	10	04/17/2026 4:48	R382393
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**46.6**	µg/L	1	04/16/2026 17:32	254978
Boron	NELAP	9.0	20.0		**7810**	µg/L	1	04/16/2026 17:32	254978
Calcium	NELAP	0.035	0.100		**104**	mg/L	1	04/16/2026 17:32	254978
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	BJ	**0.8**	µg/L	5	05/02/2026 16:41	254978
Arsenic	NELAP	0.4	1.0		**3.1**	µg/L	5	05/02/2026 16:41	254978
Beryllium	NELAP	0.2	1.0	J	**0.3**	µg/L	5	05/02/2026 16:41	254978
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	05/02/2026 16:41	254978
Chromium	NELAP	0.7	1.5		**1.5**	µg/L	5	05/02/2026 16:41	254978
Cobalt	NELAP	0.1	1.0		**535**	µg/L	5	05/02/2026 16:41	254978
Lead	NELAP	0.6	1.0		**1.2**	µg/L	5	05/05/2026 13:06	254978
Lithium	*	1.4	3.0		**5.2**	µg/L	5	05/02/2026 16:41	254978
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	05/02/2026 16:41	254978
Selenium	NELAP	0.6	1.0	B	**< 1.0**	µg/L	5	05/02/2026 16:41	254978
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	05/02/2026 16:41	254978
LCS recovered outside upper control limits for Tl. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
Contamination present in the MBLK for Sb & Se. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	04/16/2026 15:35	254975
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.779**	pci/L	1	05/14/2026 15:33	R384048
Combined 226/228 Uncertainty	*	0	0		**0.597**	+/-	1	05/14/2026 15:33	R384048

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

Lab ID: 26040324-006 **Client Sample ID:** MW-103

Matrix: GROUNDWATER **Collection Date:** 04/15/2026 10:52

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	1.00	1.00		**0.228**	pci/L	1	05/14/2026 7:31	R384048
Radium-226 Uncertainty	*	0	0		**0.161**	+/-	1	05/14/2026 7:31	R384048
Radium-228	*	1.00	1.00		**0.552**	pci/L	1	05/12/2026 9:43	R384048
Radium-228 Uncertainty	*	0	0		**0.575**	+/-	1	05/12/2026 9:43	R384048

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

Lab ID: 26040324-007 **Client Sample ID:** MW-104

Matrix: GROUNDWATER **Collection Date:** 04/15/2026 11:39

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**16.30**	ft	1	04/15/2026 11:39	R382448
Elevation of groundwater surface	*	0	0		**496.22**	ft	1	04/15/2026 11:39	R382448
Measuring Point Elevation	*	0	0		**512.52**	ft	1	04/15/2026 11:39	R382448
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.60**	gal	1	04/15/2026 11:39	R382448
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**3.7**	NTU	1	04/15/2026 11:39	R382448
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-363**	mV	1	04/15/2026 11:39	R382448
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.7000**	mS/cm	1	04/15/2026 11:39	R382448
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**18.4**	°C	1	04/15/2026 11:39	R382448
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**3.18**	mg/L	1	04/15/2026 11:39	R382448
SW-846 9040B FIELD									
pH	*	0	1.00		**9.15**		1	04/15/2026 11:39	R382448
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**2610**	mg/L	1	04/17/2026 14:24	R382544
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**3.66**	mg/L	10	04/17/2026 5:01	R382393
Chloride	NELAP	1.00	5.00		**23.8**	mg/L	10	04/17/2026 5:01	R382393
Sulfate	NELAP	0.99	10.0		**1700**	mg/L	10	04/17/2026 5:01	R382393
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**39.1**	µg/L	1	04/16/2026 17:33	254978
Boron	NELAP	9.0	20.0		**6330**	µg/L	1	04/16/2026 17:33	254978
Calcium	NELAP	0.035	0.100		**664**	mg/L	1	04/16/2026 17:33	254978
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	B	**11.4**	µg/L	5	05/02/2026 16:43	254978
Arsenic	NELAP	0.4	1.0		**2030**	µg/L	5	05/02/2026 16:43	254978
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	05/02/2026 16:43	254978
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	05/02/2026 16:43	254978
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	05/02/2026 16:43	254978
Cobalt	NELAP	0.1	1.0	J	**0.3**	µg/L	5	05/05/2026 13:08	254978
Lead	NELAP	0.6	1.0		**1.5**	µg/L	5	05/05/2026 13:08	254978
Lithium	*	1.4	3.0	J	**2.3**	µg/L	5	05/02/2026 16:43	254978
Molybdenum	NELAP	0.6	1.5		**6.3**	µg/L	5	05/02/2026 16:43	254978
Selenium	NELAP	0.6	1.0	B	**8.3**	µg/L	5	05/02/2026 16:43	254978
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	05/02/2026 16:43	254978
Sample result(s) for Sb & Se exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.									
LCS recovered outside upper control limits for Tl. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	04/16/2026 15:37	254975
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.741**	pci/L	1	05/14/2026 15:33	R384048
Combined 226/228 Uncertainty	*	0	0		**0.598**	+/-	1	05/14/2026 15:33	R384048

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

Lab ID: 26040324-007 **Client Sample ID:** MW-104

Matrix: GROUNDWATER **Collection Date:** 04/15/2026 11:39

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	1.00	1.00		**0.225**	pci/L	1	05/14/2026 7:31	R384048
Radium-226 Uncertainty	*	0	0		**0.176**	+/-	1	05/14/2026 7:31	R384048
Radium-228	*	1.00	1.00		**0.516**	pci/L	1	05/12/2026 9:43	R384048
Radium-228 Uncertainty	*	0	0		**0.572**	+/-	1	05/12/2026 9:43	R384048

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

Lab ID: 26040324-008 **Client Sample ID:** MW-105

Matrix: GROUNDWATER **Collection Date:** 04/15/2026 12:32

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**16.71**	ft	1	04/15/2026 12:32	R382448
Elevation of groundwater surface	*	0	0		**496.73**	ft	1	04/15/2026 12:32	R382448
Measuring Point Elevation	*	0	0		**513.44**	ft	1	04/15/2026 12:32	R382448
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**2.00**	gal	1	04/15/2026 12:32	R382448
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**8.7**	NTU	1	04/15/2026 12:32	R382448
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-101**	mV	1	04/15/2026 12:32	R382448
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.3170**	mS/cm	1	04/15/2026 12:32	R382448
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**17.6**	°C	1	04/15/2026 12:32	R382448
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**2.75**	mg/L	1	04/15/2026 12:32	R382448
SW-846 9040B FIELD									
pH	*	0	1.00		**6.52**		1	04/15/2026 12:32	R382448
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1690**	mg/L	1	04/17/2026 14:24	R382544
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.10**	mg/L	10	04/17/2026 5:13	R382393
Chloride	NELAP	1.00	5.00		**225**	mg/L	10	04/17/2026 5:13	R382393
Sulfate	NELAP	0.99	10.0		**769**	mg/L	10	04/17/2026 5:13	R382393
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**35.4**	µg/L	1	04/16/2026 17:34	254978
Boron	NELAP	9.0	20.0		**31.0**	µg/L	1	04/16/2026 17:34	254978
Calcium	NELAP	0.035	0.100		**163**	mg/L	1	04/16/2026 17:34	254978
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	BJ	**0.8**	µg/L	5	05/02/2026 16:46	254978
Arsenic	NELAP	0.4	1.0		**2.3**	µg/L	5	05/02/2026 16:46	254978
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	05/02/2026 16:46	254978
Cadmium	NELAP	0.2	1.0	J	**0.2**	µg/L	5	05/02/2026 16:46	254978
Chromium	NELAP	0.7	1.5		**2.7**	µg/L	5	05/02/2026 16:46	254978
Cobalt	NELAP	0.1	1.0	J	**0.5**	µg/L	5	05/02/2026 16:46	254978
Lead	NELAP	0.6	1.0		**2.4**	µg/L	5	05/05/2026 13:11	254978
Lithium	*	1.4	3.0		**30.8**	µg/L	5	05/02/2026 16:46	254978
Molybdenum	NELAP	0.6	1.5	J	**1.1**	µg/L	5	05/02/2026 16:46	254978
Selenium	NELAP	0.6	1.0	B	**< 1.0**	µg/L	5	05/05/2026 13:11	254978
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	05/02/2026 16:46	254978
Contamination present in the MBLK for Se. Sample results below the reporting limit are reportable per the TNI Standard.									
LCS recovered outside upper control limits for Tl. Sample results are below the reporting limit. Data is reportable per the TNI Standard.									
Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	04/16/2026 15:39	254975
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.688**	pci/L	1	05/14/2026 15:33	R384048

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

Lab ID: 26040324-008 **Client Sample ID:** MW-105

Matrix: GROUNDWATER **Collection Date:** 04/15/2026 12:32

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228 Uncertainty	*	0	0		**0.389**	+/-	1	05/14/2026 15:33	R384048
Radium-226	*	1.00	1.00		**0.178**	pci/L	1	05/14/2026 7:32	R384048
Radium-226 Uncertainty	*	0	0		**0.109**	+/-	1	05/14/2026 7:32	R384048
Radium-228	*	1.00	1.00		**0.510**	pci/L	1	05/12/2026 9:43	R384048
Radium-228 Uncertainty	*	0	0		**0.373**	+/-	1	05/12/2026 9:43	R384048

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

Lab ID: 26040324-009 **Client Sample ID:** MW-106

Matrix: GROUNDWATER **Collection Date:** 04/16/2026 9:38

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**19.54**	ft	1	04/16/2026 9:38	R382448
Elevation of groundwater surface	*	0	0		**496.40**	ft	1	04/16/2026 9:38	R382448
Measuring Point Elevation	*	0	0		**515.94**	ft	1	04/16/2026 9:38	R382448
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.60**	gal	1	04/16/2026 9:38	R382448
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**8.1**	NTU	1	04/16/2026 9:38	R382448
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**139**	mV	1	04/16/2026 9:38	R382448
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.3830**	mS/cm	1	04/16/2026 9:38	R382448
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**17.3**	°C	1	04/16/2026 9:38	R382448
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**5.81**	mg/L	1	04/16/2026 9:38	R382448
SW-846 9040B FIELD									
pH	*	0	1.00		**6.66**		1	04/16/2026 9:38	R382448
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**944**	mg/L	1	04/17/2026 9:32	R382542
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.32**	mg/L	10	04/17/2026 18:59	R382435
Chloride	NELAP	1.00	5.00		**46.1**	mg/L	10	04/17/2026 18:59	R382435
Sulfate	NELAP	0.99	10.0		**438**	mg/L	10	04/17/2026 18:59	R382435
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**57.0**	µg/L	1	04/21/2026 13:10	255090
Boron	NELAP	9.0	20.0		**31.2**	µg/L	1	04/21/2026 13:10	255090
Calcium	NELAP	0.035	0.100		**88.0**	mg/L	1	04/21/2026 13:10	255090
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	1.0	1.0		**3.6**	µg/L	5	05/04/2026 17:00	255090
Arsenic	NELAP	0.4	1.0	J	**0.7**	µg/L	5	05/04/2026 17:00	255090
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	04/29/2026 4:12	255090
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	04/30/2026 22:40	255090
Chromium	NELAP	0.7	1.5		**1.8**	µg/L	5	05/04/2026 17:00	255090
Cobalt	NELAP	0.1	1.0	J	**0.5**	µg/L	5	05/04/2026 17:00	255090
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	04/29/2026 4:12	255090
Lithium	*	1.4	3.0		**38.4**	µg/L	5	05/04/2026 17:00	255090
Molybdenum	NELAP	0.6	1.5		**1.8**	µg/L	5	05/04/2026 17:00	255090
Selenium	NELAP	0.6	1.0	BJ	**0.7**	µg/L	5	05/04/2026 17:00	255090
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	04/29/2026 4:12	255090

Contamination present in the MBLK for Se. Sample results below the reporting limit are reportable per the TNI Standard.

Be - CCV recovered outside the upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	04/20/2026 13:20	255110
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.801**	pci/L	1	05/14/2026 15:33	R384048
Combined 226/228 Uncertainty	*	0	0		**0.449**	+/-	1	05/14/2026 15:33	R384048

Client: Southern Illinois Power Cooperation
Work Order: 26040324
Client Project: Groundwater Monitoring
Report Date: 26-May-26
Lab ID: 26040324-009
Client Sample ID: MW-106
Matrix: GROUNDWATER
Collection Date: 04/16/2026 9:38

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	1.00	1.00		**0.208**	pci/L	1	05/14/2026 7:32	R384048
Radium-226 Uncertainty	*	0	0		**0.122**	+/-	1	05/14/2026 7:32	R384048
Radium-228	*	1.00	1.00		**0.594**	pci/L	1	05/12/2026 9:44	R384048
Radium-228 Uncertainty	*	0	0		**0.432**	+/-	1	05/12/2026 9:44	R384048

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

Lab ID: 26040324-010 **Client Sample ID:** MW-109

Matrix: GROUNDWATER **Collection Date:** 04/16/2026 10:29

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**11.06**	ft	1	04/16/2026 10:29	R382448
Elevation of groundwater surface	*	0	0		**501.49**	ft	1	04/16/2026 10:29	R382448
Measuring Point Elevation	*	0	0		**512.55**	ft	1	04/16/2026 10:29	R382448
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**2.00**	gal	1	04/16/2026 10:29	R382448
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**9.2**	NTU	1	04/16/2026 10:29	R382448
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**151**	mV	1	04/16/2026 10:29	R382448
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**0.9790**	mS/cm	1	04/16/2026 10:29	R382448
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**15.9**	°C	1	04/16/2026 10:29	R382448
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**3.47**	mg/L	1	04/16/2026 10:29	R382448
SW-846 9040B FIELD									
pH	*	0	1.00		**7.07**		1	04/16/2026 10:29	R382448
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**592**	mg/L	1	04/17/2026 9:32	R382542
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.45**	mg/L	10	04/17/2026 19:11	R382435
Chloride	NELAP	1.00	5.00		**65.4**	mg/L	10	04/17/2026 19:11	R382435
Sulfate	NELAP	0.99	10.0		**129**	mg/L	10	04/17/2026 19:11	R382435
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**124**	µg/L	1	04/21/2026 13:11	255090
Boron	NELAP	9.0	20.0		**25.3**	µg/L	1	04/21/2026 13:11	255090
Calcium	NELAP	0.035	0.100		**57.4**	mg/L	1	04/21/2026 13:11	255090
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	1.0	1.0		**1.8**	µg/L	5	05/04/2026 17:03	255090
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	05/04/2026 17:03	255090
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	04/29/2026 4:15	255090
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	04/30/2026 22:44	255090
Chromium	NELAP	0.7	1.5	J	**1.4**	µg/L	5	05/04/2026 17:03	255090
Cobalt	NELAP	0.1	1.0	J	**0.2**	µg/L	5	05/04/2026 17:03	255090
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	04/29/2026 4:15	255090
Lithium	*	1.4	3.0		**7.5**	µg/L	5	05/04/2026 17:03	255090
Molybdenum	NELAP	0.6	1.5		**4.9**	µg/L	5	05/04/2026 17:03	255090
Selenium	NELAP	0.6	1.0	B	**< 1.0**	µg/L	5	05/04/2026 17:03	255090
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	04/29/2026 4:15	255090

Contamination present in the MBLK for Se. Sample results below the reporting limit are reportable per the TNI Standard.

Be - CCV recovered outside the upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI standard.

SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	04/20/2026 13:22	255110
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.981**	pci/L	1	05/14/2026 15:33	R384048
Combined 226/228 Uncertainty	*	0	0		**0.484**	+/-	1	05/14/2026 15:33	R384048

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

Lab ID: 26040324-010 **Client Sample ID:** MW-109

Matrix: GROUNDWATER **Collection Date:** 04/16/2026 10:29

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	1.00	1.00		**0.116**	pci/L	1	05/14/2026 7:31	R384048
Radium-226 Uncertainty	*	0	0		**0.0945**	+/-	1	05/14/2026 7:31	R384048
Radium-228	*	1.00	1.00		**0.865**	pci/L	1	05/12/2026 9:44	R384048
Radium-228 Uncertainty	*	0	0		**0.475**	+/-	1	05/12/2026 9:44	R384048

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

STANDARD METHODS 2510 B FIELD

Batch R382448 **SampType:** LCS Units **mS/cm**
SampID: LCS-1

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4130**	1.412	0	100.1	90	110	04/15/2026

Batch R382448 **SampType:** LCS Units **mS/cm**
SampID: LCS-2

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4140**	1.412	0	100.1	90	110	04/16/2026

SW-846 9040B FIELD

Batch R382448 **SampType:** LCS Units
SampID: LCS-1

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.01**	7.000	0	100.1	98.57	101.4	04/15/2026

Batch R382448 **SampType:** LCS Units
SampID: LCS-2

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.02**	7.000	0	100.3	98.57	101.4	04/16/2026

STANDARD METHODS 2540 C (TOTAL) 2020

Batch R382542 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**< 20**	0	0	0	0	0	04/16/2026
Total Dissolved Solids		20		**< 20**	0	0	0	0	0	04/16/2026
Total Dissolved Solids		20		**< 20**	0	0	0	0	0	04/17/2026

Batch R382542 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**232**	250.0	0	92.8	90	110	04/17/2026
Total Dissolved Solids		20		**254**	250.0	0	101.6	90	110	04/16/2026
Total Dissolved Solids		20		**240**	250.0	0	96.0	90	110	04/16/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

STANDARD METHODS 2540 C (TOTAL) 2020

Batch R382542 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 26040170-009ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**512**				514.0	0.39	04/16/2026

Batch R382542 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 26040170-064ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**242**				244.0	0.82	04/16/2026

Batch R382542 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 26041514-008ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**1440**				1432	0.42	04/17/2026

Batch R382544 **SampType:** MBLK Units **mg/L**

SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**< 20**	0	0	0	0	0	04/17/2026

Batch R382544 **SampType:** LCS Units **mg/L**

SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**228**	250.0	0	91.2	90	110	04/17/2026

Batch R382544 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 26040324-003ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**1210**				1210	0.33	04/17/2026

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R382393 **SampType:** MBLK Units **mg/L**

SampID: MBLK/ICB

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**	0	0	0	0	0	04/16/2026
Chloride		0.50		**ND**	0	0	0	0	0	04/16/2026
Sulfate		1.00		**ND**	0	0	0	0	0	04/16/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R382393 **SampType:** MBLK Units **mg/L**

SampID: MBLK-254907

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride	*	0.05		**ND**						04/17/2026
Chloride	*	0.50		**ND**						04/17/2026
Sulfate	*	1.00		**ND**						04/17/2026

Batch R382393 **SampType:** MBLK Units **mg/L**

SampID: MB-R382393

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride	*	0.05		**ND**						04/16/2026
Chloride	*	0.50		**ND**						04/16/2026
Sulfate	*	1.00		**ND**						04/16/2026

Batch R382393 **SampType:** LCS Units **mg/L**

SampID: LCS/ICV/QCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**0.93**	1.000	0	93.5	90	110	04/16/2026
Chloride		0.50		**18.9**	20.00	0	94.5	90	110	04/16/2026
Sulfate		1.00		**18.5**	20.00	0	92.3	90	110	04/16/2026

Batch R382393 **SampType:** LCS Units **mg/L**

SampID: LCS-R382393

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride	*	0.05		**0.93**	1.000	0	93.5	90	110	04/16/2026
Chloride	*	0.50		**18.9**	20.00	0	94.5	90	110	04/16/2026
Sulfate	*	1.00		**18.5**	20.00	0	92.3	90	110	04/16/2026

Batch R382393 **SampType:** MS Units **mg/L**

SampID: 26040170-005AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.51**	10.00	0.08400	94.2	80	120	04/16/2026
Chloride		5.00		**196**	200.0	6.370	94.8	80	120	04/16/2026
Sulfate		10.0		**345**	200.0	151.6	97.0	80	120	04/16/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R382393 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26040170-005AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.42**	10.00	0.08400	93.4	9.506	0.90	04/16/2026
Chloride		5.00		**194**	200.0	6.370	94.1	195.9	0.72	04/16/2026
Sulfate		10.0		**344**	200.0	151.6	96.1	345.5	0.49	04/16/2026

Batch R382393 **SampType:** MS Units **mg/L**

SampID: 26040170-023BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.44**	10.00	0.1960	92.5	80	120	04/16/2026
Chloride		5.00		**240**	200.0	46.88	96.7	80	120	04/16/2026
Sulfate		10.0		**412**	200.0	219.1	96.6	80	120	04/16/2026

Batch R382393 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26040170-023BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.46**	10.00	0.1960	92.6	9.442	0.14	04/16/2026
Chloride		5.00		**241**	200.0	46.88	96.8	240.3	0.11	04/16/2026
Sulfate		10.0		**411**	200.0	219.1	96.1	412.3	0.25	04/16/2026

Batch R382393 **SampType:** MS Units **mg/L**

SampID: 26040170-067AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.57**	10.00	0.2740	93.0	80	120	04/16/2026
Chloride		5.00		**196**	200.0	5.849	95.2	80	120	04/16/2026
Sulfate		10.0		**221**	200.0	35.35	92.6	80	120	04/16/2026

Batch R382393 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26040170-067AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.59**	10.00	0.2740	93.2	9.569	0.23	04/16/2026
Chloride		5.00		**195**	200.0	5.849	94.8	196.3	0.44	04/16/2026
Sulfate		10.0		**220**	200.0	35.35	92.4	220.6	0.23	04/16/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R382393 **SampType:** MS Units **mg/L**

SampID: 26040170-068AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.52**	10.00	0.1630	93.6	80	120	04/17/2026
Chloride		5.00		**192**	200.0	1.199	95.2	80	120	04/17/2026
Sulfate		10.0		**247**	200.0	59.90	93.8	80	120	04/17/2026

Batch R382393 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26040170-068AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.44**	10.00	0.1630	92.8	9.522	0.83	04/17/2026
Chloride		5.00		**189**	200.0	1.199	93.9	191.6	1.39	04/17/2026
Sulfate		10.0		**246**	200.0	59.90	93.0	247.4	0.64	04/17/2026

Batch R382393 **SampType:** MS Units **mg/L**

SampID: 26040170-076BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.61**	10.00	0.2640	93.4	80	120	04/17/2026
Chloride		5.00		**214**	200.0	19.69	97.4	80	120	04/17/2026
Sulfate		10.0		**520**	200.0	316.6	101.9	80	120	04/17/2026

Batch R382393 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26040170-076BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.47**	10.00	0.2640	92.1	9.608	1.42	04/17/2026
Chloride		5.00		**210**	200.0	19.69	95.4	214.4	1.86	04/17/2026
Sulfate		10.0		**511**	200.0	316.6	97.2	520.4	1.83	04/17/2026

Batch R382393 **SampType:** MS Units **mg/L**

SampID: 26040595-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		50.0		**936**	1000	0	93.6	80	120	04/17/2026
Chloride		500		**43500**	20000	22240	106.4	80	120	04/17/2026
Sulfate		1000		**20300**	20000	0	101.5	80	120	04/17/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R382393 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26040595-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		50.0		**924**	1000	0	92.4	935.5	1.29	04/17/2026
Chloride		500		**43700**	20000	22240	107.4	43520	0.46	04/17/2026
Sulfate		1000		**20200**	20000	0	101.0	20300	0.47	04/17/2026

Batch R382435 **SampType:** MBLK Units **mg/L**

SampID: MBLK/ICB

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**	0	0	0	0	0	04/17/2026
Chloride		0.50		**ND**	0	0	0	0	0	04/17/2026
Sulfate		1.00		**ND**	0	0	0	0	0	04/17/2026

Batch R382435 **SampType:** MBLK Units **mg/L**

SampID: MB-R382435

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**						04/17/2026
Chloride		0.50		**ND**						04/17/2026
Sulfate		1.00		**ND**						04/17/2026

Batch R382435 **SampType:** LCS Units **mg/L**

SampID: LCS/ICV/QCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**0.96**	1.000	0	96.1	90	110	04/17/2026
Chloride		0.50		**19.6**	20.00	0	98.0	90	110	04/17/2026
Sulfate		1.00		**18.2**	20.00	0	90.9	90	110	04/17/2026

Batch R382435 **SampType:** LCS Units **mg/L**

SampID: LCS-R382435

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**0.96**	1.000	0	96.1	90	110	04/17/2026
Chloride		0.50		**19.6**	20.00	0	98.0	90	110	04/17/2026
Sulfate		1.00		**19.2**	20.00	0	95.9	90	110	04/17/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R382435 **SampType:** MS Units **mg/L**
SampID: 26040170-004AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.84**	10.00	0.1590	96.8	80	120	04/17/2026
Chloride		5.00		**279**	200.0	62.69	108.3	80	120	04/17/2026

Batch R382435 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 26040170-004AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.82**	10.00	0.1590	96.6	9.844	0.24	04/17/2026
Chloride		5.00		**278**	200.0	62.69	107.6	279.2	0.47	04/17/2026

Batch R382435 **SampType:** MS Units **mg/L**
SampID: 26040170-015AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.91**	10.00	0.1220	97.8	80	120	04/18/2026
Chloride		5.00		**237**	200.0	27.16	104.8	80	120	04/18/2026
Sulfate		10.0		**1170**	200.0	960.9	103.8	80	120	04/18/2026

Batch R382435 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 26040170-015AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.84**	10.00	0.1220	97.2	9.907	0.65	04/18/2026
Chloride		5.00		**235**	200.0	27.16	104.0	236.8	0.72	04/18/2026
Sulfate		10.0		**1160**	200.0	960.9	101.4	1168	0.41	04/18/2026

Batch R382435 **SampType:** MS Units **mg/L**
SampID: 26040170-043BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.63**	10.00	0.2660	93.6	80	120	04/18/2026
Chloride		5.00		**1250**	200.0	1059	95.5	80	120	04/18/2026
Sulfate		10.0		**1110**	200.0	897.4	107.5	80	120	04/18/2026

Batch R382435 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 26040170-043BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.60**	10.00	0.2660	93.4	9.631	0.31	04/18/2026
Chloride		5.00		**1250**	200.0	1059	93.4	1250	0.34	04/18/2026
Sulfate		10.0		**1110**	200.0	897.4	105.4	1112	0.39	04/18/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R382435 **SampType:** MS Units **mg/L**

SampID: 26040170-079AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.81**	10.00	0	98.1	80	120	04/18/2026
Chloride		5.00		**203**	200.0	0	101.3	80	120	04/18/2026
Sulfate		10.0		**183**	200.0	1.139	91.0	80	120	04/18/2026

Batch R382435 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26040170-079AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.78**	10.00	0	97.8	9.814	0.31	04/18/2026
Chloride		5.00		**202**	200.0	0	101.1	202.6	0.24	04/18/2026
Sulfate		10.0		**182**	200.0	1.139	90.5	183.1	0.48	04/18/2026

Batch R382435 **SampType:** MS Units **mg/L**

SampID: 26040170-079BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.79**	10.00	0	97.9	80	120	04/18/2026
Chloride		5.00		**201**	200.0	0	100.7	80	120	04/18/2026
Sulfate		10.0		**184**	200.0	0	92.0	80	120	04/18/2026

Batch R382435 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26040170-079BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.69**	10.00	0	96.9	9.792	1.07	04/18/2026
Chloride		5.00		**199**	200.0	0	99.4	201.5	1.33	04/18/2026
Sulfate		10.0		**182**	200.0	0	91.0	184.1	1.18	04/18/2026

Batch R382435 **SampType:** MS Units **mg/L**

SampID: 26040994-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		1.00		**31.2**	20.00	14.24	84.9	80	120	04/17/2026
Chloride		10.0	SE	**7930**	400.0	7801	31.6	80	120	04/17/2026
Sulfate		20.0		**2810**	400.0	2427	96.7	80	120	04/17/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R382435 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26040994-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		1.00	S	**29.8**	20.00	14.24	77.8	31.22	4.66	04/17/2026
Chloride		10.0	SE	**7940**	400.0	7801	34.2	7927	0.13	04/17/2026
Sulfate		20.0		**2820**	400.0	2427	98.9	2814	0.31	04/17/2026

Batch R382435 **SampType:** MS Units **mg/L**

SampID: 26041414-020AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.70**	10.00	0	97.0	80	120	04/18/2026
Chloride		5.00		**199**	200.0	0	99.7	80	120	04/18/2026
Sulfate		10.0		**181**	200.0	0	90.6	80	120	04/18/2026

Batch R382435 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26041414-020AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.72**	10.00	0	97.3	9.705	0.21	04/18/2026
Chloride		5.00		**200**	200.0	0	99.9	199.4	0.17	04/18/2026
Sulfate		10.0		**182**	200.0	0	90.8	181.3	0.17	04/18/2026

Batch R382435 **SampType:** MS Units **mg/L**

SampID: 26041441-002CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.1**	10.00	0.4160	97.1	80	120	04/18/2026
Chloride		5.00		**201**	200.0	1.356	99.7	80	120	04/18/2026
Sulfate		10.0		**202**	200.0	18.28	91.7	80	120	04/18/2026

Batch R382435 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26041441-002CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.1**	10.00	0.4160	97.0	10.13	0.17	04/18/2026
Chloride		5.00		**200**	200.0	1.356	99.2	200.8	0.47	04/18/2026
Sulfate		10.0		**201**	200.0	18.28	91.4	201.7	0.31	04/18/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R382435 **SampType:** MS Units **mg/L**

SampID: 26041514-012AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.79**	10.00	0	97.9	80	120	04/18/2026
Chloride		5.00		**201**	200.0	0	100.5	80	120	04/18/2026
Sulfate		10.0		**183**	200.0	0	91.6	80	120	04/18/2026

Batch R382435 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26041514-012AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.71**	10.00	0	97.1	9.792	0.84	04/18/2026
Chloride		5.00		**199**	200.0	0	99.4	201.0	1.04	04/18/2026
Sulfate		10.0		**182**	200.0	0	90.8	183.1	0.80	04/18/2026

Batch R382435 **SampType:** MS Units **mg/L**

SampID: 26041579-002CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**11.0**	10.00	1.351	96.9	80	120	04/18/2026
Chloride		5.00		**240**	200.0	34.87	102.5	80	120	04/18/2026
Sulfate		10.0		**251**	200.0	65.14	92.8	80	120	04/18/2026

Batch R382435 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26041579-002CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**11.0**	10.00	1.351	96.7	11.04	0.20	04/19/2026
Chloride		5.00		**241**	200.0	34.87	103.0	240.0	0.39	04/19/2026
Sulfate		10.0		**251**	200.0	65.14	93.1	250.8	0.22	04/19/2026

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 254978 **SampType:** MBLK Units **µg/L**

SampID: MBLK-254978

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0	0	0	0	0	04/16/2026
Boron		20.0		**< 20.0**	0	0	0	0	0	04/16/2026
Calcium		0.100		**< 0.100**	0	0	0	0	0	04/16/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 254978 **SampType:** LCS Units µg/L

SampID: LCS-254978

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1880**	2000	0	93.8	85	115	04/16/2026
Boron		20.0		**938**	1000	0	93.8	85	115	04/16/2026
Calcium		0.100		**4.56**	5.000	0	91.2	85	115	04/16/2026

Batch 254978 **SampType:** MS Units µg/L

SampID: 26040324-004CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1980**	2000	114.3	93.3	75	125	04/16/2026
Boron		20.0		**1000**	1000	33.90	96.7	75	125	04/16/2026
Calcium		0.100	S	**66.7**	5.000	60.31	128.0	75	125	04/16/2026

Batch 254978 **SampType:** MSD Units µg/L RPD Limit **20**

SampID: 26040324-004CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium		2.5		**1910**	2000	114.3	89.7	1980	3.70	04/16/2026
Boron		20.0		**943**	1000	33.90	90.9	1001	5.91	04/16/2026
Calcium		0.100	S	**62.8**	5.000	60.31	50.4	66.71	5.99	04/16/2026

Batch 255090 **SampType:** MBLK Units µg/L

SampID: MBLK-255090

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0	0	0	0	0	04/21/2026
Boron		20.0		**< 20.0**	0	0	0	0	0	04/21/2026
Calcium		0.100		**< 0.100**	0	0	0	0	0	04/21/2026

Batch 255090 **SampType:** LCS Units µg/L

SampID: LCS-255090

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1970**	2000	0	98.5	85	115	04/21/2026
Boron		20.0		**974**	1000	0	97.4	85	115	04/21/2026
Calcium		0.100		**4.82**	5.000	0	96.3	85	115	04/21/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 254978 **SampType:** MBLK Units µg/L

SampID: MBLK-254978

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0	JS	**0.8**	0	0	0	0	0	05/02/2026
Arsenic		1.0		**< 1.0**	0	0	0	0	0	05/02/2026
Beryllium		1.0		**< 1.0**	0	0	0	0	0	05/02/2026
Cadmium		1.0		**< 1.0**	0	0	0	0	0	05/02/2026
Chromium		1.5		**< 1.5**	0	0	0	0	0	05/02/2026
Cobalt		1.0		**< 1.0**	0	0	0	0	0	05/02/2026
Lead		1.0		**< 1.0**	0	0	0	0	0	05/02/2026
Lithium	*	3.0		**< 3.0**	0	0	0	0	0	05/02/2026
Molybdenum		1.5		**< 1.5**	0	0	0	0	0	05/02/2026
Selenium		1.0	JS	**0.6**	0	0	0	0	0	05/02/2026
Thallium		2.0		**< 2.0**	0	0	0	0	0	05/02/2026

Batch 254978 **SampType:** LCS Units µg/L

SampID: LCS-254978

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0	B	**991**	1000	0	99.1	80	120	05/02/2026
Arsenic		1.0		**1030**	1000	0	103.5	80	120	05/02/2026
Beryllium		1.0		**1030**	1000	0	103.0	80	120	05/02/2026
Cadmium		1.0		**1930**	2000	0	96.6	80	120	05/02/2026
Chromium		1.5		**1020**	1000	0	102.0	80	120	05/02/2026
Cobalt		1.0		**1030**	1000	0	102.7	80	120	05/02/2026
Lead		1.0	S	**2460**	2000	0	122.8	80	120	05/02/2026
Lead		1.0		**1840**	2000	0	92.1	80	120	05/05/2026
Lithium	*	3.0		**1020**	1000	0	102.3	80	120	05/02/2026
Molybdenum		1.5		**1000**	1000	0	100.4	80	120	05/02/2026
Selenium		1.0	B	**1030**	1000	0	103.3	80	120	05/02/2026
Thallium		2.0		**970**	1000	0	97.0	80	120	05/05/2026
Thallium		2.0	S	**1220**	1000	0	121.6	80	120	05/02/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 254978 **SampType:** MS Units µg/L

SampID: 26040324-004CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0	B	**984**	1000	0.8000	98.4	75	125	05/02/2026
Arsenic		1.0		**883**	1000	0.4000	88.2	75	125	05/02/2026
Beryllium		1.0		**1050**	1000	0	104.7	75	125	05/02/2026
Cadmium		1.0		**1600**	2000	0	79.9	75	125	05/02/2026
Chromium		1.5		**1010**	1000	3.005	101.2	75	125	05/02/2026
Cobalt		1.0		**1010**	1000	0	100.9	75	125	05/02/2026
Lead		1.0		**2340**	2000	0.9050	116.9	75	125	05/02/2026
Lithium	*	3.0		**1050**	1000	29.34	101.9	75	125	05/02/2026
Molybdenum		1.5		**853**	1000	1.420	85.1	75	125	05/02/2026
Selenium		1.0	B	**900**	1000	0.8850	89.9	75	125	05/02/2026
Thallium		2.0		**1150**	1000	0	115.3	75	125	05/02/2026

Batch 254978 **SampType:** MSD Units µg/L RPD Limit **20**

SampID: 26040324-004CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		1.0	B	**940**	1000	0.8000	94.0	984.4	4.57	05/02/2026
Arsenic		1.0		**876**	1000	0.4000	87.5	882.5	0.78	05/02/2026
Beryllium		1.0		**1020**	1000	0	102.4	1047	2.23	05/02/2026
Cadmium		1.0		**1540**	2000	0	77.2	1598	3.50	05/02/2026
Chromium		1.5		**983**	1000	3.005	98.0	1015	3.15	05/02/2026
Cobalt		1.0		**971**	1000	0	97.1	1009	3.79	05/02/2026
Lead		1.0		**2360**	2000	0.9050	117.7	2340	0.68	05/02/2026
Lithium	*	3.0		**1020**	1000	29.34	98.9	1048	2.85	05/02/2026
Molybdenum		1.5		**818**	1000	1.420	81.6	852.8	4.20	05/02/2026
Selenium		1.0	B	**880**	1000	0.8850	87.9	899.7	2.18	05/02/2026
Thallium		2.0		**1150**	1000	0	114.6	1153	0.64	05/02/2026

Batch 255090 **SampType:** MBLK Units µg/L

SampID: MBLK-255090

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium		1.0		**< 1.0**	0	0	0	0	0	04/30/2026
Cadmium		1.0		**< 1.0**	0	0	0	0	0	04/25/2026
Lithium	*	3.0	JS	**1.6**	0	0	0	0	0	04/30/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 255090 **SampType:** LCS Units µg/L

SampID: LCS-255090

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**940**	1000	0	94.0	80	120	05/04/2026
Arsenic		1.0		**896**	1000	0	89.6	80	120	05/04/2026
Cadmium		1.0		**1830**	2000	0	91.7	80	120	05/04/2026
Cadmium		1.0		**1770**	2000	0	88.3	80	120	04/30/2026
Chromium		1.5		**923**	1000	0	92.3	80	120	05/04/2026
Cobalt		1.0		**916**	1000	0	91.6	80	120	05/04/2026
Lithium	*	3.0		**967**	1000	0	96.7	80	120	05/04/2026
Lithium	*	3.0	B	**1190**	1000	0	119.0	80	120	04/30/2026
Molybdenum		1.5		**928**	1000	0	92.8	80	120	05/04/2026
Selenium		1.0	B	**957**	1000	0	95.7	80	120	05/04/2026

SW-846 7470A (TOTAL)

Batch 254975 **SampType:** MBLK Units µg/L

SampID: MBLK-254975

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**< 0.20**	0	0	0	0	0	04/16/2026

Batch 254975 **SampType:** LCS Units µg/L

SampID: LCS-254975

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.80**	5.000	0	96.0	85	115	04/16/2026

Batch 254975 **SampType:** MS Units µg/L

SampID: 26040324-003CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.89**	5.000	0	97.9	75	125	04/16/2026

Batch 254975 **SampType:** MSD Units µg/L RPD Limit **15**

SampID: 26040324-003CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.20		**5.35**	5.000	0	107.0	4.895	8.90	04/16/2026

Batch 255110 **SampType:** MBLK Units µg/L

SampID: MBLK-255110

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**< 0.20**	0	0	0	0	0	04/20/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26040324

Client Project: Groundwater Monitoring **Report Date:** 26-May-26

SW-846 7470A (TOTAL)

Batch 255110 **SampType:** LCS Units **µg/L**

SampID: LCS-255110

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**5.28**	5.000	0	105.5	85	115	04/20/2026

Receiving Check List

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 26040324
Client Project: Groundwater Monitoring
Report Date: 26-May-26

Carrier: Frank Barthol
Received By: KTM

Completed by: Kylie Moore
On: 15-Apr-26

Reviewed by: Allison Simpson
On: 16-Apr-26

Pages to follow: Chain of custody 2 Extra pages included 18

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C	5.8	
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice	☐	
Chain of custody present?	Yes ☑	No ☐				
Chain of custody signed when relinquished and received?	Yes ☑	No ☐				
Chain of custody agrees with sample labels?	Yes ☑	No ☐				
Samples in proper container/bottle?	Yes ☑	No ☐				
Sample containers intact?	Yes ☑	No ☐				
Sufficient sample volume for indicated test?	Yes ☑	No ☐				
All samples received within holding time?	Yes ☑	No ☐				
Reported field parameters measured:	Field ☑	Lab ☐	NA ☐			
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐				

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☐	No ☐	No VOA vials ☑
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑

Any No responses must be detailed below or on the COC.

pH strip #104524. - DM/kmoore - 4/15/2026 3:04:43 PM

Samples were received on 4/16/26 at 13:05 on ice 0.6 C - LTG# 5. pH strip #104524. - DM/kmoore - 4/16/2026 3:43:55 PM

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 1 Work order # 26040324

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 0.6 °C LTG# 5

Preserved in: ☐ LAB ☒ FIELD

FOR LAB USE ONLY

Lab Notes: PH: 184524 Due: 4-16-26

Client Comments Report QC LVL: 2

Field: Elevations, DO, ORP, pH, Conductivity (mS/cm), Temperature (°C), Turbidity and Purge Volume
ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Project Name/Number: Groundwater Monitoring

Sample Collector's Name: Frank Barthol

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26040324-001	Equipment Blank	4.16 1045	1	3	X		X		X	X	X	X	X
002	Field Blank	4.16 1050	1	3	X		X		X	X	X	X	X
003	Field Duplicate	—	1	3		X	X	X	X	X	X	X	X
004	MW-101	—	1	3		X	X	X	X	X	X	X	X
005	MW-102	—	1	3		X	X	X	X	X	X	X	X
006	MW-103	—	1	3		X	X	X	X	X	X	X	X
007	MW-104	—	1	3		X	X	X	X	X	X	X	X
008	MW-105	—	1	3		X	X	X	X	X	X	X	X
009	MW-106	4.16 938	1	3		X	X	X	X	X	X	X	X
010	MW-109	4.16 1029	1	3		X	X	X	X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
	4.16 / ~~1605~~ FB 1305 ~~1405~~		4.16.26 13:05

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 109953

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 1 Work order # 26040324

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 5.8 °C LTG# 5

Preserved in: ☐ LAB ☒ FIELD

FOR LAB USE ONLY

Lab Notes:
PH:124524 Dm-4-15-26

Client Comments Report QC LVL: 2

Field: Elevations, DO, ORP, pH, Conductivity (mS/cm), Temperature (°C), Turbidity and Purge Volume
ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Frank Bartol

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26040324-001	Equipment Blank	—	1	3	X		X		X	X	X	X	X
002	Field Blank	—	1	3	X		X		X	X	X	X	X
003	Field Duplicate	4.15 | 1011	1	3		X	X	X	X	X	X	X	X
004	MW-101	4.15 | 941	1	3		X	X	X	X	X	X	X	X
005	MW-102	4.15 | 1011	1	3		X	X	X	X	X	X	X	X
006	MW-103	4.15 | 1052	1	3		X	X	X	X	X	X	X	X
007	MW-104	4.15 | 1139	1	3		X	X	X	X	X	X	X	X
008	MW-105	4.15 | 1232	1	3		X	X	X	X	X	X	X	X
009	MW-106	—	1	3		X	X	X	X	X	X	X	X
010	MW-109	—	1	3		X	X	X	X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
[signature]	4.15 | ~~1643~~ FB 1443	Kylie Moore	4.15.26 14:43

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 109953

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11 12

ANALYTICAL REPORT

PREPARED FOR

Attn: Elizabeth A Hurley
TekLab Inc
120 United Drive
Collinsville, Illinois 62234

Generated 5/14/2026 3:48:42 PM

JOB DESCRIPTION

Radium-226 and Radium-228
26040324

JOB NUMBER

160-61848-1

Eurofins St. Louis
13715 Rider Trail North
Earth City MO 63045

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

Authorization



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5/14/2026 3:48:42 PM

Authorized for release by
Erika Smith, Project Manager
erika.smith@et.eurofinsus.com
(314)298-8566

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CASE NARRATIVE

Client: TekLab, Inc

Project: 26040324

Report Number: 160-61848-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition, all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method.

Eurofins Environment Testing attests to the validity of the laboratory data generated by Eurofins facilities reported herein. All analyses performed by Eurofins Environment Testing facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins Environment Testing's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report.

Calculations are performed before rounding to avoid round-off errors in calculated results.

Proper preservation was noted for the methods performed on these samples, unless otherwise detailed below.

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

No additional analytical or quality issues were noted, other than those described below or in the Definitions/ Glossary page.

Receipt
The samples were received on 4/17/2026 11:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved. The temperature of the cooler at receipt time was 19.7°C.

Method 903.0 - Radium-226 (GFPC)
Samples 26040324-001 (160-61848-1), 26040324-002 (160-61848-2), 26040324-003 (160-61848-3), 26040324-004 (160-61848-4), 26040324-005 (160-61848-5), 26040324-006 (160-61848-6), 26040324-007 (160-61848-7), 26040324-008 (160-61848-8), 26040324-009 (160-61848-9) and 26040324-010 (160-61848-10) were analyzed for Radium-226 (GFPC). The samples were prepared on 4/21/2026 and analyzed on 5/13/2026 and 5/14/2026.

Method 904.0 - Radium-228 (GFPC)
Samples 26040324-001 (160-61848-1), 26040324-002 (160-61848-2), 26040324-003 (160-61848-3), 26040324-004 (160-61848-4), 26040324-005 (160-61848-5), 26040324-006 (160-61848-6), 26040324-007 (160-61848-7), 26040324-008 (160-61848-8), 26040324-009 (160-61848-9) and 26040324-010 (160-61848-10) were analyzed for Radium-228 (GFPC). The samples were prepared on 4/21/2026 and analyzed on 5/11/2026 and 5/12/2026.

Method Ra226_Ra228 Pos - Combined Radium-226 and Radium-228
Samples 26040324-001 (160-61848-1), 26040324-002 (160-61848-2), 26040324-003 (160-61848-3), 26040324-004 (160-61848-4), 26040324-005 (160-61848-5), 26040324-006 (160-61848-6), 26040324-007 (160-61848-7), 26040324-008 (160-61848-8), 26040324-009 (160-61848-9) and 26040324-010 (160-61848-10) were analyzed for Combined Radium-226 and Radium-228. The samples were analyzed on 5/14/2026.

TEKLAB, INC. Chain of Custody

120 United Drive, Collinsville, IL 62234 Phone (618) 344-1004

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
120 United Drive
Collinsville, IL 62234

Cooler Temp: | Sampler: Client | QC Level: 2

Comments: **Please Issue reports and invoices via email only**
DELIVER to Eurofins-STL. Analyze for Radium 226/228 per your normal method/s.
Method changes require Teklab authorization. Samples collected from an IL site.
Batch QC is required for all analyses requested.

Project# 26040324

Contact: Elizabeth A. Hurley | Email: ehurley@TekLabInc.com
Requested Due Date: Standard TAT | Billing/PO: 40907 | Phone: (618) 344-1004 ext. 1007

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Unpres	HNO3	H2SO4	NaOH	Other	Matrix	Ra226/228	Radium 226	Radium 228
	26040324-001	4/16/2026 10:45	☐	☑	☐	☐	☐	Aqueous	✔	✔	✔
	26040324-002	4/16/2026 10:50	☐	☑	☐	☐	☐	Aqueous	✔	✔	✔
	26040324-003	4/15/2026 10:11	☐	☑	☐	☐	☐	~~Aqueous~~ GW	✔	✔	✔
	26040324-004	4/15/2026 09:41	☐	☑	☐	☐	☐	~~Aqueous~~ GW	✔	✔	✔
	26040324-005	4/15/2026 10:11	☐	☑	☐	☐	☐	~~Aqueous~~ GW	✔	✔	✔
	26040324-006	4/15/2026 10:52	☐	☑	☐	☐	☐	~~Aqueous~~ GW	✔	✔	✔
	26040324-007	4/15/2026 11:39	☐	☑	☐	☐	☐	~~Aqueous~~ GW	✔	✔	✔
	26040324-008	4/15/2026 12:32	☐	☑	☐	☐	☐	~~Aqueous~~ GW	✔	✔	✔
	26040324-009	4/16/2026 09:38	☐	☑	☐	☐	☐	~~Aqueous~~ GW	✔	✔	✔
	26040324-010	4/16/2026 10:29	☐	☑	☐	☐	☐	~~Aqueous~~ GW	✔	✔	✔
			☐	☐	☐	☐	☐	Aqueous	☐	☐	☐

160-61848 Chain of Custody

JF 10am 4/17/26

*Relinquished By	Date/Time	Received By	Date/Time
Kylie Moore	4/17/26 10:00	Cheyenne Forrest	4/17/26 10:00
	4/17/26 11:00		4/17/26 11:00

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevB
1/12/2026

5/14/2026

Login Sample Receipt Checklist

Client: TekLab Inc

Job Number: 160-61848-1
SDG Number: 26040324

Login Number: 61848
List Number: 1
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	IDs on containers do not match the COC. Logged in per COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Definitions/Glossary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-61848-1
SDG: 26040324

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-61848-1
SDG: 26040324

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-61848-1
SDG: 26040324

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
160-61848-1	26040324-001	Water	04/16/26 10:45	04/17/26 11:00	Illinois
160-61848-2	26040324-002	Water	04/16/26 10:50	04/17/26 11:00	Illinois
160-61848-3	26040324-003	Water	04/15/26 10:11	04/17/26 11:00	Illinois
160-61848-4	26040324-004	Water	04/15/26 09:41	04/17/26 11:00	Illinois
160-61848-5	26040324-005	Water	04/15/26 10:11	04/17/26 11:00	Illinois
160-61848-6	26040324-006	Water	04/15/26 10:52	04/17/26 11:00	Illinois
160-61848-7	26040324-007	Water	04/15/26 11:39	04/17/26 11:00	Illinois
160-61848-8	26040324-008	Water	04/15/26 12:32	04/17/26 11:00	Illinois
160-61848-9	26040324-009	Water	04/16/26 09:38	04/17/26 11:00	Illinois
160-61848-10	26040324-010	Water	04/16/26 10:29	04/17/26 11:00	Illinois

Client Sample ID: 26040324-001

Date Collected: 04/16/26 10:45
Date Received: 04/17/26 11:00

Lab Sample ID: 160-61848-1

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0833	U	0.0907	0.0910	1.00	0.144	pCi/L	04/21/26 07:33	05/13/26 18:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.5*		*30 - 110*	*04/21/26 07:33*	*05/13/26 18:15*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0170	U	0.284	0.284	1.00	0.544	pCi/L	04/21/26 07:39	05/11/26 09:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.5*		*30 - 110*	*04/21/26 07:39*	*05/11/26 09:59*	*1*
Y Carrier	*84.5*		*30 - 110*	*04/21/26 07:39*	*05/11/26 09:59*	*1*

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0833	U	0.298	0.298	5.00	0.544	pCi/L		05/14/26 15:33	1

Client Sample ID: 26040324-002

Date Collected: 04/16/26 10:50
Date Received: 04/17/26 11:00

Lab Sample ID: 160-61848-2

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00248	U	0.0636	0.0636	1.00	0.140	pCi/L	04/21/26 07:43	05/14/26 07:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.7*		*30 - 110*	*04/21/26 07:43*	*05/14/26 07:31*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.591	U	0.479	0.482	1.00	0.749	pCi/L	04/21/26 07:49	05/12/26 09:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.7*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:38*	*1*
Y Carrier	*80.4*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:38*	*1*

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.594	U	0.483	0.486	5.00	0.749	pCi/L		05/14/26 15:33	1

Client Sample ID: 26040324-003

Date Collected: 04/15/26 10:11
Date Received: 04/17/26 11:00

Lab Sample ID: 160-61848-3

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.190**		0.128	0.130	1.00	0.173	pCi/L	04/21/26 07:43	05/14/26 07:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.4*		*30 - 110*	*04/21/26 07:43*	*05/14/26 07:31*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.672	U	0.479	0.483	1.00	0.734	pCi/L	04/21/26 07:49	05/12/26 09:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.4*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:43*	*1*
Y Carrier	*79.6*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:43*	*1*

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.862**		0.496	0.500	5.00	0.734	pCi/L		05/14/26 15:33	1

Client Sample ID: 26040324-004

Date Collected: 04/15/26 09:41
Date Received: 04/17/26 11:00

Lab Sample ID: 160-61848-4

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.461**		0.172	0.177	1.00	0.158	pCi/L	04/21/26 07:43	05/14/26 07:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.7*		*30 - 110*	*04/21/26 07:43*	*05/14/26 07:31*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.850**		0.465	0.472	1.00	0.664	pCi/L	04/21/26 07:49	05/12/26 09:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.7*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:43*	*1*
Y Carrier	*81.1*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:43*	*1*

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**1.31**		0.496	0.504	5.00	0.664	pCi/L		05/14/26 15:33	1

Client Sample ID: 26040324-005

Date Collected: 04/15/26 10:11
Date Received: 04/17/26 11:00

Lab Sample ID: 160-61848-5

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.158	U	0.117	0.118	1.00	0.162	pCi/L	04/21/26 07:43	05/14/26 07:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.4*		*30 - 110*	*04/21/26 07:43*	*05/14/26 07:31*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.521	U	0.400	0.403	1.00	0.616	pCi/L	04/21/26 07:49	05/12/26 09:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.4*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:43*	*1*
Y Carrier	*81.5*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:43*	*1*

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.679**		0.417	0.420	5.00	0.616	pCi/L		05/14/26 15:33	1

Client Sample ID: 26040324-006

Date Collected: 04/15/26 10:52
Date Received: 04/17/26 11:00

Lab Sample ID: 160-61848-6

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.228**		0.160	0.161	1.00	0.215	pCi/L	04/21/26 07:43	05/14/26 07:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.6*		*30 - 110*	*04/21/26 07:43*	*05/14/26 07:31*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.552	U	0.572	0.575	1.00	0.928	pCi/L	04/21/26 07:49	05/12/26 09:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.6*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:43*	*1*
Y Carrier	*78.5*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:43*	*1*

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.779	U	0.594	0.597	5.00	0.928	pCi/L		05/14/26 15:33	1

Client Sample ID: 26040324-007

Date Collected: 04/15/26 11:39
Date Received: 04/17/26 11:00

Lab Sample ID: 160-61848-7

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.225	U	0.175	0.176	1.00	0.246	pCi/L	04/21/26 07:43	05/14/26 07:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*66.9*		*30 - 110*	*04/21/26 07:43*	*05/14/26 07:31*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.516	U	0.570	0.572	1.00	0.930	pCi/L	04/21/26 07:49	05/12/26 09:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*66.9*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:43*	*1*
Y Carrier	*79.3*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:43*	*1*

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.741	U	0.596	0.598	5.00	0.930	pCi/L		05/14/26 15:33	1

Client Sample ID: 26040324-008

Date Collected: 04/15/26 12:32
Date Received: 04/17/26 11:00

Lab Sample ID: 160-61848-8

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.178**		0.107	0.109	1.00	0.129	pCi/L	04/21/26 07:43	05/14/26 07:32	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.5*		*30 - 110*	*04/21/26 07:43*	*05/14/26 07:32*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.510	U	0.370	0.373	1.00	0.563	pCi/L	04/21/26 07:49	05/12/26 09:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.5*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:43*	*1*
Y Carrier	*80.4*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:43*	*1*

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.688**		0.385	0.389	5.00	0.563	pCi/L		05/14/26 15:33	1

Client Sample ID: 26040324-009

Lab Sample ID: 160-61848-9

Date Collected: 04/16/26 09:38

Matrix: Water

Date Received: 04/17/26 11:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.208**		0.121	0.122	1.00	0.143	pCi/L	04/21/26 07:43	05/14/26 07:32	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.1*		*30 - 110*	*04/21/26 07:43*	*05/14/26 07:32*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.594	U	0.429	0.432	1.00	0.654	pCi/L	04/21/26 07:49	05/12/26 09:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.1*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:44*	*1*
Y Carrier	*80.4*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:44*	*1*

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.801**		0.446	0.449	5.00	0.654	pCi/L		05/14/26 15:33	1

Client Sample ID: 26040324-010

Lab Sample ID: 160-61848-10

Date Collected: 04/16/26 10:29

Matrix: Water

Date Received: 04/17/26 11:00

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.116	U	0.0939	0.0945	1.00	0.130	pCi/L	04/21/26 07:43	05/14/26 07:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.8*		*30 - 110*	*04/21/26 07:43*	*05/14/26 07:31*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.865**		0.468	0.475	1.00	0.676	pCi/L	04/21/26 07:49	05/12/26 09:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.8*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:44*	*1*
Y Carrier	*80.0*		*30 - 110*	*04/21/26 07:49*	*05/12/26 09:44*	*1*

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.981**		0.477	0.484	5.00	0.676	pCi/L		05/14/26 15:33	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-766834/1-A
Matrix: Water
Analysis Batch: 770713

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 766834

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.02724	U	0.0510	0.0510	1.00	0.138	pCi/L	04/21/26 07:33	05/13/26 17:47	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.0*		*30 - 110*	*04/21/26 07:33*	*05/13/26 17:47*	*1*

Lab Sample ID: LCS 160-766834/2-A
Matrix: Water
Analysis Batch: 770713

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 766834

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			9.57	8.692		1.01	1.00	0.178	pCi/L	91	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*79.1*		*30 - 110*

Lab Sample ID: MB 160-766837/1-A
Matrix: Water
Analysis Batch: 770865

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 766837

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.04179	U	0.0667	0.0668	1.00	0.171	pCi/L	04/21/26 07:43	05/14/26 07:30	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.0*		*30 - 110*	*04/21/26 07:43*	*05/14/26 07:30*	*1*

Lab Sample ID: LCS 160-766837/2-A
Matrix: Water
Analysis Batch: 770865

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 766837

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			9.57	7.558		0.904	1.00	0.158	pCi/L	79	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*85.3*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-766835/1-A
Matrix: Water
Analysis Batch: 770393

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 766835

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2872	U	0.467	0.468	1.00	0.794	pCi/L	04/21/26 07:39	05/11/26 10:01	1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	76.0		30 - 110	04/21/26 07:39	05/11/26 10:01	1
Y Carrier	80.7		30 - 110	04/21/26 07:39	05/11/26 10:01	1

Lab Sample ID: LCS 160-766835/2-A
Matrix: Water
Analysis Batch: 770393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 766835

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			9.16	11.23		1.55	1.00	0.702	pCi/L	123	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	79.1		30 - 110
Y Carrier	82.6		30 - 110

Lab Sample ID: MB 160-766838/1-A
Matrix: Water
Analysis Batch: 770598

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 766838

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.5607	U	0.519	0.522	1.00	0.833	pCi/L	04/21/26 07:49	05/12/26 09:39	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	76.0		30 - 110	04/21/26 07:49	05/12/26 09:39	1
Y Carrier	81.1		30 - 110	04/21/26 07:49	05/12/26 09:39	1

Lab Sample ID: LCS 160-766838/2-A
Matrix: Water
Analysis Batch: 770598

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 766838

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			9.16	10.84		1.50	1.00	0.723	pCi/L	118	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	85.3		30 - 110
Y Carrier	78.9		30 - 110

QC Association Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-61848-1
SDG: 26040324

Rad

Prep Batch: 766834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-61848-1	26040324-001	Total/NA	Water	PrecSep-21	
MB 160-766834/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-766834/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 766835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-61848-1	26040324-001	Total/NA	Water	PrecSep_0	
MB 160-766835/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-766835/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 766837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-61848-2	26040324-002	Total/NA	Water	PrecSep-21	
160-61848-3	26040324-003	Total/NA	Water	PrecSep-21	
160-61848-4	26040324-004	Total/NA	Water	PrecSep-21	
160-61848-5	26040324-005	Total/NA	Water	PrecSep-21	
160-61848-6	26040324-006	Total/NA	Water	PrecSep-21	
160-61848-7	26040324-007	Total/NA	Water	PrecSep-21	
160-61848-8	26040324-008	Total/NA	Water	PrecSep-21	
160-61848-9	26040324-009	Total/NA	Water	PrecSep-21	
160-61848-10	26040324-010	Total/NA	Water	PrecSep-21	
MB 160-766837/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-766837/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 766838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-61848-2	26040324-002	Total/NA	Water	PrecSep_0	
160-61848-3	26040324-003	Total/NA	Water	PrecSep_0	
160-61848-4	26040324-004	Total/NA	Water	PrecSep_0	
160-61848-5	26040324-005	Total/NA	Water	PrecSep_0	
160-61848-6	26040324-006	Total/NA	Water	PrecSep_0	
160-61848-7	26040324-007	Total/NA	Water	PrecSep_0	
160-61848-8	26040324-008	Total/NA	Water	PrecSep_0	
160-61848-9	26040324-009	Total/NA	Water	PrecSep_0	
160-61848-10	26040324-010	Total/NA	Water	PrecSep_0	
MB 160-766838/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-766838/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Tracer/Carrier Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-61848-1
SDG: 26040324

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (30-110)
160-61848-1	26040324-001	78.5
160-61848-2	26040324-002	77.7
160-61848-3	26040324-003	75.4
160-61848-4	26040324-004	73.7
160-61848-5	26040324-005	77.4
160-61848-6	26040324-006	76.6
160-61848-7	26040324-007	66.9
160-61848-8	26040324-008	84.5
160-61848-9	26040324-009	77.1
160-61848-10	26040324-010	80.8
LCS 160-766834/2-A	Lab Control Sample	79.1
LCS 160-766837/2-A	Lab Control Sample	85.3
MB 160-766834/1-A	Method Blank	76.0
MB 160-766837/1-A	Method Blank	76.0

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
160-61848-1	26040324-001	78.5	84.5
160-61848-2	26040324-002	77.7	80.4
160-61848-3	26040324-003	75.4	79.6
160-61848-4	26040324-004	73.7	81.1
160-61848-5	26040324-005	77.4	81.5
160-61848-6	26040324-006	76.6	78.5
160-61848-7	26040324-007	66.9	79.3
160-61848-8	26040324-008	84.5	80.4
160-61848-9	26040324-009	77.1	80.4
160-61848-10	26040324-010	80.8	80.0
LCS 160-766835/2-A	Lab Control Sample	79.1	82.6
LCS 160-766838/2-A	Lab Control Sample	85.3	78.9
MB 160-766835/1-A	Method Blank	76.0	80.7
MB 160-766838/1-A	Method Blank	76.0	81.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EBG
Project Location:	Marion, IL	**Sample ID:**	001
W.O. Number (s):	26051599	**Date (s):**	6/1/2026

Field Team Members

Name: Allison Lampe — Affiliation: TekLab, Inc.

Name: Drew Nieters — Affiliation: TekLab, Inc.

Weather Conditions

Temp: 72 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 6/1/26 10:47 AM

Static Water Level: 9.06 feet below TOC

Total Depth: 28.13 feet below TOC

Water Column: 19.07 feet

Purging Activities

Purged By: AL — Purge Date: 6/1/2026

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 19.07 ft. x 0.022 = 0.42 L x 3 Vol. = 1.26 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear — Odor: None — Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)
10:43	0.0	111	purge start time						
11:19	4.0	↓	6.49	536.80	18.12	3.90	265.90	4.74	14.70
11:22	4.3		6.46	536.60	17.94	3.53	264.60	3.76	15.15
11:25	4.7		6.45	535.90	18.66	3.41	260.10	4.08	15.22
11:28	5.0		6.44	537.30	20.31	3.53	254.90	5.67	15.65

Sampling Activities

Sampled By: DN — Sample Date/Time: 6/1/2026 11:28

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 6.44 pH — 537.30 Spec. Cond. — 20.31 Temp

Field Filtered: No — Filter Type:

Water Level: 15.74 feet below TOC — Drawdown: 6.68 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

Form Completed By: A Nieters — **Date:** 6/1/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-1
Project Location:	Marion, IL	**Sample ID:**	002
W.O. Number (s):	26051599	**Date (s):**	6/1/2026

Field Team Members

Name: Allison Lampe — Affiliation: TekLab, Inc.

Name: Drew Nieters — Affiliation: TekLab, Inc.

Weather Conditions

Temp: 72 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 6/1/26 12:15 PM

Static Water Level: 5.70 feet below TOC

Total Depth: 33.65 feet below TOC

Water Column: 27.95 feet

Purging Activities

Purged By: AL — Purge Date: 6/1/2026

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 27.95 ft. x 0.022 = 0.61 L x 3 Vol. = 1.83 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 3.00 L

Physical appearance of purge water: Clear — Odor: None — Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)
12:10	0.0	125	purge start time						
12:19	1.1	↓	6.15	2,537.80	18.96	3.23	277.20	3.75	6.81
12:22	1.5		6.16	2,546.30	19.02	3.38	272.90	4.30	7.05
12:25	1.9		6.17	2,551.90	19.31	3.24	269.50	3.65	7.07
12:28	2.3		6.18	2,534.40	20.24	3.44	267.40	3.73	7.07
12:31	2.6		6.19	2,536.10	21.14	3.81	265.70	3.95	7.07
12:34	3.0		6.21	2,563.20	20.95	3.97	264.90	4.70	7.09

Sampling Activities

Sampled By: DN — Sample Date/Time: 6/1/2026 12:34

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 6.21 pH — 2,563.20 Spec. Cond. — 20.95 Temp

Field Filtered: No — Filter Type:

Water Level: 7.15 feet below TOC — Drawdown: 1.45 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

Form Completed By: Allison Lampe — **Date:** 6/1/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26051599
Monitoring Point: EP-2
Sample ID: 003
Date (s): 6/1/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Drew Nieters Affiliation: TekLab, Inc.

Weather Conditions

Temp: 72 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

			Locks	Yes	No
Well Pad	Good		Protective Casing		X
Casing	Good		Well		X
Protective Casing	Good				
Reference Mark/Identification	Yes				

Groundwater Level Measurements

Date/Time Measured: 6/1/26 1:18 PM
Static Water Level: 9.45 feet below TOC
Total Depth: 17.64 feet below TOC
Water Column: 8.19 feet

Purging Activities

Purged By: AL Purge Date: 6/1/2026
Purge Method: Bladder Pump Well Diameter: 2"
Purge Volume Calculation (L): 8.19 ft. x 0.022 = 0.18 L x 3 Vol. = 0.54 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.00 L
Physical appearance of purge water: Clear Odor: Moderate Color: none

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)
13:15	0.0	102	purge start time						
13:52	3.8	↓	6.13	4,074.10	19.91	4.01	-22.90	5.24	10.20
13:55	4.1		6.10	4,078.00	19.68	3.58	-16.90	3.22	10.20
13:58	4.4		6.08	4,065.90	19.94	3.29	-12.60	2.74	10.27
14:01	4.7		6.07	4,066.10	20.24	3.22	-8.80	2.48	10.31
14:04	5.0		6.07	4,061.70	20.52	3.12	-5.70	2.30	10.32

Sampling Activities

Sampled By: DN Sample Date/Time: 6/1/2026 14:04
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 6.07 pH 4,061.70 Spec. Cond. 20.52 Temp
Field Filtered: No Filter Type:
Water Level: 10.33 feet below TOC Drawdown: 0.88 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

Form Completed By: Allison Lampe Date: 6/1/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26051599
Monitoring Point: EP-3
Sample ID: 004
Date (s): 6/2/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Drew Nieters Affiliation: TekLab, Inc.

Weather Conditions

Temp: 72 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

		Locks	Yes	No
Well Pad	Good	Protective Casing		X
Casing	Good	Well		X
Protective Casing	Good			
Reference Mark/Identification	Yes			

Groundwater Level Measurements

Date/Time Measured: 6/2/26 10:48 AM
Static Water Level: 16.81 feet below TOC
Total Depth: 29.21 feet below TOC
Water Column: 12.40 feet

Purging Activities

Purged By: DN Purge Date: 6/2/2026
Purge Method: Bladder Pump Well Diameter: 2"
Purge Volume Calculation (L): 12.4 ft. x 0.022 = 0.27 L x 3 Vol. = 0.81 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.50 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)
10:44	0.0	184	purge start time						
10:54	1.8	↓	6.16	2,257.40	20.02	1.29	6.30	4.16	16.92
10:57	2.4		6.14	2,276.40	20.24	0.98	6.20	3.83	16.95
11:00	2.9		6.13	2,268.30	21.17	0.96	5.50	4.49	16.95
11:03	3.5		6.13	2,273.20	22.33	1.19	4.70	5.08	16.95

Sampling Activities

Sampled By: DN Sample Date/Time: 6/2/2026 11:03
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 6.13 pH 2,273.20 Spec. Cond. 22.33 Temp
Field Filtered: No Filter Type:
Water Level: 18.22 feet below TOC Drawdown: 1.41 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

Form Completed By: Allison Lampe Date: 6/2/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-4
Project Location:	Marion, IL	**Sample ID:**	005
W.O. Number (s):	26051599	**Date (s):**	6/2/2026

Field Team Members

Name: Allison Lampe — Affiliation: TekLab, Inc.

Name: Drew Nieters — Affiliation: TekLab, Inc.

Weather Conditions

Temp: 72 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 6/2/26 9:52 AM

Static Water Level: 7.11 feet below TOC

Total Depth: 21.17 feet below TOC

Water Column: 14.06 feet

Purging Activities

Purged By: DN — Purge Date: 6/2/2026

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 14.06 ft. x 0.022 = 0.31 L x 3 Vol. = 0.93 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear — Odor: None — Color: yellow

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)
9:50	0.0	109	purge start time						
10:21	3.4	↓	5.83	2,670.40	19.98	0.65	-26.80	4.86	7.25
10:24	3.7		5.87	2,681.50	20.10	0.58	-30.40	4.80	7.27
10:27	4.0		5.90	2,689.10	20.13	0.51	-33.00	5.25	7.27
10:30	4.3		5.91	2,693.50	20.25	0.46	-34.90	5.68	7.27
10:33	4.7		5.92	2,697.10	20.33	0.43	-36.10	5.56	7.35
10:36	5.0		5.93	2,700.30	20.51	0.40	-36.90	5.96	7.36

Sampling Activities

Sampled By: DN — Sample Date/Time: 6/2/2026 10:36

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 5.93 pH — 2,700.30 Spec. Cond. — 20.51 Temp

Field Filtered: No — Filter Type:

Water Level: 7.37 feet below TOC — Drawdown: 0.26 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

Form Completed By: A Nieters — **Date:** 6/2/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-5
Project Location:	Marion, IL	**Sample ID:**	006
W.O. Number (s):	26051599	**Date (s):**	6/1/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.

Name: Drew Nieters Affiliation: TekLab, Inc.

Weather Conditions

Temp: 72 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

			Yes	No
Well Pad	Good	**Locks**		
Casing	Good	Protective Casing		X
Protective Casing	Good	Well		X
Reference Mark/Identification	Yes			

Groundwater Level Measurements

Date/Time Measured: 6/1/26 11:59 AM

Static Water Level: 14.01 feet below TOC

Total Depth: 15.79 feet below TOC

Water Column: 1.78 feet

Purging Activities

Purged By: AL Purge Date: 6/1/2026

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 1.78 ft. x 0.022 = 0.04 L x 3 Vol. = 0.12 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Clear Odor: None Color: NOne

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)
11:37	0.0	143	purge start time						
11:53	2.3	↓	6.54	389.40	17.59	8.27	254.40	3.43	15.21
11:56	2.7		6.47	390.50	17.21	8.21	254.30	2.94	15.35
11:59	3.1		6.44	389.80	17.20	8.15	252.20	2.26	15.55
12:02	3.6		6.43	389.00	16.90	8.06	252.50	2.48	15.60
12:05	4.0		6.43	389.00	17.00	7.94	248.00	2.82	15.64

Sampling Activities

Sampled By: DN Sample Date/Time: 6/1/2026 12:05

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.43 pH 389.00 Spec. Cond. 17.00 Temp

Field Filtered: No Filter Type:

Water Level: 15.75 feet below TOC Drawdown: 1.74 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

Form Completed By: A Nieters **Date:** 6/1/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-6
Project Location:	Marion, IL	**Sample ID:**	007
W.O. Number (s):	26051599	**Date (s):**	6/1/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.

Name: Drew Nieters Affiliation: TekLab, Inc.

Weather Conditions

Temp: 72 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

			Yes	No
Well Pad	Good	**Locks**		
Casing	Good	Protective Casing		X
Protective Casing	Good	Well		X
Reference Mark/Identification	Yes			

Groundwater Level Measurements

Date/Time Measured: 6/1/26 12:44 PM

Static Water Level: 2.90 feet below TOC

Total Depth: 13.12 feet below TOC

Water Column: 10.22 feet

Purging Activities

Purged By: AL Purge Date: 6/1/2026

Purge Method: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 10.22 ft. x 0.022 = 0.22 L x 3 Vol. = 0.66 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.00 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)
12:40	0.0	154	purge start time						
12:57	2.6	↓	4.95	341.90	18.25	1.27	257.80	4.76	6.13
13:00	3.1		4.93	342.00	18.52	1.09	261.10	4.65	6.25
13:03	3.5		4.92	343.20	19.09	1.14	260.40	5.40	6.35
13:06	4.0		4.92	343.10	19.45	1.10	256.40	6.61	6.52

Sampling Activities

Sampled By: DN Sample Date/Time: 6/1/2026 13:06

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 4.92 pH 343.10 Spec. Cond. 19.45 Temp

Field Filtered: No Filter Type:

Water Level: 6.70 feet below TOC Drawdown: 3.80 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

Form Completed By: Allison Lampe **Date:** 6/1/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26051599
Monitoring Point: EP-7
Sample ID: 008
Date (s): 6/2/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Drew Nieters Affiliation: TekLab, Inc.

Weather Conditions

Temp: 72 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 6/2/26 11:16 AM
Static Water Level: 14.18 feet below TOC
Total Depth: 18.00 feet below TOC
Water Column: 3.82 feet

Purging Activities

Purged By: AL Purge Date: 6/2/2026
Purge Method: Bladder Pump Well Diameter: 2"
Purge Volume Calculation (L): 3.82 ft. x 0.022 = 0.08 L x 3 Vol. = 0.24 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 10.00 L
Physical appearance of purge water: Slightly cloudy Odor: None Color: yellow

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)
11:07	0.0	83	purge start time						
12:58	9.2	↓	5.66	1,821.60	20.05	0.12	-13.30	5.56	14.98
13:01	9.5		5.65	1,818.90	20.03	0.11	-12.80	6.74	15.23
13:04	9.8		5.68	1,820.40	19.99	0.10	-11.60	4.36	15.44
13:07	10.0		5.70	1,816.50	19.89	0.08	-9.00	5.39	15.59

Sampling Activities

Sampled By: DN Sample Date/Time: 6/2/2026 13:07
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 5.70 pH 1,816.50 Spec. Cond. 19.89 Temp
Field Filtered: No Filter Type:
Water Level: 15.68 feet below TOC Drawdown: 1.50 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

Form Completed By: Allison Lampe Date: 6/2/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26051599
Monitoring Point: Equipment Blank
Sample ID: 009
Date (s): 6/4/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 68 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured:
Static Water Level: feet below TOC
Total Depth: - feet below TOC
Water Column: feet

Purging Activities

Purged By: Purge Date:
Purge Method: Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)

Sampling Activities

Sampled By: AL Sample Date/Time: 6/4/2026 10:20
Sample Method: Direct Sample Sample Equipment: Direct Grab
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- QA/QC Sample.
- Collected from Dipper-T

Form Completed By: Allison Lampe **Date:** 6/4/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26051599
Monitoring Point: Field Blank
Sample ID: 010
Date (s): 6/3/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 72 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured:
Static Water Level: feet below TOC
Total Depth: - feet below TOC
Water Column: feet

Purging Activities

Purged By: Purge Date:
Purge Method: Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)

Sampling Activities

Sampled By: AL Sample Date/Time: 6/3/2026 12:30
Sample Method: Direct Sample Sample Equipment: Direct Grab
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- QA/QC Sample
- Collected at MW-101

Form Completed By: Allison Lampe **Date:** 6/3/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	Field Duplicate
Project Location:	Marion, IL	**Sample ID:**	011
W.O. Number (s):	26051599	**Date (s):**	6/2/2026

Field Team Members

Name: Allison Lampe — Affiliation: TekLab, Inc.

Name: Drew Nieters — Affiliation: TekLab, Inc.

Weather Conditions

Temp: 72 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☐ Clear ☑ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 6/2/26 9:52 AM

Static Water Level: 7.11 feet below TOC

Total Depth: 21.17 feet below TOC

Water Column: 14.06 feet

Purging Activities

Purged By: DN — Purge Date: 6/2/2026

Purge Method: Bladder Pump — Well Diameter: 2"

Purge Volume Calculation (L): 14.06 ft. x 0.022 = 0.31 L x 3 Vol. = 0.93 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear — Odor: None — Color: yellow

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)
9:50	0.0	109	purge start time						
10:21	3.4	↓	5.83	2,670.40	19.98	0.65	-26.80	4.86	7.25
10:24	3.7		5.87	2,681.50	20.10	0.58	-30.40	4.80	7.27
10:27	4.0		5.90	2,689.10	20.13	0.51	-33.00	5.25	7.27
10:30	4.3		5.91	2,693.50	20.25	0.46	-34.90	5.68	7.27
10:33	4.7		5.92	2,697.10	20.33	0.43	-36.10	5.56	7.35
10:36	5.0		5.93	2,700.30	20.51	0.40	-36.90	5.96	7.36

Sampling Activities

Sampled By: DN — Sample Date/Time: 6/2/2026 10:36

Sample Method: Low Flow — Sample Equipment: Bladder Pump

Sample Parameters: 5.93 pH — 2,700.30 Spec. Cond. — 20.51 Temp

Field Filtered: No — Filter Type:

Water Level: 7.37 feet below TOC — Drawdown: 0.26 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864
- QA/QC Sample.
- Collected at EP-4

Form Completed By: A Nieters — **Date:** 6/2/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26051599
Monitoring Point: MW-101
Sample ID: 012
Date (s): 6/3/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Payton Yoch Affiliation: TekLab, Inc.

Weather Conditions

Temp: 72 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 6/3/26 12:25 PM
Static Water Level: 15.13 feet below TOC
Total Depth: 31.14 feet below TOC
Water Column: 16.01 feet

Purging Activities

Purged By: AL Purge Date: 6/3/2026
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 16.01 ft. x 0.022 = 0.35 L x 3 Vol. = 1.05 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.00 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)
12:23	0.0	152	purge start time						
12:47	3.6	↓	6.78	1,409.10	20.76	2.46	125.70	4.91	19.31
12:50	4.1		6.76	1,402.20	22.19	2.46	127.20	4.67	19.51
12:53	4.5		6.81	1,410.10	20.62	2.55	129.90	4.31	19.85
12:56	5.0		6.78	1,409.20	20.15	2.44	132.90	2.94	20.12

Sampling Activities

Sampled By: AL Sample Date/Time: 6/3/2026 12:56
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.78 pH 1,409.20 Spec. Cond. 20.15 Temp
Field Filtered: No Filter Type:
Water Level: 20.65 feet below TOC Drawdown: 5.52 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

Form Completed By: Payton Yoch **Date:** 6/3/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-102
Project Location:	Marion, IL	**Sample ID:**	013
W.O. Number (s):	26051599	**Date (s):**	6/3/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.

Name: Drew Nieters Affiliation: TekLab, Inc.

Weather Conditions

Temp: 72 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 6/3/26 11:39 AM

Static Water Level: 15.91 feet below TOC

Total Depth: 29.77 feet below TOC

Water Column: 13.86 feet

Purging Activities

Purged By: AL Purge Date: 6/3/2026

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 13.86 ft. x 0.022 = 0.3 L x 3 Vol. = 0.9 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)
11:35	0.0	152	purge start time						
11:53	2.7	↓	6.49	1,860.30	19.88	2.94	8.50	5.02	18.25
11:56	3.2		6.48	1,824.40	19.84	3.44	24.70	4.28	18.75
11:59	3.6		6.46	1,815.20	19.66	3.46	37.30	3.41	19.12
12:02	4.1		6.45	1,814.80	19.85	3.48	47.80	2.59	19.15
12:05	4.5		6.44	1,815.70	20.57	3.44	55.20	1.97	19.32
12:08	5.0		6.45	1,829.30	20.62	3.51	61.60	1.78	19.49

Sampling Activities

Sampled By: AL Sample Date/Time: 6/3/2026 12:08

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.45 pH 1,829.30 Spec. Cond. 20.62 Temp

Field Filtered: No Filter Type:

Water Level: 19.90 feet below TOC Drawdown: 3.99 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

Form Completed By: Allison Lampe **Date:** 6/3/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-103
Project Location:	Marion, IL	**Sample ID:**	014
W.O. Number (s):	26051599	**Date (s):**	6/3/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 72 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

		Locks	Yes	No
Well Pad	Good			
Casing	Good	Protective Casing		X
Protective Casing	Good	Well		X
Reference Mark/Identification	Yes			

Groundwater Level Measurements

Date/Time Measured: 6/3/26 10:02 AM

Static Water Level: 14.71 feet below TOC

Total Depth: 31.70 feet below TOC

Water Column: 16.99 feet

Purging Activities

Purged By: AL Purge Date: 6/3/2026

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 16.99 ft. x 0.022 = 0.37 L x 3 Vol. = 1.11 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 15.00 L

Physical appearance of purge water: Slightly cloudy Odor: Moderate Color: orange

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)
9:45	0.0	158	purge start time						
11:06	12.8	↓	5.74	2,403.80	19.84	0.44	-4.40	5.08	17.02
11:11	13.6		5.74	2,398.30	20.15	0.44	-5.70	4.87	17.05
11:14	14.1		5.74	2,403.50	20.17	0.45	-5.90	5.13	17.07
11:17	14.5		5.75	2,405.60	20.10	0.45	-6.50	4.31	17.11
11:20	15.0		5.75	2,404.00	20.17	0.43	-6.90	5.38	17.13

Sampling Activities

Sampled By: AL Sample Date/Time: 6/3/2026 11:20

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 5.75 pH 2,404.00 Spec. Cond. 20.17 Temp

Field Filtered: No Filter Type:

Water Level: 17.15 feet below TOC Drawdown: 2.44 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

Form Completed By: Allison Lampe **Date:** 6/3/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26051599
Monitoring Point: MW-104
Sample ID: 015
Date (s): 6/3/2026

Field Team Members

Name: Payton Yoch Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 76 °F Wind Direction: ☐ N ☐ S ☐ E ☑ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 6/3/26 11:42 AM
Static Water Level: 11.89 feet below TOC
Total Depth: 33.67 feet below TOC
Water Column: 21.78 feet

Purging Activities

Purged By: PY Purge Date: 6/3/2026
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 21.78 ft. x 0.022 = 0.48 L x 3 Vol. = 1.44 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.00 L
Physical appearance of purge water: Clear Odor: Moderate Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)
11:42	0.0	167	purge start time						
11:48	1.0	↓	9.13	2,494.60	19.02	0.19	-285.50	4.54	12.29
11:51	1.5		9.17	2,492.20	19.12	0.10	-317.80	3.79	12.44
11:54	2.0		9.19	2,501.60	19.13	0.06	-336.30	3.85	12.98
11:57	2.5		9.20	2,509.50	19.14	0.06	-347.90	3.79	13.11
12:00	3.0		9.22	2,510.60	19.01	0.06	-355.70	3.96	13.49

Sampling Activities

Sampled By: PY Sample Date/Time: 6/3/2026 12:00
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 9.22 pH 2,510.60 Spec. Cond. 19.01 Temp
Field Filtered: No Filter Type:
Water Level: 13.53 feet below TOC Drawdown: 1.64 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44622

Form Completed By: Payton Yoch **Date:** 6/3/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-105
Project Location:	Marion, IL	**Sample ID:**	016
W.O. Number (s):	26051599	**Date (s):**	6/3/2026

Field Team Members

Name: Payton Yoch Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 73 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 6/3/26 10:35 AM

Static Water Level: 12.84 feet below TOC

Total Depth: 28.66 feet below TOC

Water Column: 15.82 feet

Purging Activities

Purged By: PY Purge Date: 6/3/2026

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 15.82 ft. x 0.022 = 0.35 L x 3 Vol. = 1.05 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 6.00 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)
10:35	0.0	146	purge start time						
11:04	4.2	↓	6.24	2,106.30	18.83	0.81	116.60	3.47	18.88
11:07	4.7		6.22	2,111.00	18.94	0.74	117.00	2.89	19.24
11:10	5.1		6.22	2,110.10	19.04	0.73	117.80	3.42	19.55
11:13	5.6		6.21	2,110.30	19.21	0.75	118.70	4.33	19.78
11:16	6.0		6.22	2,112.10	19.20	0.83	119.90	4.62	20.19

Sampling Activities

Sampled By: PY Sample Date/Time: 6/3/2026 11:16

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.22 pH 2,112.10 Spec. Cond. 19.20 Temp

Field Filtered: No Filter Type:

Water Level: 20.41 feet below TOC Drawdown: 7.57 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44622

Form Completed By: Payton K **Date:** 6/3/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-106
Project Location:	Marion, IL	**Sample ID:**	017
W.O. Number (s):	26051599	**Date (s):**	6/3/2026

Field Team Members

Name: Payton Yoch Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 67 °F Wind Direction: ☐ N ☐ S ☑ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	No

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 6/3/26 9:17 AM

Static Water Level: 15.47 feet below TOC

Total Depth: 31.46 feet below TOC

Water Column: 15.99 feet

Purging Activities

Purged By: PY Purge Date: 6/3/2026

Purge Method: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 15.99 ft. x 0.022 = 0.35 L x 3 Vol. = 1.05 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 7.00 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)
9:17	0.0	119	purge start time						
9:55	4.5	↓	6.56	1,395.30	18.81	1.65	88.20	5.63	18.56
9:58	4.9		6.56	1,395.00	18.97	1.66	89.10	7.00	18.88
10:01	5.2		6.56	1,398.20	19.00	1.67	90.10	6.06	19.03
10:04	5.6		6.56	1,396.10	18.93	1.68	91.10	5.19	19.21
10:07	5.9		6.56	1,394.30	19.04	1.68	91.80	5.38	19.42
10:10	6.3		6.56	1,393.20	19.12	1.68	92.80	3.74	19.66
10:13	6.6		6.56	1,393.60	19.03	1.68	93.80	3.18	19.74
10:16	7.0		6.56	1,388.00	19.20	1.72	94.80	2.26	20.08

Sampling Activities

Sampled By: PY Sample Date/Time: 6/3/2026 10:16

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.56 pH 1,388.00 Spec. Cond. 19.20 Temp

Field Filtered: No Filter Type:

Water Level: 20.38 feet below TOC Drawdown: 4.91 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 44622

Form Completed By: Payton Yoch **Date:** 6/3/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26051599
Monitoring Point: MW-109
Sample ID: 018
Date (s): 6/2/2026

Field Team Members

Name: Allison Lampe Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 72 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 6/3/26 9:21 AM
Static Water Level: 7.13 feet below TOC
Total Depth: 24.84 feet below TOC
Water Column: 17.71 feet

Purging Activities

Purged By: AL Purge Date: 6/2/2026
Purge Method: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 17.71 ft. x 0.022 = 0.39 L x 3 Vol. = 1.17 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.00 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft below TOC)
9:13	0.0	200	purge start time						
9:24	2.2	↓	6.98	1,006.50	17.69	1.75	105.90	4.77	7.64
9:27	2.8		6.96	1,004.30	17.63	1.16	100.00	4.94	7.71
9:30	3.4		6.95	1,003.80	17.77	0.91	104.80	4.40	7.74
9:33	4.0		6.96	1,003.10	17.77	0.86	110.00	4.78	8.02

Sampling Activities

Sampled By: AL Sample Date/Time: 6/2/2026 9:33
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.96 pH 1,003.10 Spec. Cond. 17.77 Temp
Field Filtered: No Filter Type:
Water Level: 8.14 feet below TOC Drawdown: 1.01 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 46864

Form Completed By: Allison Lampe **Date:** 6/2/2026

Site Samping Event: GW Monitoring
LIMS Workorder: 26051599
Technician(s): AL, DN, PY

Field Calibration Log(s)
SIPC- 2Q 2026

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 46864 Technician(s): A.Lampe Date: 6/1/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC260305A	4.00	125.30	6/1/26 10:44
7.0 Buffer	WC260305B	7.00	-50.40	6/1/26 10:46
10.0 Buffer	WC260305C	10.00	-212.60	6/1/26 10:49
LCS/CCV (7.0 Buffer)	WC260305D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	110375	1412	6/1/26 10:52

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.8	6/1/26 10:56
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading		Date/Time

D.O. Saturation	Barometer (mmHg)	Reading	Date/Time
100%			

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-1-AL	LCS	6/1/26 10:58	21.8	7.09	1,410	0.8		
CCV-1-AL	CCV	6/1/26 14:13	22.3	7.09	1,399	0.55		

Comments:

Field Meter ID: Pine 46864 Technician(s): A.Lampe Date: 6/2/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC260305A	4.00	128.50	6/2/26 9:49
7.0 Buffer	WC260305B	7.00	-47.10	6/2/26 9:51
10.0 Buffer	WC260305C	10.00	-211.80	6/2/26 9:53
LCS/CCV (7.0 Buffer)	WC260305D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	110375	1412	6/2/26 9:54

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.54	6/2/26 9:56
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading		Date/Time

D.O. Saturation	Barometer (mmHg)	Reading	Date/Time
100%			

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-2-AL	LCS	6/2/26 9:59	21.3	7.07	1,411	0.54		
CCV-2-AL	CCV	6/2/26 13:14	22.9	7.07	1,389	0.63		

Comments:

Site Samping Event: GW Monitoring
LIMS Workorder: 26051599
Technician(s): AL, DN, PY

Field Calibration Log(s)
SIPC- 2Q 2026

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 46864 Technician(s): A.Lampe Date: 6/3/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC260305A	4.00	129.10	6/3/26 8:57
7.0 Buffer	WC260305B	7.00	-46.20	6/3/26 8:59
10.0 Buffer	WC260305C	10.00	-208.60	6/3/26 9:01
LCS/CCV (7.0 Buffer)	WC260305D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	110375	1412	6/3/26 9:03

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.47	6/3/26 9:03
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading		Date/Time

D.O. Saturation	Barometer (mmHg)	Reading	Date/Time
100%			

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-3-AL	LCS	6/3/26 9:09	22.4	7.08	1,408	0.47		
CCV-3-AL	CCV	6/3/26 13:06	23.8	7.08	1,412	0.53		

Comments:

Site Samping Event: GW Monitoring
LIMS Workorder: 26051599
Technician(s): AL, DN, PY

Field Calibration Log(s)
SIPC- 2Q 2026

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 44622 Technician(s): Payton Yoch Date: 6/3/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC260305A	4.00	128.00	6/3/26 8:58
7.0 Buffer	WC260305B	7.00	-47.90	6/3/26 8:55
10.0 Buffer	WC260305C	10.00	-210.70	6/3/26 9:02
LCS/CCV (7.0 Buffer)	WC260305D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	110375	1412	6/3/26 9:07

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0	6/3/26 9:07
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading		Date/Time

D.O. Saturation	Barometer (mmHg)	Reading	Date/Time
100%			

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-1	LCS	6/3/26 9:10	20	7.07	1,412	0		
CCV-1	CCV	6/3/26 12:33	22	7.04	1,395	0		

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC

11669 Lilburn Park Rd.
St. Louis, MO 63146
Office: 314.344.1079

Pine Environmental Services, Inc.

Instrument ID 46864
Description YSI Pro DSS - 10m cable
Calibrated 4/30/2026 2:00:26PM

Manufacturer YSI
Model Number Pro DSS
Serial Number/ Lot Number 19K103393
Location St. Louis
Department ENV

State Certified
Status Pass
Temp °C 22.2
Humidity % 43

Calibration Specifications

Group # 1
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.73	7.02	0.29%	Pass
4.00 / 4.00	PH	4.00	PH	4.81	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	10.41	10.05	0.50%	Pass

Group # 2
Group Name Redox (ORP)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.0

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.0 / 240.0	mv	240.0	mv	223.2	240.0	0.00%	Pass

Group # 3
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.000

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.444	1.413	0.00%	Pass

Group # 4
Group Name Turbidity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.00 / 0.00	FNU	0.00	FNU	0.26	0.00	0.00%	Pass
124.00 / 124.00	FNU	124.00	FNU	94.88	124.00	0.00%	Pass

Group # 5
Group Name Disolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.0

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC

11669 Lilburn Park Rd.
St. Louis, MO 63146
Office: 314.344.1079

Pine Environmental Services, Inc.

Instrument ID 44622
Description YSI Pro DSS - 10 m cable
Calibrated 4/30/2026 12:50:44PM

Manufacturer YSI
Model Number Pro DSS
Serial Number/ Lot Number 18L100384
Location St. Louis
Department ENV

State Certified
Status Pass
Temp °C 22.2
Humidity % 43

Calibration Specifications

Group # 1
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.06	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	PH	3.95	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	10.06	10.00	0.00%	Pass

Group # 2
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.000

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.433	1.413	0.00%	Pass

Group # 3
Group Name TURBIDITY
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.00 / 0.00	NTU	0.00	NTU	0.86	0.00	0.00%	Pass
124.00 / 124.00	NTU	124.00	NTU	120.57	124.00	0.00%	Pass

Group # 4
Group Name Redox (ORP)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.0

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.0 / 240.0	mv	240.0	mv	230.5	240.0	0.00%	Pass

Group # 5
Group Name Disolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.0

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC

11669 Lilburn Park Rd.
St. Louis, MO 63146
Office: 314.344.1079

Pine Environmental Services, Inc.

Instrument ID 44622
Description YSI Pro DSS - 10 m cable
Calibrated 4/30/2026 12:50:44PM

Group # 5
Group Name Disolved Oxygen Span
Stated Accy Pct of Reading

Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.0

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.0 / 100.0	%	100.0	%	105.4	99.7	-0.30%	Pass

Test Instruments Used During the Calibration **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
STL 126 NTU L#25F24022377	STL 126 NTU L#25F24022377	YSI	126 NTU	25F24022377	8/4/2025	6/30/2026
STL 1413 COND L#5GL2156	STL 1413 COND L#5GL2156	AquaPhoenix Scientific	31986	5GL2156		12/25/2026
STL AUTOCAL LOT# 24021650	Auto Cal Solution 0 NTU/PH 4	GFS	8483	24021650		6/25/2026
STL ORP SOLUTION 240MV L#5GL1513	STL ORP SOLUTION 240MV L#5GL1513	AquaPhoenix Scientific	ORP Solution	5GL1513		9/25/2026
STL PH10 #5GH0395	STL PH10 #5GH0395	AquaPhoenix Scientific	PH 10	5GH0395		8/25/2027
STL PH4 L#5GL1911	STL pH4 L#5GL1911	AquaPhoenix Scientific	pH 4	5GL1911		12/25/2027
STL PH7 L#6GA0097	STL PH7 L#6GA0097	AquaPhoenix Scientific	PH7	6GA0097		1/25/2028

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Austin Carter

All instruments are calibrated by Pine Environmental Services LLC according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services LLC of any defect within 24 hours of receipt of equipment
Please call 800-301-9663 for Technical Assistance

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
11669 Lilburn Park Rd.
St. Louis, MO 63146
Office: 314.344.1079

Pine Environmental Services, Inc.

Instrument ID 46864
Description YSI Pro DSS - 10m cable
Calibrated 4/30/2026 2:00:26PM

Group # 5
Group Name Disolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.0

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.0 / 100.0	%	100.0	%	75.8	99.9	-0.10%	Pass

Test Instruments Used During the Calibration (As Of Cal Entry Date)

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
STL 126 NTU L#25F24022377	STL 126 NTU L#25F24022377	YSI	126 NTU	25F24022377	8/4/2025	6/30/2026
STL 1413 COND L#5GL2156	STL 1413 COND L#5GL2156	AquaPhoenix Scientific	31986	5GL2156		12/25/2026
STL AUTOCAL LOT# 24021650	Auto Cal Solution 0 NTU/PH 4	GFS	8483	24021650		6/25/2026
STL ORP SOLUTION 240MV L#5GL1513	STL ORP SOLUTION 240MV L#5GL1513	AquaPhoenix Scientific	ORP Solution	5GL1513		9/25/2026
STL PH10 #5GH0395	STL PH10 #5GH0395	AquaPhoenix Scientific	PH 10	5GH0395		8/25/2027
STL PH4 L#5GL1911	STL pH4 L#5GL1911	AquaPhoenix Scientific	pH 4	5GL1911		12/25/2027
STL PH7 L#6GA0097	STL PH7 L#6GA0097	AquaPhoenix Scientific	PH7	6GA0097		1/25/2028

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Chris Harkins

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Notify Pine Environmental Services LLC of any defect within 24 hours of receipt of equipment
Please call 800-301-9663 for Technical Assistance

July 10, 2026

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:

Illinois	100467
Kansas	E-10374
Kansas	E-10438
Louisiana	05002
Oklahoma	9978

RE: Groundwater Monitoring **WorkOrder:** 26051599

Dear Jason McLaurin:

TEKLAB, INC received 18 samples on 6/4/2026 10:26:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Director of Customer Service
(618)344-1004
ehurley@teklabinc.com

Client: Southern Illinois Power Cooperation
Work Order: 26051599
Client Project: Groundwater Monitoring
Report Date: 10-Jul-26

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Quality Control Results	25
Receiving Check List	46
Chain of Custody	Appended

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
A	Total Coliform and/or E. Coli (Result) is absent
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
NC	Data is not acceptable for compliance purposes
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
P	Total Coliform and/or E. Coli (Result) is present
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
S	Opinion for Colisure analysis is Satisfactory
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
T.O.P.	Top of Pump
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)
U	Opinion for Colisure analysis is Unsatisfactory

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

Case Narrative

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 26051599
Client Project: Groundwater Monitoring
Report Date: 10-Jul-26

Cooler Receipt Temp: 4.9 °C

An employee of Teklab, Inc. collected the sample(s).

Radium-226/-228 analyses were performed by Eurofins St. Louis. See attached reports for results and QC data.

Only Ponds 1 and 2 data is included in this report. EAH 7/10/26

Locations

Collinsville
Address 5445 Horseshoe Lake Road, Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville
Address 120 United Drive, Collinsville, IL 62234-7433
Phone (618) 344-1004
Fax
Email jhriley@teklabinc.com

Springfield
Address 3920 Pintail Dr, Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City
Address 8421 Nieman Road, Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air
Address 120 United Drive, Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago
Address 1319 Butterfield Rd., Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100467	NELAP	1/31/2027	Collinsville
Kansas	KDHE	E-10438	NELAP	7/31/2026	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2027	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2027	Collinsville
Oklahoma	ODEQ	9978	NELAP	12/31/2026	Collinsville
Arkansas	ADEQ	88-0966		3/14/2027	Collinsville
Illinois	IDPH	17584		5/31/2027	Collinsville
Iowa	IDNR	430		6/1/2028	Collinsville
Kansas	KDHE	E-92716		1/31/2027	Collinsville
Kentucky	KWLCP	KY98050		12/31/2026	Collinsville
Kentucky	KWLCP	KY98006		12/31/2026	Collinsville
Kentucky	UST	0073		1/31/2027	Collinsville
Louisiana	LDEQ	05003		6/30/2026	Collinsville
Mississippi	MSDH			4/30/2026	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville
Missouri	MDNR	930		1/31/2028	Collinsville

Client: Southern Illinois Power Cooperation
Work Order: 26051599
Client Project: Groundwater Monitoring
Report Date: 10-Jul-26
Lab ID: 26051599-009
Client Sample ID: Equipment Blank
Matrix: AQUEOUS
Collection Date: 06/04/2026 10:20

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20	J	**18**	mg/L	1	06/04/2026 14:06	R385330
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	06/10/2026 4:18	R385507
Chloride	NELAP	1.00	5.00		**ND**	mg/L	10	06/10/2026 4:18	R385507
Sulfate	NELAP	0.99	10.0		**ND**	mg/L	10	06/10/2026 4:18	R385507
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**< 2.5**	µg/L	1	06/12/2026 14:39	257761
Boron	NELAP	9.0	20.0		**< 20.0**	µg/L	1	06/15/2026 8:22	257761
Calcium	NELAP	0.035	0.100		**< 0.100**	mg/L	1	06/11/2026 13:52	257761
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	06/16/2026 22:47	257761
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	06/13/2026 1:05	257761
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/23/2026 14:54	257761
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/17/2026 13:31	257761
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	06/22/2026 20:40	257761
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	06/13/2026 1:05	257761
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	06/13/2026 1:05	257761
Lithium	*	1.4	3.0		**< 3.0**	µg/L	5	06/13/2026 1:05	257761
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	06/13/2026 1:05	257761
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	06/17/2026 13:31	257761
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	06/13/2026 1:05	257761
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	06/05/2026 15:44	257779
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.147**	pci/L	1	07/01/2026 15:41	R386744
Combined 226/228 Uncertainty	*	0	0		**0.480**	+/-	1	07/01/2026 15:41	R386744
Radium-226	*	1.00	1.00		**0.0252**	pci/L	1	07/01/2026 9:11	R386744
Radium-226 Uncertainty	*	0	0		**0.111**	+/-	1	07/01/2026 9:11	R386744
Radium-228	*	1.00	1.00		**0.122**	pci/L	1	06/30/2026 14:22	R386744
Radium-228 Uncertainty	*	0	0		**0.467**	+/-	1	06/30/2026 14:22	R386744

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

Lab ID: 26051599-010 **Client Sample ID:** Field Blank

Matrix: AQUEOUS **Collection Date:** 06/03/2026 12:30

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**26**	mg/L	1	06/04/2026 13:42	R385330
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	06/07/2026 23:52	R385429
Chloride	NELAP	1.00	5.00		**ND**	mg/L	10	06/07/2026 23:52	R385429
Sulfate	NELAP	0.99	10.0		**ND**	mg/L	10	06/07/2026 23:52	R385429
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**< 2.5**	µg/L	1	06/06/2026 9:59	257709
Boron	NELAP	9.0	20.0		**< 20.0**	µg/L	1	06/06/2026 9:59	257709
Calcium	NELAP	0.035	0.100		**< 0.100**	mg/L	1	06/06/2026 9:59	257709
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	06/15/2026 13:22	257709
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	06/15/2026 13:22	257709
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/15/2026 13:22	257709
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/15/2026 13:22	257709
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	06/15/2026 13:22	257709
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	06/15/2026 13:22	257709
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	06/15/2026 13:22	257709
Lithium	*	1.4	3.0	J	**2.0**	µg/L	5	06/17/2026 15:21	257709
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	06/15/2026 13:22	257709
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	06/18/2026 10:33	257709
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	06/15/2026 13:22	257709
CCV recovered outside the upper control limits for Be. Sample results are below the reporting limit. Data is reportable per the TNI standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	06/04/2026 14:44	257740
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.00209**	pci/L	1	07/01/2026 15:41	R386744
Combined 226/228 Uncertainty	*	0	0		**0.331**	+/-	1	07/01/2026 15:41	R386744
Radium-226	*	1.00	1.00		**0.00209**	pci/L	1	06/30/2026 17:34	R386744
Radium-226 Uncertainty	*	0	0		**0.107**	+/-	1	06/30/2026 17:34	R386744
Radium-228	*	1.00	1.00		**-0.133**	pci/L	1	06/30/2026 13:58	R386744
Radium-228 Uncertainty	*	0	0		**0.313**	+/-	1	06/30/2026 13:58	R386744

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

Lab ID: 26051599-011 **Client Sample ID:** Field Duplicate

Matrix: GROUNDWATER **Collection Date:** 06/02/2026 10:36

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**7.11**	ft	1	06/02/2026 10:36	R385224
Elevation of groundwater surface	*	0	0		**512.63**	ft	1	06/02/2026 10:36	R385224
Measuring Point Elevation	*	0	0		**519.74**	ft	1	06/02/2026 10:36	R385224
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.32**	gal	1	06/02/2026 10:36	R385224
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**6.0**	NTU	1	06/02/2026 10:36	R385224
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-37**	mV	1	06/02/2026 10:36	R385224
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.7003**	mS/cm	1	06/02/2026 10:36	R385224
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**20.5**	°C	1	06/02/2026 10:36	R385224
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.40**	mg/L	1	06/02/2026 10:36	R385224
SW-846 9040B FIELD									
pH	*	0	1.00		**5.93**		1	06/02/2026 10:36	R385224
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1890**	mg/L	1	06/03/2026 13:37	R385196
Stable weight could not be achieved after multiple cycles of drying, cooling, and weighing. Final weight is reported.									
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.20**	mg/L	10	06/08/2026 0:05	R385429
Chloride	NELAP	1.00	5.00		**518**	mg/L	10	06/08/2026 0:05	R385429
Sulfate	NELAP	0.99	10.0		**475**	mg/L	10	06/08/2026 0:05	R385429
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**52.1**	µg/L	1	06/06/2026 23:31	257620
Boron	NELAP	9.0	20.0	S	**8590**	µg/L	1	06/06/2026 23:31	257620
Calcium	NELAP	0.035	0.100	S	**192**	mg/L	1	06/06/2026 23:31	257620
Matrix spike control limits for B are not applicable due to high sample/spike ratio.									
Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.									
Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.									
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	J	**0.5**	µg/L	5	06/22/2026 20:17	257620
Arsenic	NELAP	0.4	1.0		**24.0**	µg/L	5	06/13/2026 12:11	257620
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/27/2026 16:58	258621
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/13/2026 12:11	257620
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	06/13/2026 12:11	257620
Cobalt	NELAP	0.1	1.0		**62.4**	µg/L	5	06/13/2026 12:11	257620
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	06/13/2026 12:11	257620
Lithium	*	1.4	3.0	J	**2.9**	µg/L	5	06/27/2026 16:58	258621
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	06/13/2026 12:11	257620
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	06/13/2026 12:11	257620
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	06/13/2026 12:11	257620
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	06/03/2026 16:09	257636

Client: Southern Illinois Power Cooperation
Work Order: 26051599
Client Project: Groundwater Monitoring
Report Date: 10-Jul-26
Lab ID: 26051599-011
Client Sample ID: Field Duplicate
Matrix: GROUNDWATER
Collection Date: 06/02/2026 10:36

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**1.69**	pci/L	1	07/01/2026 15:41	R386744
Combined 226/228 Uncertainty	*	0	0		**0.925**	+/-	1	07/01/2026 15:41	R386744
Radium-226	*	1.00	1.00		**0.174**	pci/L	1	06/30/2026 17:34	R386744
Radium-226 Uncertainty	*	0	0		**0.284**	+/-	1	06/30/2026 17:34	R386744
Radium-228	*	1.00	1.00		**1.51**	pci/L	1	06/30/2026 13:58	R386744
Radium-228 Uncertainty	*	0	0		**0.880**	+/-	1	06/30/2026 13:58	R386744

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

Lab ID: 26051599-012 **Client Sample ID:** MW-101

Matrix: GROUNDWATER **Collection Date:** 06/03/2026 12:56

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**15.13**	ft	1	06/03/2026 12:56	R385224
Elevation of groundwater surface	*	0	0		**501.19**	ft	1	06/03/2026 12:56	R385224
Measuring Point Elevation	*	0	0		**516.32**	ft	1	06/03/2026 12:56	R385224
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.32**	gal	1	06/03/2026 12:56	R385224
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**2.9**	NTU	1	06/03/2026 12:56	R385224
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**133**	mV	1	06/03/2026 12:56	R385224
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.4092**	mS/cm	1	06/03/2026 12:56	R385224
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**20.2**	°C	1	06/03/2026 12:56	R385224
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**2.44**	mg/L	1	06/03/2026 12:56	R385224
SW-846 9040B FIELD									
pH	*	0	1.00		**6.78**		1	06/03/2026 12:56	R385224
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**824**	mg/L	1	06/04/2026 13:55	R385330
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**0.56**	mg/L	10	06/08/2026 0:17	R385429
Chloride	NELAP	1.00	5.00		**204**	mg/L	10	06/08/2026 0:17	R385429
Sulfate	NELAP	0.99	10.0		**106**	mg/L	10	06/08/2026 0:17	R385429
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**115**	µg/L	1	06/06/2026 9:59	257709
Boron	NELAP	9.0	20.0		**32.2**	µg/L	1	06/06/2026 9:59	257709
Calcium	NELAP	0.035	0.100		**62.0**	mg/L	1	06/06/2026 9:59	257709
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	06/15/2026 13:26	257709
Arsenic	NELAP	0.4	1.0	J	**0.4**	µg/L	5	06/15/2026 13:26	257709
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/15/2026 13:26	257709
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/15/2026 13:26	257709
Chromium	NELAP	0.7	1.5		**2.7**	µg/L	5	06/15/2026 13:26	257709
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	06/15/2026 13:26	257709
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	06/15/2026 13:26	257709
Lithium	*	1.4	3.0		**31.4**	µg/L	5	06/17/2026 15:26	257709
Molybdenum	NELAP	0.6	1.5		**1.6**	µg/L	5	06/15/2026 13:26	257709
Selenium	NELAP	0.6	1.0	J	**0.7**	µg/L	5	06/18/2026 10:37	257709
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	06/15/2026 13:26	257709
CCV recovered outside the upper control limits for Be. Sample results are below the reporting limit. Data is reportable per the TNI standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	06/04/2026 14:51	257740
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**1.19**	pci/L	1	07/01/2026 15:41	R386744
Combined 226/228 Uncertainty	*	0	0		**0.713**	+/-	1	07/01/2026 15:41	R386744
Radium-226	*	1.00	1.00		**0.492**	pci/L	1	07/01/2026 7:17	R386744

Client: Southern Illinois Power Cooperation
Work Order: 26051599
Client Project: Groundwater Monitoring
Report Date: 10-Jul-26
Lab ID: 26051599-012
Client Sample ID: MW-101
Matrix: GROUNDWATER
Collection Date: 06/03/2026 12:56

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**0.267**	+/-	1	07/01/2026 7:17	R386744
Radium-228	*	1.00	1.00		**0.699**	pci/L	1	06/30/2026 13:58	R386744
Radium-228 Uncertainty	*	0	0		**0.661**	+/-	1	06/30/2026 13:58	R386744

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

Lab ID: 26051599-013 **Client Sample ID:** MW-102

Matrix: GROUNDWATER **Collection Date:** 06/03/2026 12:08

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**15.91**	ft	1	06/03/2026 12:08	R385224
Elevation of groundwater surface	*	0	0		**502.20**	ft	1	06/03/2026 12:08	R385224
Measuring Point Elevation	*	0	0		**518.11**	ft	1	06/03/2026 12:08	R385224
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.32**	gal	1	06/03/2026 12:08	R385224
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**1.8**	NTU	1	06/03/2026 12:08	R385224
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**62**	mV	1	06/03/2026 12:08	R385224
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.8293**	mS/cm	1	06/03/2026 12:08	R385224
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**20.6**	°C	1	06/03/2026 12:08	R385224
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**3.51**	mg/L	1	06/03/2026 12:08	R385224
SW-846 9040B FIELD									
pH	*	0	1.00		**6.45**		1	06/03/2026 12:08	R385224
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1360**	mg/L	1	06/04/2026 13:55	R385330
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.19**	mg/L	10	06/08/2026 0:30	R385429
Chloride	NELAP	1.00	5.00		**147**	mg/L	10	06/08/2026 0:30	R385429
Sulfate	NELAP	0.99	10.0		**541**	mg/L	10	06/08/2026 0:30	R385429
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**29.7**	µg/L	1	06/06/2026 10:00	257709
Boron	NELAP	9.0	20.0		**28.2**	µg/L	1	06/06/2026 10:00	257709
Calcium	NELAP	0.035	0.100		**101**	mg/L	1	06/06/2026 10:00	257709
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	06/15/2026 13:30	257709
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	06/15/2026 13:30	257709
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/15/2026 13:30	257709
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/15/2026 13:30	257709
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	06/15/2026 13:30	257709
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	06/15/2026 13:30	257709
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	06/15/2026 13:30	257709
Lithium	*	1.4	3.0		**5.1**	µg/L	5	06/18/2026 10:41	257709
Molybdenum	NELAP	0.6	1.5	J	**1.0**	µg/L	5	06/15/2026 13:30	257709
Selenium	NELAP	0.6	1.0		**1.7**	µg/L	5	06/18/2026 10:41	257709
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	06/15/2026 13:30	257709
CCV recovered outside the upper control limits for Be. Sample results are below the reporting limit. Data is reportable per the TNI standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	06/04/2026 14:53	257740
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**1.11**	pci/L	1	07/01/2026 15:41	R386744
Combined 226/228 Uncertainty	*	0	0		**0.569**	+/-	1	07/01/2026 15:41	R386744
Radium-226	*	1.00	1.00		**0.131**	pci/L	1	07/01/2026 7:17	R386744

Client: Southern Illinois Power Cooperation
Work Order: 26051599
Client Project: Groundwater Monitoring
Report Date: 10-Jul-26
Lab ID: 26051599-013
Client Sample ID: MW-102
Matrix: GROUNDWATER
Collection Date: 06/03/2026 12:08

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**0.139**	+/-	1	07/01/2026 7:17	R386744
Radium-228	*	1.00	1.00		**0.978**	pci/L	1	06/30/2026 13:58	R386744
Radium-228 Uncertainty	*	0	0		**0.552**	+/-	1	06/30/2026 13:58	R386744

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

Lab ID: 26051599-014 **Client Sample ID:** MW-103

Matrix: GROUNDWATER **Collection Date:** 06/03/2026 11:20

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**14.71**	ft	1	06/03/2026 11:20	R385224
Elevation of groundwater surface	*	0	0		**497.63**	ft	1	06/03/2026 11:20	R385224
Measuring Point Elevation	*	0	0		**512.34**	ft	1	06/03/2026 11:20	R385224
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**3.96**	gal	1	06/03/2026 11:20	R385224
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**5.4**	NTU	1	06/03/2026 11:20	R385224
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-7**	mV	1	06/03/2026 11:20	R385224
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.4040**	mS/cm	1	06/03/2026 11:20	R385224
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**20.2**	°C	1	06/03/2026 11:20	R385224
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.43**	mg/L	1	06/03/2026 11:20	R385224
SW-846 9040B FIELD									
pH	*	0	1.00		**5.75**		1	06/03/2026 11:20	R385224
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1860**	mg/L	1	06/04/2026 13:55	R385330
Stable weight could not be achieved after multiple cycles of drying, cooling, and weighing. Final weight is reported.									
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.09**	mg/L	10	06/08/2026 0:43	R385429
Chloride	NELAP	1.00	5.00		**389**	mg/L	10	06/08/2026 0:43	R385429
Sulfate	NELAP	0.99	10.0		**585**	mg/L	10	06/08/2026 0:43	R385429
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**46.2**	µg/L	1	06/06/2026 11:13	257709
Boron	NELAP	9.0	20.0	S	**8300**	µg/L	1	06/06/2026 11:13	257709
Calcium	NELAP	0.035	0.100	S	**106**	mg/L	1	06/06/2026 11:13	257709
Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.									
Matrix spike control limits for B are not applicable due to high sample/spike ratio.									
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	06/15/2026 13:34	257709
Arsenic	NELAP	0.4	1.0		**5.1**	µg/L	5	06/15/2026 13:34	257709
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/15/2026 13:34	257709
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/15/2026 13:34	257709
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	06/15/2026 13:34	257709
Cobalt	NELAP	0.1	1.0		**588**	µg/L	5	06/15/2026 13:34	257709
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	06/15/2026 13:34	257709
Lithium	*	1.4	3.0		**7.4**	µg/L	5	06/17/2026 15:34	257709
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	06/15/2026 13:34	257709
Selenium	NELAP	0.6	1.0	J	**0.9**	µg/L	5	06/22/2026 17:22	257709
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	06/15/2026 13:34	257709
CCV recovered outside the upper control limits for Be. Sample results are below the reporting limit. Data is reportable per the TNI standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	06/04/2026 14:55	257740

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

Lab ID: 26051599-014 **Client Sample ID:** MW-103

Matrix: GROUNDWATER **Collection Date:** 06/03/2026 11:20

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**1.28**	pci/L	1	07/01/2026 15:41	R386744
Combined 226/228 Uncertainty	*	0	0		**0.533**	+/-	1	07/01/2026 15:41	R386744
Radium-226	*	1.00	1.00		**0.254**	pci/L	1	07/01/2026 7:17	R386744
Radium-226 Uncertainty	*	0	0		**0.164**	+/-	1	07/01/2026 7:17	R386744
Radium-228	*	1.00	1.00		**1.03**	pci/L	1	06/30/2026 13:58	R386744
Radium-228 Uncertainty	*	0	0		**0.507**	+/-	1	06/30/2026 13:58	R386744

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

Lab ID: 26051599-015 **Client Sample ID:** MW-104

Matrix: GROUNDWATER **Collection Date:** 06/03/2026 12:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**11.89**	ft	1	06/03/2026 12:00	R385224
Elevation of groundwater surface	*	0	0		**500.63**	ft	1	06/03/2026 12:00	R385224
Measuring Point Elevation	*	0	0		**512.52**	ft	1	06/03/2026 12:00	R385224
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**0.79**	gal	1	06/03/2026 12:00	R385224
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**4.0**	NTU	1	06/03/2026 12:00	R385224
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-356**	mV	1	06/03/2026 12:00	R385224
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.5106**	mS/cm	1	06/03/2026 12:00	R385224
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**19.0**	°C	1	06/03/2026 12:00	R385224
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.06**	mg/L	1	06/03/2026 12:00	R385224
SW-846 9040B FIELD									
pH	*	0	1.00		**9.22**		1	06/03/2026 12:00	R385224
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**2770**	mg/L	1	06/04/2026 13:55	R385330
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**4.61**	mg/L	10	06/08/2026 1:33	R385429
Chloride	NELAP	1.00	5.00		**25.0**	mg/L	10	06/08/2026 1:33	R385429
Sulfate	NELAP	0.99	10.0		**1740**	mg/L	10	06/08/2026 1:33	R385429
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**43.2**	µg/L	1	06/06/2026 11:15	257709
Boron	NELAP	9.0	20.0		**6610**	µg/L	1	06/06/2026 11:15	257709
Calcium	NELAP	0.035	0.100		**684**	mg/L	1	06/06/2026 11:15	257709
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**11.5**	µg/L	5	06/15/2026 15:08	257709
Arsenic	NELAP	2.0	5.0		**848**	µg/L	25	06/17/2026 16:10	257709
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/15/2026 15:08	257709
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/15/2026 15:08	257709
Chromium	NELAP	3.5	7.5		**< 7.5**	µg/L	25	06/17/2026 16:10	257709
Cobalt	NELAP	0.6	5.0		**< 5.0**	µg/L	25	06/17/2026 16:10	257709
Lead	NELAP	0.6	1.0		**1.8**	µg/L	5	06/15/2026 15:08	257709
Lithium	*	7.3	15.0		**< 15.0**	µg/L	25	06/17/2026 16:10	257709
Molybdenum	NELAP	3.0	7.5	J	**5.9**	µg/L	25	06/17/2026 16:10	257709
Selenium	NELAP	3.0	5.0		**< 5.0**	µg/L	25	06/18/2026 11:46	257709
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	06/15/2026 15:08	257709
The associated internal standard was outside method criteria. Subsequent analysis produced similar results.									
Elevated reporting limit due to matrix interference.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	06/04/2026 14:57	257740
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**1.49**	pci/L	1	07/01/2026 15:41	R386744
Combined 226/228 Uncertainty	*	0	0		**1.03**	+/-	1	07/01/2026 15:41	R386744

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

Lab ID: 26051599-015 **Client Sample ID:** MW-104

Matrix: GROUNDWATER **Collection Date:** 06/03/2026 12:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	1.00	1.00		**0.247**	pci/L	1	07/01/2026 7:17	R386744
Radium-226 Uncertainty	*	0	0		**0.286**	+/-	1	07/01/2026 7:17	R386744
Radium-228	*	1.00	1.00		**1.24**	pci/L	1	06/30/2026 14:00	R386744
Radium-228 Uncertainty	*	0	0		**0.986**	+/-	1	06/30/2026 14:00	R386744

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

Lab ID: 26051599-016 **Client Sample ID:** MW-105

Matrix: GROUNDWATER **Collection Date:** 06/03/2026 11:16

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**12.84**	ft	1	06/03/2026 11:16	R385224
Elevation of groundwater surface	*	0	0		**500.60**	ft	1	06/03/2026 11:16	R385224
Measuring Point Elevation	*	0	0		**513.44**	ft	1	06/03/2026 11:16	R385224
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.59**	gal	1	06/03/2026 11:16	R385224
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**4.6**	NTU	1	06/03/2026 11:16	R385224
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**120**	mV	1	06/03/2026 11:16	R385224
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.1121**	mS/cm	1	06/03/2026 11:16	R385224
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**19.2**	°C	1	06/03/2026 11:16	R385224
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.83**	mg/L	1	06/03/2026 11:16	R385224
SW-846 9040B FIELD									
pH	*	0	1.00		**6.22**		1	06/03/2026 11:16	R385224
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1880**	mg/L	1	06/04/2026 13:55	R385330
Stable weight could not be achieved after multiple cycles of drying, cooling, and weighing. Final weight is reported.									
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.21**	mg/L	10	06/08/2026 1:46	R385429
Chloride	NELAP	1.00	5.00		**226**	mg/L	10	06/08/2026 1:46	R385429
Sulfate	NELAP	0.99	10.0		**773**	mg/L	10	06/08/2026 1:46	R385429
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**29.6**	µg/L	1	06/06/2026 11:16	257709
Boron	NELAP	9.0	20.0		**20.9**	µg/L	1	06/06/2026 11:16	257709
Calcium	NELAP	0.035	0.100		**165**	mg/L	1	06/06/2026 11:16	257709
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	06/15/2026 15:12	257709
Arsenic	NELAP	0.4	1.0	J	**0.6**	µg/L	5	06/15/2026 15:12	257709
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/17/2026 16:14	257709
Cadmium	NELAP	0.2	1.0	J	**0.3**	µg/L	5	06/15/2026 15:12	257709
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	06/15/2026 15:12	257709
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	06/15/2026 15:12	257709
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	06/15/2026 15:12	257709
Lithium	*	1.4	3.0		**43.2**	µg/L	5	06/15/2026 15:12	257709
Molybdenum	NELAP	0.6	1.5	J	**0.7**	µg/L	5	06/15/2026 15:12	257709
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	06/18/2026 11:50	257709
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	06/15/2026 15:12	257709
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	06/04/2026 15:13	257740
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.630**	pci/L	1	07/01/2026 15:41	R386744
Combined 226/228 Uncertainty	*	0	0		**0.498**	+/-	1	07/01/2026 15:41	R386744
Radium-226	*	1.00	1.00		**0.0761**	pci/L	1	07/01/2026 7:18	R386744

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

Lab ID: 26051599-016 **Client Sample ID:** MW-105

Matrix: GROUNDWATER **Collection Date:** 06/03/2026 11:16

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**0.124**	+/-	1	07/01/2026 7:18	R386744
Radium-228	*	1.00	1.00		**0.553**	pci/L	1	06/30/2026 14:00	R386744
Radium-228 Uncertainty	*	0	0		**0.482**	+/-	1	06/30/2026 14:00	R386744

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

Lab ID: 26051599-017 **Client Sample ID:** MW-106

Matrix: GROUNDWATER **Collection Date:** 06/03/2026 10:16

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**15.47**	ft	1	06/03/2026 10:16	R385224
Elevation of groundwater surface	*	0	0		**500.47**	ft	1	06/03/2026 10:16	R385224
Measuring Point Elevation	*	0	0		**515.94**	ft	1	06/03/2026 10:16	R385224
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.85**	gal	1	06/03/2026 10:16	R385224
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**2.3**	NTU	1	06/03/2026 10:16	R385224
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**95**	mV	1	06/03/2026 10:16	R385224
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.3880**	mS/cm	1	06/03/2026 10:16	R385224
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**19.2**	°C	1	06/03/2026 10:16	R385224
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**1.72**	mg/L	1	06/03/2026 10:16	R385224
SW-846 9040B FIELD									
pH	*	0	1.00		**6.56**		1	06/03/2026 10:16	R385224
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1260**	mg/L	1	06/04/2026 13:55	R385330
Stable weight could not be achieved after multiple cycles of drying, cooling, and weighing. Final weight is reported.									
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.26**	mg/L	10	06/08/2026 1:59	R385429
Chloride	NELAP	1.00	5.00		**47.7**	mg/L	10	06/08/2026 1:59	R385429
Sulfate	NELAP	0.99	10.0		**563**	mg/L	10	06/08/2026 1:59	R385429
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**48.9**	µg/L	1	06/06/2026 11:17	257709
Boron	NELAP	9.0	20.0		**24.6**	µg/L	1	06/06/2026 11:17	257709
Calcium	NELAP	0.035	0.100		**98.1**	mg/L	1	06/06/2026 11:17	257709
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	06/15/2026 15:16	257709
Arsenic	NELAP	0.4	1.0	J	**0.6**	µg/L	5	06/15/2026 15:16	257709
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/15/2026 15:16	257709
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/15/2026 15:16	257709
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	06/15/2026 15:16	257709
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	06/15/2026 15:16	257709
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	06/15/2026 15:16	257709
Lithium	*	1.4	3.0		**48.2**	µg/L	5	06/15/2026 15:16	257709
Molybdenum	NELAP	0.6	1.5	J	**0.8**	µg/L	5	06/15/2026 15:16	257709
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	06/18/2026 11:54	257709
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	06/15/2026 15:16	257709
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	06/04/2026 15:15	257740
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.441**	pci/L	1	07/01/2026 15:41	R386744
Combined 226/228 Uncertainty	*	0	0		**0.605**	+/-	1	07/01/2026 15:41	R386744
Radium-226	*	1.00	1.00		**0.255**	pci/L	1	07/01/2026 7:17	R386744

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

Lab ID: 26051599-017 **Client Sample ID:** MW-106

Matrix: GROUNDWATER **Collection Date:** 06/03/2026 10:16

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**0.189**	+/-	1	07/01/2026 7:17	R386744
Radium-228	*	1.00	1.00		**0.186**	pci/L	1	06/30/2026 14:00	R386744
Radium-228 Uncertainty	*	0	0		**0.575**	+/-	1	06/30/2026 14:00	R386744

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

Lab ID: 26051599-018 **Client Sample ID:** MW-109

Matrix: GROUNDWATER **Collection Date:** 06/03/2026 9:33

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**7.13**	ft	1	06/03/2026 9:33	R385224
Elevation of groundwater surface	*	0	0		**505.42**	ft	1	06/03/2026 9:33	R385224
Measuring Point Elevation	*	0	0		**512.55**	ft	1	06/03/2026 9:33	R385224
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.06**	gal	1	06/03/2026 9:33	R385224
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**4.8**	NTU	1	06/03/2026 9:33	R385224
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**110**	mV	1	06/03/2026 9:33	R385224
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.0031**	mS/cm	1	06/03/2026 9:33	R385224
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**17.8**	°C	1	06/03/2026 9:33	R385224
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.86**	mg/L	1	06/03/2026 9:33	R385224
SW-846 9040B FIELD									
pH	*	0	1.00		**6.96**		1	06/03/2026 9:33	R385224
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**626**	mg/L	1	06/04/2026 14:06	R385330
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.38**	mg/L	10	06/08/2026 2:11	R385429
Chloride	NELAP	1.00	5.00		**64.3**	mg/L	10	06/08/2026 2:11	R385429
Sulfate	NELAP	0.99	10.0		**143**	mg/L	10	06/08/2026 2:11	R385429
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**119**	µg/L	1	06/06/2026 11:17	257709
Boron	NELAP	9.0	20	J	**16**	µg/L	1	06/06/2026 11:17	257709
Calcium	NELAP	0.035	0.100		**55.9**	mg/L	1	06/06/2026 11:17	257709
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	06/15/2026 15:20	257709
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	06/15/2026 15:20	257709
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/15/2026 15:20	257709
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	06/15/2026 15:20	257709
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	06/15/2026 15:20	257709
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	06/15/2026 15:20	257709
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	06/15/2026 15:20	257709
Lithium	*	1.4	3.0		**14.3**	µg/L	5	06/15/2026 15:20	257709
Molybdenum	NELAP	0.6	1.5		**3.3**	µg/L	5	06/15/2026 15:20	257709
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	06/18/2026 11:59	257709
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	06/15/2026 15:20	257709
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	06/04/2026 15:18	257740
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.860**	pci/L	1	07/01/2026 15:41	R386744
Combined 226/228 Uncertainty	*	0	0		**0.433**	+/-	1	07/01/2026 15:41	R386744
Radium-226	*	1.00	1.00		**0.258**	pci/L	1	07/01/2026 7:18	R386744
Radium-226 Uncertainty	*	0	0		**0.175**	+/-	1	07/01/2026 7:18	R386744

Client: Southern Illinois Power Cooperation
Work Order: 26051599
Client Project: Groundwater Monitoring
Report Date: 10-Jul-26
Lab ID: 26051599-018
Client Sample ID: MW-109
Matrix: GROUNDWATER
Collection Date: 06/03/2026 9:33

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-228	*	1.00	1.00		**0.602**	pci/L	1	06/30/2026 14:00	R386744
Radium-228 Uncertainty	*	0	0		**0.396**	+/-	1	06/30/2026 14:00	R386744

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

STANDARD METHODS 2510 B FIELD

Batch R385224 **SampType:** LCS Units **mS/cm**
SampID: LCS-1-AL

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4100**	1.412	0	99.9	90	110	06/01/2026

Batch R385224 **SampType:** LCS Units **mS/cm**
SampID: LCS-1-PY

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4120**	1.412	0	100.0	90	110	06/03/2026

Batch R385224 **SampType:** LCS Units **mS/cm**
SampID: LCS-2-AL

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4110**	1.412	0	99.9	90	110	06/02/2026

Batch R385224 **SampType:** LCS Units **mS/cm**
SampID: LCS-3-AL

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4080**	1.412	0	99.7	90	110	06/03/2026

SW-846 9040B FIELD

Batch R385224 **SampType:** LCS Units
SampID: LCS-1-AL

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.09**	7.000	0	101.3	98.57	101.4	06/01/2026

Batch R385224 **SampType:** LCS Units
SampID: LCS-1-PY

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.07**	7.000	0	101.0	98.57	101.4	06/03/2026

Batch R385224 **SampType:** LCS Units
SampID: LCS-2-AL

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.07**	7.000	0	101.0	98.57	101.4	06/02/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW-846 9040B FIELD

Batch R385224 **SampType:** LCS Units

SampID: LCS-3-AL

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.08**	7.000	0	101.1	98.57	101.4	06/03/2026

STANDARD METHODS 2540 C (TOTAL) 2020

Batch R385196 **SampType:** MBLK Units **mg/L**

SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**< 20**	0	0	0	0	0	06/03/2026
Total Dissolved Solids		20		**< 20**	0	0	0	0	0	06/03/2026

Batch R385196 **SampType:** LCS Units **mg/L**

SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**250**	250.0	0	100.0	90	110	06/03/2026
Total Dissolved Solids		20		**250**	250.0	0	100.0	90	110	06/03/2026

Batch R385196 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 26051599-006ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**260**				272.0	4.51	06/03/2026

Batch R385196 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 26051517-001BDUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**306**				296.0	3.32	06/03/2026

Batch R385330 **SampType:** MBLK Units **mg/L**

SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**< 20**	0	0	0	0	0	06/04/2026
Total Dissolved Solids		20		**< 20**	0	0	0	0	0	06/04/2026

Batch R385330 **SampType:** LCS Units **mg/L**

SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**264**	250.0	0	105.6	90	110	06/04/2026
Total Dissolved Solids		20		**232**	250.0	0	92.8	90	110	06/04/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

STANDARD METHODS 2540 C (TOTAL) 2020

Batch R385330 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 26051599-018ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**608**				626.0	2.92	06/04/2026

Batch R385330 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 26060248-004ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**446**				428.0	4.12	06/04/2026

Batch R385330 **SampType:** DUP Units **mg/L** RPD Limit **10**

SampID: 26060379-001ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**2240**				2036	9.45	06/04/2026

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R385429 **SampType:** MBLK Units **mg/L**

SampID: MBLK/ICB

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**	0	0	0	0	0	06/07/2026
Chloride		0.50		**ND**	0	0	0	0	0	06/07/2026
Sulfate		1.00		**ND**	0	0	0	0	0	06/07/2026

Batch R385429 **SampType:** MBLK Units **mg/L**

SampID: MB-R385429

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**						06/04/2026
Chloride		0.50		**ND**						06/04/2026
Sulfate		1.00		**ND**						06/04/2026

Batch R385429 **SampType:** LCS Units **mg/L**

SampID: LCS/ICV/QCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**1.07**	1.000	0	107.1	90	110	06/07/2026
Chloride		0.50		**21.6**	20.00	0	108.1	90	110	06/07/2026
Sulfate		1.00		**20.3**	20.00	0	101.4	90	110	06/07/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R385429 **SampType:** LCS Units **mg/L**

SampID: LCS-R385429

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**1.07**	1.000	0	107.1	90	110	06/04/2026
Chloride		0.50		**21.6**	20.00	0	108.1	90	110	06/04/2026
Sulfate		1.00		**20.3**	20.00	0	101.4	90	110	06/04/2026

Batch R385429 **SampType:** MS Units **mg/L**

SampID: 26051517-001BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.5**	10.00	0.2460	102.8	80	120	06/07/2026
Chloride		5.00		**262**	200.0	47.93	106.8	80	120	06/07/2026
Sulfate		10.0		**209**	200.0	13.77	97.4	80	120	06/07/2026

Batch R385429 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26051517-001BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.5**	10.00	0.2460	102.7	10.52	0.12	06/07/2026
Chloride		5.00		**261**	200.0	47.93	106.4	261.5	0.32	06/07/2026
Sulfate		10.0		**207**	200.0	13.77	96.7	208.6	0.70	06/07/2026

Batch R385429 **SampType:** MS Units **mg/L**

SampID: 26051599-002AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.98**	10.00	0.1840	97.9	80	120	06/07/2026
Chloride		5.00		**250**	200.0	38.01	106.1	80	120	06/07/2026
Sulfate		10.0		**1720**	200.0	1536	94.4	80	120	06/07/2026

Batch R385429 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26051599-002AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**9.90**	10.00	0.1840	97.2	9.977	0.75	06/07/2026
Chloride		5.00		**249**	200.0	38.01	105.3	250.3	0.65	06/07/2026
Sulfate		10.0		**1720**	200.0	1536	91.3	1725	0.36	06/07/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R385429 **SampType:** MS Units **mg/L**
SampID: 26051910-003AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.8**	10.00	0.2340	105.4	80	120	06/08/2026
Chloride		5.00		**325**	200.0	99.62	112.8	80	120	06/08/2026
Sulfate		10.0		**213**	200.0	14.25	99.3	80	120	06/08/2026

Batch R385429 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 26051910-003AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.7**	10.00	0.2340	105.0	10.77	0.33	06/08/2026
Chloride		5.00		**324**	200.0	99.62	112.2	325.2	0.39	06/08/2026
Sulfate		10.0		**212**	200.0	14.25	98.8	212.9	0.52	06/08/2026

Batch R385429 **SampType:** MS Units **mg/L**
SampID: 26051910-006AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**11.6**	10.00	0.8870	107.5	80	120	06/08/2026
Chloride		5.00		**258**	200.0	37.68	110.4	80	120	06/08/2026
Sulfate		10.0		**304**	200.0	98.78	102.4	80	120	06/08/2026

Batch R385429 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 26051910-006AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**11.6**	10.00	0.8870	107.1	11.64	0.40	06/08/2026
Chloride		5.00		**257**	200.0	37.68	109.9	258.4	0.38	06/08/2026
Sulfate		10.0		**303**	200.0	98.78	102.2	303.6	0.12	06/08/2026

Batch R385429 **SampType:** MS Units **mg/L**
SampID: 26060005-007AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.4**	10.00	0	104.1	80	120	06/08/2026
Chloride		5.00		**215**	200.0	2.999	105.9	80	120	06/08/2026
Sulfate		10.0		**200**	200.0	3.576	98.3	80	120	06/08/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R385429 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26060005-007AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.3**	10.00	0	103.5	10.41	0.56	06/08/2026
Chloride		5.00		**213**	200.0	2.999	104.9	214.7	0.87	06/08/2026
Sulfate		10.0		**199**	200.0	3.576	97.6	200.2	0.70	06/08/2026

Batch R385429 **SampType:** MS Units **mg/L**

SampID: 26060054-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.7**	10.00	0.2640	104.2	80	120	06/08/2026
Sulfate		10.0		**2350**	200.0	2157	94.1	80	120	06/08/2026

Batch R385429 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26060054-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.5**	10.00	0.2640	102.5	10.68	1.62	06/08/2026
Sulfate		10.0		**2330**	200.0	2157	85.5	2346	0.73	06/08/2026

Batch R385429 **SampType:** MS Units **mg/L**

SampID: 26060089-003BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**11.3**	10.00	0.8240	104.7	80	120	06/08/2026
Chloride		5.00		**216**	200.0	3.972	106.2	80	120	06/08/2026
Sulfate		10.0		**259**	200.0	59.44	99.7	80	120	06/08/2026

Batch R385429 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26060089-003BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**11.2**	10.00	0.8240	103.9	11.30	0.77	06/08/2026
Chloride		5.00		**214**	200.0	3.972	105.1	216.3	1.02	06/08/2026
Sulfate		10.0		**257**	200.0	59.44	98.6	258.8	0.82	06/08/2026

Batch R385429 **SampType:** MS Units **mg/L**

SampID: 26060123-003AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**11.0**	10.00	0.4440	105.2	80	120	06/08/2026
Sulfate		10.0		**336**	200.0	130.8	102.5	80	120	06/08/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R385429 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26060123-003AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.9**	10.00	0.4440	104.9	10.96	0.26	06/08/2026
Sulfate		10.0		**335**	200.0	130.8	102.1	335.9	0.26	06/08/2026

Batch R385429 **SampType:** MS Units **mg/L**

SampID: 26060281-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**11.0**	10.00	0.2560	107.8	80	120	06/09/2026
Chloride		5.00		**238**	200.0	16.81	110.3	80	120	06/09/2026
Sulfate		10.0		**497**	200.0	275.5	110.6	80	120	06/09/2026

Batch R385429 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26060281-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.9**	10.00	0.2560	106.4	11.04	1.31	06/09/2026
Chloride		5.00		**234**	200.0	16.81	108.8	237.5	1.31	06/09/2026
Sulfate		10.0		**490**	200.0	275.5	107.4	496.7	1.29	06/09/2026

Batch R385429 **SampType:** MS Units **mg/L**

SampID: 26060331-003AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.9**	10.00	0.1250	107.7	80	120	06/09/2026
Chloride		5.00		**413**	200.0	182.0	115.5	80	120	06/09/2026
Sulfate		10.0		**795**	200.0	579.0	107.8	80	120	06/09/2026

Batch R385429 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26060331-003AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.8**	10.00	0.1250	107.2	10.89	0.46	06/09/2026
Chloride		5.00		**416**	200.0	182.0	117.3	412.9	0.86	06/09/2026
Sulfate		10.0		**800**	200.0	579.0	110.8	794.6	0.74	06/09/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R385507 **SampType:** MBLK Units **mg/L**
SampID: MBLK/ICB

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**	0	0	0	0	0	06/09/2026
Chloride		0.50		**ND**	0	0	0	0	0	06/09/2026
Sulfate		1.00		**ND**	0	0	0	0	0	06/09/2026

Batch R385507 **SampType:** LCS Units **mg/L**
SampID: LCS/ICV/QCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**1.01**	1.000	0	100.8	90	110	06/09/2026
Chloride		0.50		**21.0**	20.00	0	105.1	90	110	06/09/2026
Sulfate		1.00		**19.2**	20.00	0	96.0	90	110	06/09/2026

Batch R385507 **SampType:** MS Units **mg/L**
SampID: 26052472-002AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.8**	10.00	0.2780	105.6	80	120	06/09/2026
Chloride		5.00		**323**	200.0	99.18	112.1	80	120	06/09/2026
Sulfate		10.0		**302**	200.0	104.2	98.8	80	120	06/09/2026

Batch R385507 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 26052472-002AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.8**	10.00	0.2780	105.4	10.84	0.24	06/09/2026
Chloride		5.00		**322**	200.0	99.18	111.2	323.3	0.52	06/09/2026
Sulfate		10.0		**304**	200.0	104.2	99.7	301.8	0.62	06/09/2026

Batch R385507 **SampType:** MS Units **mg/L**
SampID: 26060054-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.3**	10.00	0.2080	101.2	80	120	06/09/2026
Chloride		5.00		**471**	200.0	242.1	114.6	80	120	06/09/2026
Sulfate		10.0		**2240**	200.0	2047	95.9	80	120	06/09/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R385507 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26060054-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.2**	10.00	0.2080	100.2	10.33	1.04	06/09/2026
Chloride		5.00		**470**	200.0	242.1	113.9	471.4	0.31	06/09/2026
Sulfate		10.0		**2240**	200.0	2047	99.0	2238	0.28	06/09/2026

Batch R385507 **SampType:** MS Units **mg/L**

SampID: 26060123-003AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		5.00		**432**	200.0	202.7	114.6	80	120	06/09/2026

Batch R385507 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26060123-003AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride		5.00		**430**	200.0	202.7	113.7	431.9	0.41	06/09/2026

Batch R385507 **SampType:** MS Units **mg/L**

SampID: 26060805-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**9.62**	10.00	0.1900	94.3	80	120	06/09/2026
Chloride		5.00		**212**	200.0	6.704	102.7	80	120	06/09/2026
Sulfate		10.0		**590**	200.0	385.9	102.0	80	120	06/09/2026

Batch R385507 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26060805-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.1**	10.00	0.1900	99.5	9.616	5.28	06/09/2026
Chloride		5.00		**215**	200.0	6.704	104.0	212.1	1.19	06/09/2026
Sulfate		10.0		**591**	200.0	385.9	102.7	589.8	0.25	06/09/2026

Batch R385507 **SampType:** MS Units **mg/L**

SampID: 26060810-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**2.17**	2.000	0.1748	99.9	80	120	06/09/2026
Chloride		1.00		**48.9**	40.00	6.358	106.3	80	120	06/09/2026
Sulfate		2.00		**455**	40.00	414.3	101.1	80	120	06/09/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R385507 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26060810-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		**2.18**	2.000	0.1748	100.1	2.173	0.17	06/09/2026
Chloride		1.00		**49.1**	40.00	6.358	106.8	48.87	0.42	06/09/2026
Sulfate		2.00		**456**	40.00	414.3	104.3	454.7	0.28	06/09/2026

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 257575 **SampType:** MBLK Units **µg/L**

SampID: MBLK-257575

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0	0	0	0	0	06/04/2026
Boron		20.0		**< 20.0**	0	0	0	0	0	06/04/2026
Calcium		0.100		**< 0.100**	0	0	0	0	0	06/04/2026

Batch 257575 **SampType:** LCS Units **µg/L**

SampID: LCS-257575

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1920**	2000	0	96.2	85	115	06/04/2026
Boron		20.0		**965**	1000	0	96.5	85	115	06/04/2026
Calcium		0.100		**4.84**	5.000	0	96.8	85	115	06/04/2026

Batch 257575 **SampType:** MS Units **µg/L**

SampID: 26051599-001CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1990**	2000	48.60	97.1	75	125	06/04/2026
Boron		20.0		**979**	1000	0	97.9	75	125	06/04/2026
Calcium		0.100		**19.1**	5.000	13.85	104.2	75	125	06/04/2026

Batch 257575 **SampType:** MSD Units **µg/L** RPD Limit **20**

SampID: 26051599-001CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium		2.5		**1990**	2000	48.60	97.3	1990	0.21	06/04/2026
Boron		20.0		**984**	1000	0	98.4	978.8	0.54	06/04/2026
Calcium		0.100		**19.1**	5.000	13.85	105.2	19.06	0.26	06/04/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 257620 **SampType:** MBLK Units µg/L

SampID: MBLK-257620

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0	0	0	0	0	06/06/2026
Boron		20.0		**< 20.0**	0	0	0	0	0	06/06/2026
Calcium		0.100		**< 0.100**	0	0	0	0	0	06/06/2026

Batch 257620 **SampType:** LCS Units µg/L

SampID: LCS-257620

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1900**	2000	0	94.9	85	115	06/06/2026
Boron		20.0		**929**	1000	0	92.9	85	115	06/06/2026
Calcium		0.100		**4.65**	5.000	0	92.9	85	115	06/06/2026

Batch 257620 **SampType:** MS Units µg/L

SampID: 26051599-011CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1990**	2000	52.10	96.9	75	125	06/06/2026
Boron		20.0		**9420**	1000	8588	83.6	75	125	06/06/2026
Calcium		0.100		**196**	5.000	192.2	79.0	75	125	06/06/2026

Batch 257620 **SampType:** MSD Units µg/L RPD Limit **20**

SampID: 26051599-011CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium		2.5		**1930**	2000	52.10	93.7	1990	3.29	06/06/2026
Boron		20.0	S	**9170**	1000	8588	58.6	9424	2.69	06/06/2026
Calcium		0.100	S	**191**	5.000	192.2	-19.4	196.1	2.54	06/06/2026

Batch 257709 **SampType:** MBLK Units µg/L

SampID: MBLK-257709

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0	0	0	0	0	06/06/2026
Boron		20.0		**< 20.0**	0	0	0	0	0	06/06/2026
Calcium		0.100		**< 0.100**	0	0	0	0	0	06/06/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 257709 **SampType:** LCS Units µg/L

SampID: LCS-257709

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1990**	2000	0	99.4	85	115	06/06/2026
Boron		20.0		**968**	1000	0	96.8	85	115	06/06/2026
Calcium		0.100		**4.82**	5.000	0	96.5	85	115	06/06/2026

Batch 257709 **SampType:** MS Units µg/L

SampID: 26051599-014CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**2040**	2000	46.20	99.7	75	125	06/06/2026
Boron		20.0	S	**9040**	1000	8296	74.5	75	125	06/06/2026
Calcium		0.100	S	**107**	5.000	105.7	31.0	75	125	06/06/2026

Batch 257709 **SampType:** MSD Units µg/L RPD Limit **20**

SampID: 26051599-014CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium		2.5		**1990**	2000	46.20	97.2	2040	2.48	06/06/2026
Boron		20.0		**9210**	1000	8296	91.2	9041	1.83	06/06/2026
Calcium		0.100	S	**109**	5.000	105.7	74.0	107.2	1.99	06/06/2026

Batch 257761 **SampType:** MBLK Units µg/L

SampID: MBLK-257761

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0	0	0	0	0	06/11/2026
Boron		20.0		**< 20.0**	0	0	0	0	0	06/11/2026
Calcium		0.100		**< 0.100**	0	0	0	0	0	06/11/2026

Batch 257761 **SampType:** LCS Units µg/L

SampID: LCS-257761

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**2010**	2000	0	100.5	85	115	06/11/2026
Boron		20.0		**1010**	1000	0	100.6	85	115	06/11/2026
Calcium		0.100		**5.03**	5.000	0	100.6	85	115	06/11/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 257575 **SampType:** MBLK Units µg/L

SampID: MBLK-257575

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**< 1.0**	0	0	0	0	0	06/16/2026
Arsenic		1.0		**< 1.0**	0	0	0	0	0	06/16/2026
Barium		1.0		**< 1.0**	0	0	0	0	0	06/13/2026
Beryllium		1.0		**< 1.0**	0	0	0	0	0	06/16/2026
Cadmium		1.0		**< 1.0**	0	0	0	0	0	06/13/2026
Chromium		1.5		**< 1.5**	0	0	0	0	0	06/16/2026
Cobalt		1.0		**< 1.0**	0	0	0	0	0	06/16/2026
Lead		1.0		**< 1.0**	0	0	0	0	0	06/13/2026
Lithium	*	3.0		**< 3.0**	0	0	0	0	0	06/16/2026
Molybdenum		1.5		**< 1.5**	0	0	0	0	0	06/16/2026
Selenium		1.0		**< 1.0**	0	0	0	0	0	06/13/2026
Thallium		2.0		**< 2.0**	0	0	0	0	0	06/16/2026

Batch 257575 **SampType:** LCS Units µg/L

SampID: LCS-257575

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**967**	1000	0	96.7	80	120	06/16/2026
Arsenic		1.0		**1000**	1000	0	100.0	80	120	06/16/2026
Barium		1.0		**1930**	2000	0	96.5	80	120	06/13/2026
Beryllium		1.0		**1080**	1000	0	107.7	80	120	06/16/2026
Cadmium		1.0		**1780**	2000	0	89.2	80	120	06/13/2026
Chromium		1.5		**1020**	1000	0	102.2	80	120	06/16/2026
Cobalt		1.0		**1030**	1000	0	103.4	80	120	06/16/2026
Lead		1.0		**2330**	2000	0	116.4	80	120	06/13/2026
Lithium	*	3.0		**1080**	1000	0	108.5	80	120	06/16/2026
Molybdenum		1.5		**989**	1000	0	98.9	80	120	06/16/2026
Selenium		1.0		**1080**	1000	0	108.4	80	120	06/13/2026
Thallium		2.0		**1070**	1000	0	107.3	80	120	06/16/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 257575 **SampType:** MS Units **µg/L**

SampID: 26051599-001CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**1020**	1000	0	101.9	75	125	06/18/2026
Arsenic		1.0		**988**	1000	0.4000	98.7	75	125	06/16/2026
Beryllium		1.0		**1030**	1000	0	102.7	75	125	06/16/2026
Cadmium		1.0		**1980**	2000	0	99.2	75	125	06/13/2026
Chromium		1.5		**996**	1000	0	99.6	75	125	06/16/2026
Cobalt		1.0		**1030**	1000	0	102.8	75	125	06/16/2026
Lead		1.0		**2210**	2000	0	110.6	75	125	06/13/2026
Lithium	*	3.0		**1100**	1000	26.96	107.5	75	125	06/18/2026
Molybdenum		1.5		**1050**	1000	0	104.9	75	125	06/13/2026
Selenium		1.0		**993**	1000	0	99.3	75	125	06/13/2026
Thallium		2.0		**1020**	1000	0	102.1	75	125	06/16/2026

Batch 257575 **SampType:** MSD Units **µg/L** RPD Limit **20**

SampID: 26051599-001CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		1.0		**967**	1000	0	96.7	1019	5.24	06/18/2026
Arsenic		1.0		**1000**	1000	0.4000	100.0	987.8	1.24	06/16/2026
Beryllium		1.0		**1000**	1000	0	100.1	1027	2.48	06/16/2026
Cadmium		1.0		**2000**	2000	0	100.2	1984	0.96	06/13/2026
Chromium		1.5		**1010**	1000	0	101.4	995.8	1.84	06/16/2026
Cobalt		1.0		**1050**	1000	0	105.0	1028	2.15	06/16/2026
Lead		1.0		**2200**	2000	0	109.8	2212	0.75	06/13/2026
Lithium	*	3.0		**1030**	1000	26.96	100.1	1102	7.00	06/18/2026
Molybdenum		1.5		**1050**	1000	0	104.8	1049	0.04	06/13/2026
Selenium		1.0		**1110**	1000	0	110.7	993.5	10.79	06/13/2026
Thallium		2.0		**1050**	1000	0	104.7	1021	2.48	06/16/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 257620 **SampType:** MBLK Units µg/L

SampID: MBLK-257620

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		< 1.0	0	0	0	0	0	06/21/2026
Antimony		1.0		< 1.0	0	0	0	0	0	06/11/2026
Arsenic		1.0		< 1.0	0	0	0	0	0	06/11/2026
Beryllium		1.0		< 1.0	0	0	0	0	0	06/17/2026
Beryllium		1.0		< 1.0	0	0	0	0	0	06/23/2026
Cadmium		1.0		< 1.0	0	0	0	0	0	06/11/2026
Chromium		1.5		< 1.5	0	0	0	0	0	06/11/2026
Cobalt		1.0		< 1.0	0	0	0	0	0	06/11/2026
Lead		1.0		< 1.0	0	0	0	0	0	06/11/2026
Lithium	*	3.0		< 3.0	0	0	0	0	0	06/17/2026
Lithium	*	3.0		< 3.0	0	0	0	0	0	06/23/2026
Molybdenum		1.5		< 1.5	0	0	0	0	0	06/11/2026
Thallium		2.0		< 2.0	0	0	0	0	0	06/11/2026

Batch 257620 **SampType:** LCS Units µg/L

SampID: LCS-257620

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		945	1000	0	94.5	80	120	06/21/2026
Antimony		1.0		1040	1000	0	103.8	80	120	06/11/2026
Arsenic		1.0		1140	1000	0	113.7	80	120	06/11/2026
Beryllium		1.0		998	1000	0	99.8	80	120	06/18/2026
Beryllium		1.0		1090	1000	0	108.7	80	120	06/17/2026
Beryllium		1.0		1090	1000	0	108.6	80	120	06/23/2026
Cadmium		1.0		2310	2000	0	115.3	80	120	06/11/2026
Chromium		1.5		1140	1000	0	114.1	80	120	06/11/2026
Cobalt		1.0		1180	1000	0	118.1	80	120	06/11/2026
Lead		1.0		2380	2000	0	118.8	80	120	06/11/2026
Lithium	*	3.0		998	1000	0	99.8	80	120	06/23/2026
Lithium	*	3.0		996	1000	0	99.6	80	120	06/17/2026
Molybdenum		1.5		1090	1000	0	109.4	80	120	06/11/2026
Thallium		2.0		1160	1000	0	115.5	80	120	06/11/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 257620 **SampType:** MS Units **µg/L**

SampID: 26051599-011CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**916**	1000	0.5000	91.6	75	125	06/22/2026
Arsenic		1.0		**883**	1000	23.98	85.9	75	125	06/13/2026
Cadmium		1.0		**1730**	2000	0	86.4	75	125	06/13/2026
Chromium		1.5		**816**	1000	0	81.6	75	125	06/13/2026
Cobalt		1.0		**912**	1000	62.42	85.0	75	125	06/13/2026
Lead		1.0		**2220**	2000	0	111.2	75	125	06/13/2026
Molybdenum		1.5		**847**	1000	0	84.7	75	125	06/13/2026
Selenium		1.0		**1020**	1000	0	102.2	75	125	06/13/2026
Thallium		2.0		**1070**	1000	0	107.4	75	125	06/13/2026

Batch 257620 **SampType:** MSD Units **µg/L** RPD Limit **20**

SampID: 26051599-011CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		1.0		**869**	1000	0.5000	86.9	916.3	5.25	06/22/2026
Arsenic		1.0		**847**	1000	23.98	82.3	882.5	4.12	06/13/2026
Cadmium		1.0		**1660**	2000	0	82.9	1728	4.20	06/13/2026
Chromium		1.5		**796**	1000	0	79.6	816.1	2.54	06/13/2026
Cobalt		1.0		**899**	1000	62.42	83.7	911.9	1.43	06/13/2026
Lead		1.0		**2190**	2000	0	109.3	2223	1.66	06/13/2026
Molybdenum		1.5		**825**	1000	0	82.5	846.7	2.61	06/13/2026
Selenium		1.0		**910**	1000	0	91.0	1022	11.60	06/13/2026
Thallium		2.0		**1080**	1000	0	107.5	1074	0.15	06/13/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 257709 **SampType:** MS Units **µg/L**

SampID: 26051599-014CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**914**	1000	0	91.4	75	125	06/15/2026
Arsenic		1.0		**1020**	1000	5.090	101.4	75	125	06/15/2026
Beryllium		1.0		**1090**	1000	0	108.9	75	125	06/15/2026
Cadmium		1.0		**1890**	2000	0	94.6	75	125	06/15/2026
Chromium		1.5		**1010**	1000	0	101.0	75	125	06/15/2026
Cobalt		1.0		**1640**	1000	587.6	105.0	75	125	06/15/2026
Lead		1.0		**2300**	2000	0	114.8	75	125	06/15/2026
Lithium	*	3.0		**876**	1000	7.440	86.9	75	125	06/17/2026
Molybdenum		1.5		**1050**	1000	0	105.0	75	125	06/15/2026
Selenium		1.0		**984**	1000	0.9300	98.3	75	125	06/22/2026
Thallium		2.0		**1070**	1000	0	107.2	75	125	06/15/2026

Batch 257709 **SampType:** MSD Units **µg/L** RPD Limit **20**

SampID: 26051599-014CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		1.0		**949**	1000	0	94.9	914.2	3.76	06/15/2026
Arsenic		1.0		**1030**	1000	5.090	102.9	1020	1.37	06/15/2026
Beryllium		1.0		**1070**	1000	0	107.0	1089	1.76	06/15/2026
Cadmium		1.0		**1960**	2000	0	97.8	1893	3.30	06/15/2026
Chromium		1.5		**1020**	1000	0	101.9	1010	0.91	06/15/2026
Cobalt		1.0		**1760**	1000	587.6	117.6	1637	7.41	06/15/2026
Lead		1.0		**2270**	2000	0	113.7	2296	0.92	06/15/2026
Lithium	*	3.0		**822**	1000	7.440	81.5	876.5	6.40	06/17/2026
Molybdenum		1.5		**1050**	1000	0	104.9	1050	0.07	06/15/2026
Selenium		1.0		**1020**	1000	0.9300	101.7	984.4	3.39	06/22/2026
Thallium		2.0		**1080**	1000	0	108.5	1072	1.17	06/15/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 257761 **SampType:** MBLK Units µg/L

SampID: MBLK-257761

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		< 1.0	0	0	0	0	0	06/16/2026
Arsenic		1.0		< 1.0	0	0	0	0	0	06/12/2026
Beryllium		1.0		< 1.0	0	0	0	0	0	06/12/2026
Cadmium		1.0		< 1.0	0	0	0	0	0	06/12/2026
Cadmium		1.0		< 1.0	0	0	0	0	0	06/17/2026
Chromium		1.5		< 1.5	0	0	0	0	0	06/19/2026
Cobalt		1.0		< 1.0	0	0	0	0	0	06/12/2026
Lead		1.0		< 1.0	0	0	0	0	0	06/12/2026
Lithium	*	3.0		< 3.0	0	0	0	0	0	06/12/2026
Molybdenum		1.5		< 1.5	0	0	0	0	0	06/12/2026
Selenium		1.0		< 1.0	0	0	0	0	0	06/17/2026
Selenium		1.0		< 1.0	0	0	0	0	0	06/12/2026
Thallium		2.0		< 2.0	0	0	0	0	0	06/12/2026

Batch 257761 **SampType:** LCS Units µg/L

SampID: LCS-257761

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		848	1000	0	84.8	80	120	06/16/2026
Arsenic		1.0		813	1000	0	81.3	80	120	06/12/2026
Beryllium		1.0		937	1000	0	93.7	80	120	06/12/2026
Cadmium		1.0		1890	2000	0	94.4	80	120	06/12/2026
Cadmium		1.0		2030	2000	0	101.4	80	120	06/17/2026
Chromium		1.5		948	1000	0	94.8	80	120	06/19/2026
Cobalt		1.0		943	1000	0	94.3	80	120	06/12/2026
Lead		1.0		1920	2000	0	95.8	80	120	06/12/2026
Lithium	*	3.0		868	1000	0	86.8	80	120	06/12/2026
Molybdenum		1.5		908	1000	0	90.8	80	120	06/12/2026
Selenium		1.0		906	1000	0	90.6	80	120	06/17/2026
Thallium		2.0		945	1000	0	94.5	80	120	06/12/2026

Batch 258621 **SampType:** MBLK Units µg/L

SampID: MBLK-258621

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Beryllium		1.0		< 1.0	0	0	0	0	0	06/27/2026
Lithium	*	3.0		< 3.0	0	0	0	0	0	06/27/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 258621 **SampType:** LCS Units µg/L
SampID: LCS-258621

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Beryllium		1.0		**1100**	1000	0	110.5	80	120	06/27/2026
Lithium	*	3.0		**1070**	1000	0	106.8	80	120	06/27/2026

Batch 258621 **SampType:** MS Units µg/L
SampID: 26051599-011CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Beryllium		1.0		**1010**	1000	0	101.2	75	125	06/27/2026
Lithium	*	3.0		**955**	1000	2.895	95.2	75	125	06/27/2026

Batch 258621 **SampType:** MSD Units µg/L RPD Limit **20**
SampID: 26051599-011CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Beryllium		1.0		**1010**	1000	0	100.9	1012	0.32	06/27/2026
Lithium	*	3.0		**950**	1000	2.895	94.7	954.5	0.47	06/27/2026

Batch 259209 **SampType:** MBLK Units µg/L
SampID: MBLK-259209

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lithium	*	3.0		**< 3.0**	0	0	0	0	0	07/08/2026
Selenium		1.0		**< 1.0**	0	0	0	0	0	07/08/2026

SW-846 7470A (TOTAL)

Batch 257589 **SampType:** MBLK Units µg/L
SampID: MBLK-257589

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**< 0.20**	0	0	0	0	0	06/02/2026

Batch 257589 **SampType:** LCS Units µg/L
SampID: LCS-257589

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.42**	5.000	0	88.3	85	115	06/02/2026

Batch 257589 **SampType:** MS Units µg/L
SampID: 26051599-002CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**6.13**	5.000	0	122.6	75	125	06/02/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW-846 7470A (TOTAL)

Batch 257589 **SampType:** MSD Units µg/L RPD Limit 15

SampID: 26051599-002CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.20		**5.66**	5.000	0	113.3	6.130	7.90	06/02/2026

Batch 257636 **SampType:** MBLK Units µg/L

SampID: MBLK-257636

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**< 0.20**	0	0	0	0	0	06/03/2026

Batch 257636 **SampType:** LCS Units µg/L

SampID: LCS-257636

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.88**	5.000	0	97.5	85	115	06/03/2026

Batch 257740 **SampType:** MBLK Units µg/L

SampID: MBLK-257740

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**< 0.20**	0	0	0	0	0	06/04/2026

Batch 257740 **SampType:** LCS Units µg/L

SampID: LCS-257740

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**5.51**	5.000	0	110.1	85	115	06/04/2026

Batch 257740 **SampType:** MS Units µg/L

SampID: 26051599-010CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.79**	5.000	0	95.8	75	125	06/04/2026

Batch 257740 **SampType:** MSD Units µg/L RPD Limit 15

SampID: 26051599-010CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.20		**5.44**	5.000	0	108.9	4.790	12.78	06/04/2026

Batch 257779 **SampType:** MBLK Units µg/L

SampID: MBLK-257779

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**< 0.20**	0	0	0	0	0	06/05/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26051599

Client Project: Groundwater Monitoring **Report Date:** 10-Jul-26

SW-846 7470A (TOTAL)

Batch 257779 **SampType:** LCS Units **µg/L**

SampID: LCS-257779

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**5.04**	5.000	0	100.9	85	115	06/05/2026

Receiving Check List

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 26051599
Client Project: Groundwater Monitoring
Report Date: 10-Jul-26

Carrier: Allison Lampe
Received By: LEH

Completed by: Laura E Henson
On: 02-Jun-26

Reviewed by: Amber Dilallo
On: 04-Jun-26

Pages to follow: Chain of custody 6 Extra pages included 39

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 4.9
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☑	Lab ☐	NA ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☐	No ☐	No VOA vials ☑
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑

Any No responses must be detailed below or on the COC.

pH strip #104524. - lhenson - 6/2/2026 8:30:51 AM

Samples were received on 06/02/2026 at 15:28 on ice [4.3C - LTG#3]. pH strip #104524. - DM/ekossakoski - 6/2/2026 3:43:32 PM

Samples were received on 6/3/26 at 1516 on ice [temp5.9C, 4.9C - LTG#5]. pH#104524- lhenson - 6/4/2026 8:42:00 AM

Samples were received on 06/04/2026 at 10:26 on ice [15.1C - LTG#3]. pH strip #104524. - CRS/ekossakoski - 6/4/2026 12:55:59 PM

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 3 Work order # 26051599

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 4.9 °C LTG# 9

Preserved in: ☐ LAB ☒ FIELD

Lab Notes: PW 104524

FOR LAB USE ONLY

UH 6/2/26

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No

Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Allison Lampe

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26051599-001	EBG	6-1-26 1128	1	3		X	X	X	X	X	X	X	X
-002	EP-1	6-1-26 1234	1	3		X	X	X	X	X	X	X	X
-003	EP-2	6-1-26 1404	1	3		X	X	X	X	X	X	X	X
-004	EP-3		1	3		X	X	X	X	X	X	X	X
-005	EP-4		1	3		X	X	X	X	X	X	X	X
-006	EP-5	6-1-26 1205	1	3		X	X	X	X	X	X	X	X
-007	EP-6	6-1-26 1306	1	3		X	X	X	X	X	X	X	X
-008	EP-7		1	3		X	X	X	X	X	X	X	X
-009	Equipment Blank		1	3	X		X		X	X	X	X	X
-010	Field Blank		1	3	X		X		X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
Allison Lampe	6-1-26 1630		6/1/26 1630

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 111317

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 3 Work order # 26051599

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 4.3 °C LTG# 3

Preserved in: ☐ LAB ☒ FIELD

FOR LAB USE ONLY

Lab Notes:
PH: 104524 Am 6-2-26

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Allison Lampe

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26051599-001	EBG		1	3		X	X	X	X	X	X	X	X
-002	EP-1		1	3		X	X	X	X	X	X	X	X
-003	EP-2		1	3		X	X	X	X	X	X	X	X
-004	EP-3	6-2-26 1103	1	3		X	X	X	X	X	X	X	X
-005	EP-4	6-2-26 1036	1	3		X	X	X	X	X	X	X	X
-006	EP-5		1	3		X	X	X	X	X	X	X	X
-007	EP-6		1	3		X	X	X	X	X	X	X	X
-008	EP-7	6-2-26 1307	1	3		X	X	X	X	X	X	X	X
-009	Equipment Blank		1	3	X		X		X	X	X	X	X
-010	Field Blank		1	3	X		X		X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
Allison	6-2-26 1528	Emily Kossakoski	6/2/26 1528

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 111317

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☐ Collinsville, IL

CHAIN OF CUSTODY pg. ___ of ___ Work order # 26051599

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 15.1 °C LTG# #3
Preserved in: ☐ LAB ☒ FIELD **FOR LAB USE ONLY**
Lab Notes: PH✓ 104524 LRS 6.4.26

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☐ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☐ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☐ Yes ☐ No

Client Comments Report QC LVL:___

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number: Groundwater Monitoring

Sample Collector's Name: Allison Lampe

Results Requested (call for PFAS TAT and surcharges)
☐ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ___ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
	EBG		1	3		X	X	X	X	X	X	X	X
	EP-1		1	3		X	X	X	X	X	X	X	X
	EP-2		1	3		X	X	X	X	X	X	X	X
	EP-3		1	3		X	X	X	X	X	X	X	X
	EP-4		1	3		X	X	X	X	X	X	X	X
	EP-5		1	3		X	X	X	X	X	X	X	X
	EP-6		1	3		X	X	X	X	X	X	X	X
	EP-7		1	3		X	X	X	X	X	X	X	X
26051599-09	Equipment Blank	6-4-26 1020	1	3	X		X		X	X	X	X	X
	Field Blank		1	3	X		X		X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
Allison Lampe	6-4-26 1026	Caroline Spencer	6.4.26 1026

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BottleOrder 111317

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 3 Work order # 26051599

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☒ BLUE ICE ☒ NO ICE 5.9 4.9 °C LTG# 5

Preserved in: ☒ LAB ☒ FIELD

Lab Notes: PWS 10/4/24

FOR LAB USE ONLY

UT 6/4/26

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No

Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments

Report QC LVL: 2

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Allison Lampe

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26051599-001	EBG		1	3		X	X	X	X	X	X	X	X
-002	EP-1		1	3		X	X	X	X	X	X	X	X
-003	EP-2		1	3		X	X	X	X	X	X	X	X
-004	EP-3		1	3		X	X	X	X	X	X	X	X
-005	EP-4		1	3		X	X	X	X	X	X	X	X
-006	EP-5		1	3		X	X	X	X	X	X	X	X
-007	EP-6		1	3		X	X	X	X	X	X	X	X
-008	EP-7		1	3		X	X	X	X	X	X	X	X
-009	Equipment Blank		1	3	X		X		X	X	X	X	X
-010	Field Blank	6/3/26 1230	1	3	X		X		X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
	6/3/26 1516		6/3/26 1516

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 111317

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY pg. 2 of 3 Work order # 26051599

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☒ BLUE ICE ☒ NO ICE _____ °C LTG# _____
Preserved in: ☒ LAB ☒ FIELD **FOR LAB USE ONLY**
Lab Notes:

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Allison Lampe

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date _____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26051599-011	Field Duplicate	6-2-26 1036	1	3		X	X	X	X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
[signature]	6-2-26 1528	Emily Kossakoski	6/2/26 1528

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 111317

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 3 of 3 Work order # 26051599

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☒ BLUE ICE ☒ NO ICE _____ °C LTG# _____

Preserved in: ☒ LAB ☒ FIELD

FOR LAB USE ONLY

Lab Notes:

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No

Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

Field: Elevations, DO, ORP, pH, Conductivity (mS/cm), Temperature (°C), Turbidity and Purge Volume
ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Allison Lampe

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date _____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26051599-012	MW-101	6-3-26 1256	1	3	X	X	X	X	X	X	X	X
-013	MW-102	6-3-26 1208	1	3	X	X	X	X	X	X	X	X
-014	MW-103	6-3-26 1120	1	3	X	X	X	X	X	X	X	X
-015	MW-104	6-3-26 1200	1	3	X	X	X	X	X	X	X	X
-016	MW-105	6-3-26 1116	1	3	X	X	X	X	X	X	X	X
-017	MW-106	6-3-26 1016	1	3	X	X	X	X	X	X	X	X
-018	MW-109	6-3-26 933	1	3	X	X	X	X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
	6/3/26 1516		6/3/26 1516

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 111318

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Elizabeth A Hurley
TekLab Inc
120 United Drive
Collinsville, Illinois 62234

Generated 7/1/2026 4:38:52 PM

JOB DESCRIPTION

Radium-226 and Radium-228
26051599

JOB NUMBER

160-62328-1

Eurofins St. Louis
13715 Rider Trail North
Earth City MO 63045

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

Authorization



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Authorized for release by
Casey Robertson, Project Manager
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Designee for
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(314)298-8566

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Job ID: 160-62328-1 — Eurofins St. Louis

CASE NARRATIVE

Client: TekLab, Inc

Project: 26051599

Report Number: 160-62328-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition, all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method.

Eurofins Environment Testing attests to the validity of the laboratory data generated by Eurofins facilities reported herein. All analyses performed by Eurofins Environment Testing facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins Environment Testing's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report.

Calculations are performed before rounding to avoid round-off errors in calculated results.

Proper preservation was noted for the methods performed on these samples, unless otherwise detailed below.

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

No additional analytical or quality issues were noted, other than those described below or in the Definitions/ Glossary page.

Receipt
The samples were received on 6/4/2026 12:22 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved. The temperatures of the 2 coolers at receipt time were 11.8°C and 20.5°C.

Method 903.0 - Radium-226 (GFPC)
Samples 26051599-001 EBG (160-62328-1), 26051599-002 EP-1 (160-62328-2), 26051599-003 EP-2 (160-62328-3), 26051599-004 EP-3 (160-62328-4), 26051599-005 EP-4 (160-62328-5), 26051599-006 EP-5 (160-62328-6), 26051599-007 EP-6 (160-62328-7), 26051599-008 EP-7 (160-62328-8), 26051599-010 FB (160-62328-9), 26051599-011 DUP (160-62328-10), 26051599-012 MW101 (160-62328-11), 26051599-013 MW102 (160-62328-12), 26051599-014 MW103 (160-62328-13), 26051599-015 MW104 (160-62328-14), 26051599-016 MW105 (160-62328-15), 26051599-017 MW106 (160-62328-16) and 26051599-018 MW109 (160-62328-17) were analyzed for Radium-226 (GFPC). The samples were prepared on 6/8/2026 and analyzed on 6/30/2026 and 7/1/2026.

Method 904.0 - Radium-228 (GFPC)
Samples 26051599-001 EBG (160-62328-1), 26051599-002 EP-1 (160-62328-2), 26051599-003 EP-2 (160-62328-3), 26051599-004 EP-3 (160-62328-4), 26051599-005 EP-4 (160-62328-5), 26051599-006 EP-5 (160-62328-6), 26051599-007 EP-6 (160-62328-7), 26051599-008 EP-7 (160-62328-8), 26051599-010 FB (160-62328-9), 26051599-011 DUP (160-62328-10), 26051599-012 MW101 (160-62328-11), 26051599-013 MW102 (160-62328-12), 26051599-014 MW103 (160-62328-13), 26051599-015 MW104 (160-62328-14), 26051599-016 MW105 (160-62328-15), 26051599-017 MW106 (160-62328-16) and 26051599-018 MW109 (160-62328-17) were analyzed for Radium-228 (GFPC). The samples were prepared on 6/8/2026 and analyzed on 6/30/2026.

The detection goal was not met for the following samples due to the reduced sample volume used in prep attributed to the presence of matrix interferences: 26051599-004 EP-3 (160-62328-4), 26051599-005 EP-4 (160-62328-5), 26051599-011 DUP

(160-62328-10), 26051599-012 MW101 (160-62328-11) and 26051599-015 MW104 (160-62328-14). Analytical results are reported with the detection limit achieved.

The MDC for the following sample is flagged as failing; The laboratory considers the detection goal (requested limit) met when rounding to the appropriate place value 26051599-017 MW106 (160-62328-16)

The detection goal was not met for the following sample(s). The samples and batch QC were prepped at full volume. Matrix interferences are suspected because the method blank achieved the detection goal demonstrating acceptable sample preparation and instrument performance: 26051599-008 EP-7 (160-62328-8). Analytical results are reported with the detection limit achieved.

Method Ra226_Ra228 Pos - Combined Radium-226 and Radium-228
Samples 26051599-001 EBG (160-62328-1), 26051599-002 EP-1 (160-62328-2), 26051599-003 EP-2 (160-62328-3), 26051599-004 EP-3 (160-62328-4), 26051599-005 EP-4 (160-62328-5), 26051599-006 EP-5 (160-62328-6), 26051599-007 EP-6 (160-62328-7), 26051599-008 EP-7 (160-62328-8), 26051599-010 FB (160-62328-9), 26051599-011 DUP (160-62328-10), 26051599-012 MW101 (160-62328-11), 26051599-013 MW102 (160-62328-12), 26051599-014 MW103 (160-62328-13), 26051599-015 MW104 (160-62328-14), 26051599-016 MW105 (160-62328-15), 26051599-017 MW106 (160-62328-16) and 26051599-018 MW109 (160-62328-17) were analyzed for Combined Radium-226 and Radium-228. The samples were analyzed on 7/1/2026.

TEKLAB, INC. Chain of Custody

120 United Drive, Collinsville, IL 62234 Phone (618) 344-1004

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
120 United Drive
Collinsville, IL 62234

Cooler Temp: | Sampler: Teklab, Inc. | QC Level: 2

Comments: **Please Issue reports and invoices via email only**

DELIVER to Eurofins-STL. Analyze for Radium 226/228 per methods specified for Vistra/Ramboll projects. Method changes require Teklab authorization. Site = Illinois

Batch QC is required for all analyses requested. Vistra-EDD and EQuIS (using well IDs)

Project# 26051599

Contact: Elizabeth Hurley | Email: ehurley@TekLabInc.com

Requested Due Date: Standard TAT | Billing/PO: 41263 | Phone: (618) 344-1004 ext. 1007

160-62328 Chain of Custody

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Unpres	HNO3	H2SO4	NaOH	Other	Matrix	Ra226/228 Combined	Radium 226	Radium 228
	26051599-001 EBG	6/1/26 1128	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26051599-002 EP-1	6/1/26 1234	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26051599-003 EP-2	6/1/26 1404	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26051599-004 EP-3	6/2/26 1103	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26051599-005 EP-4	6/2/26 1036	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26051599-006 EP-5	6/1/26 1205	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26051599-007 EP-6	6/1/26 1306	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26051599-008 EP-7	6/26 1307	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26051599-010 FB	6/3/26 1230	☐	☑	☐	☐	☐	Aqueous	✔	✔	✔
	26051599-011 DUP	6/2/26 1036	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26051599-012 MW101	6/3/26 1256	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔

*Relinquished By	Date/Time	Received By	Date/Time
	6/4 1222		6/4/26 1222

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SubCocRevB
1/12/2026

TEKLAB, INC. Chain of Custody

120 United Drive, Collinsville, IL 62234 Phone (618) 344-1004

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
120 United Drive
Collinsville, IL 62234

Cooler Temp: | Sampler: Teklab, Inc. | QC Level: 2

Comments: **Please Issue reports and invoices via email only**

DELIVER to Eurofins-STL. Analyze for Radium 226/228 per methods specified for Vistra/Ramboll projects. Method changes require Teklab authorization. Site = Illinois

Batch QC is required for all analyses requested. Vistra-EDD and EQuIS (using well IDs)

Project# 26051599

Contact: Elizabeth Hurley | Email: ehurley@TekLabInc.com

Requested Due Date: Standard TAT | Billing/PO: 41263 | Phone: (618) 344-1004 ext. 1007

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Unpres	HNO3	H2SO4	NaOH	Other	Matrix	Ra226/228 Combined	Radium 226	Radium 228
	26051599-013 MW102	6/3/26 1208	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26051599-014 MW103	6/3/26 1120	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26051599-015 MW104	6/3/26 1200	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26051599-016 MW105	6/3/26 1116	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26051599-017 MW106	6/3/26 1016	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26051599-018 MW109	6/3/26 933	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
			☐	☑	☐	☐	☐	Groundwater			
			☐	☑	☐	☐	☐	Groundwater			
			☐	☑	☐	☐	☐	Groundwater			
			☐	☑	☐	☐	☐	Groundwater			
			☐	☑	☐	☐	☐	Groundwater			

*Relinquished By	Date/Time	Received By	Date/Time
CC	6/4 1000	CC	6/4 1000
	6/4 1222	RPadilla	6/4/26 1222

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SubCocRevB
1/12/2026

7/1/2026

Erika Smith

From: Elizabeth A. Hurley <EHurley@TekLabInc.com>
Sent: Thursday, June 4, 2026 12:19 PM
To: Erika Smith
Subject: FW: WO #26051599 - Sub COC Error

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hi, Erika,

I've received a note that there was a transcription error on the COC for Teklab WO# 26051599. Sample 26051599-008 should be reported as collected on 6/2/26 rather than 6/26.

Thanks!

Have a great day!

Elizabeth Hurley
Director of Customer Service



Teklab, Inc.
120 United Drive
Collinsville, IL 62234
Phone: (618) 344-1004 ext. 1007
E-mail: ehurley@teklabinc.com
www.teklabinc.com

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From: Amber Dilallo <amberdilallo@TekLabInc.com>
Sent: Thursday, June 4, 2026 11:30 AM
To: Elizabeth A. Hurley <EHurley@TekLabInc.com>
Cc: Laura Henson <lhenson@TekLabInc.com>
Subject: WO #26051599 - Sub COC Error

Liz,

I was reviewing WO #26051599 and -008 is on the Sub COC as collected 6/26 at 1307. It should be 6/2/26 at 1307. Chuck has already taken the samples. Can you please let the sub lab know?

Thanks,

Amber Dilallo

Customer Service Supervisor
Teklab, Inc.
120 United Drive
Collinsville, IL 62234
Toll Free: 877-344-1003
Phone: 618.344.1004 ext 1016
E-mail: amberdilallo@teklabinc.com
WWW.TEKLABINC.COM

Login Sample Receipt Checklist

Client: TekLab Inc

Job Number: 160-62328-1
SDG Number: 26051599

Login Number: 62328
List Number: 1
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	IDs on containers do not match the COC. Logged in per COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	sample 8 date listed on container label
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Definitions/Glossary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62328-1
SDG: 26051599

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62328-1
SDG: 26051599

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	Lab SOP	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency
Lab SOP = Laboratory Standard Operating Procedure
None = None

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62328-1
SDG: 26051599

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
160-62328-1	26051599-001 EBG	Water	06/01/26 11:28	06/04/26 12:22	Illinois
160-62328-2	26051599-002 EP-1	Water	06/01/26 12:34	06/04/26 12:22	Illinois
160-62328-3	26051599-003 EP-2	Water	06/01/26 14:04	06/04/26 12:22	Illinois
160-62328-4	26051599-004 EP-3	Water	06/02/26 11:03	06/04/26 12:22	Illinois
160-62328-5	26051599-005 EP-4	Water	06/02/26 10:36	06/04/26 12:22	Illinois
160-62328-6	26051599-006 EP-5	Water	06/01/26 12:05	06/04/26 12:22	Illinois
160-62328-7	26051599-007 EP-6	Water	06/01/26 13:06	06/04/26 12:22	Illinois
160-62328-8	26051599-008 EP-7	Water	06/02/26 13:07	06/04/26 12:22	Illinois
160-62328-9	26051599-010 FB	Water	06/03/26 12:30	06/04/26 12:22	Illinois
160-62328-10	26051599-011 DUP	Water	06/02/26 10:36	06/04/26 12:22	Illinois
160-62328-11	26051599-012 MW101	Water	06/03/26 12:56	06/04/26 12:22	Illinois
160-62328-12	26051599-013 MW102	Water	06/03/26 12:08	06/04/26 12:22	Illinois
160-62328-13	26051599-014 MW103	Water	06/03/26 11:20	06/04/26 12:22	Illinois
160-62328-14	26051599-015 MW104	Water	06/03/26 12:00	06/04/26 12:22	Illinois
160-62328-15	26051599-016 MW105	Water	06/03/26 11:16	06/04/26 12:22	Illinois
160-62328-16	26051599-017 MW106	Water	06/03/26 10:16	06/04/26 12:22	Illinois
160-62328-17	26051599-018 MW109	Water	06/03/26 09:33	06/04/26 12:22	Illinois

Client Sample ID: 26051599-001 EBG

Lab Sample ID: 160-62328-1
Date Collected: 06/01/26 11:28
Matrix: Water
Date Received: 06/04/26 12:22

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0891	U	0.138	0.138	1.00	0.240	pCi/L	06/08/26 08:46	06/30/26 17:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.8*		*30 - 110*	*06/08/26 08:46*	*06/30/26 17:34*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.538	U	0.415	0.418	1.00	0.640	pCi/L	06/08/26 08:49	06/30/26 13:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.8*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*
Y Carrier	*83.4*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.627	U	0.437	0.440	5.00	0.640	pCi/L		07/01/26 15:41	1

Client Sample ID: 26051599-002 EP-1

Lab Sample ID: 160-62328-2
Date Collected: 06/01/26 12:34
Matrix: Water
Date Received: 06/04/26 12:22

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.115	U	0.157	0.157	1.00	0.263	pCi/L	06/08/26 08:46	06/30/26 17:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.9*		*30 - 110*	*06/08/26 08:46*	*06/30/26 17:34*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.00292	U	0.392	0.392	1.00	0.733	pCi/L	06/08/26 08:49	06/30/26 13:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.9*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*
Y Carrier	*84.5*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.118	U	0.422	0.422	5.00	0.733	pCi/L		07/01/26 15:41	1

Client Sample ID: 26051599-003 EP-2

Lab Sample ID: 160-62328-3
Date Collected: 06/01/26 14:04
Matrix: Water
Date Received: 06/04/26 12:22

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.283		0.177	0.179	1.00	0.209	pCi/L	06/08/26 08:46	06/30/26 17:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.8*		*30 - 110*	*06/08/26 08:46*	*06/30/26 17:34*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.655	U	0.511	0.515	1.00	0.800	pCi/L	06/08/26 08:49	06/30/26 13:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.8*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*
Y Carrier	*82.2*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.938		0.541	0.545	5.00	0.800	pCi/L		07/01/26 15:41	1

Client Sample ID: 26051599-004 EP-3

Lab Sample ID: 160-62328-4
Date Collected: 06/02/26 11:03
Matrix: Water
Date Received: 06/04/26 12:22

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.306	U	0.274	0.275	1.00	0.414	pCi/L	06/08/26 08:46	06/30/26 17:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.4*		*30 - 110*	*06/08/26 08:46*	*06/30/26 17:34*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.875	U G	0.778	0.782	1.00	1.24	pCi/L	06/08/26 08:49	06/30/26 13:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.4*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*
Y Carrier	*78.9*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.18	U	0.825	0.829	5.00	1.24	pCi/L		07/01/26 15:41	1

Client Sample ID: 26051599-005 EP-4

Lab Sample ID: 160-62328-5

Date Collected: 06/02/26 10:36
Matrix: Water
Date Received: 06/04/26 12:22

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.464		0.322	0.325	1.00	0.418	pCi/L	06/08/26 08:46	06/30/26 17:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*57.1*		*30 - 110*	*06/08/26 08:46*	*06/30/26 17:35*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.00517	U G	0.752	0.752	1.00	1.39	pCi/L	06/08/26 08:49	06/30/26 13:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*57.1*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*
Y Carrier	*79.6*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.464	U	0.818	0.819	5.00	1.39	pCi/L		07/01/26 15:41	1

Client Sample ID: 26051599-006 EP-5

Lab Sample ID: 160-62328-6

Date Collected: 06/01/26 12:05
Matrix: Water
Date Received: 06/04/26 12:22

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.102	U	0.135	0.135	1.00	0.224	pCi/L	06/08/26 08:46	06/30/26 17:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.7*		*30 - 110*	*06/08/26 08:46*	*06/30/26 17:34*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.276	U	0.442	0.443	1.00	0.751	pCi/L	06/08/26 08:49	06/30/26 13:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.7*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*
Y Carrier	*79.3*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.378	U	0.462	0.463	5.00	0.751	pCi/L		07/01/26 15:41	1

Client Sample ID: 26051599-007 EP-6

Lab Sample ID: 160-62328-7
Date Collected: 06/01/26 13:06
Matrix: Water
Date Received: 06/04/26 12:22

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.130	U	0.161	0.162	1.00	0.265	pCi/L	06/08/26 08:46	06/30/26 17:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.8*		*30 - 110*	*06/08/26 08:46*	*06/30/26 17:34*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.261	U	0.427	0.428	1.00	0.727	pCi/L	06/08/26 08:49	06/30/26 13:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.8*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*
Y Carrier	*83.0*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.392	U	0.456	0.458	5.00	0.727	pCi/L		07/01/26 15:41	1

Client Sample ID: 26051599-008 EP-7

Lab Sample ID: 160-62328-8
Date Collected: 06/02/26 13:07
Matrix: Water
Date Received: 06/04/26 12:22

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.220	U	0.284	0.285	1.00	0.471	pCi/L	06/08/26 08:46	06/30/26 17:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*38.6*		*30 - 110*	*06/08/26 08:46*	*06/30/26 17:35*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.28	U G	1.04	1.04	1.00	1.63	pCi/L	06/08/26 08:49	06/30/26 13:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*38.6*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*
Y Carrier	*83.4*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.50	U	1.08	1.08	5.00	1.63	pCi/L		07/01/26 15:41	1

Client Sample ID: 26051599-010 FB

Lab Sample ID: 160-62328-9
Date Collected: 06/03/26 12:30
Matrix: Water
Date Received: 06/04/26 12:22

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00209	U	0.107	0.107	1.00	0.237	pCi/L	06/08/26 08:46	06/30/26 17:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.4*		*30 - 110*	*06/08/26 08:46*	*06/30/26 17:34*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.133	U	0.313	0.313	1.00	0.614	pCi/L	06/08/26 08:49	06/30/26 13:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.4*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:58*	*1*
Y Carrier	*84.5*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:58*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.00209	U	0.331	0.331	5.00	0.614	pCi/L		07/01/26 15:41	1

Client Sample ID: 26051599-011 DUP

Lab Sample ID: 160-62328-10
Date Collected: 06/02/26 10:36
Matrix: Water
Date Received: 06/04/26 12:22

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.174	U	0.284	0.284	1.00	0.499	pCi/L	06/08/26 08:46	06/30/26 17:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*48.0*		*30 - 110*	*06/08/26 08:46*	*06/30/26 17:34*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.51**	**G**	0.869	0.880	1.00	1.24	pCi/L	06/08/26 08:49	06/30/26 13:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*48.0*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:58*	*1*
Y Carrier	*84.5*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:58*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**1.69**		0.914	0.925	5.00	1.24	pCi/L		07/01/26 15:41	1

Client Sample ID: 26051599-012 MW101

Lab Sample ID: 160-62328-11
Date Collected: 06/03/26 12:56
Matrix: Water
Date Received: 06/04/26 12:22

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.492		0.263	0.267	1.00	0.289	pCi/L	06/08/26 08:46	07/01/26 07:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*62.5*		*30 - 110*	*06/08/26 08:46*	*07/01/26 07:17*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.699	U G	0.658	0.661	1.00	1.05	pCi/L	06/08/26 08:49	06/30/26 13:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*62.5*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:58*	*1*
Y Carrier	*81.1*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:58*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.19		0.709	0.713	5.00	1.05	pCi/L		07/01/26 15:41	1

Client Sample ID: 26051599-013 MW102

Lab Sample ID: 160-62328-12
Date Collected: 06/03/26 12:08
Matrix: Water
Date Received: 06/04/26 12:22

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.131	U	0.138	0.139	1.00	0.214	pCi/L	06/08/26 08:46	07/01/26 07:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*67.0*		*30 - 110*	*06/08/26 08:46*	*07/01/26 07:17*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.978		0.545	0.552	1.00	0.781	pCi/L	06/08/26 08:49	06/30/26 13:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*67.0*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:58*	*1*
Y Carrier	*79.3*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:58*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.11		0.562	0.569	5.00	0.781	pCi/L		07/01/26 15:41	1

Client Sample ID: 26051599-014 MW103

Lab Sample ID: 160-62328-13
Date Collected: 06/03/26 11:20
Matrix: Water
Date Received: 06/04/26 12:22

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.254		0.163	0.164	1.00	0.200	pCi/L	06/08/26 08:46	07/01/26 07:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*69.6*		*30 - 110*	*06/08/26 08:46*	*07/01/26 07:17*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.03		0.498	0.507	1.00	0.683	pCi/L	06/08/26 08:49	06/30/26 13:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*69.6*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:58*	*1*
Y Carrier	*83.4*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:58*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.28		0.524	0.533	5.00	0.683	pCi/L		07/01/26 15:41	1

Client Sample ID: 26051599-015 MW104

Lab Sample ID: 160-62328-14
Date Collected: 06/03/26 12:00
Matrix: Water
Date Received: 06/04/26 12:22

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.247	U	0.285	0.286	1.00	0.458	pCi/L	06/08/26 08:46	07/01/26 07:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*42.3*		*30 - 110*	*06/08/26 08:46*	*07/01/26 07:17*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.24	U G	0.980	0.986	1.00	1.51	pCi/L	06/08/26 08:49	06/30/26 14:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*42.3*		*30 - 110*	*06/08/26 08:49*	*06/30/26 14:00*	*1*
Y Carrier	*82.6*		*30 - 110*	*06/08/26 08:49*	*06/30/26 14:00*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.49	U	1.02	1.03	5.00	1.51	pCi/L		07/01/26 15:41	1

Client Sample ID: 26051599-016 MW105

Lab Sample ID: 160-62328-15
Date Collected: 06/03/26 11:16
Matrix: Water
Date Received: 06/04/26 12:22

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0761	U	0.124	0.124	1.00	0.218	pCi/L	06/08/26 08:46	07/01/26 07:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*68.8*		*30 - 110*	*06/08/26 08:46*	*07/01/26 07:18*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.553	U	0.479	0.482	1.00	0.756	pCi/L	06/08/26 08:49	06/30/26 14:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*68.8*		*30 - 110*	*06/08/26 08:49*	*06/30/26 14:00*	*1*
Y Carrier	*80.7*		*30 - 110*	*06/08/26 08:49*	*06/30/26 14:00*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.630	U	0.495	0.498	5.00	0.756	pCi/L		07/01/26 15:41	1

Client Sample ID: 26051599-017 MW106

Lab Sample ID: 160-62328-16
Date Collected: 06/03/26 10:16
Matrix: Water
Date Received: 06/04/26 12:22

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.255**		0.187	0.189	1.00	0.242	pCi/L	06/08/26 08:46	07/01/26 07:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*53.4*		*30 - 110*	*06/08/26 08:46*	*07/01/26 07:17*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.186	U G	0.575	0.575	1.00	1.02	pCi/L	06/08/26 08:49	06/30/26 14:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*53.4*		*30 - 110*	*06/08/26 08:49*	*06/30/26 14:00*	*1*
Y Carrier	*84.1*		*30 - 110*	*06/08/26 08:49*	*06/30/26 14:00*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.441	U	0.605	0.605	5.00	1.02	pCi/L		07/01/26 15:41	1

Client Sample ID: 26051599-018 MW109

Date Collected: 06/03/26 09:33
Date Received: 06/04/26 12:22

Lab Sample ID: 160-62328-17

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.258		0.173	0.175	1.00	0.236	pCi/L	06/08/26 08:46	07/01/26 07:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.1*		*30 - 110*	*06/08/26 08:46*	*07/01/26 07:18*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.602		0.392	0.396	1.00	0.577	pCi/L	06/08/26 08:49	06/30/26 14:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.1*		*30 - 110*	*06/08/26 08:49*	*06/30/26 14:00*	*1*
Y Carrier	*84.1*		*30 - 110*	*06/08/26 08:49*	*06/30/26 14:00*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.860		0.428	0.433	5.00	0.577	pCi/L		07/01/26 15:41	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-774829/1-A
Matrix: Water
Analysis Batch: 778813

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 774829

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.09442	U	0.142	0.142	1.00	0.245	pCi/L	06/08/26 08:46	06/30/26 17:34	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.3*		*30 - 110*	*06/08/26 08:46*	*06/30/26 17:34*	*1*

Lab Sample ID: LCS 160-774829/2-A
Matrix: Water
Analysis Batch: 778813

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 774829

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			9.57	9.206		1.20	1.00	0.224	pCi/L	96	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*83.2*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-774830/1-A
Matrix: Water
Analysis Batch: 778827

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 774830

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.2134	U	0.419	0.420	1.00	0.835	pCi/L	06/08/26 08:49	06/30/26 13:56	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.3*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*
Y Carrier	*80.4*		*30 - 110*	*06/08/26 08:49*	*06/30/26 13:56*	*1*

Lab Sample ID: LCS 160-774830/2-A
Matrix: Water
Analysis Batch: 778827

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 774830

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			9.01	10.29		1.47	1.00	0.728	pCi/L	114	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*83.2*		*30 - 110*
Y Carrier	*80.0*		*30 - 110*

QC Association Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62328-1
SDG: 26051599

Rad

Prep Batch: 774829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-62328-1	26051599-001 EBG	Total/NA	Water	PrecSep-21	
160-62328-2	26051599-002 EP-1	Total/NA	Water	PrecSep-21	
160-62328-3	26051599-003 EP-2	Total/NA	Water	PrecSep-21	
160-62328-4	26051599-004 EP-3	Total/NA	Water	PrecSep-21	
160-62328-5	26051599-005 EP-4	Total/NA	Water	PrecSep-21	
160-62328-6	26051599-006 EP-5	Total/NA	Water	PrecSep-21	
160-62328-7	26051599-007 EP-6	Total/NA	Water	PrecSep-21	
160-62328-8	26051599-008 EP-7	Total/NA	Water	PrecSep-21	
160-62328-9	26051599-010 FB	Total/NA	Water	PrecSep-21	
160-62328-10	26051599-011 DUP	Total/NA	Water	PrecSep-21	
160-62328-11	26051599-012 MW101	Total/NA	Water	PrecSep-21	
160-62328-12	26051599-013 MW102	Total/NA	Water	PrecSep-21	
160-62328-13	26051599-014 MW103	Total/NA	Water	PrecSep-21	
160-62328-14	26051599-015 MW104	Total/NA	Water	PrecSep-21	
160-62328-15	26051599-016 MW105	Total/NA	Water	PrecSep-21	
160-62328-16	26051599-017 MW106	Total/NA	Water	PrecSep-21	
160-62328-17	26051599-018 MW109	Total/NA	Water	PrecSep-21	
MB 160-774829/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-774829/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 774830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-62328-1	26051599-001 EBG	Total/NA	Water	PrecSep_0	
160-62328-2	26051599-002 EP-1	Total/NA	Water	PrecSep_0	
160-62328-3	26051599-003 EP-2	Total/NA	Water	PrecSep_0	
160-62328-4	26051599-004 EP-3	Total/NA	Water	PrecSep_0	
160-62328-5	26051599-005 EP-4	Total/NA	Water	PrecSep_0	
160-62328-6	26051599-006 EP-5	Total/NA	Water	PrecSep_0	
160-62328-7	26051599-007 EP-6	Total/NA	Water	PrecSep_0	
160-62328-8	26051599-008 EP-7	Total/NA	Water	PrecSep_0	
160-62328-9	26051599-010 FB	Total/NA	Water	PrecSep_0	
160-62328-10	26051599-011 DUP	Total/NA	Water	PrecSep_0	
160-62328-11	26051599-012 MW101	Total/NA	Water	PrecSep_0	
160-62328-12	26051599-013 MW102	Total/NA	Water	PrecSep_0	
160-62328-13	26051599-014 MW103	Total/NA	Water	PrecSep_0	
160-62328-14	26051599-015 MW104	Total/NA	Water	PrecSep_0	
160-62328-15	26051599-016 MW105	Total/NA	Water	PrecSep_0	
160-62328-16	26051599-017 MW106	Total/NA	Water	PrecSep_0	
160-62328-17	26051599-018 MW109	Total/NA	Water	PrecSep_0	
MB 160-774830/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-774830/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Tracer/Carrier Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62328-1
SDG: 26051599

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (30-110)
160-62328-1	26051599-001 EBG	81.8
160-62328-2	26051599-002 EP-1	71.9
160-62328-3	26051599-003 EP-2	81.8
160-62328-4	26051599-004 EP-3	74.4
160-62328-5	26051599-005 EP-4	57.1
160-62328-6	26051599-006 EP-5	80.7
160-62328-7	26051599-007 EP-6	79.8
160-62328-8	26051599-008 EP-7	38.6
160-62328-9	26051599-010 FB	84.4
160-62328-10	26051599-011 DUP	48.0
160-62328-11	26051599-012 MW101	62.5
160-62328-12	26051599-013 MW102	67.0
160-62328-13	26051599-014 MW103	69.6
160-62328-14	26051599-015 MW104	42.3
160-62328-15	26051599-016 MW105	68.8
160-62328-16	26051599-017 MW106	53.4
160-62328-17	26051599-018 MW109	78.1
LCS 160-774829/2-A	Lab Control Sample	83.2
MB 160-774829/1-A	Method Blank	71.3

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
160-62328-1	26051599-001 EBG	81.8	83.4
160-62328-2	26051599-002 EP-1	71.9	84.5
160-62328-3	26051599-003 EP-2	81.8	82.2
160-62328-4	26051599-004 EP-3	74.4	78.9
160-62328-5	26051599-005 EP-4	57.1	79.6
160-62328-6	26051599-006 EP-5	80.7	79.3
160-62328-7	26051599-007 EP-6	79.8	83.0
160-62328-8	26051599-008 EP-7	38.6	83.4
160-62328-9	26051599-010 FB	84.4	84.5
160-62328-10	26051599-011 DUP	48.0	84.5
160-62328-11	26051599-012 MW101	62.5	81.1
160-62328-12	26051599-013 MW102	67.0	79.3
160-62328-13	26051599-014 MW103	69.6	83.4
160-62328-14	26051599-015 MW104	42.3	82.6
160-62328-15	26051599-016 MW105	68.8	80.7
160-62328-16	26051599-017 MW106	53.4	84.1
160-62328-17	26051599-018 MW109	78.1	84.1
LCS 160-774830/2-A	Lab Control Sample	83.2	80.0
MB 160-774830/1-A	Method Blank	71.3	80.4

Tracer/Carrier Legend

Ba = Ba Carrier

Tracer/Carrier Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62328-1
SDG: 26051599

Y = Y Carrier

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1 2 3 4 5 6 7 8 9 10 11 12

ANALYTICAL REPORT

PREPARED FOR

Attn: Elizabeth A Hurley
TekLab Inc
120 United Drive
Collinsville, Illinois 62234

Generated 7/1/2026 4:45:17 PM

JOB DESCRIPTION

Radium-226 and Radium-228
26051599

JOB NUMBER

160-62336-1

Eurofins St. Louis
13715 Rider Trail North
Earth City MO 63045

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

Authorization



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Table of Contents

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CASE NARRATIVE

Client: TekLab, Inc

Project: 26051599

Report Number: 160-62336-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition, all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method.

Eurofins Environment Testing attests to the validity of the laboratory data generated by Eurofins facilities reported herein. All analyses performed by Eurofins Environment Testing facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins Environment Testing's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report.

Calculations are performed before rounding to avoid round-off errors in calculated results.

Proper preservation was noted for the methods performed on these samples, unless otherwise detailed below.

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

No additional analytical or quality issues were noted, other than those described below or in the Definitions/ Glossary page.

Receipt
The sample was received on 6/4/2026 2:15 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved. The temperature of the cooler at receipt time was 18.5°C.

Method 903.0 - Radium-226 (GFPC)
Sample 26051599-009 (160-62336-1) was analyzed for Radium-226 (GFPC). The sample was prepared on 6/8/2026 and analyzed on 7/1/2026.

Method 904.0 - Radium-228 (GFPC)
Sample 26051599-009 (160-62336-1) was analyzed for Radium-228 (GFPC). The sample was prepared on 6/8/2026 and analyzed on 6/30/2026.

Method Ra226_Ra228 Pos - Combined Radium-226 and Radium-228
Sample 26051599-009 (160-62336-1) was analyzed for Combined Radium-226 and Radium-228. The sample was analyzed on 7/1/2026.

TEKLAB, INC. Chain of Custody

120 United Drive, Collinsville, IL 62234 Phone (618) 344-1004

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
120 United Drive
Collinsville, IL 62234

Cooler Temp: | Sampler: Client | QC Level: 2

Comments: **Please Issue reports and invoices via email only**
DELIVER to Eurofins-STL. Analyze for Radium 226/228 per your normal method/s.
Method changes require Teklab authorization. Samples collected from an IL site.
Batch QC is required for all analyses requested.

Project# 26051599

Contact: Elizabeth A. Hurley | Email: ehurley@TekLabInc.com
Requested Due Date: Standard TAT | Billing/PO: 41266 | Phone: (618) 344-1004 ext. 1007

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Unpres	HNO3	H2SO4	NaOH	Other	Matrix	Ra226/228	Radium 226	Radium 228												
	26051599-009	06/04/2026 10:20	☐	☑	☐	☐	☐	Aqueous	✔	✔	✔												
			☐	☐	☐	☐	☐	Aqueous															
			☐	☐	☐	☐	☐	Aqueous															
			☐	☐	☐	☐	☐	Aqueous															
			☐	☐	☐	☐	☐	Aqueous															
			☐	☐	☐	☐	☐	Aqueous															
			☐	☐	☐	☐	☐	Aqueous															
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			☐	☐	☐	☐	☐	Aqueous															
			☐	☐	☐	☐	☐	Aqueous															
			☐	☐	☐	☐	☐	Aqueous															

160-62336 Chain of Custody

*Relinquished By	Date/Time	Received By	Date/Time
Emily Kaszkoski	6/4/26 1300	Cheyenne Forrest	6/4/26 1300
	6/4/26 1415		6/4/26 1415

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevB
1/12/2026

Login Sample Receipt Checklist

Client: TekLab Inc

Job Number: 160-62336-1
SDG Number: 26051599

Login Number: 62336
List Number: 1
Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	IDs on containers do not match the COC. Logged in per COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Definitions/Glossary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62336-1
SDG: 26051599

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62336-1
SDG: 26051599

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	Lab SOP	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency
Lab SOP = Laboratory Standard Operating Procedure
None = None

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62336-1
SDG: 26051599

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
160-62336-1	26051599-009	Water	06/04/26 10:20	06/04/26 14:15	Illinois

Client Sample Results

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62336-1
SDG: 26051599

Client Sample ID: 26051599-009

Date Collected: 06/04/26 10:20
Date Received: 06/04/26 14:15

Lab Sample ID: 160-62336-1

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0252	U	0.111	0.111	1.00	0.220	pCi/L	06/08/26 08:52	07/01/26 09:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.8*		*30 - 110*	*06/08/26 08:52*	*07/01/26 09:11*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.122	U	0.467	0.467	1.00	0.833	pCi/L	06/08/26 09:06	06/30/26 14:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.8*		*30 - 110*	*06/08/26 09:06*	*06/30/26 14:22*	*1*
Y Carrier	*79.3*		*30 - 110*	*06/08/26 09:06*	*06/30/26 14:22*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.147	U	0.480	0.480	5.00	0.833	pCi/L		07/01/26 15:41	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-774832/1-A
Matrix: Water
Analysis Batch: 779014

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 774832

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1565	U	0.156	0.157	1.00	0.241	pCi/L	06/08/26 08:52	07/01/26 07:19	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*68.8*		*30 - 110*	*06/08/26 08:52*	*07/01/26 07:19*	*1*

Lab Sample ID: LCS 160-774832/2-A
Matrix: Water
Analysis Batch: 779014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 774832

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			9.57	8.785		1.10	1.00	0.195	pCi/L	92	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*80.1*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-774833/1-A
Matrix: Water
Analysis Batch: 778825

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 774833

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1852	U	0.395	0.395	1.00	0.692	pCi/L	06/08/26 09:06	06/30/26 14:14	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*68.8*		*30 - 110*	*06/08/26 09:06*	*06/30/26 14:14*	*1*
Y Carrier	*81.1*		*30 - 110*	*06/08/26 09:06*	*06/30/26 14:14*	*1*

Lab Sample ID: LCS 160-774833/2-A
Matrix: Water
Analysis Batch: 778825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 774833

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			9.01	9.268		1.32	1.00	0.556	pCi/L	103	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*80.1*		*30 - 110*
Y Carrier	*82.6*		*30 - 110*

QC Association Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62336-1
SDG: 26051599

Rad

Prep Batch: 774832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-62336-1	26051599-009	Total/NA	Water	PrecSep-21	
MB 160-774832/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-774832/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 774833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-62336-1	26051599-009	Total/NA	Water	PrecSep_0	
MB 160-774833/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-774833/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Tracer/Carrier Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62336-1
SDG: 26051599

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
160-62336-1	26051599-009	77.8
LCS 160-774832/2-A	Lab Control Sample	80.1
MB 160-774832/1-A	Method Blank	68.8

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
160-62336-1	26051599-009	77.8	79.3
LCS 160-774833/2-A	Lab Control Sample	80.1	82.6
MB 160-774833/1-A	Method Blank	68.8	81.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26062704
Monitoring Point: Equipment Blank
Sample ID: 001
Date (s): 7/15/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 87 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured:
Static Water Level: feet below TOC
Total Depth: - feet below TOC
Water Column: feet

Purging Activities

Purged By: Purge Date:
Purge Equipment: Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)

Sampling Activities

Sampled By: FB Sample Date/Time: 7/15/2026 14:32
Sample Method: Direct Sample Sample Equipment:
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: No Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- QA/QC Sample
- Collected off Dipper-T



Form Completed By: **Date:** 7/15/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26062704
Monitoring Point: Field Blank
Sample ID: 002
Date (s): 7/15/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 87 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured:
Static Water Level: feet below TOC
Total Depth: - feet below TOC
Water Column: feet

Purging Activities

Purged By: Purge Date:
Purge Equipment: Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)

Sampling Activities

Sampled By: FB Sample Date/Time: 7/15/2026 14:38
Sample Method: Direct Sample Sample Equipment:
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: No Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- QA/QC Sample
- Collected at MW-109



Form Completed By: **Date:** 7/15/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	Field Duplicate
Project Location:	Marion, IL	**Sample ID:**	003
W.O. Number (s):	26062704	**Date (s):**	7/15/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 87 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 7/15/26 11:58 AM

Static Water Level: 11.46 feet below TOC

Total Depth: 28.66 feet below TOC

Water Column: 17.20 feet

Purging Activities

Purged By: FB Purge Date: 7/15/2026

Purge Equipment: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 17.2 ft. x 0.022 = 0.38 L x 3 Vol. = 1.14 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 4.50 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
11:58	0.0	155	purge start time						
12:18	3.1	↓	6.17	2,211.00	19.40	0.76	69.40	6.93	12.02
12:21	3.6		6.17	2,211.00	19.40	0.76	69.40	10.18	12.44
12:24	4.0		6.17	2,211.00	19.40	0.75	69.40	8.34	12.87
12:27	4.5		6.17	2,210.00	19.40	0.75	69.40	6.22	13.22

Sampling Activities

Sampled By: FB Sample Date/Time: 7/15/2026 12:27

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.17 pH 2,210.00 Spec. Cond. 19.40 Temp

Field Filtered: No Filter Type:

Water Level: 15.11 feet below TOC Drawdown: 3.65 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 234688
- QA/QC Sample
- Collected at MW-105

Form Completed By:  **Date:** 7/15/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26062704
Monitoring Point: MW-101
Sample ID: 004
Date (s): 7/15/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 85 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 7/15/26 9:07 AM
Static Water Level: 14.86 feet below TOC
Total Depth: 31.14 feet below TOC
Water Column: 16.28 feet

Purging Activities

Purged By: FB Purge Date: 7/15/2026
Purge Equipment: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 16.28 ft. x 0.022 = 0.36 L x 3 Vol. = 1.08 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.50 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
9:07	0.0	135	purge start time						
9:24	2.3	↓	6.68	1,377.00	18.40	1.62	151.70	9.97	15.23
9:27	2.7		6.68	1,376.00	18.40	1.61	151.60	9.16	15.66
9:30	3.1		6.68	1,377.00	18.40	1.61	151.40	6.64	16.01
9:33	3.5		6.68	1,377.00	18.30	1.61	151.20	9.44	16.23

Sampling Activities

Sampled By: FB Sample Date/Time: 7/15/2026 9:33
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.68 pH 1,377.00 Spec. Cond. 18.30 Temp
Field Filtered: No Filter Type:
Water Level: 16.33 feet below TOC Drawdown: 1.47 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 234688

Form Completed By: Date: 7/15/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26062704
Monitoring Point: MW-102
Sample ID: 005
Date (s): 7/15/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 86 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 7/15/26 9:44 AM
Static Water Level: 14.68 feet below TOC
Total Depth: 29.77 feet below TOC
Water Column: 15.09 feet

Purging Activities

Purged By: FB Purge Date: 7/15/2026
Purge Equipment: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 15.09 ft. x 0.022 = 0.33 L x 3 Vol. = 0.99 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.00 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
9:44	0.0	136	purge start time						
9:57	1.8	↓	6.29	1,786.00	18.90	0.89	-25.60	9.40	15.22
10:00	2.2		6.28	1,785.00	18.90	0.89	-24.00	9.37	15.58
10:03	2.6		6.28	1,785.00	19.00	0.89	-21.20	9.36	15.99
10:06	3.0		6.28	1,784.00	19.10	0.89	-19.40	8.35	16.23

Sampling Activities

Sampled By: FB Sample Date/Time: 7/15/2026 10:06
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.28 pH 1,784.00 Spec. Cond. 19.10 Temp
Field Filtered: No Filter Type:
Water Level: 16.77 feet below TOC Drawdown: 2.09 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 234688

Form Completed By: Date: 7/15/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26062704
Monitoring Point: MW-103
Sample ID: 006
Date (s): 7/15/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 87 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 7/15/26 10:22 AM
Static Water Level: 12.14 feet below TOC
Total Depth: 31.70 feet below TOC
Water Column: 19.56 feet

Purging Activities

Purged By: FB Purge Date: 7/15/2026
Purge Equipment: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 19.56 ft. x 0.022 = 0.43 L x 3 Vol. = 1.29 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.00 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
10:22	0.0	121	purge start time						
10:46	2.9	↓	5.86	2,305.00	20.80	0.81	-24.00	17.80	12.88
10:49	3.3		5.86	2,307.00	20.80	0.80	-23.50	10.40	13.22
10:52	3.6		5.85	2,307.00	20.80	0.79	-22.80	9.45	13.56
10:55	4.0		5.85	2,308.00	20.80	0.79	-22.50	9.19	13.78

Sampling Activities

Sampled By: FB Sample Date/Time: 7/15/2026 10:55
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 5.85 pH 2,308.00 Spec. Cond. 20.80 Temp
Field Filtered: No Filter Type:
Water Level: 14.01 feet below TOC Drawdown: 1.87 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 234688

Form Completed By: Date: 7/15/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26062704
Monitoring Point: MW-104
Sample ID: 007
Date (s): 7/15/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 87 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 7/15/26 12:56 PM
Static Water Level: 11.09 feet below TOC
Total Depth: 33.67 feet below TOC
Water Column: 22.58 feet

Purging Activities

Purged By: FB Purge Date: 7/15/2026
Purge Equipment: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 22.58 ft. x 0.022 = 0.5 L x 3 Vol. = 1.5 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.00 L
Physical appearance of purge water: Clear Odor: Moderate Color: Light yellow

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
12:56	0.0	129	purge start time						
13:18	2.8	↓	9.24	2,723.00	18.60	0.37	-367.10	11.90	11.09
13:21	3.2		9.24	2,722.00	18.60	0.37	-367.20	7.76	11.27
13:24	3.6		9.24	2,722.00	18.60	0.37	-367.40	6.82	11.44
13:27	4.0		9.24	2,722.00	18.60	0.37	-367.40	8.37	11.77

Sampling Activities

Sampled By: FB Sample Date/Time: 7/15/2026 13:27
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 9.24 pH 2,722.00 Spec. Cond. 18.60 Temp
Field Filtered: No Filter Type:
Water Level: 12.23 feet below TOC Drawdown: 1.14 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 234688

Form Completed By: Date: 7/15/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26062704
Monitoring Point: MW-105
Sample ID: 008
Date (s): 7/15/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 87 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 7/15/26 11:58 AM
Static Water Level: 11.46 feet below TOC
Total Depth: 28.66 feet below TOC
Water Column: 17.20 feet

Purging Activities

Purged By: FB Purge Date: 7/15/2026
Purge Equipment: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 17.2 ft. x 0.022 = 0.38 L x 3 Vol. = 1.14 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.50 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
11:58	0.0	155	purge start time						
12:18	3.1	↓	6.17	2,211.00	19.40	0.76	69.40	6.93	12.02
12:21	3.6		6.17	2,211.00	19.40	0.76	69.40	10.18	12.44
12:24	4.0		6.17	2,211.00	19.40	0.75	69.40	8.34	12.87
12:27	4.5		6.17	2,210.00	19.40	0.75	69.40	6.22	13.22

Sampling Activities

Sampled By: FB Sample Date/Time: 7/15/2026 12:27
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.17 pH 2,210.00 Spec. Cond. 19.40 Temp
Field Filtered: No Filter Type:
Water Level: 15.11 feet below TOC Drawdown: 3.65 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 234688
- Field Duplicate collected

Form Completed By:  **Date:** 7/15/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26062704
Monitoring Point: MW-106
Sample ID: 009
Date (s): 7/15/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 87 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 7/15/26 11:09 AM
Static Water Level: 14.89 feet below TOC
Total Depth: 31.46 feet below TOC
Water Column: 16.57 feet

Purging Activities

Purged By: FB Purge Date: 7/15/2026
Purge Equipment: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 16.57 ft. x 0.022 = 0.36 L x 3 Vol. = 1.08 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 4.00 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
11:09	0.0	129	purge start time						
11:31	2.8	↓	6.58	1,451.00	20.70	1.08	57.80	4.08	15.88
11:34	3.2		6.58	1,451.00	20.70	1.08	57.80	6.69	16.03
11:37	3.6		6.58	1,451.00	20.70	1.07	57.80	9.60	16.32
11:40	4.0		6.58	1,449.00	20.70	1.07	57.80	4.99	16.98

Sampling Activities

Sampled By: FB Sample Date/Time: 7/15/2026 11:40
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 6.58 pH 1,449.00 Spec. Cond. 20.70 Temp
Field Filtered: No Filter Type:
Water Level: 17.44 feet below TOC Drawdown: 2.55 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 234688

Form Completed By: Date: 7/15/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26062704
Monitoring Point: MW-109
Sample ID: 010
Date (s): 7/15/2026

Field Team Members

Name: Frank Barthol Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 87 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 7/15/26 1:49 PM
Static Water Level: 4.39 feet below TOC
Total Depth: 24.84 feet below TOC
Water Column: 20.45 feet

Purging Activities

Purged By: FB Purge Date: 7/15/2026
Purge Equipment: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 20.45 ft. x 0.022 = 0.45 L x 3 Vol. = 1.35 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.00 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
13:49	0.0	147	purge start time						
14:14	3.7	↓	7.21	992.00	20.10	0.67	-137.10	9.92	5.22
14:17	4.1		7.21	993.00	20.10	0.66	-136.70	4.18	5.78
14:20	4.6		7.21	993.00	20.10	0.66	-136.20	6.68	5.96
14:23	5.0		7.21	992.00	20.10	0.64	-135.60	5.72	6.14

Sampling Activities

Sampled By: FB Sample Date/Time: 7/15/2026 14:23
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 7.21 pH 992.00 Spec. Cond. 20.10 Temp
Field Filtered: No Filter Type:
Water Level: 6.74 feet below TOC Drawdown: 2.35 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 234688

Form Completed By: Date: 7/15/2026

Site Samping Event: GW Monitoring
LIMS Workorder: 26062704
Technician(s): FB

Field Calibration Log(s)
SIPC- 3Q 2026- Background Wells

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 234688 Technician(s): Frank Barthol Date: 7/15/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC260710A	4.00	159.00	7/15/26 8:49
7.0 Buffer	WC260710B	7.00	-19.60	7/15/26 8:44
10.0 Buffer	WC260710C	10.00	-191.40	7/15/26 8:54
LCS/CCV (7.0 Buffer)	WC260710D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	112045	1412	7/15/26 8:59

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.16	7/15/26 9:03
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading		Date/Time

D.O. Saturation	Barometer (mmHg)	Reading	Date/Time
100%			

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-1	LCS	7/15/26 9:05	23.9	7.00	1,413	0.11		
CCV-1	CCV	7/15/26 14:40	26.2	7.03	1,402	0.17		

Comments:

August 14, 2026

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:

Illinois	100467
Kansas	E-10374
Kansas	E-10438
Louisiana	05002
Oklahoma	9978

RE: Groundwater Monitoring **WorkOrder:** 26062704

Dear Jason McLaurin:

TEKLAB, INC received 10 samples on 7/15/2026 4:36:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Marvin L. Darling

Marvin L. Darling
Project Manager
(618)344-1004
mdarling@teklabinc.com

Report Contents

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 26062704
Client Project: Groundwater Monitoring
Report Date: 14-Aug-26

This reporting package includes the following:

Cover Letter	1
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Chain of Custody	Appended

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Abbr	Definition
*	Analytes on report marked with an asterisk are not NELAP accredited
A	Total Coliform and/or E. Coli (Result) is absent
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
NC	Data is not acceptable for compliance purposes
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
P	Total Coliform and/or E. Coli (Result) is present
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
S	Opinion for Colisure analysis is Satisfactory
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
T.O.P.	Top of Pump
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)
U	Opinion for Colisure analysis is Unsatisfactory

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

Case Narrative

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 26062704
Client Project: Groundwater Monitoring
Report Date: 14-Aug-26

Cooler Receipt Temp: 16.1 °C

An employee of Teklab, Inc. collected the sample(s).

Radium analysis performed by Eurofins St. Louis. See attached report for results and QC data.

Locations

Collinsville

Address 120 United Drive
Collinsville, IL 62234-7433
Phone (618) 344-1004
Fax
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100467	NELAP	1/31/2027	Collinsville
Kansas	KDHE	E-10438	NELAP	7/31/2026	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2027	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2027	Collinsville
Oklahoma	ODEQ	9978	NELAP	12/31/2026	Collinsville
Arkansas	ADEQ	88-0966		3/14/2027	Collinsville
Illinois	IDPH	17584		5/31/2027	Collinsville
Iowa	IDNR	430		6/1/2028	Collinsville
Kansas	KDHE	E-92716		1/31/2027	Collinsville
Kentucky	KWLCP	KY98050		12/31/2026	Collinsville
Kentucky	KWLCP	KY98006		12/31/2026	Collinsville
Kentucky	UST	0073		1/31/2027	Collinsville
Louisiana	LDEQ	05003		6/30/2026	Collinsville
Mississippi	MSDH			4/30/2026	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville
Missouri	MDNR	930		1/31/2028	Collinsville

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Lab ID: 26062704-001 **Client Sample ID:** Equipment Blank

Matrix: AQUEOUS **Collection Date:** 07/15/2026 14:32

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**< 20**	mg/L	1	07/17/2026 12:32	R387673
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	07/17/2026 23:57	R387605
Chloride	NELAP	1.00	5.00		**ND**	mg/L	10	07/17/2026 23:57	R387605
Sulfate	NELAP	0.99	10.0		**ND**	mg/L	10	07/17/2026 23:57	R387605
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**< 2.5**	µg/L	1	07/17/2026 14:38	259726
Boron	NELAP	9.0	20.0		**< 20.0**	µg/L	1	07/17/2026 14:38	259726
Calcium	NELAP	0.035	0.100		**< 0.100**	mg/L	1	07/17/2026 14:38	259726
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	08/04/2026 22:39	259726
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	07/29/2026 17:46	259726
Beryllium	NELAP	0.2	1.0	BJ	**0.7**	µg/L	5	08/04/2026 22:39	259726
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	08/05/2026 18:40	259726
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	08/03/2026 15:38	259726
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	08/03/2026 15:38	259726
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	07/29/2026 17:46	259726
Lithium	*	1.4	3.0		**< 3.0**	µg/L	5	07/29/2026 17:46	259726
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	07/29/2026 17:46	259726
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	07/29/2026 17:46	259726
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	07/29/2026 17:46	259726
Contamination present in the MBLK for Be. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	07/17/2026 10:11	259729
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Combined 226/228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-226	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-226 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Lab ID: 26062704-002 **Client Sample ID:** Field Blank

Matrix: AQUEOUS **Collection Date:** 07/15/2026 14:38

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**< 20**	mg/L	1	07/17/2026 12:32	R387673
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	07/18/2026 0:09	R387605
Chloride	NELAP	1.00	5.00		**ND**	mg/L	10	07/18/2026 0:09	R387605
Sulfate	NELAP	0.99	10.0		**ND**	mg/L	10	07/18/2026 0:09	R387605
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**< 2.5**	µg/L	1	07/17/2026 14:39	259726
Boron	NELAP	9.0	20.0		**< 20.0**	µg/L	1	07/17/2026 14:39	259726
Calcium	NELAP	0.035	0.100		**< 0.100**	mg/L	1	07/17/2026 14:39	259726
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	07/31/2026 20:13	259726
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	07/29/2026 17:50	259726
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	07/29/2026 17:50	259726
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	07/31/2026 20:13	259726
Chromium	NELAP	0.8	1.5	J	**0.9**	µg/L	5	07/31/2026 20:13	259726
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	07/31/2026 20:13	259726
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	07/29/2026 17:50	259726
Lithium	*	1.4	3.0		**< 3.0**	µg/L	5	08/03/2026 16:05	259726
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	07/29/2026 17:50	259726
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	07/29/2026 17:50	259726
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	07/29/2026 17:50	259726
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	07/17/2026 10:22	259729
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Combined 226/228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-226	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-226 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Lab ID: 26062704-003 **Client Sample ID:** Field Duplicate

Matrix: GROUNDWATER **Collection Date:** 07/15/2026 12:27

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**11.46**	ft	1	07/15/2026 12:27	R387496
Elevation of groundwater surface	*	0	0		**508.28**	ft	1	07/15/2026 12:27	R387496
Measuring Point Elevation	*	0	0		**519.74**	ft	1	07/15/2026 12:27	R387496
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.20**	gal	1	07/15/2026 12:27	R387496
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**6.2**	NTU	1	07/15/2026 12:27	R387496
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**69**	mV	1	07/15/2026 12:27	R387496
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.210**	mS/cm	1	07/15/2026 12:27	R387496
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**19.4**	°C	1	07/15/2026 12:27	R387496
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.75**	mg/L	1	07/15/2026 12:27	R387496
SW-846 9040B FIELD									
pH	*	0	1.00		**6.17**		1	07/15/2026 12:27	R387496
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1680**	mg/L	1	07/17/2026 12:32	R387673
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.10**	mg/L	10	07/18/2026 0:47	R387605
Chloride	NELAP	1.00	5.00		**207**	mg/L	10	07/18/2026 0:47	R387605
Sulfate	NELAP	0.99	10.0		**764**	mg/L	10	07/18/2026 0:47	R387605
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**24.5**	µg/L	1	07/17/2026 14:44	259726
Boron	NELAP	9.0	20.0		**< 20.0**	µg/L	1	07/17/2026 14:44	259726
Calcium	NELAP	0.035	0.100		**156**	mg/L	1	07/17/2026 14:44	259726
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	07/31/2026 20:17	259726
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	07/29/2026 17:54	259726
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	07/29/2026 17:54	259726
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	07/31/2026 20:17	259726
Chromium	NELAP	0.8	1.5		**2.7**	µg/L	5	07/31/2026 20:17	259726
Cobalt	NELAP	0.1	1.0	J	**0.3**	µg/L	5	07/31/2026 20:17	259726
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	07/29/2026 17:54	259726
Lithium	*	1.4	3.0		**17.8**	µg/L	5	08/03/2026 16:09	259726
Molybdenum	NELAP	0.6	1.5	J	**0.7**	µg/L	5	07/29/2026 17:54	259726
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	07/29/2026 17:54	259726
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	07/29/2026 17:54	259726
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	07/17/2026 10:24	259729
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Combined 226/228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-226	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-226 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation
Work Order: 26062704
Client Project: Groundwater Monitoring
Report Date: 14-Aug-26
Lab ID: 26062704-003
Client Sample ID: Field Duplicate
Matrix: GROUNDWATER
Collection Date: 07/15/2026 12:27

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-228	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Lab ID: 26062704-004 **Client Sample ID:** MW-101

Matrix: GROUNDWATER **Collection Date:** 07/15/2026 9:33

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**14.86**	ft	1	07/15/2026 9:33	R387496
Elevation of groundwater surface	*	0	0		**501.46**	ft	1	07/15/2026 9:33	R387496
Measuring Point Elevation	*	0	0		**516.32**	ft	1	07/15/2026 9:33	R387496
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**0.90**	gal	1	07/15/2026 9:33	R387496
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**9.4**	NTU	1	07/15/2026 9:33	R387496
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**151**	mV	1	07/15/2026 9:33	R387496
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.377**	mS/cm	1	07/15/2026 9:33	R387496
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**18.3**	°C	1	07/15/2026 9:33	R387496
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**1.61**	mg/L	1	07/15/2026 9:33	R387496
SW-846 9040B FIELD									
pH	*	0	1.00		**6.68**		1	07/15/2026 9:33	R387496
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**812**	mg/L	1	07/17/2026 12:48	R387673
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**0.54**	mg/L	10	07/18/2026 1:38	R387605
Chloride	NELAP	1.00	5.00		**205**	mg/L	10	07/18/2026 1:38	R387605
Sulfate	NELAP	0.99	10.0		**102**	mg/L	10	07/18/2026 1:38	R387605
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**106**	µg/L	1	07/17/2026 14:45	259726
Boron	NELAP	9.0	20.0		**27.7**	µg/L	1	07/17/2026 14:45	259726
Calcium	NELAP	0.035	0.100		**59.8**	mg/L	1	07/17/2026 14:45	259726
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	07/31/2026 20:21	259726
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	07/29/2026 17:58	259726
Beryllium	NELAP	0.2	1.0	B	**< 1.0**	µg/L	5	08/04/2026 22:56	259726
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	07/31/2026 20:21	259726
Chromium	NELAP	0.8	1.5		**1.9**	µg/L	5	07/31/2026 20:21	259726
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	07/31/2026 20:21	259726
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	07/29/2026 17:58	259726
Lithium	*	1.4	3.0		**21.6**	µg/L	5	08/03/2026 16:13	259726
Molybdenum	NELAP	0.6	1.5	J	**1.3**	µg/L	5	07/29/2026 17:58	259726
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	07/29/2026 17:58	259726
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	07/29/2026 17:58	259726
Contamination present in the MBLK for Be. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	07/17/2026 10:26	259729
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Combined 226/228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-226	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Lab ID: 26062704-004 **Client Sample ID:** MW-101

Matrix: GROUNDWATER **Collection Date:** 07/15/2026 9:33

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Lab ID: 26062704-005 **Client Sample ID:** MW-102

Matrix: GROUNDWATER **Collection Date:** 07/15/2026 10:06

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**14.68**	ft	1	07/15/2026 10:06	R387496
Elevation of groundwater surface	*	0	0		**503.43**	ft	1	07/15/2026 10:06	R387496
Measuring Point Elevation	*	0	0		**518.11**	ft	1	07/15/2026 10:06	R387496
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**0.80**	gal	1	07/15/2026 10:06	R387496
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**8.4**	NTU	1	07/15/2026 10:06	R387496
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-19**	mV	1	07/15/2026 10:06	R387496
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.784**	mS/cm	1	07/15/2026 10:06	R387496
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**19.1**	°C	1	07/15/2026 10:06	R387496
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.89**	mg/L	1	07/15/2026 10:06	R387496
SW-846 9040B FIELD									
pH	*	0	1.00		**6.28**		1	07/15/2026 10:06	R387496
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1270**	mg/L	1	07/17/2026 12:48	R387673
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.11**	mg/L	10	07/18/2026 1:51	R387605
Chloride	NELAP	1.00	5.00		**145**	mg/L	10	07/18/2026 1:51	R387605
Sulfate	NELAP	0.99	10.0		**533**	mg/L	10	07/18/2026 1:51	R387605
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**28.8**	µg/L	1	07/17/2026 14:46	259726
Boron	NELAP	9.0	20.0		**27.0**	µg/L	1	07/17/2026 14:46	259726
Calcium	NELAP	0.035	0.100		**89.7**	mg/L	1	07/17/2026 14:46	259726
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	08/04/2026 23:05	259726
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	07/29/2026 18:02	259726
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	07/29/2026 18:02	259726
Cadmium	NELAP	0.2	1.0	J	**0.2**	µg/L	5	08/05/2026 18:44	259726
Chromium	NELAP	0.7	1.5	J	**0.7**	µg/L	5	08/03/2026 16:17	259726
Cobalt	NELAP	0.1	1.0	J	**0.3**	µg/L	5	08/03/2026 16:17	259726
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	07/29/2026 18:02	259726
Lithium	*	1.4	3.0		**4.2**	µg/L	5	07/29/2026 18:02	259726
Molybdenum	NELAP	0.6	1.5	J	**0.7**	µg/L	5	07/29/2026 18:02	259726
Selenium	NELAP	0.6	1.0		**5.5**	µg/L	5	07/29/2026 18:02	259726
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	07/29/2026 18:02	259726
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	07/17/2026 10:28	259729
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Combined 226/228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-226	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-226 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation
Work Order: 26062704
Client Project: Groundwater Monitoring
Report Date: 14-Aug-26
Lab ID: 26062704-005
Client Sample ID: MW-102
Matrix: GROUNDWATER
Collection Date: 07/15/2026 10:06

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-228	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Lab ID: 26062704-006 **Client Sample ID:** MW-103

Matrix: GROUNDWATER **Collection Date:** 07/15/2026 10:55

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**12.14**	ft	1	07/15/2026 10:55	R387496
Elevation of groundwater surface	*	0	0		**500.20**	ft	1	07/15/2026 10:55	R387496
Measuring Point Elevation	*	0	0		**512.34**	ft	1	07/15/2026 10:55	R387496
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.10**	gal	1	07/15/2026 10:55	R387496
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**9.2**	NTU	1	07/15/2026 10:55	R387496
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-22**	mV	1	07/15/2026 10:55	R387496
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.308**	mS/cm	1	07/15/2026 10:55	R387496
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**20.8**	°C	1	07/15/2026 10:55	R387496
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.79**	mg/L	1	07/15/2026 10:55	R387496
SW-846 9040B FIELD									
pH	*	0	1.00		**5.85**		1	07/15/2026 10:55	R387496
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1860**	mg/L	1	07/17/2026 12:48	R387673
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.10**	mg/L	10	07/18/2026 2:03	R387605
Chloride	NELAP	1.00	5.00		**405**	mg/L	10	07/18/2026 2:03	R387605
Sulfate	NELAP	0.99	10.0		**603**	mg/L	10	07/18/2026 2:03	R387605
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**46.6**	µg/L	1	07/17/2026 14:46	259726
Boron	NELAP	9.0	20.0		**7790**	µg/L	1	07/17/2026 14:46	259726
Calcium	NELAP	0.035	0.100		**99.1**	mg/L	1	07/17/2026 14:46	259726
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	08/04/2026 23:09	259726
Arsenic	NELAP	0.4	1.0		**2.9**	µg/L	5	07/29/2026 18:06	259726
Beryllium	NELAP	0.2	1.0	B	**< 1.0**	µg/L	5	08/04/2026 23:09	259726
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	08/05/2026 19:18	259726
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	08/03/2026 16:20	259726
Cobalt	NELAP	0.1	1.0		**510**	µg/L	5	08/03/2026 16:20	259726
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	07/29/2026 18:06	259726
Lithium	*	1.4	3.0		**3.3**	µg/L	5	07/29/2026 18:06	259726
Molybdenum	NELAP	0.6	1.5	J	**0.6**	µg/L	5	07/29/2026 18:06	259726
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	08/04/2026 23:09	259726
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	07/29/2026 18:06	259726
Contamination present in the MBLK for Be. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	07/17/2026 10:30	259729
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Combined 226/228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-226	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Lab ID: 26062704-006 **Client Sample ID:** MW-103

Matrix: GROUNDWATER **Collection Date:** 07/15/2026 10:55

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Lab ID: 26062704-007 **Client Sample ID:** MW-104

Matrix: GROUNDWATER **Collection Date:** 07/15/2026 13:27

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**11.09**	ft	1	07/15/2026 13:27	R387496
Elevation of groundwater surface	*	0	0		**501.43**	ft	1	07/15/2026 13:27	R387496
Measuring Point Elevation	*	0	0		**512.52**	ft	1	07/15/2026 13:27	R387496
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.10**	gal	1	07/15/2026 13:27	R387496
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**8.4**	NTU	1	07/15/2026 13:27	R387496
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-367**	mV	1	07/15/2026 13:27	R387496
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.722**	mS/cm	1	07/15/2026 13:27	R387496
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**18.6**	°C	1	07/15/2026 13:27	R387496
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.37**	mg/L	1	07/15/2026 13:27	R387496
SW-846 9040B FIELD									
pH	*	0	1.00		**9.24**		1	07/15/2026 13:27	R387496
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**2660**	mg/L	1	07/17/2026 12:48	R387673
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**4.61**	mg/L	10	07/18/2026 2:29	R387605
Chloride	NELAP	1.00	5.00		**25.0**	mg/L	10	07/18/2026 2:29	R387605
Sulfate	NELAP	0.99	10.0		**1710**	mg/L	10	07/18/2026 2:29	R387605
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**40.4**	µg/L	1	07/17/2026 14:47	259726
Boron	NELAP	9.0	20.0		**6400**	µg/L	1	07/17/2026 14:47	259726
Calcium	NELAP	0.035	0.100		**668**	mg/L	1	07/17/2026 14:47	259726
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**11.3**	µg/L	5	08/04/2026 23:18	259726
Arsenic	NELAP	0.4	1.0		**1390**	µg/L	5	08/04/2026 23:18	259726
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	07/29/2026 18:33	259726
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	08/05/2026 19:22	259726
Chromium	NELAP	0.7	1.5	B	**< 1.5**	µg/L	5	08/04/2026 23:18	259726
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	08/04/2026 23:18	259726
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	07/29/2026 18:33	259726
Lithium	*	1.4	3.0		**3.8**	µg/L	5	07/29/2026 18:33	259726
Molybdenum	NELAP	0.6	1.5		**4.0**	µg/L	5	08/04/2026 23:18	259726
Selenium	NELAP	0.6	1.0		**4.6**	µg/L	5	08/05/2026 19:22	259726
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	07/29/2026 18:33	259726
Contamination present in the MBLK for Cr. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	07/17/2026 10:36	259729
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Combined 226/228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-226	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Lab ID: 26062704-007 **Client Sample ID:** MW-104

Matrix: GROUNDWATER **Collection Date:** 07/15/2026 13:27

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Lab ID: 26062704-008 **Client Sample ID:** MW-105

Matrix: GROUNDWATER **Collection Date:** 07/15/2026 12:27

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**11.46**	ft	1	07/15/2026 12:27	R387496
Elevation of groundwater surface	*	0	0		**501.98**	ft	1	07/15/2026 12:27	R387496
Measuring Point Elevation	*	0	0		**513.44**	ft	1	07/15/2026 12:27	R387496
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.20**	gal	1	07/15/2026 12:27	R387496
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**6.2**	NTU	1	07/15/2026 12:27	R387496
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**69**	mV	1	07/15/2026 12:27	R387496
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.210**	mS/cm	1	07/15/2026 12:27	R387496
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**19.4**	°C	1	07/15/2026 12:27	R387496
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.75**	mg/L	1	07/15/2026 12:27	R387496
SW-846 9040B FIELD									
pH	*	0	1.00		**6.17**		1	07/15/2026 12:27	R387496
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1690**	mg/L	1	07/17/2026 12:48	R387673
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.08**	mg/L	10	07/18/2026 2:41	R387605
Chloride	NELAP	1.00	5.00		**205**	mg/L	10	07/18/2026 2:41	R387605
Sulfate	NELAP	0.99	10.0		**757**	mg/L	10	07/18/2026 2:41	R387605
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**24.3**	µg/L	1	07/17/2026 14:48	259726
Boron	NELAP	9.0	20	J	**10**	µg/L	1	07/17/2026 14:48	259726
Calcium	NELAP	0.035	0.100		**155**	mg/L	1	07/17/2026 14:48	259726
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	08/04/2026 23:22	259726
Arsenic	NELAP	0.4	1.0	J	**0.5**	µg/L	5	07/29/2026 18:37	259726
Beryllium	NELAP	0.2	1.0	B	**< 1.0**	µg/L	5	08/04/2026 23:22	259726
Cadmium	NELAP	0.2	1.0	J	**0.2**	µg/L	5	08/05/2026 19:26	259726
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	08/03/2026 16:28	259726
Cobalt	NELAP	0.1	1.0	J	**0.2**	µg/L	5	08/03/2026 16:28	259726
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	07/29/2026 18:37	259726
Lithium	*	1.4	3.0		**18.7**	µg/L	5	07/29/2026 18:37	259726
Molybdenum	NELAP	0.6	1.5	J	**0.7**	µg/L	5	08/03/2026 16:28	259726
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	08/04/2026 23:22	259726
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	07/29/2026 18:37	259726
Contamination present in the MBLK for Be. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	07/17/2026 10:39	259729
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Combined 226/228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-226	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Lab ID: 26062704-008 **Client Sample ID:** MW-105

Matrix: GROUNDWATER **Collection Date:** 07/15/2026 12:27

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Lab ID: 26062704-009 **Client Sample ID:** MW-106

Matrix: GROUNDWATER **Collection Date:** 07/15/2026 11:40

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**14.89**	ft	1	07/15/2026 11:40	R387496
Elevation of groundwater surface	*	0	0		**501.05**	ft	1	07/15/2026 11:40	R387496
Measuring Point Elevation	*	0	0		**515.94**	ft	1	07/15/2026 11:40	R387496
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.10**	gal	1	07/15/2026 11:40	R387496
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**5.0**	NTU	1	07/15/2026 11:40	R387496
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**58**	mV	1	07/15/2026 11:40	R387496
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.449**	mS/cm	1	07/15/2026 11:40	R387496
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**20.7**	°C	1	07/15/2026 11:40	R387496
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**1.07**	mg/L	1	07/15/2026 11:40	R387496
SW-846 9040B FIELD									
pH	*	0	1.00		**6.58**		1	07/15/2026 11:40	R387496
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1060**	mg/L	1	07/17/2026 12:48	R387673
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.20**	mg/L	10	07/18/2026 3:19	R387605
Chloride	NELAP	1.00	5.00		**46.3**	mg/L	10	07/18/2026 3:19	R387605
Sulfate	NELAP	0.99	10.0		**516**	mg/L	10	07/18/2026 3:19	R387605
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**46.2**	µg/L	1	07/17/2026 14:49	259726
Boron	NELAP	9.0	20	J	**19**	µg/L	1	07/17/2026 14:49	259726
Calcium	NELAP	0.035	0.100		**92.3**	mg/L	1	07/17/2026 14:49	259726
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	08/04/2026 23:30	259726
Arsenic	NELAP	0.4	1.0	J	**0.6**	µg/L	5	07/29/2026 18:41	259726
Beryllium	NELAP	0.2	1.0	B	**< 1.0**	µg/L	5	08/04/2026 23:30	259726
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	08/05/2026 19:31	259726
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	08/03/2026 16:32	259726
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	08/03/2026 16:32	259726
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	07/29/2026 18:41	259726
Lithium	*	1.4	3.0		**29.9**	µg/L	5	07/29/2026 18:41	259726
Molybdenum	NELAP	0.6	1.5	J	**0.8**	µg/L	5	08/03/2026 16:32	259726
Selenium	NELAP	0.6	1.0		**1.5**	µg/L	5	08/05/2026 19:31	259726
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	07/29/2026 18:41	259726
Contamination present in the MBLK for Be. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	07/17/2026 10:41	259729
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Combined 226/228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-226	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Lab ID: 26062704-009 **Client Sample ID:** MW-106

Matrix: GROUNDWATER **Collection Date:** 07/15/2026 11:40

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Lab ID: 26062704-010 **Client Sample ID:** MW-109

Matrix: GROUNDWATER **Collection Date:** 07/15/2026 14:23

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**4.39**	ft	1	07/15/2026 14:23	R387496
Elevation of groundwater surface	*	0	0		**508.16**	ft	1	07/15/2026 14:23	R387496
Measuring Point Elevation	*	0	0		**512.55**	ft	1	07/15/2026 14:23	R387496
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**1.30**	gal	1	07/15/2026 14:23	R387496
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**5.7**	NTU	1	07/15/2026 14:23	R387496
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-136**	mV	1	07/15/2026 14:23	R387496
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**0.992**	mS/cm	1	07/15/2026 14:23	R387496
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**20.1**	°C	1	07/15/2026 14:23	R387496
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.64**	mg/L	1	07/15/2026 14:23	R387496
SW-846 9040B FIELD									
pH	*	0	1.00		**7.21**		1	07/15/2026 14:23	R387496
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**624**	mg/L	1	07/17/2026 13:45	R387673
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.35**	mg/L	10	07/18/2026 3:32	R387605
Chloride	NELAP	1.00	5.00		**61.9**	mg/L	10	07/18/2026 3:32	R387605
Sulfate	NELAP	0.99	10.0		**142**	mg/L	10	07/18/2026 3:32	R387605
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**124**	µg/L	1	07/17/2026 17:57	259733
Boron	NELAP	9.0	20	J	**11**	µg/L	1	07/17/2026 17:57	259733
Calcium	NELAP	0.035	0.100		**56.4**	mg/L	1	07/17/2026 0:00	259733
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	07/28/2026 19:51	259733
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	07/28/2026 19:51	259733
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	07/28/2026 0:52	259733
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	07/28/2026 0:52	259733
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	07/28/2026 0:52	259733
Cobalt	NELAP	0.1	1.0	J	**0.1**	µg/L	5	07/28/2026 19:51	259733
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	07/28/2026 0:52	259733
Lithium	*	1.4	3.0		**11.4**	µg/L	5	07/29/2026 18:07	259733
Molybdenum	NELAP	0.6	1.5		**2.3**	µg/L	5	07/28/2026 19:51	259733
Selenium	NELAP	0.6	1.0	J	**0.7**	µg/L	5	08/04/2026 6:02	259733
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	07/28/2026 0:52	259733
Sample result(s) for Li exceed 10 times the CCB. Data is reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	07/17/2026 10:53	259729
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Combined 226/228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-226	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

Lab ID: 26062704-010 **Client Sample ID:** MW-109

Matrix: GROUNDWATER **Collection Date:** 07/15/2026 14:23

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228	*	1.00	1.00		**See Attached**	pci/L	1	08/10/2026 0:00	R389033
Radium-228 Uncertainty	*	0	0		**See Attached**	pci/L	1	08/10/2026 0:00	R389033

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

STANDARD METHODS 2510 B FIELD

Batch R387496 **SampType:** LCS Units **mS/cm**
SampID: LCS-1

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.413**	1.412	0	100.1	90	110	07/15/2026

SW-846 9040B FIELD

Batch R387496 **SampType:** LCS Units
SampID: LCS-1

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.00**	7.000	0	100.0	98.57	101.4	07/15/2026

STANDARD METHODS 2540 C (TOTAL) 2020

Batch R387673 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**< 20**	0	0	0	0	0	07/17/2026
Total Dissolved Solids		20		**< 20**	0	0	0	0	0	07/17/2026

Batch R387673 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**258**	250.0	0	103.2	90	110	07/17/2026
Total Dissolved Solids		20		**252**	250.0	0	100.8	90	110	07/17/2026

Batch R387673 **SampType:** DUP Units **mg/L** RPD Limit **10**
SampID: 26062635-034ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**596**				594.0	0.34	07/17/2026

Batch R387673 **SampType:** DUP Units **mg/L** RPD Limit **10**
SampID: 26071456-004ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**710**				708.0	0.28	07/17/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R387605 **SampType:** MBLK Units **mg/L**
SampID: MBLK/ICB

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**	0	0	0	0	0	07/17/2026
Chloride		0.50		**ND**	0	0	0	0	0	07/17/2026
Sulfate		1.00		**ND**	0	0	0	0	0	07/17/2026

Batch R387605 **SampType:** LCS Units **mg/L**
SampID: LCS/ICV/QCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**1.08**	1.000	0	107.6	90	110	07/17/2026
Chloride		0.50		**21.2**	20.00	0	106.2	90	110	07/17/2026
Sulfate		1.00		**19.7**	20.00	0	98.5	90	110	07/17/2026

Batch R387605 **SampType:** MS Units **mg/L**
SampID: 26062635-004AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**11.2**	10.00	0.09900	110.9	80	120	07/17/2026
Chloride		5.00		**299**	200.0	71.98	113.7	80	120	07/17/2026
Sulfate		10.0		**3190**	200.0	3014	87.5	80	120	07/17/2026

Batch R387605 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 26062635-004AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**11.1**	10.00	0.09900	110.0	11.19	0.83	07/17/2026
Chloride		5.00		**297**	200.0	71.98	112.5	299.3	0.82	07/17/2026
Sulfate		10.0		**3180**	200.0	3014	83.0	3189	0.28	07/17/2026

Batch R387605 **SampType:** MS Units **mg/L**
SampID: 26062635-026BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**11.0**	10.00	0.3120	107.0	80	120	07/17/2026
Chloride		5.00		**231**	200.0	14.60	108.4	80	120	07/17/2026
Sulfate		10.0		**973**	200.0	753.1	109.8	80	120	07/17/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R387605 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26062635-026BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.8**	10.00	0.3120	105.4	11.02	1.52	07/17/2026
Chloride		5.00		**230**	200.0	14.60	107.7	231.3	0.56	07/17/2026
Sulfate		10.0		**968**	200.0	753.1	107.5	972.7	0.48	07/17/2026

Batch R387605 **SampType:** MS Units **mg/L**

SampID: 26062635-055BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**11.2**	10.00	0.3720	108.1	80	120	07/17/2026
Chloride		5.00		**238**	200.0	21.28	108.5	80	120	07/17/2026
Sulfate		10.0		**539**	200.0	324.6	107.1	80	120	07/17/2026

Batch R387605 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26062635-055BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**11.2**	10.00	0.3720	107.8	11.18	0.29	07/17/2026
Chloride		5.00		**237**	200.0	21.28	108.1	238.4	0.39	07/17/2026
Sulfate		10.0		**537**	200.0	324.6	106.2	538.7	0.33	07/17/2026

Batch R387605 **SampType:** MS Units **mg/L**

SampID: 26062704-002AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.9**	10.00	0	108.7	80	120	07/18/2026
Chloride		5.00		**214**	200.0	0	106.9	80	120	07/18/2026
Sulfate		10.0		**199**	200.0	0	99.4	80	120	07/18/2026

Batch R387605 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26062704-002AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.8**	10.00	0	108.4	10.87	0.34	07/18/2026
Chloride		5.00		**212**	200.0	0	106.2	213.7	0.59	07/18/2026
Sulfate		10.0		**197**	200.0	0	98.7	198.8	0.70	07/18/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R387605 **SampType:** MS Units **mg/L**

SampID: 26062704-008AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**11.0**	10.00	0.08000	109.4	80	120	07/18/2026
Chloride		5.00		**440**	200.0	204.7	117.7	80	120	07/18/2026
Sulfate		10.0		**984**	200.0	757.1	113.3	80	120	07/18/2026

Batch R387605 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26062704-008AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.9**	10.00	0.08000	108.3	11.02	1.06	07/18/2026
Chloride		5.00		**438**	200.0	204.7	116.4	440.1	0.57	07/18/2026
Sulfate		10.0		**981**	200.0	757.1	112.0	983.7	0.27	07/18/2026

Batch R387605 **SampType:** MS Units **mg/L**

SampID: 26071262-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**3.04**	2.000	0.8022	112.0	80	120	07/18/2026
Chloride		1.00		**73.1**	40.00	25.76	118.3	80	120	07/18/2026
Sulfate		2.00		**211**	40.00	164.7	115.5	80	120	07/18/2026

Batch R387605 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26071262-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		**3.03**	2.000	0.8022	111.2	3.043	0.53	07/18/2026
Chloride		1.00		**72.4**	40.00	25.76	116.7	73.06	0.85	07/18/2026
Sulfate		2.00		**210**	40.00	164.7	113.3	210.9	0.43	07/18/2026

Batch R387605 **SampType:** MS Units **mg/L**

SampID: 26071415-008AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**11.3**	10.00	0.3050	109.9	80	120	07/18/2026
Chloride		5.00		**232**	200.0	12.90	109.3	80	120	07/18/2026
Sulfate		10.0		**346**	200.0	137.5	104.1	80	120	07/18/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R387605 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26071415-008AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**11.2**	10.00	0.3050	108.5	11.29	1.23	07/18/2026
Chloride		5.00		**229**	200.0	12.90	108.3	231.6	0.91	07/18/2026
Sulfate		10.0		**345**	200.0	137.5	103.7	345.7	0.24	07/18/2026

Batch R387605 **SampType:** MS Units **mg/L**

SampID: 26071428-001BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**1.99**	2.000	0.2196	88.7	80	120	07/18/2026
Chloride		1.00		**78.5**	40.00	39.78	96.7	80	120	07/18/2026

Batch R387605 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26071428-001BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		**1.99**	2.000	0.2196	88.3	1.994	0.43	07/18/2026
Chloride		1.00		**78.4**	40.00	39.78	96.6	78.46	0.04	07/18/2026

Batch R387605 **SampType:** MS Units **mg/L**

SampID: 26071428-005BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**2.33**	2.000	0.2722	102.7	80	120	07/18/2026
Sulfate		2.00		**225**	40.00	178.2	117.7	80	120	07/18/2026

Batch R387605 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26071428-005BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		**2.34**	2.000	0.2722	103.6	2.327	0.71	07/18/2026
Sulfate		2.00		**225**	40.00	178.2	116.5	225.3	0.21	07/18/2026

Batch R387605 **SampType:** MS Units **mg/L**

SampID: 26071456-004AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		**2.30**	2.000	0.2294	103.7	80	120	07/18/2026
Chloride		1.00		**106**	40.00	58.50	118.2	80	120	07/18/2026
Sulfate		2.00		**219**	40.00	174.8	111.5	80	120	07/18/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R387605 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26071456-004AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		**2.30**	2.000	0.2294	103.7	2.304	0.05	07/18/2026
Chloride		1.00		**106**	40.00	58.50	118.3	105.8	0.02	07/18/2026
Sulfate		2.00		**219**	40.00	174.8	111.7	219.4	0.03	07/18/2026

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 259726 **SampType:** MBLK Units **µg/L**

SampID: MBLK-259726

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0	0	0	0	0	07/17/2026
Boron		20.0		**< 20.0**	0	0	0	0	0	07/17/2026
Calcium		0.100		**< 0.100**	0	0	0	0	0	07/17/2026

Batch 259726 **SampType:** LCS Units **µg/L**

SampID: LCS-259726

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1970**	2000	0	98.7	85	115	07/17/2026
Boron		20.0		**968**	1000	0	96.8	85	115	07/17/2026
Calcium		0.100		**4.90**	5.000	0	98.1	85	115	07/17/2026

Batch 259733 **SampType:** MBLK Units **mg/L**

SampID: MBLK-259733

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		**< 0.100**	0	0	0	0	0	07/17/2026

Batch 259733 **SampType:** LCS Units **mg/L**

SampID: LCS-259733

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Calcium		0.100		**4.84**	5.000	0	96.8	85	115	07/17/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 259726 **SampType:** MBLK Units µg/L

SampID: MBLK-259726

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**< 1.0**	0	0	0	0	0	07/31/2026
Antimony		1.0		**< 1.0**	0	0	0	0	0	08/03/2026
Antimony		1.0		**< 1.0**	0	0	0	0	0	08/04/2026
Arsenic		1.0		**< 1.0**	0	0	0	0	0	07/31/2026
Arsenic		1.0		**< 1.0**	0	0	0	0	0	08/04/2026
Beryllium		1.0	JS	**0.3**	0	0	0	0	0	08/04/2026
Cadmium		1.0		**< 1.0**	0	0	0	0	0	07/31/2026
Cadmium		1.0		**< 1.0**	0	0	0	0	0	08/05/2026
Cadmium		1.0		**< 1.0**	0	0	0	0	0	08/03/2026
Chromium		1.5	JS	**0.8**	0	0	0	0	0	08/04/2026
Chromium		1.5		**< 1.5**	0	0	0	0	0	07/31/2026
Cobalt		1.0		**< 1.0**	0	0	0	0	0	08/04/2026
Cobalt		1.0		**< 1.0**	0	0	0	0	0	07/31/2026
Molybdenum		1.5		**< 1.5**	0	0	0	0	0	07/31/2026
Molybdenum		1.5		**< 1.5**	0	0	0	0	0	08/04/2026
Selenium		1.0		**< 1.0**	0	0	0	0	0	08/03/2026
Selenium		1.0		**< 1.0**	0	0	0	0	0	08/04/2026
Selenium		1.0		**< 1.0**	0	0	0	0	0	08/05/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 259726 **SampType:** LCS Units µg/L

SampID: LCS-259726

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**956**	1000	0	95.6	80	120	07/31/2026
Antimony		1.0		**865**	1000	0	86.5	80	120	08/04/2026
Antimony		1.0		**918**	1000	0	91.8	80	120	08/03/2026
Arsenic		1.0		**1000**	1000	0	100.5	80	120	07/31/2026
Arsenic		1.0		**956**	1000	0	95.6	80	120	08/04/2026
Beryllium		1.0	B	**929**	1000	0	92.9	80	120	08/04/2026
Cadmium		1.0		**1800**	2000	0	90.2	80	120	08/03/2026
Cadmium		1.0		**2060**	2000	0	102.9	80	120	08/05/2026
Cadmium		1.0		**2090**	2000	0	104.6	80	120	07/31/2026
Chromium		1.5	B	**933**	1000	0	93.3	80	120	08/04/2026
Chromium		1.5		**1050**	1000	0	104.9	80	120	07/31/2026
Cobalt		1.0		**934**	1000	0	93.4	80	120	08/04/2026
Cobalt		1.0		**1070**	1000	0	107.0	80	120	07/31/2026
Molybdenum		1.5		**894**	1000	0	89.4	80	120	08/04/2026
Molybdenum		1.5		**1080**	1000	0	107.5	80	120	07/31/2026
Selenium		1.0		**1020**	1000	0	101.8	80	120	08/04/2026
Selenium		1.0		**998**	1000	0	99.8	80	120	08/05/2026
Selenium		1.0		**916**	1000	0	91.6	80	120	08/03/2026

Batch 259733 **SampType:** MBLK Units µg/L

SampID: MBLK-259733

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**< 1.0**	0	0	0	0	0	07/28/2026
Arsenic		1.0		**< 1.0**	0	0	0	0	0	07/28/2026
Beryllium		1.0		**< 1.0**	0	0	0	0	0	07/28/2026
Cadmium		1.0		**< 1.0**	0	0	0	0	0	07/28/2026
Chromium		1.5		**< 1.5**	0	0	0	0	0	07/28/2026
Cobalt		1.0		**< 1.0**	0	0	0	0	0	07/28/2026
Lead		1.0		**< 1.0**	0	0	0	0	0	07/28/2026
Molybdenum		1.5		**< 1.5**	0	0	0	0	0	07/28/2026
Selenium		1.0		**< 1.0**	0	0	0	0	0	08/04/2026
Thallium		2.0		**< 2.0**	0	0	0	0	0	07/28/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26062704

Client Project: Groundwater Monitoring **Report Date:** 14-Aug-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 259733 **SampType:** LCS Units µg/L

SampID: LCS-259733

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**1040**	1000	0	103.7	80	120	07/28/2026
Arsenic		1.0		**1110**	1000	0	111.2	80	120	07/28/2026
Beryllium		1.0		**1120**	1000	0	112.2	80	120	07/28/2026
Cadmium		1.0		**2010**	2000	0	100.4	80	120	07/28/2026
Chromium		1.5		**1000**	1000	0	100.5	80	120	07/28/2026
Cobalt		1.0		**1080**	1000	0	108.4	80	120	07/28/2026
Lead		1.0		**2300**	2000	0	115.0	80	120	07/28/2026
Molybdenum		1.5		**1080**	1000	0	107.9	80	120	07/28/2026
Selenium		1.0		**1100**	1000	0	109.5	80	120	08/04/2026
Thallium		2.0		**890**	1000	0	89.0	80	120	07/28/2026

SW-846 7470A (TOTAL)

Batch 259729 **SampType:** MBLK Units µg/L

SampID: MBLK-259729

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**< 0.20**	0	0	0	0	0	07/17/2026

Batch 259729 **SampType:** LCS Units µg/L

SampID: LCS-259729

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**5.16**	5.000	0	103.1	85	115	07/17/2026

Batch 259729 **SampType:** MS Units µg/L

SampID: 26062704-006CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.87**	5.000	0	97.5	75	125	07/17/2026

Batch 259729 **SampType:** MSD Units µg/L RPD Limit **15**

SampID: 26062704-006CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.20		**4.84**	5.000	0	96.8	4.874	0.71	07/17/2026

Receiving Check List

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 26062704
Client Project: Groundwater Monitoring
Report Date: 14-Aug-26

Carrier: Frank Barthol
Received By: KTM

Completed by: Kylie Moore
On: 16-Jul-26

Reviewed by: Elizabeth A. Hurley
On: 17-Jul-26

Pages to follow: Chain of custody 1 Extra pages included 18

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 16.1
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☑	Lab ☐	NA ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☐	No ☐	No VOA vials ☑
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	NA ☐
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑

Any No responses must be detailed below or on the COC.

pH strip #104524. - NO/kmoore - 7/16/2026 9:39:45 AM

Additional Nitric Acid (112051) was needed for MW-109 upon arrival at the laboratory. - NO/kmoore - 7/16/2026 9:40:00 AM

Additional cooler temperature 13.1C [LTG #9]. KTM 7/16/26

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 1 Work order # 26062704

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 16.1/13.1 °C LTG# 9
Preserved in: ☒ LAB ☐ FIELD
FOR LAB USE ONLY
Lab Notes: pH 10924 added HNO3 (112051) to MW-109 No 7/16/26

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

Field: Elevations, DO, ORP, pH, Conductivity (mS/cm), Temperature (°C), Turbidity and Purge Volume
ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Frank Barthol

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26062704-001	Equipment Blank	7.15/1432	1	3	X		X		X	X	X	X	X
-002	Field Blank	7.15/1438	1	3	X		X		X	X	X	X	X
-003	Field Duplicate	7.15/1227	1	3		X	X	X	X	X	X	X	X
-004	MW-101	7.15/933	1	3		X	X	X	X	X	X	X	X
-005	MW-102	7.15/1006	1	3		X	X	X	X	X	X	X	X
-006	MW-103	7.15/1055	1	3		X	X	X	X	X	X	X	X
-007	MW-104	7.15/1327	1	3		X	X	X	X	X	X	X	X
-008	MW-105	7.15/1227	1	3		X	X	X	X	X	X	X	X
-009	MW-106	7.15/1140	1	3		X	X	X	X	X	X	X	X
-010	MW-109	7.15/1423	1	3		X	X	X	X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
	7.15/1636		7.15.26 16:56

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 112549

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11 12

ANALYTICAL REPORT

PREPARED FOR

Attn: Elizabeth A Hurley
TekLab Inc
120 United Drive
Collinsville, Illinois 62234

Generated 8/13/2026 4:24:52 PM

JOB DESCRIPTION

Radium-226 and Radium-228
26062704

JOB NUMBER

160-62787-1

Eurofins St. Louis
13715 Rider Trail North
Earth City MO 63045

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

Authorization



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Authorized for release by
Erika Smith, Project Manager
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(314)298-8566

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CASE NARRATIVE

Client: TekLab, Inc

Project: 26062704

Report Number: 160-62787-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition, all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method.

Eurofins Environment Testing attests to the validity of the laboratory data generated by Eurofins facilities reported herein. All analyses performed by Eurofins Environment Testing facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins Environment Testing's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report.

Calculations are performed before rounding to avoid round-off errors in calculated results.

Proper preservation was noted for the methods performed on these samples, unless otherwise detailed below.

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

No additional analytical or quality issues were noted, other than those described below or in the Definitions/ Glossary page.

Receipt
The samples were received on 7/16/2026 11:25 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved. The temperature of the cooler at receipt time was 10.9°C.

Method 903.0 - Radium-226 (GFPC)
Samples 26062704-001B (160-62787-1), 26062704-002B (160-62787-2), 26062704-003B (160-62787-3), 26062704-004B (160-62787-4), 26062704-005B (160-62787-5), 26062704-006B (160-62787-6), 26062704-007B (160-62787-7), 26062704-008B (160-62787-8), 26062704-009B (160-62787-9) and 26062704-010B (160-62787-10) were analyzed for Radium-226 (GFPC). The samples were prepared on 7/17/2026 and analyzed on 8/12/2026.

Method 904.0 - Radium-228 (GFPC)
Samples 26062704-001B (160-62787-1), 26062704-002B (160-62787-2), 26062704-003B (160-62787-3), 26062704-004B (160-62787-4), 26062704-005B (160-62787-5), 26062704-006B (160-62787-6), 26062704-007B (160-62787-7), 26062704-008B (160-62787-8), 26062704-009B (160-62787-9) and 26062704-010B (160-62787-10) were analyzed for Radium-228 (GFPC). The samples were prepared on 7/17/2026 and analyzed on 8/10/2026.

The detection goal was not met for the following samples due to the reduced sample volume used in prep attributed to the presence of matrix interferences: 26062704-006B (160-62787-6) and 26062704-007B (160-62787-7). Analytical results are reported with the detection limit achieved.

Method Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Job ID: 160-62787-1 (Continued)

Samples 26062704-001B (160-62787-1), 26062704-002B (160-62787-2), 26062704-003B (160-62787-3), 26062704-004B (160-62787-4), 26062704-005B (160-62787-5), 26062704-006B (160-62787-6), 26062704-007B (160-62787-7), 26062704-008B (160-62787-8), 26062704-009B (160-62787-9) and 26062704-010B (160-62787-10) were analyzed for Combined Radium-226 and Radium-228. The samples were analyzed on 8/13/2026.

TEKLAB, INC. Chain of Custody

62787

120 United Drive, Collinsville, IL 62234 Phone (618) 344-1004

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
120 United Drive
Collinsville, IL 62234

Cooler Temp: Sampler: Client QC Level: 3

Comments: **Please Issue reports and invoices via email only**
DELIVER to Eurofins-STL. Analyze for Combined Radium 226/228 per your normal method/s.
Method changes require Teklab authorization. Samples collected from an IL site.

Project# 26062704

Contact: Elizabeth Hurley Email: ehurley @TekLabInc.com
Requested Due Date: Standard TAT Billing/PO: 41577 Phone: (618) 344-1004 ext. 1007

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Unpres	HNO3	H2SO4	NaOH	Other	Matrix	Ra226/228	Radium 226	Radium 228
	26062704-001B	7/15/2026 14:32	☐	☑	☐	☐	☐	Aqueous	✔	✔	✔
	26062704-002B	7/15/2026 14:38	☐	☑	☐	☐	☐	Aqueous	✔	✔	✔
	26062704-003B	7/15/2026 12:27	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26062704-004B	7/15/2026 09:33	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26062704-005B	7/15/2026 10:06	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26062704-006B	7/15/2026 10:55	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26062704-007B	7/15/2026 13:27	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26062704-008B	7/15/2026 12:27	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26062704-009B	7/15/2026 11:40	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26062704-010B	7/15/2026 14:23	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
			☐	☐	☐	☐	☐	Aqueous			

60-62787 Chain of Custody

*Relinquished By	Date/Time	Received By	Date/Time
Kylie Moore	7/16 1125	Jayna Arnett	7/16/2026 1125

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

Login Sample Receipt Checklist

Client: TekLab Inc

Job Number: 160-62787-1
SDG Number: 26062704

Login Number: 62787
List Number: 1
Creator: Awalt, Jayna K

List Source: Eurofins St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Definitions/Glossary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62787-1
SDG: 26062704

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62787-1
SDG: 26062704

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	Lab SOP	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency
Lab SOP = Laboratory Standard Operating Procedure
None = None

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62787-1
SDG: 26062704

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
160-62787-1	26062704-001B	Water	07/15/26 14:32	07/16/26 11:25	Illinois
160-62787-2	26062704-002B	Water	07/15/26 14:38	07/16/26 11:25	Illinois
160-62787-3	26062704-003B	Water	07/15/26 12:27	07/16/26 11:25	Illinois
160-62787-4	26062704-004B	Water	07/15/26 09:33	07/16/26 11:25	Illinois
160-62787-5	26062704-005B	Water	07/15/26 10:06	07/16/26 11:25	Illinois
160-62787-6	26062704-006B	Water	07/15/26 10:55	07/16/26 11:25	Illinois
160-62787-7	26062704-007B	Water	07/15/26 13:27	07/16/26 11:25	Illinois
160-62787-8	26062704-008B	Water	07/15/26 12:27	07/16/26 11:25	Illinois
160-62787-9	26062704-009B	Water	07/15/26 11:40	07/16/26 11:25	Illinois
160-62787-10	26062704-010B	Water	07/15/26 14:23	07/16/26 11:25	Illinois

Client Sample ID: 26062704-001B
Date Collected: 07/15/26 14:32
Date Received: 07/16/26 11:25

Lab Sample ID: 160-62787-1
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0911	U	0.108	0.109	1.00	0.176	pCi/L	07/17/26 16:26	08/12/26 08:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.6*		*30 - 110*	*07/17/26 16:26*	*08/12/26 08:26*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.943**		0.529	0.536	1.00	0.780	pCi/L	07/17/26 16:31	08/10/26 11:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.6*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*
Y Carrier	*81.1*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**1.03**		0.540	0.547	5.00	0.780	pCi/L		08/13/26 11:10	1

Client Sample ID: 26062704-002B
Date Collected: 07/15/26 14:38
Date Received: 07/16/26 11:25

Lab Sample ID: 160-62787-2
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0713	U	0.106	0.106	1.00	0.181	pCi/L	07/17/26 16:26	08/12/26 08:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.0*		*30 - 110*	*07/17/26 16:26*	*08/12/26 08:26*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0268	U	0.381	0.381	1.00	0.714	pCi/L	07/17/26 16:31	08/10/26 11:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.0*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:49*	*1*
Y Carrier	*80.4*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:49*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0713	U	0.395	0.395	5.00	0.714	pCi/L		08/13/26 11:10	1

Client Sample ID: 26062704-003B
Date Collected: 07/15/26 12:27
Date Received: 07/16/26 11:25

Lab Sample ID: 160-62787-3
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.124	U	0.126	0.127	1.00	0.195	pCi/L	07/17/26 16:26	08/12/26 08:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*64.3*		*30 - 110*	*07/17/26 16:26*	*08/12/26 08:26*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.386	U	0.455	0.456	1.00	0.938	pCi/L	07/17/26 16:31	08/10/26 11:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*64.3*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*
Y Carrier	*81.1*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.124	U	0.472	0.473	5.00	0.938	pCi/L		08/13/26 11:10	1

Client Sample ID: 26062704-004B
Date Collected: 07/15/26 09:33
Date Received: 07/16/26 11:25

Lab Sample ID: 160-62787-4
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.205**		0.149	0.151	1.00	0.204	pCi/L	07/17/26 16:26	08/12/26 08:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*69.0*		*30 - 110*	*07/17/26 16:26*	*08/12/26 08:26*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.643	U	0.536	0.539	1.00	0.841	pCi/L	07/17/26 16:31	08/10/26 11:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*69.0*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*
Y Carrier	*80.7*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.848**		0.556	0.560	5.00	0.841	pCi/L		08/13/26 11:10	1

Client Sample ID: 26062704-005B
Date Collected: 07/15/26 10:06
Date Received: 07/16/26 11:25

Lab Sample ID: 160-62787-5
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.149	U	0.127	0.128	1.00	0.181	pCi/L	07/17/26 16:26	08/12/26 08:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*72.8*		*30 - 110*	*07/17/26 16:26*	*08/12/26 08:26*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.778	U	0.535	0.539	1.00	0.812	pCi/L	07/17/26 16:31	08/10/26 11:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*72.8*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*
Y Carrier	*80.0*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.927**		0.550	0.554	5.00	0.812	pCi/L		08/13/26 11:10	1

Client Sample ID: 26062704-006B
Date Collected: 07/15/26 10:55
Date Received: 07/16/26 11:25

Lab Sample ID: 160-62787-6
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.357**		0.199	0.202	1.00	0.225	pCi/L	07/17/26 16:26	08/12/26 10:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.8*		*30 - 110*	*07/17/26 16:26*	*08/12/26 10:12*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.944	U G	0.736	0.742	1.00	1.15	pCi/L	07/17/26 16:31	08/10/26 11:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.8*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*
Y Carrier	*81.9*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**1.30**		0.762	0.769	5.00	1.15	pCi/L		08/13/26 11:10	1

Client Sample ID: 26062704-007B

Lab Sample ID: 160-62787-7

Date Collected: 07/15/26 13:27
Date Received: 07/16/26 11:25

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.346	U	0.282	0.284	1.00	0.409	pCi/L	07/17/26 16:26	08/12/26 10:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.6*		*30 - 110*	*07/17/26 16:26*	*08/12/26 10:12*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.628	U G	0.928	0.930	1.00	1.56	pCi/L	07/17/26 16:31	08/10/26 11:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.6*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*
Y Carrier	*80.7*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.974	U	0.970	0.972	5.00	1.56	pCi/L		08/13/26 11:10	1

Client Sample ID: 26062704-008B

Lab Sample ID: 160-62787-8

Date Collected: 07/15/26 12:27
Date Received: 07/16/26 11:25

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0760	U	0.115	0.115	1.00	0.197	pCi/L	07/17/26 16:26	08/12/26 10:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.0*		*30 - 110*	*07/17/26 16:26*	*08/12/26 10:11*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.486	U	0.382	0.384	1.00	0.592	pCi/L	07/17/26 16:31	08/10/26 11:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.0*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*
Y Carrier	*87.5*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.562	U	0.399	0.401	5.00	0.592	pCi/L		08/13/26 11:10	1

Client Sample ID: 26062704-009B
Date Collected: 07/15/26 11:40
Date Received: 07/16/26 11:25

Lab Sample ID: 160-62787-9
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.253		0.148	0.150	1.00	0.176	pCi/L	07/17/26 16:26	08/12/26 10:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.3*		*30 - 110*	*07/17/26 16:26*	*08/12/26 10:12*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.942		0.534	0.541	1.00	0.789	pCi/L	07/17/26 16:31	08/10/26 11:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.3*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*
Y Carrier	*81.9*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.19		0.554	0.561	5.00	0.789	pCi/L		08/13/26 11:10	1

Client Sample ID: 26062704-010B
Date Collected: 07/15/26 14:23
Date Received: 07/16/26 11:25

Lab Sample ID: 160-62787-10
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.218		0.153	0.155	1.00	0.209	pCi/L	07/17/26 16:26	08/12/26 10:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.1*		*30 - 110*	*07/17/26 16:26*	*08/12/26 10:12*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.620	U	0.509	0.512	1.00	0.801	pCi/L	07/17/26 16:31	08/10/26 11:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.1*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*
Y Carrier	*81.9*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:48*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.838		0.531	0.535	5.00	0.801	pCi/L		08/13/26 11:10	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-781583/1-A
Matrix: Water
Analysis Batch: 785894

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 781583

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.08256	U	0.124	0.125	1.00	0.214	pCi/L	07/17/26 16:26	08/12/26 08:26	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.3*		*30 - 110*	*07/17/26 16:26*	*08/12/26 08:26*	*1*

Lab Sample ID: LCS 160-781583/2-A
Matrix: Water
Analysis Batch: 785894

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 781583

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			11.3	11.24		1.31	1.00	0.172	pCi/L	99	66 - 126		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*84.3*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-781585/1-A
Matrix: Water
Analysis Batch: 785393

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 781585

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.8113		0.421	0.427	1.00	0.589	pCi/L	07/17/26 16:31	08/10/26 11:41	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.3*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:41*	*1*
Y Carrier	*81.1*		*30 - 110*	*07/17/26 16:31*	*08/10/26 11:41*	*1*

Lab Sample ID: LCS 160-781585/2-A
Matrix: Water
Analysis Batch: 785393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 781585

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			8.89	8.751		1.23	1.00	0.496	pCi/L	98	72 - 150		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*84.3*		*30 - 110*
Y Carrier	*83.4*		*30 - 110*

QC Association Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62787-1
SDG: 26062704

Rad

Prep Batch: 781583

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-62787-1	26062704-001B	Total/NA	Water	PrecSep-21	
160-62787-2	26062704-002B	Total/NA	Water	PrecSep-21	
160-62787-3	26062704-003B	Total/NA	Water	PrecSep-21	
160-62787-4	26062704-004B	Total/NA	Water	PrecSep-21	
160-62787-5	26062704-005B	Total/NA	Water	PrecSep-21	
160-62787-6	26062704-006B	Total/NA	Water	PrecSep-21	
160-62787-7	26062704-007B	Total/NA	Water	PrecSep-21	
160-62787-8	26062704-008B	Total/NA	Water	PrecSep-21	
160-62787-9	26062704-009B	Total/NA	Water	PrecSep-21	
160-62787-10	26062704-010B	Total/NA	Water	PrecSep-21	
MB 160-781583/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-781583/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 781585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-62787-1	26062704-001B	Total/NA	Water	PrecSep_0	
160-62787-2	26062704-002B	Total/NA	Water	PrecSep_0	
160-62787-3	26062704-003B	Total/NA	Water	PrecSep_0	
160-62787-4	26062704-004B	Total/NA	Water	PrecSep_0	
160-62787-5	26062704-005B	Total/NA	Water	PrecSep_0	
160-62787-6	26062704-006B	Total/NA	Water	PrecSep_0	
160-62787-7	26062704-007B	Total/NA	Water	PrecSep_0	
160-62787-8	26062704-008B	Total/NA	Water	PrecSep_0	
160-62787-9	26062704-009B	Total/NA	Water	PrecSep_0	
160-62787-10	26062704-010B	Total/NA	Water	PrecSep_0	
MB 160-781585/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-781585/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Tracer/Carrier Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-62787-1
SDG: 26062704

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
160-62787-1	26062704-001B	82.6
160-62787-2	26062704-002B	82.0
160-62787-3	26062704-003B	64.3
160-62787-4	26062704-004B	69.0
160-62787-5	26062704-005B	72.8
160-62787-6	26062704-006B	76.8
160-62787-7	26062704-007B	78.6
160-62787-8	26062704-008B	89.0
160-62787-9	26062704-009B	80.3
160-62787-10	26062704-010B	79.1
LCS 160-781583/2-A	Lab Control Sample	84.3
MB 160-781583/1-A	Method Blank	80.3

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
160-62787-1	26062704-001B	82.6	81.1
160-62787-2	26062704-002B	82.0	80.4
160-62787-3	26062704-003B	64.3	81.1
160-62787-4	26062704-004B	69.0	80.7
160-62787-5	26062704-005B	72.8	80.0
160-62787-6	26062704-006B	76.8	81.9
160-62787-7	26062704-007B	78.6	80.7
160-62787-8	26062704-008B	89.0	87.5
160-62787-9	26062704-009B	80.3	81.9
160-62787-10	26062704-010B	79.1	81.9
LCS 160-781585/2-A	Lab Control Sample	84.3	83.4
MB 160-781585/1-A	Method Blank	80.3	81.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Groundwater Measurements
SIPC- 3Q 2026

Well ID	Date	Time	Depth to Water (DTW) (feet)	Initial
EBG	9/2/26	10:13	9.02	PY
EP-1	9/2/26	10:15	10.63	PY
EP-2	9/2/26	10:17	11.87	PY
EP-3	9/2/26	10:20	16.79	PY
EP-4	9/2/26	10:22	7.72	PY
EP-5	9/2/26	10:25	13.14	DN
EP-6	9/2/26	10:30	3.80	PY
EP-7	9/2/26	10:33	14.35	PY
MW-101	9/2/26	10:17	14.36	DC
MW-102	9/2/26	10:22	14.62	DC
MW-103	9/2/26	10:26	11.46	DC
MW-104	9/2/26	10:56	11.02	DC
MW-105	9/2/26	10:33	12.99	DC
MW-106	9/2/26	10:35	14.89	DC
MW-109	9/2/26	10:46	8.14	DC
Pond 1*	9/2/26	11:02	1.00	DC
Pond 4*	9/2/26	11:45	n/a	JC
Little Saline Creek Bridge	9/2/26	11:38	18.71	JC

Notes:
* DTW is GW elevation read from staff gauge
Unable to read gauge at Pond 4 due to overgrown reeds.

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26081663
Monitoring Point: EBG
Sample ID: 001
Date (s): 9/2/2026

Field Team Members

Name: Justin Colp Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 88 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/2/26 10:12 AM
Static Water Level: 9.02 feet below TOC
Total Depth: 28.13 feet below TOC
Water Column: 19.11 feet

Purging Activities

Purged By: JC Purge Date: 9/2/2026
Purge Equipment: Bladder Pump Well Diameter: 2"
Purge Volume Calculation (L): 19.11 ft. x 0.022 = 0.42 L x 3 Vol. = 1.26 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 12.00 L
Physical appearance of purge water: Cloudy Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
10:13	0.0	200	purge start time						
11:04	10.2	↓	6.50	362.30	20.51	3.80	103.20	68.77	18.86
11:07	10.8		6.51	361.90	20.47	3.85	104.60	72.09	18.93
11:10	11.4		6.52	362.30	20.45	3.95	106.60	59.78	19.04
11:13	12.0		6.53	362.00	20.48	4.08	108.20	70.87	19.15

Sampling Activities

Sampled By: JC Sample Date/Time: 9/2/2026 11:13
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 6.53 pH 362.00 Spec. Cond. 20.48 Temp
Field Filtered: No Filter Type:
Water Level: 19.15 feet below TOC Drawdown: 10.13 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 234688

Form Completed By: Justin Colp **Date:** 9/2/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-1
Project Location:	Marion, IL	**Sample ID:**	002
W.O. Number (s):	26081663	**Date (s):**	9/2/2026

Field Team Members

Name: Drew Nieters Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 88 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/2/26 10:16 AM

Static Water Level: 10.63 feet below TOC

Total Depth: 33.65 feet below TOC

Water Column: 23.02 feet

Purging Activities

Purged By: DN Purge Date: 9/2/2026

Purge Equipment: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 23.02 ft. x 0.022 = 0.51 L x 3 Vol. = 1.53 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
10:16	0.0	250	purge start time						
10:21	1.3	↓	6.14	2,675.30	20.47	1.63	441.00	4.38	13.87
10:24	2.0		6.14	2,671.60	20.42	1.39	441.20	5.58	14.41
10:27	2.8		6.17	2,674.20	19.22	1.82	442.30	1.72	14.89
10:30	3.5		6.15	2,669.50	19.33	1.12	443.90	0.90	15.41
10:33	4.3		6.14	2,667.90	20.82	1.15	441.50	1.02	15.75
10:36	5.0		6.14	2,669.20	20.91	1.08	443.40	1.17	16.06

Sampling Activities

Sampled By: DN Sample Date/Time: 9/2/2026 10:36

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.14 pH 2,669.20 Spec. Cond. 20.91 Temp

Field Filtered: No Filter Type:

Water Level: 16.06 feet below TOC Drawdown: 5.43 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 51302

Form Completed By: A Nieters **Date:** 9/2/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-2
Project Location:	Marion, IL	**Sample ID:**	003
W.O. Number (s):	26081663	**Date (s):**	9/2/2026

Field Team Members

Name: Drew Nieters Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 90 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/2/26 10:59 AM

Static Water Level: 11.87 feet below TOC

Total Depth: 17.64 feet below TOC

Water Column: 5.77 feet

Purging Activities

Purged By: DN Purge Date: 9/2/2026

Purge Equipment: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 5.77 ft. x 0.022 = 0.13 L x 3 Vol. = 0.39 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 7.00 L

Physical appearance of purge water: Slightly cloudy Odor: Strong Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
10:59	0.0	350	purge start time						
11:07	2.8	↓	6.32	3,645.20	20.17	0.73	-54.20	3.41	13.22
11:10	3.9		6.30	3,650.10	21.37	0.88	-61.30	2.66	13.41
11:13	4.9		6.31	3,682.70	21.41	1.31	-61.30	3.06	13.56
11:16	6.0		6.31	3,712.60	20.87	1.28	-62.80	2.79	13.7
11:19	7.0		6.31	3,734.70	20.85	1.25	-63.90	2.57	14.09

Sampling Activities

Sampled By: DN Sample Date/Time: 9/2/2026 11:19

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 6.31 pH 3,734.70 Spec. Cond. 20.85 Temp

Field Filtered: No Filter Type:

Water Level: 14.09 feet below TOC Drawdown: 2.22 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 51302

Form Completed By: A Nieters Date: 9/2/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	EP-3
Project Location:	Marion, IL	**Sample ID:**	004
W.O. Number (s):	26081663	**Date (s):**	9/2/2026

Field Team Members

Name: Drew Nieters Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 88 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/3/26 10:04 AM

Static Water Level: 16.81 feet below TOC

Total Depth: 29.21 feet below TOC

Water Column: 12.40 feet

Purging Activities

Purged By: DN Purge Date: 9/2/2026

Purge Equipment: Bladder Pump Well Diameter: 2"

Purge Volume Calculation (L): 12.4 ft. x 0.022 = 0.27 L x 3 Vol. = 0.81 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 5.00 L

Physical appearance of purge water: Clear Odor: Slight Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
10:14	0.0	200	purge start time						
10:27	2.6	↓	6.06	2,279.20	22.31	0.41	-30.50	4.48	17.75
10:30	3.2		6.03	1,907.00	22.55	0.29	-58.90	3.45	17.75
10:33	3.8		6.00	1,576.90	22.70	0.25	-69.00	4.89	17.75
10:36	4.4		5.99	1,458.60	22.79	0.22	-72.00	3.37	17.81
10:39	5.0		5.99	1,408.70	22.95	0.20	-72.90	2.96	17.9

Sampling Activities

Sampled By: DN Sample Date/Time: 9/3/2026 10:39

Sample Method: Low Flow Sample Equipment: Bladder Pump

Sample Parameters: 5.99 pH 1,408.70 Spec. Cond. 22.95 Temp

Field Filtered: No Filter Type:

Water Level: 17.90 feet below TOC Drawdown: 1.09 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 51302

Form Completed By: A Nieters Date: 9/3/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26081663
Monitoring Point: EP-4
Sample ID: 005
Date (s): 9/2/2026

Field Team Members

Name: Drew Nieters Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 94 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/2/26 11:40 AM
Static Water Level: 7.72 feet below TOC
Total Depth: 21.17 feet below TOC
Water Column: 13.45 feet

Purging Activities

Purged By: DN Purge Date: 9/2/2026
Purge Equipment: Bladder Pump Well Diameter: 2"
Purge Volume Calculation (L): 13.45 ft. x 0.022 = 0.3 L x 3 Vol. = 0.9 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 10.00 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
11:40	0.0	179	purge start time						
12:27	8.4	↓	5.83	2,514.80	24.38	0.32	-25.40	4.27	7.08
12:30	8.9		5.82	2,520.60	24.62	0.22	-28.00	3.86	7.09
12:33	9.5		5.82	2,523.40	24.66	0.18	-29.30	3.88	7.1
12:36	10.0		5.83	2,525.10	24.59	0.16	-29.80	3.68	7.11

Sampling Activities

Sampled By: DN Sample Date/Time: 9/2/2026 12:36
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 5.83 pH 2,525.10 Spec. Cond. 24.59 Temp
Field Filtered: No Filter Type:
Water Level: 7.11 feet below TOC Drawdown: -0.61 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 51302

Form Completed By: A Nieters Date: 9/2/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26081663
Monitoring Point: EP-5
Sample ID: 006
Date (s): 9/2/2026

Field Team Members

Name: Justin Colp Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 91 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/2/26 11:31 AM
Static Water Level: 13.14 feet below TOC
Total Depth: 15.79 feet below TOC
Water Column: 2.65 feet

Purging Activities

Purged By: JC Purge Date: 9/2/2026
Purge Equipment: Bladder Pump Well Diameter: 2"
Purge Volume Calculation (L): 2.65 ft. x 0.022 = 0.06 L x 3 Vol. = 0.18 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 3.00 L
Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
11:32	0.0	200	purge start time						
11:38	1.2	↓	6.40	273.60	20.38	5.00	130.90	2.55	14.48
11:41	1.8		6.39	274.40	20.81	5.08	133.30	2.35	14.6
11:44	2.4		6.38	274.40	20.84	5.13	136.60	2.32	14.65
11:47	3.0		6.39	274.00	20.94	5.29	139.90	2.40	14.72

Sampling Activities

Sampled By: JC Sample Date/Time: 9/2/2026 11:47
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 6.39 pH 274.00 Spec. Cond. 20.94 Temp
Field Filtered: No Filter Type:
Water Level: 14.72 feet below TOC Drawdown: 1.58 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 234688

Form Completed By: Justin Colp **Date:** 9/2/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26081663
Monitoring Point: EP-6
Sample ID: 007
Date (s): 9/2/2026

Field Team Members

Name: Justin Colp — Affiliation: TekLab, Inc.
Name: — Affiliation:

Weather Conditions

Temp: 93 °F — Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/2/26 12:10 PM
Static Water Level: 3.80 feet below TOC
Total Depth: 13.12 feet below TOC
Water Column: 9.32 feet

Purging Activities

Purged By: JC — Purge Date: 9/2/2026
Purge Equipment: Bladder Pump — Well Diameter: 2"
Purge Volume Calculation (L): 9.32 ft. x 0.022 = 0.21 L x 3 Vol. = 0.63 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 11.50 L
Physical appearance of purge water: Cloudy — Odor: None — Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
12:11	0.0	192	purge start time						
13:02	9.8	↓	4.83	240.50	23.16	1.99	266.60	40.77	8.41
13:05	10.4		4.83	240.50	22.82	1.99	267.20	43.50	8.55
13:08	10.9		4.84	240.10	22.97	2.03	267.70	49.57	8.64
13:11	11.5		4.84	239.90	22.83	2.03	268.30	56.29	8.74

Sampling Activities

Sampled By: JC — Sample Date/Time: 9/2/2026 13:11
Sample Method: Low Flow — Sample Equipment: Bladder Pump
Sample Parameters: 4.84 pH — 239.90 Spec. Cond. — 22.83 Temp
Field Filtered: No — Filter Type:
Water Level: 8.74 feet below TOC — Drawdown: 4.94 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 234688

Form Completed By: Justin Colp — **Date:** 9/2/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26081663
Monitoring Point: EP-7
Sample ID: 008
Date (s): 9/3/2026

Field Team Members

Name: Justin Colp Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 87 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/3/26 9:49 AM
Static Water Level: 14.38 feet below TOC
Total Depth: 18.00 feet below TOC
Water Column: 3.62 feet

Purging Activities

Purged By: JC Purge Date: 9/3/2026
Purge Equipment: Bladder Pump Well Diameter: 2"
Purge Volume Calculation (L): 3.62 ft. x 0.022 = 0.08 L x 3 Vol. = 0.24 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 11.00 L
Physical appearance of purge water: Slightly cloudy Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
9:50	0.0	183	purge start time						
10:41	9.4	↓	5.67	1,240.10	21.88	0.35	-31.10	17.18	14.9
10:44	9.9		5.66	1,235.00	21.82	0.34	-30.10	16.40	14.9
10:47	10.5		5.66	1,227.80	21.90	0.33	-29.30	15.24	14.95
10:50	11.0		5.65	1,222.40	21.84	0.33	-28.20	13.54	14.95

Sampling Activities

Sampled By: JC Sample Date/Time: 9/3/2026 10:50
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 5.65 pH 1,222.40 Spec. Cond. 21.84 Temp
Field Filtered: No Filter Type:
Water Level: 14.95 feet below TOC Drawdown: 0.57 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 234688

Form Completed By: Justin Colp **Date:** 9/3/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26081663
Monitoring Point: Equipment Blank
Sample ID: 009
Date (s):

Field Team Members

Name: _____ Affiliation: _____
Name: _____ Affiliation: _____

Weather Conditions

Temp: _____ °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☐ None ☐ Light ☐ Heavy Sky: ☐ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad _____
Casing _____
Protective Casing _____
Reference Mark/Identification _____

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured: _____
Static Water Level: _____ feet below TOC
Total Depth: -- feet below TOC
Water Column: _____ feet

Purging Activities

Purged By: _____ Purge Date: _____
Purge Equipment: _____ Well Diameter: _____
Purge Volume Calculation (L): _____
Actual Purge Volume (L): _____
Physical appearance of purge water: _____ Odor: _____ Color: _____

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)

Sampling Activities

Sampled By: _____ Sample Date/Time: _____
Sample Method: _____ Sample Equipment: _____
Sample Parameters: _____ pH _____ Spec. Cond. _____ Temp
Field Filtered: _____ Filter Type: _____
Water Level: _____ feet below TOC Drawdown: _____ feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- QA/QC Sample
- No non-dedicated equipment used; no sample collected

Form Completed By: _____ **Date:** _____

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26081663
Monitoring Point: Field Blank 1
Sample ID: 010
Date (s): 9/3/2026

Field Team Members

Name: Justin Colp Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 87 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured:
Static Water Level: feet below TOC
Total Depth: -- feet below TOC
Water Column: feet

Purging Activities

Purged By: Purge Date:
Purge Equipment: Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)

Sampling Activities

Sampled By: JC Sample Date/Time: 9/3/2026 10:55
Sample Method: Direct Sample Sample Equipment:
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- QA/QC Sample.
- Collected at EP-7

Form Completed By: Justin Colp **Date:** 9/3/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26081663
Monitoring Point: Field Duplicate 1
Sample ID: 011
Date (s): 9/2/2026

Field Team Members

Name: Drew Nieters Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 88 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/3/26 10:04 AM
Static Water Level: 16.81 feet below TOC
Total Depth: 29.21 feet below TOC
Water Column: 12.40 feet

Purging Activities

Purged By: DN Purge Date: 9/2/2026
Purge Equipment: Bladder Pump Well Diameter: 2"
Purge Volume Calculation (L): 12.4 ft. x 0.022 = 0.27 L x 3 Vol. = 0.81 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 5.00 L
Physical appearance of purge water: Clear Odor: Slight Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
10:14	0.0	200	purge start time						
10:41	5.4	↓	5.67	1,240.10	21.88	0.35	-31.10	17.18	14.9
10:44	6.0		5.66	1,235.00	21.82	0.34	-30.10	16.40	14.9
10:47	6.6		5.66	1,227.80	21.90	0.33	-29.30	15.24	14.95
10:50	7.2		5.65	1,222.40	21.84	0.33	-28.20	13.54	14.95

Sampling Activities

Sampled By: DN Sample Date/Time: 9/3/2026 10:39
Sample Method: Low Flow Sample Equipment: Bladder Pump
Sample Parameters: 5.65 pH 1,222.40 Spec. Cond. 21.84 Temp
Field Filtered: No Filter Type:
Water Level: 17.90 feet below TOC Drawdown: 1.09 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 51302
- QA/QC Sample
- Collected at EP-3.

Form Completed By: A Nieters **Date:** 9/3/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-101
Project Location:	Marion, IL	**Sample ID:**	012
W.O. Number (s):	26081663	**Date (s):**	9/2/2026

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

Weather Conditions

Temp: 89 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	No

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/2/26 10:17 AM

Static Water Level: 14.36 feet below TOC

Total Depth: 31.14 feet below TOC

Water Column: 16.78 feet

Purging Activities

Purged By: DC Purge Date: 9/2/2026

Purge Equipment: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 16.78 ft. x 0.022 = 0.37 L x 3 Vol. = 1.11 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 11.00 L

Physical appearance of purge water: Cloudy Odor: Slight Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
10:17	0.0	153	purge start time						
11:17	9.2	↓	6.76	1,224.40	21.89	1.50	50.60	86.34	14.89
11:20	9.6		6.76	1,225.50	22.01	1.54	50.70	93.22	15.22
11:23	10.1		6.76	1,225.80	22.09	1.59	50.90	101.59	16.18
11:26	10.5		6.77	1,228.10	22.02	1.63	51.40	111.97	16.28
11:29	11.0		6.75	1,226.10	22.16	1.68	52.30	102.56	16.77

Sampling Activities

Sampled By: BG Sample Date/Time: 9/2/2026 11:29

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.75 pH 1,226.10 Spec. Cond. 22.16 Temp

Field Filtered: No Filter Type:

Water Level: 16.77 feet below TOC Drawdown: 2.41 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 223357

Form Completed By: Brett Gillihan **Date:** 9/2/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-102
Project Location:	Marion, IL	**Sample ID:**	013
W.O. Number (s):	26081663	**Date (s):**	9/2/2026

Field Team Members

Name: Payton Yoch Affiliation: TekLab, Inc.

Name: Affiliation:

Weather Conditions

Temp: 89 °F Wind Direction: ☐ N ☑ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	No

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/2/26 10:26 AM

Static Water Level: 16.52 feet below TOC

Total Depth: 29.77 feet below TOC

Water Column: 13.25 feet

Purging Activities

Purged By: PY Purge Date: 9/2/2026

Purge Equipment: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 13.25 ft. x 0.022 = 0.29 L x 3 Vol. = 0.87 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 8.00 L

Physical appearance of purge water: Clear Odor: None Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
10:26	0.0	116	purge start time						
11:23	6.6	↓	6.31	1,824.80	27.57	0.95	-152.10	54.75	19.56
11:26	7.0		6.38	1,825.10	28.34	0.95	-157.90	56.60	19.82
11:29	7.3		6.71	1,865.10	24.44	1.14	-163.50	64.57	20.34
11:32	7.7		6.35	1,804.30	22.04	0.95	-150.60	69.15	20.78
11:35	8.0		6.17	1,788.60	22.27	0.82	-141.80	76.85	21.19

Sampling Activities

Sampled By: PY Sample Date/Time: 9/2/2026 11:35

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.17 pH 1,788.60 Spec. Cond. 22.27 Temp

Field Filtered: No Filter Type:

Water Level: 21.19 feet below TOC Drawdown: 4.67 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 43123

Form Completed By: Payton K **Date:** 9/2/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26081663
Monitoring Point: MW-103
Sample ID: 014
Date (s): 9/2/2026

Field Team Members

Name: Payton Yoch Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 92 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	Yes

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/2/26 11:49 AM
Static Water Level: 11.50 feet below TOC
Total Depth: 31.70 feet below TOC
Water Column: 20.20 feet

Purging Activities

Purged By: PY Purge Date: 9/2/2026
Purge Equipment: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 20.2 ft. x 0.022 = 0.44 L x 3 Vol. = 1.32 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 10.00 L
Physical appearance of purge water: Clear Odor: Slight Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
11:49	0.0	159	purge start time						
12:40	8.1	↓	5.63	2,557.10	21.80	0.50	-115.60	100.21	15.49
12:43	8.6		5.63	2,558.60	21.75	0.48	-115.90	105.62	15.64
12:46	9.0		5.60	2,566.00	21.75	0.46	-113.90	111.03	15.71
12:49	9.5		5.62	2,557.00	21.77	0.46	-117.90	130.25	15.78
12:52	10.0		5.63	2,564.30	21.66	0.45	-121.80	125.89	15.88

Sampling Activities

Sampled By: PY Sample Date/Time: 9/2/2026 12:52
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 5.63 pH 2,564.30 Spec. Cond. 21.66 Temp
Field Filtered: No Filter Type:
Water Level: 15.88 feet below TOC Drawdown: 4.38 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 43123

Form Completed By: Payton Yoch **Date:** 9/2/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-104
Project Location:	Marion, IL	**Sample ID:**	015
W.O. Number (s):	26081663	**Date (s):**	9/2/2026

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

Weather Conditions

Temp: 92 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	No

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/2/26 11:47 AM

Static Water Level: 11.02 feet below TOC

Total Depth: 33.67 feet below TOC

Water Column: 22.65 feet

Purging Activities

Purged By: DC Purge Date: 9/2/2026

Purge Equipment: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 22.65 ft. x 0.022 = 0.5 L x 3 Vol. = 1.5 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 11.00 L

Physical appearance of purge water: Cloudy Odor: Strong Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
11:47	0.0	153	purge start time						
12:47	9.2	↓	9.39	2,445.90	22.54	0.48	-394.40	162.77	11.88
12:50	9.6		9.38	2,444.40	23.44	0.47	-394.80	84.61	12.01
12:53	10.1		9.37	2,471.00	24.04	0.42	-396.80	89.46	12.54
12:56	10.5		9.35	2,469.90	25.81	0.42	-397.70	107.50	13.26
12:59	11.0		9.38	2,484.00	24.63	0.45	-396.40	103.35	13.28

Sampling Activities

Sampled By: BG Sample Date/Time: 9/2/2026 12:59

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 9.38 pH 2,484.00 Spec. Cond. 24.63 Temp

Field Filtered: No Filter Type:

Water Level: 13.23 feet below TOC Drawdown: 2.21 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 223357

Form Completed By: Brett Gillihan **Date:** 9/2/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26081663
Monitoring Point: MW-105
Sample ID: 016
Date (s): 9/3/2026

Field Team Members

Name: Payton Yoch — Affiliation: TekLab, Inc.
Name: — Affiliation:

Weather Conditions

Temp: 87 °F — Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☑ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy — Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	No

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/3/26 9:55 AM
Static Water Level: 12.97 feet below TOC
Total Depth: 28.66 feet below TOC
Water Column: 15.69 feet

Purging Activities

Purged By: PY — Purge Date: 9/3/2026
Purge Equipment: Peristaltic Pump — Well Diameter: 2"
Purge Volume Calculation (L): 15.69 ft. x 0.022 = 0.35 L x 3 Vol. = 1.05 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 10.00 L
Physical appearance of purge water: Clear — Odor: None — Color: None

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
9:59	0.0	147	purge start time						
10:55	8.2	↓	6.09	2,070.00	21.20	1.00	-113.10	4.59	23.89
10:58	8.7		6.08	2,063.40	21.32	1.04	-109.90	3.77	23.92
11:01	9.1		6.12	2,075.00	21.17	1.03	-113.20	248.58	23.95
11:04	9.6		6.08	2,067.60	21.49	0.95	-119.00	28.37	23.99
11:07	10.0		6.06	2,056.60	21.96	1.15	-109.40	55.96	24.02

Sampling Activities

Sampled By: PY — Sample Date/Time: 9/3/2026 11:07
Sample Method: Low Flow — Sample Equipment: Peristaltic Pump
Sample Parameters: 6.06 pH — 2,056.60 Spec. Cond. — 21.96 Temp
Field Filtered: No — Filter Type:
Water Level: 24.02 feet below TOC — Drawdown: 11.05 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 43123

Form Completed By: Payton Yoch — **Date:** 9/3/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-106
Project Location:	Marion, IL	**Sample ID:**	017
W.O. Number (s):	26081663	**Date (s):**	9/3/2026

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

Weather Conditions

Temp: 87 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	No

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/3/26 10:05 AM

Static Water Level: 14.89 feet below TOC

Total Depth: 31.46 feet below TOC

Water Column: 16.57 feet

Purging Activities

Purged By: DC Purge Date: 9/3/2026

Purge Equipment: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 16.57 ft. x 0.022 = 0.36 L x 3 Vol. = 1.08 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 11.00 L

Physical appearance of purge water: Cloudy Odor: Moderate Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
10:05	0.0	175	purge start time						
10:56	8.9	↓	6.51	1,332.60	21.35	0.97	39.30	346.91	15.26
10:59	9.4		6.51	1,334.00	21.60	1.00	39.70	354.97	15.42
11:02	10.0		6.51	1,327.70	21.97	1.01	40.00	369.20	15.79
11:05	10.5		6.51	1,331.00	22.01	1.03	41.20	399.48	15.83
11:08	11.0		6.51	1,334.00	22.42	1.05	42.20	10.71	15.89

Sampling Activities

Sampled By: BG Sample Date/Time: 9/3/2026 11:08

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 6.51 pH 1,334.00 Spec. Cond. 22.42 Temp

Field Filtered: No Filter Type:

Water Level: 15.89 feet below TOC Drawdown: 1.00 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 223357

Form Completed By: Brett Gillihan **Date:** 9/3/2026

Field Data Sheet

Project Name:	Groundwater Monitoring	**Monitoring Point:**	MW-109
Project Location:	Marion, IL	**Sample ID:**	018
W.O. Number (s):	26081663	**Date (s):**	9/3/2026

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.

Name: Danny Crump Affiliation: TekLab, Inc.

Weather Conditions

Temp: 92 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☑ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	No

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/3/26 11:26 AM

Static Water Level: 8.14 feet below TOC

Total Depth: 24.84 feet below TOC

Water Column: 16.70 feet

Purging Activities

Purged By: DC Purge Date: 9/3/2026

Purge Equipment: Peristaltic Pump Well Diameter: 2"

Purge Volume Calculation (L): 16.7 ft. x 0.022 = 0.37 L x 3 Vol. = 1.11 L **Based on Low-Flow (3/8" discharge)*

Actual Purge Volume (L): 11.00 L

Physical appearance of purge water: Cloudy Odor: Moderate Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
11:26	0.0	167	purge start time						
12:20	9.0	↓	7.19	903.30	20.65	0.72	-44.10	112.61	10.89
12:23	9.5		7.18	901.20	20.77	0.71	-42.80	29.79	10.91
12:26	10.0		7.18	901.10	20.71	0.71	-42.70	193.96	10.93
12:29	10.5		7.16	898.40	20.89	0.71	-42.10	9.88	10.99
12:32	11.0		7.15	894.10	20.93	0.71	-42.10	161.72	11.12

Sampling Activities

Sampled By: BG Sample Date/Time: 9/3/2026 12:32

Sample Method: Low Flow Sample Equipment: Peristaltic Pump

Sample Parameters: 7.15 pH 894.10 Spec. Cond. 20.93 Temp

Field Filtered: No Filter Type:

Water Level: 11.12 feet below TOC Drawdown: 2.98 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 223357

Form Completed By: Brett Gillihan **Date:** 9/3/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26081663
Monitoring Point: Field Blank 2
Sample ID: 019
Date (s): 9/3/2026

Field Team Members

Name: Justin Colp Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 87 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		
Well		

Groundwater Level Measurements

Date/Time Measured:
Static Water Level: feet below TOC
Total Depth: -- feet below TOC
Water Column: feet

Purging Activities

Purged By: Purge Date:
Purge Equipment: Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)

Sampling Activities

Sampled By: JC Sample Date/Time: 9/3/2026 11:05
Sample Method: Direct Sample Sample Equipment:
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- QA/QC Sample.
- Collected at EP-7

Form Completed By: Justin Colp **Date:** 9/3/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26081663
Monitoring Point: Field Duplicate 2
Sample ID: 020
Date (s): 9/3/2026

Field Team Members

Name: Brett Gillihan Affiliation: TekLab, Inc.
Name: Danny Crump Affiliation: TekLab, Inc.

Weather Conditions

Temp: 92 °F Wind Direction: ☐ N ☐ S ☐ E ☐ SE ☐ SW ☑ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad	Good
Casing	Good
Protective Casing	Good
Reference Mark/Identification	No

Locks	Yes	No
Protective Casing	X	
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/3/26 11:26 AM
Static Water Level: 8.14 feet below TOC
Total Depth: 24.84 feet below TOC
Water Column: 16.70 feet

Purging Activities

Purged By: DC Purge Date: 9/3/2026
Purge Equipment: Peristaltic Pump Well Diameter: 2"
Purge Volume Calculation (L): 16.7 ft. x 0.022 = 0.37 L x 3 Vol. = 1.11 L **Based on Low-Flow (3/8" discharge)*
Actual Purge Volume (L): 11.00 L
Physical appearance of purge water: Cloudy Odor: Moderate Color: Clear

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)
11:26	0.0	167	purge start time						
12:20	9.0	↓	7.19	903.30	20.65	0.72	-44.10	112.61	10.89
12:23	9.5		7.18	901.20	20.77	0.71	-42.80	29.79	10.91
12:26	10.0		7.18	901.10	20.71	0.71	-42.70	193.96	10.93
12:29	10.5		7.16	898.40	20.89	0.71	-42.10	9.88	10.99
12:32	11.0		7.15	894.10	20.93	0.71	-42.10	161.72	11.12

Sampling Activities

Sampled By: BG Sample Date/Time: 9/3/2026 12:32
Sample Method: Low Flow Sample Equipment: Peristaltic Pump
Sample Parameters: 7.15 pH 894.10 Spec. Cond. 20.93 Temp
Field Filtered: No Filter Type:
Water Level: 11.12 feet below TOC Drawdown: 2.98 feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- Field Meter: 223357
- QA/QC Sample
- Collected at MW-109

Form Completed By: Brett Gillihan **Date:** 9/3/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26081663
Monitoring Point: Pond 1- SG
Sample ID: 021
Date (s): 9/2/2026

Field Team Members

Name: Danny Crump Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 89 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/2/26 11:02 AM
Static Water Level: 1.00 feet below TOC
Total Depth: -- feet below TOC
Water Column: -- feet

Purging Activities

Purged By: Purge Date:
Purge Equipment: Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)

Sampling Activities

Sampled By: Sample Date/Time:
Sample Method: Sample Equipment:
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- DTW Only

Form Completed By: Date: 9/2/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26081663
Monitoring Point: Pond 4- SG
Sample ID: 022
Date (s): 9/2/2026

Field Team Members

Name: Justin Colp Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 89 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/2/26 11:45 AM
Static Water Level: N/A feet below TOC
Total Depth: -- feet below TOC
Water Column: -- feet

Purging Activities

Purged By: Purge Date:
Purge Equipment: Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)

Sampling Activities

Sampled By: Sample Date/Time:
Sample Method: Sample Equipment:
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- DTW Only
- Unable to read gauge, overgrown reeds

Form Completed By: Justin Colp **Date:** 9/2/2026

Field Data Sheet

Project Name: Groundwater Monitoring
Project Location: Marion, IL
W.O. Number (s): 26081663
Monitoring Point: Little Saline Creek
Sample ID: 023
Date (s): 9/2/2026

Field Team Members

Name: Justin Colp Affiliation: TekLab, Inc.
Name: Affiliation:

Weather Conditions

Temp: 89 °F Wind Direction: ☑ N ☐ S ☐ E ☐ SE ☐ SW ☐ NE ☐ NW

Precipitation: ☑ None ☐ Light ☐ Heavy Sky: ☑ Clear ☐ Partly Cloudy ☐ Cloudy

Well Observations

Well Pad
Casing
Protective Casing
Reference Mark/Identification

Locks	Yes	No
Protective Casing		X
Well		X

Groundwater Level Measurements

Date/Time Measured: 9/2/26 11:38 AM
Static Water Level: 18.71 feet below TOC
Total Depth: -- feet below TOC
Water Column: -- feet

Purging Activities

Purged By: Purge Date:
Purge Equipment: Well Diameter:
Purge Volume Calculation (L):
Actual Purge Volume (L):
Physical appearance of purge water: Odor: Color:

Purge Time	Cumulative Purge Vol.(L)	Purge Rate (mL/m)	pH (S.U.)	Specific Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	DTW (ft. below TOC)

Sampling Activities

Sampled By: Sample Date/Time:
Sample Method: Sample Equipment:
Sample Parameters: pH Spec. Cond. Temp
Field Filtered: Filter Type:
Water Level: feet below TOC Drawdown: feet

Observations/Comments: (i.e., equipment malfunctions, contamination sources, sampling difficulties; duplicate sample)

- DTW Only

Form Completed By: Justin Colp **Date:** 9/2/2026

Site Samping Event: Groundwater Monitoring
LIMS Workorder: 26081663
Technician(s): DC, JC, BG, DN, PY

Field Calibration Log(s)
SIPC- 3Q 2026

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 51302 Technician(s): Drew Nieters Date: 9/2/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC260710A	4.00	135.60	9/2/26 9:36
7.0 Buffer	WC260710B	7.00	-42.00	9/2/26 9:23
10.0 Buffer	WC260710C	10.00	-212.10	9/2/26 9:30
LCS/CCV (7.0 Buffer)	WC260710D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	112045	1412	9/2/26 9:40

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.46	9/2/26 9:43
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading (mV)	Date/Time
	5GL1513	240.0	8/28/26 10:33

D.O. Saturation	Barometer (mmHg)	Reading	Date/Time
100%	763.8	100.5%	8/28/26 10:52

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-1-DN	LCS	9/2/26 9:48	26	7.04	1,414	0.46		
CCV-1-DN	CCV	9/2/26 13:21	32.7	7.00	1,419	0.56		

Comments:

Field Meter ID: Pine 51302 Technician(s): Drew Nieters Date: 9/3/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC260710A	4.00	139.20	9/3/26 10:08
7.0 Buffer	WC260710B	7.00	-39.30	9/3/26 10:00
10.0 Buffer	WC260710C	10.00	-208.60	9/3/26 10:05
LCS/CCV (7.0 Buffer)	WC260710D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	112045	1412	9/3/26 10:10

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.63	9/3/26 10:11
124 NTU	95834		

ORP Standard	5GL1513	240.0	8/28/26 10:33

	100%	763.8	100.5%	8/28/26 10:52

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-2-DN	LCS	9/3/26 10:12	26	7.04	1,416	0.63		
CCV-2-DN	CCV	9/3/26 11:00	27.6	7.06	1,412	0.69		

Comments:

Site Samping Event: Groundwater Monitoring
LIMS Workorder: 26081663
Technician(s): DC, JC, BG, DN, PY

Field Calibration Log(s)
SIPC- 3Q 2026

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 43123 Technician(s): Payton Yoch Date: 9/2/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC260710A	4.00	96.40	9/2/26 9:47
7.0 Buffer	WC260710B	7.00	-73.80	9/2/26 9:43
10.0 Buffer	WC260710C	10.00	-235.90	9/2/26 9:50
LCS/CCV (7.0 Buffer)	WC260710D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	112045	1412	9/2/26 9:54

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0	9/2/26 10:01
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading (mV)	Date/Time

D.O. Saturation	Barometer (mmHg)	Reading	Date/Time
100%			

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-1-PY	LCS	9/2/26 9:57	28.8	7.06	1,412	2.09		
CCV-1-PY	CCV	9/2/26 13:36	29.2	7.04	1,475	1.98		

Comments:

Field Meter ID: Pine 43123 Technician(s): Payton Yoch Date: 9/3/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC260710A	4.00	99.10	9/3/26 9:37
7.0 Buffer	WC260710B	7.00	-68.40	9/3/26 9:35
10.0 Buffer	WC260710C	10.00	-229.00	9/3/26 9:42
LCS/CCV (7.0 Buffer)	WC260710D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	112045	1412	9/3/26 9:49

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0	9/3/26 9:50
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading (mV)	Date/Time

D.O. Saturation	Barometer (mmHg)	Reading	Date/Time

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-2-PY	LCS	9/3/26 9:56	28.5	7.06	1,412	1.07		
CCV-2-PY	CCV	9/3/26 11:26	29.3	7.07	1,482	1.34		

Comments:

Site Samping Event: Groundwater Monitoring
LIMS Workorder: 26081663
Technician(s): DC, JC, BG, DN, PY

Field Calibration Log(s)
SIPC- 3Q 2026

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 223357 Technician(s): Brett Gillihan Date: 9/2/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC260710A	4.00	122.52	9/2/26 9:56
7.0 Buffer	WC260710B	7.00	-53.11	9/2/26 9:55
10.0 Buffer	WC260710C	10.00	-219.22	9/2/26 9:58
LCS/CCV (7.0 Buffer)	WC260710D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	112045	1411	9/2/26 10:00

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.34	9/2/26 10:05
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading (mV)	Date/Time
	5GL1513	240.0	8/28/26 10:18

D.O. Saturation	Barometer (mmHg)	Reading	Date/Time
100%	763.7	100.5%	8/28/26 10:52

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-1-BG	LCS	9/2/26 10:08	23.1	7.01	1,412	0.31		
CCV-1-BG	CCV	9/2/26 16:12	23.8	7.05	1,415	0.35		

Comments:

Field Meter ID: Pine 223357 Technician(s): Brett Gillihan Date: 9/3/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC260710A	4.00	119.21	9/3/26 9:54
7.0 Buffer	WC260710B	7.00	-49.20	9/3/26 9:51
10.0 Buffer	WC260710C	10.00	-217.27	9/3/26 9:56
LCS/CCV (7.0 Buffer)	WC260710D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	112045	1412	9/3/26 9:58

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.21	9/3/26 10:02
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading (mV)	Date/Time
	5GL1513	240.0	8/28/26 10:18

D.O. Saturation	Barometer (mmHg)	Reading	Date/Time
100%	763.7	100.5%	8/28/26 10:52

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-2-BG	LCS	9/3/26 10:04	24.3	7.02	1,412	0.2		
CCV-2-BG	CCV	9/3/26 12:36	24.7	7.00	1,414	0.26		

Comments:

Site Samping Event: Groundwater Monitoring
LIMS Workorder: 26081663
Technician(s): DC, JC, BG, DN, PY

Field Calibration Log(s)
SIPC- 3Q 2026

Field Temp SOP 1156 - SM 2550 B
Field pH SOP 1152 - SW-846 9040B - SM 4500-H B
Field Cond. SOP 1155 - SW-846 9050A - SM 2510 B

Field Meter ID: Pine 234688 Technician(s): justin colp Date: 9/2/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC260710A	4.00	139.70	9/2/26 9:57
7.0 Buffer	WC260710B	7.00	-25.20	9/2/26 9:54
10.0 Buffer	WC260710C	10.00	-191.90	9/2/26 9:59
LCS/CCV (7.0 Buffer)	WC260710D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	112045	1412	9/2/26 10:05

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.81	9/2/26 10:07
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading (mV)	Date/Time
	5GL1513	240.0	8/28/26 10:26

D.O. Saturation	Barometer (mmHg)	Reading	Date/Time
100%	763.8	100.5%	8/28/26 10:52

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-1-JC	LCS	9/2/26 10:08	24.9	7.01	1,415	0.78		
CCV-1-JC	CCV	9/2/26 13:14	26.1	7.00	1,452	0.44		

Comments:

Field Meter ID: Pine 234688 Technician(s): justin colp Date: 9/3/2026

pH Standards	LIMS ID	Reading (SU & mV)		Date/Time
4.0 Buffer	WC260710A	4.00	136.90	9/3/26 9:43
7.0 Buffer	WC260710B	7.00	-25.70	9/3/26 9:41
10.0 Buffer	WC260710C	10.00	-192.80	9/3/26 9:46
LCS/CCV (7.0 Buffer)	WC260710D			

Conductivity Standard	LIMS ID	Reading	Date/Time
1,412 µS Std.	112045	1412	9/3/26 9:51

Turbidity Standard	LIMS ID	Reading	Date/Time
0 NTU (DI Water)	1	0.44	9/3/26 9:52
124 NTU	95834		

ORP Standard	LIMS ID/Lot#	Reading (mV)	Date/Time
	5GL1513	240.0	8/28/26 10:26

D.O. Saturation	Barometer (mmHg)	Reading	Date/Time
100%	763.8	100.5%	8/28/26 10:52

Sample ID	Sample Type	Date/Time	Temp. °C	pH S.U.	Conductivity µS	Turbidity NTU	ORP mV	D.O. %
LCS-2-JC	LCS	9/3/26 9:54	27.1	7.01	1,414	0.39		
CCV-2-JC	CCV	9/3/26 10:58	27.2	6.98	1,400	0.59		

Comments:

October 14, 2026

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:

Illinois	100467
Kansas	E-10374
Louisiana	05002
Oklahoma	9978

RE: Groundwater Monitoring **WorkOrder:** 26081663

Dear Jason McLaurin:

TEKLAB, INC received 23 samples on 9/2/2026 3:35:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Director of Customer Service
(618)344-1004
ehurley@teklabinc.com

Report Contents

Client: Southern Illinois Power Cooperation
Work Order: 26081663
Client Project: Groundwater Monitoring
Report Date: 14-Oct-26

This reporting package includes the following:

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Report Contents	2
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Accreditations	6
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Quality Control Results	24
Receiving Check List	42
Chain of Custody	Appended

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

Abbr	Definition
*	Analytes on report marked with an asterisk are not NELAP accredited
A	Total Coliform and/or E. Coli (Result) is absent
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
NC	Data is not acceptable for compliance purposes
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
P	Total Coliform and/or E. Coli (Result) is present
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
S	Opinion for Colisure analysis is Satisfactory
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
T.O.P.	Top of Pump
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)
U	Opinion for Colisure analysis is Unsatisfactory

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

Case Narrative

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 26081663
Client Project: Groundwater Monitoring
Report Date: 14-Oct-26

Cooler Receipt Temp: 9.1 °C

An employee of Teklab, Inc. collected the sample(s).

No non-dedicated equipment was employed for the sampling event; Equipment Blank was not required.

Radium-226/-228 analyses were performed by Eurofins St. Louis. See attached report for results and QC data.

Per Gabe Dixon's request, only Pond 1 and Pond 2 data is included in this report. EAH 10/14/26

Locations

Collinsville

Address 120 United Drive
Collinsville, IL 62234-7433
Phone (618) 344-1004
Fax
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
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Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
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Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100467	NELAP	1/31/2027	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2027	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2027	Collinsville
Oklahoma	ODEQ	9978	NELAP	12/31/2026	Collinsville
Arkansas	ADEQ	88-0966		3/14/2027	Collinsville
Illinois	IDPH	17584		5/31/2027	Collinsville
Iowa	IDNR	430		6/1/2028	Collinsville
Kansas	KDHE	E-92716		1/31/2027	Collinsville
Kentucky	KWLCP	KY98006		12/31/2026	Collinsville
Kentucky	UST	0073		1/31/2027	Collinsville
Mississippi	MSDH			1/31/2027	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville
Missouri	MDNR	930		1/31/2028	Collinsville

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

Lab ID: 26081663-012 **Client Sample ID:** MW-101

Matrix: GROUNDWATER **Collection Date:** 09/02/2026 11:29

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**14.36**	ft	1	09/02/2026 11:29	R390268
Elevation of groundwater surface	*	0	0		**501.96**	ft	1	09/02/2026 11:29	R390268
Measuring Point Elevation	*	0	0		**516.32**	ft	1	09/02/2026 11:29	R390268
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**2.90**	gal	1	09/02/2026 11:29	R390268
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**100**	NTU	1	09/02/2026 11:29	R390268
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**52**	mV	1	09/02/2026 11:29	R390268
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.2261**	mS/cm	1	09/02/2026 11:29	R390268
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**22.2**	°C	1	09/02/2026 11:29	R390268
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**1.68**	mg/L	1	09/02/2026 11:29	R390268
SW-846 9040B FIELD									
pH	*	0	1.00		**6.75**		1	09/02/2026 11:29	R390268
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**816**	mg/L	1	09/04/2026 13:28	R390279
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.47**	mg/L	10	09/03/2026 17:49	R390154
Chloride	NELAP	1.00	5.00		**205**	mg/L	10	09/03/2026 17:49	R390154
Sulfate	NELAP	0.99	10.0		**116**	mg/L	10	09/03/2026 17:49	R390154
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**124**	µg/L	1	09/04/2026 9:38	262957
Boron	NELAP	9.0	20.0		**26.0**	µg/L	1	09/04/2026 9:38	262957
Calcium	NELAP	0.035	0.100		**64.8**	mg/L	1	09/04/2026 9:38	262957
Sample result for Ca exceeds 10 times the CCB. Data is reportable per the TNI Standard.									
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	B	**< 1.0**	µg/L	5	09/15/2026 11:58	263344
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	09/04/2026 21:01	262957
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	09/08/2026 15:57	262957
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	09/09/2026 13:54	262957
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	09/04/2026 21:01	262957
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	09/04/2026 21:01	262957
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	09/04/2026 21:01	262957
Lithium	*	1.4	3.0		**28.6**	µg/L	5	09/14/2026 14:50	263280
Molybdenum	NELAP	0.6	1.5	J	**1.3**	µg/L	5	09/04/2026 21:01	262957
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	09/04/2026 21:01	262957
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	09/04/2026 21:01	262957
Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	09/03/2026 14:24	262958
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**3.85**	pci/L	1	10/02/2026 16:09	R391592
Combined 226/228 Uncertainty	*	0	0		**0.869**	+/-	1	10/02/2026 16:09	R391592

Client: Southern Illinois Power Cooperation
Work Order: 26081663
Client Project: Groundwater Monitoring
Report Date: 14-Oct-26
Lab ID: 26081663-012
Client Sample ID: MW-101
Matrix: GROUNDWATER
Collection Date: 09/02/2026 11:29

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	1.00	1.00		**0.343**	pci/L	1	10/01/2026 18:49	R391592
Radium-226 Uncertainty	*	0	0		**0.215**	+/-	1	10/01/2026 18:49	R391592
Radium-228	*	1.00	1.00		**3.51**	pci/L	1	10/01/2026 12:16	R391592
Radium-228 Uncertainty	*	0	0		**0.842**	+/-	1	10/01/2026 12:16	R391592

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

Lab ID: 26081663-013 **Client Sample ID:** MW-102

Matrix: GROUNDWATER **Collection Date:** 09/02/2026 11:35

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**16.52**	ft	1	09/02/2026 11:35	R390268
Elevation of groundwater surface	*	0	0		**501.59**	ft	1	09/02/2026 11:35	R390268
Measuring Point Elevation	*	0	0		**518.11**	ft	1	09/02/2026 11:35	R390268
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**2.10**	gal	1	09/02/2026 11:35	R390268
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**77**	NTU	1	09/02/2026 11:35	R390268
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-142**	mV	1	09/02/2026 11:35	R390268
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.7886**	mS/cm	1	09/02/2026 11:35	R390268
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**22.3**	°C	1	09/02/2026 11:35	R390268
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.82**	mg/L	1	09/02/2026 11:35	R390268
SW-846 9040B FIELD									
pH	*	0	1.00		**6.17**		1	09/02/2026 11:35	R390268
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1170**	mg/L	1	09/04/2026 13:28	R390279
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.10**	mg/L	10	09/03/2026 18:02	R390154
Chloride	NELAP	1.00	5.00		**141**	mg/L	10	09/03/2026 18:02	R390154
Sulfate	NELAP	0.99	10.0		**587**	mg/L	10	09/03/2026 18:02	R390154
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**31.6**	µg/L	1	09/04/2026 9:39	262957
Boron	NELAP	9.0	20.0		**27.5**	µg/L	1	09/04/2026 9:39	262957
Calcium	NELAP	0.035	0.100		**92.1**	mg/L	1	09/04/2026 9:39	262957
Sample result for Ca exceeds 10 times the CCB. Data is reportable per the TNI Standard.									
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	B	**< 1.0**	µg/L	5	09/15/2026 12:03	263344
Arsenic	NELAP	0.4	1.0	J	**0.6**	µg/L	5	09/04/2026 21:05	262957
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	09/08/2026 16:01	262957
Cadmium	NELAP	0.2	1.0	J	**0.3**	µg/L	5	09/09/2026 13:59	262957
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	09/04/2026 21:05	262957
Cobalt	NELAP	0.1	1.0	J	**0.2**	µg/L	5	09/04/2026 21:05	262957
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	09/04/2026 21:05	262957
Lithium	*	2.0	3.0		**3.8**	µg/L	5	09/15/2026 12:03	263344
Molybdenum	NELAP	0.6	1.5	J	**0.9**	µg/L	5	09/04/2026 21:05	262957
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	09/04/2026 21:05	262957
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	09/04/2026 21:05	262957
Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	09/03/2026 14:30	262958
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**1.67**	pci/L	1	10/02/2026 16:09	R391592
Combined 226/228 Uncertainty	*	0	0		**0.607**	+/-	1	10/02/2026 16:09	R391592

Client: Southern Illinois Power Cooperation
Work Order: 26081663
Client Project: Groundwater Monitoring
Report Date: 14-Oct-26
Lab ID: 26081663-013
Client Sample ID: MW-102
Matrix: GROUNDWATER
Collection Date: 09/02/2026 11:35

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	1.00	1.00		**0.233**	pci/L	1	10/01/2026 18:49	R391592
Radium-226 Uncertainty	*	0	0		**0.220**	+/-	1	10/01/2026 18:49	R391592
Radium-228	*	1.00	1.00		**1.44**	pci/L	1	10/01/2026 12:17	R391592
Radium-228 Uncertainty	*	0	0		**0.566**	+/-	1	10/01/2026 12:17	R391592

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

Lab ID: 26081663-014 **Client Sample ID:** MW-103

Matrix: GROUNDWATER **Collection Date:** 09/02/2026 12:52

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**11.50**	ft	1	09/02/2026 12:52	R390268
Elevation of groundwater surface	*	0	0		**500.84**	ft	1	09/02/2026 12:52	R390268
Measuring Point Elevation	*	0	0		**512.34**	ft	1	09/02/2026 12:52	R390268
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**2.60**	gal	1	09/02/2026 12:52	R390268
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**130**	NTU	1	09/02/2026 12:52	R390268
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-122**	mV	1	09/02/2026 12:52	R390268
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.5643**	mS/cm	1	09/02/2026 12:52	R390268
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**21.7**	°C	1	09/02/2026 12:52	R390268
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.45**	mg/L	1	09/02/2026 12:52	R390268
SW-846 9040B FIELD									
pH	*	0	1.00		**5.63**		1	09/02/2026 12:52	R390268
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1820**	mg/L	1	09/04/2026 13:28	R390279
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	09/03/2026 18:40	R390154
Chloride	NELAP	1.00	5.00		**406**	mg/L	10	09/03/2026 18:40	R390154
Sulfate	NELAP	0.99	10.0		**701**	mg/L	10	09/03/2026 18:40	R390154
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**49.6**	µg/L	1	09/04/2026 9:40	262957
Boron	NELAP	9.0	20.0		**8640**	µg/L	1	09/08/2026 6:40	262957
Calcium	NELAP	0.035	0.100	S	**109**	mg/L	1	09/04/2026 9:40	262957
Sample result for Ca exceeds 10 times the CCB. Data is reportable per the TNI Standard.									
Matrix spike control limits are not applicable due to high sample/spike ratio.									
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	B	**< 1.0**	µg/L	5	09/15/2026 12:47	263344
Arsenic	NELAP	0.4	1.0		**4.6**	µg/L	5	09/04/2026 21:22	262957
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	09/08/2026 16:09	262957
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	09/09/2026 14:12	262957
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	09/04/2026 21:22	262957
Cobalt	NELAP	0.1	1.0		**487**	µg/L	5	09/04/2026 21:22	262957
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	09/04/2026 21:22	262957
Lithium	*	1.4	3.0		**7.4**	µg/L	5	09/15/2026 18:10	263344
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	09/04/2026 21:22	262957
Selenium	NELAP	0.6	1.0	J	**0.7**	µg/L	5	09/04/2026 21:22	262957
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	09/04/2026 21:22	262957
Contamination present in the MBLK for Sb. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	09/03/2026 14:32	262958
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.941**	pci/L	1	10/02/2026 16:09	R391592

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

Lab ID: 26081663-014 **Client Sample ID:** MW-103

Matrix: GROUNDWATER **Collection Date:** 09/02/2026 12:52

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228 Uncertainty	*	0	0		**0.470**	+/-	1	10/02/2026 16:09	R391592
Radium-226	*	1.00	1.00		**0.207**	pci/L	1	10/01/2026 18:49	R391592
Radium-226 Uncertainty	*	0	0		**0.259**	+/-	1	10/01/2026 18:49	R391592
Radium-228	*	1.00	1.00		**0.735**	pci/L	1	10/01/2026 12:17	R391592
Radium-228 Uncertainty	*	0	0		**0.392**	+/-	1	10/01/2026 12:17	R391592

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

Lab ID: 26081663-015 **Client Sample ID:** MW-104

Matrix: GROUNDWATER **Collection Date:** 09/02/2026 12:59

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**11.02**	ft	1	09/02/2026 12:59	R390268
Elevation of groundwater surface	*	0	0		**501.50**	ft	1	09/02/2026 12:59	R390268
Measuring Point Elevation	*	0	0		**512.52**	ft	1	09/02/2026 12:59	R390268
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**2.90**	gal	1	09/02/2026 12:59	R390268
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**100**	NTU	1	09/02/2026 12:59	R390268
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-396**	mV	1	09/02/2026 12:59	R390268
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.4840**	mS/cm	1	09/02/2026 12:59	R390268
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**24.6**	°C	1	09/02/2026 12:59	R390268
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.45**	mg/L	1	09/02/2026 12:59	R390268
SW-846 9040B FIELD									
pH	*	0	1.00		**9.38**		1	09/02/2026 12:59	R390268
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**2650**	mg/L	1	09/04/2026 13:28	R390279
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**4.83**	mg/L	10	09/03/2026 18:52	R390154
Chloride	NELAP	1.00	5.00		**23.2**	mg/L	10	09/03/2026 18:52	R390154
Sulfate	NELAP	0.99	10.0		**1890**	mg/L	10	09/03/2026 18:52	R390154
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**47.6**	µg/L	1	09/04/2026 9:42	262957
Boron	NELAP	9.0	20.0		**7580**	µg/L	1	09/04/2026 9:42	262957
Calcium	NELAP	0.035	0.100		**745**	mg/L	1	09/04/2026 9:42	262957
Sample result(s) for Ca exceed 10 times the CCB. Data is reportable per the TNI Standard.									
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0	B	**8.4**	µg/L	5	09/15/2026 13:04	263344
Arsenic	NELAP	2.0	5.0		**1600**	µg/L	25	09/09/2026 15:02	262957
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	09/08/2026 16:59	262957
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	09/09/2026 15:06	262957
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	09/08/2026 16:59	262957
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	09/08/2026 16:59	262957
Lead	NELAP	0.6	1.0		**< 1.0**	µg/L	5	09/04/2026 21:09	262957
Lithium	*	1.4	3.0		**12.6**	µg/L	5	09/15/2026 18:26	263344
Molybdenum	NELAP	0.6	1.5		**3.8**	µg/L	5	09/08/2026 16:59	262957
Selenium	NELAP	0.6	1.0	J	**0.8**	µg/L	5	09/11/2026 18:36	263280
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	09/04/2026 21:09	262957
Sb was detected in the MBLK at a level above the RL. Subsequent analysis produced similar results. Sample results may be biased high by detectable levels in the MBLK.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	09/03/2026 14:34	262958
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.874**	pci/L	1	10/02/2026 16:09	R391592

Client: Southern Illinois Power Cooperation
Work Order: 26081663
Client Project: Groundwater Monitoring
Report Date: 14-Oct-26
Lab ID: 26081663-015
Client Sample ID: MW-104
Matrix: GROUNDWATER
Collection Date: 09/02/2026 12:59

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228 Uncertainty	*	0	0		**0.791**	+/-	1	10/02/2026 16:09	R391592
Radium-226	*	1.00	1.00		**0.0863**	pci/L	1	10/01/2026 18:49	R391592
Radium-226 Uncertainty	*	0	0		**0.269**	+/-	1	10/01/2026 18:49	R391592
Radium-228	*	1.00	1.00		**0.787**	pci/L	1	10/01/2026 12:17	R391592
Radium-228 Uncertainty	*	0	0		**0.744**	+/-	1	10/01/2026 12:17	R391592

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

Lab ID: 26081663-016 **Client Sample ID:** MW-105

Matrix: GROUNDWATER **Collection Date:** 09/03/2026 11:07

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**12.97**	ft	1	09/03/2026 11:07	R390268
Elevation of groundwater surface	*	0	0		**500.47**	ft	1	09/03/2026 11:07	R390268
Measuring Point Elevation	*	0	0		**513.44**	ft	1	09/03/2026 11:07	R390268
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**2.60**	gal	1	09/03/2026 11:07	R390268
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**56**	NTU	1	09/03/2026 11:07	R390268
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-109**	mV	1	09/03/2026 11:07	R390268
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**2.0566**	mS/cm	1	09/03/2026 11:07	R390268
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**22.0**	°C	1	09/03/2026 11:07	R390268
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**1.15**	mg/L	1	09/03/2026 11:07	R390268
SW-846 9040B FIELD									
pH	*	0	1.00		**6.06**		1	09/03/2026 11:07	R390268
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1610**	mg/L	1	09/04/2026 9:38	R390279
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.04**	mg/L	10	09/08/2026 11:29	R390275
Chloride	NELAP	1.00	5.00		**187**	mg/L	10	09/08/2026 11:29	R390275
Sulfate	NELAP	0.99	10.0		**855**	mg/L	10	09/08/2026 11:29	R390275
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**25.5**	µg/L	1	09/04/2026 17:09	263013
Boron	NELAP	9.0	20	J	**15**	µg/L	1	09/04/2026 17:09	263013
Calcium	NELAP	0.035	0.100		**153**	mg/L	1	09/04/2026 17:09	263013
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	09/11/2026 14:48	263224
Arsenic	NELAP	0.4	1.0	J	**0.7**	µg/L	5	09/04/2026 23:51	263013
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	09/09/2026 6:40	263013
Cadmium	NELAP	0.2	1.0	J	**0.2**	µg/L	5	09/09/2026 6:40	263013
Chromium	NELAP	0.7	1.5	J	**0.8**	µg/L	5	09/09/2026 6:40	263013
Cobalt	NELAP	0.1	1.0	J	**0.8**	µg/L	5	09/04/2026 23:51	263013
Lead	NELAP	0.6	1.0		**2.5**	µg/L	5	09/11/2026 14:48	263224
Lithium	*	1.4	3.0		**29.4**	µg/L	5	09/14/2026 13:46	263224
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	09/04/2026 23:51	263013
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	09/04/2026 23:51	263013
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	09/04/2026 23:51	263013
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	09/04/2026 10:24	263014
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.283**	pci/L	1	10/02/2026 16:09	R391592
Combined 226/228 Uncertainty	*	0	0		**0.388**	+/-	1	10/02/2026 16:09	R391592
Radium-226	*	1.00	1.00		**0.132**	pci/L	1	10/01/2026 18:49	R391592
Radium-226 Uncertainty	*	0	0		**0.159**	+/-	1	10/01/2026 18:49	R391592

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

Lab ID: 26081663-016 **Client Sample ID:** MW-105

Matrix: GROUNDWATER **Collection Date:** 09/03/2026 11:07

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-228	*	1.00	1.00		**0.151**	pci/L	1	10/01/2026 12:17	R391592
Radium-228 Uncertainty	*	0	0		**0.354**	+/-	1	10/01/2026 12:17	R391592

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

Lab ID: 26081663-017 **Client Sample ID:** MW-106

Matrix: GROUNDWATER **Collection Date:** 09/03/2026 11:08

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**14.89**	ft	1	09/03/2026 11:08	R390268
Elevation of groundwater surface	*	0	0		**501.05**	ft	1	09/03/2026 11:08	R390268
Measuring Point Elevation	*	0	0		**515.94**	ft	1	09/03/2026 11:08	R390268
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**2.90**	gal	1	09/03/2026 11:08	R390268
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**11**	NTU	1	09/03/2026 11:08	R390268
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**42**	mV	1	09/03/2026 11:08	R390268
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**1.3340**	mS/cm	1	09/03/2026 11:08	R390268
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**22.4**	°C	1	09/03/2026 11:08	R390268
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**1.05**	mg/L	1	09/03/2026 11:08	R390268
SW-846 9040B FIELD									
pH	*	0	1.00		**6.51**		1	09/03/2026 11:08	R390268
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**1010**	mg/L	1	09/04/2026 9:38	R390279
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.16**	mg/L	10	09/08/2026 11:41	R390275
Chloride	NELAP	1.00	5.00		**41.9**	mg/L	10	09/08/2026 11:41	R390275
Sulfate	NELAP	0.99	10.0		**594**	mg/L	10	09/08/2026 11:41	R390275
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**44.8**	µg/L	1	09/04/2026 17:20	263013
Boron	NELAP	9.0	20.0		**22.6**	µg/L	1	09/04/2026 17:20	263013
Calcium	NELAP	0.035	0.100		**97.6**	mg/L	1	09/04/2026 17:20	263013
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	09/11/2026 14:52	263224
Arsenic	NELAP	0.4	1.0	J	**0.7**	µg/L	5	09/05/2026 0:11	263013
Beryllium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	09/09/2026 6:45	263013
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	09/09/2026 6:45	263013
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	09/09/2026 6:45	263013
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	09/05/2026 0:11	263013
Lead	NELAP	0.6	1.0	B	**< 1.0**	µg/L	5	09/09/2026 21:22	263013
Lithium	*	1.4	3.0		**33.3**	µg/L	5	09/11/2026 14:52	263224
Molybdenum	NELAP	0.6	1.5	J	**0.8**	µg/L	5	09/05/2026 0:11	263013
Selenium	NELAP	0.6	1.0		**1.2**	µg/L	5	09/15/2026 13:12	263224
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	09/05/2026 0:11	263013
Contamination present in the MBLK for Pb. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	09/04/2026 10:26	263014
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.335**	pci/L	1	10/02/2026 16:09	R391592
Combined 226/228 Uncertainty	*	0	0		**0.451**	+/-	1	10/02/2026 16:09	R391592
Radium-226	*	1.00	1.00		**-0.0184**	pci/L	1	10/01/2026 18:49	R391592

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

Lab ID: 26081663-017 **Client Sample ID:** MW-106

Matrix: GROUNDWATER **Collection Date:** 09/03/2026 11:08

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**0.145**	+/-	1	10/01/2026 18:49	R391592
Radium-228	*	1.00	1.00		**0.335**	pci/L	1	10/01/2026 12:17	R391592
Radium-228 Uncertainty	*	0	0		**0.427**	+/-	1	10/01/2026 12:17	R391592

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

Lab ID: 26081663-018 **Client Sample ID:** MW-109

Matrix: GROUNDWATER **Collection Date:** 09/03/2026 12:32

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**8.14**	ft	1	09/03/2026 12:32	R390268
Elevation of groundwater surface	*	0	0		**504.41**	ft	1	09/03/2026 12:32	R390268
Measuring Point Elevation	*	0	0		**512.55**	ft	1	09/03/2026 12:32	R390268
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**2.90**	gal	1	09/03/2026 12:32	R390268
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**160**	NTU	1	09/03/2026 12:32	R390268
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-42**	mV	1	09/03/2026 12:32	R390268
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**0.8941**	mS/cm	1	09/03/2026 12:32	R390268
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**20.9**	°C	1	09/03/2026 12:32	R390268
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.71**	mg/L	1	09/03/2026 12:32	R390268
SW-846 9040B FIELD									
pH	*	0	1.00		**7.15**		1	09/03/2026 12:32	R390268
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**590**	mg/L	1	09/04/2026 9:41	R390279
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.22**	mg/L	10	09/08/2026 11:54	R390275
Chloride	NELAP	1.00	5.00		**60.7**	mg/L	10	09/08/2026 11:54	R390275
Sulfate	NELAP	0.99	10.0		**155**	mg/L	10	09/08/2026 11:54	R390275
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**127**	µg/L	1	09/04/2026 17:24	263013
Boron	NELAP	9.0	20	J	**11**	µg/L	1	09/04/2026 17:24	263013
Calcium	NELAP	0.035	0.100	S	**59.7**	mg/L	1	09/04/2026 17:24	263013
Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.									
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	09/11/2026 15:43	263224
Arsenic	NELAP	0.4	1.0	J	**0.4**	µg/L	5	09/05/2026 1:42	263013
Beryllium	NELAP	0.2	1.0	J	**0.4**	µg/L	5	09/09/2026 6:57	263013
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	09/09/2026 6:57	263013
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	09/05/2026 1:42	263013
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	09/05/2026 1:42	263013
Lead	NELAP	0.6	1.0	BJ	**0.7**	µg/L	5	09/09/2026 22:13	263013
Lithium	*	1.4	3.0		**11.2**	µg/L	5	09/11/2026 15:43	263224
Molybdenum	NELAP	0.6	1.5		**1.5**	µg/L	5	09/05/2026 1:42	263013
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	09/05/2026 1:42	263013
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	09/05/2026 1:42	263013
Contamination present in the MBLK for Pb. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	09/04/2026 10:43	263014
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.565**	pci/L	1	10/02/2026 16:09	R391592
Combined 226/228 Uncertainty	*	0	0		**0.368**	+/-	1	10/02/2026 16:09	R391592

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

Lab ID: 26081663-018 **Client Sample ID:** MW-109

Matrix: GROUNDWATER **Collection Date:** 09/03/2026 12:32

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	1.00	1.00		**-0.0984**	pci/L	1	10/01/2026 18:49	R391592
Radium-226 Uncertainty	*	0	0		**0.0690**	+/-	1	10/01/2026 18:49	R391592
Radium-228	*	1.00	1.00		**0.565**	pci/L	1	10/01/2026 12:17	R391592
Radium-228 Uncertainty	*	0	0		**0.361**	+/-	1	10/01/2026 12:17	R391592

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

Lab ID: 26081663-019 **Client Sample ID:** Field Blank 2

Matrix: AQUEOUS **Collection Date:** 09/03/2026 11:05

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**< 20**	mg/L	1	09/04/2026 9:41	R390279
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50		**ND**	mg/L	10	09/08/2026 12:07	R390275
Chloride	NELAP	1.00	5.00		**ND**	mg/L	10	09/08/2026 12:07	R390275
Sulfate	NELAP	0.99	10.0		**ND**	mg/L	10	09/08/2026 12:07	R390275
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**< 2.5**	µg/L	1	09/04/2026 17:29	263013
Boron	NELAP	9.0	20.0		**< 20.0**	µg/L	1	09/04/2026 17:29	263013
Calcium	NELAP	0.035	0.100		**< 0.100**	mg/L	1	09/04/2026 17:29	263013
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	09/11/2026 15:59	263224
Arsenic	NELAP	0.4	1.0		**< 1.0**	µg/L	5	09/05/2026 1:59	263013
Beryllium	NELAP	0.2	1.0	J	**0.5**	µg/L	5	09/09/2026 7:43	263013
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	09/09/2026 7:43	263013
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	09/05/2026 1:59	263013
Cobalt	NELAP	0.1	1.0		**< 1.0**	µg/L	5	09/05/2026 1:59	263013
Lead	NELAP	0.6	1.0	BJ	**0.7**	µg/L	5	09/09/2026 22:29	263013
Lithium	*	1.4	3.0		**6.6**	µg/L	5	09/11/2026 15:59	263224
Molybdenum	NELAP	0.6	1.5		**< 1.5**	µg/L	5	09/05/2026 1:59	263013
Selenium	NELAP	0.6	1.0	J	**0.8**	µg/L	5	09/05/2026 1:59	263013
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	09/05/2026 1:59	263013
Contamination present in the MBLK for Pb. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	09/04/2026 10:45	263014
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.363**	pci/L	1	10/02/2026 16:09	R391592
Combined 226/228 Uncertainty	*	0	0		**0.335**	+/-	1	10/02/2026 16:09	R391592
Radium-226	*	1.00	1.00		**0.0416**	pci/L	1	10/01/2026 18:49	R391592
Radium-226 Uncertainty	*	0	0		**0.130**	+/-	1	10/01/2026 18:49	R391592
Radium-228	*	1.00	1.00		**0.322**	pci/L	1	10/01/2026 12:17	R391592
Radium-228 Uncertainty	*	0	0		**0.309**	+/-	1	10/01/2026 12:17	R391592

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

Lab ID: 26081663-020 **Client Sample ID:** Field Duplicate 2

Matrix: GROUNDWATER **Collection Date:** 09/03/2026 12:32

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
FIELD ELEVATION MEASUREMENTS									
Depth to water from measuring point	*	0	0		**8.14**	ft	1	09/03/2026 12:32	R390268
Elevation of groundwater surface	*	0	0		**504.41**	ft	1	09/03/2026 12:32	R390268
Measuring Point Elevation	*	0	0		**512.55**	ft	1	09/03/2026 12:32	R390268
FIELD PURGE VOLUME									
Purge Volume	*	0	0		**2.90**	gal	1	09/03/2026 12:32	R390268
STANDARD METHODS 2130 B FIELD									
Turbidity	*	1.0	1.0		**160**	NTU	1	09/03/2026 12:32	R390268
STANDARD METHODS 18TH ED. 2580 B FIELD									
Oxidation-Reduction Potential	*	-2000	-2000		**-42**	mV	1	09/03/2026 12:32	R390268
STANDARD METHODS 2510 B FIELD									
Spec. Conductance, Field	*	0	0		**0.8941**	mS/cm	1	09/03/2026 12:32	R390268
STANDARD METHODS 2550 B FIELD									
Temperature	*	0	0		**20.9**	°C	1	09/03/2026 12:32	R390268
STANDARD METHODS 4500-O G FIELD									
Oxygen, Dissolved	*	0	0		**0.71**	mg/L	1	09/03/2026 12:32	R390268
SW-846 9040B FIELD									
pH	*	0	1.00		**7.15**		1	09/03/2026 12:32	R390268
STANDARD METHODS 2540 C (TOTAL) 2020									
Total Dissolved Solids	NELAP	16	20		**600**	mg/L	1	09/04/2026 9:41	R390279
SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY									
Fluoride	NELAP	0.04	0.50	J	**0.26**	mg/L	10	09/08/2026 12:58	R390275
Chloride	NELAP	1.00	5.00		**62.8**	mg/L	10	09/08/2026 12:58	R390275
Sulfate	NELAP	0.99	10.0		**160**	mg/L	10	09/08/2026 12:58	R390275
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Barium	NELAP	0.7	2.5		**128**	µg/L	1	09/04/2026 17:31	263013
Boron	NELAP	9.0	20	J	**12**	µg/L	1	09/04/2026 17:31	263013
Calcium	NELAP	0.035	0.100		**59.5**	mg/L	1	09/04/2026 17:31	263013
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.4	1.0		**< 1.0**	µg/L	5	09/11/2026 16:04	263224
Arsenic	NELAP	0.4	1.0	J	**0.4**	µg/L	5	09/05/2026 2:03	263013
Beryllium	NELAP	0.2	1.0	J	**0.5**	µg/L	5	09/09/2026 7:47	263013
Cadmium	NELAP	0.2	1.0		**< 1.0**	µg/L	5	09/09/2026 7:47	263013
Chromium	NELAP	0.7	1.5		**< 1.5**	µg/L	5	09/05/2026 2:03	263013
Cobalt	NELAP	0.1	1.0	J	**0.1**	µg/L	5	09/05/2026 2:03	263013
Lead	NELAP	0.6	1.0	BJ	**0.6**	µg/L	5	09/09/2026 22:34	263013
Lithium	*	1.4	3.0		**11.4**	µg/L	5	09/11/2026 16:04	263224
Molybdenum	NELAP	0.6	1.5		**1.5**	µg/L	5	09/05/2026 2:03	263013
Selenium	NELAP	0.6	1.0		**< 1.0**	µg/L	5	09/05/2026 2:03	263013
Thallium	NELAP	1.0	2.0		**< 2.0**	µg/L	5	09/05/2026 2:03	263013
Contamination present in the MBLK for Pb. Sample results below the reporting limit are reportable per the TNI Standard.									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.06	0.20		**< 0.20**	µg/L	1	09/04/2026 10:51	263014
EPA 903.0/904.0, RADIUM 226/228									
Combined 226/228	*	5.00	5.00		**0.805**	pci/L	1	10/02/2026 16:09	R391592
Combined 226/228 Uncertainty	*	0	0		**0.480**	+/-	1	10/02/2026 16:09	R391592
Radium-226	*	1.00	1.00		**0.0781**	pci/L	1	10/01/2026 18:49	R391592

Client: Southern Illinois Power Cooperation
Work Order: 26081663
Client Project: Groundwater Monitoring
Report Date: 14-Oct-26
Lab ID: 26081663-020
Client Sample ID: Field Duplicate 2
Matrix: GROUNDWATER
Collection Date: 09/03/2026 12:32

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226 Uncertainty	*	0	0		**0.146**	+/-	1	10/01/2026 18:49	R391592
Radium-228	*	1.00	1.00		**0.727**	pci/L	1	10/01/2026 12:18	R391592
Radium-228 Uncertainty	*	0	0		**0.457**	+/-	1	10/01/2026 12:18	R391592

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

STANDARD METHODS 2510 B FIELD

Batch R390268 **SampType:** LCS Units **mS/cm**
SampID: LCS-1-BG

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4120**	1.412	0	100.0	90	110	09/02/2026

Batch R390268 **SampType:** LCS Units **mS/cm**
SampID: LCS-1-DN

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4140**	1.412	0	100.1	90	110	09/02/2026

Batch R390268 **SampType:** LCS Units **mS/cm**
SampID: LCS-1-JC

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4150**	1.412	0	100.2	90	110	09/02/2026

Batch R390268 **SampType:** LCS Units **mS/cm**
SampID: LCS-1-PY

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4120**	1.412	0	100.0	90	110	09/02/2026

Batch R390268 **SampType:** LCS Units **mS/cm**
SampID: LCS-2-BG

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4120**	1.412	0	100.0	90	110	09/03/2026

Batch R390268 **SampType:** LCS Units **mS/cm**
SampID: LCS-2-DN

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4160**	1.412	0	100.3	90	110	09/03/2026

Batch R390268 **SampType:** LCS Units **mS/cm**
SampID: LCS-2-JC

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4140**	1.412	0	100.1	90	110	09/03/2026

Batch R390268 **SampType:** LCS Units **mS/cm**
SampID: LCS-2-PY

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Spec. Conductance, Field	*	0		**1.4120**	1.412	0	100.0	90	110	09/03/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

SW-846 9040B FIELD

Batch R390268 **SampType:** LCS Units

SampID: LCS-1-BG

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.01**	7.000	0	100.1	98.57	101.4	09/02/2026

Batch R390268 **SampType:** LCS Units

SampID: LCS-1-DN

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.04**	7.000	0	100.6	98.57	101.4	09/02/2026

Batch R390268 **SampType:** LCS Units

SampID: LCS-1-JC

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.01**	7.000	0	100.1	98.57	101.4	09/02/2026

Batch R390268 **SampType:** LCS Units

SampID: LCS-1-PY

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.06**	7.000	0	100.9	98.57	101.4	09/02/2026

Batch R390268 **SampType:** LCS Units

SampID: LCS-2-BG

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.02**	7.000	0	100.3	98.57	101.4	09/03/2026

Batch R390268 **SampType:** LCS Units

SampID: LCS-2-DN

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.04**	7.000	0	100.6	98.57	101.4	09/03/2026

Batch R390268 **SampType:** LCS Units

SampID: LCS-2-JC

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.01**	7.000	0	100.1	98.57	101.4	09/03/2026

Batch R390268 **SampType:** LCS Units

SampID: LCS-2-PY

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
pH	*	1.00		**7.06**	7.000	0	100.9	98.57	101.4	09/03/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

STANDARD METHODS 2540 C (TOTAL) 2020

Batch R390279 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**< 20**	0	0	0	0	0	09/04/2026
Total Dissolved Solids		20		**< 20**	0	0	0	0	0	09/04/2026

Batch R390279 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		**244**	250.0	0	97.6	90	110	09/04/2026
Total Dissolved Solids		20		**248**	250.0	0	99.2	90	110	09/04/2026

Batch R390279 **SampType:** DUP Units **mg/L** RPD Limit **10**
SampID: 26081663-015ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**2640**				2654	0.38	09/04/2026

Batch R390279 **SampType:** DUP Units **mg/L** RPD Limit **10**
SampID: 26090498-001ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		500		**28100**				28300	0.71	09/04/2026

Batch R390279 **SampType:** DUP Units **mg/L** RPD Limit **10**
SampID: 26090500-001ADUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		**894**				882.0	1.35	09/04/2026

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R390154 **SampType:** MBLK Units **mg/L**
SampID: MBLK/ICB

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**	0	0	0	0	0	09/03/2026
Chloride		0.50		**ND**	0	0	0	0	0	09/03/2026
Sulfate		1.00		**ND**	0	0	0	0	0	09/03/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R390154 **SampType:** LCS Units **mg/L**
SampID: LCS/ICV/QCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**0.98**	1.000	0	97.8	90	110	09/03/2026
Chloride		0.50		**19.4**	20.00	0	97.2	90	110	09/03/2026
Sulfate		1.00		**21.0**	20.00	0	104.9	90	110	09/03/2026

Batch R390154 **SampType:** MS Units **mg/L**
SampID: 26081663-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.8**	10.00	0.5770	102.0	80	120	09/03/2026
Chloride		5.00		**213**	200.0	9.358	101.8	80	120	09/03/2026
Sulfate		10.0		**317**	200.0	90.98	112.9	80	120	09/03/2026

Batch R390154 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 26081663-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.2**	10.00	0.5770	96.2	10.78	5.54	09/03/2026
Chloride		5.00		**211**	200.0	9.358	101.0	213.0	0.76	09/03/2026
Sulfate		10.0		**314**	200.0	90.98	111.6	316.8	0.82	09/03/2026

Batch R390154 **SampType:** MS Units **mg/L**
SampID: 26081663-013AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.1**	10.00	0.09800	99.8	80	120	09/03/2026
Chloride		5.00		**359**	200.0	141.3	108.6	80	120	09/03/2026
Sulfate		10.0		**818**	200.0	587.2	115.4	80	120	09/03/2026

Batch R390154 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 26081663-013AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.1**	10.00	0.09800	100.0	10.07	0.27	09/03/2026
Chloride		5.00		**358**	200.0	141.3	108.4	358.6	0.12	09/03/2026
Sulfate		10.0		**816**	200.0	587.2	114.6	817.9	0.19	09/03/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R390154 **SampType:** MS Units **mg/L**

SampID: 26090290-001BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.7**	10.00	0.5640	101.6	80	120	09/03/2026
Chloride		5.00		**435**	200.0	212.0	111.7	80	120	09/03/2026
Sulfate		10.0		**539**	200.0	306.3	116.5	80	120	09/03/2026

Batch R390154 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26090290-001BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.6**	10.00	0.5640	100.4	10.73	1.17	09/03/2026
Chloride		5.00		**434**	200.0	212.0	111.0	435.4	0.30	09/03/2026
Sulfate		10.0		**537**	200.0	306.3	115.4	539.4	0.41	09/03/2026

Batch R390275 **SampType:** MBLK Units **mg/L**

SampID: MBLK/ICB

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**ND**	0	0	0	0	0	09/08/2026
Chloride		0.50		**ND**	0	0	0	0	0	09/08/2026
Sulfate		1.00		**ND**	0	0	0	0	0	09/08/2026

Batch R390275 **SampType:** LCS Units **mg/L**

SampID: LCS/ICV/QCS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.05		**0.99**	1.000	0	98.7	90	110	09/08/2026
Chloride		0.50		**19.7**	20.00	0	98.7	90	110	09/08/2026
Sulfate		1.00		**21.5**	20.00	0	107.5	90	110	09/08/2026

Batch R390275 **SampType:** MS Units **mg/L**

SampID: 26081663-010AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.2**	10.00	0	102.1	80	120	09/08/2026
Chloride		5.00		**206**	200.0	0	102.9	80	120	09/08/2026
Sulfate		10.0		**223**	200.0	0	111.6	80	120	09/08/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R390275 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26081663-010AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.2**	10.00	0	101.7	10.21	0.38	09/08/2026
Chloride		5.00		**204**	200.0	0	102.2	205.8	0.72	09/08/2026
Sulfate		10.0		**221**	200.0	0	110.5	223.3	0.97	09/08/2026

Batch R390275 **SampType:** MS Units **mg/L**

SampID: 26081663-020AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.7**	10.00	0.2560	104.7	80	120	09/08/2026
Chloride		5.00		**281**	200.0	62.77	109.2	80	120	09/08/2026
Sulfate		10.0		**393**	200.0	160.1	116.5	80	120	09/08/2026

Batch R390275 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26081663-020AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.6**	10.00	0.2560	103.7	10.72	0.90	09/08/2026
Chloride		5.00		**279**	200.0	62.77	108.2	281.1	0.70	09/08/2026
Sulfate		10.0		**391**	200.0	160.1	115.5	393.1	0.52	09/08/2026

Batch R390275 **SampType:** MS Units **mg/L**

SampID: 26090368-002AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.8**	10.00	0.3340	104.4	80	120	09/08/2026
Chloride		5.00		**374**	200.0	149.0	112.3	80	120	09/08/2026
Sulfate		10.0		**307**	200.0	79.53	114.0	80	120	09/08/2026

Batch R390275 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 26090368-002AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.7**	10.00	0.3340	104.0	10.77	0.36	09/08/2026
Chloride		5.00		**373**	200.0	149.0	112.1	373.5	0.07	09/08/2026
Sulfate		10.0		**306**	200.0	79.53	113.4	307.5	0.37	09/08/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

SW846 9056A TOTAL ANIONIC COMPOUNDS BY ION CHROMATOGRAPHY

Batch R390275 **SampType:** MS Units **mg/L**
SampID: 26090380-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.5**	10.00	0.1580	103.6	80	120	09/08/2026
Chloride		5.00		**225**	200.0	15.15	104.7	80	120	09/08/2026
Sulfate		10.0	S	**534**	200.0	293.9	120.1	80	120	09/08/2026

Batch R390275 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 26090380-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.5**	10.00	0.1580	103.8	10.52	0.22	09/08/2026
Chloride		5.00		**223**	200.0	15.15	103.9	224.6	0.76	09/08/2026
Sulfate		10.0		**530**	200.0	293.9	118.0	534.1	0.78	09/08/2026

Batch R390275 **SampType:** MS Units **mg/L**
SampID: 26090390-003AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.50		**10.5**	10.00	0	104.8	80	120	09/08/2026
Chloride		5.00		**373**	200.0	147.3	112.6	80	120	09/08/2026

Batch R390275 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 26090390-003AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.50		**10.5**	10.00	0	105.1	10.48	0.25	09/08/2026
Chloride		5.00		**372**	200.0	147.3	112.3	372.5	0.16	09/08/2026

Batch R390275 **SampType:** MS Units **mg/L**
SampID: 26090498-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		5.00		**100**	100.0	2.340	97.7	80	120	09/08/2026
Chloride		50.0		**13500**	2000	11490	100.4	80	120	09/08/2026

Batch R390275 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 26090498-001AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		5.00		**99.8**	100.0	2.340	97.4	100.0	0.24	09/08/2026
Chloride		50.0		**13400**	2000	11490	97.7	13500	0.40	09/08/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 262957 **SampType:** MBLK Units µg/L

SampID: MBLK-262957

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0	0	0	0	0	09/04/2026
Boron		20.0		**< 20.0**	0	0	0	0	0	09/04/2026
Calcium		0.100		**< 0.100**	0	0	0	0	0	09/04/2026

Batch 262957 **SampType:** LCS Units µg/L

SampID: LCS-262957

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1980**	2000	0	99.0	85	115	09/04/2026
Boron		20.0		**1020**	1000	0	102.4	85	115	09/04/2026
Calcium		0.100		**5.16**	5.000	0	103.2	85	115	09/08/2026

Batch 262957 **SampType:** MS Units µg/L

SampID: 26081663-002CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1980**	2000	19.30	98.0	75	125	09/04/2026
Boron		20.0		**2390**	1000	1272	111.8	75	125	09/04/2026
Calcium		0.100	S	**562**	5.000	529.6	637.4	75	125	09/04/2026

Batch 262957 **SampType:** MSD Units µg/L RPD Limit **20**

SampID: 26081663-002CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium		2.5		**1970**	2000	19.30	97.5	1980	0.51	09/04/2026
Boron		20.0		**2400**	1000	1272	112.7	2391	0.34	09/04/2026
Calcium		0.100	S	**566**	5.000	529.6	721.0	561.5	0.74	09/04/2026

Batch 262957 **SampType:** MS Units µg/L

SampID: 26081663-014CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**2040**	2000	49.60	99.5	75	125	09/04/2026
Boron		20.0		**9860**	1000	8642	121.5	75	125	09/08/2026
Calcium		0.100	S	**115**	5.000	108.6	131.2	75	125	09/04/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 262957 **SampType:** MSD Units µg/L RPD Limit 20

SampID: 26081663-014CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium		2.5		**2040**	2000	49.60	99.5	2040	0.00	09/04/2026
Boron		20.0		**9860**	1000	8642	121.7	9856	0.02	09/08/2026
Calcium		0.100		**114**	5.000	108.6	101.0	115.1	1.32	09/04/2026

Batch 263013 **SampType:** MBLK Units µg/L

SampID: MBLK-263013

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0	0	0	0	0	09/04/2026
Boron		20.0		**< 20.0**	0	0	0	0	0	09/04/2026
Calcium		0.100		**< 0.100**	0	0	0	0	0	09/04/2026

Batch 263013 **SampType:** LCS Units µg/L

SampID: LCS-263013

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1990**	2000	0	99.6	85	115	09/04/2026
Boron		20.0		**964**	1000	0	96.4	85	115	09/04/2026
Calcium		0.100		**4.99**	5.000	0	99.7	85	115	09/04/2026

Batch 263013 **SampType:** MS Units µg/L

SampID: 26081663-017CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**1970**	2000	44.80	96.2	75	125	09/04/2026
Boron		20.0		**988**	1000	22.60	96.6	75	125	09/04/2026
Calcium		0.100		**101**	5.000	97.62	77.0	75	125	09/04/2026

Batch 263013 **SampType:** MSD Units µg/L RPD Limit 20

SampID: 26081663-017CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium		2.5		**1920**	2000	44.80	93.6	1968	2.69	09/04/2026
Boron		20.0		**966**	1000	22.60	94.3	988.5	2.30	09/04/2026
Calcium		0.100		**102**	5.000	97.62	78.2	101.5	0.06	09/04/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 263013 **SampType:** MS Units **µg/L**

SampID: 26081663-018CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**2010**	2000	127.1	94.1	75	125	09/04/2026
Boron		20.0		**934**	1000	11.40	92.2	75	125	09/04/2026
Calcium		0.100		**63.9**	5.000	59.74	84.0	75	125	09/04/2026

Batch 263013 **SampType:** MSD Units **µg/L** RPD Limit **20**

SampID: 26081663-018CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium		2.5		**1950**	2000	127.1	91.0	2010	3.23	09/04/2026
Boron		20.0		**926**	1000	11.40	91.5	933.7	0.78	09/04/2026
Calcium		0.100	S	**62.5**	5.000	59.74	55.4	63.94	2.26	09/04/2026

Batch 263280 **SampType:** MBLK Units **µg/L**

SampID: MBLK-263280

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**< 2.5**	0	0	0	0	0	09/14/2026
Boron		20.0		**< 20.0**	0	0	0	0	0	09/15/2026

Batch 263280 **SampType:** LCS Units **µg/L**

SampID: LCS-263280

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium		2.5		**2190**	2000	0	109.5	85	115	09/14/2026
Boron		20.0		**1050**	1000	0	104.7	85	115	09/15/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 262957 **SampType:** MBLK Units µg/L

SampID: MBLK-262957

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic		1.0		< 1.0	0	0	0	0	0	09/04/2026
Beryllium		1.0		< 1.0	0	0	0	0	0	09/08/2026
Beryllium		1.0		< 1.0	0	0	0	0	0	09/04/2026
Cadmium		1.0		< 1.0	0	0	0	0	0	09/09/2026
Chromium		1.5		< 1.5	0	0	0	0	0	09/04/2026
Cobalt		1.0		< 1.0	0	0	0	0	0	09/04/2026
Lead		1.0		< 1.0	0	0	0	0	0	09/04/2026
Molybdenum		1.5		< 1.5	0	0	0	0	0	09/04/2026
Selenium		1.0		< 1.0	0	0	0	0	0	09/04/2026
Thallium		2.0		< 2.0	0	0	0	0	0	09/04/2026

Batch 262957 **SampType:** LCS Units µg/L

SampID: LCS-262957

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic		10.0		989	1000	0	98.9	80	120	09/04/2026
Beryllium		10.0		1030	1000	0	103.2	80	120	09/04/2026
Beryllium		10.0		1090	1000	0	108.6	80	120	09/08/2026
Cadmium		10.0		2020	2000	0	101.2	80	120	09/09/2026
Chromium		15.0		999	1000	0	99.9	80	120	09/04/2026
Cobalt		10.0		980	1000	0	98.0	80	120	09/04/2026
Lead		10.0		1810	2000	0	90.3	80	120	09/04/2026
Molybdenum		15.0		969	1000	0	96.9	80	120	09/04/2026
Selenium		10.0		978	1000	0	97.8	80	120	09/04/2026
Thallium		20.0		933	1000	0	93.3	80	120	09/04/2026

Batch 262957 **SampType:** MS Units µg/L

SampID: 26081663-002CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic		1.0	E	900	1000	0	90.0	75	125	09/04/2026
Cadmium		1.0	E	1780	2000	0	88.8	75	125	09/09/2026
Chromium		1.5	E	885	1000	0	88.5	75	125	09/04/2026
Cobalt		1.0	E	858	1000	0	85.8	75	125	09/04/2026
Lead		1.0	E	1780	2000	0	89.2	75	125	09/04/2026
Molybdenum		1.5	E	895	1000	0	89.5	75	125	09/04/2026
Selenium		1.0	E	890	1000	5.955	88.4	75	125	09/04/2026
Thallium		2.0	E	957	1000	0	95.7	75	125	09/04/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 262957 **SampType:** MSD Units µg/L RPD Limit 20

SampID: 26081663-002CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Arsenic		1.0	E	**917**	1000	0	91.7	899.6	1.96	09/04/2026
Cadmium		1.0	E	**1790**	2000	0	89.4	1777	0.59	09/09/2026
Chromium		1.5	E	**903**	1000	0	90.3	885.1	2.00	09/04/2026
Cobalt		1.0	E	**874**	1000	0	87.4	857.9	1.90	09/04/2026
Lead		1.0	E	**1740**	2000	0	87.2	1784	2.29	09/04/2026
Molybdenum		1.5	E	**915**	1000	0	91.5	894.5	2.27	09/04/2026
Selenium		1.0	E	**920**	1000	5.955	91.4	890.3	3.30	09/04/2026
Thallium		2.0	E	**930**	1000	0	93.0	956.8	2.84	09/04/2026

Batch 262957 **SampType:** MS Units µg/L

SampID: 26081663-014CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic		1.0	E	**833**	1000	4.575	82.8	75	125	09/04/2026
Beryllium		1.0	E	**778**	1000	0	77.8	75	125	09/08/2026
Cadmium		1.0	E	**1800**	2000	0	89.9	75	125	09/09/2026
Chromium		1.5	E	**815**	1000	0	81.5	75	125	09/04/2026
Cobalt		1.0	E	**1270**	1000	486.9	78.2	75	125	09/04/2026
Lead		1.0	E	**1780**	2000	0	89.2	75	125	09/04/2026
Molybdenum		1.5	E	**814**	1000	0	81.4	75	125	09/04/2026
Selenium		1.0	E	**801**	1000	0.7450	80.1	75	125	09/04/2026
Thallium		2.0	E	**940**	1000	0	94.0	75	125	09/04/2026

Batch 262957 **SampType:** MSD Units µg/L RPD Limit 20

SampID: 26081663-014CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Arsenic		1.0	E	**944**	1000	4.575	94.0	832.6	12.58	09/04/2026
Beryllium		1.0	E	**777**	1000	0	77.7	778.0	0.09	09/08/2026
Cadmium		1.0	E	**1760**	2000	0	88.0	1797	2.06	09/09/2026
Chromium		1.5	E	**922**	1000	0	92.2	814.9	12.29	09/04/2026
Cobalt		1.0	E	**1440**	1000	486.9	95.3	1269	12.63	09/04/2026
Lead		1.0	E	**1780**	2000	0	88.8	1784	0.43	09/04/2026
Molybdenum		1.5	E	**968**	1000	0	96.8	814.3	17.30	09/04/2026
Selenium		1.0	E	**913**	1000	0.7450	91.2	801.4	12.99	09/04/2026
Thallium		2.0	E	**942**	1000	0	94.2	939.6	0.21	09/04/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 263013 **SampType:** MBLK Units µg/L

SampID: MBLK-263013

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic		1.0		**< 1.0**	0	0	0	0	0	09/04/2026
Chromium		1.5		**< 1.5**	0	0	0	0	0	09/04/2026
Cobalt		1.0		**< 1.0**	0	0	0	0	0	09/04/2026
Lead		1.0		**< 1.0**	0	0	0	0	0	09/04/2026
Lead		1.0	S	**1.0**	0	0	0	0	0	09/09/2026
Molybdenum		1.5		**< 1.5**	0	0	0	0	0	09/04/2026
Selenium		1.0		**< 1.0**	0	0	0	0	0	09/04/2026
Thallium		2.0		**< 2.0**	0	0	0	0	0	09/04/2026

Batch 263013 **SampType:** LCS Units µg/L

SampID: LCS-263013

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic		10.0		**1000**	1000	0	100.3	80	120	09/04/2026
Chromium		15.0		**999**	1000	0	99.9	80	120	09/04/2026
Cobalt		10.0		**991**	1000	0	99.1	80	120	09/04/2026
Lead		10.0		**1770**	2000	0	88.4	80	120	09/04/2026
Lead		10.0	B	**2070**	2000	0	103.5	80	120	09/09/2026
Molybdenum		15.0		**975**	1000	0	97.5	80	120	09/04/2026
Selenium		10.0		**976**	1000	0	97.6	80	120	09/04/2026
Thallium		20.0		**940**	1000	0	94.0	80	120	09/04/2026

Batch 263013 **SampType:** MS Units µg/L

SampID: 26081663-017CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic		1.0	E	**978**	1000	0.6700	97.8	75	125	09/05/2026
Beryllium		1.0	E	**1000**	1000	0	100.4	75	125	09/09/2026
Cadmium		1.0	E	**1920**	2000	0	96.1	75	125	09/09/2026
Chromium		1.5	E	**1000**	1000	0	100.4	75	125	09/09/2026
Cobalt		1.0	E	**942**	1000	0	94.2	75	125	09/05/2026
Lead		1.0	BE	**2050**	2000	0	102.3	75	125	09/09/2026
Molybdenum		1.5	E	**965**	1000	0.8350	96.4	75	125	09/05/2026
Thallium		2.0	E	**939**	1000	0	93.9	75	125	09/05/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 263013 **SampType:** MSD Units µg/L RPD Limit 20

SampID: 26081663-017CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Arsenic		1.0	E	**915**	1000	0.6700	91.4	978.3	6.69	09/05/2026
Beryllium		1.0	E	**955**	1000	0	95.5	1004	4.93	09/09/2026
Cadmium		1.0	E	**1890**	2000	0	94.4	1922	1.78	09/09/2026
Chromium		1.5	E	**941**	1000	0	94.1	1004	6.42	09/09/2026
Cobalt		1.0	E	**880**	1000	0	88.0	941.6	6.80	09/05/2026
Lead		1.0	BE	**1810**	2000	0	90.4	2047	12.40	09/09/2026
Molybdenum		1.5	E	**889**	1000	0.8350	88.8	964.9	8.21	09/05/2026
Thallium		2.0	E	**953**	1000	0	95.3	938.9	1.51	09/05/2026

Batch 263013 **SampType:** MS Units µg/L

SampID: 26081663-018CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic		1.0	E	**951**	1000	0.4050	95.0	75	125	09/05/2026
Beryllium		1.0	E	**987**	1000	0.4250	98.7	75	125	09/09/2026
Cadmium		1.0	E	**1850**	2000	0	92.4	75	125	09/09/2026
Chromium		1.5	E	**945**	1000	0	94.5	75	125	09/05/2026
Cobalt		1.0	E	**921**	1000	0	92.1	75	125	09/05/2026
Lead		1.0	BE	**2000**	2000	0.6800	99.8	75	125	09/09/2026
Molybdenum		1.5	E	**932**	1000	1.540	93.0	75	125	09/05/2026
Selenium		1.0	E	**933**	1000	0	93.3	75	125	09/05/2026
Thallium		2.0	E	**898**	1000	0	89.8	75	125	09/05/2026

Batch 263013 **SampType:** MSD Units µg/L RPD Limit 20

SampID: 26081663-018CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Arsenic		1.0	E	**977**	1000	0.4050	97.7	950.7	2.76	09/05/2026
Beryllium		1.0	E	**865**	1000	0.4250	86.4	987.3	13.23	09/09/2026
Cadmium		1.0	E	**1890**	2000	0	94.4	1849	2.08	09/09/2026
Chromium		1.5	E	**966**	1000	0	96.6	945.4	2.17	09/05/2026
Cobalt		1.0	E	**948**	1000	0	94.8	920.7	2.87	09/05/2026
Lead		1.0	BE	**1960**	2000	0.6800	98.2	1996	1.63	09/09/2026
Molybdenum		1.5	E	**959**	1000	1.540	95.7	932.0	2.83	09/05/2026
Selenium		1.0	E	**960**	1000	0	96.0	933.5	2.77	09/05/2026
Thallium		2.0	E	**912**	1000	0	91.2	897.6	1.61	09/05/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 263224 **SampType:** MBLK Units µg/L

SampID: MBLK-263224

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0		**< 1.0**	0	0	0	0	0	09/11/2026
Lead		1.0		**< 1.0**	0	0	0	0	0	09/11/2026
Lithium	*	3.0		**< 3.0**	0	0	0	0	0	09/11/2026
Selenium		1.0		**< 1.0**	0	0	0	0	0	09/11/2026

Batch 263224 **SampType:** LCS Units µg/L

SampID: LCS-263224

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		10.0		**1130**	1000	0	112.8	80	120	09/11/2026
Lead		10.0		**2110**	2000	0	105.4	80	120	09/11/2026
Lithium	*	30.0		**967**	1000	0	96.7	80	120	09/11/2026
Selenium		10.0		**996**	1000	0	99.6	80	120	09/11/2026

Batch 263224 **SampType:** MS Units µg/L

SampID: 26081663-017CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0	E	**1050**	1000	0	104.9	75	125	09/11/2026
Lithium	*	3.0	E	**808**	1000	33.28	77.4	75	125	09/11/2026
Selenium		1.0	E	**899**	1000	1.230	89.8	75	125	09/15/2026

Batch 263224 **SampType:** MSD Units µg/L RPD Limit **20**

SampID: 26081663-017CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		1.0	E	**1050**	1000	0	105.1	1049	0.21	09/11/2026
Lithium	*	3.0	E	**806**	1000	33.28	77.3	807.6	0.18	09/11/2026
Selenium		1.0	E	**949**	1000	1.230	94.8	899.0	5.41	09/15/2026

Batch 263224 **SampType:** MS Units µg/L

SampID: 26081663-018CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0	E	**1070**	1000	0	107.3	75	125	09/11/2026
Lithium	*	3.0	E	**770**	1000	11.15	75.9	75	125	09/11/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 263224 **SampType:** MSD Units µg/L RPD Limit 20

SampID: 26081663-018CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		1.0	E	**1090**	1000	0	109.1	1073	1.69	09/11/2026
Lithium	*	3.0	E	**781**	1000	11.15	77.0	770.2	1.36	09/11/2026

Batch 263280 **SampType:** MBLK Units µg/L

SampID: MBLK-263280

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Beryllium		1.0		**< 1.0**	0	0	0	0	0	09/11/2026
Lithium	*	3.0		**< 3.0**	0	0	0	0	0	09/14/2026
Selenium		1.0		**< 1.0**	0	0	0	0	0	09/11/2026

Batch 263280 **SampType:** LCS Units µg/L

SampID: LCS-263280

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Beryllium		10.0		**971**	1000	0	97.1	80	120	09/11/2026
Lithium	*	30.0		**1030**	1000	0	103.0	80	120	09/14/2026
Selenium		10.0		**921**	1000	0	92.1	80	120	09/11/2026

Batch 263344 **SampType:** MBLK Units µg/L

SampID: MBLK-263344

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0	S	**7.7**	0	0	0	0	0	09/15/2026
Lithium	*	3.0		**< 3.0**	0	0	0	0	0	09/15/2026

Batch 263344 **SampType:** LCS Units µg/L

SampID: LCS-263344

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		10.0	B	**994**	1000	0	99.4	80	120	09/15/2026
Lithium	*	30.0		**1010**	1000	0	100.6	80	120	09/15/2026

Batch 263344 **SampType:** MS Units µg/L

SampID: 26081663-014CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		1.0	BE	**1020**	1000	0	102.3	75	125	09/15/2026
Lithium	*	3.0	E	**897**	1000	7.350	89.0	75	125	09/15/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 263344 **SampType:** MSD Units µg/L RPD Limit 20

SampID: 26081663-014CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		1.0	BE	**1030**	1000	0	103.2	1023	0.87	09/15/2026
Lithium	*	3.0	E	**827**	1000	7.350	81.9	896.9	8.14	09/15/2026

SW-846 7470A (TOTAL)

Batch 262958 **SampType:** MBLK Units µg/L

SampID: MBLK-262958

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**< 0.20**	0	0	0	0	0	09/03/2026

Batch 262958 **SampType:** LCS Units µg/L

SampID: LCS-262958

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.68**	5.000	0	93.5	85	115	09/03/2026

Batch 262958 **SampType:** MS Units µg/L

SampID: 26081663-001CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.84**	5.000	0	96.7	75	125	09/03/2026

Batch 262958 **SampType:** MSD Units µg/L RPD Limit 15

SampID: 26081663-001CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.20		**4.71**	5.000	0	94.3	4.836	2.58	09/03/2026

Batch 262958 **SampType:** MS Units µg/L

SampID: 26081663-012CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.83**	5.000	0	96.6	75	125	09/03/2026

Batch 262958 **SampType:** MSD Units µg/L RPD Limit 15

SampID: 26081663-012CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.20		**4.67**	5.000	0	93.4	4.830	3.35	09/03/2026

Client: Southern Illinois Power Cooperation **Work Order:** 26081663

Client Project: Groundwater Monitoring **Report Date:** 14-Oct-26

SW-846 7470A (TOTAL)

Batch 263014 **SampType:** MBLK Units µg/L
SampID: MBLK-263014

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**< 0.20**	0	0	0	0	0	09/04/2026

Batch 263014 **SampType:** LCS Units µg/L
SampID: LCS-263014

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.92**	5.000	0	98.4	85	115	09/04/2026

Batch 263014 **SampType:** MS Units µg/L
SampID: 26081663-019CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.99**	5.000	0	99.8	75	125	09/04/2026

Batch 263014 **SampType:** MSD Units µg/L RPD Limit **15**
SampID: 26081663-019CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.20		**4.95**	5.000	0	99.0	4.988	0.71	09/04/2026

Batch 263014 **SampType:** MS Units µg/L
SampID: 26081663-020CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.20		**4.85**	5.000	0	97.0	75	125	09/04/2026

Batch 263014 **SampType:** MSD Units µg/L RPD Limit **15**
SampID: 26081663-020CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.20		**4.93**	5.000	0	98.5	4.849	1.57	09/04/2026

Receiving Check List

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation
Work Order: 26081663
Client Project: Groundwater Monitoring
Report Date: 14-Oct-26

Carrier: Justin Colp
Received By: LEH

Completed by: Nolan Kahl
On: 03-Sep-26

Reviewed by: Amber Dilallo
On: 03-Sep-26

Pages to follow: Chain of custody 6 Extra pages included 26

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 9.1
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☑	Lab ☐	NA ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water – at least one vial per sample has zero headspace?	Yes ☐	No ☐	No VOA vials ☑	
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐	
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑	

Any No responses must be detailed below or on the COC.

pH strip #111055. - CRS/nKahl - 9/3/2026 8:59:23 AM

Additional cooler temperature 10.9 and 6.1 C. NK 9/3/26

Samples were received on 9/3/26 at 1459 on ice [temp8.5C, 4.5C, 6.1C - LTG#9]. pH# 111055- JD/lhenson - 9/3/2026 4:03:44 PM

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 4 Work order # 26081663

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 9.1, 10.9, 6.1°C LTG# 9

Preserved in: ☐ LAB ☒ FIELD

FOR LAB USE ONLY

Lab Notes: PHV 111055 CRS 9-3-26

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No

Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL:___

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Justin Gb

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26081633-001	EBG	9-2 ~~10~~ 1113	1	3		X	X	X	X	X	X	X	X
-002	EP-1	9-2 1036	1	3		X	X	X	X	X	X	X	X
-003	EP-2	9-2 1119	1	3		X	X	X	X	X	X	X	X
-004	EP-3		1	3		X	X	X	X	X	X	X	X
-005	EP-4	9-2 1236	1	3		X	X	X	X	X	X	X	X
-006	EP-5	9-2 1147	1	3		X	X	X	X	X	X	X	X
-007	EP-6	9-2 1311	1	3		X	X	X	X	X	X	X	X
-008	EP-7		1	3		X	X	X	X	X	X	X	X
-009	Equipment Blank		1	3	X		X		X	X	X	X	X
-010	Field Blank 1		1	3	X		X		X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
J. Gb	9-2-26 1535		9/2/26 1535

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 114181

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

 Work order # 26081663

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☒ BLUE ICE ☒ NO ICE _____ °C LTG# _____
Preserved in: ☒ LAB ☒ FIELD **FOR LAB USE ONLY**
Lab Notes:

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Payton Tock

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date _____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Elevations	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26081663-012	MW-101	9-1-26 1129	1	3		X	X		X	X	X	X	X	X
-013	MW-102	9/2/26 1135	1	3		X	X		X	X	X	X	X	X
-014	MW-103	9/2/26 1252	1	3		X	X		X	X	X	X	X	X
-015	MW-104	9-2-26 1259	1	3		X	X		X	X	X	X	X	X
-016	MW-105		1	3		X	X		X	X	X	X	X	X
-017	MW-106		1	3		X	X		X	X	X	X	X	X
-018	MW-109		1	3		X	X		X	X	X	X	X	X
-019	Field Blank 2		1	3	X		X			X	X	X	X	X
-020	Field Duplicate 2		1	3		X	X		X	X	X	X	X	X
-021	Pond 1 - SG		0			X		X						

Relinquished By	Date/Time	Received By	Date/Time
J. Cob	9-2-26 1535		9/2/26 1535

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder 114181

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 1 of 4 Work order # 26081663

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 4.5, 6.1, 8.5 °C LTG# 9
Preserved in: ☐ LAB ☒ FIELD
Lab Notes: PH111055

FOR LAB USE ONLY

JD 9/3/26

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL:___

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Justin Colp

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date ____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26081633-001	EBG		1	3		X	X	X	X	X	X	X	X
-002	EP-1		1	3		X	X	X	X	X	X	X	X
-003	EP-2		1	3		X	X	X	X	X	X	X	X
-004	EP-3	9-3 1039	1	3		X	X	X	X	X	X	X	X
-005	EP-4		1	3		X	X	X	X	X	X	X	X
-006	EP-5		1	3		X	X	X	X	X	X	X	X
-007	EP-6	~~9-3 1103~~ JF 9/3/26 1408	1	3		X	X	X	X	X	X	X	X
-008	EP-7	9-3 1050	1	3		X	X	X	X	X	X	X	X
-009	Equipment Blank	N/A	1	3	X		X		X	X	X	X	X
-010	Field Blank 1	9-3 1055	1	3	X		X		X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
	9-3 1459		9/3/26 1459

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BottleOrder 114181

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 2 of 4 Work order # 26081663

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☒ BLUE ICE ☒ NO ICE _____ °C LTG# _____

Preserved in: ☒ LAB ☒ FIELD

FOR LAB USE ONLY

Lab Notes:

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No

Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Justin Colp

Results Requested (call for PFAS TAT and surcharges)
☐ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date _____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26081663-011	Field Duplicate 1	9-3 1039	1	3		X	X	X	X	X	X	X	X

Relinquished By	Date/Time	Received By	Date/Time
[signature]	9-3 1459	[signature]	9/3/26 1459

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BottleOrder 114181

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

 Work order # 26081663

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☒ BLUE ICE ☒ NO ICE _____ °C LTG# _____
Preserved in: ☒ LAB ☒ FIELD **FOR LAB USE ONLY**
Lab Notes:

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No
Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Payton Yock

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date _____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Elevations	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26081663-012	MW-101		1	3		X	X		X	X	X	X	X	X
-013	MW-102		1	3		X	X		X	X	X	X	X	X
-014	MW-103		1	3		X	X		X	X	X	X	X	X
-015	MW-104		1	3		X	X		X	X	X	X	X	X
-016	MW-105	9/3 ~~1057~~ 1152	1	3		X	X		X	X	X	X	X	X
-017	MW-106	9/3 1108	1	3		X	X		X	X	X	X	X	X
-018	MW-109	9-3 1232	1	3		X	X		X	X	X	X	X	X
-019	Field Blank 2	9-3 1105	1	3	X		X			X	X	X	X	X
-020	Field Duplicate 2	9-3 1232	1	3		X	X		X	X	X	X	X	X
-021	Pond 1 - SG	9-2 1102	0			X		X						

Relinquished By	Date/Time	Received By	Date/Time
[signature]	9-3 1459	[signature]	9/3/26 1459

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BottleOrder 114181

Drop off Location
☐ Downers Grove, IL ☐ Lenexa, KS
☐ Springfield, IL ☒ Collinsville, IL

CHAIN OF CUSTODY

pg. 4 of 4 Work order # 26081663

TEKLAB, INC. 120 United Drive - Collinsville, IL 62234 - Phone: (618) 344-1004

Client	Southern Illinois Power Cooperation 1980		
Address	11543 Lake of Egypt Road		
	Marion, IL 62959		
Contact	Jason McLaurin	**Phone**	(618) 964-1448
E-Mail	jmclaurin@sipower.org	**Fax**	

Samples on: ☒ ICE ☒ BLUE ICE ☒ NO ICE _____ °C LTG# _____

Preserved in: ☒ LAB ☒ FIELD

FOR LAB USE ONLY

Lab Notes:

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No

Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Client Comments Report QC LVL: 2

ICP: Ba B Ca
ICP/MS: Sb As Be Cd Cr Co Pb Li Mo Se Tl

Field Parameters = Elevations, Purge Volume, pH, Conductivity, Temperature, DO, ORP, and Turbidity

Project Name/Number
Groundwater Monitoring

Sample Collector's Name
Justin Colp

Results Requested (call for PFAS TAT and surcharges)
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Date _____ ☐ 3 Day (50% Surcharge)

Billing/PO#

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	MATRIX: Aqueous	Groundwater	INDICATE ANALYSIS REQUESTED: Cl SO4 F-	Elevations	Field Parameters	ICP Metals	ICP/MS Metals	Mercury	Ra226/228	TDS
26081663-022	Pond 4 - SG	9-2 1145	0			X		X						

Relinquished By	Date/Time	Received By	Date/Time
Beth Colp	9-3 1459	[illegible]	9/3/26 1459

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BottleOrder 114181

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Elizabeth A Hurley
TekLab Inc
120 United Drive
Collinsville, Illinois 62234

Generated 10/2/2026 5:53:33 PM

JOB DESCRIPTION

Radium-226 and Radium-228
26081663

JOB NUMBER

160-63341-1

Eurofins St. Louis
13715 Rider Trail North
Earth City MO 63045

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

Authorization



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Authorized for release by
Casey Robertson, Project Manager
Casey.Robertson@et.eurofinsus.com
Designee for
Erika Smith, Project Manager
erika.smith@et.eurofinsus.com
(314)298-8566

Table of Contents

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Tracer Carrier Summary 25

Job ID: 160-63341-1 — Eurofins St. Louis

CASE NARRATIVE

Client: TekLab, Inc

Project: 26081663

Report Number: 160-63341-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition, all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method.

Eurofins Environment Testing attests to the validity of the laboratory data generated by Eurofins facilities reported herein. All analyses performed by Eurofins Environment Testing facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins Environment Testing's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report.

Calculations are performed before rounding to avoid round-off errors in calculated results.

Proper preservation was noted for the methods performed on these samples, unless otherwise detailed below.

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

No additional analytical or quality issues were noted, other than those described below or in the Definitions/ Glossary page.

Receipt
The samples were received on 9/4/2026 10:17 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved. The temperatures of the 2 coolers at receipt time were 20.7°C and 20.8°C.

Method 903.0 - Radium-226 (GFPC)
Samples 26081663-001B (160-63341-1), 26081663-002B (160-63341-2), 26081663-003B (160-63341-3), 26081663-004B (160-63341-4), 26081663-005B (160-63341-5), 26081663-006B (160-63341-6), 26081663-007B (160-63341-7), 26081663-008B (160-63341-8), 26081663-010B (160-63341-9), 26081663-011B (160-63341-10), 26081663-012B (160-63341-11), 26081663-013B (160-63341-12), 26081663-014B (160-63341-13), 26081663-015B (160-63341-14), 26081663-016B (160-63341-15), 26081663-017B (160-63341-16), 26081663-018B (160-63341-17), 26081663-019B (160-63341-18) and 26081663-020B (160-63341-19) were analyzed for Radium-226 (GFPC). The samples were prepared on 9/8/2026 and analyzed on 10/1/2026.

Method 904.0 - Radium-228 (GFPC)
Samples 26081663-001B (160-63341-1), 26081663-002B (160-63341-2), 26081663-003B (160-63341-3), 26081663-004B (160-63341-4), 26081663-005B (160-63341-5), 26081663-006B (160-63341-6), 26081663-007B (160-63341-7), 26081663-008B (160-63341-8), 26081663-010B (160-63341-9), 26081663-011B (160-63341-10), 26081663-012B (160-63341-11), 26081663-013B (160-63341-12), 26081663-014B (160-63341-13), 26081663-015B (160-63341-14), 26081663-016B (160-63341-15), 26081663-017B (160-63341-16), 26081663-018B (160-63341-17), 26081663-019B (160-63341-18) and 26081663-020B (160-63341-19) were analyzed for Radium-228 (GFPC). The samples were prepared on 9/8/2026 and analyzed on 10/1/2026.

The detection goal was not met for the following sample due to the reduced sample volume used in prep attributed to the presence of matrix interferences: 26081663-015B (160-63341-14). Analytical results are reported with the detection limit achieved.

Job ID: 160-63341-1 (Continued)

Method Ra226_Ra228 Pos - Combined Radium-226 and Radium-228
Samples 26081663-001B (160-63341-1), 26081663-002B (160-63341-2), 26081663-003B (160-63341-3), 26081663-004B (160-63341-4), 26081663-005B (160-63341-5), 26081663-006B (160-63341-6), 26081663-007B (160-63341-7), 26081663-008B (160-63341-8), 26081663-010B (160-63341-9), 26081663-011B (160-63341-10), 26081663-012B (160-63341-11), 26081663-013B (160-63341-12), 26081663-014B (160-63341-13), 26081663-015B (160-63341-14), 26081663-016B (160-63341-15), 26081663-017B (160-63341-16), 26081663-018B (160-63341-17), 26081663-019B (160-63341-18) and 26081663-020B (160-63341-19) were analyzed for Combined Radium-226 and Radium-228. The samples were analyzed on 10/2/2026.

TEKLAB, INC. Chain of Custody

120 United Drive, Collinsville, IL 62234 Phone (618) 344-1004

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
120 United Drive
Collinsville, IL 62234

Cooler Temp: | Sampler: Teklab, Inc. | QC Level: 2

Comments: **Please Issue reports and invoices via email only**
DELIVER to Eurofins-STL. Analyze for Radium 226/228 per your normal method/s.
Method changes require Teklab authorization. Samples collected from an IL site.
Batch QC is required for all analyses requested.

Project# 26081663

Contact: Elizabeth Hurley | Email: ehurley@TekLabInc.com
Requested Due Date: Standard TAT | Billing/PO: 41864 | Phone: (618) 344-1004 x 1007

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Unpres	HNO3	H2SO4	NaOH	Other	Matrix	Ra226/228	Radium 226	Radium 228
	26081663-001B	9/2/26 1113	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26081663-002B	9/2/26 1036	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26081663-003B	9/2/26 1119	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26081663-004B	9/3/26 1039	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26081663-005B	9/2/26 1236	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26081663-006B	9/2/26 1147	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26081663-007B	9/2/26 1311	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26081663-008B	9/3/26 1050	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔
	26081663-009B	N/A	☐	☑	☐	☐	☐	Aqueous			
	26081663-010B	9/3/26 1055	☐	☑	☐	☐	☐	Aqueous	✔	✔	✔
	26081663-011B	9/3/26 1039	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔

160-63341 Chain of Custody

*Relinquished By	Date/Time	Received By	Date/Time
CC	9/4 1017	CC Cpadilla	9/4/26 1017

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevB
1/12/2026

10/2/2026

TEKLAB, INC. Chain of Custody

120 United Drive, Collinsville, IL 62234 Phone (618) 344-1004

Are the samples chilled? YES ☐ NO ☑ With: ☐ Ice ☐ Blue Ice Preserved in: ☐ Lab ☐ Field

Teklab Inc
120 United Drive
Collinsville, IL 62234

Cooler Temp: | Sampler: Teklab, Inc. | QC Level: 2

Comments: **Please Issue reports and invoices via email only**
DELIVER to Eurofins-STL. Analyze for Radium 226/228 per your normal method/s.
Method changes require Teklab authorization. Samples collected from an IL site.
Batch QC is required for all analyses requested.

Project# 26081663

Contact: Elizabeth Hurley | Email: ehurley@TekLabInc.com
Requested Due Date: Standard TAT | Billing/PO: 41864 | Phone: (618) 344-1004 x 1007

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.

Lab Use	Sample ID	Sample Date/Time	Unpres	HNO3	H2SO4	NaOH	Other	Matrix	Ra226/228	Radium 226	Radium 228											
	26081663-012B	9/2/26 1129	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔											
	26081663-013B	9/2/26 1135	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔											
	26081663-014B	9/2/26 1252	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔											
	26081663-015B	9/2/26 1259	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔											
	26081663-016B	9/3/26 1107	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔											
	26081663-017B	9/3/26 1108	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔											
	26081663-018B	9/3/26 1232	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔											
	26081663-019B	9/3/26 1105	☐	☑	☐	☐	☐	Aqueous	✔	✔	✔											
	26081663-020B	9/3/26 1232	☐	☑	☐	☐	☐	Groundwater	✔	✔	✔											
			☐	☐	☐	☐	☐	Groundwater														
			☐	☐	☐	☐	☐	Groundwater														

*Relinquished By	Date/Time	Received By	Date/Time
	9/4 1017		9/4/26 1017

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization. and proprietary rights, Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c)

SubCocRevB
1/12/2026

Login Sample Receipt Checklist

Client: TekLab Inc

Job Number: 160-63341-1
SDG Number: 26081663

Login Number: 63341
List Number: 1
Creator: Padilla, Rico

List Source: Eurofins St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Definitions/Glossary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-63341-1
SDG: 26081663

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-63341-1
SDG: 26081663

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	Lab SOP	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency
Lab SOP = Laboratory Standard Operating Procedure
None = None

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-63341-1
SDG: 26081663

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
160-63341-1	26081663-001B	Water	09/02/26 11:13	09/04/26 10:17	Illinois
160-63341-2	26081663-002B	Water	09/02/26 10:36	09/04/26 10:17	Illinois
160-63341-3	26081663-003B	Water	09/02/26 11:19	09/04/26 10:17	Illinois
160-63341-4	26081663-004B	Water	09/03/26 10:39	09/04/26 10:17	Illinois
160-63341-5	26081663-005B	Water	09/02/26 12:36	09/04/26 10:17	Illinois
160-63341-6	26081663-006B	Water	09/02/26 11:47	09/04/26 10:17	Illinois
160-63341-7	26081663-007B	Water	09/02/26 13:11	09/04/26 10:17	Illinois
160-63341-8	26081663-008B	Water	09/03/26 10:50	09/04/26 10:17	Illinois
160-63341-9	26081663-010B	Water	09/03/26 10:55	09/04/26 10:17	Illinois
160-63341-10	26081663-011B	Water	09/03/26 10:39	09/04/26 10:17	Illinois
160-63341-11	26081663-012B	Water	09/02/26 11:29	09/04/26 10:17	Illinois
160-63341-12	26081663-013B	Water	09/02/26 11:35	09/04/26 10:17	Illinois
160-63341-13	26081663-014B	Water	09/02/26 12:52	09/04/26 10:17	Illinois
160-63341-14	26081663-015B	Water	09/02/26 12:59	09/04/26 10:17	Illinois
160-63341-15	26081663-016B	Water	09/03/26 11:07	09/04/26 10:17	Illinois
160-63341-16	26081663-017B	Water	09/03/26 11:08	09/04/26 10:17	Illinois
160-63341-17	26081663-018B	Water	09/03/26 12:32	09/04/26 10:17	Illinois
160-63341-18	26081663-019B	Water	09/03/26 11:05	09/04/26 10:17	Illinois
160-63341-19	26081663-020B	Water	09/03/26 12:32	09/04/26 10:17	Illinois

Client Sample ID: 26081663-001B

Lab Sample ID: 160-63341-1
Date Collected: 09/02/26 11:13
Matrix: Water
Date Received: 09/04/26 10:17

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.152	U	0.163	0.164	1.00	0.254	pCi/L	09/08/26 08:55	10/01/26 18:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.4*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:49*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.956**		0.539	0.546	1.00	0.795	pCi/L	09/08/26 08:58	10/01/26 12:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.4*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:14*	*1*
Y Carrier	*81.1*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:14*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**1.11**		0.563	0.570	5.00	0.795	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-002B

Lab Sample ID: 160-63341-2
Date Collected: 09/02/26 10:36
Matrix: Water
Date Received: 09/04/26 10:17

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0538	U	0.152	0.152	1.00	0.294	pCi/L	09/08/26 08:55	10/01/26 18:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.9*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:49*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.321	U	0.423	0.424	1.00	0.706	pCi/L	09/08/26 08:58	10/01/26 12:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.9*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:14*	*1*
Y Carrier	*86.0*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:14*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.375	U	0.449	0.450	5.00	0.706	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-003B

Lab Sample ID: 160-63341-3

Date Collected: 09/02/26 11:19
Date Received: 09/04/26 10:17

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.318		0.230	0.232	1.00	0.316	pCi/L	09/08/26 08:55	10/01/26 18:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.2*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:48*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.953		0.474	0.482	1.00	0.668	pCi/L	09/08/26 08:58	10/01/26 12:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.2*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:14*	*1*
Y Carrier	*90.8*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:14*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.27		0.527	0.535	5.00	0.668	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-004B

Lab Sample ID: 160-63341-4

Date Collected: 09/03/26 10:39
Date Received: 09/04/26 10:17

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0483	U	0.136	0.136	1.00	0.322	pCi/L	09/08/26 08:55	10/01/26 18:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.5*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:48*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.503	U	0.484	0.486	1.00	0.777	pCi/L	09/08/26 08:58	10/01/26 12:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.5*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:13*	*1*
Y Carrier	*83.4*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:13*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.503	U	0.503	0.505	5.00	0.777	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-005B
Date Collected: 09/02/26 12:36
Date Received: 09/04/26 10:17

Lab Sample ID: 160-63341-5
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.188	U	0.216	0.217	1.00	0.350	pCi/L	09/08/26 08:55	10/01/26 18:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.1*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:49*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.899**		0.544	0.550	1.00	0.805	pCi/L	09/08/26 08:58	10/01/26 12:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.1*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:13*	*1*
Y Carrier	*78.1*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:13*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**1.09**		0.585	0.591	5.00	0.805	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-006B
Date Collected: 09/02/26 11:47
Date Received: 09/04/26 10:17

Lab Sample ID: 160-63341-6
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.130	U	0.154	0.155	1.00	0.249	pCi/L	09/08/26 08:55	10/01/26 18:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.1*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:48*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.387	U	0.474	0.475	1.00	0.784	pCi/L	09/08/26 08:58	10/01/26 12:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.1*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:13*	*1*
Y Carrier	*83.0*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:13*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.517	U	0.498	0.500	5.00	0.784	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-007B
Date Collected: 09/02/26 13:11
Date Received: 09/04/26 10:17

Lab Sample ID: 160-63341-7
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0654	U	0.150	0.150	1.00	0.282	pCi/L	09/08/26 08:55	10/01/26 18:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.4*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:48*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.692	U	0.502	0.506	1.00	0.767	pCi/L	09/08/26 08:58	10/01/26 12:16	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.4*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:16*	*1*
Y Carrier	*74.8*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:16*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.758	U	0.524	0.528	5.00	0.767	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-008B
Date Collected: 09/03/26 10:50
Date Received: 09/04/26 10:17

Lab Sample ID: 160-63341-8
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.359**		0.232	0.234	1.00	0.295	pCi/L	09/08/26 08:55	10/01/26 18:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.3*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:49*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.997**		0.513	0.521	1.00	0.708	pCi/L	09/08/26 08:58	10/01/26 12:16	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.3*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:16*	*1*
Y Carrier	*77.8*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:16*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**1.36**		0.563	0.571	5.00	0.708	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-010B
Date Collected: 09/03/26 10:55
Date Received: 09/04/26 10:17

Lab Sample ID: 160-63341-9
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0537	U	0.140	0.140	1.00	0.329	pCi/L	09/08/26 08:55	10/01/26 18:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.8*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:49*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.305	U	0.361	0.362	1.00	0.595	pCi/L	09/08/26 08:58	10/01/26 12:16	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.8*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:16*	*1*
Y Carrier	*82.6*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:16*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.305	U	0.387	0.388	5.00	0.595	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-011B
Date Collected: 09/03/26 10:39
Date Received: 09/04/26 10:17

Lab Sample ID: 160-63341-10
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.154	U	0.176	0.176	1.00	0.280	pCi/L	09/08/26 08:55	10/01/26 18:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.6*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:49*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.821**		0.491	0.497	1.00	0.718	pCi/L	09/08/26 08:58	10/01/26 12:16	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.6*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:16*	*1*
Y Carrier	*81.5*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:16*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.975**		0.522	0.527	5.00	0.718	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-012B

Date Collected: 09/02/26 11:29
Date Received: 09/04/26 10:17

Lab Sample ID: 160-63341-11

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.343		0.213	0.215	1.00	0.259	pCi/L	09/08/26 08:55	10/01/26 18:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.0*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:49*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.51		0.778	0.842	1.00	0.785	pCi/L	09/08/26 08:58	10/01/26 12:16	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.0*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:16*	*1*
Y Carrier	*71.0*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:16*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	3.85		0.807	0.869	5.00	0.785	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-013B

Date Collected: 09/02/26 11:35
Date Received: 09/04/26 10:17

Lab Sample ID: 160-63341-12

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.233	U	0.219	0.220	1.00	0.337	pCi/L	09/08/26 08:55	10/01/26 18:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.3*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:49*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.44		0.550	0.566	1.00	0.698	pCi/L	09/08/26 08:58	10/01/26 12:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.3*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:17*	*1*
Y Carrier	*77.4*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:17*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.67		0.592	0.607	5.00	0.698	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-014B
Date Collected: 09/02/26 12:52
Date Received: 09/04/26 10:17

Lab Sample ID: 160-63341-13
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.207	U	0.259	0.259	1.00	0.429	pCi/L	09/08/26 08:55	10/01/26 18:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.8*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:49*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.735**		0.386	0.392	1.00	0.538	pCi/L	09/08/26 08:58	10/01/26 12:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.8*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:17*	*1*
Y Carrier	*87.9*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:17*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.941**		0.465	0.470	5.00	0.538	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-015B
Date Collected: 09/02/26 12:59
Date Received: 09/04/26 10:17

Lab Sample ID: 160-63341-14
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0863	U	0.269	0.269	1.00	0.524	pCi/L	09/08/26 08:55	10/01/26 18:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.9*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:49*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.787	U G	0.740	0.744	1.00	1.18	pCi/L	09/08/26 08:58	10/01/26 12:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.9*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:17*	*1*
Y Carrier	*90.8*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:17*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.874	U	0.787	0.791	5.00	1.18	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-016B
Date Collected: 09/03/26 11:07
Date Received: 09/04/26 10:17

Lab Sample ID: 160-63341-15
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.132	U	0.159	0.159	1.00	0.258	pCi/L	09/08/26 08:55	10/01/26 18:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.9*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:49*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.151	U	0.354	0.354	1.00	0.618	pCi/L	09/08/26 08:58	10/01/26 12:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.9*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:17*	*1*
Y Carrier	*86.4*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:17*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.283	U	0.388	0.388	5.00	0.618	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-017B
Date Collected: 09/03/26 11:08
Date Received: 09/04/26 10:17

Lab Sample ID: 160-63341-16
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0184	U	0.145	0.145	1.00	0.318	pCi/L	09/08/26 08:55	10/01/26 18:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.8*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:49*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.335	U	0.426	0.427	1.00	0.708	pCi/L	09/08/26 08:58	10/01/26 12:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.8*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:17*	*1*
Y Carrier	*81.9*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:17*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.335	U	0.450	0.451	5.00	0.708	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-018B
Date Collected: 09/03/26 12:32
Date Received: 09/04/26 10:17

Lab Sample ID: 160-63341-17
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0984	U	0.0684	0.0690	1.00	0.250	pCi/L	09/08/26 08:55	10/01/26 18:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.2*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:49*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.565**		0.358	0.361	1.00	0.518	pCi/L	09/08/26 08:58	10/01/26 12:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.2*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:17*	*1*
Y Carrier	*84.5*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:17*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.565**		0.364	0.368	5.00	0.518	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-019B
Date Collected: 09/03/26 11:05
Date Received: 09/04/26 10:17

Lab Sample ID: 160-63341-18
Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0416	U	0.130	0.130	1.00	0.252	pCi/L	09/08/26 08:55	10/01/26 18:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.3*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:49*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.322	U	0.307	0.309	1.00	0.490	pCi/L	09/08/26 08:58	10/01/26 12:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.3*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:17*	*1*
Y Carrier	*87.1*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:17*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.363	U	0.333	0.335	5.00	0.490	pCi/L		10/02/26 16:09	1

Client Sample ID: 26081663-020B

Date Collected: 09/03/26 12:32
Date Received: 09/04/26 10:17

Lab Sample ID: 160-63341-19

Matrix: Water

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0781	U	0.146	0.146	1.00	0.263	pCi/L	09/08/26 08:55	10/01/26 18:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.9*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:49*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.727**		0.452	0.457	1.00	0.676	pCi/L	09/08/26 08:58	10/01/26 12:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.9*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:18*	*1*
Y Carrier	*85.2*		*30 - 110*	*09/08/26 08:58*	*10/01/26 12:18*	*1*

Method: Lab SOP Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.805**		0.475	0.480	5.00	0.676	pCi/L		10/02/26 16:09	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-790030/1-A
Matrix: Water
Analysis Batch: 794630

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 790030

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03469	U	0.160	0.160	1.00	0.315	pCi/L	09/08/26 08:55	10/01/26 18:49	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.2*		*30 - 110*	*09/08/26 08:55*	*10/01/26 18:49*	*1*

Lab Sample ID: LCS 160-790030/2-A
Matrix: Water
Analysis Batch: 794630

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 790030

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			11.3	10.75		1.41	1.00	0.322	pCi/L	95	66 - 126		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*82.3*		*30 - 110*

Lab Sample ID: 160-63341-1 DU
Matrix: Water
Analysis Batch: 794630

Client Sample ID: 26081663-001B
Prep Type: Total/NA
Prep Batch: 790030

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.152	U		0.1249	U	0.182	1.00	0.310	pCi/L			0.08	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*86.2*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-790031/1-A
Matrix: Water
Analysis Batch: 794633

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 790031

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.08853	U	0.370	0.370	1.00	0.701	pCi/L	09/08/26 08:58	10/01/26 11:58	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.2*		*30 - 110*	*09/08/26 08:58*	*10/01/26 11:58*	*1*
Y Carrier	*86.7*		*30 - 110*	*09/08/26 08:58*	*10/01/26 11:58*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-790031/2-A
Matrix: Water
Analysis Batch: 794633

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 790031

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			8.74	10.42		1.47	1.00	0.705	pCi/L	119	72 - 150		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*82.3*		*30 - 110*
Y Carrier	*85.2*		*30 - 110*

Lab Sample ID: 160-63341-1 DU
Matrix: Water
Analysis Batch: 794633

Client Sample ID: 26081663-001B
Prep Type: Total/NA
Prep Batch: 790031

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.956			0.3342	U	0.443	1.00	0.737	pCi/L			0.63	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*86.2*		*30 - 110*
Y Carrier	*86.4*		*30 - 110*

QC Association Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-63341-1
SDG: 26081663

Rad

Prep Batch: 790030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-63341-1	26081663-001B	Total/NA	Water	PrecSep-21	
160-63341-2	26081663-002B	Total/NA	Water	PrecSep-21	
160-63341-3	26081663-003B	Total/NA	Water	PrecSep-21	
160-63341-4	26081663-004B	Total/NA	Water	PrecSep-21	
160-63341-5	26081663-005B	Total/NA	Water	PrecSep-21	
160-63341-6	26081663-006B	Total/NA	Water	PrecSep-21	
160-63341-7	26081663-007B	Total/NA	Water	PrecSep-21	
160-63341-8	26081663-008B	Total/NA	Water	PrecSep-21	
160-63341-9	26081663-010B	Total/NA	Water	PrecSep-21	
160-63341-10	26081663-011B	Total/NA	Water	PrecSep-21	
160-63341-11	26081663-012B	Total/NA	Water	PrecSep-21	
160-63341-12	26081663-013B	Total/NA	Water	PrecSep-21	
160-63341-13	26081663-014B	Total/NA	Water	PrecSep-21	
160-63341-14	26081663-015B	Total/NA	Water	PrecSep-21	
160-63341-15	26081663-016B	Total/NA	Water	PrecSep-21	
160-63341-16	26081663-017B	Total/NA	Water	PrecSep-21	
160-63341-17	26081663-018B	Total/NA	Water	PrecSep-21	
160-63341-18	26081663-019B	Total/NA	Water	PrecSep-21	
160-63341-19	26081663-020B	Total/NA	Water	PrecSep-21	
MB 160-790030/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-790030/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
160-63341-1 DU	26081663-001B	Total/NA	Water	PrecSep-21	

Prep Batch: 790031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-63341-1	26081663-001B	Total/NA	Water	PrecSep_0	
160-63341-2	26081663-002B	Total/NA	Water	PrecSep_0	
160-63341-3	26081663-003B	Total/NA	Water	PrecSep_0	
160-63341-4	26081663-004B	Total/NA	Water	PrecSep_0	
160-63341-5	26081663-005B	Total/NA	Water	PrecSep_0	
160-63341-6	26081663-006B	Total/NA	Water	PrecSep_0	
160-63341-7	26081663-007B	Total/NA	Water	PrecSep_0	
160-63341-8	26081663-008B	Total/NA	Water	PrecSep_0	
160-63341-9	26081663-010B	Total/NA	Water	PrecSep_0	
160-63341-10	26081663-011B	Total/NA	Water	PrecSep_0	
160-63341-11	26081663-012B	Total/NA	Water	PrecSep_0	
160-63341-12	26081663-013B	Total/NA	Water	PrecSep_0	
160-63341-13	26081663-014B	Total/NA	Water	PrecSep_0	
160-63341-14	26081663-015B	Total/NA	Water	PrecSep_0	
160-63341-15	26081663-016B	Total/NA	Water	PrecSep_0	
160-63341-16	26081663-017B	Total/NA	Water	PrecSep_0	
160-63341-17	26081663-018B	Total/NA	Water	PrecSep_0	
160-63341-18	26081663-019B	Total/NA	Water	PrecSep_0	
160-63341-19	26081663-020B	Total/NA	Water	PrecSep_0	
MB 160-790031/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-790031/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
160-63341-1 DU	26081663-001B	Total/NA	Water	PrecSep_0	

Tracer/Carrier Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-63341-1
SDG: 26081663

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (30-110)
160-63341-1	26081663-001B	84.4
160-63341-1 DU	26081663-001B	86.2
160-63341-2	26081663-002B	79.9
160-63341-3	26081663-003B	80.2
160-63341-4	26081663-004B	80.5
160-63341-5	26081663-005B	81.1
160-63341-6	26081663-006B	81.1
160-63341-7	26081663-007B	75.4
160-63341-8	26081663-008B	70.3
160-63341-9	26081663-010B	77.8
160-63341-10	26081663-011B	73.6
160-63341-11	26081663-012B	79.0
160-63341-12	26081663-013B	76.3
160-63341-13	26081663-014B	83.8
160-63341-14	26081663-015B	79.9
160-63341-15	26081663-016B	85.9
160-63341-16	26081663-017B	74.8
160-63341-17	26081663-018B	83.2
160-63341-18	26081663-019B	91.3
160-63341-19	26081663-020B	82.9
LCS 160-790030/2-A	Lab Control Sample	82.3
MB 160-790030/1-A	Method Blank	83.2

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
160-63341-1	26081663-001B	84.4	81.1
160-63341-1 DU	26081663-001B	86.2	86.4
160-63341-2	26081663-002B	79.9	86.0
160-63341-3	26081663-003B	80.2	90.8
160-63341-4	26081663-004B	80.5	83.4
160-63341-5	26081663-005B	81.1	78.1
160-63341-6	26081663-006B	81.1	83.0
160-63341-7	26081663-007B	75.4	74.8
160-63341-8	26081663-008B	70.3	77.8
160-63341-9	26081663-010B	77.8	82.6
160-63341-10	26081663-011B	73.6	81.5
160-63341-11	26081663-012B	79.0	71.0
160-63341-12	26081663-013B	76.3	77.4
160-63341-13	26081663-014B	83.8	87.9
160-63341-14	26081663-015B	79.9	90.8
160-63341-15	26081663-016B	85.9	86.4
160-63341-16	26081663-017B	74.8	81.9
160-63341-17	26081663-018B	83.2	84.5

Tracer/Carrier Summary

Client: TekLab Inc
Project/Site: Radium-226 and Radium-228

Job ID: 160-63341-1
SDG: 26081663

Method: 904.0 - Radium-228 (GFPC) (Continued)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)									
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)								
160-63341-18	26081663-019B	91.3	87.1								
160-63341-19	26081663-020B	82.9	85.2								
LCS 160-790031/2-A	Lab Control Sample	82.3	85.2								
MB 160-790031/1-A	Method Blank	83.2	86.7								

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Attachment B Data Validation

QA LEVEL I - DATA VERIFICATION CHECKLIST

Project Name: SIPC Groundwater Monitoring
Reviewing Company: WSP USA
Data Evaluator: Maura Siciensky
Checked by: Danielle Sylvia Cofelice
Laboratory: Teklab, Inc., Alliance Technical Group.

Project Number: GLA21467997.2373
Project Manager: Danielle Sylvia Cofelice
Data Evaluation Date: February 13, 2026
Review Date: June 25, 2026
Lab Job #: 25102435

Matrix: ☒ Aqueous ☐ Soil ☐ Sediment ☐ Waste ☐ Air ☐ Other:

Analytical Methods: Total dissolved solids by SM 2540C; anions (chloride, fluoride, and sulfate) by SW-846 9056A; total metals by SW-846 3005A, 6010B and 6020A; mercury by SW-846 7470A; Radium226/228 by EPA 903.0/904.0

Sample Information: See Table 1.

Data Qualification: No qualifications required.

Work Plan or QAPP reference: None

Data Validation Guidance: EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8)

Chain of Custody (COC) and Sample Receipt	**YES**	**NO**	**NA**	**COMMENT**
a) COC complete and correct? (Project location, contacts, sample IDs, sample dates, field QC samples, analyses identified, et c.)	☒	☐		
b) COC documents release of custody (signed and dated)?	☒	☐		
c) Field QC types provided (note types)?	☒	☐	☐	EB, FB, FD
d) Did the cooler contents match the COC?	☒	☐		
e) Were samples received in good condition?	☒	☐		
f) Were cooler temperatures within control limits?	☒	☐		See Note 2.

Data Package Information	**YES**	**NO**	**NA**	**COMMENT**
a) Laboratory name and location documented?	☒	☐		
b) All samples on COC reported in data package?	☒	☐		
c) Requested analytical methods used?	☒	☐		
d) Requested analyte list reported?	☒	☐		
e) Requested units reported?	☒	☐	☐	
f) Did the laboratory define the qualifiers used?	☒	☐		
g) Data package contains all information necessary to complete the data quality review?	☒	☐		

Analytical Assessment	**YES**	**NO**	**NA**	**COMMENT**
a) Solid samples reported on a dry-weight basis?	☐	☐	☒	
b) Were solid samples percent moisture criteria acceptable?	☐	☐	☒	
c) Were sample dilutions noted?	☒	☐		
d) Were detected concentrations less than the QL qualified by the laboratory?	☒	☐		

Analytical Assessment	YES	NO	NA	COMMENT
e) All detected sample results within the calibrated range?	☒	☐		
f) Did the laboratory satisfy the requested sensitivity requirements?	☒	☐		

Laboratory Case Narrative	YES	NO	NA	COMMENT
a) Do the laboratory narrative or laboratory qualifiers indicate deficiencies?	☒	☐	☐	See Note 3.

Sample Preservation and Holding Time	YES	NO	NA	COMMENT
a) Were samples properly preserved?	☒	☐		See Note 2.
b) Were holding times met for sample preparation and/or extraction?	☒	☐	☐	
c) Were holding times met for sample analysis?	☒	☐		

Blanks	YES	NO	NA	COMMENTS
a) No analytes detected in the associated preparation/method blank(s)?	☐	☒		See Note 3.
b) No analytes detected in the associated trip blank(s)?	☐	☐	☒	
c) No analytes detected in the associated field or equipment/rinsate blank(s)?	☐	☒	☐	See Note 3.

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates reported?	☒	☐	☐	
b) Was field duplicate RPD or absolute difference criteria acceptable?	☒	☐	☐	

Overall Evaluation	YES	NO	NA	COMMENTS
a) No other technical problems that lead to data rejection identified by laboratory?	☒	☐		
b) Were data acceptable and usable, except where noted?	☐	☒		See Notes 4-5.

Comments/Notes:

1) The data was evaluated for precision, accuracy, representativeness, completeness, and comparability. Data usability was evaluated following the EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8).

   a) Coolers for Teklab were above control limits, however, the samples were received on the same day they were collected. No action was taken other than to note.

2) Analytes were detected in a method and field blank as shown in the table below. Associated detected results are considered potentially biased high.

Sample Name	Parameter	Analyte	Blank Result	RL	Units
MBLK-246983	ICP Metals	Antimony	0.0005 J	0.0010	mg/L
MBLK-246983	ICP Metals	Molybdenum	0.0011 J	0.0015	mg/L
Equipment Blank	ICP Metals	Molybdenum	0.0007 J	0.0015	mg/L

   b) Certain LCS and MS recoveries were above QC criteria. Associated detected results are considered potentially biased high. Review of LCS/LCSD and MS/MSD is outside the scope of this data validation, no action was taken other than to note.

c) Certain LCS/LCSD RPDs were above QC criteria. Associated results are considered potentially biased. Review of LCS/LCSD is outside the scope of this data validation, no action was taken other than to note.

TABLE 1

Sample Collection and Analysis Summary
SIPC CCR Groundwater Monitoring

Lab ID	*Field Identification*	*Collection Date*	*Location*	*Matrix*	*QC Samples*	Chloride	Field Paramaters	Fluoride	ICP Metals	ICP/MS Metals	Mercury	Radium-226/228	Sulfate	TDS
25102435-001	Field Duplicate	10/27/2025	MW-104	GW	FD	X	X	X	X	X	X	X	X	X
25102435-002	MW-103	10/27/2025	MW-103	GW	-	X	X	X	X	X	X	X	X	X
25102435-003	MW-104	10/27/2025	MW-104	GW	-	X	X	X	X	X	X	X	X	X
25102435-004	MW-105	10/27/2025	MW-105	GW	-	X	X	X	X	X	X	X	X	X
25102435-005	MW-106	10/27/2025	MW-106	GW	-	X	X	X	X	X	X	X	X	X
25102435-006	Equipment Blank	10/28/2025	-	WQ	EB	X	-	X	X	X	X	X	X	X
25102435-007	Field Blank	10/28/2025	-	WQ	FB	X	-	X	X	X	X	X	X	X
25102435-008	MW-101	10/28/2025	MW-101	GW	-	X	X	X	X	X	X	X	X	X
25102435-009	MW-102	10/28/2025	MW-102	GW	-	X	X	X	X	X	X	X	X	X
25102435-010	MW-109	10/28/2025	MW-109	GW	-	X	X	X	X	X	X	X	X	X

Notes:
All analyses performed by Teklab in Collinsville, IL and Alliance Technical Group in Cuyahoga Falls, OH

Abbreviations:
EB: Equipment Blank
FB: Field Blank
FD: Field Duplicate
GW: Ground Water
QC: Quality Control
TDS: Total Dissolved Solids
WQ: Water Quality

Created by: MRS 2/16/2026
Checked by: GRD 2/24/2026

QA LEVEL I - DATA VERIFICATION CHECKLIST

Project Name: SIPC Groundwater Monitoring
Reviewing Company: WSP USA
Data Evaluator: Maura Siciensky
Checked by: Danielle Sylvia Cofelice
Laboratory: Teklab, Inc., Alliance Technical Group.

Project Number: GLA21467997.2373
Project Manager: Danielle Sylvia Cofelice
Data Evaluation Date: February 13, 2026
Review Date: June 25, 2026
Lab Job #: 25111334

Matrix: ☒ Aqueous ☐ Soil ☐ Sediment ☐ Waste ☐ Air ☐ Other:

Analytical Methods: Total dissolved solids by SM 2540C; anions (chloride, fluoride, and sulfate) by SW-846 9056A; total metals by SW-846 3005A, 6010B and 6020A; mercury by SW-846 7470A; Radium226/228 by EPA 903.0/904.0

Sample Information: See Table 1.

Data Qualification: No qualifications required.

Work Plan or QAPP reference: None

Data Validation Guidance: EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8)

Chain of Custody (COC) and Sample Receipt	YES	NO	NA	COMMENT
a) COC complete and correct? (Project location, contacts, sample IDs, sample dates, field QC samples, analyses identified, et c.)	☒	☐		
b) COC documents release of custody (signed and dated)?	☒	☐		
c) Field QC types provided (note types)?	☒	☐	☐	EB, FB, FD
d) Did the cooler contents match the COC?	☒	☐		
e) Were samples received in good condition?	☒	☐		
f) Were cooler temperatures within control limits?	☒	☐		

Data Package Information	YES	NO	NA	COMMENT
a) Laboratory name and location documented?	☒	☐		
b) All samples on COC reported in data package?	☒	☐		
c) Requested analytical methods used?	☒	☐		
d) Requested analyte list reported?	☒	☐		
e) Requested units reported?	☒	☐	☐	
f) Did the laboratory define the qualifiers used?	☒	☐		
g) Data package contains all information necessary to complete the data quality review?	☒	☐		

Analytical Assessment	YES	NO	NA	COMMENT
a) Solid samples reported on a dry-weight basis?	☐	☐	☒	
b) Were solid samples percent moisture criteria acceptable?	☐	☐	☒	
c) Were sample dilutions noted?	☒	☐		
d) Were detected concentrations less than the QL qualified by the laboratory?	☒	☐		

Analytical Assessment	YES	NO	NA	COMMENT
e) All detected sample results within the calibrated range?	☒	☐		
f) Did the laboratory satisfy the requested sensitivity requirements?	☒	☐		

Laboratory Case Narrative	YES	NO	NA	COMMENT
a) Do the laboratory narrative or laboratory qualifiers indicate deficiencies?	☒	☐	☐	See Note 2.

Sample Preservation and Holding Time	YES	NO	NA	COMMENT
a) Were samples properly preserved?	☒	☐		
b) Were holding times met for sample preparation and/or extraction?	☒	☐	☐	
c) Were holding times met for sample analysis?	☒	☐		

Blanks	YES	NO	NA	COMMENTS
a) No analytes detected in the associated preparation/method blank(s)?	☐	☒		See Note 2.
b) No analytes detected in the associated trip blank(s)?	☐	☐	☒	
c) No analytes detected in the associated field or equipment/rinsate blank(s)?	☒	☐	☐	

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates reported?	☐	☒	☐	
b) Was field duplicate RPD or absolute difference criteria acceptable?	☐	☐	☒	

Overall Evaluation	YES	NO	NA	COMMENTS
a) No other technical problems that lead to data rejection identified by laboratory?	☒	☐		
b) Were data acceptable and usable, except where noted?	☐	☒		See Notes 3-4.

Comments/Notes:

1) The data was evaluated for precision, accuracy, representativeness, completeness, and comparability. Data usability was evaluated following the EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8).
2) Analytes were detected in a method blank as shown in the table below. Associated detected results are considered potentially biased high.

Sample Name	Parameter	Analyte	Blank Result	RL	Units
MBLK-248870	ICP Metals	Antimony	0.5 J	1.0	ug/L

   a) Certain LCS and MS/MSD recoveries were above QC criteria. Associated detected results are considered potentially biased high. Review of LCS/LCSD and MS/MSD is outside the scope of this data validation, no action was taken other than to note.

3) The laboratory indicated that the CCV for certain samples was recovered above control limits. Review of CCV is outside the scope of this data validation, so no action was taken other than to note.

TABLE 1

Sample Collection and Analysis Summary
SIPC CCR Groundwater Monitoring

Lab ID	*Field Identification*	*Collection Date*	*Location*	*Matrix*	*QC Samples*	Chloride	Field Paramaters	Fluoride	ICP Metals	ICP/MS Metals	Mercury	Radium-226/228	Sulfate	TDS
25111334-009	Equipment Blank	12/4/2025	-	WQ	EB	X	-	X	X	X	X	X	X	X
25111334-010	Field Blank	12/3/2025	-	WQ	FB	X	-	X	X	X	X	X	X	X
25111334-012	MW-101	12/1/2025	MW-101	GW	-	X	X	X	X	X	X	X	X	X
25111334-013	MW-102	12/2/2025	MW-102	GW	-	X	X	X	X	X	X	X	X	X
25111334-014	MW-103	12/2/2025	MW-103	GW	-	X	X	X	X	X	X	X	X	X
25111334-015	MW-104	12/2/2025	MW-104	GW	-	X	X	X	X	X	X	X	X	X
25111334-016	MW-105	12/2/2025	MW-105	GW	-	X	X	X	X	X	X	X	X	X
25111334-017	MW-106	12/3/2025	MW-106	GW	-	X	X	X	X	X	X	X	X	X
25111334-018	MW-109	12/3/2025	MW-109	GW	-	X	X	X	X	X	X	X	X	X

Notes:
All analyses performed by Teklab in Collinsville, IL and Alliance Technical Group in Cuyahoga Falls, OH

Abbreviations:
EB: Equipment Blank
FB: Field Blank
FD: Field Duplicate
GW: Ground Water
QC: Quality Control
TDS: Total Dissolved Solids
WQ: Water Quality

Created by: MRS 2/16/2026
Checked by: GRD 2/24/2026

QA LEVEL I - DATA VERIFICATION CHECKLIST

Project Name: SIPC Groundwater Monitoring
Reviewing Company: WSP USA
Data Evaluator: Maura Siciensky
Checked by: Danielle Sylvia Cofelice
Laboratory: Teklab, Inc.

Project Number: GLA21467997.2373
Project Manager: Danielle Sylvia Cofelice
Data Evaluation Date: March 5, 2026
Review Date: June 25, 2026
Lab Job #: 26010277

Matrix: ☒ Aqueous ☐ Soil ☐ Sediment ☐ Waste ☐ Air ☐ Other:

Analytical Methods: Anions (chloride, fluoride, and sulfate) by SW-846 9056A; total metals by SW-846 3005A, 6010B and 6020A; mercury by SW-846 7470A; Radium226/228 by EPA 903.0/904.0; total dissolved solids by SM 2540C; field parameters

Sample Information: See Table 1.

Data Qualification: No qualifications required.

Work Plan or QAPP reference: None

Data Validation Guidance: EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8)

Chain of Custody (COC) and Sample Receipt	YES	NO	NA	COMMENT
a) COC complete and correct? (Project location, contacts, sample IDs, sample dates, field QC samples, analyses identified, et c.)	☒	☐		
b) COC documents release of custody (signed and dated)?	☒	☐		
c) Field QC types provided (note types)?	☒	☐	☐	EB, FB, FD
d) Did the cooler contents match the COC?	☒	☐		
e) Were samples received in good condition?	☒	☐		
f) Were cooler temperatures within control limits?	☒	☐		

Data Package Information	YES	NO	NA	COMMENT
a) Laboratory name and location documented?	☒	☐		
b) All samples on COC reported in data package?	☒	☐		
c) Requested analytical methods used?	☒	☐		
d) Requested analyte list reported?	☒	☐		
e) Requested units reported?	☒	☐	☐	
f) Did the laboratory define the qualifiers used?	☒	☐		
g) Data package contains all information necessary to complete the data quality review?	☒	☐		

Analytical Assessment	YES	NO	NA	COMMENT
a) Solid samples reported on a dry-weight basis?	☐	☐	☒	
b) Were solid samples percent moisture criteria acceptable?	☐	☐	☒	
c) Were sample dilutions noted?	☒	☐		
d) Were detected concentrations less than the QL qualified by the laboratory?	☒	☐		

Analytical Assessment	YES	NO	NA	COMMENT
e) All detected sample results within the calibrated range?	☒	☐		
f) Did the laboratory satisfy the requested sensitivity requirements?	☒	☐		

Laboratory Case Narrative	YES	NO	NA	COMMENT
a) Do the laboratory narrative or laboratory qualifiers indicate deficiencies?	☒	☐	☐	See Note 2.

Sample Preservation and Holding Time	YES	NO	NA	COMMENT
a) Were samples properly preserved?	☒	☐		
b) Were holding times met for sample preparation and/or extraction?	☒	☐	☐	
c) Were holding times met for sample analysis?	☒	☐		

Blanks	YES	NO	NA	COMMENTS
a) No analytes detected in the associated preparation/method blank(s)?	☐	☒		See Note 2.
b) No analytes detected in the associated trip blank(s)?	☐	☐	☒	
c) No analytes detected in the associated field or equipment/rinsate blank(s)?	☐	☒	☐	See Note 3.

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates reported?	☒	☐	☐	
a) Was field duplicate RPD or absolute difference criteria acceptable?	☒	☐	☐	

Overall Evaluation	YES	NO	NA	COMMENTS
a) No other technical problems that lead to data rejection identified by laboratory?	☒	☐		
b) Were data acceptable and usable, except where noted?	☒	☐		See Note 4.

Comments/Notes:

1) The data was evaluated for precision, accuracy, representativeness, completeness, and comparability. Data usability was evaluated following the EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8).

2) Analytes were detected in the method blank as shown in the table below. Associated detected results are considered potentially biased high.

Sample Name	Parameter	Analyte	Blank Result	RL	Units
MBLK-250613	ICPMS Metals	Beryllium	0.3 J	1.0	ug/L
MBLK-250613	ICPMS Metals	Molybdenum	1.4 J	1.5	ug/L
MBLK-250613	ICPMS Metals	Molybdenum	1.8	1.5	ug/L

3) Analytes were detected in the field and equipment blanks as shown in the table below. Associated detected results are considered potentially biased high.

Sample Name	Parameter	Analyte	Blank Result	RL	Units
Equipment Blank	ICPMS Metals	Chromium	3.4	1.5	ug/L

Sample Name	Parameter	Analyte	Blank Result	RL	Units
Equipment Blank	RADIUM 226/228	Radium-228	0.91 J	1.0	pci/L
Field Blank	ICPMS Metals	Chromium	1.6	1.5	ug/L

b) Certain LCS and/or LCSD recoveries, LCS/LCSD RPD, CCV recoveries, and matrix spike recoveries were above QC criteria. However, all associated sample results were below the reporting limits for LCS and CCV recoveries. Matrix spike control limits for associated samples were not applicable due to high sample/spike ratio. Thus, associated detected results are considered to be reportable and usable, and no action was taken other than to note.

TABLE 1

Sample Collection and Analysis Summary
SIPC CCR Groundwater Monitoring

Lab ID	*Field Identification*	*Collection Date*	*Location*	*Matrix*	*QC Samples*	Chloride	Field Paramaters	Fluoride	ICP Metals	ICP/MS Metals	Mercury	Radium-226/228	Sulfate	TDS
26010277-001	MW-101	1/20/2026	MW-101	GW	-	X	X	X	X	X	X	X	X	X
26010277-002	MW-102	1/20/2026	MW-102	GW	-	X	X	X	X	X	X	X	X	X
26010277-003	MW-103	1/20/2026	MW-103	GW	-	X	X	X	X	X	X	X	X	X
26010277-004	MW-104	1/20/2026	MW-104	GW	-	X	X	X	X	X	X	X	X	X
26010277-005	MW-105	1/21/2026	MW-105	GW	-	X	X	X	X	X	X	X	X	X
26010277-006	MW-106	1/21/2026	MW-106	GW	-	X	X	X	X	X	X	X	X	X
26010277-007	MW-109	1/21/2026	MW-107	GW	-	X	X	X	X	X	X	X	X	X
25111334-008	Field Duplicate	1/20/2026	MW-104	GW	FD	X	X	X	X	X	X	X	X	X
25111334-009	Equipment Blank	1/21/2026	-	WQ	EB	X	-	X	X	X	X	X	X	X
25111334-010	Field Blank	1/21/2026	-	WQ	FB	X	-	X	X	X	X	X	X	X

Notes:
All analyses performed by Teklab in Collinsville, IL and Alliance Technical Group in Cuyahoga Falls, OH

Abbreviations:
EB: Equipment Blank
FB: Field Blank
FD: Field Duplicate
GW: Ground Water
QC: Quality Control
TDS: Total Dissolved Solids
WQ: Water Quality

Created by: MRS 3/5/2026
Checked by: DFSC 6/25/26

QA LEVEL I - DATA VERIFICATION CHECKLIST

Project Name: SIPC Groundwater Monitoring
Reviewing Company: WSP USA
Data Evaluator: Maura Siciensky
Checked by: Danielle Sylvia Cofelice
Laboratory: Teklab, Inc., Alliance Technical Group.

Project Number: GLA21467997.4465
Project Manager: Danielle Sylvia Cofelice
Data Evaluation Date: April 9, 2026
Review Date: June 25, 2026
Lab Job #: 26020878

Matrix: ☒ Aqueous ☐ Soil ☐ Sediment ☐ Waste ☐ Air ☐ Other:

Analytical Methods: Total dissolved solids by SM 2540C; anions (chloride, fluoride, and sulfate) by SW-846 9056A; total metals by SW-846 3005A, 6010B and 6020A; mercury by SW-846 7470A; Radium226/228 by EPA 903.0/904.0

Sample Information: See Table 1.

Data Qualification: No qualifications required.

Work Plan or QAPP reference: None

Data Validation Guidance: EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8)

Chain of Custody (COC) and Sample Receipt	YES	NO	NA	COMMENT
a) COC complete and correct? (Project location, contacts, sample IDs, sample dates, field QC samples, analyses identified, et c.)	☒	☐		
b) COC documents release of custody (signed and dated)?	☒	☐		
c) Field QC types provided (note types)?	☒	☐	☐	EB, FB
d) Did the cooler contents match the COC?	☒	☐		
e) Were samples received in good condition?	☒	☐		
f) Were cooler temperatures within control limits?	☒	☐		See Note 1a.

Data Package Information	YES	NO	NA	COMMENT
a) Laboratory name and location documented?	☒	☐		
b) All samples on COC reported in data package?	☒	☐		
c) Requested analytical methods used?	☒	☐		
d) Requested analyte list reported?	☒	☐		
e) Requested units reported?	☒	☐	☐	
f) Did the laboratory define the qualifiers used?	☒	☐		
g) Data package contains all information necessary to complete the data quality review?	☒	☐		

Analytical Assessment	YES	NO	NA	COMMENT
a) Solid samples reported on a dry-weight basis?	☐	☐	☒	
b) Were solid samples percent moisture criteria acceptable?	☐	☐	☒	
c) Were sample dilutions noted?	☒	☐		
d) Were detected concentrations less than the QL qualified by the laboratory?	☒	☐		

Analytical Assessment	YES	NO	NA	COMMENT
e) All detected sample results within the calibrated range?	☒	☐		
f) Did the laboratory satisfy the requested sensitivity requirements?	☒	☐		

Laboratory Case Narrative	YES	NO	NA	COMMENT
a) Do the laboratory narrative or laboratory qualifiers indicate deficiencies?	☒	☐	☐	See Note 2.

Sample Preservation and Holding Time	YES	NO	NA	COMMENT
a) Were samples properly preserved?	☒	☐		
b) Were holding times met for sample preparation and/or extraction?	☒	☐	☐	
c) Were holding times met for sample analysis?	☒	☐		

Blanks	YES	NO	NA	COMMENTS
a) No analytes detected in the associated preparation/method blank(s)?	☐	☒		See Note 2.
b) No analytes detected in the associated trip blank(s)?	☐	☐	☒	
c) No analytes detected in the associated field or equipment/rinsate blank(s)?	☐	☒	☐	See Note 3.

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates reported?	☐	☒	☐	
b) Was field duplicate RPD or absolute difference criteria acceptable?	☐	☐	☒	

Overall Evaluation	YES	NO	NA	COMMENTS
a) No other technical problems that lead to data rejection identified by laboratory?	☒	☐		
b) Were data acceptable and usable, except where noted?	☐	☒		See Note 5.

Comments/Notes:

1) The data was evaluated for precision, accuracy, representativeness, completeness, and comparability. Data usability was evaluated following the EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8).

   a) Cooler temperatures were above QC criteria, however, samples were received at the laboratory on ice and the same day as collected. No action was taken other than to note.

2) Analytes were detected in the method blank shown in the table below. Associated detected results are considered potentially biased high.

Sample Name	Parameter	Analyte	Blank Result	RL	Units
MBLK-252614	ICP/MS Metals	Chromium	0.8 JS	1.5	ug/L

3) Analytes were detected in the equipment and field blanks, as shown in the table below. Associated detected results are considered potentially biased high.

Sample Name	Parameter	Analyte	Blank Result	RL	Units
Equipment Blank	ICP Metals	Barium	1.8 J	2.5	ug/L

Sample Name	Parameter	Analyte	Blank Result	RL	Units
Equipment Blank	ICP Metals	Calcium	0.145	0.100	mg/L
Field Blank	ICP Metals	Calcium	0.037 J	0.10	mg/L

4) Certain LCS recoveries were above QC criteria. Associated detected results are considered potentially biased high.

5) The laboratory narrative indicates that the CCV recovered outside the upper control limit associated with certain samples. Review of CCV is outside the scope of this data validation, no action was taken other than to note.

b) Certain matrix spike control limits are not applicable due to high sample/spike ratio. No bias is expected.

c) Certain LCS/LCSD RPDs were above QC criteria. Associated results are considered potentially biased. Review of LCS/LCSD is outside the scope of this data validation, no action was taken other than to note.

TABLE 1

Sample Collection and Analysis Summary
SIPC CCR Groundwater Monitoring

Lab ID	*Field Identification*	*Collection Date*	*Location*	*Matrix*	*QC Samples*	Chloride	Field Paramaters	Fluoride	ICP Metals	ICP/MS Metals	Mercury	Radium-226/228	Sulfate	TDS
26020878-009	Equipment Blank	3/3/2026	-	WQ	EB	X	-	X	X	X	X	X	X	X
26020878-010	Field Blank	3/3/2026	-	WQ	FB	X	-	X	X	X	X	X	X	X
26020878-012	MW-101	3/3/2026	MW-101	GW	-	X	X	X	X	X	X	X	X	X
26020878-013	MW-102	3/3/2026	MW-102	GW	-	X	X	X	X	X	X	X	X	X
26020878-014	MW-103	3/2/2026	MW-103	GW	-	X	X	X	X	X	X	X	X	X
26020878-015	MW-104	3/2/2026	MW-104	GW	-	X	X	X	X	X	X	X	X	X
26020878-016	MW-105	3/2/2026	MW-105	GW	-	X	X	X	X	X	X	X	X	X
26020878-017	MW-106	3/2/2026	MW-106	GW	-	X	X	X	X	X	X	X	X	X
26020878-018	MW-109	3/3/2026	MW-109	GW	-	X	X	X	X	X	X	X	X	X

Notes:
All analyses performed by Teklab in Collinsville, IL and Alliance Technical Group in Cuyahoga Falls, OH

Abbreviations:
EB: Equipment Blank
FB: Field Blank
GW: Ground Water
QC: Quality Control
TDS: Total Dissolved Solids
WQ: Water Quality

Created by: MRS 4/9/2026
Checked by: DFSC 6/25/2026

QA LEVEL I - DATA VERIFICATION CHECKLIST

Project Name: SIPC Groundwater Monitoring
Reviewing Company: WSP USA
Data Evaluator: Maura Siciensky
Checked by: Danielle Sylvia Cofelice
Laboratory: Teklab, Inc., Eurofins St. Louis

Project Number: GLA21467997.4465
Project Manager: Danielle Sylvia Cofelice
Data Evaluation Date: June 3, 2026
Review Date: June 25, 2026
Lab Job #: 26040324

Matrix: ☒ Aqueous ☐ Soil ☐ Sediment ☐ Waste ☐ Air ☐ Other:

Analytical Methods: Total dissolved solids by SM 2540C; anions (chloride, fluoride, and sulfate) by SW-846 9056A; total metals by SW-846 3005A, 6010B and 6020A; mercury by SW-846 7470A; Radium226/228 by EPA 903.0/904.0

Sample Information: See Table 1.

Data Qualification: No qualifications required.

Work Plan or QAPP reference: None

Data Validation Guidance: EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8)

Chain of Custody (COC) and Sample Receipt	YES	NO	NA	COMMENT
a) COC complete and correct? (Project location, contacts, sample IDs, sample dates, field QC samples, analyses identified, et c.)	☒	☐		
b) COC documents release of custody (signed and dated)?	☒	☐		
c) Field QC types provided (note types)?	☒	☐	☐	EB, FB, FD
d) Did the cooler contents match the COC?	☒	☐		
e) Were samples received in good condition?	☒	☐		
f) Were cooler temperatures within control limits?	☒	☐		

Data Package Information	YES	NO	NA	COMMENT
a) Laboratory name and location documented?	☒	☐		
b) All samples on COC reported in data package?	☒	☐		
c) Requested analytical methods used?	☒	☐		
d) Requested analyte list reported?	☒	☐		
e) Requested units reported?	☒	☐	☐	
f) Did the laboratory define the qualifiers used?	☒	☐		
g) Data package contains all information necessary to complete the data quality review?	☒	☐		

Analytical Assessment	YES	NO	NA	COMMENT
a) Solid samples reported on a dry-weight basis?	☐	☐	☒	
b) Were solid samples percent moisture criteria acceptable?	☐	☐	☒	
c) Were sample dilutions noted?	☒	☐		
d) Were detected concentrations less than the QL qualified by the laboratory?	☒	☐		

Analytical Assessment	YES	NO	NA	COMMENT
e) All detected sample results within the calibrated range?	☒	☐		
f) Did the laboratory satisfy the requested sensitivity requirements?	☒	☐		

Laboratory Case Narrative	YES	NO	NA	COMMENT
a) Do the laboratory narrative or laboratory qualifiers indicate deficiencies?	☒	☐	☐	See Note 2.

Sample Preservation and Holding Time	YES	NO	NA	COMMENT
a) Were samples properly preserved?	☒	☐		
b) Were holding times met for sample preparation and/or extraction?	☒	☐	☐	
c) Were holding times met for sample analysis?	☒	☐		

Blanks	YES	NO	NA	COMMENTS
a) No analytes detected in the associated preparation/method blank(s)?	☐	☒		See Note 2.
b) No analytes detected in the associated trip blank(s)?	☐	☐	☒	
c) No analytes detected in the associated field or equipment/rinsate blank(s)?	☐	☒	☐	See Note 3.

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates reported?	☒	☐	☐	
b) Was field duplicate RPD or absolute difference criteria acceptable?	☒	☐	☐	

Overall Evaluation	YES	NO	NA	COMMENTS
a) No other technical problems that lead to data rejection identified by laboratory?	☒	☐		
b) Were data acceptable and usable, except where noted?	☐	☒		See Notes 4-7.

Comments/Notes:

1) The data was evaluated for precision, accuracy, representativeness, completeness, and comparability. Data usability was evaluated following the EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8).

2) Analytes were detected in the method blank shown in the table below. Associated detected results are considered potentially biased high.

Sample Name	Parameter	Analyte	Blank Result	RL	Units
MBLK-254978	ICP/MS Metals	Antimony	0.8 JS	1.0	ug/L
MBLK-254978	ICP/MS Metals	Selenium	0.6 JS	1.0	ug/L
MBLK-255090	ICP/MS Metals	Lithium	1.6 JS	3.0	ug/L

3) Analytes were detected in the equipment and field blanks, as shown in the table below. Associated detected results are considered potentially biased high.

Sample Name	Parameter	Analyte	Blank Result	RL	Units
Equipment Blank	ICP/MS Metals	Cobalt	0.1 J	1.0	ug/L

Sample Name	Parameter	Analyte	Blank Result	RL	Units
Equipment Blank	ICP/MS Metals	Lithium	1.6 J	3.0	ug/L
Field Blank	ICP/MS Metals	Antimony	3.8	1.0	ug/L

a) Certain LCS/LCSD recoveries were above QC criteria. Associated detected results are considered potentially biased high. Review of LCS/LCSD is outside the scope of this data validation, no action was taken other than to note.

b) Certain MS/MSD recoveries were above QC criteria. Associated detected results are considered potentially biased high. Review of MS/MSD is outside the scope of this data validation, no action was taken other than to note.

c) The laboratory narrative indicates that certain CCR recoveries are outside the upper control limits. Associated sample results are below the reporting limit. Review of CCV is outside the scope of this data validation, no action was taken other than to note.

d) Certain results were reported as above the quantitation range. Only QC samples were affected. No action was taken other than to note.

TABLE 1

Sample Collection and Analysis Summary
SIPC CCR Groundwater Monitoring

Lab ID	*Field Identification*	*Collection Date*	*Location*	*Matrix*	*QC Samples*	Chloride	Field Paramaters	Fluoride	ICP Metals	ICP/MS Metals	Mercury	Radium-226/228	Sulfate	TDS
26040324-001	Equipment Blank	4/16/2026	-	WQ	EB	X	-	X	X	X	X	X	X	X
26040324-002	Field Blank	4/16/2026	-	WQ	FB	X	-	X	X	X	X	X	X	X
26040324-003	Field Duplicate	4/15/2026	MW-102	GW	FD	X	X	X	X	X	X	X	X	X
26040324-004	MW-101	4/15/2026	MW-101	GW	-	X	X	X	X	X	X	X	X	X
26040324-005	MW-102	4/15/2026	MW-102	GW	-	X	X	X	X	X	X	X	X	X
26040324-006	MW-103	4/15/2026	MW-103	GW	-	X	X	X	X	X	X	X	X	X
26040324-007	MW-104	4/15/2026	MW-104	GW	-	X	X	X	X	X	X	X	X	X
26040324-008	MW-105	4/15/2026	MW-105	GW	-	X	X	X	X	X	X	X	X	X
26040324-009	MW-106	4/16/2026	MW-106	GW	-	X	X	X	X	X	X	X	X	X
26040324-010	MW-109	4/16/2026	MW-109	GW	-	X	X	X	X	X	X	X	X	X

Notes:
All analyses performed by Teklab in Collinsville, IL and Eurofins in St. Louis, MO

Abbreviations:
EB: Equipment Blank
FB: Field Blank
FD: Field Duplicate
GW: Ground Water
QC: Quality Control
TDS: Total Dissolved Solids
WQ: Water Quality

Created by: MRS 6/3/2026

QA LEVEL I - DATA VERIFICATION CHECKLIST

Project Name: SIPC Groundwater Monitoring
Reviewing Company: WSP USA
Data Evaluator: Maura Siciensky
Checked by: Danielle Sylvia Cofelice
Laboratory: Teklab, Inc., Eurofins St. Louis

Project Number: GLA21467997.4465
Project Manager: Danielle Sylvia Cofelice
Data Evaluation Date: October 22, 2026
Review Date: October 26, 2026
Lab Job #: 26051599

Matrix: ☒ Aqueous ☐ Soil ☐ Sediment ☐ Waste ☐ Air ☐ Other:

Analytical Methods: Total dissolved solids by SM 2540C; anions (chloride, fluoride, and sulfate) by SW-846 9056A; total metals by SW-846 3005A, 6010B and 6020A; mercury by SW-846 7470A; Radium226/228 by EPA 903.0/904.0

Sample Information: See Table 1.

Data Qualification: No qualifications required.

Work Plan or QAPP reference: None

Data Validation Guidance: EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8)

Chain of Custody (COC) and Sample Receipt	YES	NO	NA	COMMENT
a) COC complete and correct? (Project location, contacts, sample IDs, sample dates, field QC samples, analyses identified, et c.)	☒	☐		See Note 2.
b) COC documents release of custody (signed and dated)?	☒	☐		
c) Field QC types provided (note types)?	☒	☐	☐	EB, FB
d) Did the cooler contents match the COC?	☒	☐		
e) Were samples received in good condition?	☒	☐		
f) Were cooler temperatures within control limits?	☒	☐		

Data Package Information	YES	NO	NA	COMMENT
a) Laboratory name and location documented?	☒	☐		
b) All samples on COC reported in data package?	☒	☐		
c) Requested analytical methods used?	☒	☐		
d) Requested analyte list reported?	☒	☐		
e) Requested units reported?	☒	☐	☐	
f) Did the laboratory define the qualifiers used?	☒	☐		
g) Data package contains all information necessary to complete the data quality review?	☒	☐		

Analytical Assessment	YES	NO	NA	COMMENT
a) Solid samples reported on a dry-weight basis?	☐	☐	☒	
b) Were solid samples percent moisture criteria acceptable?	☐	☐	☒	
c) Were sample dilutions noted?	☒	☐		
d) Were detected concentrations less than the QL qualified by the laboratory?	☒	☐		

Analytical Assessment	YES	NO	NA	COMMENT
e) All detected sample results within the calibrated range?	☒	☐		
f) Did the laboratory satisfy the requested sensitivity requirements?	☒	☐		

Laboratory Case Narrative	YES	NO	NA	COMMENT
a) Do the laboratory narrative or laboratory qualifiers indicate deficiencies?	☐	☒	☐	

Sample Preservation and Holding Time	YES	NO	NA	COMMENT
a) Were samples properly preserved?	☒	☐		
b) Were holding times met for sample preparation and/or extraction?	☒	☐	☐	
c) Were holding times met for sample analysis?	☒	☐		

Blanks	YES	NO	NA	COMMENTS
a) No analytes detected in the associated preparation/method blank(s)?	☒	☐		
b) No analytes detected in the associated trip blank(s)?	☐	☐	☒	
c) No analytes detected in the associated field or equipment/rinsate blank(s)?	☐	☒	☐	See Note 3.

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates reported?	☐	☐	☒	
b) Was field duplicate RPD or absolute difference criteria acceptable?	☐	☐	☒	

Overall Evaluation	YES	NO	NA	COMMENTS
a) No other technical problems that lead to data rejection identified by laboratory?	☒	☐		
b) Were data acceptable and usable, except where noted?	☐	☒		See Note 4.

Comments/Notes:

1) The data was evaluated for precision, accuracy, representativeness, completeness, and comparability. Data usability was evaluated following the EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8).

2) IDs on the containers for the subcontracting lab were incorrect. Samples were logged according to the COC.

3) Analytes were detected in the equipment and field blanks, as shown in the table below. Associated detected results are considered potentially biased high.

Sample Name	Parameter	Analyte	Blank Result	RL	Units
Equipment Blank	General Chemistry	Total Dissolved Solids	18 J	20	mg/L
Field Blank	ICP/MS Metals	Lithium	2.0 J	3.0	ug/L
Field Blank	General Chemistry	Total Dissolved Solids	26	20	mg/L

4) Certain MS/MSD recoveries were below QC criteria. Associated detected results are considered potentially biased low. Review of MS/MSD is outside the scope of this data validation, no action was taken other than to note.

a) The MDC for certain samples was above the requested reporting limit for radium-228. The requested reporting limit was still met for combined radium. No action was taken other than to note.

TABLE 1

Sample Collection and Analysis Summary
SIPC CCR Groundwater Monitoring

Lab ID	*Field Identification*	*Collection Date*	*Location*	*Matrix*	*QC Samples*	Chloride	Field Paramaters	Fluoride	ICP Metals	ICP/MS Metals	Mercury	Radium-226/228	Sulfate	TDS
26051599-009	Equipment Blank	6/4/2026	-	WQ	EB	X	-	X	X	X	X	X	X	X
26051599-010	Field Blank	6/3/2026	-	WQ	FB	X	-	X	X	X	X	X	X	X
26051599-012	MW-101	6/3/2026	MW-101	GW	-	X	X	X	X	X	X	X	X	X
26051599-013	MW-102	6/3/2026	MW-102	GW	-	X	X	X	X	X	X	X	X	X
26051599-014	MW-103	6/3/2026	MW-103	GW	-	X	X	X	X	X	X	X	X	X
26051599-015	MW-104	6/3/2026	MW-104	GW	-	X	X	X	X	X	X	X	X	X
26051599-016	MW-105	6/3/2026	MW-105	GW	-	X	X	X	X	X	X	X	X	X
26051599-017	MW-106	6/3/2026	MW-106	GW	-	X	X	X	X	X	X	X	X	X
26051599-018	MW-109	6/3/2026	MW-109	GW	-	X	X	X	X	X	X	X	X	X

Notes:
All analyses performed by Teklab in Collinsville, IL and Eurofins in St. Louis, MO

Abbreviations:
EB: Equipment Blank
FB: Field Blank
FD: Field Duplicate
GW: Ground Water
QC: Quality Control
TDS: Total Dissolved Solids
WQ: Water Quality

Created by: MRS 10/22/2026

QA LEVEL I - DATA VERIFICATION CHECKLIST

Project Name: SIPC Groundwater Monitoring
Reviewing Company: WSP USA
Data Evaluator: Maura Siciensky
Checked by: Danielle Sylvia Cofelice
Laboratory: Teklab, Inc., Eurofins St. Louis

Project Number: GLA21467997.4465
Project Manager: Danielle Sylvia Cofelice
Data Evaluation Date: October 22, 2026
Review Date: October 26, 2026
Lab Job #: 26062704

Matrix: ☒ Aqueous ☐ Soil ☐ Sediment ☐ Waste ☐ Air ☐ Other:

Analytical Methods: Total dissolved solids by SM 2540C; anions (chloride, fluoride, and sulfate) by SW-846 9056A; total metals by SW-846 3005A, 6010B and 6020A; mercury by SW-846 7470A; Radium226/228 by EPA 903.0/904.0

Sample Information: See Table 1.

Data Qualification: No qualifications required.

Work Plan or QAPP reference: None

Data Validation Guidance: EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8)

Chain of Custody (COC) and Sample Receipt	**YES**	**NO**	**NA**	**COMMENT**
a) COC complete and correct? (Project location, contacts, sample IDs, sample dates, field QC samples, analyses identified, et c.)	☒	☐		
b) COC documents release of custody (signed and dated)?	☒	☐		
c) Field QC types provided (note types)?	☒	☐	☐	EB, FB, FD
d) Did the cooler contents match the COC?	☒	☐		
e) Were samples received in good condition?	☒	☐		See Note 2.
f) Were cooler temperatures within control limits?	☒	☐		

Data Package Information	**YES**	**NO**	**NA**	**COMMENT**
a) Laboratory name and location documented?	☒	☐		
b) All samples on COC reported in data package?	☒	☐		
c) Requested analytical methods used?	☒	☐		
d) Requested analyte list reported?	☒	☐		
e) Requested units reported?	☒	☐	☐	
f) Did the laboratory define the qualifiers used?	☒	☐		
g) Data package contains all information necessary to complete the data quality review?	☒	☐		

Analytical Assessment	**YES**	**NO**	**NA**	**COMMENT**
a) Solid samples reported on a dry-weight basis?	☐	☐	☒	
b) Were solid samples percent moisture criteria acceptable?	☐	☐	☒	
c) Were sample dilutions noted?	☒	☐		
d) Were detected concentrations less than the QL qualified by the laboratory?	☒	☐		

Analytical Assessment	YES	NO	NA	COMMENT
e) All detected sample results within the calibrated range?	☒	☐		
f) Did the laboratory satisfy the requested sensitivity requirements?	☒	☐		

Laboratory Case Narrative	YES	NO	NA	COMMENT
a) Do the laboratory narrative or laboratory qualifiers indicate deficiencies?	☒	☐	☐	See Note 3.

Sample Preservation and Holding Time	YES	NO	NA	COMMENT
a) Were samples properly preserved?	☒	☐		
b) Were holding times met for sample preparation and/or extraction?	☒	☐	☐	
c) Were holding times met for sample analysis?	☒	☐		

Blanks	YES	NO	NA	COMMENTS
a) No analytes detected in the associated preparation/method blank(s)?	☐	☒		See Note 3.
b) No analytes detected in the associated trip blank(s)?	☐	☐	☒	
c) No analytes detected in the associated field or equipment/rinsate blank(s)?	☐	☒	☐	See Note 4.

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates reported?	☒	☐	☐	
b) Was field duplicate RPD or absolute difference criteria acceptable?	☒	☐	☐	

Overall Evaluation	YES	NO	NA	COMMENTS
a) No other technical problems that lead to data rejection identified by laboratory?	☒	☐		
b) Were data acceptable and usable, except where noted?	☒	☐		

Comments/Notes:

1) The data was evaluated for precision, accuracy, representativeness, completeness, and comparability. Data usability was evaluated following the EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8).

2) MW-109 pH was unacceptable upon receipt at the laboratory. Additional nitric acid was added, and there was no other action but to note.

3) Analytes were detected in the method blank shown in the table below. Associated detected results are considered potentially biased high.

Sample Name	Parameter	Analyte	Blank Result	RL	Units
MBLK-259726	ICP/MS Metals	Beryllium	0.3 JS	1.0	ug/L
MBLK-259726	ICP/MS Metals	Chromium	0.8 JS	1.5	ug/L

4) Analytes were detected in the equipment and field blanks, as shown in the table below. Associated detected results are considered potentially biased high.

Sample Name	Parameter	Analyte	Blank Result	RL/MDC	Units
Equipment Blank	ICP/MS Metals	Beryllium	0.7 BJ	1.0	ug/L
Equipment Blank	Radium	Radium-228	0.943	0.780	pCi/L
Equipment Blank	Radium	Total Radium	1.03	0.780	pCi/L
Field Blank	ICP/MS Metals	Chromium	0.9 J	1.5	ug/L

a) The MDC for certain samples was above the requested reporting limit for radium-228. The requested reporting limit was still met for combined radium. No action was taken other than to note.

TABLE 1

Sample Collection and Analysis Summary
SIPC CCR Groundwater Monitoring

Lab ID	*Field Identification*	*Collection Date*	*Location*	*Matrix*	*QC Samples*	Chloride	Field Paramaters	Fluoride	ICP Metals	ICP/MS Metals	Mercury	Radium-226/228	Sulfate	TDS
26062704-001	Equipment Blank	7/15/2026	-	WQ	EB	X	-	X	X	X	X	X	X	X
26062704-002	Field Blank	7/15/2026	-	WQ	FB	X	-	X	X	X	X	X	X	X
26062704-003	Field Duplicate	7/15/2026	MW-105	GW	FD	X	X	X	X	X	X	X	X	X
26062704-004	MW-101	7/15/2026	MW-101	GW	-	X	X	X	X	X	X	X	X	X
26062704-005	MW-102	7/15/2026	MW-102	GW	-	X	X	X	X	X	X	X	X	X
26062704-006	MW-103	7/15/2026	MW-103	GW	-	X	X	X	X	X	X	X	X	X
26062704-007	MW-104	7/15/2026	MW-104	GW	-	X	X	X	X	X	X	X	X	X
26062704-008	MW-105	7/15/2026	MW-105	GW	-	X	X	X	X	X	X	X	X	X
26062704-009	MW-106	7/15/2026	MW-106	GW	-	X	X	X	X	X	X	X	X	X
26062704-010	MW-109	7/15/2026	MW-109	GW	-	X	X	X	X	X	X	X	X	X

Notes:
All analyses performed by Teklab in Collinsville, IL and Eurofins in St. Louis, MO

Abbreviations:
EB: Equipment Blank
FB: Field Blank
FD: Field Duplicate
GW: Ground Water
QC: Quality Control
TDS: Total Dissolved Solids
WQ: Water Quality

Created by: MRS 10/22/2026

QA LEVEL I - DATA VERIFICATION CHECKLIST

Project Name: SIPC Groundwater Monitoring
Reviewing Company: WSP USA
Data Evaluator: Maura Siciensky
Checked by: Danielle Sylvia Cofelice
Laboratory: Teklab, Inc., Eurofins St. Louis

Project Number: GLA21467997.4465
Project Manager: Danielle Sylvia Cofelice
Data Evaluation Date: October 14, 2026
Review Date: October 26, 2026
Lab Job #: 26081663

Matrix: ☒ Aqueous ☐ Soil ☐ Sediment ☐ Waste ☐ Air ☐ Other:

Analytical Methods: Total dissolved solids by SM 2540C; anions (chloride, fluoride, and sulfate) by SW-846 9056A; total metals by SW-846 3005A, 6010B and 6020A; mercury by SW-846 7470A; Radium226/228 by EPA 903.0/904.0

Sample Information: See Table 1.

Data Qualification: No qualifications required.

Work Plan or QAPP reference: None

Data Validation Guidance: EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8)

Chain of Custody (COC) and Sample Receipt	YES	NO	NA	COMMENT
a) COC complete and correct? (Project location, contacts, sample IDs, sample dates, field QC samples, analyses identified, et c.)	☒	☐		
b) COC documents release of custody (signed and dated)?	☒	☐		
c) Field QC types provided (note types)?	☒	☐	☐	FB, FD
d) Did the cooler contents match the COC?	☒	☐		See Note 2.
e) Were samples received in good condition?	☒	☐		
f) Were cooler temperatures within control limits?	☒	☐		

Data Package Information	YES	NO	NA	COMMENT
a) Laboratory name and location documented?	☒	☐		
b) All samples on COC reported in data package?	☒	☐		See Note 2.
c) Requested analytical methods used?	☒	☐		
d) Requested analyte list reported?	☒	☐		
e) Requested units reported?	☒	☐	☐	
f) Did the laboratory define the qualifiers used?	☒	☐		
g) Data package contains all information necessary to complete the data quality review?	☒	☐		

Analytical Assessment	YES	NO	NA	COMMENT
a) Solid samples reported on a dry-weight basis?	☐	☐	☒	
b) Were solid samples percent moisture criteria acceptable?	☐	☐	☒	
c) Were sample dilutions noted?	☒	☐		
d) Were detected concentrations less than the QL qualified by the laboratory?	☒	☐		

Analytical Assessment	YES	NO	NA	COMMENT
e) All detected sample results within the calibrated range?	☒	☐		See Note 4
f) Did the laboratory satisfy the requested sensitivity requirements?	☒	☐		

Laboratory Case Narrative	YES	NO	NA	COMMENT
a) Do the laboratory narrative or laboratory qualifiers indicate deficiencies?	☒	☐	☐	See Notes 5-6.

Sample Preservation and Holding Time	YES	NO	NA	COMMENT
a) Were samples properly preserved?	☒	☐		
b) Were holding times met for sample preparation and/or extraction?	☒	☐	☐	
c) Were holding times met for sample analysis?	☒	☐		

Blanks	YES	NO	NA	COMMENTS
a) No analytes detected in the associated preparation/method blank(s)?	☐	☒		See Note 3.
b) No analytes detected in the associated trip blank(s)?	☐	☐	☒	
c) No analytes detected in the associated field or equipment/rinsate blank(s)?	☐	☒	☐	See Note 4.

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates reported?	☒	☐	☐	
b) Was field duplicate RPD or absolute difference criteria acceptable?	☒	☐	☐	

Overall Evaluation	YES	NO	NA	COMMENTS
a) No other technical problems that lead to data rejection identified by laboratory?	☒	☐		
b) Were data acceptable and usable, except where noted?	☐	☒		See Notes 5-6.

Comments/Notes:

1) The data was evaluated for precision, accuracy, representativeness, completeness, and comparability. Data usability was evaluated following the EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8).

2) The laboratory narrative notes no non-dedicated equipment was employed for the sampling event; Equipment Blank was not required.

3) Analytes were detected in the method blank shown in the table below. Associated detected results are considered potentially biased high.

Sample Name	Parameter	Analyte	Blank Result	RL	Units
MBLK-263013	ICP/MS Metals	Lead	1.0 S	1.0	ug/L
MBLK-263344	ICP/MS Metals	Antimony	7.7 S	1.0	ug/L

4) Analytes were detected in the equipment and field blanks, as shown in the table below. Associated detected results are considered potentially biased high.

Sample Name	Parameter	Analyte	Blank Result	RL	Units
Field Blank 2	ICP/MS Metals	Beryllium	0.5 J	1.0	ug/L
Field Blank 2	ICP/MS Metals	Lead	0.7 BJ	1.0	ug/L
Field Blank 2	ICP/MS Metals	Lithium	6.6	3.0	ug/L
Field Blank 2	ICP/MS Metals	Selenium	0.8 J	1.0	ug/L

5) Certain results were detected above the calibration range, however, the only effected samples were matrix spikes not collected from the project site. No action was taken other than to note.

6) Certain MS/MSD recoveries were above QC criteria. Associated detected results are considered potentially biased high. Review of MS/MSD is outside the scope of this data validation, no action was taken other than to note.

7) Certain MS/MSD recoveries were below QC criteria. Associated detected results are considered potentially biased low. Review of MS/MSD is outside the scope of this data validation, no action was taken other than to note.

TABLE 1

Sample Collection and Analysis Summary
SIPC CCR Groundwater Monitoring

Lab ID	*Field Identification*	*Collection Date*	*Location*	*Matrix*	*QC Samples*	Chloride	Field Paramaters	Fluoride	ICP Metals	ICP/MS Metals	Mercury	Radium-226/228	Sulfate	TDS
26081663-012	MW-101	9/2/2026	MW-101	GW	-	X	X	X	X	X	X	X	X	X
26081663-013	MW-102	9/2/2026	MW-102	GW	-	X	X	X	X	X	X	X	X	X
26081663-014	MW-103	9/2/2026	MW-103	GW	-	X	X	X	X	X	X	X	X	X
26081663-015	MW-104	9/2/2026	MW-104	GW	-	X	X	X	X	X	X	X	X	X
26081663-016	MW-105	9/3/2026	MW-105	GW	-	X	X	X	X	X	X	X	X	X
26081663-017	MW-106	9/3/2026	MW-106	GW	-	X	X	X	X	X	X	X	X	X
26081663-018	MW-109	9/3/2026	MW-109	GW	-	X	X	X	X	X	X	X	X	X
26081663-019	Field Blank 2	9/3/2026	-	WQ	FB	X	-	X	X	X	X	X	X	X
26081663-020	Field Duplicate 2	9/3/2026	MW-109	GW	FD	X	X	X	X	X	X	X	X	X

Notes:
All analyses performed by Teklab in Collinsville, IL and Eurofins in St. Louis, MO

Abbreviations:
EB: Equipment Blank
FB: Field Blank
FD: Field Duplicate
GW: Ground Water
QC: Quality Control
TDS: Total Dissolved Solids
WQ: Water Quality

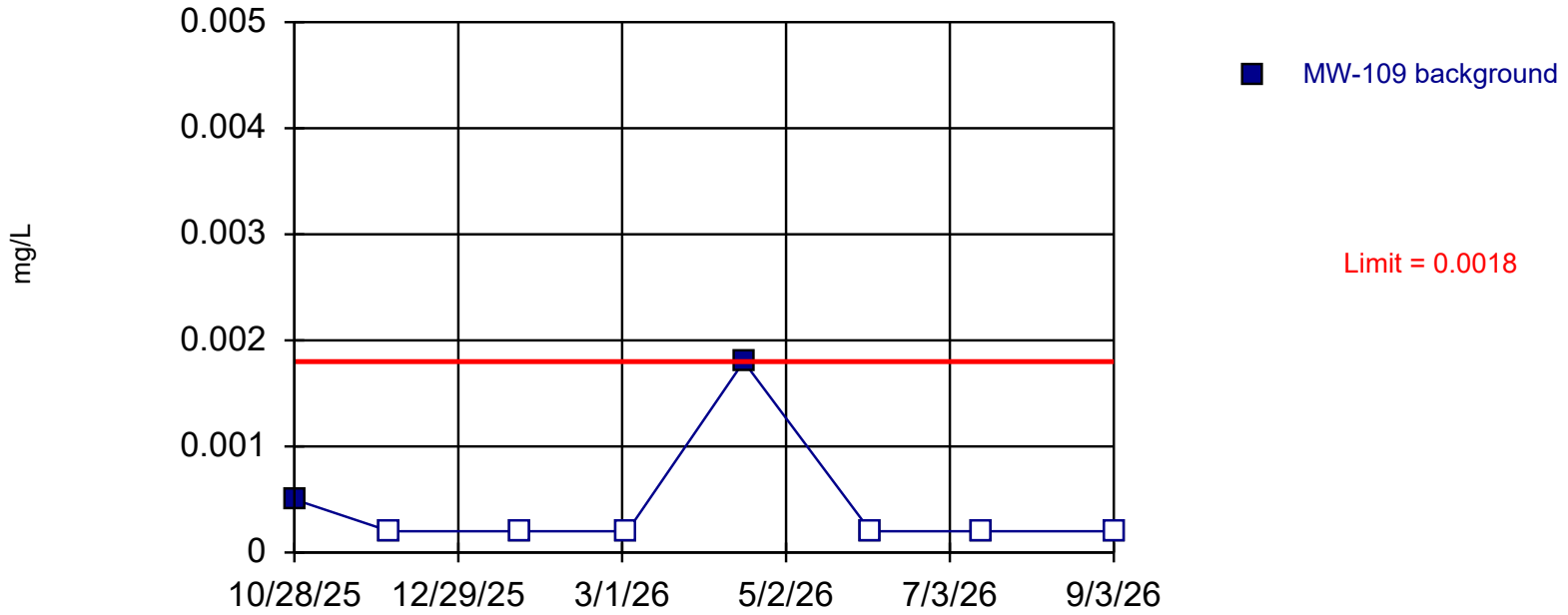
Created by: MRS 10/14/2026

Attachment C Statistical Evaluation

Sanitas™ v.10.1.08 Software licensed to WSP USA Inc. EPA
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-109 (bg)



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 75% NDs. Report alpha = 0.1111. Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

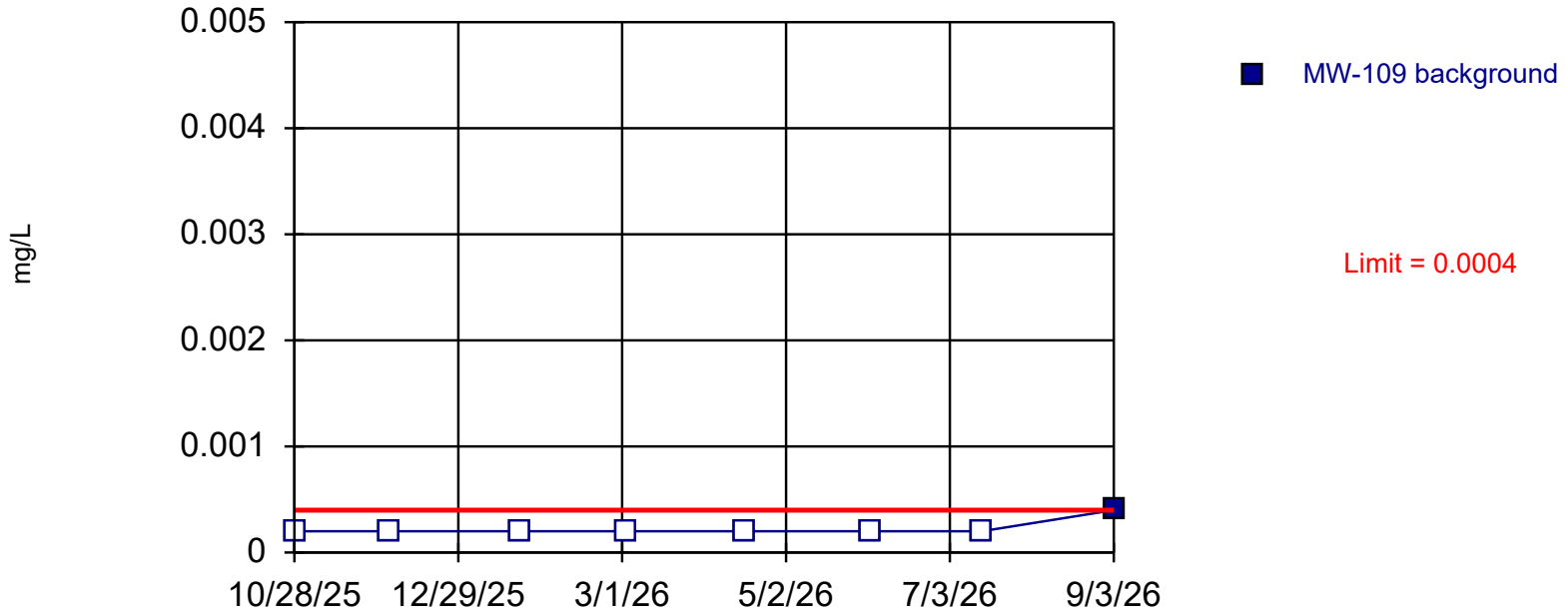
Constituent: Antimony Analysis Run 10/16/2026 2:39 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

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Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-109 (bg)



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 87.5% NDs. Report alpha = 0.1111. Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

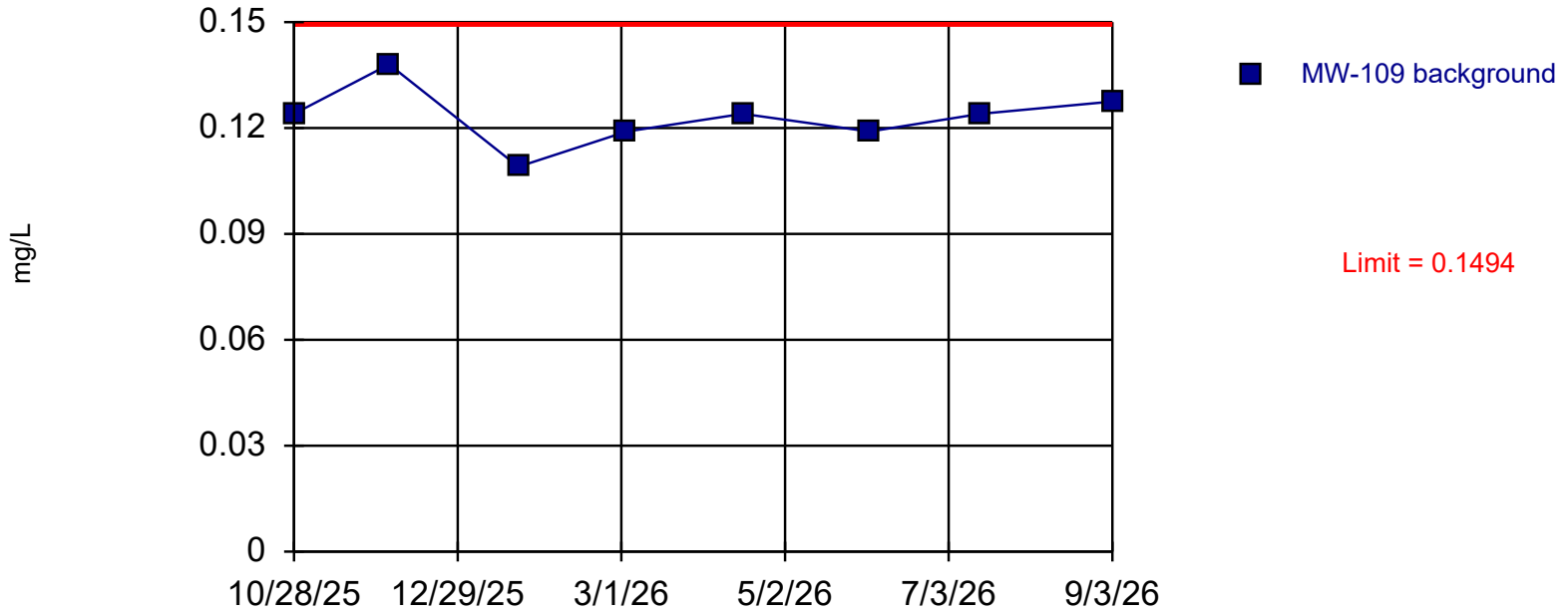
Constituent: Arsenic Analysis Run 10/16/2026 2:39 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

Sanitas™ v.10.1.08 Software licensed to WSP USA Inc. EPA

Tolerance Limit

Intrawell Parametric, MW-109 (bg)



95% coverage. Background Data Summary: Mean=0.1231, Std. Dev.=0.008248, n=8. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9359, critical = 0.818. Report alpha = 0.05.

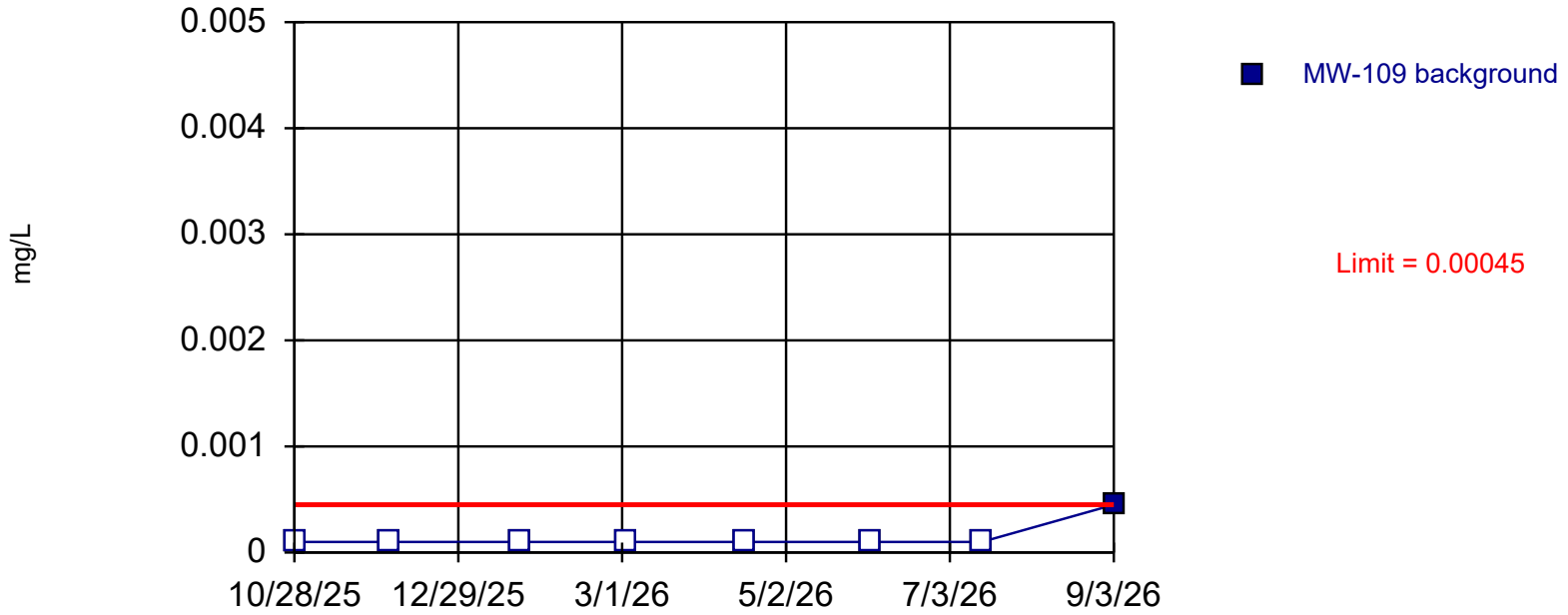
Constituent: Barium Analysis Run 10/16/2026 2:19 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

Sanitas™ v.10.1.08 Software licensed to WSP USA Inc. EPA
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-109 (bg)



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 87.5% NDs. Report alpha = 0.1111. Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

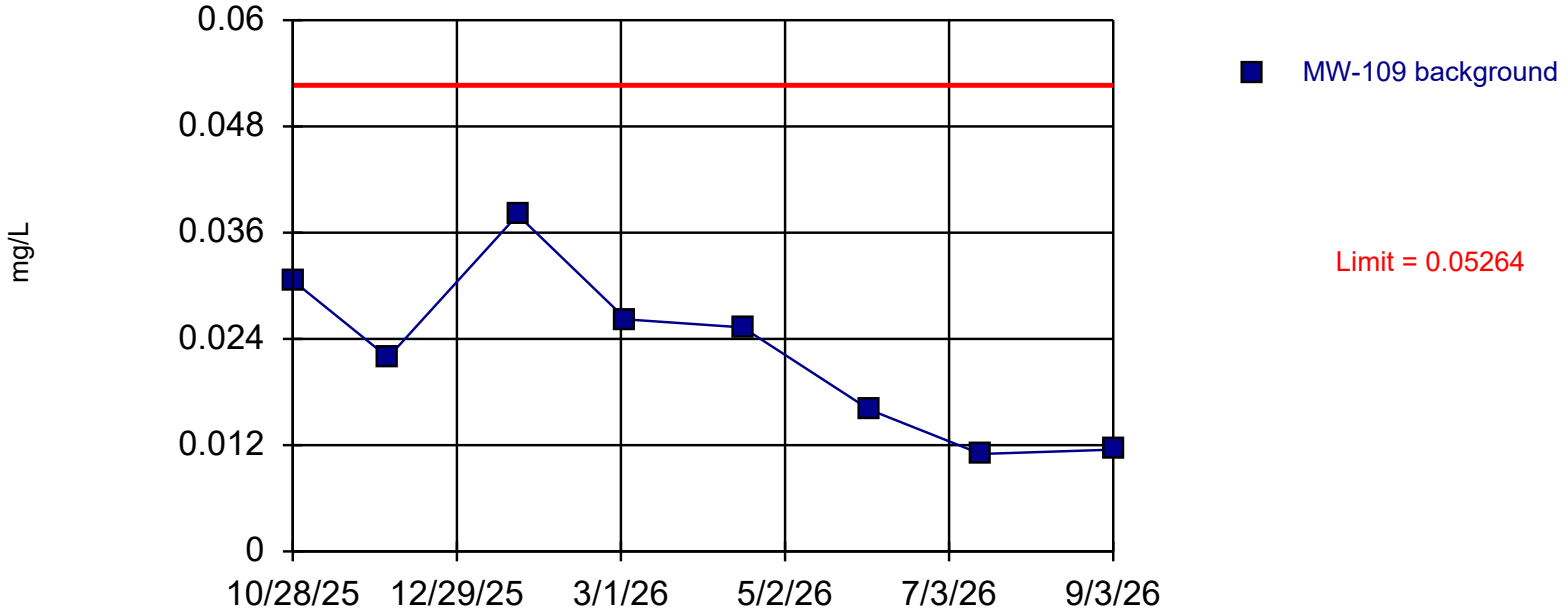
Constituent: Beryllium Analysis Run 10/16/2026 2:39 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

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Tolerance Limit

Intrawell Parametric, MW-109 (bg)



95% coverage. Background Data Summary: Mean=0.02256, Std. Dev.=0.009436, n=8. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9516, critical = 0.818. Report alpha = 0.05.

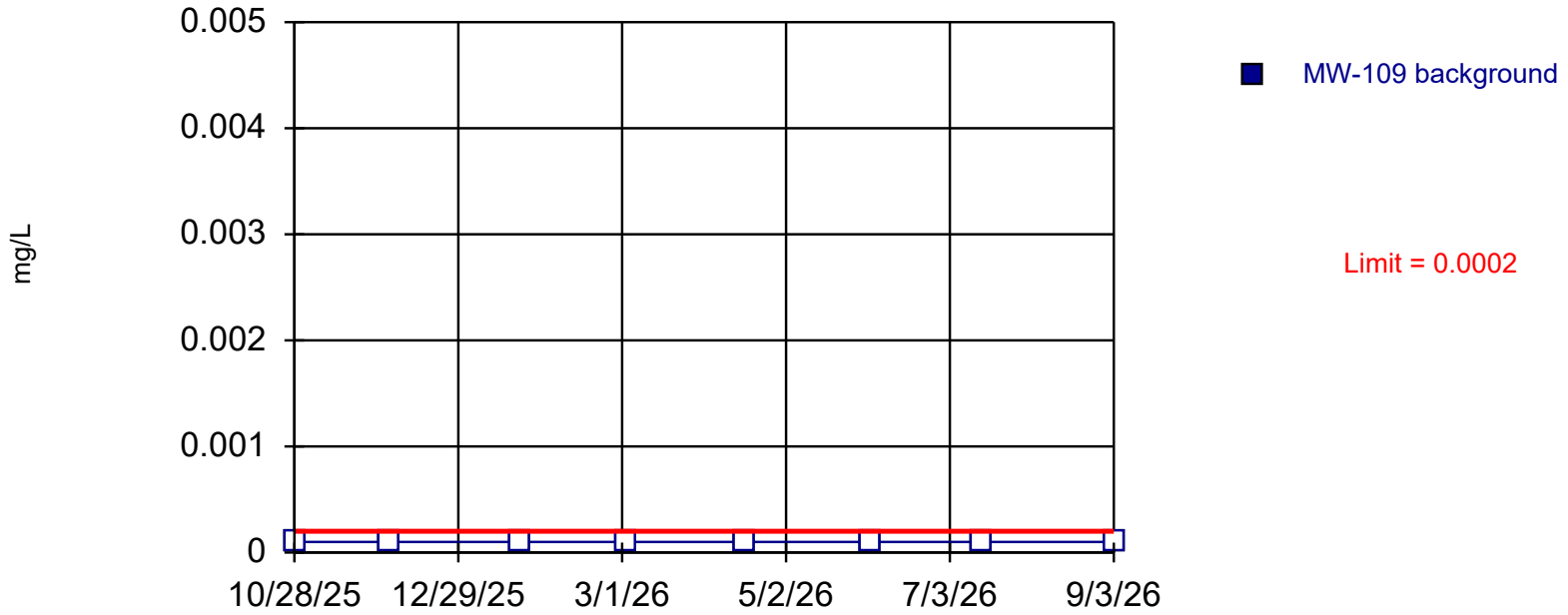
Constituent: Boron Analysis Run 10/16/2026 2:19 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

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Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-109 (bg)



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 8) were censored; limit is most recent reporting limit. Report alpha = 0.1111. Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

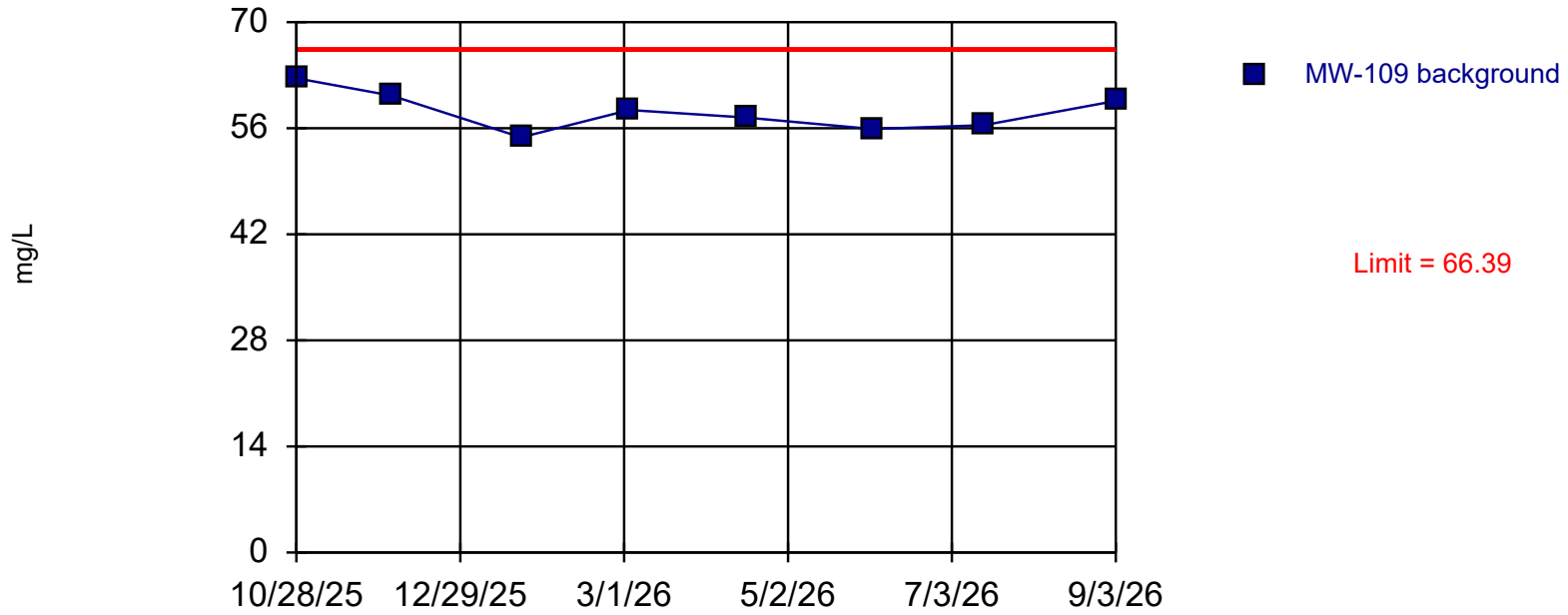
Constituent: Cadmium Analysis Run 10/16/2026 2:39 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

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Tolerance Limit

Intrawell Parametric, MW-109 (bg)



95% coverage. Background Data Summary: Mean=58.18, Std. Dev.=2.577, n=8. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9732, critical = 0.818. Report alpha = 0.05.

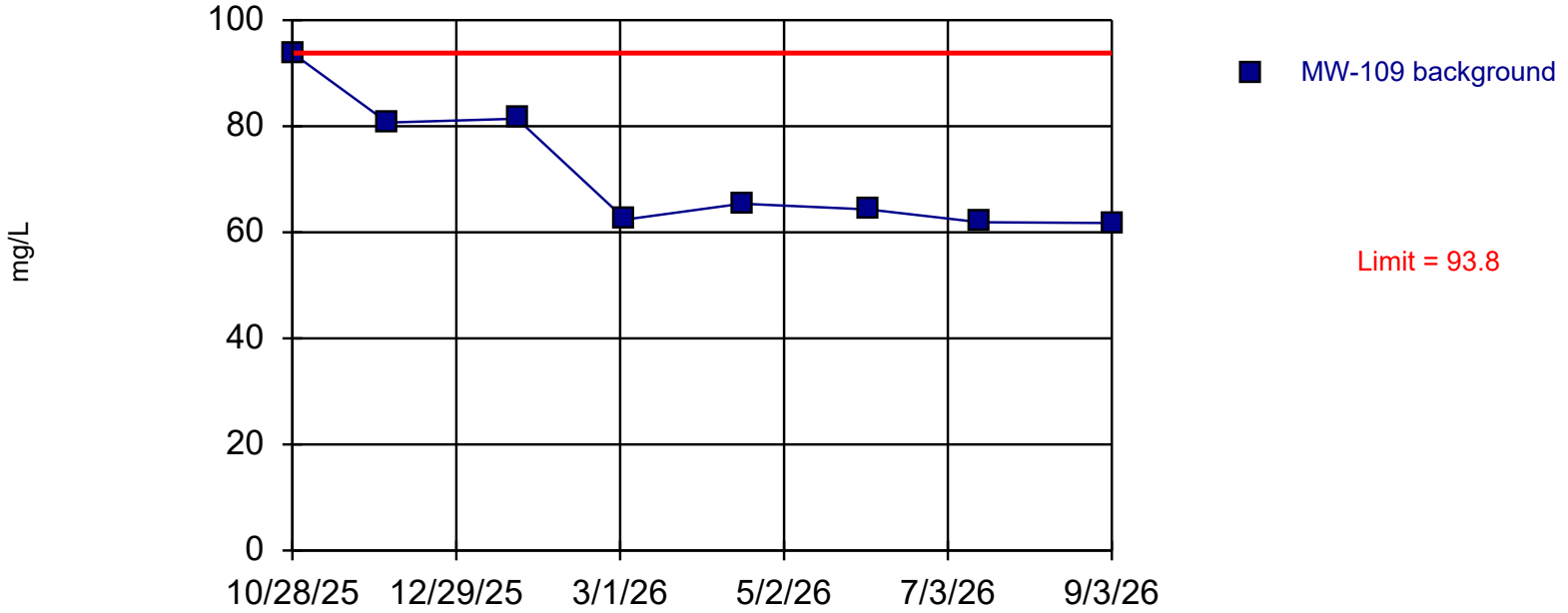
Constituent: Calcium Analysis Run 10/16/2026 2:19 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

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Prediction Limit

Intrawell Non-parametric, MW-109 (bg)



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 8 background values. Report alpha = 0.1111. Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

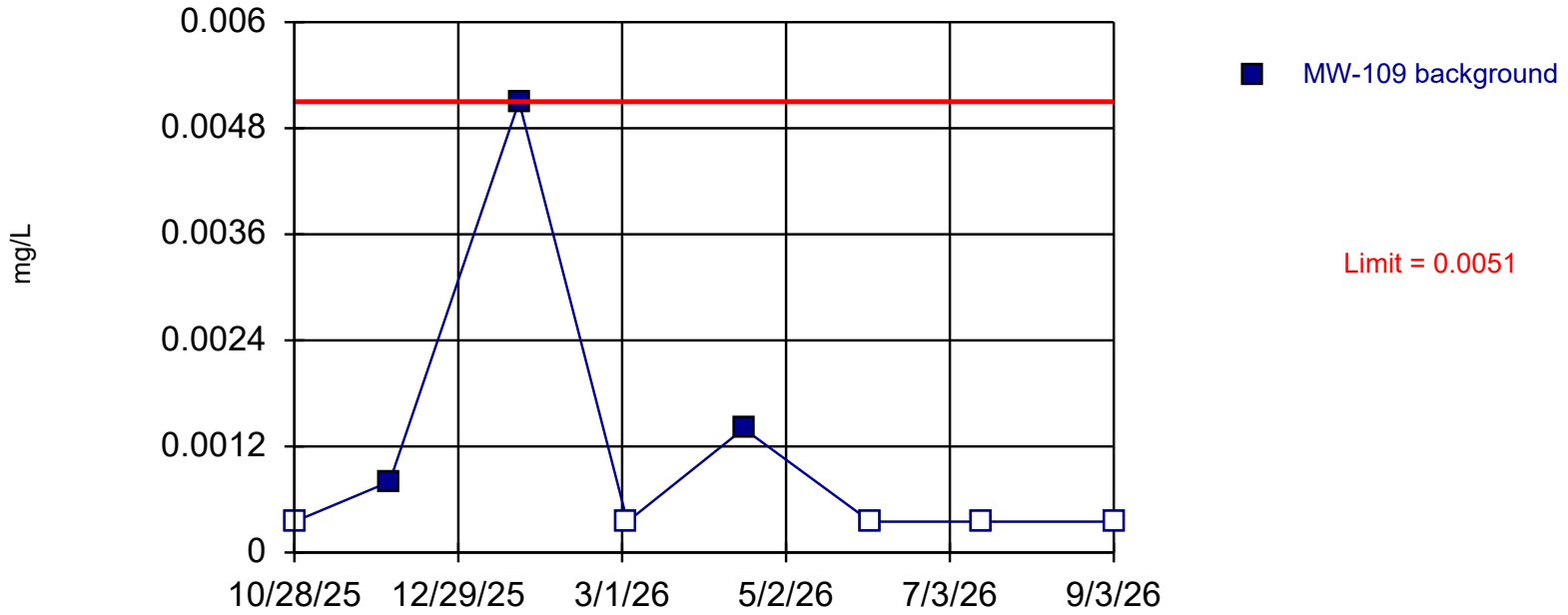
Constituent: Chloride Analysis Run 10/16/2026 2:35 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

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Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-109 (bg)



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 62.5% NDs. Report alpha = 0.1111. Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

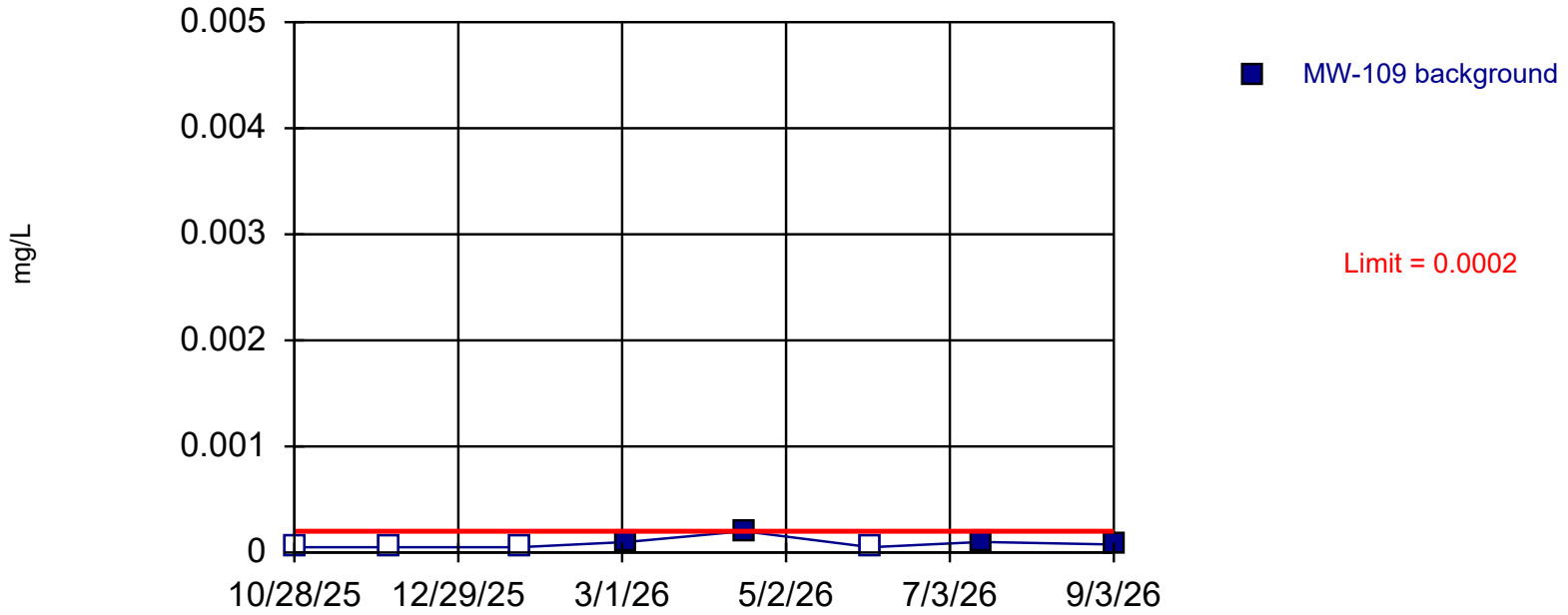
Constituent: Chromium Analysis Run 10/16/2026 2:39 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

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Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-109 (bg)



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 8 background values. 50% NDs. Report alpha = 0.1111. Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

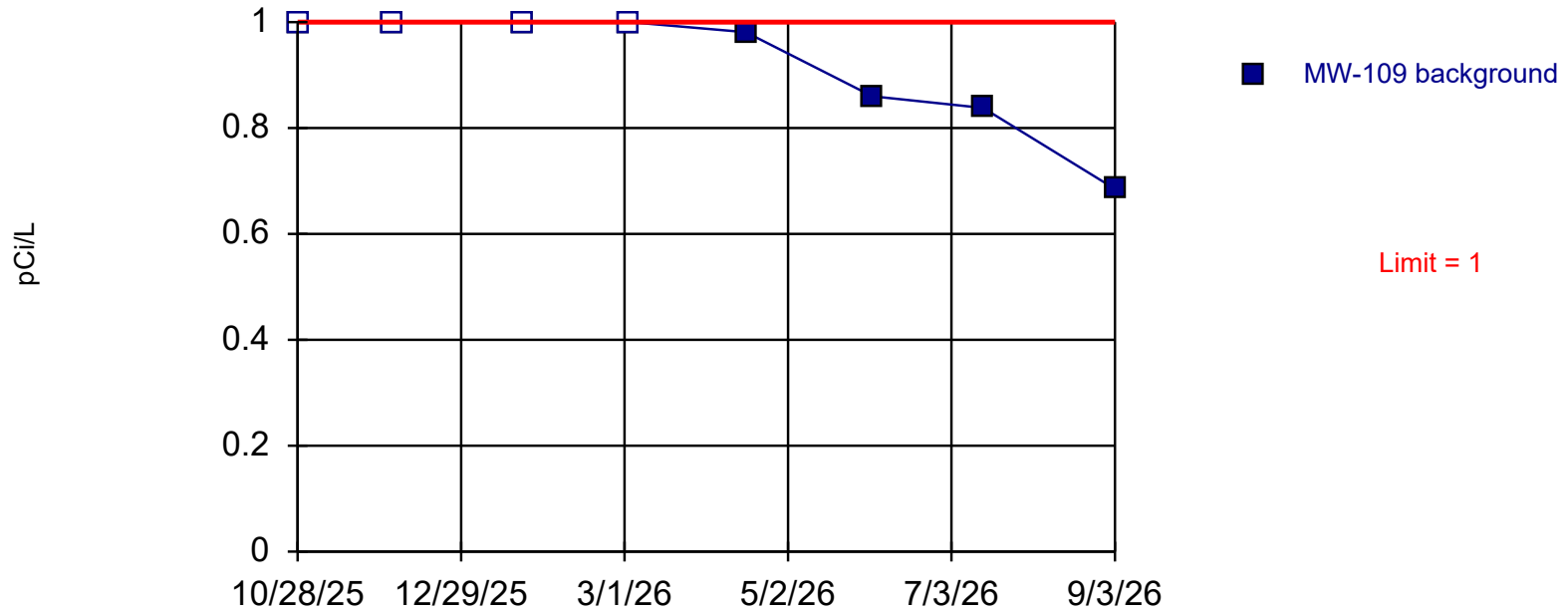
Constituent: Cobalt Analysis Run 10/16/2026 2:39 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

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Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-109 (bg)



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 8 background values. 50% NDs. Report alpha = 0.1111. Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

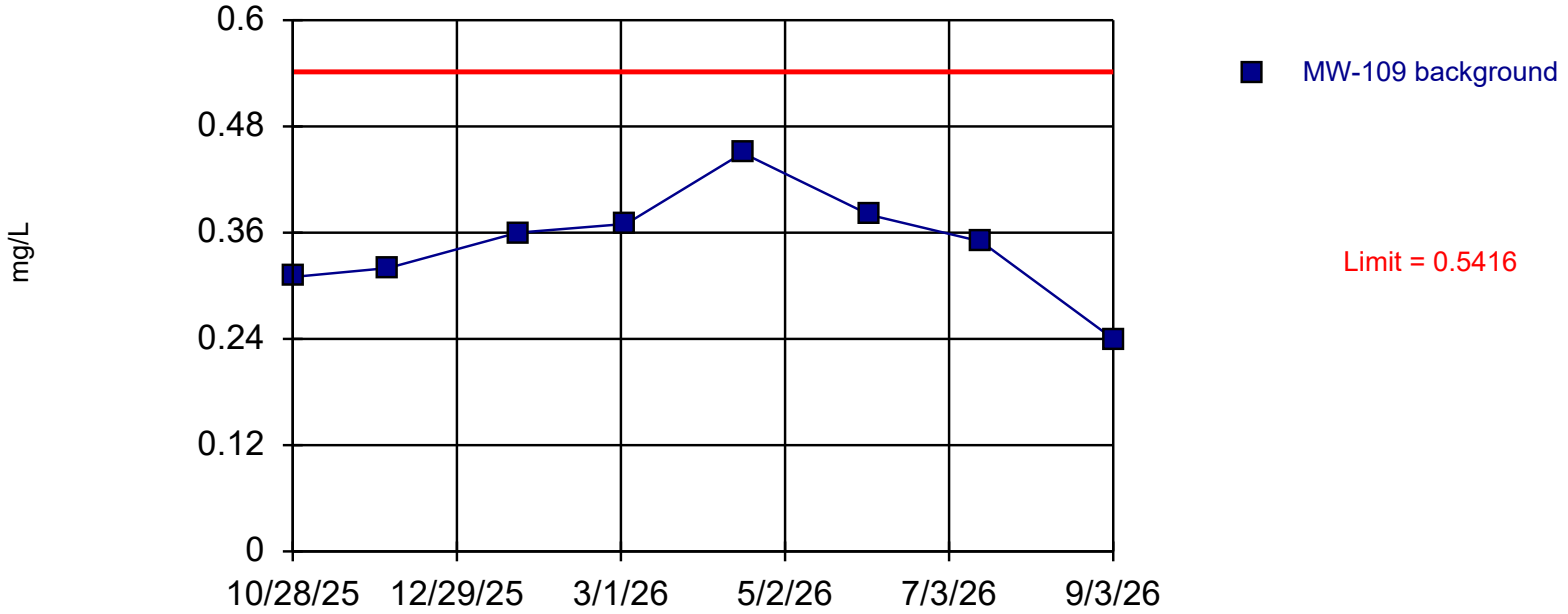
Constituent: Combined Radium Analysis Run 10/30/2026 1:30 PM View: Pond 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

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Tolerance Limit

Intrawell Parametric, MW-109 (bg)



95% coverage. Background Data Summary: Mean=0.3475, Std. Dev.=0.06089, n=8. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9683, critical = 0.818. Report alpha = 0.05.

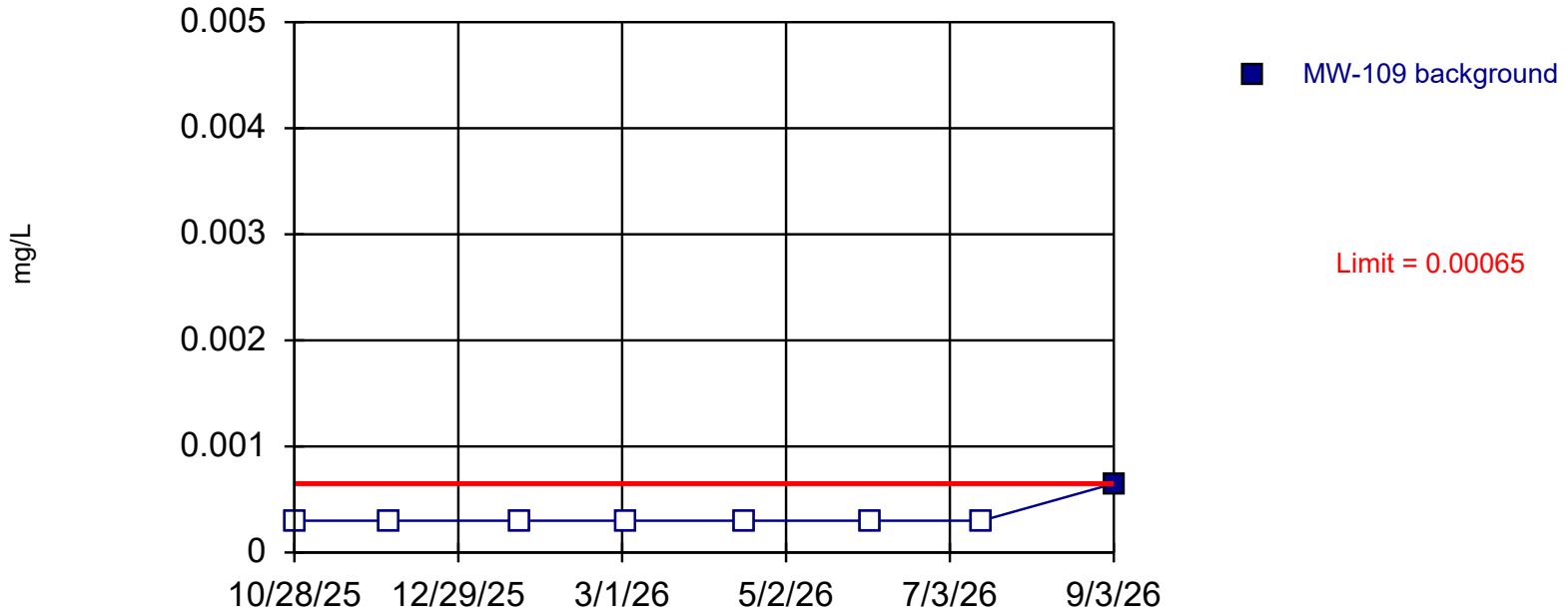
Constituent: Fluoride Analysis Run 10/16/2026 2:19 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

Sanitas™ v.10.1.08 Software licensed to WSP USA Inc. EPA
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-109 (bg)



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 87.5% NDs. Report alpha = 0.1111. Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

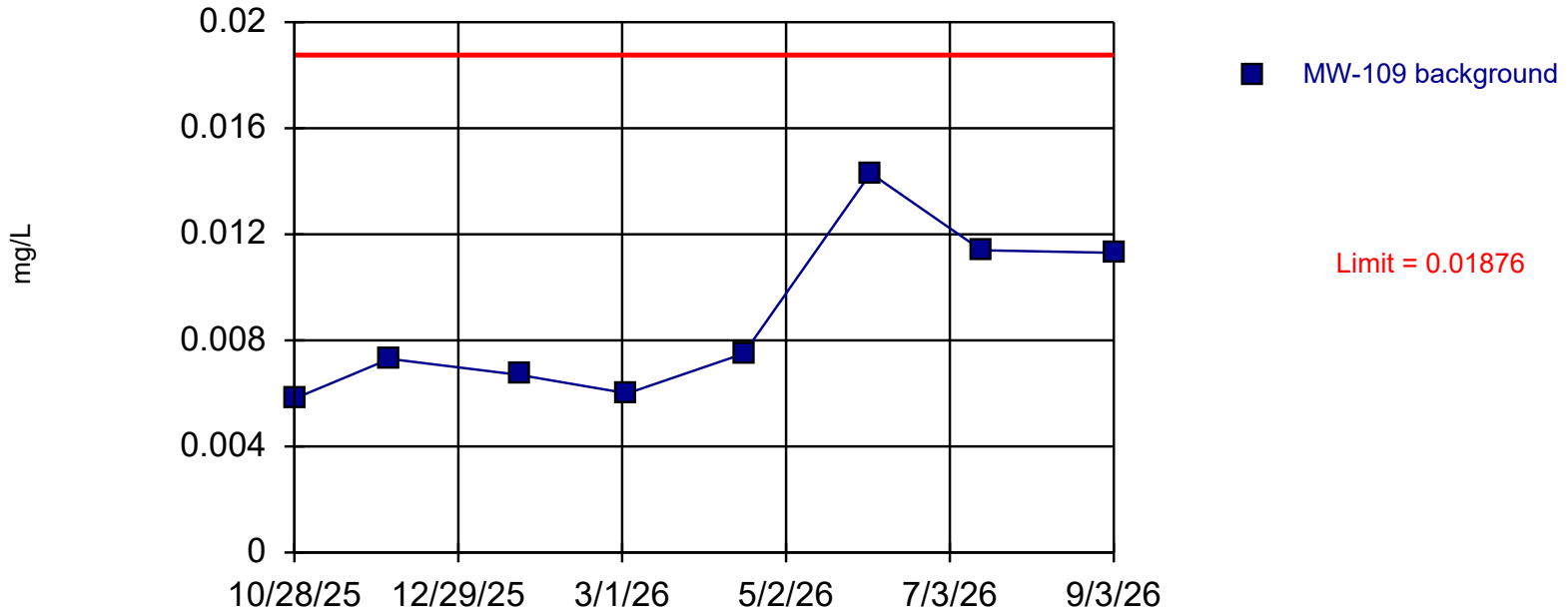
Constituent: Lead Analysis Run 10/16/2026 2:39 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

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Tolerance Limit

Intrawell Parametric, MW-109 (bg)



95% coverage. Background Data Summary: Mean=0.008788, Std. Dev.=0.003127, n=8. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8585, critical = 0.818. Report alpha = 0.05.

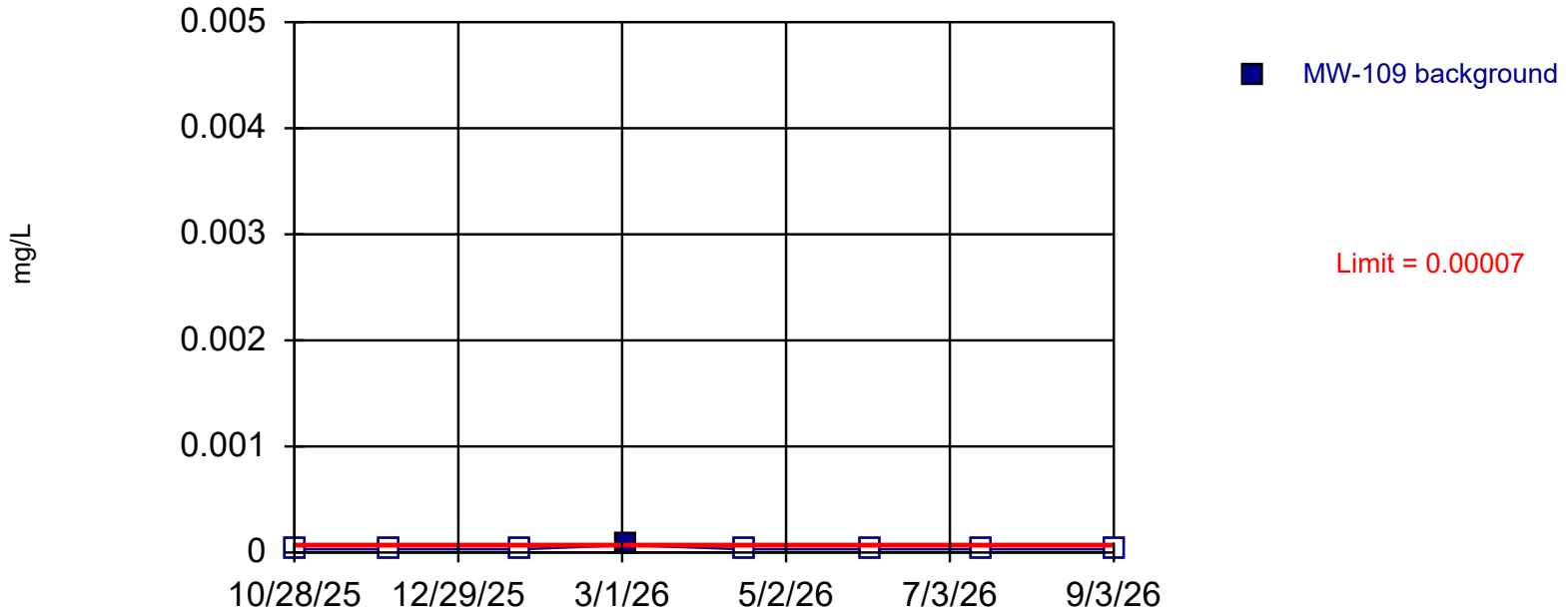
Constituent: Lithium Analysis Run 10/16/2026 2:19 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

Sanitas™ v.10.1.08 Software licensed to WSP USA Inc. EPA
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-109 (bg)



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 87.5% NDs. Report alpha = 0.1111. Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

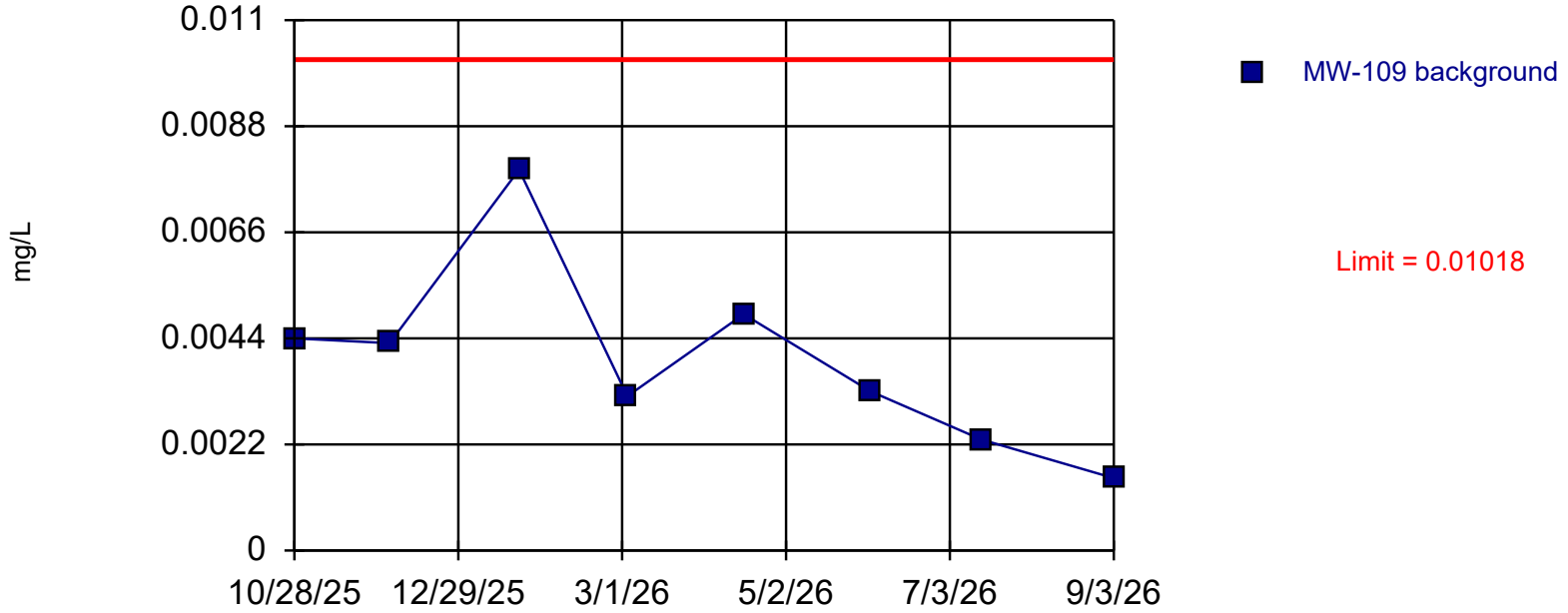
Constituent: Mercury Analysis Run 10/16/2026 2:39 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

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Tolerance Limit

Intrawell Parametric, MW-109 (bg)



95% coverage. Background Data Summary: Mean=0.003975, Std. Dev.=0.001947, n=8. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9276, critical = 0.818. Report alpha = 0.05.

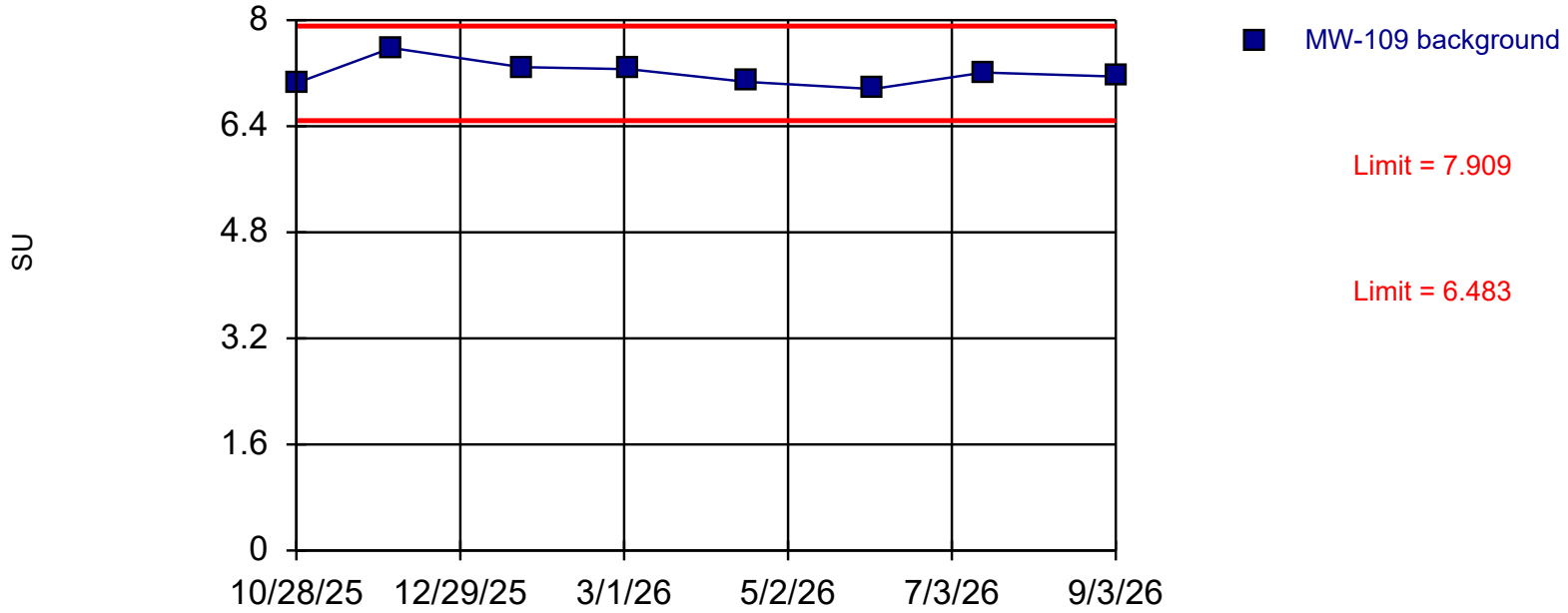
Constituent: Molybdenum Analysis Run 10/16/2026 2:19 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

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Tolerance Limit

Intrawell Parametric, MW-109 (bg)



95% coverage. Background Data Summary: Mean=7.196, Std. Dev.=0.1911, n=8. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9304, critical = 0.818. Report alpha = 0.025 per tail.

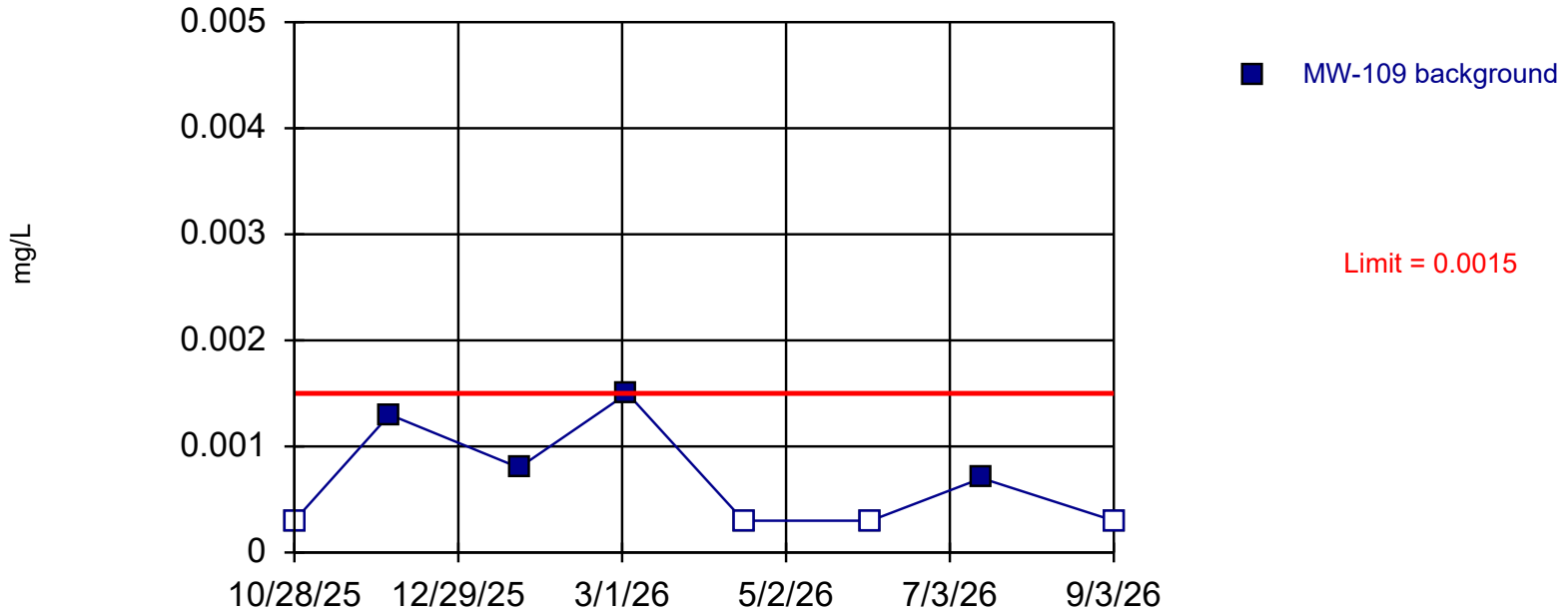
Constituent: pH Analysis Run 10/16/2026 2:19 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

Sanitas™ v.10.1.08 Software licensed to WSP USA Inc. EPA
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-109 (bg)



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 8 background values. 50% NDs. Report alpha = 0.1111. Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

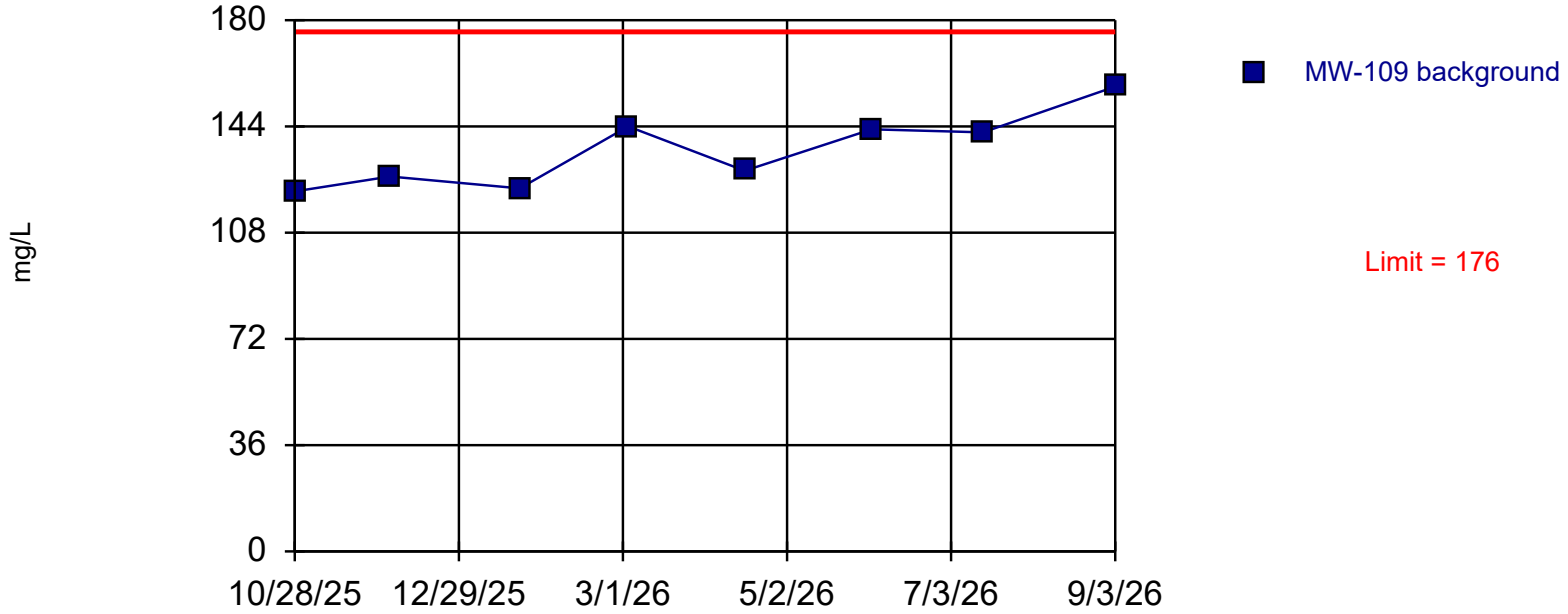
Constituent: Selenium Analysis Run 10/16/2026 2:39 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

Sanitas™ v.10.1.08 Software licensed to WSP USA Inc. EPA

Tolerance Limit

Intrawell Parametric, MW-109 (bg)



95% coverage. Background Data Summary: Mean=135.9, Std. Dev.=12.57, n=8. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9054, critical = 0.818. Report alpha = 0.05.

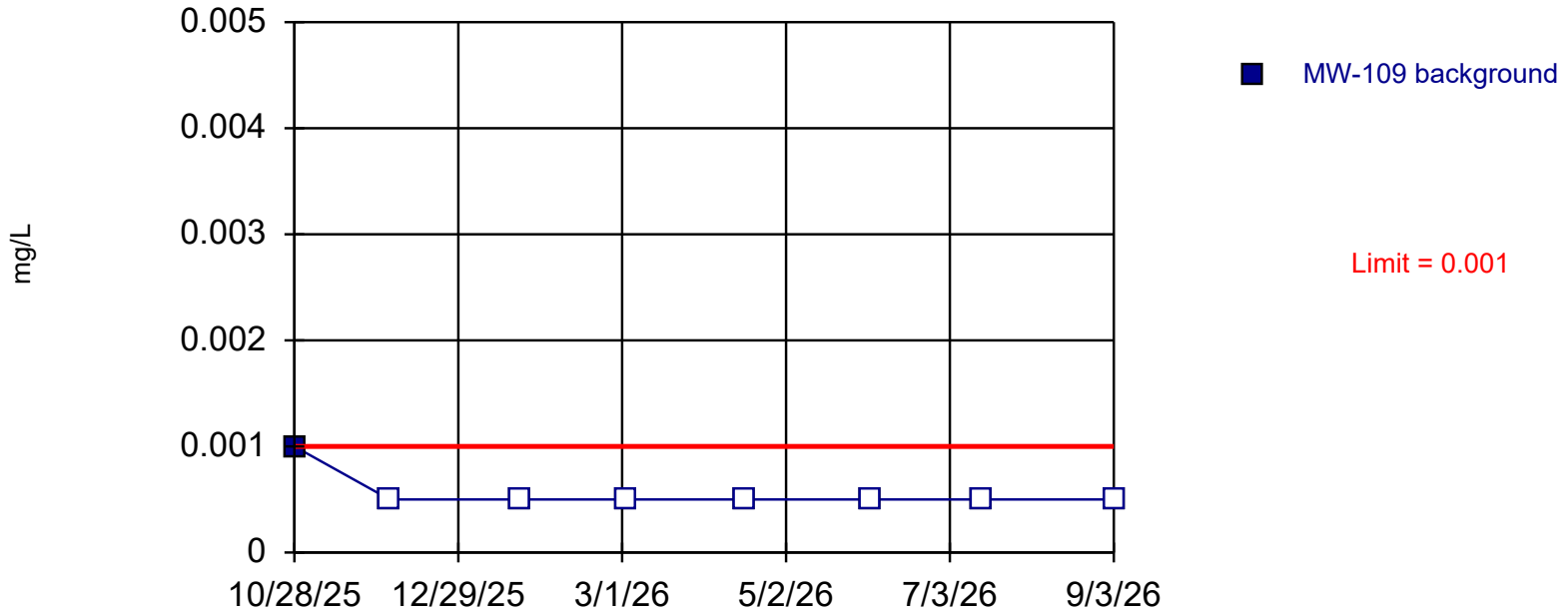
Constituent: Sulfate Analysis Run 10/16/2026 2:19 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

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Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-109 (bg)



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 87.5% NDs. Report alpha = 0.1111. Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

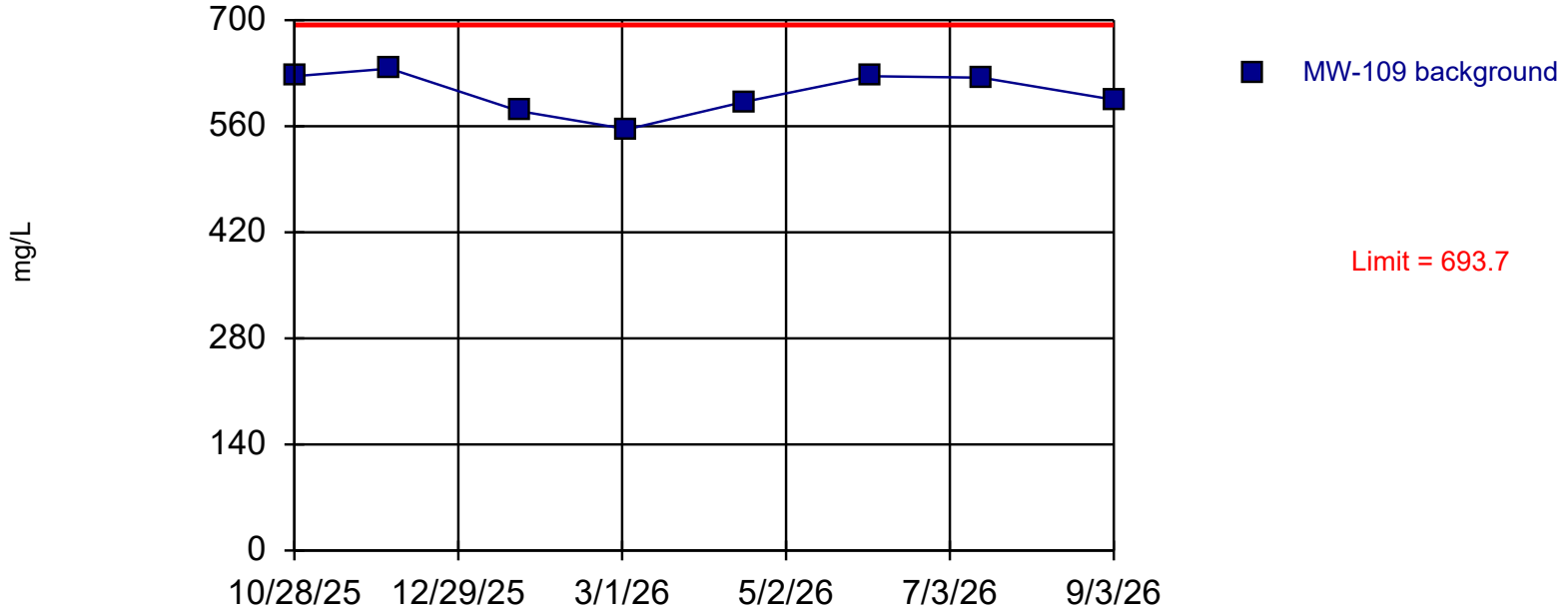
Constituent: Thallium Analysis Run 10/16/2026 2:39 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

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Tolerance Limit

Intrawell Parametric, MW-109 (bg)



95% coverage. Background Data Summary: Mean=604.4, Std. Dev.=28.02, n=8. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.905, critical = 0.818. Report alpha = 0.05.

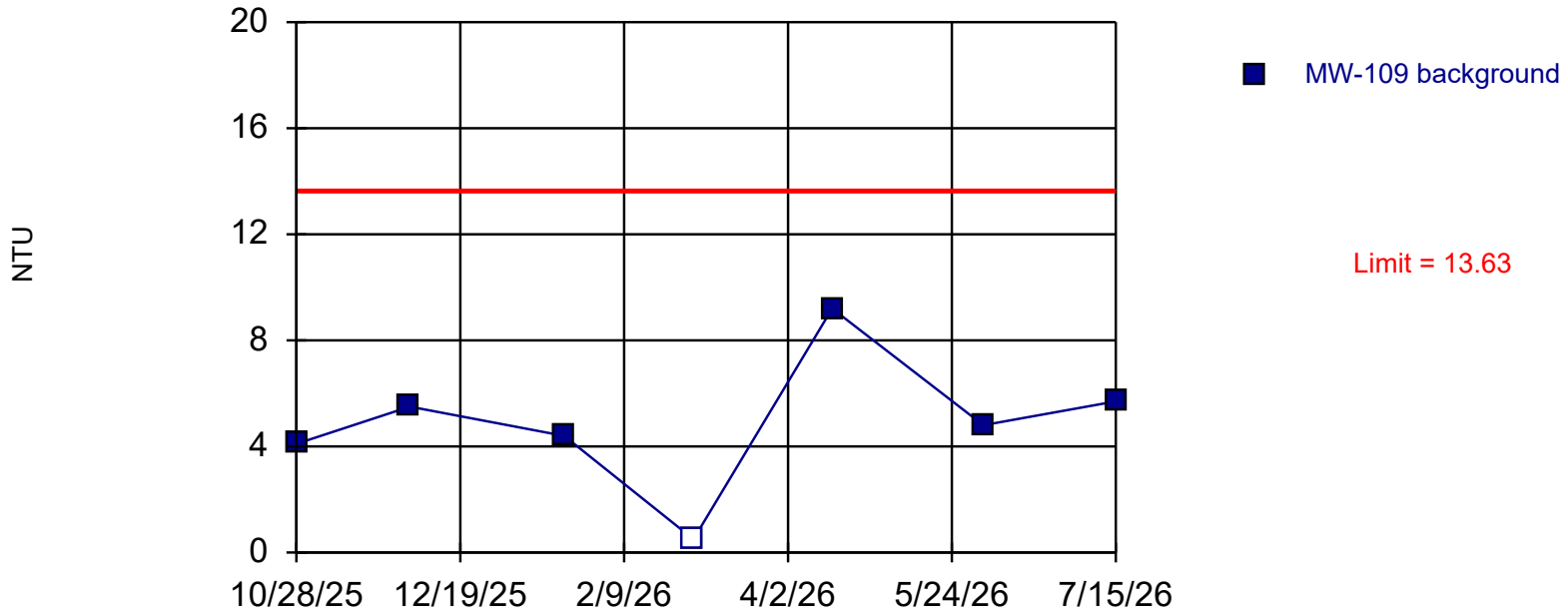
Constituent: Total Dissolved Solids Analysis Run 10/16/2026 2:19 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

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Hollow symbols indicate censored values.

Tolerance Limit

Intrawell Parametric, MW-109 (bg)



95% coverage. Background Data Summary: Mean=4.886, Std. Dev.=2.574, n=7, 14.29% NDs. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9244, critical = 0.803. Report alpha = 0.05.

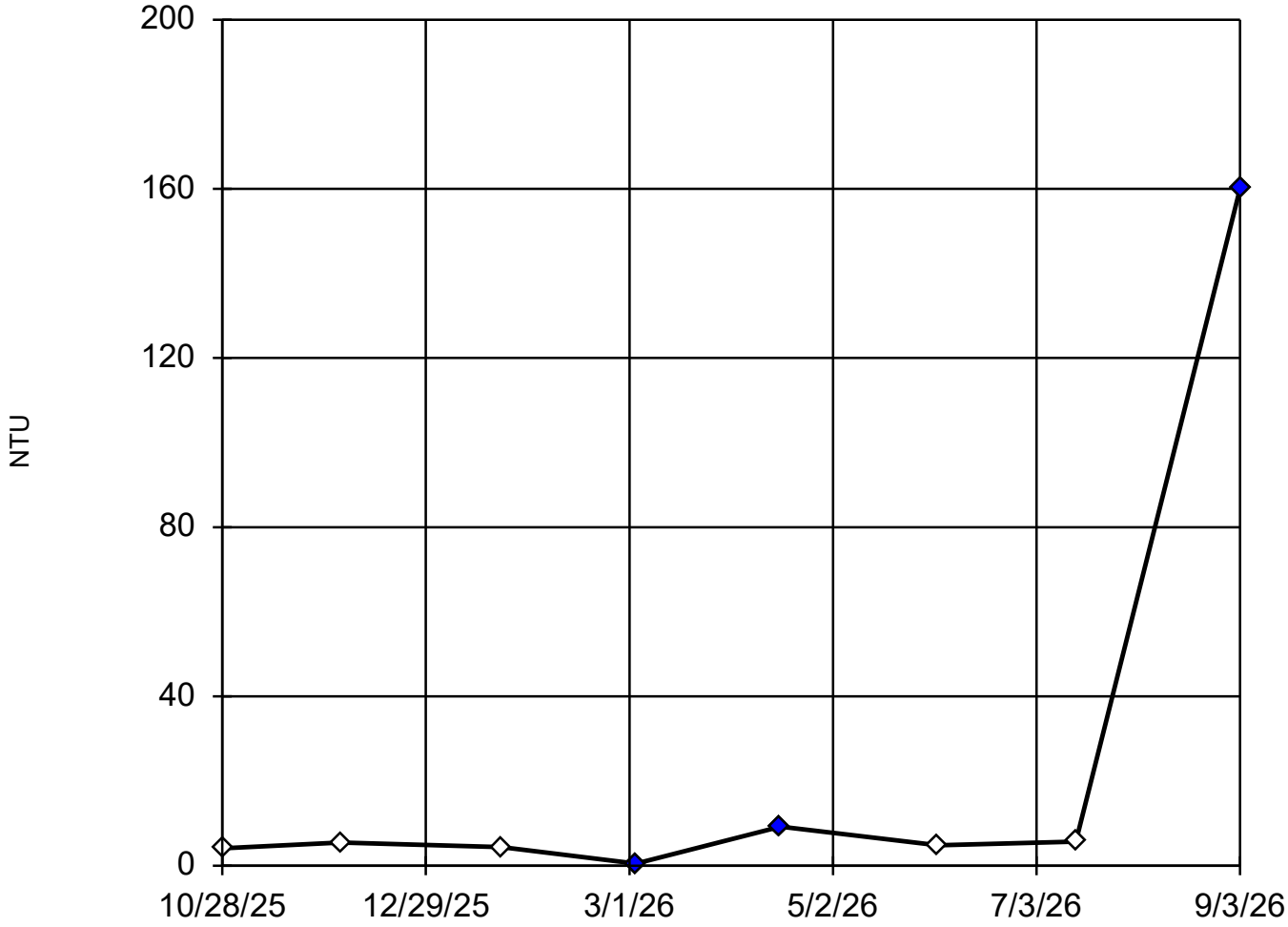
Constituent: Turbidity Analysis Run 10/16/2026 2:19 PM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database (2)

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EPA 1989 Outlier Screening

MW-109 (bg)



n = 8

Statistical outliers are drawn as solid.
Mean 24.28, std. dev. 54.89, critical Tn 2.032. After removing suspect data: mean 4.886, std. dev. 2.574, Tn 1.938; mean 5.617, std. dev. 1.861, Tn 1.822; mean 4.9, std. dev. 0.6892, Tn 1.672.

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9293
Critical = 0.762
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Turbidity Analysis Run 10/16/2026 8:54 AM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database

Outlier Analysis

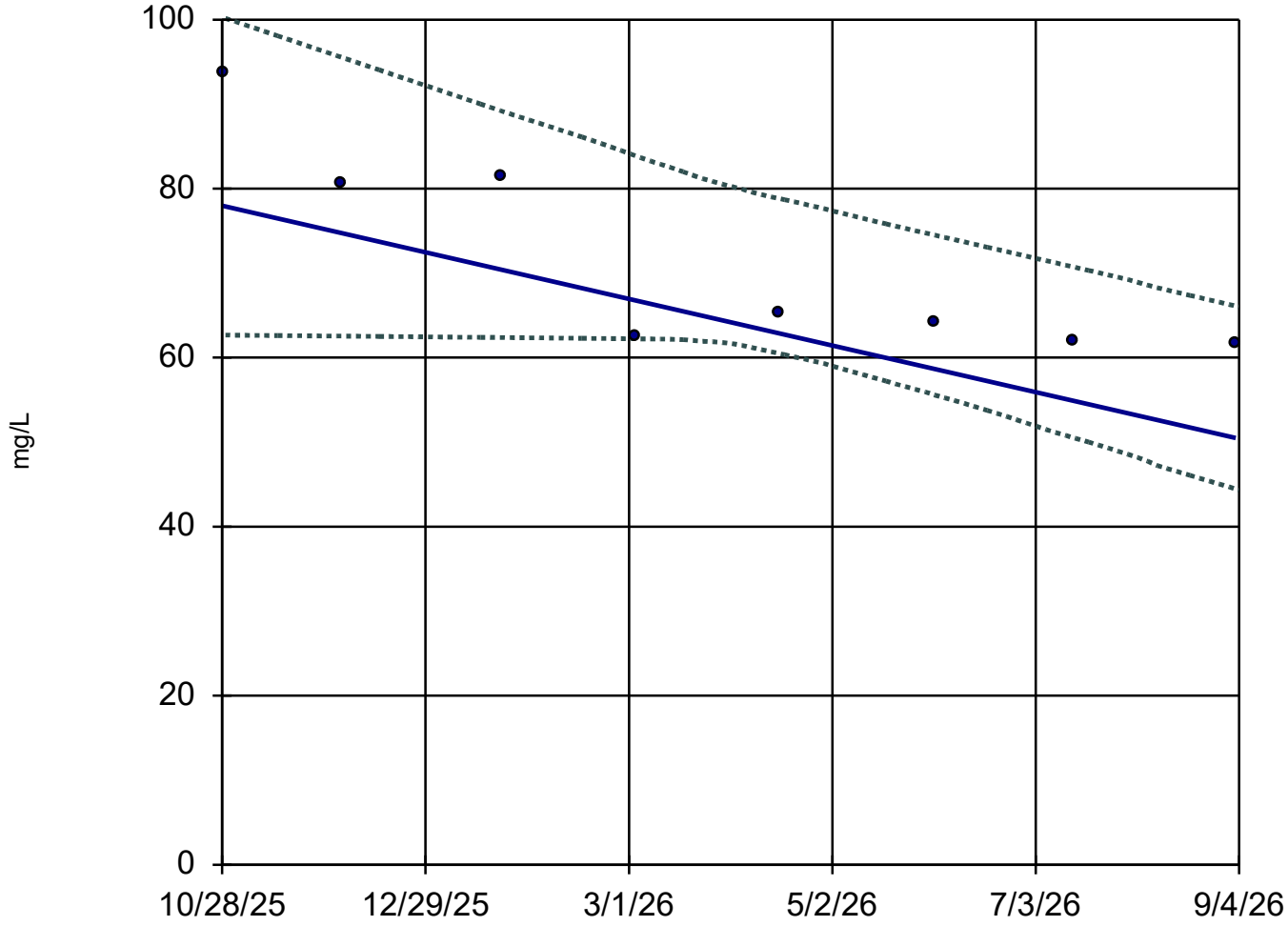
Marion Power Plant Client: SIPC Data: SIPC Statistical Database Printed 10/16/2026, 8:55 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Antimony (mg/L)	MW-109 (bg)	n/a	n/a	n/a	EPA 1989	0.05	8	0.000...	0.0005605	unknown	ShapiroWilk
Arsenic (mg/L)	MW-109 (bg)	n/a	n/a	n/a	EPA 1989	0.05	8	0.000225	0.0000...	unknown	ShapiroWilk
Barium (mg/L)	MW-109 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.1231	0.008248	normal	ShapiroWilk
Beryllium (mg/L)	MW-109 (bg)	n/a	n/a	n/a	EPA 1989	0.05	8	0.000...	0.0001237	unknown	ShapiroWilk
Boron (mg/L)	MW-109 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.02256	0.009436	normal	ShapiroWilk
Cadmium (mg/L)	MW-109 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.0001	0	unknown	ShapiroWilk
Calcium (mg/L)	MW-109 (bg)	No	n/a	n/a	EPA 1989	0.05	8	58.18	2.577	normal	ShapiroWilk
Chloride (mg/L)	MW-109 (bg)	No	n/a	n/a	EPA 1989	0.05	8	71.46	12.18	unknown	ShapiroWilk
Chromium (mg/L)	MW-109 (bg)	n/a	n/a	n/a	EPA 1989	0.05	8	0.001131	0.001647	unknown	ShapiroWilk
Cobalt (mg/L)	MW-109 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.000...	0.0000...	unknown	ShapiroWilk
Combined Radium (pCi/L)	MW-109 (bg)	n/a	n/a	n/a	EPA 1989	0.05	8	1.11	0.5729	unknown	ShapiroWilk
Fluoride (mg/L)	MW-109 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.3475	0.06089	normal	ShapiroWilk
Lead (mg/L)	MW-109 (bg)	n/a	n/a	n/a	EPA 1989	0.05	8	0.000...	0.0001237	unknown	ShapiroWilk
Lithium (mg/L)	MW-109 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.008788	0.003127	normal	ShapiroWilk
Mercury (mg/L)	MW-109 (bg)	n/a	n/a	n/a	EPA 1989	0.05	8	0.000035	0.0000...	unknown	ShapiroWilk
Molybdenum (mg/L)	MW-109 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.003975	0.001947	normal	ShapiroWilk
pH (SU)	MW-109 (bg)	No	n/a	n/a	EPA 1989	0.05	8	7.196	0.1911	normal	ShapiroWilk
Radium 226 (pCi/L)	MW-109 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.3887	0.1231	unknown	ShapiroWilk
Radium 228 (pCi/L)	MW-109 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.5248	0.132	normal	ShapiroWilk
Selenium (mg/L)	MW-109 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.000...	0.0004853	unknown	ShapiroWilk
Sulfate (mg/L)	MW-109 (bg)	No	n/a	n/a	EPA 1989	0.05	8	135.9	12.57	normal	ShapiroWilk
Thallium (mg/L)	MW-109 (bg)	n/a	n/a	n/a	EPA 1989	0.05	8	0.000...	0.0001768	unknown	ShapiroWilk
Total Dissolved Solids (mg/L)	MW-109 (bg)	No	n/a	n/a	EPA 1989	0.05	8	604.4	28.02	normal	ShapiroWilk
Turbidity (NTU)	**MW-109 (bg)**	**Yes**	**160,0.5,9.2**	**9/3/2026,...**	**EPA 1989**	**0.05**	**8**	**24.28**	**54.89**	**normal**	**ShapiroWilk**

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Sen's Slope and 95% Confidence Band

MW-109 (bg)



n = 8

Slope = -32.38 units per year.

Mann-Kendall statistic = -22
critical = -20

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

Constituent: Chloride Analysis Run 10/16/2026 8:52 AM View: Ponds 1 and 2

Marion Power Plant Client: SIPC Data: SIPC Statistical Database

Trend Test

Marion Power Plant Client: SIPC Data: SIPC Statistical Database Printed 10/16/2026, 8:52 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Antimony (mg/L)	MW-109 (bg)	0	-5	-20	No	8	75	n/a	n/a	0.02	NP
Arsenic (mg/L)	MW-109 (bg)	0	7	20	No	8	87.5	n/a	n/a	0.02	NP
Barium (mg/L)	MW-109 (bg)	0.00206	4	20	No	8	0	n/a	n/a	0.02	NP
Beryllium (mg/L)	MW-109 (bg)	0	7	20	No	8	87.5	n/a	n/a	0.02	NP
Boron (mg/L)	MW-109 (bg)	-0.02598	-18	-20	No	8	0	n/a	n/a	0.02	NP
Cadmium (mg/L)	MW-109 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP
Calcium (mg/L)	MW-109 (bg)	-5.901	-8	-20	No	8	0	n/a	n/a	0.02	NP
Chloride (mg/L)	**MW-109 (bg)**	**-32.38**	**-22**	**-20**	**Yes**	**8**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Chromium (mg/L)	MW-109 (bg)	0	-6	-20	No	8	62.5	n/a	n/a	0.02	NP
Cobalt (mg/L)	MW-109 (bg)	0.000...	9	20	No	8	50	n/a	n/a	0.02	NP
Combined Radium (pCi/L)	MW-109 (bg)	-0.2724	-14	-20	No	8	62.5	n/a	n/a	0.02	NP
Fluoride (mg/L)	MW-109 (bg)	0.05189	4	20	No	8	0	n/a	n/a	0.02	NP
Lead (mg/L)	MW-109 (bg)	0	7	20	No	8	87.5	n/a	n/a	0.02	NP
Lithium (mg/L)	MW-109 (bg)	0.007072	16	20	No	8	0	n/a	n/a	0.02	NP
Mercury (mg/L)	MW-109 (bg)	0	-1	-20	No	8	87.5	n/a	n/a	0.02	NP
Molybdenum (mg/L)	MW-109 (bg)	-0.00...	-16	-20	No	8	0	n/a	n/a	0.02	NP
pH (SU)	MW-109 (bg)	-0.2227	-8	-20	No	8	0	n/a	n/a	0.02	NP
Radium 226 (pCi/L)	MW-109 (bg)	0	-4	-20	No	8	75	n/a	n/a	0.02	NP
Radium 228 (pCi/L)	MW-109 (bg)	0	1	20	No	8	62.5	n/a	n/a	0.02	NP
Selenium (mg/L)	MW-109 (bg)	-0.00...	-6	-20	No	8	50	n/a	n/a	0.02	NP
Sulfate (mg/L)	MW-109 (bg)	37.39	18	20	No	8	0	n/a	n/a	0.02	NP
Thallium (mg/L)	MW-109 (bg)	0	-7	-20	No	8	87.5	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	MW-109 (bg)	-10.09	-3	-20	No	8	0	n/a	n/a	0.02	NP
Turbidity (NTU)	MW-109 (bg)	8.95	14	20	No	8	12.5	n/a	n/a	0.02	NP

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Appendix I Preliminary Closure Plan

Southern Illinois Power Cooperative

Preliminary Closure Plan – Pond 1/2

November 02, 2026

US-WSP-GLA21467997.4465

Document distribution

Southern Illinois Power Cooperative

Preliminary Written Closure Plan – Pond 1/2

November 02, 2026

Prepared for

Southern Illinois Power Cooperative
11543 Lake of Egypt Road
Marion, IL 62959

Submitted to

Illinois Environmental Protection Agency

Prepared by

WSP
10 Al Paul Lane
Suite 103
Merrimack, NH 03054
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Qualified Professional Engineer Certification

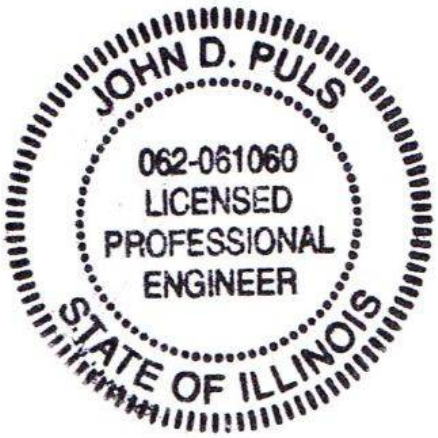
I certify that this Preliminary Written Closure Plan has been prepared consistent with recognized and generally accepted engineering practices and is structured to meet the applicable requirements of 35 Ill. Adm. Code Part 845, including Section 845.720(a).

Qualified Professional Engineer: John Puls

Illinois P.E. License No.: 062.061060

Signature: _____

Date: November 2, 2026



1. Introduction

1.1 Facility information

Southern Illinois Power Cooperative (SIPC) owns and operates the Marion Plant at 11543 Lake of Egypt Road, Marion, Illinois 62959. Pond 1/2 are located north of the generating facility and south of the former CCR landfill as shown on Figure 1 – Site Location Map. Pond 1/2 are incised, and the approximate combined unit limits are shown on Figure 2 – Existing Conditions. This Preliminary Written Closure Plan (Plan) is prepared for the Pond 1/2 coal combustion residual (CCR) surface impoundment to meet requirement 35 Illinois Administrative Code (IAC) 845.230(d)(J) of the Initial Operating Permit Application. It describes the steps necessary to close the combined CCR surface impoundment by removal under Section 845.740. This preliminary plan is distinct from the final closure plan and construction permit application required under Section 845.720(b).

1.2 CCR unit description

Pond 1 and Pond 2 were constructed in 1979 as separate impoundments. According to SIPC, Pond 1 had a reported historical capacity of approximately 9 acre-feet and Pond 2 had a reported historical capacity of approximately 15 acre-feet, for a combined nominal capacity of approximately 24 acre-feet. These values represent volume, not surface area or maximum CCR inventory. The separating berm was removed in 2020, and the two areas are currently addressed as one CCR surface impoundment. Historically, bottom ash from Units 1, 2, 3, and 4 was sluiced to the ponds and recovered for off-site beneficial reuse. Ponds 1/2 is inactive, incised, and CCR was reportedly removed by SIPC in 2021.

1.3 Purpose and scope

The purpose of this Plan is to document the preliminary closure-by-removal approach, including verification of completed CCR removal work, additional CCR removal that may be required, maximum CCR inventory, unit area, closure sequencing, schedule, plan administration, and professional engineer certification.

1.4 Basis and limitations

The closure approach is preliminary and will be refined using additional survey data, excavation documentation, groundwater monitoring results, site inspection findings, and Illinois Environmental Protection Agency (IEPA) review. A final closure plan and closure construction permit application will identify the final selected method and CCR removal verification procedures.

2. Preliminary closure by removal

2.1 Narrative description and basis for closure method [845.720(a)(1)(A)]

The preliminary closure method for Pond 1/2 is closure by removal in accordance with 35 IAC 845.740. According to SIPC, the ponds were previously dewatered, CCR was excavated from the pond areas, and the berm formerly separating Pond 1/2 was removed. However, the quantities removed, excavation limits, and resulting conditions have not been fully documented or verified.

Closure by removal is the preliminary anticipated method because Pond 1/2 are inactive and CCR was reportedly removed from the unit. The final closure plan and closure construction permit application will further evaluate available historical documentation, current site conditions, recent survey information, groundwater monitoring results, and confirmation-investigation findings. These documents will establish the final closure procedures, drawings, specifications, confirmation criteria, material-management requirements, and schedule.

Closure with CCR remaining in place and construction of a final cover system are not proposed. If the confirmation investigation identifies remaining CCR that must be removed or decontaminated to satisfy Section 845.740, the Agency-approved final closure plan will govern supplemental removal and associated restoration.

2.2 Closure-by-removal procedures [845.720(a)(1)(B) and 845.740]

Closure activities are anticipated to include review and documentation of the prior removal work; management of accumulated water; investigation of the pond bottoms and side slopes, removal or decontamination of remaining CCR and associated materials, as required; confirmation that the closure-by-removal standard has been achieved; final grading and restoration; and preparation of closure documentation. The specific procedures and acceptance criteria will be established in the final closure plan and closure construction permit application.

Section 845.720(a)(1)(C) – Closure-in-Place is not applicable given that closure by removal is the proposed closure method.

2.2.1 Dewatering and water management

Available documentation regarding historical pond dewatering and water management will be reviewed during final closure planning. Accumulated water is anticipated to be pumped to adjacent Pond 4, subject to confirmation that the transfer is authorized under applicable facility permits and discharge requirements. Pond 1/2 will be dewatered and maintained in a dewatered condition, to the extent

practicable, during investigation, excavation, confirmation, and restoration activities. Stormwater, seepage, and other water entering the work area will be managed in accordance with the approved closure design and applicable permit requirements.

2.2.2 Verification of prior removal

Available historical records, surveys, field observations, and other appropriate investigation methods will be evaluated to verify the extent of prior CCR removal and identify any CCR requiring removal under 35 IAC 845.740. The final closure plan will establish the investigation and confirmation methods and criteria necessary to demonstrate completion of closure by removal.

2.2.3 Supplemental CCR removal and material management

CCR or other material identified for removal under the Agency-approved final closure plan will be excavated from the applicable pond bottoms and side slopes. Excavation will continue until the approved removal or decontamination criteria are satisfied. Figure 3 – Conceptual Closure Plan provides the preliminary excavation grades for verifying CCR removal after the ponds are dewatered.

Excavated material will be characterized, transported, and managed at authorized disposal facilities or otherwise handled in accordance with applicable regulatory requirements. Temporary stabilization may be used only as necessary to support safe excavation, dewatering, handling, or transportation.

2.2.4 Final grading, drainage, and site restoration

After completion and confirmation of any required supplemental removal, disturbed areas will be graded to provide stable slopes. Temporary erosion and sediment controls will be maintained during construction. Permanent stormwater conveyances, outlets, erosion protection, restoration soils, and vegetation will be established in accordance with the final design and applicable permit requirements.

A final cover system is not proposed because closure is intended to be completed by removal.

2.2.5 Construction quality assurance and closure documentation

Construction quality assurance will address excavation limits, CCR removal confirmation, material characterization and disposition, restoration grades, drainage improvements, erosion controls, and completion of the approved closure design.

Closure documentation will include, as applicable, historical removal records, field and construction quality assurance records, sampling and laboratory reports, material disposition records, dated and located photographs, surveys, record drawings, and a closure report. Completion of closure will be certified by a qualified professional engineer in accordance with the applicable requirements of 35 IAC 845.

3. Maximum CCR inventory and potential final-cover area

3.1 Maximum historical CCR inventory [845.720(a)(1)(D)]

The maximum historical CCR inventory for Pond 1 and Pond 2 has not been verified. The ponds had reported nominal capacities of approximately 9 acre-feet and 15 acre-feet, respectively, for a combined nominal capacity of approximately 24 acre-feet, equivalent to approximately 38,720 cubic yards of total impoundment capacity. This total capacity is not necessarily equal to the maximum CCR inventory because the ponds also contained water and bottom ash was periodically recovered for off-site beneficial reuse.

3.2 Largest area potentially requiring final cover [845.720(a)(1)(E)]

Closure by removal is proposed for Pond 1/2, and a final cover system is not proposed. Accordingly, under the proposed closure method, the estimated largest area requiring final cover is zero acres. The approximate historical CCR unit footprint is 5.2 acres.

4. Closure schedule [845.720(a)(1)(F)]

4.1 Schedule basis and assumptions

The preliminary schedule includes IEPA coordination and public participation; Agency review of the final closure plan and closure construction permit application; record review, survey, confirmation-investigation planning, final engineering, procurement, and mobilization; management of accumulated water and stabilization, if required; confirmation investigation and supplemental removal, if required; final grading, drainage, and restoration; and preparation of closure documentation and certification. The schedule presented below is preliminary and is based on currently available information regarding permitting, site conditions, and anticipated closure activities. Activity durations and target periods will be refined after the closure scope, permitting schedule, confirmation requirements, and quantity of CCR or CCR-affected material requiring removal are further defined.

4.2 Closure schedule

Preliminary closure-by-removal milestones, durations, and target completion periods are provided in Table 1 below. The schedule is intended for planning purposes and will be updated as needed through revisions to this Plan.

Table 1 - Preliminary major project milestones and durations

Activity	Duration	Target Completion Date
Preliminary Closure Plan		November 2026
Pre-Application Public Notification and Public Meeting	30 days (prior to Construction Permit Application)	February 2027
Construction Permit Application	12 Months	March 2027
Agency coordination and permits	18 Months	September 2028
Final design and procurement	6 Months	March 2029
Mobilization	1 Month	April 2029
Dewatering and stabilization	1 Month	May 2029
Confirmation and supplemental removal	2 Months	July 2029
Restoration	2 Months	August 2029
Closure documentation	6 Months	February 2030

The final closure schedule will be evaluated against the Agency-approved closure timeframe and the closure completion requirements in 35 IAC 845.760(a), as applicable. If closure cannot be completed within the required timeframe, SIPC will prepare a demonstration consistent with 35 IAC 845.760(b) to support an extension, if necessary.

5. Plan administration [845.720(a)(2)–(4)]

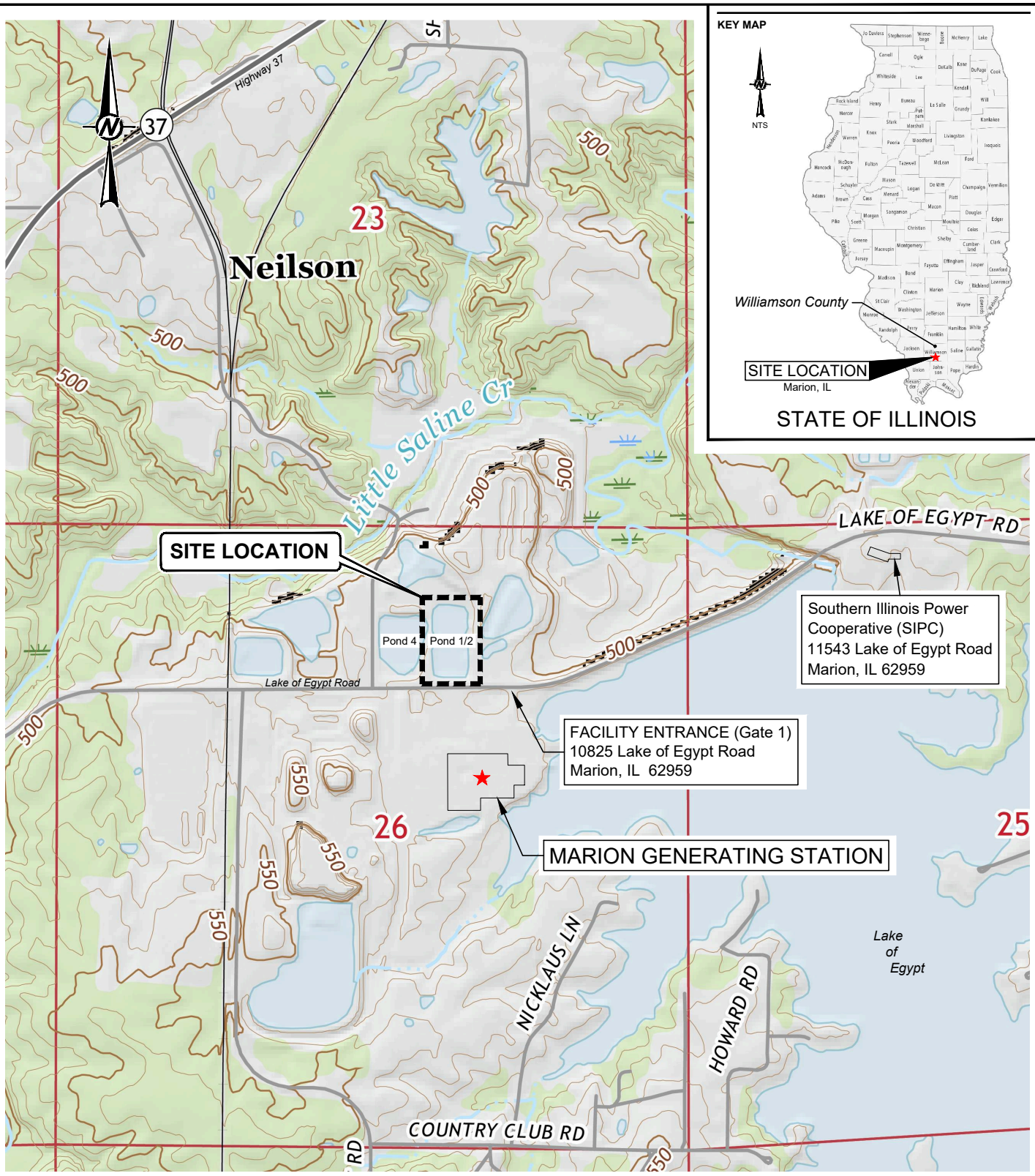
This Preliminary Written Closure Plan was prepared as part of SIPC's Initial Operating Permit Application for Pond 1/2. In accordance with 35 IAC Code 845.720(a)(2), the most recently amended version of the Plan will be submitted with each operating permit renewal application. The Plan, amendments, and associated certifications will be maintained in the facility operating record in accordance with 35 IAC 845.800(d)(20).

In accordance with 35 IAC 845.720(a)(3), SIPC will amend the Plan when a change in the operation of Pond 1/2 substantially affects the written Plan or when an unanticipated event occurring before completion of closure requires revision of the Plan. An amendment associated with a planned operational change will be completed no later than 60 days before implementation of the change. An amendment addressing an unanticipated event will be completed within 60 days after the event.

In accordance with 35 IAC 845.720(a)(4), the initial Plan and each subsequent amendment will be certified by a qualified professional engineer as meeting the applicable requirements of Section 845.720(a).

Table 2 - Preliminary Closure Plan Amendments

Amendment Number and Date	Pages or Section	Description of Amendment
Revision 0 – November 2026	NA	Preliminary Closure Plan



REFERENCE

1. BASE MAP FROM USGS QUADRANGLE 7.5-MINUTE SERIES "GOREVILLE, ILLINOIS 2021" AND "MARION, ILLINOIS 2021".

LEGEND

★ MARION GENERATING STATION

0 600 1200
1" = 1200' FEET

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE
11543 LAKE OF EGYPT ROAD
MARION, IL 62959

CONSULTANT

wsp

YYYY-MM-DD	2026-10-21
DESIGNED	JDP
PREPARED	SDA
REVIEWED	JDP
APPROVED	DSC

PROJECT

MARION GENERATING STATION
MARION, ILLINOIS
PRELIMINARY WRITTEN CLOSURE PLAN - POND 1/2

TITLE

SITE LOCATION MAP

PROJECT NO.	TASK	REV.	FIGURE
GLA21467997.4465	06	A	01

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REFERENCES

1. AERIAL IMAGE BASE MAP FROM GOOGLE EARTH, PHOTO DATE 2025-11-03.
2. TOPOGRAPHIC SURVEY AND MAPPING PROVIDED BY DRONEVIEW TECHNOLOGIES, ACQUISITION DATE 2020-09-14.
3. EXISTING GROUND CONTOURS SHOWN FROM POND 1 AND POND 2 TOP OF SLOPE INWARD BASED ON PHOTO INTERPRETED EDGE OF WATER LINE (GOOGLE EARTH IMAGE DATED 2025-11-03), AND RECENT 501.5 WATER LEVEL ELEVATION READING.

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE
11543 LAKE OF EGYPT ROAD
MARION, IL 62959

CONSULTANT

wsp

YYYY-MM-DD	2026-10-21
DESIGNED	JDP
PREPARED	SDA
REVIEWED	JDP
APPROVED	DSC

PROJECT
MARION GENERATING STATION
MARION, ILLINOIS
PRELIMINARY WRITTEN CLOSURE PLAN - POND 1/2

TITLE
EXISTING CONDITIONS PLAN

PROJECT NO.	TASK	REV.	FIGURE
GLA21467997.4465	06	A	02

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11/2025

POND 4

POND 1/2

Nelson Crossing Road

Lake of Egypt Road

C 04

A 04

B 04

0+00 1+00 2+00 3+00 4+00 4+50

5+00 6+00 7+00 7+50

EL. 495.0

EL. 498.0

2H:-1V

500 495 498

0 50 100
1" = 100' FEET

REFERENCES

1. AERIAL IMAGE BASE MAP FROM GOOGLE EARTH, PHOTO DATE 2025-11-03.
2. TOPOGRAPHIC SURVEY AND MAPPING PROVIDED BY DRONEVIEW TECHNOLOGIES, ACQUISITION DATE 2020-09-14.
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LEGEND

PROPOSED LIMIT OF EXCAVATION WORK

PROPOSED EXCAVATION GRADE CONTOUR (1-FT INTERVAL)

595 PROPOSED EXCAVATION GRADE CONTOUR (5-FT INTERVAL)

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE
11543 LAKE OF EGYPT ROAD
MARION, IL 62959

CONSULTANT

wsp

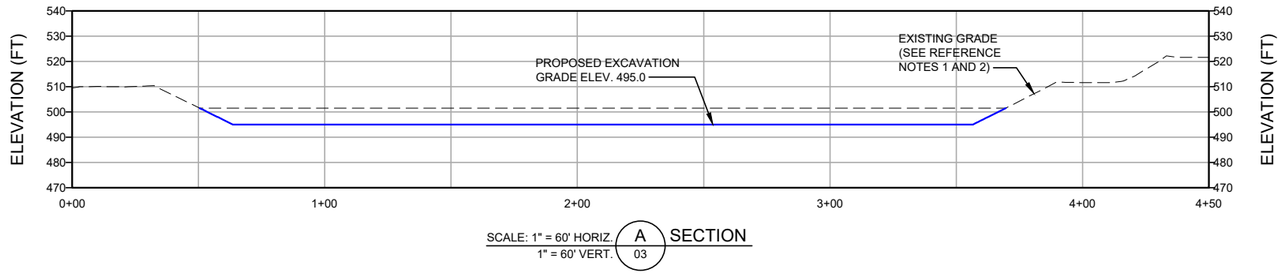
YYYY-MM-DD	2026-10-21
DESIGNED	JDP
PREPARED	SDA
REVIEWED	JDP
APPROVED	DSC

PROJECT
MARION GENERATING STATION
MARION, ILLINOIS
PRELIMINARY WRITTEN CLOSURE PLAN - POND 1/2

TITLE
CONCEPTUAL CLOSURE PLAN

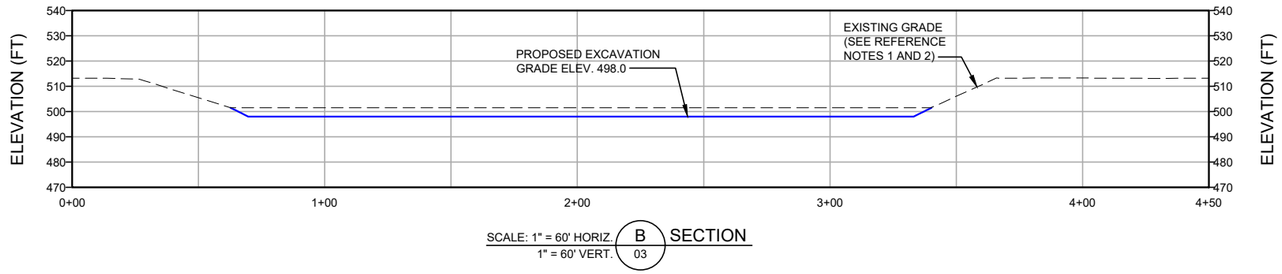
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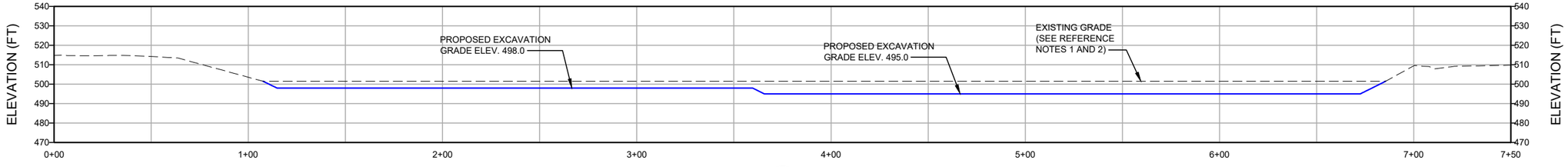
SCALE: 1" = 60' HORIZ.
1" = 60' VERT.

A / 03 SECTION



SCALE: 1" = 60' HORIZ.
1" = 60' VERT.

B / 03 SECTION



SCALE: 1" = 60' HORIZ.
1" = 60' VERT.

C / 03 SECTION

0 30 60
1" = 60' FEET

REFERENCES

1. EXISTING GRADE SHOWN FROM POND 1 AND POND 2 TOP OF SLOPE OUTWARD BASED ON TOPOGRAPHIC SURVEY PROVIDED BY DRONEVIEW TECHNOLOGIES, ACQUISITION DATE 2020-09-14.
2. EXISTING GRADE SHOWN FROM POND 1 AND POND 2 TOP OF SLOPE INWARD BASED ON PHOTO INTERPRETED EDGE OF WATER LINE (GOOGLE EARTH IMAGE DATED 2025-11-03), AND RECENT 501.5 WATER LEVEL ELEVATION READING.

CLIENT
SOUTHERN ILLINOIS POWER COOPERATIVE
11543 LAKE OF EGYPT ROAD
MARION, IL 62959

CONSULTANT

YYYY-MM-DD	2026-10-21
DESIGNED	JDP
PREPARED	SDA
REVIEWED	JDP
APPROVED	DSC

PROJECT
MARION GENERATING STATION
MARION, ILLINOIS
PRELIMINARY WRITTEN CLOSURE PLAN - POND 1/2

TITLE
CONCEPTUAL CLOSURE SECTIONS

PROJECT NO.	TASK	REV.	FIGURE
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Time: 12:02:37 PM

wsp.com

Appendix J Liner Certification Documentation

WSP
10 Al Paul Lane
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Merrimack, NH 03054
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wsp.com

Southern Illinois Power Cooperative (SIPC)
Marion Plant, Pond 1/2

STATEMENT OF CERTIFICATION

SIPC MARION PLANT, POND 1/2 DESIGN CRITERIA FOR EXISTING CCR SURFACE IMPOUNDMENTS

40 Code of Federal Regulations (CFR), Part 257.71

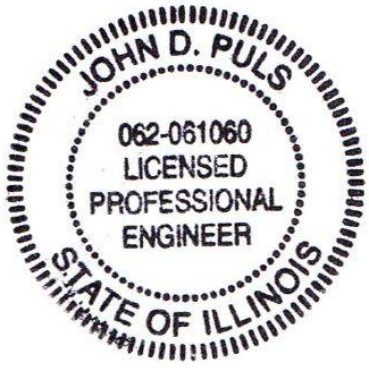
In accordance with the requirements of 40 CFR Part 257 the owner or operator of an existing CCR surface impoundment must document whether or not such unit was constructed with any one of the liner design criteria specified in 40 CFR 257.71(a)(1).

40 CFR 257.71(a)(3) states that an existing CCR surface impoundment is considered to be an existing unlined CCR surface impoundment if either: (1) It is determined that the CCR unit is not constructed with a liner that meets the requirements of 40 CFR 257.71(a)(1)(i-iii); or (2) Failure to document whether the CCR unit was constructed with a liner that meets the requirements of 40 CFR 257.71(a)(1)(i-iii). Liner design criteria include:

- A liner consisting of a minimum of two feet of compacted soil with a hydraulic conductivity of no more than 1x10-7 cm/sec;
- A composite liner that meets the requirements of 40 CFR, Part 257.70 (b); or
- An alternative composite liner that meets the requirements of 40 CFR, Part 257.70 (c).

Based on a review of the documentation provided by SIPC and the above liner design criteria, WSP determines that Pond 1/2 at the Marion Plant are existing unlined CCR surface impoundments.

I, John Puls, certify that I have personally examined and am familiar with the information contained herein. I believe that the information contained herein is true, accurate and complete and that as presented meets the requirements of 40 CFR 257.71.



John Puls, PE
Vice President, Environmental Engineering
Registered Professional Engineer
State of Illinois No. 062.061060

Appendix K Inflow Design Flood Control Plan

Southern Illinois Power Cooperative

Inflow Design Flood Control System Plan – Pond 1/2

11-02-2026

US-WSP-GLA21467997.4465

Document distribution

Southern Illinois Power Cooperative

Inflow Design Flood Control System Plan – Pond 1/2

11-02-2026

US-WSP-GLA21467997.4465

Prepared for

Southern Illinois Power Cooperative
11543 Lake of Egypt Road
Marion, IL 62959

Submitted to

Illinois Environmental Protection Agency

Prepared by

WSP
10 Al Paul Lane
Merrimack, NH 03054
T: 603-324-0891

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1.2 CCR surface impoundment 5
1.3 Regulatory basis and purpose 5
1.4 Applicable inflow design flood 5

2. Existing inflow design flood control system **6**

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2.2 Pond storage and stage-storage relationship 6
2.3 Inlets, outlets, and discharge features 6
2.4 Perimeter and overtopping control 6

3. Hydrologic and hydraulic analysis **7**

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3.2 Precipitation and temporal distribution 7
3.3 Watershed parameters 7
3.4 Stage-storage and outlet parameters 7
3.5 Modeling method and software 7
3.6 Model results 8

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Table 3.1 - Hydrologic and Hydraulic Analysis Results

Figure 1 - Site Location Map

Figure 2 - Existing Conditions and Contributing Drainage Area

Attachment A – Hydrologic and Hydraulic Calculations

Qualified Professional Engineer Certification

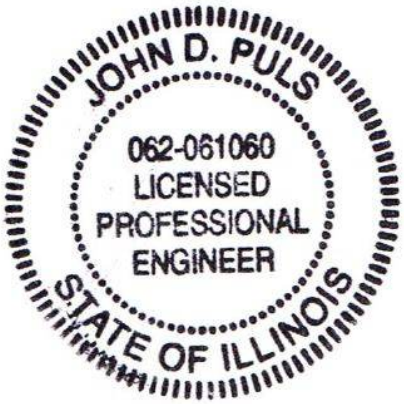
I hereby certify that, having reviewed the attached documentation and being familiar with the provisions of 35 IAC 845.510 and 40 CFR 257.82, I attest that this Inflow Design Flood Control System Plan for Pond 1/2 is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of 35 IAC 845.510 and 40 CFR 257.52.

Qualified Professional Engineer: John Puls

Illinois P.E. License No.: 062.061060

Signature:

Date: November 2, 2026



1. Introduction

1.1 Facility background

Southern Illinois Power Cooperative (SIPC) owns and operates the Marion Plant at 11543 Lake of Egypt Road, Marion, Williamson County, Illinois. The coal combustion residual (CCR) surface impoundment (Pond 1/2) is subject to 40 Code of Federal Regulations (CFR) Part 257 [until the United States Environmental Protection Agency (USEPA) approves the Illinois CCR program to operate in lieu of Part 257], and the corresponding Illinois Environmental Protection Agency (IEPA) Title 35 of the Illinois Administrative Code (IAC) Part 845. Pond 1/2 is located north of the generating facility and south of the former CCR landfill, as shown on Figure 1.

1.2 CCR surface impoundment

Pond 1 and Pond 2 were constructed in 1979 as separate impoundments. The separating berm was removed in 2021, and the two areas are currently addressed as one CCR surface impoundment. Historically, Units 1, 2, 3, and 4 sluiced bottom ash to the ponds and recovered it for off-site beneficial reuse. Pond 1/2 is currently inactive, incised, and CCR was reportedly removed by SIPC in 2021.

1.3 Regulatory basis and purpose

The purpose of this Inflow Design Flood Control System Plan is to document how the inflow design flood control system for Pond 1/2 is designed, constructed, operated, and maintained to meet 35 IAC 845.510 and 40 CFR 257.82. The plan addresses management of flow into and from the combined CCR surface impoundment during and following the applicable inflow design flood, discharge requirements, supporting engineering calculations, plan amendment, certification, and submission requirements.

1.4 Applicable inflow design flood

30 IAC 845.510(a)(3) and 40 CFR 257.82(a)(2) establish the minimum inflow design flood as the 25-year flood for an incised CCR surface impoundment.

2. Existing inflow design flood control system

2.1 Drainage area and run-on

Pond 1/2 receives direct precipitation and stormwater run-on from adjacent areas as shown on Figure 2.

2.2 Pond storage and stage-storage relationship

Pond 1/2 currently has a storage capacity of 27.6 acre-feet above the normal water level of 501.5 feet North American Vertical Datum 1988 (NAVD88) to the lowest perimeter berm elevation of 508.0 feet NAVD88.

2.3 Inlets, outlets, and discharge features

Historically, Pond 1 and Pond 2 discharged to Pond 4, which subsequently discharged through permitted Outfall 002. Pond 1 discharged through two outlet pipes, 12 inches and 18 inches in diameter and approximately 50 feet long, while Pond 2 discharged through one 12-inch-diameter outlet pipe, approximately 50 feet long. Following CCR removal, the former inlet piping associated with Pond 1 and Pond 2 was removed. The overflow piping remains and provides a potential discharge pathway toward Unit 4; however, the invert elevations of the remaining pipes are currently unknown. As a conservative assumption, the overflow pipes were not included in the hydrologic and hydraulic model; therefore, no discharge through the overflow piping was assumed during the 25-year, 24-hour design event.

2.4 Perimeter and overtopping control

Based on available survey data, the lowest controlling perimeter berm elevation of Pond 1/2 is approximately 508.0 feet NAVD88. The available storage below this elevation provides containment for stormwater within the combined pond area. The hydrologic and hydraulic analysis evaluated the 25-year inflow design flood to determine the maximum water-surface elevation and confirm that the design event can be managed without overtopping the controlling perimeter elevation.

3. Hydrologic and hydraulic analysis

3.1 Analysis basis

The analysis evaluated the applicable inflow design flood for the current Pond 1/2 configuration. The model accounted for direct precipitation, contributing run-on, antecedent conditions, initial water level, and storage. As a conservative assumption, infiltration losses and potential discharge through the overflow pipes were omitted from the analysis.

3.2 Precipitation

The design precipitation event for the hydrologic and hydraulic analysis is the 25-year, 24-hour storm. The precipitation depth was obtained from the National Oceanic and Atmospheric Administration (NOAA) National Weather Service Precipitation Frequency Data Server using NOAA Atlas 14, Volume 2, Version 3 for Marion, Illinois, at latitude 37.6228° N and longitude 88.9539° W. The NOAA point precipitation-frequency estimate for the 25-year, 24-hour event is 6.08 inches (NOAA, 2006).

3.3 Watershed parameters

The contributing drainage area to Pond 1/2 is delineated on Figure 2. A Curve Number (CN) of 86 was conservatively applied to the contributing drainage area, representing Hydrologic Soil Group C with grass cover in less than good condition (less than 50 percent ground cover). This Curve Number was used to estimate runoff from the 25-year, 24-hour design storm.

3.4 Stage-storage and outlet parameters

The stage-storage relationship for Pond 1/2 was developed from available survey data representing the current pond configuration. Because outlet piping invert elevations are not currently known the hydrologic and hydraulic analysis assumes no discharge through an outlet during the design event, and the 25-year inflow design flood is evaluated against the available storage below the lowest controlling perimeter elevation.

3.5 Modeling method and software

HydroCAD version 10.20-6a was used to perform the hydrologic and hydraulic evaluation for Pond 1/2. The model was used to evaluate runoff from the contributing drainage area, route the 25-year design event through the available pond storage, and determine the resulting maximum water-surface elevation. The modeled maximum water-surface elevation was compared with the lowest controlling perimeter elevation to evaluate storage capacity and the potential for overtopping.

3.6 Model results

Table 3.1 summarizes the results of the hydrologic and hydraulic analysis and demonstrates that Pond 1/2 has sufficient storage capacity to manage the 25-year, 24-hour design storm without overtopping the lowest controlling perimeter elevation. Outputs from the HydroCAD model are provided in Attachment A.

Table 3.1 Hydrologic and Hydraulic Analysis Results

Criterion	Value
Design event	25-year
Storm duration	24-Hour
Precipitation depth	6.05-inches
Total contributing drainage area	10.9 acres
Initial water-surface elevation	501.5 feet NAVD 88
Lowest controlling perimeter elevation	508.0 feet NAVD 88
Peak inflow	80.32 cubic feet per second (cfs)
Peak outflow	0 cfs
Maximum routed water-surface elevation	502.6 feet NAVD 88
Minimum residual freeboard	5.4 feet

4. Plan administration and recordkeeping

4.1 Initial and annual plans

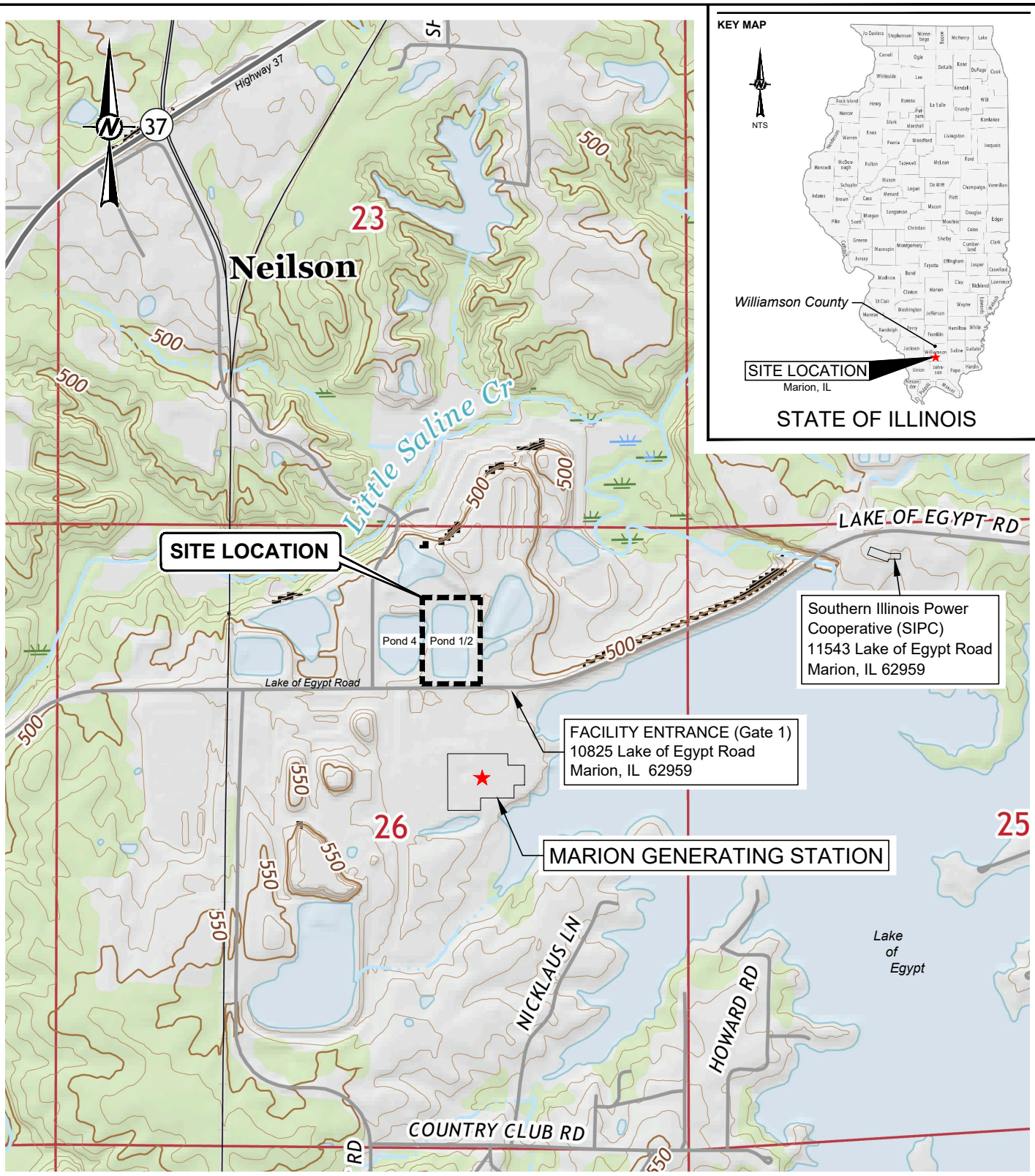
SIPC must prepare initial and annual inflow design flood control system plans for the CCR surface impoundment. Each plan must document how the system has been designed and constructed to meet 35 IAC 845.510 and 40 CFR 257.82 and must be supported by appropriate engineering calculations.

4.2 Plan amendments

The plan may be amended at any time and must be amended whenever a change in conditions would substantially affect the plan in effect. Examples may include changes to the unit boundary, grading, drainage area, outlet configuration, operating water level, downstream conveyance, sediment accumulation, or stormwater-management use.

5. References

National Oceanic and Atmospheric Administration (NOAA). 2006. NOAA Atlas 14, Volume 2, Version 3: Precipitation-Frequency Atlas of the United States, Delaware, District of Columbia, Illinois, Indiana, Kentucky, Maryland, New Jersey, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia. National Weather Service, Hydrometeorological Design Studies Center.



REFERENCE

1. BASE MAP FROM USGS QUADRANGLE 7.5-MINUTE SERIES "GOREVILLE, ILLINOIS 2021" AND "MARION, ILLINOIS 2021".

LEGEND

★ MARION GENERATING STATION

0 600 1200
1" = 1200' FEET

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE
11543 LAKE OF EGYPT ROAD
MARION, IL 62959

CONSULTANT

wsp

YYYY-MM-DD	2026-10-21
DESIGNED	JDP
PREPARED	SDA
REVIEWED	JDP
APPROVED	DSC

PROJECT

MARION GENERATING STATION
MARION, ILLINOIS
INFLOW DESIGN FLOOD CONTROL SYSTEM PLAN - POND 1/2

TITLE

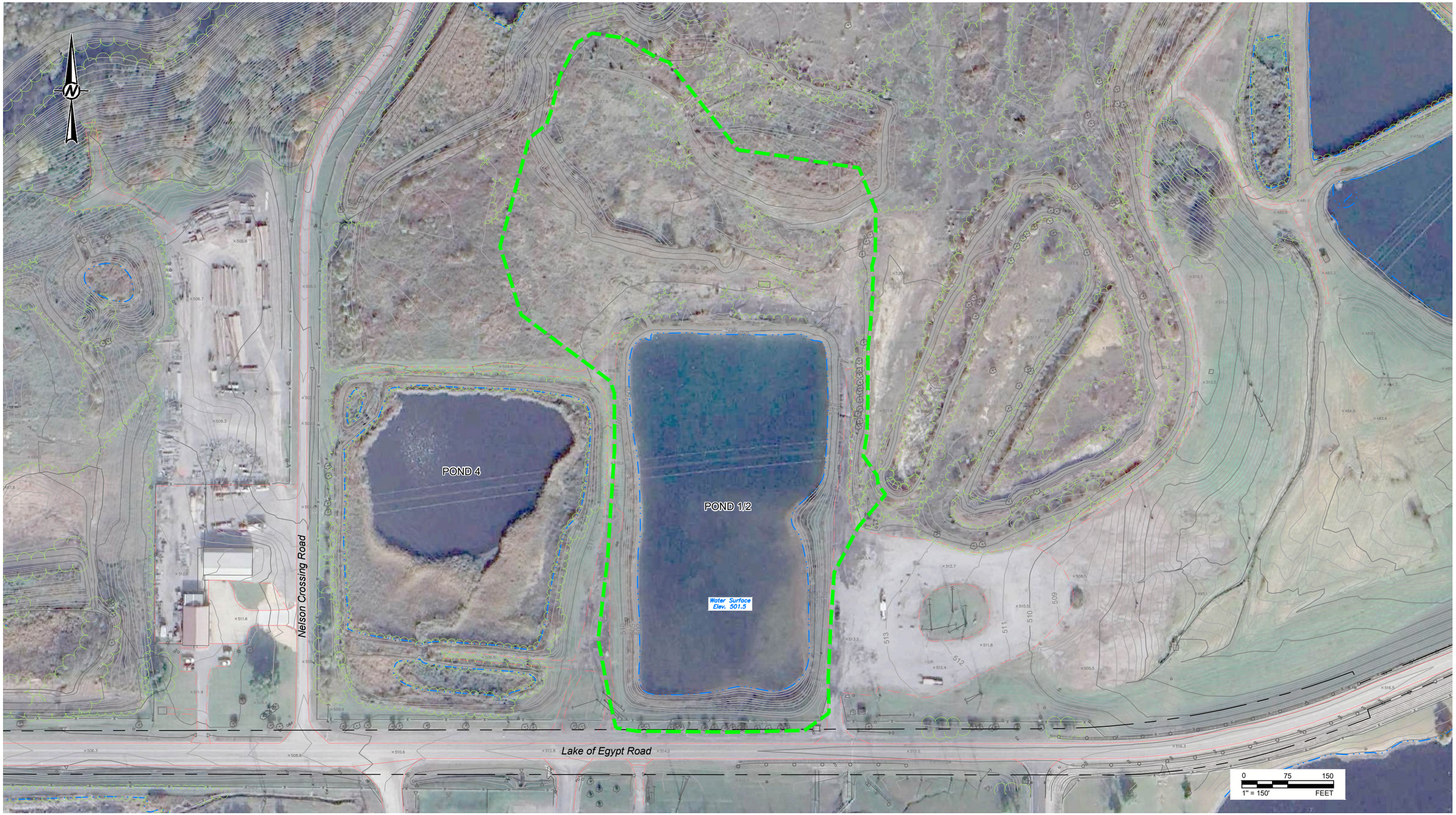
SITE LOCATION MAP

PROJECT NO.	TASK	REV.	FIGURE
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LEGEND

DRAINAGE AREA BOUNDARY

CLIENT

SOUTHERN ILLINOIS POWER COOPERATIVE
11543 LAKE OF EGYPT ROAD
MARION, IL 62959

CONSULTANT

wsp

YYYY-MM-DD	2026-10-21
DESIGNED	JDP
PREPARED	SDA
REVIEWED	JDP
APPROVED	DSC

PROJECT

MARION GENERATING STATION
MARION, ILLINOIS
INFLOW DESIGN FLOOD CONTROL SYSTEM PLAN - POND 1/2

TITLE

EXISTING CONDITIONS AND CONTRIBUTING DRAINAGE AREA

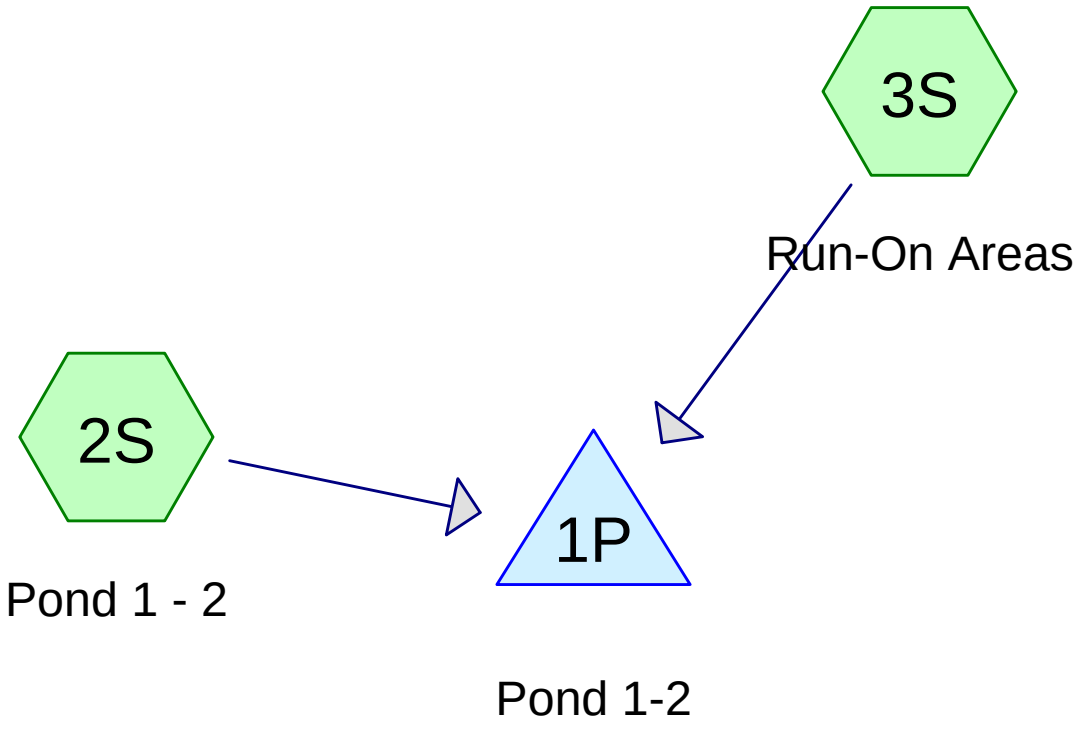
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Attachment A: Hydrologic and Hydraulic Calculations Model Outputs



Subcat Reach Pond Link

Routing Diagram for SIPC Pond 1-2
Prepared by WSP USA, Printed 10/20/2026
HydroCAD® 10.20-6a s/n 00854 © 2024 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
6.895	86	<50% Grass cover, Poor, HSG C (3S)
3.998	98	Water Surface, HSG A (2S)
10.893	**90**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
3.998	HSG A	2S
0.000	HSG B	
6.895	HSG C	3S
0.000	HSG D	
0.000	Other	
10.893		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	6.895	0.000	0.000	6.895	<50% Grass cover, Poor	3S
3.998	0.000	0.000	0.000	0.000	3.998	Water Surface	2S
3.998	**0.000**	**6.895**	**0.000**	**0.000**	**10.893**	**TOTAL AREA**	

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 2S: Pond 1 - 2 Runoff Area=174,150 sf 100.00% Impervious Runoff Depth>5.84"
Flow Length=280' Tc=0.4 min CN=98 Runoff=38.98 cfs 1.946 af

Subcatchment 3S: Run-On Areas Runoff Area=300,350 sf 0.00% Impervious Runoff Depth>4.48"
Flow Length=350' Tc=5.7 min CN=86 Runoff=51.27 cfs 2.575 af

Pond 1P: Pond 1-2 Peak Elev=502.63' Storage=4.520 af Inflow=80.32 cfs 4.521 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 10.893 ac Runoff Volume = 4.521 af Average Runoff Depth = 4.98"
63.30% Pervious = 6.895 ac 36.70% Impervious = 3.998 ac

Summary for Subcatchment 2S: Pond 1 - 2

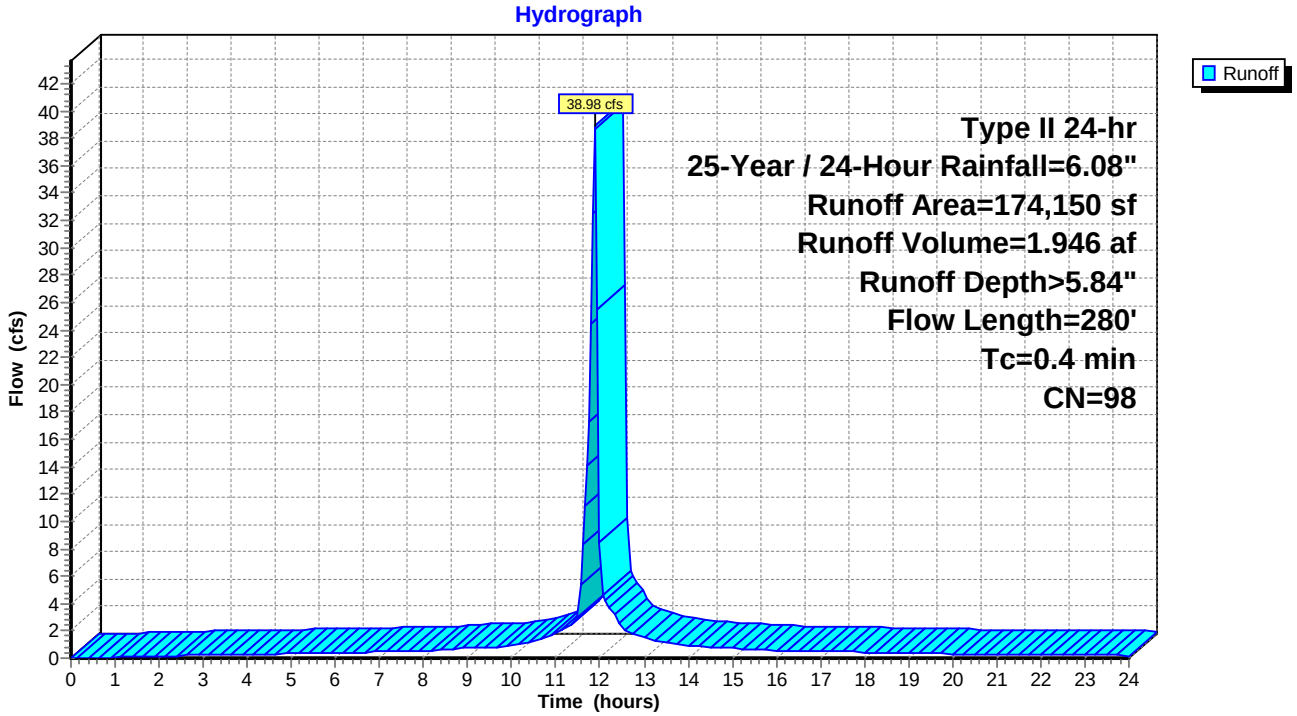
Runoff = 38.98 cfs @ 11.89 hrs, Volume= 1.946 af, Depth> 5.84"
Routed to Pond 1P : Pond 1-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-Year / 24-Hour Rainfall=6.08"

Area (sf)	CN	Description
174,150	98	Water Surface, HSG A
174,150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	280		11.35		**Lake or Reservoir,** Mean Depth= 4.00'

Subcatchment 2S: Pond 1 - 2



Summary for Subcatchment 3S: Run-On Areas

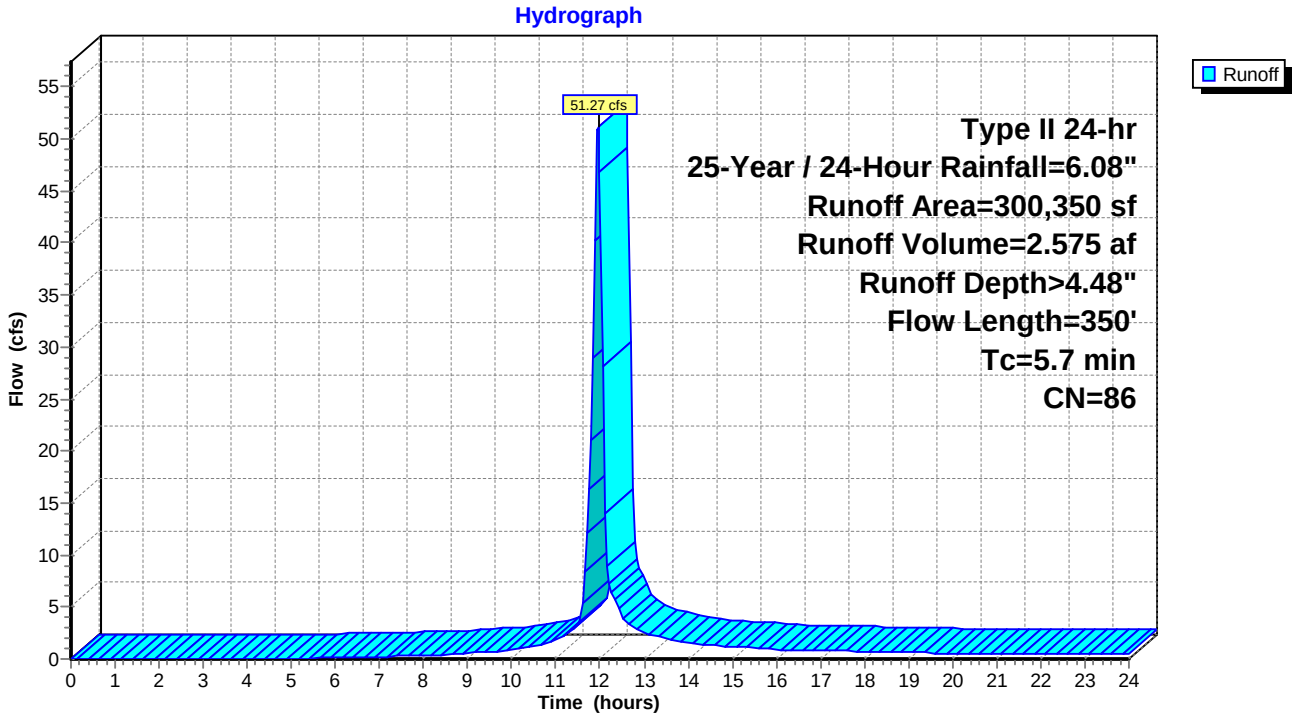
Runoff = 51.27 cfs @ 11.96 hrs, Volume= 2.575 af, Depth> 4.48"
Routed to Pond 1P : Pond 1-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-Year / 24-Hour Rainfall=6.08"

Area (sf)	CN	Description
300,350	86	<50% Grass cover, Poor, HSG C
300,350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	100	0.2000	1.09		**Sheet Flow,** Fallow n= 0.050 P2= 3.58"
4.2	250	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.7	350	Total			

Subcatchment 3S: Run-On Areas



Summary for Pond 1P: Pond 1-2

Inflow Area = 10.893 ac, 36.70% Impervious, Inflow Depth > 4.98" for 25-Year / 24-Hour event
Inflow = 80.32 cfs @ 11.92 hrs, Volume= 4.521 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

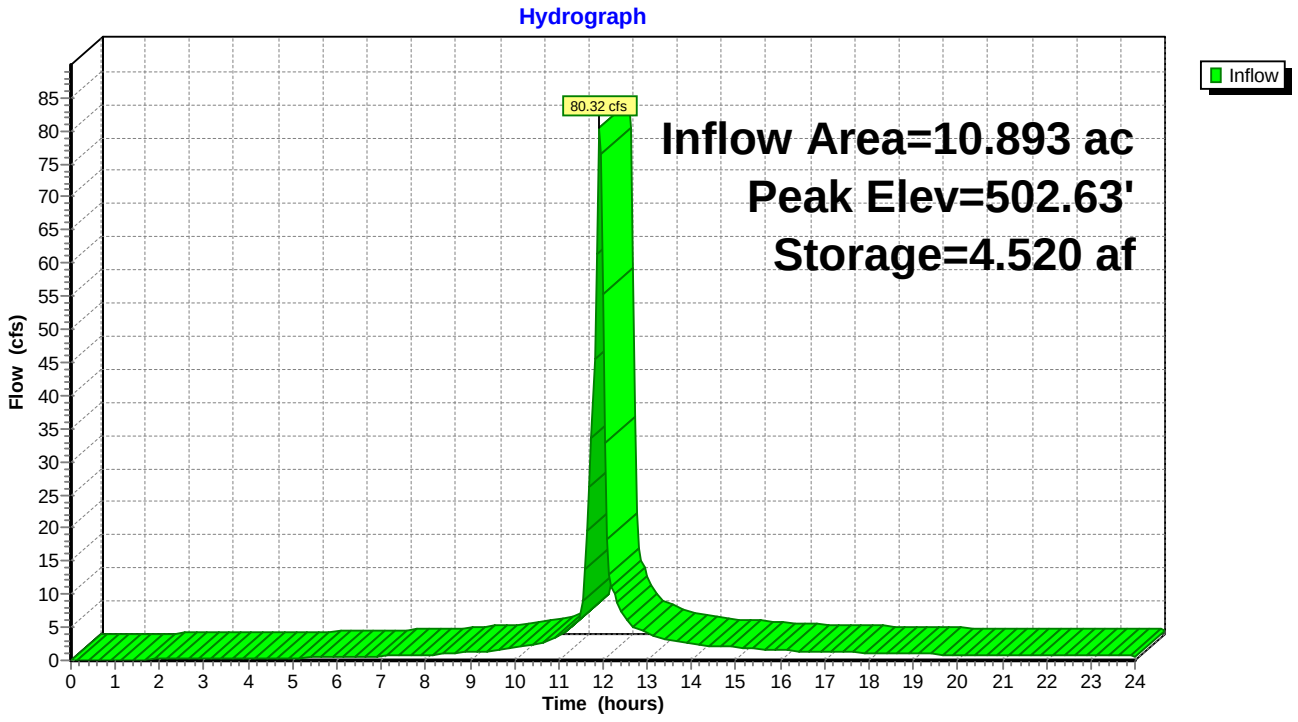
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 502.63' @ 24.00 hrs Surf.Area= 4.030 ac Storage= 4.520 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	501.50'	27.589 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
501.50	3.998	0.000	0.000
503.00	4.040	6.029	6.029
506.00	4.365	12.608	18.637
508.00	4.587	8.952	27.589

Pond 1P: Pond 1-2



NOAA Atlas 14, Volume 2, Version 3
Location name: Marion, Illinois, USA*
Latitude: 37.6228°, Longitude: -88.9539°
Elevation: 509 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.422** (0.386-0.461)	**0.500** (0.457-0.546)	**0.589** (0.538-0.644)	**0.659** (0.601-0.719)	**0.749** (0.680-0.816)	**0.819** (0.741-0.891)	**0.886** (0.799-0.964)	**0.957** (0.858-1.04)	**1.05** (0.937-1.14)	**1.12** (0.993-1.22)
10-min	**0.655** (0.599-0.717)	**0.780** (0.714-0.853)	**0.916** (0.836-1.00)	**1.02** (0.927-1.11)	**1.15** (1.04-1.25)	**1.24** (1.12-1.35)	**1.33** (1.20-1.45)	**1.43** (1.28-1.55)	**1.55** (1.38-1.68)	**1.64** (1.45-1.78)
15-min	**0.803** (0.735-0.878)	**0.954** (0.873-1.04)	**1.12** (1.03-1.23)	**1.25** (1.14-1.37)	**1.42** (1.28-1.54)	**1.54** (1.39-1.67)	**1.66** (1.49-1.80)	**1.78** (1.59-1.93)	**1.93** (1.72-2.10)	**2.04** (1.81-2.22)
30-min	**1.06** (0.972-1.16)	**1.28** (1.17-1.40)	**1.54** (1.41-1.68)	**1.74** (1.58-1.90)	**2.00** (1.82-2.18)	**2.20** (1.99-2.39)	**2.39** (2.16-2.60)	**2.59** (2.32-2.82)	**2.86** (2.55-3.11)	**3.06** (2.71-3.33)
60-min	**1.30** (1.19-1.42)	**1.57** (1.43-1.71)	**1.93** (1.76-2.11)	**2.21** (2.02-2.41)	**2.59** (2.35-2.82)	**2.89** (2.62-3.15)	**3.20** (2.88-3.48)	**3.52** (3.15-3.82)	**3.96** (3.52-4.30)	**4.30** (3.81-4.68)
2-hr	**1.57** (1.43-1.73)	**1.90** (1.73-2.09)	**2.36** (2.14-2.59)	**2.71** (2.46-2.97)	**3.20** (2.89-3.50)	**3.59** (3.24-3.93)	**4.00** (3.59-4.37)	**4.42** (3.94-4.83)	**5.00** (4.43-5.47)	**5.47** (4.81-5.99)
3-hr	**1.70** (1.55-1.89)	**2.06** (1.87-2.28)	**2.56** (2.32-2.82)	**2.95** (2.67-3.26)	**3.50** (3.16-3.85)	**3.95** (3.55-4.34)	**4.42** (3.95-4.85)	**4.92** (4.36-5.39)	**5.61** (4.94-6.15)	**6.18** (5.40-6.77)
6-hr	**2.07** (1.89-2.30)	**2.50** (2.28-2.77)	**3.09** (2.81-3.43)	**3.57** (3.24-3.95)	**4.24** (3.82-4.68)	**4.79** (4.30-5.28)	**5.36** (4.79-5.90)	**5.97** (5.30-6.57)	**6.83** (6.01-7.51)	**7.53** (6.57-8.28)
12-hr	**2.49** (2.26-2.76)	**2.99** (2.72-3.32)	**3.69** (3.36-4.09)	**4.25** (3.85-4.71)	**5.03** (4.54-5.56)	**5.66** (5.09-6.25)	**6.32** (5.65-6.97)	**7.02** (6.23-7.73)	**8.00** (7.04-8.82)	**8.79** (7.68-9.70)
24-hr	**2.98** (2.77-3.22)	**3.58** (3.33-3.88)	**4.45** (4.13-4.81)	**5.13** (4.76-5.55)	**6.08** (5.62-6.57)	**6.85** (6.31-7.40)	**7.64** (7.01-8.25)	**8.47** (7.73-9.15)	**9.62** (8.71-10.4)	**10.5** (9.48-11.4)
2-day	**3.48** (3.23-3.76)	**4.18** (3.88-4.52)	**5.18** (4.81-5.60)	**5.99** (5.56-6.48)	**7.14** (6.59-7.71)	**8.07** (7.42-8.72)	**9.06** (8.28-9.79)	**10.1** (9.18-10.9)	**11.6** (10.4-12.6)	**12.8** (11.4-13.9)
3-day	**3.69** (3.43-3.97)	**4.42** (4.12-4.77)	**5.47** (5.09-5.89)	**6.32** (5.87-6.81)	**7.53** (6.96-8.10)	**8.52** (7.85-9.17)	**9.57** (8.76-10.3)	**10.7** (9.71-11.5)	**12.3** (11.0-13.3)	**13.6** (12.1-14.7)
4-day	**3.90** (3.64-4.18)	**4.67** (4.36-5.02)	**5.76** (5.37-6.18)	**6.65** (6.19-7.14)	**7.92** (7.34-8.50)	**8.96** (8.27-9.62)	**10.1** (9.24-10.8)	**11.3** (10.3-12.1)	**12.9** (11.7-14.0)	**14.3** (12.8-15.5)
7-day	**4.50** (4.22-4.83)	**5.40** (5.06-5.79)	**6.64** (6.21-7.12)	**7.65** (7.14-8.20)	**9.08** (8.45-9.72)	**10.3** (9.50-11.0)	**11.5** (10.6-12.3)	**12.8** (11.7-13.7)	**14.6** (13.3-15.8)	**16.2** (14.5-17.4)
10-day	**5.05** (4.74-5.39)	**6.04** (5.67-6.46)	**7.42** (6.95-7.93)	**8.52** (7.97-9.10)	**10.1** (9.39-10.8)	**11.3** (10.5-12.1)	**12.7** (11.7-13.6)	**14.0** (12.9-15.1)	**16.0** (14.5-17.2)	**17.6** (15.8-18.9)
20-day	**6.91** (6.53-7.34)	**8.22** (7.76-8.73)	**9.83** (9.27-10.4)	**11.1** (10.5-11.8)	**12.8** (12.0-13.6)	**14.1** (13.3-15.0)	**15.5** (14.5-16.5)	**16.9** (15.7-17.9)	**18.7** (17.3-20.0)	**20.1** (18.5-21.5)
30-day	**8.52** (8.07-9.02)	**10.1** (9.55-10.7)	**11.9** (11.3-12.6)	**13.3** (12.6-14.1)	**15.2** (14.4-16.1)	**16.7** (15.7-17.7)	**18.2** (17.0-19.2)	**19.7** (18.3-20.8)	**21.6** (20.0-23.0)	**23.1** (21.3-24.6)
45-day	**10.7** (10.1-11.3)	**12.6** (12.0-13.3)	**14.8** (14.0-15.6)	**16.4** (15.5-17.3)	**18.6** (17.5-19.6)	**20.3** (19.1-21.4)	**21.9** (20.6-23.2)	**23.5** (22.0-24.9)	**25.7** (23.9-27.3)	**27.3** (25.3-29.0)
60-day	**12.6** (12.0-13.3)	**14.9** (14.1-15.7)	**17.4** (16.5-18.3)	**19.2** (18.2-20.3)	**21.7** (20.5-22.9)	**23.5** (22.2-24.8)	**25.3** (23.8-26.8)	**27.1** (25.4-28.6)	**29.3** (27.4-31.1)	**31.0** (28.8-32.9)

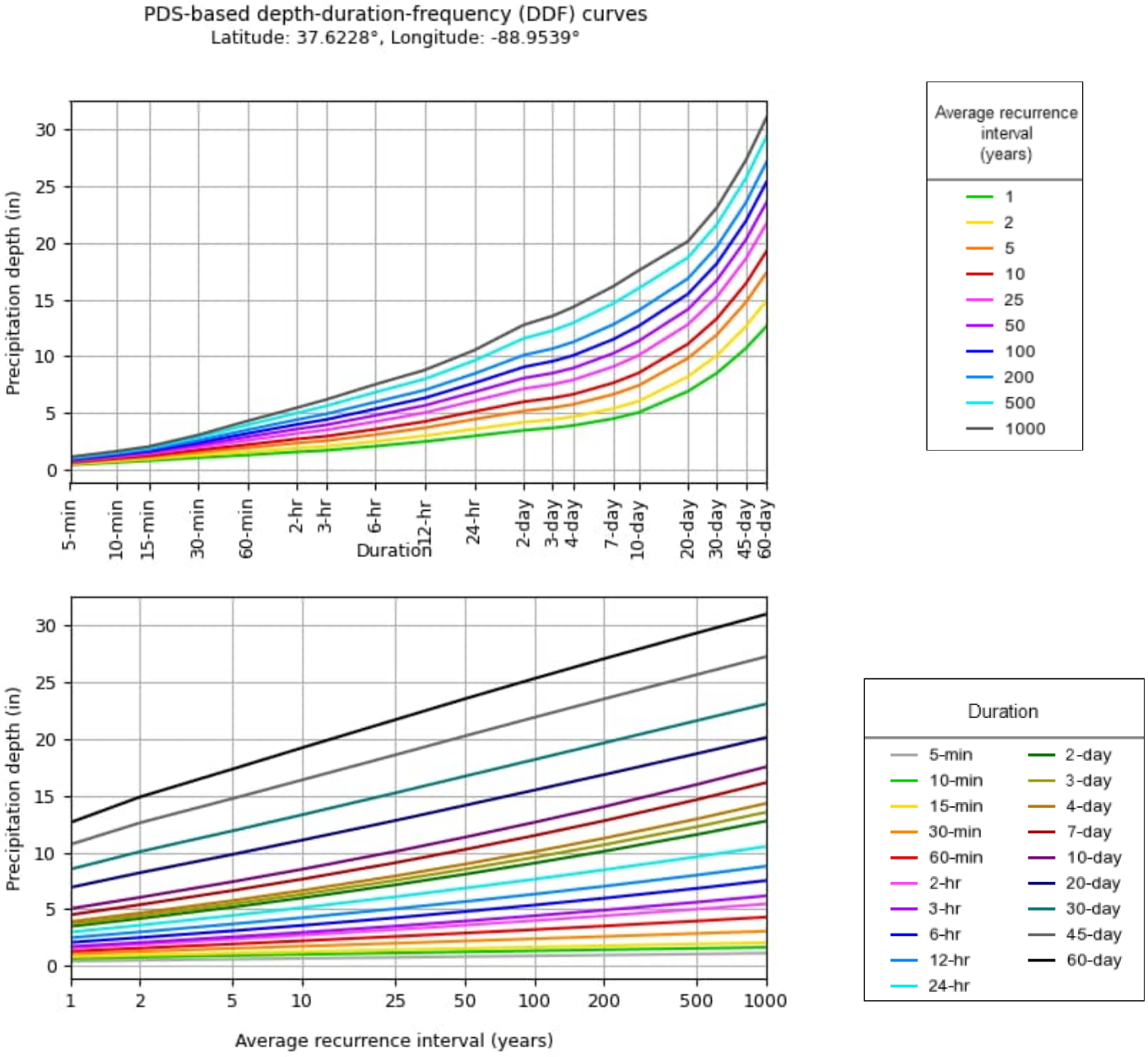
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical



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Maps & aerials

Small scale terrain



Large scale terrain



Large scale map



Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
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Appendix L Safety and Health Plan

SIPC HEALTH AND SAFETY TRAINING MEMORANDUM

All employees and contractors working on behalf of Southern Illinois Power Cooperative are required to complete all applicable health and safety training prior to performing any job-related functions.

Before beginning work, personnel must successfully complete the necessary training programs relevant to their assigned duties, which may include general workplace safety, hazard communication, emergency response procedures, personal protective equipment (PPE) requirements, and any site-specific safety training. Additional training is provided as required by the nature of the work and associated risks.

No employee or contractor is permitted to commence work activities until all required health and safety training has been completed and documented. Training records are maintained by the company and are available for verification upon request.

This requirement reflects our commitment to maintaining a safe and healthy workplace and ensuring that all personnel understand their responsibilities for workplace safety and regulatory compliance.

Southern Illinois Power Cooperative

Lake Of Egypt

Safety Manual

SOUTHERN ILLINOIS POWER COOPERATIVE
SAFETY MANUAL

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Updated: 3/31/2023

SAFETY & HEALTH POLICY STATEMENT

It is the policy of **SOUTHERN ILLINOIS POWER COOPERATIVE** to provide a safe and healthful work environment for employees at every level through the awareness and prevention of occupational injuries and illness.

SIPC is committed to the safety and well being of our employees and customers. Protecting human life from harm and property from damage is a key responsibility for every employee. **We must always THINK SAFETY before and during every task.**

The objective of our company Safety and Health Management Program is to reduce work-related accidents (thereby injuries) and illness and to promote safety and health in every task undertaken by employees on behalf of the company. To this end, our Safety and Health Management Program will include:

A. Implementation of a program for conducting safety and health inspections to identify and eliminate unsafe working conditions or practices, control health hazards and maintain a safe and clean workplace.

B. A safety and health training program for all new and existing personnel that will assure safe job performance of all SIPC employees.

C. Provision for the use of personal protective equipment by all employees.

D. Provision for mechanical and physical safeguards to the maximum extent possible.

E. Company-wide safety and health policies, requiring *every* employee of the company to comply with these policies as a condition of employment.

F. Provision for a thorough and prompt investigation of every accident to determine its cause; correct the problem and reduce the likelihood of it happening again.

G. Requirement that SIPC and its employees will comply with all local, state and federal safety and health regulation and laws.

H. The President/CEO will assign the safety administrator.

SECTION 1: ADMINISTRATION AND ORGANIZATION

I. PURPOSE AND SCOPE

To establish guidelines for the implementation and administration of a Safety and Health Action Plan (hereinafter referred to as Plan) and to assign specific responsibilities for the execution of the Plan.

Provide a basic Safety and Health Action Plan to assist management and supervision in the recognition, evaluation, and control of hazardous activities or conditions within their respective areas of responsibility.

II. ADMINISTRATION

The Board of Directors delegates to the President/CEO, pursuant to Policy No. 8, Section 1 of Safety, approved May 29, 1969:

A. That the President/CEO is directed to develop and maintain a continuous Safety and Health Management Program for SIPC personnel consistent with the industry, and

B. That the Safety and Health Management Program will utilize the services of such organizations as the Illinois Job Training and Safety Group, National Safety Council, NRECA and others, and

C. It shall be the President/CEO's duty to report to the Board each month on the Safety and Health Management Program, accidents, etc., and;

D. That the President/CEO is responsible for administering an effective Program which includes auditing individual safety performance for compliance with applicable federal, state, and local safety and health requirements.

III. DUTIES AND RESPONSIBILITIES

A. The Safety Administrator and/or their designee shall be responsible for:

1. Implementing the provisions of this Program.
2. Promoting good relations with federal, state and local authorities.
3. Interpreting Safety and Health requirements.
4. Conducting periodic safety and health inspections of SIPC.
5. Conducting safety and health orientations to acquaint employees with plant conditions, safety work practices and procedures.
6. Monitoring employee compliance with the applicable safety and health requirements.
7. Training and advising personnel on safety and health regulations, inspections and activities.
8. Providing information to employees regarding their emergency response responsibilities.
9. Monitoring employee compliance with fire prevention and protection requirements.

10. Conducting and participating in safety and health meetings.

11. Posting safety notices, bulletins and emergency phone numbers in designated areas.

12. Conducting safety meetings and reporting safety updates to the Board of Directors.

13. Participating in the joint safety committee (management and union representatives).

14. Reviewing the Safety Manual and updating as necessary.

C. Department Heads shall be responsible for:

1. Providing Safety and Health training for employees. This training will include as a minimum:

   a. Conditions present in the work area.
   b. Required personal protective equipment for the work operation.
   c. Instructions to each employee on the proper procedure for reporting unsafe conditions they may encounter.
   d. Instructions regarding the immediate reporting of work-related injuries or illness.

2. Implementing immediate action to correct reported or observed substandard safety and health conditions.

3. Conducting routine inspections of their work areas and taking necessary corrective actions to eliminate substandard practices and/or conditions.

4. Conducting accident investigations and the preparation of required reports.

5. Attending safety meetings conducted by the Safety Administrator and/or their designee.

6. Assisting in the implementation of the Emergency Response Plan.

7. Enforcing work rules.

8. Evaluating the safety performance of assigned employees and reporting findings to the President/CEO.

9. Participating in the joint safety committee.

10. After an incident has occurred that has resulted in an injury they must complete and sign Illinois Form 45 (Form SA-004 or equivalent) and Incident Investigation Form (Form SA-005 or equivalent) (sign under the section entitled "Prevention").

D. Manager of Human Resources shall be responsible for:

1. Submitting accident reports to:
   a. The Safety Committee.
   b. Worker's Compensation insurance carrier.
   c. President/CEO for presentation to Board of Directors.
   d. OSHA, as required.

E. Leadmen/Shift Foremen shall be responsible for:

1. Providing Safety and Health "Tailgate" training for employees. This training will include as a minimum:

   a. Conditions present in the work area.
   b. Required personal protective equipment for the work operation.
   c. Instructions to each employee on the proper procedure for reporting unsafe conditions they may encounter.
   d. Instructions regarding the immediate reporting of work-related injuries or illness.
   e. New Safety Instructions or Procedure(s).
   f. New Operating or Administrative Procedure(s).

2. Providing Pre-Shift Briefings for the oncoming shift. These Pre-Shift Briefings will include as a minimum the Pre-Shift Briefing Form (Form SA-002 or equivalent) and:
   a. Conditions present in the work area.
   b. Review new or on-going Safety Issues.
   c. Review new or revised Operating instructions.
   d. Review ongoing activities for the oncoming shift.
   e. Review Housekeeping, Fire Prevention, shift routines/PM activities for the oncoming shift.
   f. Review Hazards associated with the routine scheduled tasks, work procedures involved, special precautions, energy source controls, and personal protective equipment requirements.
   g. Determine if a separate Pre-Job Briefing is required for any task schedule for the on-coming shift.
   h. Review all Fire Systems out of service condition and discuss Temporary Fire protection measures in place for the Fire System impairment.
   i. Document Pre-Shift Briefings

3. Providing Pre-Job Briefings for all jobs that are critical, complicated, unusual, hazardous or infrequent tasks. These Pre-Job Briefings will include as a minimum the Pre-Job Briefing Form (Form SA-002 or equivalent) and conditions present in the work area.
   a. Discuss clarification of task purpose and objective.
   b. Discuss equipment of systems affected.
   c. Review applicable procedures or operating instructions.
   d. Discuss personnel safety equipment required.
   e. Discuss any environmental concerns and actions to mitigate concerns.
   f. Discuss expected outcome and adverse conditions that would result in stopping the task.
   g. Identify the critical steps in the task that could result in adverse conditions such as equipment loss or personnel injuries.
   h. Document Pre-Job Briefings.

4. Implementing immediate action to correct reported or observed substandard safety and health conditions.

5. Conducting daily inspections of their work areas and taking necessary corrective actions to eliminate substandard practices and/or conditions.

6. Providing information to employees regarding their emergency response responsibilities.

7. Monitoring employee compliance with fire prevention and protection requirements.

F. Employees shall be responsible for:

1. Working in a safe manner at all times, except for the purpose of making safety corrections and then only after proper precautions have been taken for their protection.

2. Learning and abiding by those Safety and Health rules and procedures which are applicable to their work tasks and for reporting substandard practices or conditions to their Supervisor.

3. Providing an effective shift turnover that will ensure safe and continuous operating conditions for personnel and equipment.

4. Attending Pre-Shift Briefings and Pre-Job Briefings as scheduled

5. Promptly reporting injuries/illnesses to their supervisor, the Coal Handling Supervisor, the Manager of Human Resources, and completing an Incident Investigation Form (Form SA-005 or equivalent). All personnel must know where first aid and emergency equipment are located.

6. Knowing that any employee who jeopardizes his safety and health and/or the safety and health of others, will be subject to disciplinary action (including immediate termination).

SECTION 2: EMERGENCY ACTION PLANS

SIPC has prepared an emergency action plan to ensure employee safety in the event of fire and other emergencies.

I. Fire and Emergency Calls

A. Plant

1. Siren Call - Fire; Warble Call - Emergency

   a. Employee finding trouble, get to a safe area, then call Control Room and report trouble to Control Operator.
   b. Control Operator or Shift Foreman will sound alarm for such trouble, either siren for fire or warble for emergency.
   c. The alarm will be sounded for one minute and the Control Operator or Shift Foreman will announce the emergency and location over the PA system. This step will be performed two times.
   d. Emergency call on day shift, workers will report to Control Room at east door and stand by for instructions.
   e. Fire calls on day shift, workers will report to Control Room at east door and stand by for instructions.
   f. Control Operator or Shift Foreman will notify fire department, ambulance service, or Emergency Services & Disaster Agency as appropriate.
   g. All managers, supervisors and superintendents will report to Control Room.
   h. During all other shifts, Control Operator or Shift Foreman is to call On-call Supervisor to report problem. Control Operator or Shift Foreman to make calls deemed necessary by On-call Supervisor. See emergency telephone numbers.
   i. The control operator will check the fire and emergency call system weekly.

B. Power Delivery (Systems, Dispatch and Transmission) and Admin Building

1. No alarm system.

   a. Employee finding trouble, get to a safe area, then call Dispatch and report trouble to Systems Operator.
   b. Systems Operator will notify fire department, ambulance service or Emergency Services & Disaster Agency as appropriate.
   c. After hours and Saturday and Sunday and Holidays, Systems Operator is to call On-call Supervisor to report problem. Systems Operator to make calls deemed necessary by On-call Supervisor. If On-call Supervisor is unavailable, Systems Operator is to notify emergency agencies as deemed appropriate.

NOTE: A list of the emergency telephone numbers will be provided by the Manager of Human Resources.

II. Posting Emergency Telephone Numbers

A. Objective

To provide for uniform posting of emergency assistance telephone numbers at all SIPC locations.

B. Responsibility

Manager of Human Resources shall ensure that current emergency telephone numbers are properly posted in the appropriate facilities.

The Manager of Human Resources shall provide a suitable posting form and evaluate effective compliance with this program.

C. Posting

"Emergency Telephone Numbers" form shall be accurately completed and prominently displayed at no less than one telephone location in SIPC offices, generating stations and substations, etc.

Individual shop areas, storerooms, panel rooms, etc., shall be so posted if it is anticipated that emergency calls could be made directly from such locations.

Remote facilities without telephones and routinely maintained by SIPC personnel shall also be posted to provide readily available emergency assistance information to anyone going for aid from such locations. Each "Emergency Telephone Numbers" form shall be dated when posted and reviewed annually with the review date indicated.

III. Response to Threatening Situations

A. Purpose

This procedure establishes the requirements for responding to threatening situations.

B. Applicability

This procedure applies to threatening situations received at any SIPC facility which may jeopardize the safety of personnel or the facility.

C. Responsibility

1. Individuals who identify the threat shall immediately contact department head.
2. Department heads, or delegates, are responsible for reporting, investigating and following up on all reported threatening situations.

3. Department heads shall be responsible for maintaining a safe operating facility while taking all necessary safety and security measures.

IV. Procedure for Threatening Phone Call

A. Upon receiving a threatening phone call:

1. Make every effort to keep the caller on the line as long as possible.

2. Extract as much information as possible, including any caller identification information.

3. Document the call in detail including any distinguishing characteristics in the caller's voice.

4. Notify appropriate Department Head, local sheriff's office and F.B.I. during the phone call or immediately after.

B. The Department Head shall determine what action shall be taken after evaluating the call.

1. DO NOT attempt to locate the explosive device(s).

2. Should a strange or suspicious object be encountered, in exiting the building:

   a. Do not touch it.
   b. Report its location and description to the Department Head immediately.

3. The Department Head or delegate shall, at their discretion, contact the appropriate agencies.

V. Procedures for Sabotage reporting

A. Any employee that suspects an act of sabotage that could affect the normal operation of SIPC facilities should immediately report the incident to the respective Department Head.

1. Sabotage is defined as the deliberate destruction or damage of SIPC owned equipment.

   a. DO NOT attempt to stop or confront the possible saboteur.
   b. Report your location, a description of the incident, and any other useful information to the respective Department Head as soon as possible.

B. The Department Head shall determine what action shall be taken after evaluating the information and at their discretion, contact the appropriate agencies.

C. If the employee believes that this incident poses a serious threat to other employees, they can at their discretion contact the appropriate law enforcement agency and then follow up with the respective Department Head..

VI. Procedures for Fire or Alarms

A. Upon observing a fire, smoke, or an alarm:

1. Follow procedures in Section I to report the fire.

2. If practical, trained employees should extinguish fire with available equipment.

3. Evacuate the facility of non-critical personnel.

B. NFPA 850 Recommended Practice for Serious Turbine-Generator Oil Leak Fire.

1. Sound fire alarm and notify the fire department.

2. Trip Turbine(s) from the Control Room.

3. Dump Generator Hydrogen to Roof. (Dumping the hydrogen to the roof is a high priority during a major turbine or generator fire).

4. Shut down the Turbine-Generator Oil Pumps. (The critical aspect of responding to turbine lubricating fires is minimizing the size and duration of the fire. The need for lubrication to protect the turbine-generator bearings and shaft should be balanced against the fire damage for allowing the oil leak to continue to feed the fire).

5. Handle rest of shut down same as a sudden load loss.

VII. Emergency Evacuation Plan

A. Administration Building

1. For **FIRE,** all personnel should exit the building using the nearest exit and assemble in the east parking lot, to be accounted for. The President/CEO, or delegate, will oversee notifying the proper authorities.

2. For **SEVERE WEATHER,** all personnel should assemble in the safe or a restroom until the severe weather has passed. Each employee must be accounted for before work can be continued after the severe weather has passed.

3. For **EARTHQUAKES,** all personnel should find an open doorway or a heavy object, such as a desk, to get under for protection from falling debris. As soon as practical, all employees shall evacuate the building and assemble in the east parking lot for a head count.

4. For **BOMB THREATS** all personnel should exit the building immediately and assemble at the east parking lot, until further directions are given. The President/CEO, or delegate, will oversee notifying the proper authorities.

B. Main Plant – All Plant Employees

1. For **FIRE,** all personnel not involved in the emergency shut down procedures shall exit the building using the nearest exit and assemble at Gate 1. The Shift Foreman will oversee notifying the proper authorities.

2. For **SEVERE WEATHER**, the control room operator will evacuate to the first floor DCS control room and all personnel not involved in the emergency shut down procedures shall assemble in the basement storm shelter areas. Coal handling employees should assemble in the coal handling designated storm shelter areas. All employees will remain in their designated storm shelter areas until the severe weather has passed.

3. For **EARTHQUAKES,** all personnel should find an open doorway or a heavy object to get under for protection form falling debris. Once the earthquake has subsided all personnel should assemble on the furthest northeast corner of the plant parking lot for a head count.

4. For **BOMB THREATS** all personnel should exit the building using the nearest exit and assemble near Gate 1 and remain there until further directions are given. There should be no radio traffic. Only telephones or Gai-tronics should be used for communication purposes. The Shift Foreman will oversee notifying the proper authorities.

5. For **CHEMICAL SPILLS** employees in the immediate area of the spill shall get to safe location and notify the Shift Foreman. The Shift Foreman shall evaluate the spill and take appropriate action. If employees are to be evacuated from an area, they must be directed to a safe assembly area where they will remain until notified that it is safe to return to work. The Shift Foreman will oversee notifying the proper authorities. (For anhydrous ammonia leaks, see additional information in the PSM section of the Safety Manual.)

C. Transmission and Electrical Systems Buildings

1. For **FIRES** all personnel shall leave the building using the nearest exit and assemble in the appropriate south parking lot for a head count.

2. For **SEVERE WEATHER,** all personnel shall assemble in the appropriate restroom and remain there until the severe weather has passed.

3. For **EARTHQUAKES,** all personnel shall find an open doorway or heavy object, such as a desk, to get under to protect from falling debris. As soon as practical, all employees shall assemble in the appropriate south parking lot for a head count.

4. For **BOMB THREATS** all personnel shall exit the building using the nearest exit and assemble in the appropriate south parking lot and remain there until further directions are given. There should be no radio traffic. Only telephones should be used for communication purposes. The Supervisor will oversee notifying the proper authorities.

D. Emergency Numbers are posted.

E. Assembly Locations

Maps will be posted in each area indicating the assembly locations for that area. All employees shall review these maps and know where to assemble when notified.

SECTION 3: BLOODBORNE PATHOGENS PROGRAM

I. GENERAL

All employees of the Cooperative are required to know and comply with the Bloodborne Pathogen Exposure Control Plan, in compliance with OSHA 1910.1030. The plan includes:

Exposure Determination
Universal Precautions
Personal Protective Equipment
Work Practices
Control and Disposal
Decontamination
Hepatitis B Exposure
Employee Training
Recordkeeping
Forms

II. EXPOSURE DETERMINATION

The Manager of Human Resources is responsible for identifying all job classifications and their associated tasks, in which the employee's performance of the job puts them at risk for occupational exposure.

A. First responder(s) and others as assigned.

B. Tasks that the above employees perform that would put them at risk are:
First Aid/CPR
Custodial duties

III. WORK PRACTICES

A. Wash hands, skin or mucous membranes as soon as feasible after:
1. Exposure to potentially infectious fluids
2. Removal of gloves
3. Removal of other protective equipment

B. Hand-washing facilities are readily available in the Cooperative's buildings. Away from the buildings, employees are provided with antiseptic hand cleanser, clean cloth/paper towels or antiseptic towelettes. (Wash hands with soap and water as soon as feasible following use of antiseptic cleanser or towelettes.)

IV. CONTROL AND DISPOSAL

A. Dispose of all potentially contaminated materials in an appropriate container that is puncture resistant, labeled, and leak-proof on sides and bottom.

B. Sharp objects, including needles can be contaminated. When handling these items, DO NOT break, bend, recap or remove.

C. In areas where occupational exposure is a reasonable likelihood, DO NOT eat, drink, smoke, apply cosmetics or lip balm or handle contact lenses.

D. If emergency procedures involve blood or other potentially infectious fluids employees should minimize spattering, spraying or generating drops.

V. DECONTAMINATION

A. As soon as feasible following potential contamination, the area and or equipment must be clean and decontaminated and the Safety Administrator and/or their designee must be notified.

B. All equipment and work surfaces that have been contaminated with blood or other potentially infectious materials will be cleaned and decontaminated with an appropriate disinfectant, such as 10 to 2 water/bleach solution.

C. Decontaminate exposed equipment before shipping or servicing.

D. Only those employees identified in the EXPOSURE DETERMINATION section will perform decontamination tasks.

VI. HEPATITIS B VACCINATION & POST-EXPOSURE EVALUATION

A. The Cooperative will make available the Hepatitis B vaccine and vaccination series to all employees who have occupational exposure (those covered in Section B).

B. The above covered employees will be offered the Hepatitis B vaccine upon receipt of training or within ten working days of the employee's initial employment into a covered job.

C. Employees exposed to Hepatitis B will be offered vaccination and post-exposure follow-up in accordance with OSHA 1910.1030 and U.S. Public Health Service standards.

D. Records will be kept in the Human Resources Department on all employees that have had the vaccine.

E. Employees have the right to refuse to take the vaccination; however, when they do refuse, they must sign the "Hepatitis B Vaccine Declination" form. If later they decide they want the vaccine, then the Cooperative will provide the vaccine.

F. The Cooperative will make available post-exposure evaluation and follow-up to any employee who has had an exposure incident. This information will be documented using the "Post Exposure Evaluation" form.

G. All medical procedures covered in this Plan will be scheduled and performed at no cost to the employee.

VII. EMPLOYEE TRAINING

A. The Cooperative will provide training annually and when warranted on "Bloodborne Pathogen Exposure Control". This training will include, but not be limited to:

a. OSHA regulation 1910.1030

b. General explanation of bloodborne diseases
c. Modes of pathogen transmission
d. The Cooperative's exposure control plan
e. Employee's potential exposure
f. Personal protective equipment and procedures
g. Hepatitis B vaccine
h. Emergency actions and follow-up procedures

VIII. RECORDKEEPING

A. The Cooperative will ensure confidentiality of medical records involving occupational exposure as specified in OSHA 1910.1030.

SECTION 4: FIRST AID/CPR/BBP

I. FIRST AID/CPR/BBP

A. TRAINING

Southern Illinois Power Cooperative will use a certified course to teach basic principles and first aid skills needed for common emergency situations.

1. Employees
   First responders and employee volunteers will be trained in Basic First Aid, Cardiopulmonary Resuscitation (CPR), and Blood borne Pathogens (BBP).

   Some employees will be trained in Cardiac Arrest treatment and the use of Automated External Defibrillator (AED).
   a. AED(s) are in the Admin Building, Transmission Building, Electrical System Building, Power Plant, Power Plant Storeroom and Systems Electricians' vehicles.

II. FIRST AID KITS

A. OBJECTIVE

To standardize first aid kits and contents and to provide a uniform practice for inspection, inventory and replenishment.

B. RESPONSIBILITY

Each department head shall be responsible for selection and installation of standardized first aid kits and the inspection and replenishment of kits for facilities and vehicles under their control. The Safety Administrator will maintain an inventory of replacement first aid supplies.

C. RECORDKEEPING AND MAINTENANCE

All building first aid kits shall be inspected and replenished monthly. Vehicle first aid kits are the responsibility of the vehicle assignee to be replenished as needed.

D. TRAINING

The Safety Administrator will coordinate training sessions for supervisory personnel to familiarize them with kits and items and assist them in familiarization training for their employees.

III. ACCIDENT RECORDKEEPING REQUIREMENTS

A. INTRODUCTION

SIPC requires that all accidents that result in personal injury, whether or not treated by a physician, must be investigated and reported to the President/CEO within 24 hours on the IL Form 45 Supervisor's Report of Injury, including Incident Investigation Report.

The intent of this report and investigation is not to place blame on anyone but to establish practical steps for accident prevention. This is why it is imperative to obtain detailed and factual information on accidents. The conditions and circumstances surrounding the accidents/incidents are also important. The accident report is nothing more than a tool to set the wheels in motion for both the employee's compensation and appraisal of the accident for future prevention.

Accidents usually indicate an unsafe act by a person or an unsafe condition. An unsafe act is not always executed by the injured person. If a safety rule has been violated, "say so". It just might be that it has been a common practice and may save further injuries or property damage.

This procedure is to clarify the need for the reports and explain their use.

B. OBJECTIVES

The objectives of this safety practice are:

1. Prevention of Similar Incidents.
2. Completion of Accident Investigations.
3. Completion of IL Form 45.

C. RESPONSIBILITY

1. Employee:
   a. Immediately report to his shift supervisor, leadman or supervisor any incident involving personal injury or property damage.
   b. Have all injuries/illnesses treated immediately.
   c. Fill out Incident Investigation Report through the section entitled "Prevention".

2. Supervisor:
   a. Conduct an immediate and complete investigation of all personal injury accidents.
   b. Notify the Safety Administrator immediately in cases of major injury for assistance in investigation.
   c. Complete supervisor's portion of Incident Investigation Report and forward to Human Resources within 24 hours after investigation.

IV. ACCIDENT REPORTING REQUIREMENTS

A. RESPONSIBILITY

1. In the case of a fatal accident to one or more employees, the incident must be reported within 8 hours, either orally or in writing, by the department head, to the nearest OSHA area office.
2. In the case of an accident resulting in hospitalization of one or more employees, amputations or the loss of an eye, or any other OSHA reportable injury, the incident must be reported within 24 hours, either orally or in writing, by the department head, to the nearest OSHA area office

V. ACCIDENT INVESTIGATION

A. RESPONSIBILITY

1. Superintendents/Supervisors:
   a. Investigate within twenty-four (24) hours of the time of any accident/incident. Fatalities must be investigated and reported within 8 hours. Hospitalizations, amputations, the loss of an eye or any other reportable injury must be investigated and reported within 24 hours.
   b. Make periodic checks to ensure remedial action and/or timely repairs have been made.

2. Department Head:
   Conduct a management review pertaining to all reported accidents.

3. President/CEO:
   Conduct a Board review pertaining to all reported lost time or major property damage accidents/incidents.

B. PROCEDURE

The scope and depth of any investigation shall be governed by the incident's potential or severity on a case-by-case basis. In conducting an investigation, there are a multitude of options. Listed below are some of the essentials.

1. Do not disturb evidence until a complete investigation has been made by all concerned.
2. Pictures should be taken and a record kept while taking the pictures.
3. Record distances from fixed objects for later reconstruction.
4. Mark locations and tag items that must be removed for safety reasons.
5. Interview all witnesses as soon as possible after accident. Group interviews are generally invalid because people tend to agree with peer group.
6. Notification of next of kin shall be considered. They shall be personally notified by Management in the event of severe injury.
7. Instructions for completion of the IL Form 45 are included in this Plan.

VI. WORKER'S COMPENSATION CLAIM PROCEDURES

A. OBJECTIVE

1. To provide supervisors and employees with guidelines for procedures which must be followed to ensure that payments for medical services and time away from the job are made on a timely basis.
2. To ensure that reports required by state agencies and the insurance carrier are filed in compliance with applicable state laws.
3. To ensure that Southern Illinois Power Cooperative records are up to date and that statistics are calculated using accurate data.

B. RESPONSIBILITY

1. Department Heads/Superintendents/Supervisors

a. Record and report all work-related injuries on IL Form 45.
b. Ensure that an injured employee provides adequate medical reports and return-to-work authorization from the treating physician and forward all such documents to Human Resources.
c. Report additional lost time and return to work by phone to Human Resources immediately.
d. Forward any bills for medical services obtained from the injured employee to Human Resources without delay.

2. Employees
   a. Inform Supervisor immediately of any on-the-job injuries, any medical treatment received and any absence from work due to a work-related injury.
   b. Furnish to the appropriate level of supervision medical reports and/or return-to-work authorization.
   c. Inform Supervisor of estimated length of disability if time away from the job is involved. If disability will be lengthy, notify Supervisor weekly of progress.
   d. Submit any bills to Human Resources for any medical treatment.
   e. Follow all restriction dictated by treating physician both at work and at home.

3. Human Resources
   a. The IL Form 45 form is directed to Human Resources where copies are made available upon request.
   b. Human Resources fills out Form 45, Employer's First Report of Injury or Illness, which is comparable to OSHA's Form 301, Supplemental Record.
   c. Each Department Head is responsible for reviewing and approving Form 45.
   d. Form 45, along with any medical and/or return-to-work authorizations, are sent to the SIPC's Worker's Compensation insurance carrier naming injured employee and date of accident.
   e. Each recordable case is logged on OSHA's Form No. 300 which is totaled and posted using OSHA Form 300A from February 1st until April 30th of the following year.
   f. Worker's Compensation summary reports are presented to the Board each month.

C. INJURIES

All injuries, regardless of whether or not they required medical treatment, shall be reported immediately on the Personal Injury Report (IL Form 45) and forwarded to Human Resources

1. Lost Time Injuries
   The first day of lost time should be recorded on the Personal Injury Report (IL Form 45) under the Nature and Extent of Injury section. If the employee has already returned to work, this should also be recorded. If the employee has not returned to work, the length of disability should be estimated using the information available.

2. Reporting Lost Time After Initial Return to Work
   a. The supervisor in charge shall immediately report any additional period of lost time by phone to Human Resources
   b. The employee shall furnish his supervisor with a written medical status report documenting the disability. The supervisor shall forward a copy of the status report to Human Resources without delay.
   c. The supervisor is responsible for having a completed Sick Leave Claim form with the employee's time sheet. This document is required before a paycheck can be

issued.

D. MEDICAL STATUS REPORTS/RETURN-TO-WORK AUTHORIZATION

1. An employee who is injured on the job shall deliver all medical status reports from his/her physician to his/ her supervisor. The supervisor shall forward copies of all medical reports to Human Resources without delay.

2. An employee shall obtain from their physician a written return-to-work authorization, with no limitations or with restrictions, and deliver the authorization to their supervisor prior to or upon return to work. The supervisor shall immediately contact Human Resources by phone when an employee returns to work and shall forward a copy of the physician's written return-to-work authorization. If the return-to-work form contains restrictions, the supervisor and their manager shall determine if the employee can perform their job with restriction or if there is other work that the employee can perform with the restrictions.

3. Upon the employee's return to work, SIPC may have their fitness reviewed by a doctor chosen by SIPC.

E. QUESTIONABLE CLAIMS

1. Even if the supervisor feels that a claim for Worker's Compensation is not valid or there is a question of whether or not the injury occurred on the job, a Personal Injury Report (IL Form 45) shall be completed. No employee shall be denied the right to file a claim for Worker's Compensation.

2. Any unusual circumstances or reasons for questioning the claim should be noted on the IL Form 45 or in an attached memorandum. The Worker's Compensation carrier will investigate the claim on its merits.

VII. NEAR-MISS ACCIDENTS

To identify hazards prior to the time that employees are injured, Southern Illinois Power Cooperative has initiated a TS-6 Near-Miss Report. (Instruction for this form are included in this section.)

VIII. ACCIDENTS AND DAMAGE

A. INTRODUCTION

This procedure explains what is required when an employee, guest or person being interviewed is involved in a vehicle accident; (1) when driving an SIPC pool vehicle, (2) when driving an SIPC vehicle permanently assigned to the employee, (3) when driving an employee-owned vehicle while on SIPC business, or (4) when driving a rental car while on SIPC business.

Insurance coverage on a vehicle belonging to a guest or prospective employee is the responsibility of that individual.

When involved in an accident, employee should not discuss the accident with anyone other than his supervisor, the police, or SIPC's insurance representatives. Never admit to any liability until full investigation can be completed.

B. REPORTING INSTRUCTIONS

A vehicle accident shall be reported to city, county or state law enforcement authorities if the estimated damage exceeds the limit established by the state in which the accident occurs. All accidents involving bodily injury or third-party property damage shall be reported to city or county law enforcement.

If injury is involved, the accident should be reported by phone to Human Resources as soon as possible.

Form SA 005, Incident Investigation Report, shall be prepared and submitted for any accident involving an SIPC vehicle regardless of the extent of damage. When available, a copy of the police report shall accompany Form SA 005.

IL Form 45, Report of Injury to an Employee, shall be prepared and submitted according to this Plan.

C. ROUTING OF FORMS

Completed Form SA 005 shall be forwarded to Human Resources

Human Resources or the Safety Administrator will be responsible for the liability insurance arrangements in the event of property damage or injury resulting from the accident.

D. ADDITIONAL INVESTIGATION

If it is determined additional investigation is necessary, that investigation shall be performed by our safety contractor. Everyone's full cooperation is requested.

INSTRUCTIONS FOR USE OF IL FORM 45 SUPERVISOR'S REPORT OF INJURY TO AN EMPLOYEE

This report is to be sent to the Human Resources without delay. If you do not have all the information currently, write across the top of this report "supplemental to follow".

1. DATE OF REPORT
   This is the date the report is made out. This is not the date of the accident/incident unless it is made out the same day as the accident.

2. WHO WAS INJURED?
   NAME: Last name, first name and middle initial.
   JOB TITLE: The person's job title for pay purposes.
   YEARS EMPLOYED BY COMPANY: Total time employed by the company.
   ON PRESENT JOB: How long has injured been working at the present job?
   DEPARTMENT: The name of the department the employee works in.
   EMPLOYEE NUMBER: The employee's number.

3. TIME AND PLACE OF INJURY
   DATE: Day of injury.
   HOUR: Hour of injury.
   AM OR PM: Cross out the one that does not apply.
   DID ACCIDENT OCCUR ON EMPLOYER'S PREMISES? Check the answer that does apply.
   Example: Transmission Line Right-of-Way is considered employer's premises for accident reporting.
   NORMAL WORK SCHEDULE: The normal hours the injured person works.
   NORMAL WORKDAY: What is considered normal for the job worked?
   PLACE OF ACCIDENT: Actual location to include street or road; if in the power plant, its name.
   PLANT OR SUBSTATION: Accident location by actual name.

4. WITNESS TO THE INJURY
   List the name or names of all witnesses to the accident. If none, write in "none".

5. NATURE AND EXTENT OF INJURY
   PARTS OF THE BODY INJURED AND NATURE OF INJURIES: Give complete information as to the part of the body injured. An example would be right foot, left hand, right shoulder, etc. Be as specific with the nature of the injury as possible. Example -- cracked or broken large toe on right foot, bruised right forearm, etc.

6. TREATMENT
   DATE OF FIRST TREATMENT BY DOCTOR: Actual date the injured was treated by a doctor even though it might be different from the injury date.
   ATTENDING PHYSICIAN: Fill in the name of the physician as completely as possible.
   ADDRESS: Street, city, and state. Also, clinic name if a clinic was used.
   DATE HOSPITALIZED: Actual date injured was hospitalized.
   NAME AND ADDRESS OF HOSPITAL: Name and full address of hospital or clinic used.
   WHEN DID LOST TIME START?: If this is a lost time accident, the lost time date is the day after the accident. For a non-lost time accident, place NLT in this space.
   PROBABLE LENGTH OF DISABILITY: Number of days as estimated by physician treating the injured. If this information is not available at the time of this report, leave this space blank; and when the information becomes available, send it to the Safety Director's designate on a supplementary TS-7 form.

7. ACCIDENT

WHAT WAS EMPLOYEE DOING WHEN INJURED?: Fill in as accurately as possible exactly what the employee was doing when injured.

HOW DID ACCIDENT OCCUR?: Be specific here. Give as complete an account of the accident as possible. If more space is needed for this information, use a separate sheet of paper. Give all of the information.

IDENTIFY OBJECT, SUBSTANCE OR MACHINE WHICH DIRECTLY INJURED EMPLOYEE: Make description of object, substance or machine as accurate as possible. Example -- 20-foot length of 6-inch steel pipe, digger flight on digger derrick, etc.

8. REASON FOR ACCIDENT

WHAT DO YOU BELIEVE WAS THE MAIN REASON FOR THIS ACCIDENT?: This is the place for the injured to be completely honest with himself. Tell it like it is. Do not make excuses such as "the piece of steel flew in my eye from the chisel head". Put down the cause. Example -- "I used a chisel with a mushroomed head; and when I struck the chisel with the hammer, a piece of the mushroomed steel broke off of the chisel striking me in the eye."

9. PREVENTION

WHAT DO YOU BELIEVE COULD HAVE BEEN DONE TO PREVENT THIS ACCIDENT? IF YOU THINK THE ACCIDENT COULD NOT BE PREVENTED, STATE WHY: Again, keep in mind that this question is here in the prevention of similar accidents by other employees in similar situations. If you feel the accident could not have been prevented, then state your reasons.

EMPLOYEE'S SIGNATURE: In this space, the employee who had the accident is to sign it at the time of completion of this report if filled out by the employee. If the injured person did not complete this form, then the person who did should place both names in this space and the date completed.

SHIFT FOREMAN'S OR LEADMAN'S SIGNATURE: In this space, the employee's shift foreman or leadman should sign this form verifying that he was on duty at the time of the accident.

Southern Illinois Power Cooperative
SA 004 IL FORM 45

ILLINOIS FORM 45: EMPLOYER'S FIRST REPORT OF INJURY — Please type or print.

Employer's FEIN **37-0801403**	Date of report	Case or File #	Is this a lost workday case?
Employer's name **Southern Illinois Power Cooperative**		Doing business as **Southern Illinois Power Cooperative**	
Employer's mailing address **11543 Lake of Egypt Road, Marion, IL 62959**			
Nature of business or service **Utility**			SIC code **4911**
Name of workers' compensation carrier/admin.	Policy/Contract #		Self-insured? **No**
Employee's full name		Social Security #	Birthdate
Employee's mailing address			Employee's e-mail address
		# Dependents	Employee's average weekly wage
Job title or occupation			Date hired
Time employee began work	Date and time of accident		Last day employee worked
If the employee died as a result of the accident, give the date of death.		Did the accident occur on the employer's premises? Yes / No	
Address of accident			
What was the employee doing when the accident occurred?			
How did the accident occur?			
What was the injury or illness? List the part of body affected and explain how it was affected.			
What object or substance, if any, directly harmed the employee?			
Name and address of physician/health care professional			
If treatment was given away from the worksite, list the name and address of the place it was given.			
Was the employee treated in an emergency room? Yes / No		Was the employee hospitalized overnight as an inpatient? Yes / No	
Report prepared by	Signature	Title and telephone # **618-964-2205**	

Please send this form to the ILLINOIS WORKERS COMPENSATION COMMISSION 4500 S. SIXTH ST. FRONTAGE RD. SPRINGFIELD, il 62703-5118 IC45 6/09

By law, employers must keep accurate records of all work-related injuries and illness (except for certain minor injuries). Employers shall report to the Commission all injuries resulting in the loss of more than three scheduled workdays. Filing this form does not affect liability under the Workers' Compensation Act and is not incriminatory in any sense. This information is confidential.

INSTRUCTIONS FOR USE OF SA 005 INCIDENT INVESTIGATION REPORT

1. SUPERVISOR

HAVE YOU DISCUSSED THIS ACCIDENT WITH INJURED EMPLOYEE?: Any accident to an employee should be discussed between the supervisor and the employee. This is a mainstay of the accident prevention program and part of a good solid accident investigation.

IS THE ABOVE REPORT COMPLETE AND ACCURATE?: Read over and study the report to be positive it is correct.

WERE YOUR INSTRUCTIONS FOLLOWED?: Was the employee properly following your instructions for the work being done at the time of the accident? Did you give any instructions?

WAS THE ACCIDENT DUE TO FAILURE TO OBEY SAFETY RULES? IF SO, LIST RULE NUMBERS: In your investigation of the accident, you may or may not find a safety rule violated. If you do find a rule was violated, place the rule number in this space.

WHAT WILL YOU DO TO PREVENT SIMILAR ACCIDENTS IN THE FUTURE?: You, as a supervisor, can utilize this question to assist you in your accident prevention program.

SUPERVISOR'S SIGNATURE: The immediate supervisor of the injured employee should sign here.

DATE: Day supervisor signed accident report.

2. MANAGER OR DEPT. HEAD FOLLOWUP

HAS THIS ACCIDENT BEEN INVESTIGATED?: Every accident which causes injury to an employee should be investigated by a representative of management.

BY WHOM?: The person making the investigation would fill in this space.

GIVE RESULT OF INVESTIGATION, LISTING WHAT WILL BE DONE TO PREVENT SIMILAR ACCIDENTS IN THE FUTURE: This final question and section is for management's input into the accident investigation.

REPORT APPROVED BY: The department manager, superintendent or department head should sign here.

DATE: Date supervisor signed report.

Please call the Safety Administrator if you have any questions about completion of this form.

Southern Illinois Power Cooperative
SA 005 Incident Investigation Report
Employee Section

Employee Name:_____ Accident Date_____
Witnesses to the Injury: _____

Will there be lost time?_____ If so when did/will this begin?_____

Date of first treatment from a doctor:_____ Were you hospitalized?_____

What do you believe was the main reason for this accident?_____
_____

What do you believe could have been done to prevent this accident?_____
_____

Employee Signature_____Date_____

Supervisor Section

Date you discussed this accident with the injured employee:_____

Do you feel the above report is complete and accurate?_____

Were your instructions followed?_____ If no, explain_____
_____

Was this accident due to failure to obey safety rules?_____ If yes, explain_____
_____
_____

What will you do to prevent similar accidents in the future?_____
_____

Supervisor Signature_____Date_____

Manager Section

List what will be done to prevent similar accidents in the future_____
_____
_____

Manager Signature_____Date_____

INSTRUCTIONS FOR USE OF TS-6 NEAR-MISS REPORT

1. Date and time of incident:
   a. Insert exact date and time of incident.
2. Location of incident:
   a. Record location as close to and as best you can.
3. Number of employees that may have been injured:
   a. Ensure an accurate number is placed in this space.
4. Brief description of incident:
   a. Record the incident as you saw it and record any property damage, also, be it SIPC or others.
5. In your opinion, what can be done to prevent this incident from recurring?
   a. Write down honest, frank opinions.
6. Submitted by:
   a. Print or sign your name legibly.
   b. Forward to immediate supervisor.
7. Supervisors should discuss these Near-Miss Reports with their personnel.

It should be noted that this report is a form of accident prevention. Incidents that do not involve personal injury happen every day. If these incidents can be discussed, it can possibly stop recurrence and prevent injury and/or property damage.

Southern Illinois Power Cooperative

TS-6 NEAR-MISS REPORT

DATE OF INCIDENT: _____ TIME OF INCIDENT: _____

LOCATION OF INCIDENT: _____

NUMBER OF EMPLOYEES THAT MAY HAVE BEEN INJURED: _____

Brief description of incident: _____

_____

_____

_____

_____

_____

In your opinion, what can be done to prevent this incident from recurring?

_____

_____

_____

_____

_____

Action to be taken: _____

_____

Submitted by: _____

Date: _____

SECTION 5: SIPC's ELECTRICAL EQUIPMENT CLEARANCE & PERMIT SYSTEM

I. PLANT

A. PURPOSE

This Clearance & Permit System is designed to ensure both safety of personnel and protection of power plant equipment.

NO VIOLATIONS OF THIS SYSTEM WILL BE TOLERATED.

Note: **This system does <u>not</u> apply to the Power Delivery Department. That Department is covered by a separate Clearance and Permit System. The Power Production Department may continue to assist the Power Delivery Department in tagging within the plant yard.**

B. SCOPE

This program and these procedures apply to all employees of SIPC as well as contractors' employees.

C. APPLICATION

The application of this system requires that no work be done on any equipment until the proper tags have been issued, placed in position and the system or equipment tested to verify that it is safe to work on. Tags will be used in place of locks as allowed in OSHA's 29CFR1910.269 regulations. All provisions of that regulation will be followed by SIPC.

No work shall be performed until it has been verified, by the individual(s) that will be performing the work, that the equipment or system is at a zero-energy state. Then and only then, is it safe to perform the required work.

D. PROCEDURES

This system allows for three tags with different purposes:

1. **Red Tag** - This tag is intended to protect personnel and mandates that the equipment on which this tag has been placed not be operated under any circumstances.

   a. Tag Issuance Procedure

      1. The person(s) who will be working on the equipment shall contact either the Shift Foreman (plant area) or the Coal Handling Leadman (Coal Handling) and determine by discussion what pieces of equipment should be red-tagged to protect the safety of the worker.

      2. Based on this discussion, the Shift Foreman or Coal Handling Leadman will issue the necessary red tags and will register the issued tags.

3. The person(s) working on the equipment shall sign the tags and then place the tags on the equipment. Each employee that will be working on the equipment must sign the tag. For jobs with several employees working on a piece of equipment a **Master Tag** should be used. It must have a listing of all employees working on the equipment and it must be hung or located in the area of the work, except when used during outage, then it can be located in a central location. After all of the tags have been placed, the worker(s) shall:
   a. Take whatever steps needed to verify that the equipment is safe to work on,
   b. When a **Master Tag** system is utilized the "primary authorized employee" (the employee holding the clearance) shall verify that the equipment is isolated. Once this is done all employees that will be working on the equipment must sign onto the Master Tag. All employees working on the equipment will be allowed to verify that all energy has been isolated if they wish,
   c. Contact the Shift Foreman or Coal Handling Leadman to inform him/her that the tags are in place and that the equipment is no longer available for use.
4. Master Tag System
   A Master Tag System will be used when more than one person will be working under the protection of a single tag.

   "A MASTER TAG is a document used as an administrative control and accountability device. This device is normally controlled by the operations department personnel and is a personal tagout device if each employee personally signs on and signs off of it and if the tag clearly identifies each authorized employee who is being protected by it."

b. Tag Removal Procedure

1. Removal of the red tag can be made only by the person(s) who has signed the red tag or by the Shift Foreman or Coal Handling Leadman who by personal contact has been authorized by the signee to remove the tag. Removal of Master Tags shall be done by the "primary authorized employee" after they have verified that all employees are in the clear and that the employees signed on to the Master Tag have signed off.

2. When the Shift Foreman is unable to contact the person(s) that holds the clearance, the Shift Foreman can contact the supervisor of the involved individual(s). After the supervisor verifies that the equipment and personnel are in a safe condition, they can authorize the Shift Foreman or Coal Handling Leadman to remove the tag. When this is done the person(s) that signed the red tags must be notified that their tags have been removed.

3. If neither the person that holds the clearance nor their supervisor can be reached, the Department Head, Superintendent of Operations or Maintenance has the authority to release the clearance. This is to be

done only after it has been verified that all personnel are in the clear and the equipment is safe to operate. When this is done the person(s) that signed the tags must be notified that their tags have been removed.

c. Follow-up

1. Since the purpose of the red tag is to protect the individual(s) working on the equipment, the tag must be removed as soon as the individual(s) has completed their work.

3. **Yellow Tag** - This tag is intended to inform others of an existing condition.

a. Tag Issuance Procedure

1. Any person can place a yellow tag if they believe others should be aware of a particular condition concerning the operation of a piece of equipment.

2. The actual wording of the tag should be discussed with the Shift Foreman or Coal Handling Leadman before the tag is placed.

b. Tag Removal Procedure

1. Any person can remove a yellow tag when the particular condition to which it refers no longer exists.

2. The Shift Foreman or Coal Handling Leadman should be notified of the absence of the condition.

c. Follow-up

The Shift Foreman or Coal Handling Leadman should verify that, in fact, a particular condition is no longer present.

E. Training

1. All employees will be trained to ensure that the purpose and function of this program is understood. Their training will verify that they have the knowledge and skills needed to perform lockout/tagout operations as required by this program.

2. Employees will be trained at either the "authorized," "affected" or "other" level, as required by OSHA.

3. Employees trained at the "authorized" level must be able to: recognize hazardous energy sources, know the type and magnitude of energy available and know the methods and means to isolate and control the energy.

4. Employees trained at the "affected" level must know the purpose of these procedures and how they will be used.

5. Employees trained at the "other" level must know the purpose of these procedures and know that when they come into contact with equipment that has been locked/tagged out they must leave it alone and never try to start or restart the equipment.

6. Employees will be trained prior to performing tasks requiring lockout/tagout and annually thereafter.

7. Employees will be retrained whenever the program changes or whenever deficiencies are noted during the periodic inspection.

8. When a tagout system is used the following additional training will be covered:

   a. Tags are warning devices that do not provide the physical restraint of a lock.

   b. When a red tag is used it may be removed by the person(s) that placed it or by following the tag removal procedure covered in Section D.1.b above.

   c. Tags are never to be bypassed, ignored, or otherwise defeated.

   d. Tags must be legible and understandable.

   e. Tags and their means of attachment must be made of materials that withstand the environment.

   f. Tags may evoke a false sense of security so all involved employees must understand their purpose and importance.

   g. Tags must be securely attached.

F. Periodic Inspections

1. Periodic inspections will be conducted at least annually to verify that the program/procedures are working and are being followed by employees.

2. An employee trained at the "authorized" level that is not involved in the lockout/tagout operation that is being evaluated will conduct this inspection.

3. When lockout is used the inspection will include a review between the inspecting employee and the authorized employee(s) performing the work. The review will address the responsibilities of the employee(s) under this procedure.

4. When tagout is used the inspection will include a review between each "authorized" and "affected" employee and the inspecting employee. The review will address the employees' responsibilities under these procedures as well as the limitations and requirements of using tags.

5. The inspection certification will include: the equipment being isolated, the inspectors' name, the name of the individual(s) performing the procedure, the date of the inspection, and any problems noted during the inspection.

G. Contractors

1. Contractors must secure a clearance from the Shift Supervisor or Leadman (for Coal Handling).

2. The contractor will inform the Shift Supervisor or Leadman what equipment they need to work on and red tags will be issued and registered.

3. A SIPC representative will tag out the equipment for the contractor but the contractor must also place a tag on the equipment.
   SIPC representative and Contractor representative will verify the tagout has successfully taken the equipment to a zero energy state prior to the contractor starting work on the equipment.

4. The contractor must use a sign-in/sign-out log to identify all individuals that will be working under their tag.

5. The sign-in/sign-out log must identify each person protected by the tag out system as well as who is in charge (this will usually be the individual that holds the clearance).

6. Employees that are no longer working under a clearance must sign off of the log and if they go back to work, they must sign back on.

7. After the equipment has been taken out of service and tags hung the contractor's employees that are to work on the equipment must verify that the equipment is at a zero-energy state and safe to work on.

8. When the contractor is ready to remove their tag, they must contact the Shift Supervisor or Leadman (for Coal Handling) and notify them that all their employees are in the clear and the equipment is safe and ready to be placed back in service.

9. No contractor employees will take any equipment out of service without securing proper clearance from SIPC.

10. Violation of any part of this procedure by a contractor or their employees could result in removal from the job site.

II. SYSTEM

A. Purpose:

The Clearance and Permit System is established for the purpose of providing safety to workers and protection to electrical service and equipment during the period work is performed whenever such work is in any way connected with the physical and electrical operation of Southern Illinois Power Cooperative.

[*Note*: **This Clearance and Permit system does not apply to the Power Plant Production Department.** The Plant Production Department may continue to assist the Power Delivery

Department in switching and tagging within the plant yard.]

B. Application

1. **The application of this system requires that no work shall be done on any part or structure until the employee has requested and has been issued either**
   a. **working clearance,**
   b. **working permit, or**
   c. **emergency clearance order.**

2. A **Working Clearance** provides that the line or equipment to be worked on will be deenergized and all work will be done with the line or equipment deenergized.

3. A **Working Permit** provides that all work will be done without interruption to service, and the work will be done with the line or equipment **energized**. Employees working on or near energized lines or equipment where a working clearance is not required shall request a working permit on the lines or equipment. This includes all work in, on or near lines, breakers, transformers, switches, relays, equipment rooms and/or switching stations.

4. **Emergency Clearance Order** provides for immediate deenergizing of a line(s) or equipment to save life or protect property.

C. Authority

1. Working Permit

   Working permits will be issued by the Systems Operator without reference to higher authority on certain types of live line work authorized on list by an SIPC supervisor. All automatic reclosures will be put in the **OFF** position before commencing work and returned to **ON** position upon completion of work.

2. Working Clearance

   Except in emergencies, working clearance will be approved by an SIPC supervisor.

   Whenever it is necessary to do work which will require a working clearance, the request should be made, if possible, 24 hours before the line or equipment is expected to be taken out of service.

   The location, nature of work contemplated and approximate length of time required to do the work will be explained to the Systems Operator when the request is made.

3. Emergency Clearance

   Emergency switching to save life or protect property may be done by the most expedient way. In all cases, the Systems Operator should be notified as soon as possible.

D. Responsibility for Switching

1. An SIPC supervisor is responsible for all switching except in cases of emergency where

lines or equipment must be deenergized at once to save life or protect property. No switching which causes a shifting of load or which changes the normal operation status of lines or substations in service will be made without their approval.

2. The Systems Operators are in charge of the lines and equipment and their means of disconnection. All switching orders will be issued by the System Operator for the work to be done that requires a working clearance. The switching orders will be in numerical sequence, dated, time issued, time completed, issued to, approved by and order of operations, the time each order is completed, switch numbers and purpose of switching. The switching order number, time issued and time completed will be recorded in the Systems Operator's log.

3. Any line or station equipment ordered deenergized shall not be energized by any person other than the one who has been ordered to do so by the System Operator.

4. SIPC's communication facilities will be used whenever possible, but telephone can also be used when accessible.

E. Repeating Orders

1. Any switching order given by the Systems Operator shall be repeated back by the person taking the orders, and switching or clearance information given to the Systems Operator shall be repeated back. Both parties shall speak slowly and distinctly and shall stay on the phone or radio until both are positive they understand each other.

2. When possible, the switching will be done by the same person who received the order because repetition of orders to another party increases the chance of error. **Without exception, the person who starts the operation shall carry through a switch operation to completion.**

3. When switch orders involve operation of gang-operated disconnect or airbreak switches, the Switchman shall note that **all** switchblades are properly opened or contacted and shall so report when calling back to the Systems Operator.

4. **These rules must be rigidly observed as life may depend on the correct understanding of orders and the proper operation of switches.**

F. Switching Order Forms

1. Switching order forms will be used by the Systems Operators to record the steps taken in granting a Working Clearance on line or substation equipment to be deenergized to permit maintenance or repair work to be done with the power off. The Switching Order will be filled out completely by the Systems Operator for their own information and that of the employee who relieves him. Upon completion, the original copy is to be sent to the Systems Superintendent and the duplicate copy to be filed by the Systems Operator.

2. In case of error or change when writing a switching order destroy the order and rewrite the order on a new form.

G. Switching

1. No line is to be considered deenergized and no work shall be done until the workers have been given notice that the Switching Order is completed under the direction of the Systems Operator.

2. Any part of the system which is operated as a loop will be opened by opening breakers or load break switches. Air brake switches and disconnect switches shall be opened, locked open, and red tagged. **No switch will be opened under load** unless it is a load break switch. Switches rated for deenergizing line sections and transformer magnetizing current will be used for those purposes only. Each switch opened or checked open to provide clearance to workers will be locked open and will have a red tag fastened to the switch. (Tag shown in Appendix A)

3. The System Operator will issue instructions for Red tags. Prior to hanging the Red Tag the date and switching order number shall be put on the red tag by the person completing the switching order.

4. Red tags will be used to assure that all switches which might energize the line are kept open until the System Operator is satisfied that all workers are in the clear, all grounds removed and the line or apparatus is in proper condition to be restored to service.

5. Only the System Operator may release the red tag. Switching operations (opening, closing switches and tagging) are performed by field personnel under the direction of the Systems Operator. The Systems Operator will be notified before initiation of the switching operation and directly after the switching operation is completed.

H. Notification

1. Whenever outages have been prearranged for a scheduled period, the Systems Operator will notify affected parties of the intended interruption. They should be informed in detail of the interruption which will affect service to their part of the system. Whenever possible, this notice should be relayed to all interested parties 24 hours in advance.

2. When members desire to have the primary side of their substation deenergized, if possible, they should give Southern Illinois Power Cooperative 24 hours of advance notice. This would allow SIPC to perform maintenance or modifications on the substation or transmission lines while it is deenergized.

Appendix A

Front

DANGER

HOLD CARD

LINE WORK PROTECTION

DO NOT OPERATE THIS EQUIPMENT

SOUTHERN ILLINOIS POWER COOPERATIVE

Back

DANGER

REMOVE ONLY

BY ORDER OF SYSTEM OPERATOR

Ph. # 618-964-1701

SWITCH ORDER

NUMBER _____

DATE _____

SOUTHERN ILLINOIS POWER COOPERATIVE

SECTION 6: FIRE PROTECTION POLICIES AND PROCEDURES

I. OBJECTIVE

II. It is the policy of **Southern Illinois Power Cooperative** to sustain a vigorous, continuing fire prevention program following established fire protection standards and dictated by the size, type and use of each facility.

III. REFERENCES

OSHA 1910.160 (b) (2)
NFPA 14 Standpipe and Hoses
NFPA 10 Portable Fire Extinguishers
NFPA 25 Chapter 14 Impairments
NFPA 25 Standard for Inspection, Testing, and Maintenance of water-based fire protection systems.
NFPA 72 National Fire Alarm Code
McDaniels Fire Systems Manual
GE Power Systems Gas Turbines Fire Protection
Chemetron Fire Systems Low Pressure CO2 Systems

IV. RESPONSIBILITY

The basic responsibility for developing and maintaining sound fire protection practices and administering their operation rests with the management of each facility. Technical advice and assistance in fulfilling these responsibilities are provided by the Safety Director or designee. This section of the Plan brings together under one source:

A. Guidelines for the protection of employees and for good fire prevention practice

B. Standards for types, locations, quantity and maintenance of fire-fighting equipment.

C. Property inspection procedures that ensure proper maintenance practices and compliance with applicable fire safety codes and regulations.

D. Standards for the safe handling, storage and use of flammable materials.

V. PORTABLE FIRE EXTINGUISHERS

Fire extinguishers are intended as a first line of defense to cope with fires of limited size. They are needed even though the property may be equipped with automatic sprinklers, standpipe and hose stations or other special fire protection equipment.

The most common types of portable fire extinguishers found on SIPC property are pressurized water, carbon dioxide, dry chemical and halon.

A. Purchasing of Portable Fire Equipment

1. An important factor in maintaining SIPC's excellent fire safety record has been the careful selection of fire protection equipment. This standard provides guidelines that shall be followed closely in ordering portable fire extinguishers.

   Standardization of portable fire equipment provides quality products, limits the maintenance problems, helps avoid confusion during emergency use and assures compliance with State and Federal regulations. Any portable equipment not specifically covered in this standard shall be approved by the Safety Director prior to purchase.

   a. Portable Fire Extinguishers

      The number of types of fire extinguishers needed to protect each site is determined by considering the floor area, location and arrangement of the facility, severity of the hazards, the anticipated classes of fire and distances to be traveled to reach extinguishers.

      Extinguishers shall be conspicuously located and easily accessible. A preferred spot is along a normal path of travel. Placing and identifying the location of portable fire extinguishers must conform to the instructions contained in this Plan.

      The four types of extinguishers approved for use throughout SIPC are pressurized water, carbon dioxide, dry chemical and halon.

      It is important to remember that not all fires have the same characteristics and that an extinguisher designed for one type of fire could be ineffective or even dangerous when used on another. Each fire extinguisher shall have labeling on the front of the extinguisher indicating the type or calls of fire(s) the suppression agent is effective on.

VI. EXTINGUISHERS APPROVED FOR PURCHASE

A. Types of Fire Extinguishers

1. Pressurized Water

   These units are suitable for Class A fires (ordinary combustibles) only and are used in offices, storerooms, etc., where flammable/combustible liquids or gases are not stored or used. It must be remembered that water is also not for use on a fire involving energized electrical

equipment.

	Model Number		
Size	Sentry	Badger	Amerex
2 1/2 Gallons	SY-0262	WP-51	WP-240

2. Carbon Dioxide

These units have a limited application and are restricted to areas where a clean agent is important. They are effective only on Class B (flammable/combustible liquids and pressure gas) and Class C (energized electrical equipment) fires and should be used on electronic-type equipment first whenever possible.

	Model Number	
Size	Kiddie	Ansul
5 Pounds	5-KS	CD-5
10 Pounds	10-KS	CD-10
15 Pounds	15-KS	CD-15
20 Pounds	20-KS	CD-20

3. Dry Chemical

For maximum firefighting effectiveness and standardization, only two types of dry chemical fire suppression agents shall be purchased for SIPC facilities and equipment. The multipurpose dry chemical is effective on Class A (except "deep-seated" fires), B and C fires. The Purple K dry chemical is only effective on Class B and C fires. It is important to note that the multipurpose dry chemical is the only dry chemical that has some effectiveness against Class A fires and that the Purple K dry chemical is 2-3 times more effective on Class B fires than other dry chemicals.

Dry chemical extinguishers for the General Office operations shall be of the multipurpose type, except where Purple K is required for special hazards.

The generating plant shall have Purple K extinguishers, except for a few specific areas where a Class A hazard exists, in which case the multipurpose type shall be specified.

	Model and Stock Number			
Size	Ansul Multipurpose	Stock No.	Ansul PK	Stock No.
10 Pounds	IA-10-E	27-14491	IK-10-E	-
20 Pounds	IA-20-E	27-14525	IK-20-E	27-14509
30 Pounds	IA-30-E	-	IK-30-E	27-14517

4. Halon

These units are rated and approved for Classes A, B, and C fires. The total data processing area, including the computer room and adjacent support areas, will be equipped with these

units. Halon 1211 cools the fire, but *not* so quickly that equipment is cracked. In addition, the halogenated agent is non-corrosive and will not cause rust. Also, Halon 1211 is effective against electrical fires because it does not conduct electricity.

Size	Model Number General
9 Pounds	GH-5J

5. Ordering Information

For ordering fire extinguishers, the following information is required on the purchase requisition:

Make, Model, Number, Type

Examples:

a. Sentry SY-0262, pressurized water extinguisher
b. Kiddie 10-KS, carbon dioxide extinguisher
c. Ansul IA-30-E, dry chemical extinguisher

VII. AUTOMATIC EXTINGUISHING SYSTEMS

The purpose of an automatic fire extinguishing system is to control and/or extinguish fires in extremely hazardous areas, large storage facilities, or where concentrations of high-value or vital materials and equipment are contained in a limited space.

The various kinds of sprinkler systems used throughout the company include wet pipe, dry pipe, water spray and deluge types.

To assure maximum reliability of automatic fire protection systems, the periodic inspections, testing and maintenance shall be performed only by persons knowledgeable in the mechanics of the system.

VIII. FIRE PROTECTION and FIRE PREVENTION SYSTEMS –OUT OF SERVICE

Should any Fire Protection or Fire Prevention system (Dust collection systems, HVAC etc.) be out of service (planned or unplanned), it must be repaired and returned to normal operation as soon as possible. Measures will be taken during the impairment to ensure that increased risked are minimized and the duration of the impairment is limited. The Insurance Coordinator must be notified of any out-of-service condition that occurs with a fire protection system.

Management is responsible to assign a Fire Systems Impairment Coordinator and designee.

In the absence of the Fire Systems Impairment Coordinator or designee the Shift Foreman shall take the responsibilities of the Impairment Coordinator.

A. **The impaired equipment shall include all Fire Protection systems and any Fire Prevention systems listed below:**

1. Sprinkler systems
2. Standpipe systems
3. Fire hose systems
4. Underground fire service mains
5. Fire Pumps
6. Water Storage Tanks
7. Water spray fixed systems
8. Foam water systems
9. Fire service control valves
10. Fire System alarms
11. CO2 systems
12. Dust suppression systems

B. **All preplanned Fire System impairments shall be authorized by the Fire Systems Impairment Coordinator or designee. Emergency Impairments shall also follow this procedure.**

C. **Prior to giving authorization for preplanned, the Impairment Coordinator or designee will verify that the following steps have been implemented and documented on the Fire Systems Impairment Tracking Form:**

1. Length of duration determined.
2. The increased fire risk has been determined by Inspecting the area involved.
3. Determine how to quickly return the system to service or develop an alternate attack in case a fire occurs in the area involved.
4. Relocate combustible and flammable materials for the area involved if possible.
5. Fire System impairment tags are attached to the Isolated Control Valve or Alarm System panel.
6. The supervisors and employees in the area have been notified.

D. **When Impairment duration is over 4 hours in a 24-hour period, the Impairment Coordinator or designee will implement one of the following:**

1. An approved Fire Watch
2. Temporary water supply
3. Implement an approved program that will eliminate potential ignition sources and the limit the amount of fuel available for a fire.
4. The Fire department is notified.
5. The insurance carrier, Alarm Company, owner/Manager having jurisdiction is notified.
6. All necessary tools and materials have been assembled on the impairment site.

E. **Fire Systems Impairment Tag:**

1. A Fire Systems Impairment Tag will be used to indicate that a fire system is out of service. (Tags are available in the Shift Foreman's office)
2. The Impairment Tag will be posted at the Fire Dept. connection and Isolated Fire System Control Valve.
3. The Impairment Tag shall identify which system is out of service, date and time impairment begins and person responsible.
4. The Impairment Coordinator or designee shall specify where the tag or tags are placed.

5. Location of Impairment Tags will be documented on the Impairment Report and the report will be kept in the Fire Systems Impairment Book located in the Shift Foreman's office.

F. During The Fire System Impairment:

1. Prohibit all Hot Work in the area of impairment unless hot work is required to repair the Fire System. Follow Hot Work Procedure.
2. Prohibit smoking.
3. Increase Cleaning in area affected by the system out of service.
4. Routine patrolling of the area by designated employees and assigned Fire Watch.

G. After The Fire System Impairment:

1. Open all valves that were secured during the impairment.
2. Remove all Impairment Tags
3. Conduct required inspection and testing of impaired fire system.
4. Lock control valves in the fully open position
5. Conduct a 2-inch drain test on Fire Sprinkler systems.
6. Reset alarm system.
7. Make notifications to Employees, Fire Department and the Insurance Carrier.
8. Complete the Fire Systems Impairment Tracking Form

Fire System Impairment Tracking Form will be maintained on file for 1 year.

IX. OTHER FIRE PROTECTION EQUIPMENT

Other types of fire protection equipment in use throughout SIPC include fire hydrants, fire pumps, standpipe and hose stations, post indicator valves, fire detectors, fire dampers, fire doors and fire trucks.

Each piece of this equipment shall be inspected and tested on a regularly scheduled basis to assure maximum reliability. The Support Systems Department will provide guidance for the testing and maintenance of any special equipment not specifically covered in this Plan.

X. HOUSEKEEPING

The need for good housekeeping at all SIPC facilities is essential. Good housekeeping practices help prevent fires from occurring by not giving them a place to start. Fewer fires and accidents happen in a clean facility.

Fire exits, aisles and passageways shall be kept clean, clear and accessible at all times. This allows for unimpeded evacuation of a building in case of emergency. Fire doors shall be kept in a closed position except when opened for passage into or out of an area unless equipped with fusible links or other approved self-closing devices.

Combustible debris and waste material shall be kept to a minimum and not permitted to accumulate.

Oil-soaked or paint-covered rags shall be deposited in covered metal containers and each container emptied daily.

Noncombustible or fire-retardant building materials shall be used whenever practical around construction

projects.

Dust (especially coal dust) accumulations shall be kept at a minimum. Vacuuming, wet washing or mopping procedures are acceptable means of removal. To reduce the possibility of a dust explosion, compressed air shall not be used.

XI. FLAMMABLE LIQUIDS

One hazard common to all SIPC properties is flammable liquids. The most common of these are paints, thinners, alcohol, solvents, oils and gasoline.

All employees who work with flammable liquids shall be trained to use them safely.

XII. FIRE REPORTS

The SIPC Fire Report Form shall be completed for every fire event that occurs on SIPC property and submitted to the Support Systems Department.

Prompt reporting of fires of any type provides valuable information for identifying hazardous situations that could exist at other locations. It also provides important information for improving fire protection equipment, developing fire prevention programs and procedures for use throughout SIPC.

XIII. FIRE PREVENTION INSPECTION

Each SIPC facility shall use the Fire Prevention and Housekeeping Inspection form, weekly, for guidance in determining its present/future Housekeeping and Fire Protection/Prevention practices and needs.

A. The Department Supervisors will communicate the Fire Prevention and Housekeeping Inspection requirements for their area of responsibility.

B. The Department Supervisor or their designee will conduct weekly Fire Prevention and Housekeeping compliance inspection of their assigned areas.

C. The inspector will document noncompliance issues on the weekly Fire Prevention and Housekeeping Inspection form and immediately correct any Fire Hazards or unsafe conditions that can be corrected by the inspector.

D. Department Managers will track noncompliance issues until corrected.

E. Maintenance work orders will be written for all issues that cannot be handled by the area Department Supervisor.

F. Department Supervisor maintains Inspection Report for 1 year.

G. SIPC Management will conduct a review of outstanding Housekeeping and Fire Prevention Items Monthly with Department Managers.

XIV. GENERAL INFORMATION

Every facility shall have a written fire protection plan that is kept current and reviewed periodically with all employees. The fire protection plan should intermesh with, or complement, procedures established for security, safety and other special concerns. The plan shall include all facets of fire protection from alarm procedures to building evacuation.

Part of every new employee's orientation and on-the-job training should include fire prevention practices and procedures. Educational materials and training programs to meet fire protection needs are available through the Support Systems Department.

Everyone having responsibility for the use or maintenance of SIPC properties shall be fully aware of the serious consequence of a fire and apply SIPC's Fire Protection Standards to each of their operations.

XV. FIRE HOSE APPROVED FOR PURCHASE

The diameter and length of fire hose may vary according to types of fire equipment and the location where it will be used.

Except for diameter and length, all new fire hose shall be ordered according to the following specifications, regardless of the construction of the hose being replaced:

A. Office Buildings

Boston Century II or National Fire Hose Corporation, Model No. 14-RR-55, 100% synthetic or polyester, fully-lined rack and reel hose with extruded aluminum couplings, rocker lugs, Iron Pipe threads, hose hydrostatically tested to 500 psig after attachment of couplings, hydrostatic test pressure, hydrostatic test date and hose length stenciled on the hose.

B. All Other Facilities

Use one and one-half inch 100% polyester, single jacket, synthetic or neoprene-lined hose with extruded aluminum couplings, rocker lugs, Iron Pipe threads, hose hydrostatically tested to 500 psig after attachment of couplings, hydrostatic test pressure, hydrostatic test date and hose length stenciled on the hose.

A few locations have equipment with National Standard threads rather than Iron Pipe threads. This can be confirmed by checking for an engraved "IP" on existing couplings.

C. Maintenance Hose

The diameter and length of maintenance hose will vary according to the type of facility and the location where it will be used. Each facility should order maintenance hose, in a different color than their fire hose, to meet their specific requirements with the proper thread couplings to fit their fire protection system.

Fire hose from the fire protection system shall not be used as, or in place of, maintenance hose.

D. Approved Fire Hose Nozzles

1. Nozzles for use on fire hoses located inside Generating Plants shall be the Goodall aluminum 1-1/2-inch utility nozzle. The above nozzle is designed to be electrically safe when applying water on energized electrical equipment.

2. All Other Facilities

   Nozzles on fire hoses at all other facilities and fire hose locations outside Generating Plants shall be the Goodall aluminum 1-1/2-inch squelch nozzle.

   All fire hose nozzles for special applications must be approved by the Safety Director prior to ordering.

XVI. FIRE EXTINGUISHER INSTALLATION

The location of portable fire extinguishers at each of our facilities shall be in accordance with all current codes and statutes. This section of the Plan provides guidelines to be followed in the placement, marking and mounting of fire extinguishers throughout SIPC properties.

Portable fire extinguishers are intended as a first line of defense to cope with fires of limited size. They are needed even though the property is equipped with automatic sprinklers, standpipe and hose stations or other fixed protection equipment.

A. Placement

Extinguishers shall be conspicuously located where they will be immediately available in the event of fire. They shall be located along normal paths of travel and preferably near entrances to an area. Extinguishers shall not be obstructed or obscured from view.

If extinguishers intended for different classes of fire must be grouped together, their intended use shall be clearly marked on each unit to assure choice of the proper extinguisher. Grouping of extinguishers shall be avoided if possible.

Portable extinguishers shall be kept in their designated places at all times when not being used or serviced.

B. Marking Fire Extinguisher Locations

The location of portable fire extinguishers shall be clearly marked on walls, cabinets, columns, etc. These markings shall be of a size and form that provide easy legibility at a distance of 25 feet. In large rooms and in locations where visual obstructions cannot be completely avoided, a decal, sign, color symbol or other means shall be used to indicate the extinguisher location.

Red paint is also effective in pinpointing fire extinguisher locations. Red paint should be used only in addition to signs or decals and the following guidelines should be followed:

On columns, an eight-inch high, horizontal band should be painted at least seven feet above the floor.

An area ten inches by thirty inches should be painted on the column or wall as a background for the extinguisher.

C. Mounting of Equipment

Fire extinguishers, because of their weight, shall be mounted low enough to permit easy removal and handling, to prevent accidental discharge and to avoid injury to those who must use the equipment. All extinguishers shall be placed so that the Operating Instructions face outward.

Extinguishers having a gross weight less than 40 pounds shall be installed so that the top of the extinguisher is not more than five feet above the floor. Extinguishers having a gross weight greater than 40 pounds (except wheeled types) shall be so installed that the top of the extinguisher is not more than 3 1/2 feet above the floor. In no case shall the clearance between the bottom of the extinguisher and the floor be less than six inches.

Extinguishers located where they are subject to severe vibration shall be installed in brackets specifically designed to cope with this condition.

In situations where extinguishers must be temporarily provided, a good practice is to provide portable stands on which the units may be mounted. This eliminates the possibility of extinguishers falling over and being damaged.

XVII. FIRE EXTINGUISHERS ON COMPANY VEHICLES

Fire extinguishers are provided on vehicles for protection of employees and SIPC property only. This standard applies only to replacing damaged or defective extinguishers, installations on new vehicles or vehicle reassignments.
When extenuating circumstances, unusual job assignments, etc., necessitate deviation from this policy, the size and type of extinguishers to be used will be determined by the Support Systems Department after consulting with the appropriate functional supervisor or department head.

A. Passenger Vehicles

As a general guide, fire extinguishers shall be carried in general use passenger vehicles.

B. Vans and Carryalls in Electrical Systems Department

Vans and carryalls in the Electrical Systems Department used for system maintenance or for construction shall be equipped with Ansul 20-pound ABC dry chemical fire extinguishers.

C. Special Vehicles

Coal handling tractors shall be equipped with Ansul 20-pound ABC dry chemical fire extinguishers.

D. Mounting of Fire Extinguishers

The mounting of fire extinguishers will vary to some extent due to the different types of vehicles now in use by SIPC. As a rule, the fire extinguisher should be mounted in a location where it will not be covered by other material.

Passenger cars, station wagons, vans and carryalls equipped with fire extinguishers shall have them mounted in the trunk or rear cargo area in a location which is easily accessible.

Fire extinguishers on coal handling tractors should be mounted so they are readily accessible.

XVIII. PORTABLE FIRE EXTINGUISHER INSPECTION POLICY

Scheduled inspections for portable fire extinguishers, including the larger wheeled units, are necessary to provide a high degree of reliability for this equipment and to comply fully with State and Federal regulations.

Fire extinguisher inspections fall into two categories: monthly and annual. The supervisor assigned property protection responsibilities at each SIPC facility shall be responsible for ensuring that fire extinguishers are properly inspected and maintained on a regular basis.

Operations perform monthly inspections in assigned area.

Coal Handling performs monthly inspections in assigned area.

Persons driving SIPC vehicles are responsible for monthly checking of fire extinguishers mounted on vehicles.

Records shall be kept of all inspections, tests and maintenance performed on each Fire Extinguisher. In addition, an inspection tag shall be placed on all Fire Extinguisher indicating the date of the last inspection date.

A. Monthly Inspections

All portable fire extinguishers in occupied areas shall be inspected at least monthly. All non-occupied areas, such as substations and microwave sites, will be checked during each service call.

The inspection shall consist of at least the following:

1. The seal is intact and not broken.
2. Check pressure gauge, where applicable.
3. The extinguisher is in its designated place.
4. It is accessible.
5. It has not been damaged or dented.
6. Verify annual inspection date posted on extinguisher tag.
7. Test Portable CO2 extinguishers by weight test when no gauge is provided.

8. Initial and date monthly inspection tag.

Extinguishers which appear to need maintenance shall be replaced immediately and forwarded to the appropriate repair area.

B. Annual Inspections

All portable fire extinguishers shall be inspected thoroughly on an annual basis. SIPC policy is to have an outside contractor perform the annual inspections.

The Support Systems Department is responsible for providing for the annual inspection.

The Annual Inspection shall consist of the following:

1. Fire Extinguishers shall be subjected to maintenance of internals of not more than 1 year.
2. Inspect the extinguishing agent by removing the tamper seal for an internal inspection to ensure the power is not caked. Replace dry chemical power if needed.
3. Clean and lubricate threads on fill cap and hose.
4. Weigh carbon dioxide extinguishers and recharge is more than 10% below normal weight.
5. Test carbon dioxide hose assemblies for conductivity.
6. Verify Hydrostat date is up to date for that type of extinguisher and documented on extinguisher or Tag on extinguisher.
7. Perform Hydrostat according to frequency in NAPA 10 Table 8.3.1
8. Verify Six-Year Maintenance on stored pressure extinguishers that are required to have a 12 Hydrostat test was performed. (Requires a complete refill and recharge)
9. Complete other manufacturer's recommended maintenance.

XIX. HYDROSTATIC TESTING OF PORTABLE FIRE EQUIPMENT

Hydrostatic testing of portable fire equipment is required on a regular basis to comply with State and Federal safety regulations.

The hydrostatic testing shall be performed by a qualified fire equipment vendor. The hydrostatic test information shall be entered on the fire equipment.

Extinguishers passing the hydrostatic test shall be marked by the testing agency as follows:

A. Nitrogen cylinders, carbon dioxide extinguishers, Safety First dry chemical extinguishers and other units made to the Department of Transportation (DOT) specifications are to be stamped on the shoulder with the month, year and identifying mark of the agency.

B. All other extinguishers such as the water types and Ansul dry chemical extinguishers are to receive a decal or label affixed by a heatless process on the rear of the unit. This label shall show the month, year and the name of the vendor performing the test.

C. All extinguishers should be closely inspected upon return from the vendor. Any defects or missing parts, seals, etc., should be immediately brought to the attention of the vendor and corrective action taken.

HYDROSTATIC TEST SCHEDULE

Extinguisher Type	Test Interval (Years)
Water Units	
Pump Type	Not Required
Stored Pressure	5
Foam	5 (See Note 1)
Loaded Stream	5
Cartridge Operated	5 (See Note 1)
Soda Acid	5 (See Note 1)
Carbon Dioxide	5
Carbon Dioxide Cylinders (Large)	12 (See Note 2)
Nitrogen Cylinders on Wheeled Units and Fixed Systems	10 (See Note 3)
Dry Chemical	
Stainless Steel Shells	5
All Other Types	12
Dry Chemical Tanks on Wheeled Units	12
Halon	12

NOTE 1: Do not hydrostatic test; replace with new approved extinguishers.

NOTE 2: High-pressure cylinders used in fire extinguishing systems shall not be recharged without hydrostatic test (and remarking) if more than five years has elapsed from the date of last test. Cylinders continuously in service without discharging may be retained in service for a maximum of twelve years from the date of last hydrostatic test. At the end of twelve years, they shall be discharged and retested before returning them to service.

NOTE 3: Large nitrogen cylinders used on fire protection equipment only qualify for the 10-year test interval if they have a 5-pointed star stamped in them immediately following the last hydrostatic test date; otherwise, the test interval is 5 years. Try to only use a vendor who is qualified to stamp the cylinder with the 5-pointed star.

XX. FIRE HOSE

All fire hose shall be hydrostatically tested per the following scheduling and immediately if it has been damaged, suffered undue abuse, been exposed to chemicals or severe temperature conditions.

The hydrostatic testing shall be performed by a qualified fire equipment vendor. The hydrostatic test information shall be entered on the fire equipment.

Conduct service pressure Test on all fire hoses on reels within 90 days prior to placing in service.

Pressure Test all fire hoses located outside or on Fire Truck every year.

Locations	Years
Office Buildings	3
All Generating Plants*	3
All Other Facilities	3

*The hydrostatic test pressure shall be at least 250 psig for five minutes.

Each length of fire hose shall be numerically identified or have the hydrostatic test date written with a black marking on the hose itself.

A record shall be maintained showing the test dates and the location of each length of fire hose in service.

XXI. WATER SPRAY FIRE EXTINGUISHING EQUIPMENT

This standard provides the requirements for inspection, maintenance and testing of fixed water spray fire extinguishing equipment.

The supervisor assigned fire protection responsibilities at each facility shall be responsible to see that fire protection systems are properly maintained to ensure reliability of the equipment and compliance with all governing codes and regulations.

In addition to regularly scheduled maintenance programs on fixed fire protection equipment, special inspections and tests will be made periodically under the direction of the Support Systems Department.

Operations performs Weekly and Monthly inspections on assigned Fire Sprinkler systems.
Coal Handling performs Weekly and Monthly inspections on assigned Fire Sprinkler systems.

Preferably the manufacturer's instructions for testing and maintaining each type of equipment should be followed. If not available, the procedures in this standard should be used. If no one at the facility is familiar with sprinkler and water spray systems, a reputable outside firm should be employed to perform the work.

On all tests of equipment that actuate an audible or silent alarm to the fire department, notice shall be given to the local fire authorities prior to such tests.

Records shall be kept of all inspections, tests and maintenance performed on each fixed fire equipment system. In addition, an inspection tag shall be placed on all systems indicating the date of the last inspection date.

A. Automatic Sprinkler System (Wet Type)

This is a network of specially sized piping containing water under pressure at all times. When the system is activated by a fire, the sprinkler head or heads in the area of the fire open and water is discharged immediately. When water is flowing, an audible and/or visible alarm is activated locally and may be transmitted to a remote location.

1. **Monthly,** visually inspect the entire system for any situations that would impair full operation;

   a. Verify all valves sealed in the open position and unobstructed.
   b. Verify proper water gauge pressure maintained.
   c. Verify all sprinkler heads in good condition and not obstructed (18" clearance below sprinklers)
   d. Verify extra sprinkler heads available for replacement purposes?
   e. Flush all strainers where they are provided.

2. **Quarterly,** perform the monthly inspection plus test the system and sensitivity of the alarm by opening the inspector's test valve to determine that there is a free flow of water at good pressure. This valve is normally located at the furthest point on the system away from the main control valve.

   a. Verify that the water motor alarm is operating.
   b. Open the main drain at the base of the riser and observe the volume of water flow to detect any water supply problems.
   c. Record the pressure readings, both static and residual, on the test record.
   d. The fall quarterly inspection should include procedures to ensure that the system will not be impaired by freezing temperatures, e.g., no pipes exposed to the weather, etc.
   e. In the winter quarter, water tests should be performed when the outside temperature is above freezing. This ensures that any flow of water will not cause icing problems with the equipment.

3. **Annually,** perform the monthly and quarterly inspections. Operate all system valves fully and return to their proper position (1/4 turn from fully open to prevent jamming). Seal or lock the valves in their proper positions. Clean and grease all valve stems.

   Testing and Maintenance Procedures are shown in Exhibit 1.

Exhibit 1

WET PIPE SYSTEM
TESTING AND MAINTENANCE PROCEDURES

1. Notify all people who may receive a water flow alarm.

2. Open the inspector's test valve fully. This valve is normally at the furthest point on the system away from the control valve.

3. Check to see that the water motor alarm is operating.

4. Close the inspector's test valve after two (2) minutes.

5. Record the static pressure from the pressure gauge.

6. Open the main drain valve fully.

7. Record the residual pressure. If there is a major difference between this reading and readings from previous tests, a problem in the water supply piping is indicated. This may be a partially closed valve or some other obstruction. Investigate and correct the problem immediately.

8. Close the main drain valve.

9. Notify all people in Step 1 that the test is over.

It should not be necessary to ever open the alarm valve. However, if conditions warrant (no water from the inspector's test valve, water motor alarm not working even with all valves open, etc.), the following procedures should be followed:

a. Check out all other possible faults (closed valves, icing, plugged lines, etc.).
b. Close the controlling gate valve.
c. Drain the entire system by opening all drain valves.
d. Remove the alarm valve cover.
e. Check to see if clapper operates freely. Correct any problems found. Note: Do not use any sealing compounds on clapper face or seat rings.
f. Replace the alarm valve cover.
g. Close all drain valves.
h. Open the inspector's test valve.
i. Slowly open the controlling gate valve allowing water to fill the system.
j. Close the inspector's test valve when water flows from it.
k. Seal or lock the controlling gate valve in the open position (1/4 turn from fully open).

B. Automatic Sprinkler System (Dry Type)

This is an automatic sprinkler system employing compressed air initially in the piping instead of water. When a sprinkler head opens, the air pressure on the dry pipe valve is relieved and water automatically fills the system. This type of system is normally used when piping is exposed to freezing temperatures.

1. **Weekly,** or more often if the situation warrants it, check the system to be sure that adequate water and air pressure is being maintained. Control Valves that are sealed open shall be inspected weekly while Control Valves that are locked open shall be inspected monthly. Refer to the installing contractor's instructions for the proper amount of air pressure that should be maintained. If not available, use the chart found in Exhibit 2.

2. **Monthly**, visually inspect the entire system for any situations that would impair full operation;

   a. Verify the air pressure gauge is in good position and showing proper pressure.
   b. Verify the water pressure gauge is in good position and showing proper pressure.
   c. Verify System is in service and appears operational.
   d. Verify that the water control valve is open and Trim valves lined normal.
   e. Verify that valves are identified with signage.
   f. Verify Hydraulic nameplate attached.
   g. Verify that water house heater is operational and maintaining 40 degrees.
   h. Verify all water spray nozzles are in proper location, aimed at the proper direction and free from foreign material or corrosion.
   i. Test there is no leakage into the intermediate chamber by depressing the spring-loaded plunger on the drip check valve.
   j. Verify extra sprinkler heads are available.
   k. Flush all strainers.
   l. Flush the water supply piping feeding the deluge valve by opening the 2-inch Main drain valve.

3. **Quarterly**, perform the monthly inspection plus conduct a main drain test and alarms test.

   a. Slowly open the main drain valve all the way.
   b. Observe and record the static and residual pressures. Very slowly and carefully close the drain valve taking care not to trip the dry pipe valve. If the dry pipe valve does trip, immediately close the controlling gate valve. Open the main drain valve again and drain the water from the system. The system must be completely drained and the valve reset using the procedures found in Exhibit 2.
   c. Compare Static and Residual Water pressures Test results with previous Test flow information.
   d. The fall quarterly inspection should include procedures to ensure that the system will not be impaired by freezing temperatures, e.g., no pipes exposed to the weather, no leak through, water drained from low point drains etc.
   e. In the winter quarter, water tests should be performed when the outside temperature is above freezing. This ensures that any flow of water will not cause icing problems with the equipment.
   f. Check all alarms and water supervisory devices circuits according to NFPA 72 National Fire Alarm Code
   g. Check the water flow test alarm by opening the alarm test valve (if provided).

4. **Annually,** perform the monthly check and quarterly test, and give the dry pipe valve and supply valves a working test. Refer to the installing contractor's instructions for the annual trip testing of fire sprinkler. If not available, use the procedure in Exhibit 2.
Immediately following the test, the dry pipe valve is to be cleaned and reset and all control valves sealed or locked in the "open" position. The system must be completely drained prior to returning it to service. Clean and grease all valve stems.

   Annual trip test is required. When performing this test the deluge or preaction valve will be tripped open and Water will flow into the sprinklers and/or nozzles. Take precautions to prevent damage from water flow. Normally deluge systems have open sprinkler heads and the water will wet down the system protected. On systems where the water will cause damage to the protected area, the trip test shall be conducted in such a manner that does not necessitate discharge in the protected area. A full flow trip shall be scheduled at the next outage. In all cases, the test frequency shall not exceed 3 years.

   Testing and Maintenance Procedures are shown in Exhibit 2.

Exhibit 2

DRY PIPE SYSTEM
TESTING AND MAINTENANCE PROCEDURES

1. Close the controlling gate valve. A tamper switch may be attached to the valve. If there is, an alarm will sound.

2. Open the controlling gate valve two (2) full turns.

3. Open the inspector's test valve or remove a sprinkler head at the far end of the system. Record the time and the air pressure when the dry pipe valve trips.

4. Close the controlling gate valve immediately when dry pipe valve trips. This limits the amount of water admitted to the piping.

5. Turn off the air supply. An air pressure supervisory switch may be attached to the system. If there is, an alarm will sound. Turn the alarm off.

6. Open the main drain valve, the inspector's test valve and allow the water to drain from the system. Be sure that all the water has drained.

7. Remove the handhole cover of the dry pipe valve.

   The system has failed if any of the following has occurred:

   a. The valve does not open immediately following the reduction of air pressure to zero.

   b. Failure of the latching mechanism. This permits the return of the clapper to the "set" position following entrance of water to system through the tripping of the valve.

   c. Mechanical failure of any part occurs (broken hinge, latch, etc.). The cause of the problem should be found and alleviated immediately. The installing contractor should be obtained if no one at the facility can fix the valve. Contact the Support Systems Department immediately.

8. Clean the rubber facing and seat ring surfaces with fingers.

   Note: Do not use rags, grease or other compounds on seat rings.

9. Raise the spring latch and return the clapper to its seat rings gently.

10. Replace the handhole cover making certain all bolts are tight.

11. Open the priming cup valve and the priming water valve and admit water into the dry pipe valve until the water reaches just below the priming cup level.

    Note: The inspector's test valve or a sprinkler head must be open to allow water in.

12. Drain off any excess water by opening the draw-off valve.

13. Close the inspector's test valve or replace the sprinkler head.

14. If an accelerator is used, it must be cleaned and reset.

    a. Close the accelerator shutoff valve.

    b. Remove the bottom plug and attached spring, exhaust valve seat and restriction pin.

    c. Carefully clean the rubber seats of the exhaust valve, exhaust valve seat rings and restriction pin making sure nothing adheres to them.

    d. Use a smoker's pipe cleaner to clean the passageway and diaphragm plunger.

    e. Drain all water from the dome. Remove the pressure gauge to facilitate this.

    f. Replace all parts in the reverse order of removal.

    g. Open the accelerator shutoff valve.

15. Turn on the air supply and admit air into the piping using the installing contractor's recommended pressure. If not available, use the following table:

Water Pressure	Air Pressure (Psi)	
(Psi)	Not Less Than	Not More Than
50	15	25
75	20	30
100	25	35
125	30	45
150	35	50

16. Turn the supervisory alarm on.

17. Close the main drain valve.

18. Open the controlling gate valve to 1/4 turn from fully open. Seal or lock in position.

19. Clean and grease all valve stems.

20. To see if the clapper has set properly, note if any water is dripping through the velocity drip valve. If there is water dripping repeat Steps 1, 3, 5-12, 15-17.

21. After about one-half hour, check the air gauge on the accelerator to see that the pressure has equalized with the system pressure.

C. Deluge Systems

A deluge system consists of permanently installed piping and open water spray nozzles designed to protect special hazards such as large transformers, flammable liquid storage tanks, coal belts, etc. This type of system can be operated either manually, automatically through a system of Heat Activated Devices (HAD) or both.

1. Weekly, or more often if the situation warrants it, check the system to be sure that adequate water pressure is being maintained. Control Valves that are sealed open shall be inspected weekly while Control Valves that are locked open shall be inspected monthly.

2. Monthly, visually inspect the complete system for any damage or situation that would impair full operation. Flush all strainers where they are provided.

   a. Verify the water pressure gauge is in good position and showing proper pressure.
   b. Verify System is in service and appears operational.
   c. Verify that the water control valve is open and Trim valves lined normal.
   d. Verify that valves are identified with signage.
   e. Verify Hydraulic nameplate attached.
   f. Verify that water house heater is operational and maintaining 40 degrees.
   g. Verify all water spray nozzles are in proper location, aimed at the proper direction and free from foreign material or corrosion.
   h. Test there is no leakage into the intermediate chamber by depressing the spring-loaded plunger on the drip check valve.
   i. Verify extra sprinkler heads are available.
   j. Flush all strainers.
   k. Flush the water supply piping feeding the deluge valve by opening the 2-inch Main drain valve.

3. **Quarterly**, perform the monthly inspection plus conduct a main drain test and alarms test.

   a. Slowly open the main drain valve all the way.
   b. Observe and record the static and residual pressures. Very slowly and carefully close the drain valve taking care not to trip the dry pipe valve. If the dry pipe valve does trip, immediately close the controlling gate valve. Open the main drain valve again and drain the water from the system. The system must be completely drained and the valve reset using the procedures found in Exhibit 3.
   c. Compare Static and Residual Water pressures Test results with previous Test flow information.
   d. The fall quarterly inspection should include procedures to ensure that the system will not be impaired by freezing temperatures, e.g., no pipes exposed to the weather, no leak through, water drained from low point drains, etc.
   e. In the winter quarter, water tests should be performed when the outside temperature is above freezing. This ensures that any flow of water will not cause icing problems with the equipment.
   f. Check all alarms and water supervisory devices circuits according to NFPA 72 National Fire Alarm Code
   g. Check the water flow test alarm by opening the alarm test valve (if provided

4. **Annually**, a full flow wet test shall be performed on all deluge systems to assure proper spray coverage and that there are no plugged nozzles. Any nozzle found not to be spraying

correctly should be repaired or replaced immediately.

Annual trip test is required. When performing this test, the deluge or preaction valve will be tripped open and Water will flow into the sprinklers and/or nozzles. Take precautions to prevent damage from water flow. Normally deluge systems have open sprinkler heads and the water will wet down the system protected. On systems where the water will cause damage to the protected area, the trip test shall be conducted in such a manner that does not necessitate discharge in the protected area. A full flow trip shall be scheduled at the next outage. In all cases, the test frequency shall not exceed 3 years.

Testing and Maintenance Procedures for deluge systems are shown in Exhibit 3.

Exhibit 3

AUTOMATIC DELUGE SYSTEMS TESTING AND MAINTENANCE PROCEDURES

Pneumatic Heat-Activated Device (HAD) Detection

1. Close the controlling gate valve. A tamper switch may be attached to the valve. If there is, an alarm will sound.

2. Open the lower main drain valve.

3. Place an electric test set (heat lamp or similar) or hot water in contact with a Heat-Activated Device (HAD) on one circuit. Observe the time it takes for the weight to fall. The system should trip in 20 seconds or less. The system has failed if the weight does not fall. Locate and correct the problem immediately. This could be a plugged airline, rusty latch or other problems. If unable to correct the problem, call the installing contractor. Also notify the Support Systems Department immediately.

4. Remove the heat source from the Heat-Activated Device (HAD).

5. Remove the cover of the box next to the weight.

6. Allow sufficient time for the Heat-Activated Device (HAD) to recover.

7. In the box, pull out the reset lever, if one is provided; then raise the weight to set position.

8. Repeat Steps 4 through 7 using Heat-Activated Devices (HAD) from the other circuits.

9. Turn off the supervisory air. If a trouble alarm is attached, it will sound. Turn off the trouble alarm.

10. Open the upper main drain valve if one is provided.

11. Remove the handhole cover on the deluge valve.

    The system has failed if one of the following has occurred:

    a. The clapper has not released from the clapper latch.

    b. Mechanical failure of parts occurs (broken hinge, latch, etc.).

    Locate and correct the problem immediately. If unable to correct the problem, call the installing contractor. Also notify the Support Systems Department immediately.

12. Inspect and clean, using fingers, the rubber clapper facing and clapper seat ring.

    NOTE: Do not use rags, oil, grease or sealing materials on the clapper facing or seat ring.

13. Release the clapper stop and lower the clapper gently onto the seat ring, making sure it latches.

14. Replace the handhole cover making sure bolts are tight.

15. Close the upper and lower main drain valves.

16. Turn on supervisory air.

17. Turn on the trouble alarm. It will sound until the pressure is correct.

18. Open controlling gate valve to 1/4 turn from fully open. Seal or lock in this position.

19. To test the supervisory air of a deluge system:

    a. Remove a test plug from one Heat-Activated Device (HAD) line.

    b. Observe the pressure at which the alarm sounds.

    c. Replace the plug and observe the pressure at which the alarm turns off.

Electric Heat-Activated Devices (HAD) Detection with Viking Deluge Valves

1. Close the controlling gate valve. A tamper switch may be attached to the valve. If there is, an alarm will sound.

2. Open the controlling gate valve two full turns.

3. Place an electric test set (heat lamp or large soldering iron with one core removed) in contact with an electric Heat-Activated Device (HAD).

4. Observe the control panel and the solenoid release and listen carefully for the valve to trip.

5. Immediately upon activation of the alarm and tripping of the valve, close the controlling gate valve quickly. This will prevent water from flowing out of the nozzles. The system has failed if no alarm sounds, the solenoid valve does not open or the deluge valve does not open. Find and correct the problem immediately. If unable to correct the problem, call the installing contractor. Also notify the Support Systems Department immediately.

6. Silence any alarms.

7. Open the main drain and drain the system.

8. Close the diaphragm chamber supply valve.

9. After the water drains from the valve, open the handhole cover.

10. Using bare hands, inspect and clean the clapper and clapper seat.

11. Reset the clapper. Move the plunger so that it resets on the clapper release latch.

12. Open the diaphragm chamber supply valve. Wait a few minutes for pressure to build up in the diaphragm chamber.

13. Replace the handhold cover. Tighten all bolts.

14. Slowly open the controlling gate valve.

15. Close the main drain valve when water flows from it.

16. If no water flows from the ball drip valve, the clapper is properly seated. If water appears, close the controlling gate valve and reset the clapper.

17. Open the controlling gate valve to 1/4 turn from fully open or until the trouble alarm (tamper switch) resets.

18. Reset all alarms at the control panel.

XXII. STANDPIPE AND HOSE SYSTEMS

This standard provides the minimum requirements for the inspection and testing of standpipe and hose systems (racks and reels) to ensure reliability of the equipment and compliance with all governing codes, regulations and insurance requirements.

A standpipe and hose system is an arrangement of piping, valves and hoses that provides an immediate discharge of water stream for fire control. This equipment is normally used by the building occupants to protect the structure and themselves.

Fire hose from the fire protection system shall not be used as, or in place of, maintenance hose. Maintenance hose shall be purchased and used separately.

Operations performs Weekly and Monthly inspections on assigned Standpipe and Hose systems.
Coal Handling performs Weekly and Monthly inspections on assigned Standpipe and Hose systems.

A. Hose Storage Systems

1. Pin Rack

On this type of system, the hose is folded over a water stop bar and then racked tightly on pins. This arrangement allows one person to operate it.

To use, turn on the water control valve. Grasp the nozzle and pull the hose all the way out of the rack. When the last loop of hose comes off the rack, the water will flow to the nozzle. Open the nozzle and spray the water at the base of the fire.

2. Hose Reel

On this type of system, the hose is snugly rolled onto a reel. To place in operation, completely remove the hose from the reel and then turn on the water control valve. Open the nozzle and direct the water at the base of the fire.

B. Inspection and Testing

1. Monthly

   a. Visually inspect each installation for any damage or condition that would impair its full operation. Make certain the main valve (if one is provided) that controls the water to all or each standpipe is properly identified and sealed in the open position.
   b. Verify the Room Enclosure for main water isolation valve to the Dry Standpipe system is properly heated and maintains 40degrees F during winter months.
   c. Verify all fire hose is in good condition, i.e., no breaks, worn areas or mildew are present. Hoses should be kept as clean as possible.
   d. Make An approved nozzle should be attached to the hose in the closed position.
   e. Check to see if the connection to the water valve is hand-tight. Make certain the valve is not leaking. A leaking valve may rot or burst the hose.
   f. Check the cabinet doors to be sure they have not been damaged and they work easily.
   g. Check to see that hose cabinets are not being used for miscellaneous storage.
   h. Any missing or defective equipment shall be replaced immediately. Equipment that shall be available in standpipe cabinets includes 1-1/2 inch neoprene-lined hose, a National Standard to Iron Pipe adapter, an approved nozzle and a spanner wrench.

2. Annually

   a. Perform the monthly inspection, plus remove lined hose from the rack or reel and run water through it. The hose should then be drained and dried thoroughly, gaskets inspected and the hose reracked or rereeled so the folds or sag will occur in a different place on the hose.
   b. Test the operation and flush each hose valve where water can be safely discharged.
   c. Any facility with unlined hose still in service should consider replacing it with lined hose.
   d. All fire hose must be hydrostatically tested. (see Fire Hose this section)

   Conduct a flow and pressure test at the hydraulically most remote hose station every 5 years to verify that the water supply is capable of providing the design pressure at the required flow.

C. Records

Record all inspections and test results.

XXIII. FIRE PROTECTION WATER ISOALTION VALVES, FIRE HYDRANTS AND HOSE HOUSES

The design of underground water supply systems for fire protection should allow for an ample supply of water to extinguish the worst possible fire anticipated at the site. Fire hydrants and post indicator valves (PIVs) shall be installed in the system to provide control of the fire protection water.

Fire hydrants should be spaced in the line at approximately 250-foot intervals and placed no closer than 50 feet to any building or hazard being protected.

PIVs shall be installed at every fire line connection that enters a building and at various locations in the underground water main to isolate parts of the line for servicing or repair.

Hose houses shall be maintained adjacent to the fire hydrants at the generating plant.

Inspection, Testing and Maintenance Procedures

A. Fire Protection Water Isolation Valve

1. Weekly Inspection

   a. Inspect all above and below ground fire protection isolation valves controlling fire protection water are open and accessible.
   b. Inspect all above and below ground fire protection isolation valves controlling fire protection water are free from external leaks.
   c. Inspect that all PIV valves are open and accessible. Verify that the open and shut target is clearly visible.
   d. Inspect the fire protection isolation valves are well identified with proper signage or tag number and operating instructions.
   e. Inspect that appropriate wrenches are available.

2. Semi-Annual Testing

   a. Underground water mains shall be flushed for a minimum of 10 minutes in the spring and fall of each year to remove any accumulation of silt or other debris.
   b. After the fall flushing, each hydrant should be checked for drainage. Hydrants with plugged drains shall be repaired or protected from freezing by adding antifreeze.

3. Annual Testing

   a. Operate each Fire Sprinkler System control valve, Standpipe Riser isolation valves Fire header inside and outside sectionalizing valves , and Post Indicator valves thru full range and return to normal position.
   b. Operate Each Fire Hydrant Isolation valve Full closed and open.

B. Fire Hydrants and Post Indicator Valves

1. Fire hydrants and post indicator valves shall be lubricated and test operated semiannually. This work may be incorporated with the flushing of the water mains.

2. The proper test for PIV valves is to turn them to the wide-open position until the spring of the rod is felt. This ensures that the rod has not separated from the valve. Leave the valve one quarter turn from wide open position (usually open), and that they are locked or sealed in this position.

3. Hydrants and post indicator valves shall be accessible at all times and kept free of snow, ice, vegetation and other debris. Any damaged equipment should be repaired immediately.

C. Hose Houses

1. Inspect all hose houses monthly. Damaged or obstructed houses should be repaired or cleared immediately.

2. Hose houses should contain at least the following equipment:

a. 200' of 1 1/2" hose
b. 1 - 2 1/2" adjustable spray nozzles attached to hoses
c. 1 universal spanners
d. 2- 2 1/2" to 1 1/2" adapters (if needed)
e. 2 National Standard to Iron Pipe adapters to ensure compatibility with local fire department (if needed)

D. Records

Record all inspections and test results.

XXIV. FIRE PUMPS

Fire pumps are used to supply water at a specific pressure and volume to fire hydrants, standpipe systems and automatic sprinklers. Fire pumps are installed where the water pressure from the primary water supply is not adequate for the needs of the fire protection systems. Our fire pumps are driven by electric motors.

A. Inspection and Testing

The following procedures shall be followed for inspecting and testing fire pumps:

1. Weekly

a. Check to see if power is available to the pump controllers.
b. Check to see if the controller is in the automatic position.
c. Check for proper valve positions.
d. Automatically start and run for at least 10 minutes while discharging water.
e. Verify that the pump running alarm is received in the control room.

2. Annually

a. Perform the weekly checks.
b. Test the pump against its rated capacity and pressure. To do this, several steps should be followed:
   1) Contact the Support Systems Department at least two weeks in advance of the test. The Safety Director's designate may also want to witness the test.
   2) Connect a pressure gauge to the discharge side of the pump.
   3) Connect one 2 1/2 inch hose to each of the test manifold outlets.
   4) Connect the other end of the hose to a secured smooth bore nozzle.
   5) Slowly open the test manifold isolation valve.
   6) Slowly open one manifold outlet valve.
   7) Record the starting pressure of the pump.
   8) When the valve is opened fully, insert a pitot tube into the stream and obtain a pressure reading. Record this pressure, the discharge pressure, and, for diesels only, the rpm reading from the pump.
   9) Repeat Steps (f) and (h) for the other outlet valves.
   10) Close all outlet valves and record the discharge pressure.
   11) Stop the pump.
   12) Disconnect the hoses and return all valves to their proper positions. Return all controls to their normal positions.

B. Records

Record all inspections and test results.

XXV. AUTOMATIC FIRE ALARM SYSTEMS AND DETECTORS

This standard provides the minimum requirements for the inspecting and testing of automatic fire detectors to ensure reliability of the equipment and compliance with all governing codes, regulations and insurance requirements.

Testing shall be in accordance with NFPA 72, 72E AND 72H National Fire Alarm code.

This section pertains to all fire alarm panels, fire detection devices, Fire audible devices, Fire visible devices, fire suppression systems and releasing components, batteries, CO2 monitoring systems, fire alarm transmitters, water flow devices, Trouble signals, Panel power Fuses, lamps and LEDs etc.

Automatic fire detectors are designed to detect the presence of fire by responding to heat, light or products of combustion and to initiate action by sounding an alarm. The alarm(s) will be a local alarm and/or an alarm in a remote staffed area. Fire detectors will actuate automatic fire extinguishing equipment if designed into the system.

Each type of detector has specific, highly desirable features and certain limitations. The Support Systems Department should be contacted prior to design and selection of any fire detection system.

Heat Detector - a device which detects abnormally high temperature or sudden increases in temperature above a predetermined rate.

Smoke Detector - A device which detects the visible or invisible particles of combustion.

Flame Detector - A device which detects the visible or invisible radiant energy produced by a fire.

There are other devices available that detect the presence of a fire using a different principle than heat, smoke or flame. However, at the present time, none of these are approved for use within SIPC.

A. Inspection and Testing

1. Monthly

   a. Verify all fire alarm panels are accessible and not blocked.
   b. Verify all fire alarm panel doors are closed.
   c. Inspect the fire alarm panel for any trouble or fire alarm condition. Reset alarms or take corrective action to clear alarm.
   d. Verify all lights are working.
   e. Verify power supply to panels normal.
   f. Inspect for abnormal battery conditions or corrosion at the terminals.

2. Quarterly

   a. **Refer to** NFPA 72 National Fire Alarm code for testing methods and devices.

b. Test all supervisory and water flow signal devices except valve tamper switches.
c. Conduct battery charger test.
d. Conduct Battery test.

3. Annually

a. **Refer to** NFPA 72 National Fire Alarm code for testing methods and devices.
b. Test all fire alarm control panels to verify the correct receipt of all alarm signal inputs, operation of notification devices, and the operation of all auxiliary control function outputs.
c. Test fire panel using normal and alternate power supply.
d. Test all alarm initiating devices including manual stations, sprinkler water flow switches, smoke detectors, spot heat detectors, linear heat detectors, duct detectors, CO2 system initiating detectors, pressure switches, etc.
e. Test all alarm supervisory devices including valve tamper switches, low air pressure switches, valve house low temperature alarms, etc.
f. Verify all audible notification devices (speakers, sirens, horns) and visual notification devices (strobes, flashing lights, etc.) are operating.
g. Verify that auxiliary control function outputs (coal conveyor shutdown, door or damper closing, HVAC shutdown, etc.) are operating.
h. Verify that all fire alarm zones and/or other notifications are accurately annunciating in the main fire control panel.
i. Verify all fire alarm control panel switches and lighting are operating.

All fire detector systems shall be inspected and tested at least semiannually.

To assure maximum reliability of automatic fire protection systems, the periodic inspections, testing and maintenance should be performed only by persons knowledgeable in the mechanics of the system.

Because of the many varied types of heat, smoke and flame detectors, the testing, cleaning, checking, operation and any sensitivity adjustment shall only be attempted after consulting the vendor's or manufacturer's instruction manual.

Prior to the testing of any fire detector system, notify all locations who receive alarms so that unnecessary responses shall not take place.

Detector systems shall be restored to service as soon as possible after each test or alarm.

B. Records

Record all inspections and test results.

XXVI. LOW PRESSURE CO2 FIRE SYSTEM

Low pressure CO2 Fire systems indicate that the carbon dioxide is stored in a refrigerated pressure tank at a low temperature of zero degrees Fahrenheit. At this temperature, the pressure in this type of storage is 300psi.

SIPC Unit 5 and Unit 6 Combustion Turbines are protected by a low-pressure CO2 system.

Inspection, testing and maintenance references are NFPA 12, 72, and 72E, GE Power Systems Gas Turbines Fire Protection and Chemetron Fire Systems Low Pressure CO2 Systems

A. Inspection and Testing

1. Daily Inspection

   a. Verify liquid level above minimum.
   b. Verify Tank pressure between 290-310 PSIG.
   c. Power supply to all circuits
   d. Verify Fill and equalizing valves closed.
   e. Verify Pilot vapor supply valve is locked open.
   f. Check for leaks by noting any frost or ice visible on valves or fittings.
   g. Verify no damage to storage tank.

2. Monthly Inspection

   a. Inspect tank at normal pressure of 300psi.
   b. Inspect liquid level gauge on CO2 storage tank has sufficient level. The liquid level should be inspected a minimum of weekly.
   c. Inspect the storage tank shut off valve to be open.
   d. Inspect the fire control panel for operating condition.
   e. Inspect all selector valves and
   f. Inspect each protected area to ensure that the physical condition of all CO2 piping, nozzles and associated equipment are in proper order.
   g. Inspect each protected area to ensure that all automatic closing of fire doors and dampers are not obstructed and arranged for proper operation.
   h. Verify that all access doors to the CO2 protected areas are closed and latched.
   i. Inspect each protected area to ensure there are proper warning signs in and outside the protected area.

3. Annual Test

   a. Conduct Monthly check prior to testing system.
   b. Prior to testing the CO2 system (puff or complete concentration test) a pre-job safety session will be held with all personnel involved to review the documented procedure and cover all safety issues. See GE Power Systems Full CO2 Concentration Test Procedure.
   c. Conduct a puff test to each protected area to ensure that all nozzles are unobstructed, all fire doors and dampers close, pre-discharge and discharge alarms sound, and the delay discharge timer provides the necessary time to egress.
   d. A full concentration test is recommended to fully test the reliability of the system. See NFPA 12 Recommendations.
   e. Check and test all visual signals for operation.
   f. Ensure all output functions operate properly.
   g. Test each manual actuating station and fire alarm heat detector using methods specified in NFPA 72.
   h. Test the fire control panel timers, solenoids, alarms, zone relays, etc., in accordance with the annual test requirements of the fire alarm system.
   i. All system hoses, including those used as flexible connectors shall be tested every 5 years in accordance with NFPA 25 section 4.8.2

j. Perform annual maintenance per Chemetron Fire Systems for low pressure CO2 systems.

B. Records

Record all inspections and test results.

XXVII. EXTERNAL FIRE PROTECTION

The following standards should be considered as minimum requirements for the yard hydrant system:

A. The water supply should be adequate to supply a minimum of 750 gpm for hose streams plus the maximum demand for sprinkler systems or water spray systems. Reference NFPA No. 24, "Outside Protection."

B. In the case of a fire beyond that that can be handled with a fire extinguisher requires notification of the Fire Department.

1. The development of a fire plan should consider the need for communication, fire drills, scheduled plant inspections at frequent intervals and proper recordkeeping procedures.

2. Responding fire departments should be invited to visit the property to determine that their equipment is compatible and to familiarize themselves with the type and location of the various hazards.

C. Each power transformer containing more than 500 gallons of flammable oil and located within 20 feet of the main station building should be protected by an automatic deluge sprinkler system. Curbing and a crushed rock filled excavation around the transformer foundation should be provided to contain the oil spillage in the event of rupture of the transformer tank.

Grading of the transformer yard should be such as to allow spilled oil to flow away from the building or other important structures.

XXVIII. INTERNAL FIRE PROTECTION

Special fire protection systems should be considered for the following equipment or building areas.

A. Automatic deluge systems should be provided for turbine oil reservoirs, turbine oil purifying equipment, turbine oil storage tanks, and high-pressure turbine oil lines.

B. Automatic sprinkler protection should be provided for the following:

1. Oil reservoirs for:

a. Turbine driven boiler feed pumps.
b. Hydraulic systems using other than approved non-flammable fluids.
c. Generator oil-cooled stator systems.

2. All enclosed coal handling areas. For conveyor belts, the system should be installed to

automatically wet the top belt, its contents and the bottom return belt.

3. The cable spreading room. Recent losses caused by the burning of grouped cable with non-metallic sheathing illustrates the need to consider special fire protection for locations containing concentrations of such cable in plant design. The burning of cables sheathed with polyvinyl chloride, neoprene, or hypalon produces dense clouds of black smoke which hamper firefighting efforts; hydrochloric gas is also produced which combines with water in the air to produce hydrochloric acid. The contamination to structural steel, electric equipment and instrumentation from smoke and acid can far exceed the actual fire damage. Specifications for grouped multi-conductor control and power cable should require stringent cable fire tests indicative of "real life" situations. Special fire protection for concentrations of cable such as cable spreading rooms and cable tunnels should include:

   a. A standard installation of closed sprinklers controlled by an automatic deluge value actuated by "products of combustion" type detectors. The deluge valve should be located outside the room and be connected to the station annunciator system. Reference NFPA No. 13, "Installation of Sprinkler Systems."
   b. Standard standpipe and hose protection including adjustable spray nozzles. Reference NFPA No. 14, "Standpipe and Hose Systems."
   c. Underwriters' Laboratories, Inc., approved smoke and heat venting utilizing a powered mechanical exhaust system actuated by "products of combustion" type detectors. Reference NFPA No. 204, "Smoke and Heat Venting".
   d. Floor design should provide for drainage of sprinkler and hose discharge to a suitable drainage facility.
   e. Provision should be made for proper breathing apparatus for at least two men.

   When possible, plant design should allow cable trays to be quickly de-energized by section in the event of emergency.

C. Standpipe and hose protection should be provided throughout the building, but it is especially important that this protection be provided in the following areas:

   1. Fully loaded or tiered cable trays.

   2. Adjacent to each doorway to the cable spreading rooms.

   3. Adjacent to the top level of electrostatic precipitators, especially when rectifiers (or transformers) utilize mineral oil as a dielectric medium.

   Reference NFPA No. 14, "Standpipe and Hose Systems".

D. A complete complement of portable fire extinguishers should be provided in all buildings and structures to ensure protection for Class A (ordinary combustibles), Class B (flammable liquids) and Class C (electrical) fires.

   Reference NFPA No. 10, "Portable Fire Extinguishers".

SECTION 7: CONFINED SPACE POLICY

I. PURPOSE

To protect the safety of our employees and comply with 29 CFR 1910.146, Southern Illinois Power Cooperative establishes this policy regarding confined space entry. A confined space is defined as an area which has adequate size and configuration for employee to enter and perform work, has limited means of entry and egress, and is not designed for continuous employee occupancy. Atmospheric, mechanical, engulfing, and other hazards must be taken into consideration before entry into a confined space is allowed. For this reason, the following steps must be completed to ensure a safe and documented entry into a confined space.

II. AFFECTED AREAS

A plant audit shall be conducted and all work areas meeting the definition of a confined space will be labeled appropriately. All supervisors shall identify every such area that workers under their oversight have the potential need to enter. Each supervisor will be supplied with information and training regarding the recognition of areas fitting the confined space definition. The plant management will be responsible for the distribution of identification signs to be displayed at these areas. After installation of these identification signs by the appropriate supervisors, the safety committee will clarify questions regarding "grey" areas as to whether an area should be classified as a confined space. After a complete list of areas meeting the confined space definition has been accumulated, it will be added to the appendix of this policy and areas will be classified according to their permit requirement and potential hazards.

III. HAZARD CLASSIFICATION AND PROTECTION

After the determination that a space has adequate size for worker entry, limited entrance and exit availability, and is not designed for continuous worker occupancy, the space will be evaluated for "potentially" hazardous conditions. These potential hazards would include atmospheric conditions (toxic gases, explosive or flammable atmosphere, or lack of oxygen or asphyxiating gases), engulfment by bulk solid or fluid, electrocution, mechanical configuration (slips, trips and falls), burns, heat stress or another recognized serious hazard.

Areas without potentially hazardous conditions will not require entry permits. Such non-permit spaces will require the completion of a "pre-entry checklist" (see Appendix) by the shift foreman or leadman before entry into such a space. Such entries do not require an attendant, but could be re-classified to "permit required spaces" if conditions within the space change.

Confined spaces with identified potentially hazardous conditions will be grouped according to the potentially hazardous conditions associated with each. Pre-entry checklists and entry permits (see Appendix) must be completed by the shift foreman or leadman before entry into such a space. These forms will guide the completor through standard safety procedures, tests for hazard identification, and personal protective equipment selection. Air monitoring equipment needed to test for an explosive, toxic, or oxygen deficient atmosphere will be supplied by the foreman or leadman. Pre-entry checklists and entry permit forms will be supplied to all supervisors.

IV. TRAINING

All supervisors and affected workers will be trained about confined spaces and Southern Illinois Power Cooperative's Confined Space Policy. Instruction will be given regarding identification of confined spaces, completion of the pre-entry and entry permit forms, calibration and use of monitoring equipment, selection and use of personal protective equipment, entry safety and communications, and emergency escape and rescue procedures. Annual refresher courses will also be given.

V. PREPARATION AND ENTRY INTO A CONFINED SPACE

Once it is determined that entry into a confined space is necessary, the foreman or leadman will complete the pre-entry checklist. If the space does not require an entry permit, then work may take place after completion of the pre-entry checklist. A copy of the checklist shall be sent to the Operations Superintendent and a copy should be maintained in the appropriate supervisor's files. Every confined space entry shall be logged by the Operations Superintendent.

If, after completion of the pre-entry checklist, an entry permit is found to be necessary, the following steps will be completed before entry is made:

A. The confined space atmosphere will be tested first for oxygen then for flammable gases and vapors, and toxic contaminants.

B. The area surrounding the access door to the confined space will be roped off or otherwise secured to prevent personnel or materials from falling in the access opening.

C. The shift foreman or leadman will review the potential hazards within the space with the entrant(s) and attendant. They will also discuss the means to mitigate or lessen such hazards.

D. The shift foreman or leadman will review with the entrant(s) and attendant what personal protective equipment will be used and how communication will be maintained throughout the job.

E. The foreman (or leadman), entrant(s), and attendant will review emergency evacuation and rescue plans.

F. The foreman or leadman will assure that workers entering a confined space safely exit when the job is finished or the entry permit expires.

G. The supervisor will assure proper completion and distribution of the confined space permit.

Duties and responsibilities of entry supervisors, attendants, and workers entering a confined space are listed in the appendix. Workers will be trained in the performance of these duties and will review them during annual refresher training. Supervisors should review these responsibilities with all workers involved in a confined space entry before each entry is made.

VI. EMERGENCY EVACUATION AND RESCUE

Should conditions within a confined space become hazardous to the worker(s) inside, all workers shall

immediately exit the confined space and notify their foreman, leadman, or supervisor of the conditions causing suspension of work. The hazardous condition will be eliminated before a re-entry is made.

If a rescue from within a confined space should become necessary, and the attendant cannot assist the worker without entering the confined space, the attendant shall immediately notify his foreman, leadman, or supervisor. The supervisor, foreman, or leadman will immediately phone the proper emergency personnel (ambulance, fire department, etc. . . .). Only properly protected and trained personnel are to enter confined spaces to attempt a rescue of an injured or trapped worker.

VII. CONCLUSION

Our work at Southern Illinois Power Cooperative sometimes requires entry into areas defined as confined spaces. With the proper planning, training, and protection, these confined space entries can be accomplished in a safe manner. Toward this end, Southern Illinois Power Cooperative establishes this confined space policy to be followed by all employees, outside contractors, and visitors on its property.

SECTION 8: FLAMMABLE AND COMBUSTIBLE LIQUIDS

I. INTRODUCTION

Flammable/combustible liquids can pose severe fire and explosion hazards if stored or handled improperly. This standard provides the minimum requirements for safe inside storage and handling of flammable/combustible liquids. It is based on applicable Illinois Flammable Liquid Regulations, Illinois Occupational, Safety and Health Laws, National Fire Protection Association Codes and Department of National Resources Laws.

A. Flammable and Combustible Liquids

Flammable and combustible liquids are grouped by their flash points into several classifications. The flash point of a liquid is defined as the lowest temperature that a liquid will give off vapors which can be ignited. Listed in Exhibit 1 are flash points of liquids commonly used at Southern Illinois Power Cooperative.

1. Extremely Flammable Liquids

   a. Class I - Liquids having a flash point at or below 20°F.

2. Flammable Liquids

   a. Class I - Liquids having a flash point over 20°Fbut less than 100°F.

3. Combustible Liquids

   a. Class II - Liquids having a flash point at or above 100°F and below 140°F.
   b. Class III - Liquids having a flash point at or above 140°F.

II. APPROVED STORAGE METHODS

The proper storage of flammable/combustible liquids depends upon:

- The class and/or flash point of the liquid.
- The quantity of liquid stored.
- The container used for storage.
- Construction and location of the building, storage room or cabinets in which the liquid is stored.
- Activities occurring in or near a storage area.

The maximum storage permitted inside of buildings is limited to OSHA standard 1910.106. It is recommended that the lowest practical quantity of flammable/combustible liquids be maintained.

A. Containers - Five gallons or less

1. Safety cans equipped with flame arresters and spring-activated caps shall be used for the storage and handling of all flammable liquids with a flash point of less than 100°F.

2. All safety cans shall be ordered through the storeroom.

3. All Class I liquids shall be in red safety cans and labeled as to the liquid they are presently carrying.

4. Do not interchange liquids in safety cans unless they are completely drained, purged and relabeled to show the new contents.

5. Containers or cans for combustible liquids (Class II and Class III) having a flash point at or above 100°F (e.g., creosote, diesel fuel oil, Formula 602, lubricating oils, mineral spirits, Neats Foot Oil, Scav-Ox, TPC, transformer oil, turbine oil, etc.) do not have to be approved safety cans. The containers shall be of good quality and free from leakage of either liquid or vapors.

6. All containers of combustible liquids shall be labeled as to the liquid they are presently carrying. Liquids in their original containers do not require additional labeling.

B. Containers - Over five gallons

1. Containers of Class I liquids other than original containers shall be painted red and labeled.

2. Containers of Class II and Class III liquids other than original containers shall be labeled.

III. LABELING

A. All safety cans containing Class I liquids shall be labeled with yellow lettering and, where the size of the safety can permits (over five gallons), the letters shall be three inches in height.

B. Safety cans for Class I liquids having a flash point at or below 20°F (e.g., acetone, gasoline, gas odorant, benzine, etc.) shall be labeled "DANGER - EXTREMELY FLAMMABLE" followed by the name of the liquid.

C. Safety cans for Class I liquids having a flash point over 20°Fbut less than 100°F (e.g., crude oil, denatured alcohol, ethyl alcohol, lacquer, lacquer thinner, methanol, propyl alcohol, turpentine, varnish, etc.) shall be labeled "WARNING - FLAMMABLE" followed by the name of the liquid.

D. Containers of Class II and Class III liquids shall be labeled "CAUTION - COMBUSTIBLE" followed by the name of the liquid. The label shall be of a color which is contrasting to the container color. Where the size of the container permits (over five gallons), the letters shall be three inches in height.

E. The label requirements do not apply to combustible liquids in their original containers.

VI. CABINETS

A. Cabinets approved by Underwriters' Laboratories or Factory Mutual shall be used for storage of small quantities of flammable/combustible liquids.

B. Existing cabinets now in use should not be changed if they are in good condition, are of sturdy construction and have passed recent safety inspections. All storage cabinets shall be conspicuously labeled "FLAMMABLE - KEEP FIRE AWAY."

V. VEHICLES

Vehicles which are used to transport flammable/combustible liquids in portable or skid-mounted tanks shall conform to the following requirements. The tank shall be red in color and be labeled with a minimum of three-inch-high letters which read "FLAMMABLE" followed by the name of the liquid.

VI. STORAGE TANKS

A. All aboveground outside flammable or combustible liquid storage tanks shall be marked with letters a minimum of three inches in height of a contrasting color. The sign, decal or stencil shall read "FLAMMABLE LIQUID OR COMBUSTIBLE LIQUID - KEEP FIRE AWAY." The name of the contents of the tank should also be posted.

B. In addition to labeling each tank, "DANGER - NO SMOKING, MATCHES OR OPEN LIGHTS" signs should be posted around the dike. The "NO SMOKING" sign shall also be displayed on all loading racks and on any other structures in which flammable or combustible vapors may accumulate.

VII. STOREROOMS

The following rules apply to storage of large quantities of flammable or combustible liquids:

A. Storage on open shelving of Classes I, II and III flammable and combustible liquids in original sealed vendor's containers or approved safety containers shall not exceed OSHA limits.

B. Place all flammable or combustible liquids in one area, preferably a corner, of the storeroom.

C. Maintain at least an eight-foot clearance from all other storage.

D. Classify this location as a NO SMOKING area. Post signs so that they are visible to anyone entering the area.

E. Do not stack small containers and cans over three feet high.

F. Dispensing (pouring) of flammable/combustible liquids shall not be allowed in this area.

VIII. OTHER STORAGE AREAS

A. Under no circumstances shall flammable/combustible liquids or equipment containing flammable/combustible liquids be stored in basements, furnace rooms, fan rooms or in those storage areas containing compressed gases.

IX. HANDLING AND USING FLAMMABLE/COMBUSTIBLE LIQUIDS

A. The transfer of flammable/combustible liquids shall be done where spillage will not create a hazard. Safety cans should not be overfilled and leaking containers shall be repaired or discarded at once. In case of spillage, immediate action should be taken to eliminate all sources of ignition and to ventilate the area.

B. Containers shall not be filled with flammable liquids having a flash point below 100°F (such as gasoline) unless the filler nozzle and receiving container are electrically interconnected or in direct contact with each other to prevent static electricity from being a hazard.

C. Classes I and II flammable/combustible liquids shall not be discharged from tanks, drums or similar containers by pneumatic pressure, unless the containers and piping system are designed to withstand the pressure involved. In no case shall air pressure be used, except in power spraying.

D. Dipping, spraying and any other use of flammable/combustible liquids are not permitted in the same area or room where flammable/combustible liquids are stored. Dipping operations using Class I flammable liquids are prohibited in SIPC buildings.

E. Portable equipment with gasoline engines, which are stored within a building with fuel tanks undrained, should be placed in approved cabinets or storage rooms or in a separate building used only for that purpose.

F. Filling of gasoline-powered equipment and vehicles within buildings is prohibited, unless the equipment is permanently mounted in the building.

G. Extra containers of gasoline are not to be transported in SIPC vehicles except for special use at a job site. In these special situations only approved safety cans shall be used and precautions shall be taken to secure firmly the container in the vehicle. Gasoline or any other Class I liquid shall not be transported in the passenger compartment of any SIPC vehicle.

H. Engines of machinery or vehicles, except fire apparatus in use at a fire, shall be shut down during refueling.

X. NONSMOKING AREAS

Locations in SIPC buildings where certain classes of flammable and combustible liquids are used and stored shall be designated NO SMOKING areas. Locations that are designated **NO SMOKING** areas shall have warning signs posted so that they are immediately visible to people entering the area.

SECTION 9: ASBESTOS

Southern Illinois Power Cooperative has removed the known asbestos from its facilities, except for floor tiles, and only includes the following to allow for employee protection if additional asbestos is discovered.

I. OBJECTIVES

A. To provide guidelines for control of insulation and materials containing asbestos at all facilities.

B. To provide procedures for safe management of materials containing asbestos.

II. RESPONSIBILITY

A. Department Heads of facilities where asbestos materials were used or may have been used, or where structures contain asbestos materials, are responsible for:

1. Conduct asbestos awareness training.

2. Monitoring and measuring for control of asbestos in the workplace.

3. Use a certified contractor to remove any asbestos when found.

B. The Environmental Department Head is responsible for:

1. Providing assistance and general guidance for regulatory compliance.

2. Evaluation and approval of personal protective devices and asbestos control methods and equipment.

C. SIPC employees shall not handle asbestos materials.

III. GENERAL

A. Because of its resistance to high temperature, asbestos has been used extensively in insulation materials and other products for many years. Studies of workers involved in the production and installation of these products have shown that the inhalation of asbestos fibers can cause a respiratory disease known as "asbestosis" (a scarring and thickening of the lung wall). These studies have also produced evidence that asbestos fiber exposure is associated with certain cancers of the lung, chest, abdominal lining and digestive system. The symptoms of these diseases may not appear until ten to thirty years after exposure.

B. The term "asbestos" includes chrysotile, amosite, crocidolite, tremolite, anthophyllite and actinolite. All asbestos may produce airborne fibers that can be harmful to health. However, chrysotile (white asbestos) and amosite are the most common materials found in insulation, insulation covers, molded blocks and plaster mixes, and are the most likely to produce airborne fibers. The other types are usually sealed in other products such as asbestos gloves, asbestos blankets, fire brick and tile, and are not likely to produce airborne fibers.

IV. ADMINISTRATIVE CONTROL OF ASBESTOS MATERIALS

A. For new installation, asbestos-free materials shall be used.

B. For existing installations, asbestos-free materials shall be used for repair or replacements.

C. When existing asbestos insulation is discovered, the asbestos should be removed and disposed of by a certified contractor.

SECTION 10. HAZARD COMMUNICATION

I INTRODUCTION

A. The primary purpose of this Written Hazard Communication Program is to inform you, the employee, how Southern Illinois Power Cooperative plans to meet chemical identification requirements, container labeling of hazardous chemicals, providing Safety Data Sheets (SDS) and program training.

B. This program will also inform you on:

1. Location of the hazardous chemicals list in your workplace.

2. Procedures used to inform you on hazards you may encounter in non-routine tasks.

3. Procedures to inform contractors of hazardous chemicals their employees may be exposed to and for contractors to inform Southern Illinois Power Cooperative of hazardous chemicals they bring in.

4. The Safety Administrator is responsible for the Hazard Communication Program.

II. HAZARDOUS CHEMICALS INFORMATION

A. Hazardous chemical information is available electronically through SDS On-Line.

III. LABELING OR OTHER FORMS OF WARNING

A. Hazardous chemicals will be identified by one of the methods described below. If more information is required, a Safety Data Sheet is available (see Safety Data Sheet).

B. The designate of the Safety Administrator oversees the labeling portion of this program. As part of the chemical survey, all illegible labels will be replaced. If an illegible or unlabeled container is found, please notify your supervisor.

C. Methods of identification or warning:

1. Purchased Chemicals
Containers will be labeled by manufacturer. If a container is received unmarked, the container will not be issued or dispensed until it has been labeled.

2. Portable Containers
When a chemical is transferred from the original container to another, it will be appropriately labeled. The only exception is when the chemical will be used exclusively by the employee making the transfer and within his/her shift. Labels applied at this facility will have at least the chemical identified and hazardous warnings or identification.

3. Areas
Where an area may have a hazardous chemical in the atmosphere, the entire area will be

"labeled" with a warning placard.

4. Processes
Systems that contain hazardous chemicals will be noted on a flow chart or other document used in training and will be available to all employees.

IV. SAFETY DATA SHEETS

A. Safety Data Sheets (SDS) will be obtained from chemical suppliers as part of the purchase agreement. SDS's for chemicals will be provided to the Safety Administrator's Delegate.

B. All Safety Data Sheets are available electronically and the Safety Administrator's Delegate will ensure the on-line SDS database is updated..

C. It is understood that a SDS must be available before a chemical is used.

V. CONTROLS

A. If non-routine work must be performed on systems containing hazardous chemicals or the non-routine work may create hazardous chemicals employees will be appraised of the situation by:

1. Toolbox meetings
2. Trip to the actual area

Information covered will be at least:

1. Identification of hazardous chemicals
2. Review of SDS

B. Contractors that perform work at SIPC may be exposed to and/or may bring hazardous chemicals to our work environment. During a pre-construction meeting outage meeting, or equivalent, SDS's on hazardous chemicals that the contractor is to use, or to which they may be exposed, will be available upon request. Employees in that work area will be appraised of new developments and the SDS's reviewed. If the contractor's work area contains hazardous chemicals, upon request, their coordinator will be given a copy of the appropriate SDS.

C. When ordering new chemicals, ensure that a SDS must accompany shipment. A statement requesting the SDS will be on the purchase order.

D. Besides the training which will be given to all employees, special consideration will be given to new or transferred employees or when new hazardous chemicals are introduced.

1. New employees, as part of the orientation program, will receive training as outlined in the training section.

2. Transferred employees. Whenever an employee is transferred to a position or work area that has hazardous chemicals different from those in which trained, training will be provided.

3. New hazardous chemicals. Whenever the delegate of the Safety Administrator receives an updated or new SDS for a hazardous chemical, the delegate will determine if additional training is required. If additional training is required, all employees exposed will be appraised of the changed or new SDS and review the SDS in a classroom atmosphere.

VI. TRAINING

A. Employees will be provided information and training on hazardous chemicals in their work area at the time of initial assignment, whenever a new hazardous chemical is introduced into their work area, and annually thereafter.

B. The Safety Administrator is responsible for the training portion of this program.

C. Employees at SIPC will be advised and informed of the existence of required standards, the locations of the written program and how to access Safety Data Sheets on-line.

D. Employees working with, or around, hazardous chemicals will be trained on each chemical or group of common chemicals. This training will consist of classroom training using the SDS as the primary teaching aid; in addition, the labeling system used will explain with examples, along with information on containers showing how to handle the chemical and how to detect its presence (i.e., spill or leak).

VII. RECORDKEEPING

A. Safety Data Sheets

1. All current Safety Data Sheets will be available electronically.

2. Safety Data Sheets authored by Southern Illinois Power Cooperative will be provided by the appropriate SIPC personnel upon request.

B. Employee Training

Employee training records will be kept by the appropriate department.

SECTION 11: Hot Work

I. **Objective:**

To establish fire prevention and safety requirements during open flame or spark-producing operations. Such operations require special attention, since they have a strong potential for fire, explosion, and employee harm.

II. **References:**

A. 29 CFR 1910 Subpart Q – *Welding, Cutting, and Brazing*
B. 29 CFR 1910 Subpart I – *Personal Protective Equipment*
C. American National Standards Institute (ANSI) Standard Z49.1-1999 – *Safety in Welding, Cutting*
D. National Fire Protection Association (NFPA) 51B – *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work*
E. NFPA 51 – *Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting and Allied Processes*

III. **Applicability**

This document covers all employees and contractors working at Southern Illinois Power Cooperative's Marion Generating Station whose job may include hot work including but not limited to all open flame or spark-producing operation such as welding, cutting, heating, flame soldering, arc or brazing.

This procedure **does not** apply to the following:

A. Permanently installed boilers, furnaces, and cooking stoves.
B. Bunsen burners in laboratories.
C. Designated areas within the maintenance shops.
D. Fab table on Turbine Deck.
E. Metal Storage Shop area.

No type of Hot Work will be performed in the following areas:

A. Oil Storage area.
B. Battery rooms
C. Hydrogen Storage area
D. Chemical Storage room

All other areas require a hot work permit.

For work done by SIPC employees, a representative (Authorizing Person) prior to the start of any hot work shall issue the current version of a *Hot Work Permit*. Permits must be posted adjacent to hot work operation and returned to issuing individual for filing after job completion or permit expiration.

Hot Work Permit Authorizing Persons will be Shift Foreman, Coal Handling Leadmen, Maintenance Supervisors and Operations Superintendent.

Hot Work Permits shall normally be valid for 8 hours, after which a new permit must be issued.

Hot Work Permits should be kept on file for 1 year. Permits shall not exceed a 30-day period for each

activity. Conducting hot work without a required permit is a serious violation.

IV. **Qualified Personnel**

Qualified personnel are those individuals who have had formal or on the job training in the use of the equipment for which the permit is issued. In addition, the qualified individual shall have completed training in the use of fire extinguishers within the last 12 months.

V. **Responsibilities**

1. Supervisor / Designee
   a. Assign only qualified personnel to perform hot work operations.
   b. Determine when a hot work permit is needed and ensure that permits are not used beyond their expiration date.
   c. Ensure that all open flame equipment operated by assigned personnel is handled and used in a safe manner.
   d. Ensure all qualified personnel are trained in the use of SIPC Hot Work Permit and Safety Manual Procedure requirements.

2. Authorizing Person (Hot Work Permit Issuer)
   a. Review the request for the Hot Work Permit
   b. Inspect the area where hot work is to be performed.
   c. Verify Fire Watcher assigned.
   d. Complete, sign and issue Hot Work Permit
   e. Receive and close out completed Hot Work Permit.
   f. Forward completed Hot Work Permits to the shift-foreman.

3. Qualified Personnel Assigned to Perform the Hot Work Operation
   a. Acquire proper personal protective equipment (i.e., goggles, helmets, shields for maximum eye protection, and protective clothing including leather gloves) for the hot work operation and verify that all operating equipment is in safe condition.
   b. Acquire an appropriate fire extinguisher for fire watch personnel.
   c. Verify the location of the nearest working phone and know procedure for reporting emergency situations.
   d. Remove combustibles from work area at least 35 feet.
   e. Protect combustibles that cannot be removed by covering them with a noncombustible material or wetting down area.
   f. Enclosed equipment will be cleaned of all flammable and combustible materials and verified purged of all flammable vapors. Also, ensure adequate ventilation is in place.
   g. Secure and display the signed current version of a *Hot Work Permit* prior to the start of hot work operation and for the time the fire watcher is present.

4. Contractors
   a. Contractors are required to have their own welding and cutting spark-producing operations procedure, including the issuance of their own hot work permits.
   b. The Contractor's procedure must at a minimum meet the requirements of SIPC's procedure and all applicable regulations, such as those referenced above.

VI. **Fire Watch**

1. Fire Watchers shall be required whenever hot work operations are performed in locations such that other than a minor fire might develop, or any of the following conditions exist:
   a. Combustible materials including building construction are located within 35 ft to the hot work.
   b. Combustible materials are *More than* 35 ft from hot work but are easily ignited.
   c. Wall or floor openings within a 35-ft radius expose combustible material in adjacent areas including concealed spaces in walls or floors.
   d. Combustible materials are adjacent to the opposite side of metal partitions, walls, ceiling, or roofs and are likely to be ignited by thermal conduction or radiation.

2. Fire Watchers shall have fire-extinguishing equipment readily available and be trained on proper use. In addition, the Fire Watcher must be familiar with reporting an emergency.
3. Fire Watcher shall not be assigned any other duties during the fire watch.
4. Fire Watcher shall see that the work area remains free and clear of combustibles (Within a 35 in. radius, if possible, when welding or cutting with a torch or arc welder) and that hot slag or sparks do not come into contact with combustibles.
5. Fire Watcher shall be accountable for keeping all unnecessary personnel out of the area during hot work.
6. Fire Watcher shall remain at the work area during all breaks and for at least 60 minutes immediately after the work has been completed to perform a final check.
7. The hot work area may require monitoring for up to 4 hours after the work is completed. The length of time, as deemed necessary by the SIPC Authorizing Person (as previously defined) will be noted on the Hot Work Permit.

VII. **Special Precautions for Welding, Cutting, Brazing and other Hot Work:**
When conducting hot work operations in areas that previously contained materials that may develop an ignitable mixture, extreme care shall be taken.

1. Ventilation (natural, supplied, and/or exhaust) to remove smoke and fumes must be provided and utilized. Ventilation requirements are dependent on the size and duration of the job and materials involved.
2. All floor openings must be sealed to prevent intrusion by sparks, hot metals or oxides. A noncombustible material shall protect the floor openings.
3. Overhead hot work operations require special considerations. Whenever hot work operations are being conducted on platforms, scaffolds, or other elevating devices, including ladders, a fire watch shall be provided on the floor level. The floor level under the overhead work area shall be roped off to keep others from inadvertently walking under the hot work operation.
4. Precautions shall be taken when hot work is done on walls, partitions, ceilings or roofs to prevent ignition of combustibles on the other side due to thermal conduction or radiation.
5. Hot work operations on pipes or other material in contact with combustible walls, partitions, ceilings or roofs is not required. If the work is absolutely necessary, there shall be a fire watch on both sides of the wall or ceiling. In addition, special protection or shielding may be required.
6. Proper personal protective equipment (PPE) should be used including protective clothing, appropriate gloves, safety shoes, and apron protective eyewear.

VII. **Prohibited Areas**

Hot work operations **shall not** be allowed in the following locations unless authorized by the Power Production Department Head:

1. Areas not authorized by the SIPC Authorizing Person.
2. Buildings in which the automatic fire sprinkler system protection has been disabled.
3. Areas where large quantities of ignitable materials are used or stored (i.e., flammable chemicals, cardboard, etc.).
4. Oil Storage Rooms
5. Battery Rooms
6. Hydrogen Storage Area
7. Chemical Storage Rooms

VIII. **Gas Welding/Cutting**

1. Never use acetylene at a pressure *In Excess Of* 15 psi gauge pressure.
2. Back-flow preventers shall be installed on all oxygen and acetylene hose lines. For added safety, flash back arresters may also be installed on the fuel tank regulators.
3. Do not allow oxygen gas to come in contact with oil or grease because an explosion may occur.
4. Do not alter safety devices on cylinders or cylinder values.
5. Do not use oil or grease on cylinder caps, regulators, gauges, or fittings.
6. Do not wear oil-saturated gloves when handling cylinders.
7. Store cylinders, hoses, and regulators away from oils.
8. When not on a cart or connected to a torch, fuel and oxygen cylinders shall be separated by *At Least* 20 ft or a 1 1/2 hour-rated firewall *At Least* 5 ft high.
9. Close the cylinder valve and release the gas from the regulator before removing regulator from the cylinder.
10. With the receiver pointed away from the operator and any other personnel in the area, blow out the cylinder valve receiver by slowly opening and closing the valve slightly before attaching a regulator, except when using hydrogen. This procedure should be done *At Least* 25 in from all active flame operations or other sources of ignition.
11. Open the valves on cylinders of compressed gases slowly.
12. Threads on regulators and other unions must be the same as those on cylinder valves outlets.
13. If valves do not open freely, do not force them. Tag the valve as *Not Working* and return to the Supplier.
14. Ensure cylinder valve is closed completely and capped prior to moving or storing the cylinder.
15. Keep gas cylinder in proper cart or secured to a solid structure and keep caps on cylinders except when connected for use.
16. Do not transport cylinders by connecting to a sling or chain. Use approved cylinder racks designed for this purpose only.
17. No cutting/welding equipment shall be left in a confined space when the users have vacated the space.

IX. Arc Welding

1. All persons in the vicinity of arc welding must be protected from the flash of the electric arc.
2. The welder shall wear an approved hood, conforming to ANSI Z49.1, and shall wear proper clothing such as gloves, apron, and fire-resistive pants and shirt, to protect all parts of the body from ultraviolet rays of the arc and from hot metal.
3. The frame or case of the electric arc welding or cutting machine shall be grounded. Ground connections shall be mechanically strong to carry the maximum possible ground current. Ground connections should be made to a direct ground. Care should be taken in connecting to metal structures so that fire is not caused at some distant point.
4. When electric arc welding or cutting utilizing potable equipment is discontinued, all electrodes shall be removed from the holders. The holders should be carefully located so that accidental contact cannot occur with persons, objects, fuel or compressed gas cylinders. The welding equipment should always be disconnected from the power source.
5. Terminals for welding leads should be protected using dead-front receptacles for plug connections, recessed openings with non-removable hinged covers, heavy insulating sleeving, taping, or other equivalent electrical and mechanical protection.
6. All arc-welding equipment shall be maintained in a safe working order.
7. Shield guards of safety glass or suitable fire-resistant plastic shall be installed as near as practical to the point of operation to protect the welder and others from sparks.

SECTION 12: GENERAL

I. AISLES AND PASSAGEWAYS

A. SIPC requires that where mechanical handling equipment is used, sufficient safe clearance shall be allowed for aisles at loading docks, through doorways, and whenever turns or passage must be made.

B. Aisles and passageways used by mechanical equipment shall be kept clear and in good repair with no obstructions across or in aisles that could create hazards.

C. Permanent aisles and passageways shall be appropriately marked.

D. Covers and/or guardrails shall be provided to protect personnel from the hazards of open pits, tanks, vats, ditches, etc.

II. CHAINS, CABLES, ROPES, HOOKS, ETC.

A. SIPC requires that chains, cables, ropes, hooks, etc., on overhead and gantry cranes shall be visually inspected before each use and daily during continuous use for deformation, cracks, excessive wear, twists, stretch, etc., and defective gear shall be replaced or repaired.

B. When hooks and chains are visually inspected, a full, written, dated, and signed report of their condition shall be kept on file where readily available to appointed personnel. Running ropes shall be inspected periodically.

C. Hoist ropes on truck cranes shall be free from kinks or twists and shall not be wrapped around the load.

D. All U-bolt wire rope clips or hoist ropes on overhead and gantry cranes shall be installed so that the U-bolt is in contact with the dead end (short or nonload carrying end) of the rope. Clips shall be installed in accordance with the clip manufacturer's recommendation.

III. CHIP GUARDS

SIPC requires that effective chip guarding, including protective shields and barriers and/or personal protective equipment, shall be provided in operations involving cleaning with compressed air to protect personnel against flying chips or other such hazards. In addition, the compressed air pressure must be reduced to 30 psi.

IV. COMPRESSED AIR, USE OF

SIPC requires that compressed air used for cleaning purposes shall not exceed 30 psi when the nozzle end is obstructed or dead-ended, and then only with effective chip guarding and personal protective equipment.

V. COMPRESSED GAS CYLINDERS - SAFE STORAGE, HANDLING AND USE OF

A. INTRODUCTION

Compressed gas cylinders can pose severe fire and explosion hazards if stored and handled improperly. This standard provides the minimum requirements for the safe storage and handling of compressed gas cylinders or tanks.

1. Compressed gas cylinders, as used in this standard, mean high-pressure cylinders, containers or tanks which may contain, but are not limited to, flammable or nonflammable gases, liquified petroleum gas, propane, butane and similar liquids.

B. APPROVED STORAGE METHODS

To assure the highest level of fire safety, the following rules shall be followed:

1. Store cylinders, tanks and containers only in the upright position.
2. Safety caps shall be in place.
3. Chain, bracket or use other restraining devices to prevent the cylinders and tanks from falling over.
4. Do not store material on top of the containers.
5. Store at least 20 feet away from any flammable material.
6. Store oxygen 20 feet away from flammable gases or liquids. An alternative is a 5-foot high, 1/2-hour rated barrier between the oxygen and the fuels.
7. Do not store near heat-producing equipment.
8. Do not store in aisleways, exit ways or staircases.
9. The preferred storage location is outside. Keep cylinders at least 25 feet away from buildings and protect them from the sun and weather. A blank block wall between the cylinders and the buildings, with no separation, is an acceptable alternative.
10. When stored outside or in separate buildings used for no other purposes but cylinder storage, quantities are unlimited.
11. Amounts stored inside are limited to eight cylinders, of which no more than five can be flammable gases. Air pack refilling cascade systems and air pack bottles are exempt from this rule.
12. Post the storage area as "NO SMOKING".
13. Inside storage areas shall be well ventilated.
14. Post the names of the gases being stored above the cylinders.

15. Acetylene cylinder shall be stored and used in a vertical, valve-end-up position only.

C. HANDLING METHODS

1. Do not drop, roll or drag cylinders, containers and tanks.

2. To move the cylinders or containers, use a hand truck. Secure the cylinder or container to the hand truck so that it will not fall off.

3. Do not dent the cylinders. If one is found to be dented, return it immediately to the vendor.

4. The safety caps must be in place when moving the cylinders.

D. USAGE

1. Chain, bracket or use other restraining devices to keep the cylinders and tanks from falling over.

2. Install piping and fittings carefully. Make sure all threaded connections are tight and not cross-threaded.

3. After use, turn off all the valves. If welding, bleed the pressure from the hoses and back out the regulator.

VI. CRANES AND HOISTS (Overhead and Mobile)

A. SIPC requires that all functional operating mechanisms, air and hydraulic systems, chains, rope slings, hooks, and other lifting equipment shall be visually inspected prior to each use & daily if in continuous use.

B. Complete inspection of the crane shall be performed at twelve-month intervals depending on its activity, severity of service, and environment. The inspection shall include the following areas: deformed, cracked, corroded, worn, or loose members or parts; the brake system; limit indicators (wind, load, etc.); power plant; and electrical apparatus.

C. Overhead cranes shall have stops at the limit of travel of the trolley.

D. The rated load of the crane shall be plainly marked on each side of the crane; and if the crane has more than one hoisting unit, each hoist shall have its rated load marked on it or its load block, and this marking shall be clearly legible from the ground or floor.

VII. EXITS

A. Each SIPC building designed for human occupancy is provided with exits sufficient to permit the prompt escape of occupants in case of emergency.

B. SIPC requires that exits and the way of approach and travel from exits shall be maintained so that they are unobstructed and are accessible at all times.

VIII. HAND TOOLS

A. Responsibilities

1. Employees shall be responsible for:

   - Examining own tools.
   - Ensuring that their tools are safe to use.

2. SIPC requires that All hand tools shall be kept in safe condition. Handles of tools shall be kept tight in the tool, and wooden handles shall be free of splinters or cracks. Wedges, chisels, etc., shall be free of mushroomed heads. Wrenches shall not be used when sprung to the point that slippage occurs.

3. The frames of portable electric tools and equipment, except when U.L.-approved double insulated construction, shall be properly grounded.

4. Electric powered tools and equipment showing worn, deteriorated, or inadequate insulation or other parts shall be removed from service and repaired or replaced.

B. Replacement Tools

1. Replacement tools are available in the storeroom, but a supervisor must authorize their issuance.

IX. HOUSEKEEPING

A. GENERAL

Good housekeeping shall be maintained at all work locations and in all vehicles.

1. Combustible material, such as oil-soaked rags and waste shall be kept in approved metal containers with self-closing lids. They shall be disposed of as soon as possible.

2. Paper and other combustible materials shall not be allowed to accumulate, and weeds or other rank vegetation shall not be permitted to grow in or around the neighborhood of substations, pole yards, buildings, oil tanks or other structures.

3. Flammable liquids such as gasoline, benzine, naphtha, methanol, lacquer thinner, shall not be used for cleaning purposes unless used in well-ventilated space away from open flame.

4. This Response does not apply to kerosene and cleaning agents of the "Stoddard" solvent class, but not more than one gallon of such liquids shall be kept in any open container. The container shall be provided with a proper cover and be kept securely covered when in actual use.

X. LADDERS, PORTABLE

A. Inspection

Employees shall inspect ladders before each use.

B. Maintenance

Ladders which have developed defects shall be withdrawn from service for repair or destruction and tagged or marked as "Dangerous, Do Not Use".

XI. LUNCHROOMS

A. SIPC provides lunchrooms for employee use.

B. Employees shall not consume food or beverages in toilet rooms or in any area exposed to a toxic material.

XII. SCAFFOLDS

A. SIPC requires that all scaffolds and their supports shall be capable of supporting the load they are designed to carry with a safety factor of at least 4.

B. All planking shall be Scaffold Grade, as recognized by grading rules for the species of wood used. The maximum permissible spans for 2 x 9 inch or wider planks are shown in the following table:

MATERIAL

	Full thickness undressed lumber			Nominal thickness lumber	
Working load (p.s.f.)	25	50	75	25	50
Permissible span (ft.)	10	8	6	8	6

The maximum permissible span for 1 1/4 x 9 inch or wider plank of full thickness is 4 feet, with medium loading of 50 p.s.f.

C. Scaffold planks shall extend over their end supports not less than 6 inches nor more than 18 inches.

D. Scaffold planking shall be overlapped a minimum of 12 inches or secured from movement.

E. Railings and toeboards shall be installed on all open sides and ends of platforms more than 10 feet above the floor except where wholly within the interior of a building and covering the entire floor area of any room therein and not having any side exposed to a hoistway, elevator shaft, stairwell, or other floor openings, and needle-beam scaffolds and floats in use by structural iron workers.

There shall be a screen with 1/2 inch maximum openings between the toeboard and the guardrail where persons are required to work or pass under the scaffold.

F. Prior to each work shift, any assembled scaffold that is to be used must be inspected by a certified inspector who will document the inspection with an inspection tag.

G. Before using scaffold, all users must ensure the scaffold has been inspected and properly tagged and up to date. Additionally, each scaffold user must visually inspect the scaffold, prior to use, to ensure there is no visible damage to the scaffolding. If there are any safety concerns, contact the work area supervisor.

XIII. STORAGE

A. SIPC requires that all stored materials stacked in tiers shall be stacked, blocked, interlocked, and limited in height so that it is secure against sliding or collapse.

B. Storage areas shall be kept free from accumulation of materials that constitute hazards from tripping, fire, explosion or pest harborage. Vegetation control will be exercised when necessary.

C. Where mechanical handling equipment is used, sufficient safe clearance shall be allowed for aisles, at loading docks, through doorways, and whenever turns or passage must be made.

XIV. TRASH

SIPC requires that all sweepings, solid or liquid wastes, refuse, and garbage shall be removed in such a manner as to avoid creating a menace to health and as often as necessary to maintain good sanitary conditions.

SECTION 13: PERSONAL PROTECTIVE EQUIPMENT

I. EYE PROTECTION

A. PURPOSE

It is a policy of Southern Illinois Power Cooperative to assure that each employee shall have adequate eye protection for his/her work involvement. The purpose of this program is to set forth the eye protection responsibilities of Southern Illinois Power Cooperative and the employee.

This policy also applies to all visitors and contractors.

B. EYE PROTECTION REQUIREMENTS AND RESPONSIBILITIES

In accordance with the Eye Protection and OSHA standards for General Industry 1910.133 - Eye and Face Protection, Southern Illinois Power Cooperative provides eye protection when employees are exposed to any hazard which may reasonably be expected to cause injury to the eyes.

In areas where eye protection equipment is required, it shall be provided by Southern Illinois Power Cooperative and worn by the individual as a condition of employment.

When work requires eye protection equipment, Southern Illinois Power Cooperative will provide approved safety glasses, safety goggles or safety face shields.

Safety glasses, face shields or safety goggles shall be of an approved type for work operations.

Southern Illinois Power Cooperative is responsible for the selection of the supplier, materials, style, and color of eye protection equipment.

Supervisors are responsible for enforcement of this policy.

C. PLANO SAFETY GLASSES

Southern Illinois Power Cooperative shall furnish "plano" safety glasses to employees who do not require a prescription and are exposed to eye injury hazards. Southern Illinois Power Cooperative will determine when safety glasses shall be replaced. Plano safety glasses to be issued or reissued by employees' supervisors.

D. PROCEDURE FOR ORDERING PRESCRIPTION SAFETY GLASSES

Normal replacement of safety glasses because of prescription change will be at an interval of no less than two years. Southern Illinois Power Cooperative will not be responsible for the cost of the eye examination.

Employee shall contact Human Resources for a voucher to purchase prescription safety glasses.

Southern Illinois Power Cooperative shall not be responsible for repairs and/or

replacement of such equipment damaged due to negligence.

E. TINTED SAFETY GLASSES

Photochromic lenses (PHOTO-GRAY and PHOTO-EXTRA) or sunlenses will not be supplied by Southern Illinois Power Cooperative and are not considered to be safety lenses for our type of industrial operations (ANSI Z 87.1-1979).

Tinted safety glasses shall be furnished by Southern Illinois Power Cooperative only when such tint is prescribed by an opthalmologist or optometrist.

F. GENERAL PROVISIONS

Southern Illinois Power Cooperative shall furnish permanent top and side protection side shields for safety glasses where required.

All visitors who may be exposed to an eye hazard shall be furnished visitors' glasses or safety cover goggles.

When the use of a face shield or welding protection is required, safety glasses will also be worn under this equipment.

II. PROTECTIVE CLOTHING

A. OBJECTIVE

To provide guidelines and standards for proper personal protective equipment.

B. GENERAL

All personnel who may come in contact with a hazardous condition will be provided personal protective clothing. The clothing must be worn while performing jobs in or around an area where such a condition may occur.

1. Responsibilities
   Each department head is responsible for enforcing any required personal protective clothing standards in their respective area of responsibility.

2. Personal Protective Clothing Standards

   Personal Protective Clothing should be made of flame resistant (FR) fabric or 100% cotton. Personal Protective Clothing must be in good condition.

3. Replacement Clothing

   Replacement clothing should be purchased through the vendor determined by SIPC, utilizing the allotment specified in the union contract

III. FOOT PROTECTION

A. OBJECTIVE

To provide guidelines and standards for proper foot protection and for employee purchase of safety shoes through the company.

B. GENERAL

To be protected from unexpected hazards, exposed employees are encouraged to wear safety shoes at all times on the job.

1. Responsibilities

Each department head is responsible for enforcing any required foot protection standards in their respective area of responsibility.

2. Foot Protection Standards

a. Safety Toe Footwear for Personnel Exposed to Foot Injuries

1. Work shoes should have uppers (preferably full uppers) made of leather or a suitable substitute strong enough to stand up to light blows. Shoes with uppers of gabardine, canvas, mesh and other soft materials shall not be worn in work areas.

2. Work shoes must be in good condition with serviceable soles and heels.

b. Approved Safety Shoes

Safety toe footwear, if required, shall meet the requirements and specifications of American National Standard Institute, Z41.1.

IV. HEAD PROTECTION

A. SIPC requires that head protection (ANSI approved hard hats) be worn when there is a possible danger of head injuries from impact, flying or falling objects, or electrical shock and burns.

1. This requirement applies to all SIPC employees, contractors and vendors.
2. Covered individuals must wear head protection whenever
   a. There is work overhead
   b. They are working near energized electrical equipment
   c. They are working in areas designated as "Hard Hat Area"
   d. They are in a "Construction or Contractor's Outage Area
3. This requirement applies to both Power Production and Non-Power Production employees.
4. This location where this applies is SIPC system wide to include but not limited to the power plant and substations.
5. All head protection must be inspected for defects before each and defective equipment must be removed from service and repaired or replaced Supervisor or safety

representative will conduct periodic inspection of head protection.

6. Head protection should not be left in direct sunlight, i.e., in the back window of a vehicle, as this will cause damage to the hard hat.
7. All head protection used by SIPC employees will be Class E.

V. HEARING CONSERVATION PROGRAM

A. INTRODUCTION

Excessive workplace noise can cause permanent and irreparable damage to hearing, reduce worker performance and increase the frequency of on-the-job accidents. However, noise-induced hearing loss and its hazards can be prevented.

This comprehensive hearing program should do much to minimize industrial-induced hearing loss and aid in making Southern Illinois Power Cooperative a safer and more pleasant place to work.

The policy applies to all SIPC employees, vendors and contractors that work in areas where they could be exposed to noise levels covered by OSHA's Hearing Conservation Amendment (29CFR1910.95).

B. PURPOSE

To establish and maintain an effective hearing conservation program to protect employees from workplace noise.

This program assigns responsibilities to the President/CEO, or their designee, and provides guidelines for the following:

1. Noise measurement and control
2. Audiometric testing
3. Selection of and training in the use of hearing protection
4. Responsibilities
5. Recordkeeping

Subsequent sections of this program are specified in OSHA Safety and Health Standards *(29 CFR 1910.95)*.

C. AUDIOMETRIC TESTING

SIPC shall make audiometric testing available to all employees covered by OSHA's Hearing Conservation Amendment (29CFR1910.95).

This testing shall be performed by mobile test van or one of the local clinics.

1. All new hires should receive a baseline audiogram as soon as practicable after hiring.
2. An audiogram shall be obtained annually thereafter and should be obtained upon termination of employment. Employees shall be notified of the impending test so they can avoid excessive noise for at least 14 hours prior to the audiogram.
3. Each annual audiogram shall be compared to the baseline to determine if a standard threshold shift in hearing has occurred.

A standard threshold shift is a change in hearing relative to the baseline of 25 dB or more at 2,000,

3,000, 4,000 Hz in either ear after allowance for aging.

If the annual audiogram shows a shift in hearing as described above, the company shall obtain a retest and consider the results as the annual audiogram.

Follow-up: Upon determination by a physician that a threshold shift (as defined) has occurred and is related to or aggravated by occupational noise, the company is responsible for the following:

1. Employee shall be notified in writing of the shift in his hearing within 21 days of the determination.
2. Employee shall be referred for a clinical audiological or oticalogical examination as appropriate.
3. Employees not already required to wear hearing protectors shall be fitted, trained and required to use them. Employees already wearing hearing protectors shall be refitted and retrained.

D. SELECTION AND TRAINING IN PROPER USE OF HEARING PROTECTORS

1. Hearing protectors shall attenuate employee exposure to an 8-hour TWA of 90 dB. For an employee who has experienced a shift in hearing, hearing protectors shall attenuate to an 8-hour TWA of 85 dB.
2. A variety of hearing protectors shall be available from which employees may choose.
3. Employees affected by this program shall be fitted and trained in the procedure for all available hearing protectors.
4. Training shall be done annually at a monthly safety meeting and shall include the following:
    a. Effect of Noise.
    b. Purpose of Hearing Protectors.
    c. Purpose of Audiometric Testing.
    d. Care of Hearing Protectors.
    e. Fitting Instructions.
    f. Advantages and disadvantages and attenuation of the various types of hearing protectors that are available.

E. RESPONSIBILITIES

1. The President/CEO's designate is responsible for the following:
    a. Selection of hearing protectors.
    b. Scheduling of audiometric testing.
    c. Training in all aspects of hearing conservation.
2. Supervisors, Leadmen, and/or Shift-foremen are responsible for enforcement of the rules of hearing conservation.
3. Employees shall be responsible for wearing protective equipment according to instructions and training received.

F. RECORDKEEPING AND ACCESS TO RECORDS

1. Audiometric test records shall be retained for the duration of the affected employee's employment plus 30 years and shall contain as a minimum:
    a. Name and job classification.
    b. Date of audiogram.
    c. Examiner's name.

d. Employee's most recent noise exposure assessment.
e. Date of last acoustic or exhaustive calibration of the audiometer.
f. Accurate record of measurements of the background sound pressure level in the audiometric test room.

2. Access to records: All records shall be provided upon request to employee, former employees, and representatives designated by the individual employee.

VI. RESPIRATOR PROGRAM

A. INTRODUCTION

This program for respiratory protection and training is intended to protect our employees from potential respiratory health hazards in the workplace by providing guidelines and information for the selection, use, limitations, maintenance, periodic inspection, storage and repair of respiratory protective equipment.

The basic information for respiratory equipment, in general, and typical equipment available is included in this program. Specific written instructions for any specialized equipment used must be obtained before its use.

All personnel have an interest in and a responsibility toward safety and health and shall conform to the requirements of this program as applicable to individual work activities and supervisory assignments.

B. PURPOSE

To establish and maintain an effective respiratory protection program, to protect employees from illness caused by airborne contaminants or oxygen deficiency when ventilation, isolation and other engineering practices are not feasible.

This policy applies to all covered SIPC employees as well as vendors and contractors that work in areas where respiratory protection would be required.

C. HAZARD CONTROL AND HAZARD ASSESSMENT

An important part of controlling respiratory hazards is the elimination of conditions that create potentially hazardous environments. Hazard control starts at the process, equipment or plant design levels where possible hazards can be controlled more effectively beforehand than after the fact. Controls that can be considered include process encapsulation or isolation, use of non and/or less potentially toxic materials, suitable exhaust ventilation, filters and scrubbers.

Assessment of hazards is the first step in deciding what personal protective devices and/or engineering controls can be used. Hazard assessment requires evaluation of processes, equipment, raw materials, end products and by-products which can possibly create exposure hazards. In addition to assessing normal operations, consideration must be given to emergencies that can arise. Emergency control equipment and procedures must be available and thoroughly understood by all affected personnel.

Since it is not always possible to maintain effective engineering controls, proper personal respiratory protection devices shall be made available and used for respiratory protection when required. There are many types of respiratory devices, and it is important that they be selected with utmost care to ensure proper protection.

D. REQUIREMENTS

1. Written standard operating procedures governing the selection and use of respirators have been established.
2. Respirators shall be selected on the basis of hazards to which the worker is exposed.
3. The user shall be instructed and trained in the proper use of respirators and their limitations.
4. Where practicable, the respirators should be assigned to individual workers for their exclusive use.
5. Respirators shall be regularly cleaned and disinfected. Those issued for the exclusive use of one worker should be cleaned by the worker after each day's use, or more often if necessary. Those used by more than one worker shall be thoroughly cleaned and disinfected by the worker after each use.
6. Respirators shall be stored in a convenient, clean and sanitary location.
7. Respirators used routinely shall be inspected during cleanup. Worn or deteriorated parts shall be replaced. Respirators for emergency use such as self-contained devices shall be thoroughly inspected at least once a month and after each use.
8. Appropriate surveillance of work area conditions and degree of employee exposure or stress shall be maintained.
9. There shall be regular inspection and evaluation to determine the continued effectiveness of the program.
10. Persons should not be assigned to tasks requiring the use of a respirator unless it has been determined that they are physically able to perform the work and use the equipment. The company physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically.
11. For safe use of any respirator, it is essential that the user be properly instructed in its selection, use, and maintenance. Both supervisors and workers shall be so instructed by competent persons. Training shall provide the worker an opportunity to handle the respirator, have it fitted properly, test its face-piece-to-face seal, wear it in a test atmosphere.

E. RESPONSIBILITIES

1. The safety administrator, or delegate, is responsible for the following:
    a. Air sampling and measuring all airborne concentrations of contaminants.
    b. Selection of respiratory equipment based upon the results of air sampling and other requirements of the job. See Paragraph 6-TYPES OF RESPIRATORS.
    c. Training of the employee in all aspects of respiratory protection, including qualitative/quantitative fit testing. See Paragraph 11-TRAINING, MEDICAL SURVEILLANCE, EVALUATION AND FIT.
    d. Posting of warning signs alerting employee of danger to immediately return to fresh air or of the need for respiratory protective equipment.
    e. Inspection and repair of all respiratory equipment shall be done using manufacturer's guidelines and replacement parts. This will be done only with a trained person.

2. The department supervisor is responsible for enforcement of the rules of the respiratory protection program. Make periodic reports as to the acceptance and effectiveness of the equipment and program.
3. The employee is responsible for using the provided respiratory equipment, according to the manufacturer's instructions and training received.

F. TYPES OF RESPIRATORS

1. Air Purifier Devices
   Air purifying devices remove contaminants from the atmosphere and can be used only in atmospheres containing sufficient oxygen to sustain life and within specified concentration limitations of the specific device. The maximum concentration of the contaminant for which an air purifying unit is designed is specified on the label of the filters. These respirators afford no protection against absorption through the skin and shall not be used in atmospheres that are immediately dangerous to life or health.
   a. Mechanical filter respirators - Mechanical filter respirators offer respiratory protection against airborne particulate matter, including dusts, mist, metal fumes and smokes. They consist of a soft resilient facepiece of either a half-mask or full-face design to which is directly attached one of several types of mechanical filters. Mechanical filter respirators do not provide protection against gases or vapors. A half-mask respirator provides no protection for the eyes; either a full-face mask or a half-mask with chemical goggles must be used where eye protection is required.
   b. Chemical cartridge respirators - Chemical cartridge respirators afford protection against light concentrations of certain acid gases, alkaline gases, organic vapors and mercury vapors by using various chemical filters to purify the air. They differ from mechanical filter respirators only in that they use cartridges containing chemicals to remove harmful gases and vapors. Chemical filter cartridges alone provide no protection for particulate matter.
   c. Combination mechanical and chemical cartridge respirators - These respirators use special combination cartridges which combine a dust, mist or fume cartridge with a chemical filter cartridge into a single unit. The limitations of both the mechanical and chemical cartridge respirators apply to such combinations.
   d. Gas Masks - Gas masks are air purifying devices consisting of a full-face mask and a canister designed to remove specific contaminants from the air. The canisters are color coded to indicate which contaminant they protect against. The chlorine gas (white with a 1/2-inch yellow stripe) canister is the only canister authorized for use within SIPC for chlorine gas protection.
2. Supplied Air Devices
   Supplied air devices deliver breathing air through a supply hose connected to the wearer's facepiece. The user's movement is limited by the air hose, and the hose is subject to being severed or pinched. The maximum allowable length of an air hose is 250 feet. These devices are limited to use in environments not immediately dangerous to life or health, except when equipped with an additional self-contained escape unit. Only those supplied air devices approved by the Support Systems Supervisor are authorized for SIPC use.
   a. Constant flow air line respirator - These units consist of a hose supply with a mask or hood, such as a sandblast hood, plastic hood or hood for chemicals that covers the head and a large portion of the upper body. The air supply has a valve in the hose to control air flow.
   b. Pressure demand air line respirator - These respirators consist of a full face mask with a regulator in the air supply hose that provides a positive pressure during both inhalation and exhalation. It maintains a positive pressure of approximately 1 to 1 1/2 inches of water with normal breathing and prevents inward leakage of contaminants during inhalation.
3. Self-contained Breathing Apparatus
   Self-contained breathing apparatus provides complete respiratory protection in toxic gases and where there is oxygen deficiency. The wearer carries the breathing apparatus and is independent of the surrounding atmosphere. Protection is limited by the amount of air in the

apparatus, and use time varies with the workload. A unit designed for 30 minutes of normal use may last only 15 minutes or less when heavy work is being performed. Only units approved by the Mining Enforcement Safety Administration (MESA) and the National Institute for Occupational Safety and Health (NIOSH) shall be used. Each unit shall be equipped with a warning device to indicate when the air supply has reached a low level. Other limitations are weight, bulk, training requirements and that the units provide no protection against skin irritation and absorption.

a. Pressure Demand Type - Pressure demand type apparatus come in several different models. All consist of a high-pressure cylinder, a pressure demand regulator connected either directly or by a high-pressure hose to the cylinder, a facepiece (mask), and breathing tube assembly with an exhalation valve and mounting. The regulator keeps a slight pressure in the mask (1 to 1.5 inches of water) during both inhalation and exhalation to prevent back leak of contaminants.

b. Emergency Escape Unit - This unit is a small, self-contained unit that is used for escape from a potentially toxic atmosphere where a worker normally needs only a gas mask or other respirator but there exists a possibility their capacity could be exceeded. These units are pressure demand and normally have a capacity of approximately five minutes.

G. RESPIRATORY HAZARDS

Toxic materials can enter the body in three ways: Through the gastro-intestinal tract, through the skin and through the lungs. Of these three modes of entry, the respiratory system presents the quickest and most direct avenue of entry when air is inhaled during the breathing process. Airborne contaminants can be placed in four distinct groups of respiratory hazards.

1. Oxygen Deficiency
   The normal content of oxygen in the air is 20.9% by volume. Oxygen concentrations below 19.5% by volume are to be considered unsafe for human exposure. At low oxygen concentrations, collapse can be immediate and without warning, and death can occur within minutes. Oxygen deficiency can occur in confined spaces from displacement of air by other gases and vapors or by means of oxidation processes, such as fire, rusting, bacterial action, etc., where oxygen is consumed.
2. Particulate Hazards
   Particulate contaminants may be classified according to their physical and chemical characteristics and their biological effects on the body. The particulate size is of utmost importance (measured in microns: 1 micron = 1/25,400 inch). Particles below 10 microns in length can enter the respiratory system, and particles below 5 microns in length may reach the deep lung. In the healthy person, particles from 5 to 10 microns are generally removed from the respiratory system by the constant cleansing action of the upper respiratory tract. However, with excessive dust exposure or diseased lung systems, the efficiency of the cleansing action can be markedly reduced.
   a. The various types of airborne particulate contaminants may be classified as follows:
      1. Dust - Mechanically generated solid particulate matter (usually found in the harmful size range of from 0.5 to 10 microns).
      2. Mist and fog - Liquid particulate matter (usually found in the 5 to 100 micron size range).
      3. Fumes - Solid condensation particle of fine diameter, commonly generated from molten metal or metal fumes from welding, etc. (size range from 0.1 to 1.0 micron).
      4. Smoke - Chemical generated particulate matter of organic origin (usually found in the size range from 0.01 to 0.3 microns).

b. Classifications of particulate matter according to biological effects - The fate of particles which reach the deep lung depend to a large degree on their solubility, particle size, chemical characteristics and metabolism in the body. Hence, particulate contaminants can be classified according to their biological effect as follows:
    1. Inert particulates - Dirt, etc., can cause minor irritation or discomfort but, in sufficient quantity, can overwhelm the protective mechanism of the upper respiratory tract.
    2. Allergy producers - Dust, mold, etc., can cause severe reactions in individuals with a history of asthma.
    3. Chemical irritants - can damage sensitive mucous membranes or lung tissue by chemical reactions.
    4. Fibrosis producers - can cause the development of scar tissue in the lung, such as silicosis from quartz (silicon dioxide) exposure and asbestosis from asbestos exposures.
    5. Suspected and potential cancer-causing agents - such as arsenic, asbestos, hydrazine, chromates and radioactive particulate matter have caused cancer in test animals and are suspected of causing cancer in humans.
    6. Systemic poisons - such as lead, cadmium and mercury can damage certain critical organs and systems.
    7. Fever producers - Such as the fumes of zinc and copper.

3. Gaseous Contaminants
Gaseous contaminants occur as true gases and vapors and easily reach the deep lung when inhaled.
    a. Gaseous contaminants may be classified as follows:
        1. Inert gases: - such as helium, carbon dioxide, neon, etc., which do not metabolize in the body but produce an oxygen deficiency by displacement of air.
        2. Acidic gases: - such as sulfur dioxide, hydrogen sulfide, hydrogen chloride, etc., which are acids or produce acids by reactions with water.
        3. Alkaline gases: - such as ammonia, phosphine, etc., which are alkalis or produce alkalis by reaction with water.
        4. Organic compounds: - can exist as true gases or vapors or vapors from organic liquids.
        5. Organometallic compounds: - comprised of metals attached to organic groups, such as tetraethyl lead and organic phosphates.
        6. High temperature gases: - any gas may become exceedingly hot in a fire atmosphere.
    b. Exposures to gaseous contaminants may have one or more of the following effects on the human body:
        1. Asphyxiants: - interfere with the intake, transport or utilization of oxygen in the body. Simple asphyxiants, such as nitrogen, methane, hydrogen, etc., can create an oxygen deficiency by air displacement.
        2. Chemical asphyxiants: - such as carbon monoxide interfere with the uptake and transport of oxygen by the hemoglobin of the red blood cells, while methylene chloride (in paint strippers) interferes with "internal respiration" or oxidation of the tissue cells.
        3. Chemical irritants: - such as acid and alkaline gases can irritate the respiratory system and cause the development of pulmonary edema or fluid in the lungs.
        4. Anesthetics: - such as chloroform, ether, carbon tetrachloride, can cause

loss of feeling, unconsciousness and death.

5. Systemic poisons: - such as metallic mercury vapor, hydrogen sulfide arsine, etc., can damage critical organs and systems of the body.
6. Suspected or potential cancer-causing agents: - gases and vapors from chemicals such as chloroform, carbon tetrachloride and hydrazine.
7. Thermal Burns: - fires may produce gases hot enough to cause burns in the respiratory system. The effects of the heat are normally concentrated in the upper respiratory tract including the mouth, larynx and upper trachea.

4. Combination Hazards

Any or all of the above-listed hazards may be found in combinations.

H. RESPIRATOR SELECTION AND USE

Respiratory protective devices vary considerably in design, application and protective capability. The supervisor or user must, therefore, assess the existing hazard or hazards and understand the specific use and limitations of available equipment.

1. There are four basic questions which must be considered when making the proper selection of any respiratory protective equipment.
   a. What is the respiratory hazard?

   By definition, "a respiratory hazard is any atmosphere contaminant which may be injurious to your health or an atmosphere that cannot support life".
      1. Basically, there are two types of respiratory hazards - oxygen deficiency and harmful or toxic contaminants.
      2. The identification and concentration of the hazard is of prime importance in the selection of the proper protective equipment. A light concentration of sulfur dioxide may require only a chemical cartridge respirator, but a heavy concentration could require a self-contained breathing apparatus.

   b. Is the hazard immediately dangerous to your life and health? Or not immediately dangerous to life and health?
      1. The atmosphere is said to be "immediately dangerous to life and health" when concentrations of the contaminants have a rapid, harmful effect on the life or health of the worker after only comparatively short periods of exposure. Any atmosphere where there is an oxygen deficiency falls in the category, as well as high concentrations of gas or particulate contaminants.
      2. Atmospheres "not immediately dangerous" to life and health generally involve normal or routine operations where exposures do not have a rapid, dangerous effect but which will produce chronic illness, discomfort, pronounced discomfort, or may result in permanent physical damage or death after prolonged or repeated exposure.

   c. What is the duration of exposure and the activity of the wearer? Work time, work rate, the work area and the mobility of the wearer in carrying out his work shall be considered in respirator selection.
      1. Air purifying respirators provide protection for relatively short periods. The breathing resistance of air purifying respirators may cause restricted breathing under heavy work conditions.
      2. An air line respirator can provide protection under heavy work conditions for as long as the face-piece is supplied with fresh air, but the trailing air hose could come into contact with machinery.
      3. Self-contained breathing apparatus may restrict climbing and movement in tight places.

d. What protection other than a respirator is needed? Full body protection, face shields or other protective clothing may be required. An example is that a half mask or full-face mask with cartridges will not fit under a welder's hood. This work may require a welder's half mask with belt-mounted cartridges.

I. BREATHING AIR

Breathing air may be supplied to respirators from cylinders or air compressors. The air shall meet at least the requirements of the compressed Gas Association Specification G-7.1 for Type 1, Class D, compressed air. This Specification requires that carbon monoxide not exceed 20 parts per million (PPM), carbon dioxide 1000 PPM, that condensed hydrocarbons not exceed 5 milligrams per cubic meter and that the air have no pronounced odor.

1. Compressed air meeting the above specifications may be purchased from or recharged by compressed gas suppliers by specifying breathing air.
2. To use oil-lubricated compressors for breathing air:
   a. The compressor shall be constructed and situated to avoid entry of contaminated air into the system and must have a receiver of sufficient capacity to enable the respirator wearer to escape in the event of compressor failure.
   b. An alarm to indicate compressor failure, overheating and excess carbon monoxide shall be installed in the system.
   c. Separators shall be installed in the air discharge line and filter installed at the air hose connections.

   Air line couplings shall be incompatible with outlets for other gas systems to prevent inadvertent servicing of air line respirators with nonrespirable gases.
   Oxygen shall not be used with air line respirators or self-contained respirators.

J. MAINTENANCE AND CARE OF RESPIRATORS

1. Respiratory equipment shall be properly maintained to retain its original effectiveness. A program for maintenance and care of respirators shall be adjusted to the type of plant, working conditions, and hazards involved, and shall include the following basic services:
   a. Inspection
      1. Periodic

      All respirators shall be inspected routinely before and after each use. Respirator inspection shall include a check of the tightness of connections and the condition of the facepiece, head bands, valves, connection tube, and canisters. Rubber or elastomer parts shall be inspected for pliability and signs of deterioration. Stretching and manipulating rubber or elastomer parts with a massaging action will keep them pliable and flexible and prevent them from taking a set during storage.

      2. Emergency use respirators

      A respirator that is not routinely used but is kept ready for emergency use shall be inspected at least monthly to assure that it is in satisfactory working condition. A Monthly Inspection Record shall be attached to the respirator container or locker and updated as inspections are conducted.

      3. Self-contained

      Self-contained breathing apparatus shall be inspected monthly. Air cylinders shall be fully charged according to the manufacturer's instructions. It shall be determined that the regulator and warning devices function properly. A Monthly Inspection Record shall be attached to the bottle, container or locker and updated as inspections are completed.

A tag shall be attached to the equipment with date of last recharge. Cylinders shall be expelled and recharged at least once annually.

Hydrostatic tests of the cylinder shall be performed every five years by a qualified service company. The test date will be stamped into the neck of the cylinder.

b. Cleaning and disinfecting

Routinely used respirators shall be collected, cleaned and disinfected as frequently as necessary and at least daily when in use to ensure that proper protection is provided for the wearer. Each worker should be briefed on the cleaning procedure and be assured that he will always receive a clean and disinfected respirator. Such assurances are of greatest significance when respirators are not individually assigned to workers. Respirators maintained for emergency use shall be cleaned and disinfected after each use.

c. Repairs

Replacement or repairs shall be done only by experienced persons with parts designed for the respirator. No attempt shall be made to replace components or to make adjustment or repairs beyond the manufacturer's recommendations. Reducing or admission valves or regulators shall be returned to the manufacturer or to a trained technician for adjustment or repair.

d. Storage

After inspection, cleaning, and necessary repair, respirators shall be stored to protect against dust, sunlight, excessive moisture, or damaging chemicals. Respirators placed at stations and work areas for emergency use should be quickly accessible at all times and should be stored in compartments built for the purpose. The compartments should be clearly marked. Routinely used respirators, such as dust respirators, may be placed in plastic bags. Respirators should not be stored in such places as lockers or toolboxes unless they are in carrying cases or cartons.

Respirators should be packed or stored so that the facepiece and exhalation valve will rest in a normal position and function will not be impaired by the elastometer setting in an abnormal position.

Instructions for proper storage of emergency respirators, such as gas masks and self-contained breathing apparatus, are found in "use and care" instructions usually mounted inside the carrying case lid.

2. Issuance of Respirators

Where practical, respirators should be assigned to individual employees for their exclusive use. Each respirator permanently assigned shall be durably marked with an identification number or the user's name to indicate to whom it was assigned. Whether assigned for temporary or exclusive use, the employee shall:

a. Guard against damage to the respirator.
b. Report any malfunction of the respirator.

K. TRAINING, MEDICAL SURVEILLANCE, EVALUATION AND FIT

1. Training

   For safe use of any respiratory protective device, it is essential that the user be properly instructed in its selection, use and maintenance. Both supervisors and workers shall be so instructed by competent persons.

   Minimum training shall include the following:

   a. The types, capabilities and limitations of respiratory protection devices approved for use within SIPC.
   b. Identification and assessment of respiratory hazards that employees may be exposed to in their work in SIPC operations.
   c. Selection of the proper protection devices for particular exposures and what may happen if the proper device is not used or if it is improperly used.
   d. Operating principles and actual use of the devices for normal and emergency use. Training shall include methods for proper fitting of devices and the actual use of devices in normal air for familiarization.
   e. Procedures for the use of ventilation to control or eliminate respiratory hazards.

2. Medical Surveillance

   a. Employees with a history of heart or respiratory problems shall not be assigned to work requiring the use of respirators without special medical determination that they are physically able to perform such work.
   b. Workers and supervisory personnel shall be alert to themselves or others showing symptoms of breathing distress while using respirator equipment. Employees showing such symptoms shall be medically examined to determine possible limitations for respiratory use.
   c. A list shall be maintained at each location and supervisors notified of the names of any persons who may not use respirators.

3. Evaluation of Respirator Effectiveness

   Feedback on how a program is functioning is necessary to maintain effective respirator protection. Program improvements and elimination of deficiencies can be affected if the program is monitored and evaluated on a continuing basis. The following techniques are valuable in evaluating the effectiveness of respirator programs.

   a. Wearer acceptance - The effectiveness of a respirator program can be determined by the degree of employee/worker acceptance. Numerous factors affect the employee/worker acceptance of respirators. These include comfort, ability to breathe easily, adequate visibility, provisions for wearing prescription glasses if necessary, ability to communicate, ability to perform all tasks without undue interference, and confidence in the facepiece fit. Failure to consider these factors is likely to reduce cooperation of the wearer in promoting a satisfactory program. How well these problems have been overcome can be determined by observing wearers during normal activities and by soliciting their comments.
   b. Examination of respirators in use - Respiratory protection is no better than the respirator in use. Even though it is worn conscientiously, frequent random inspections shall be conducted by a qualified individual to assure that respirators are properly selected, used, cleaned and maintained.

4. Fit

   Respiratory protective devices shall never be worn when a satisfactory face seal cannot be obtained. There are many conditions which may prevent a satisfactory face seal such as excessively long sideburns, a beard, temples on glasses, or an unusually structured face.

INSTRUCTIONS FOR FILLING OUT TS-30

This document gives information for filling out TS-30 which will become a record of respirator training and fit testing. Two copies are required - one for the Employee's Personnel File and one to be held by the Support Systems.

Line #1: Fill in Employee Name (last name first) and Social Security Number.

Line #2: Fill in Location by Job Title, Account No. and Cost Center

Line #3: Check one. If "Yes" is checked, enter date of last approved medical examination.

Line #4: Check one. If "Yes" is checked, enter date of training.

Lines #5 thru #10: **Under "respirator stock number", list the SIPC stock number. This will indicate the type of respirator being fit tested. If other than stock respirator, list by Manufacturer information.**

Under "Results" check (P) - if passed fit test, (F) - if failed, and (S) - if corrective spectacles are required.

Under "Date", put the date of testing.

Following is a listing of Respirators kept on Material Inventory:

00-18-708-001-000-8 MSA Dustfoe 88 Half-Mask Single **Size**

00-18-708-004-002-0 MSA Comfo II Half-Mask Small Size

00-18-708-004-003-8 MSA Comfo II Half-Mask Medium Size

00-18-708-004-005-3 MSA Comfo II Half-Mask Large Size

00-18-708-005-001-1 MSA Ultra Twin Full Face Single **Size**

00-18-708-002-000-6 Wilson 1410 Single Use Disposable

Line #11: **Fill in Method of Testing, e.g., Qualitative (Irritant Smoke), Quantitative (Polydisperse Sodium Chloride Aerosol), etc.**

Line #12: **List any information which may relate to failure to pass fit test or inability to test, e.g., facial hair, missing dentures, scars, etc.**

Line #13: **Employee signature and signature of person conducting test.**

If Quantitative Test Method is used, attach copies of strip chart recording to TS-30.

If a person cannot be fit on a particular respirator, no work requiring the use of a respirator shall be performed.

SECTION 14: Process Safety Management

I. PURPOSE AND SCOPE

The purpose is to establish a program for the safe management of highly hazardous chemicals. With the implementation of this program Southern Illinois Power Cooperative intends to prevent or minimize the consequences of a catastrophic release of Ammonia.

The scope of this program is to cover all requirements of OSHA's Process Safety Management regulation and all related EPA requirements. This will be accomplished through system development, training, auditing and a continuous monitoring process. Employees of SIPC will be involved in the total PSM process as well as contractor employees that work on the Ammonia system.

II. EMPLOYEE PARTICIPATION

This section addresses SIPC employee's involvement in the PSM plan for ammonia. Their involvement includes but will not be limited to program review, training, access to process hazard analyses and other information required to develop the plan.

A. The total PSM plan will be reviewed with all employees of SIPC and their representatives and they will be given an opportunity for input into the plan.

B. Employees and their representatives will be consulted about changes to this plan as well as changes within the ammonia system once it is operational.

C. The requirements of OSHA's PSM regulation 29CFR1910.119 will be reviewed with employees so that they are aware of their rights and responsibilities.

D. All employees and their representatives will be given the opportunity to review the results of the hazard analyses conducted for the ammonia system.

E. Results of all audits of the PSM plan will be reviewed with employees and their representatives.

F. Contractor employees that will work on the ammonia system will be offered the same information as SIPC employees.

G. A copy of the hazard analyses and the total plan will be available upon request by any SIPC employee, their representatives or any contractor employee working on the ammonia system.

III. PRE START-UP PROCEDURE

This section addresses the safety review for new facilities and significantly modified work sites to confirm that the construction and equipment of the process are in accordance with design specifications. It also is to confirm that adequate safety, operating, maintenance and emergency procedures and in place and that process operators have been trained. For new facilities a Process Hazard Analysis must be preformed with concerns resolved before start-up.

A. Prior to start-up of a covered system a safety review of the system will be conducted by SIPC. The

results of this review will be shared with employees and their representatives.

B. The record of this review will be kept as a permanent document in the Risk Management Plan, subpart of the PSM Plan.

C. The review will address:
1. Was construction and equipment built in accordance with specifications?
2. Are safety, operating, maintenance and emergency procedures in place and adequate?
3. Has a Process Hazard Analysis been performed and all recommendations resolved?
4. Has all employee involved in the covered process been trained.
5. For modification to the system has "Management of Change" procedures been followed as required?

IV. PSM COMPLIANCE AUDITS

This section addresses the requirement for conducting a PSM audit of the covered system to verify that SIPC is in compliance with the requirements of OSHA and EPA.

A. At least once every three years SIPC will perform an audit of its Process Safety Management plan.

B. This audit will be conducted by at least one employee knowledgeable in the in the process and the requirements of all applicable regulations.

C. A report will be developed from the audit with deficiencies noted and submitted to maintenance for immediate corrective action.

D. Copies of the report along with corrective actions taken will be kept on file with the Risk Management Plan. At least the last two reports will be retrained in the plan.

E. The audit will address the effectiveness of the process safety management system.

F. Also include in the audit will be a field inspection to look at safety and health conditions and practices to verify that the process is being followed and that it is effective.

G. The "PSM Compliance Audit" form will be used as a guide for conducting the audit as well as for tracking corrective actions of deficiencies noted.

H. A team composed of representatives from Maintenance, Operations, and Administration and outside consultants will conduct the audit.

V. CONTRACTORS REVIEW AND CONTROL

This section identifies responsibilities of SIPC and contract employers with respect to contract employees involved in maintenance, repairs, major renovation of specialty work on or near covered processes.

A. Regarding contractors working on or near processes covered by the Risk Management Plan SIPC will use only contractors that have been screened to determine that they meet the requirement of the plan.

B. Prior to contractors starting work on projects that involve the covered process their safety record will be reviewed. Their record will be compared to the industry average for the type of work they will be performing. If their Lost Time Incident rate is at or better than the national average for their SIC, they will be considered for the project.

C. SIPC will use only contractors that have the appropriate job skills, knowledge and certifications to perform the required work.

D. Prior to the start of work, on projects involving covered processes, SIPC will inform all involved contractors of hazard and potential hazards that they maybe exposed to during their work.

E. Only contract employees that have been approve will be allowed into the process area.

F. Contract employees covered by this section will be evaluated to:
1. Assure they are trained to perform their jobs in a safe manner,
2. Assure they are trained to know the potential hazards related to their jobs,
3. Assure they know what emergency action they must take and when to take it,
4. Assure that training has been conducted and that employees understood it,
5. Assure that employees are following required safety rules and work practices,
6. Assure that the contractor informs SIPC of any unique hazard that may be presented by their work.

G. SIPC will evaluate the training provided to covered contract employees to verify that it is equivalent to training required for SIPC employees.

H. Contractors will notify SIPC of all injuries or incidents that occur while working at the plant. These incidents will be review in the monthly Contractors Safety Meeting.

I. When deficiencies or safety concerns are identified for a contractor, they will be reviewed in the Contractors Safety Meeting and SIPC will take appropriate action when required.

VI. MANAGEMENT OF CHANGE

A. Management of Change

Changes to the process must be controlled and documented. Any of the following are considered to be "changes" to the process:
- modifications to equipment
- changes to operating procedures
- changes to process conditions

B. Management of Change Procedure will address:
1. Technical basis for the change
2. Analysis of the impact of the change on safety and health
3. The time period of the change
4. Authorization requirements for the change
5. Affected procedures that must be updated
6. Needed training

C. Management of Change Procedure

This management of change procedure is applicable to all changes to the ammonia storage and system process. Use of this procedure is mandatory.

1. Objectives

The objectives of this management of change procedure are to provide a system of administrative controls that assures the continued safe operation of the ammonia storage and vaporization system. This is accomplished by adhering to the following principles:

- The direct and indirect hazard potential of proposed changes to the process are considered and evaluated *before* the change is implemented;
- Procedures are reviewed and modified, and training, when required, occurs *before* the proposed change is put into service; and
- Records of proposed changes are created and retained for appropriate periods (5 years).

2. Definition of Change

Change – A change to any of the following items or parameters is considered to be a change to the process:

- Any change to process equipment or piping, except for "Replacement-in-Kind";
- Any change to related or applicable operating or maintenance procedures;
- Any change to process conditions (temperature, pressure, flow, etc.);
- Any change to process control software;
- Any change to instrument setpoints; and
- Any change in the process materials (regulated substance).

Replacement-in-Kind – Replacement of a component or subcomponent by another identical item (i.e., same manufacturer, model no., size and materials of construction).

Permanent Change – A change to the process which is intended to be in effect for the life of the process.

Temporary Change – A change to the process which is intended to be in effect for a specific and clearly identified period of time, after which the process will be returned to its previous state or condition.

3. Applicability

This procedure applies specifically to the Marion Station ammonia storage and SCR vaporization system, as well as the SNCR on the CFB.

4. Responsibilities

The Vice President - Power Production has the following responsibilities:

a) Authorize all changes to the process prior to implementation, with the exception of Emergency Changes; and
b) Ensure that affected procedures are changed prior to implementation of the process change.

The Safety Administrator has the following responsibilities:

a) Ensure that affected personnel are informed of changes to the process;
b) Ensure that affected personnel receive required training prior to implementation of a change;
c) Track long term updates to associated RMP documentation resulting from changes; and
d) Maintain RMP related documentation and records.

5. Actions

Permanent and Temporary Changes

A Process Change Request Form shall be completed for each proposed change to the process. The same requirements apply to both permanent and temporary changes. The change request shall include the following information:

- A description of the proposed change;
- The technical basis for the proposed change;
- A time period for the proposed change; if the change is a temporary change, then specific start and finish dates for the proposed change shall be provided;
- An evaluation of the impact of the proposed change on safety and health;
- Identification of procedures affected by the change; and
- Identify whether process safety information is affected by the change.

Proper authorization shall be obtained for the change prior to implementation.

Procedures shall be updated and approved, prior to implementation of the change.

Affected personnel shall be informed of the change and shall receive training on the change prior to implementation of the change.

A Pre-Startup Review of the change shall be completed and documented prior to introducing or processing a regulated substance following completion of the change.

Process safety information affected by the change shall be updated in accordance with approved procedures.

6. Management of Change Documentation

Management of change documentation shall be maintained for each change to the process.

Documentation associated with compliance with the management of change requirements of the RMP / prevention program shall be maintained for at least five years.

D. Incident / Accident Investigation

An incident report can be initiated by any member of the Marion Station staff, or by any contractor personnel.

An incident must involve a regulated process. Regulated processes at the Marion Station include the following:

1) Ammonia storage and vaporization system

Any incident which resulted in an unplanned release or could have resulted in an unplanned release of a regulated substance must be reported. A release is unplanned if any quantity of a regulated substance is released when no release was expected, or if a significantly larger quantity of a regulated substance was released during a planned activity than was expected. Minor releases of a regulated substance during a planned activity that are expected do not constitute an unplanned release (for example, venting of the ammonia contained in an isolated section of piping during planned valve maintenance).

1. Responsibilities

1. The Initiator of an incident report shall complete the following:

a) Complete Section 1 of the Incident Report Form, recording the following information:
- Date of incident
- Identification of the process and regulated substance involved
- Description of the incident
- Whether an unplanned release of a regulated substance occurred, and
- Estimation of the quantity released (if a release occurred).

b) Sign and date the form as the Initiator, and promptly deliver the incident report form to the Shift Supervisor.

An incident report shall be completed and delivered to the Shift Supervisor within 2 hours of the end of the shift on which the incident occurred.

2. The Shift Supervisor shall complete the following:

a) Assemble the Initiator and any other personnel necessary to evaluate the incident.
b) Complete Section 2 of the Incident Report Form. It is necessary to make a determination of whether a catastrophic release of a regulated substance occurred, or could reasonable have been caused by, the reported incident.
c) If it is determined that a catastrophic release of a regulated substance did occur, or could reasonably have occurred as a result of the incident, then immediately contact the Safety Administrator, or their designee.

If a determination is made that a catastrophic release of a regulated substance did occur or could reasonable have occurred, then the Safety Administrator, or their designee shall be notified within 8 hours of the end of the shift on which the incident occurred.

3. The Safety Administrator shall perform the following:

a) Assemble an Incident Investigation Team. The Incident Investigation Team shall include, as a minimum, the following personnel:
- At least one person knowledgeable in the process involved,
- If the incident involved the work of a contractor, a contract employee of the

affected contractor
- Other personnel as appropriate with the knowledge and experience to investigate the incident

b) Within 48 hours of the time of the incident, initiate the investigation.

c) Ensure that findings and recommendations from the incident report are promptly addressed and resolved.

d) Ensure that resolutions and corrective actions resulting from the investigation are documented.

e) Ensure that the report and its findings are reviewed with affected personnel whose job tasks are relevant to the findings, including contractor personnel, if applicable.

f) If the incident involved a release that qualifies as an Accident, then update the Five-Year Accident History.

4. The Incident Investigation Team shall perform the following:

a) Complete the investigation of the incident and prepare a report that includes, as a minimum, the following information:
- The date of the incident
- The date the investigation began
- A description of the incident
- Factors that contributed to the incident, and
- Recommendations resulting from the investigation.

b) If a release occurred, determine if the release qualifies as an Accident. A release is considered to be an Accident if any of the following resulted from the release:
- Injury or fatality to onsite personnel
- Significant damage to onsite property
- Known offsite injury or fatality
- Known offsite property damage
- Evacuation
- Sheltering in place
- Environmental damage

If the release qualifies as an Accident, then complete Section 3 of the Incident Report Form.

c) Forward the completed Incident Investigation Report to the Safety Administrator.

E. HOT WORK

The requirement for hot work can be found in Section 11 of the Safety Manual and they only apply where required by specific OSHA regulation and then they only apply in areas covered by that OSHA regulation.

Forms

Form SA-002 - Pre-Shift Briefing Form

Pre-Shift Briefing Form

1st Shift **Supervisor**_____ **Date**_____

Pre-Shift Briefing Agenda:	Yes/No/NA	Comments
Review new or on-going Safety Issues		
Review new or revised Operating instructions		
Review ongoing activities for the oncoming shift		
Review Housekeeping, Fire Prevention, shift routines/PM		
Review Hazards associated with the routine scheduled tasks, work procedures involved, special precautions, energy source controls, and personal protective equipment requirements		
Determine if a separate Pre-Job Briefing is required for any task schedule for the on-coming shift.		
Review all Fire Systems out of service condition/impairment and Discuss Temporary Fire protection measures in place for the Fire System impairment		

2nd Shift **Supervisor**_____ **Date**_____

Pre-Shift Briefing Agenda:	Yes/No/NA	Comments
Review new or on-going Safety Issues		
Review new or revised Operating instructions		
Review ongoing activities for the oncoming shift		
Review Housekeeping, Fire Prevention, shift routines/PM		
Review Hazards associated with the routine scheduled tasks, work procedures involved, special precautions, energy source controls, and personal protective equipment requirements		
Determine if a separate Pre-Job Briefing is required for any task schedule for the on-coming shift.		
Review all Fire Systems out of service condition/impairment and Discuss Temporary Fire protection measures in place for the Fire System impairment		

3rd Shift **Supervisor**_____ **Date**_____

Pre-Shift Briefing Agenda:	Yes/No/NA	Comments
Review new or on-going Safety Issues		
Review new or revised Operating instructions		
Review ongoing activities for the oncoming shift		
Review Housekeeping, Fire Prevention, shift routines/PM		
Review Hazards associated with the routine scheduled tasks, work procedures involved, special precautions, energy source controls, and personal protective equipment requirements		
Determine if a separate Pre-Job Briefing is required for any task schedule for the on-coming shift.		
Review all Fire Systems out of service condition/impairment and Discuss Temporary Fire protection measures in place for the Fire System impairment		

Southern Illinois Power Cooperative Safety Job Briefing	
Before work begins, the following Safety Job Briefing must be completed.	
Date	
Employees and Job Site Supervisor	
Reason for work	
Site Name	
Site Owner	
Site Address or Directions and Coordinates	
Specific Site Access Instructions	
Weather Conditions (Wind Speed, Wind Direction, and Temp)	
Medical / Trauma Kit Available	
Necessary Emergency Phone Numbers (SIPC dispatch, 911, etc.)	
SIPC Supervisor and Contact Number	
Required PPE	
Emergency Training and Equipment Available (CPR, Telephone, Fire Extinguisher, etc.)	
Noted Hazards	
Voltage Levels	
Equipment Energized or De-energized	
Shock Protection Boundaries	
Any unusual work conditions	
Safety Barriers/Barricades Required	
This form must be completed prior to starting work for each project.	**It shall be kept in a file for future safety review, if needed.**

I fully understand the hazards surrounding this project and safety measures to be taken while working at this site:

NAME	COMPANY

Southern Illinois Power Cooperative				
Safety Job Briefing				
Before an actual tower climb, the following Safety Job Briefing must be completed.				
Date				
Tower Climbers and Job Site Supervisor				
Rescue Personnel / Ground Personnel				
Reason for Tower Climb				
Tower Site Name and/or Tower FCC number				
Tower Owner				
Type of Tower (self supporting or guyed)				
Tower Height				
Site Address or Directions and Coordinates				
Specific Site Access Instructions				
Weather Conditions (Wind Speed, Wind Direction, and Temp)				
Review and Inspect All Climbing Gear				
Tower, Base, and Guys Inspected				
Tower Ladder Climb Assist Inspected				
Tower Grounds Secure and In Place (1/3 ht. of tower)				
Emergency Plan Discussed and Reviewed (call 911 before job if high risk)				
Medical / Trauma Kit Available				
Rescue Equipment Bag at Tower Base				
Necessary Emergency Phone Numbers (SIPC dispatch, 911, etc.)				
SIPC Supervisor and Contact Number				
Bio Support (Water and Nutrients)				
Noted Hazards				
Prior to Climbing the following must be understood by both Employer and Employees.				**Initial**
National Standards that pertain to Employees and Employers. OSHA 1926				
Fall Protection Needs, Equipment, and Compatibility				
Understanding Anchor, Body Support, and Connection Needs				
Fall Protection Equipment Inspection, Documentation	Name:	Harness #:	PFA #:	
	Name:	Harness #:	PFA #:	
	Name:	Harness #:	PFA #:	
Pre-Climb Planning, Inspection, "Safety Job Briefing" Review, Hazard Analysis				
Pre-Climb Check/Inspect Ladder Climb Assist System & Understanding				
Pre-Climb Tower/Site Inspection and Secure Area				
This form must be completed prior to each tower climb job.	**It shall be kept in a file for future safety review, if needed.**			

ILLINOIS FORM 45: EMPLOYER'S FIRST REPORT OF INJURY

Please type or print.

Employer's FEIN	Date of report	Case or File #	Is this a lost workday case?
37-0801403			

Employer's name	Doing business as
Southern Illinois Power Cooperative	**Southern Illinois Power Cooperative**

Employer's mailing address
11543 Lake of Egypt Road, Marion, IL 62959

Nature of business or service	SIC code
Utility	**4911**

Name of workers' compensation carrier/admin.	Policy/Contract #	Self-insured?
		No

Employee's full name	Social Security #	Birthdate

Employee's mailing address	Employee's e-mail address

		# Dependents	Employee's average weekly wage

Job title or occupation	Date hired

Time employee began work	Date and time of accident	Last day employee worked

If the employee died as a result of the accident, give the date of death.	Did the accident occur on the employer's premises? Yes / No

Address of accident

What was the employee doing when the accident occurred?

How did the accident occur?

What was the injury or illness? List the part of body affected and explain how it was affected.

What object or substance, if any, directly harmed the employee?

Name and address of physician/health care professional

If treatment was given away from the worksite, list the name and address of the place it was given.

Was the employee treated in an emergency room? Yes / No	Was the employee hospitalized overnight as an inpatient? Yes / No

Report prepared by	Signature	Title and telephone #

Please send this form to the ILLINOIS WORKERS' COMPENSATION COMMISSION 4500 S. SIXTH ST. FRONTAGE RD. SPRINGFIELD, il 62703-5118 IC45 6/09

By law, employers must keep accurate records of all work-related injuries and illness (except for certain minor injuries). Employers shall report to the Commission all injuries resulting in the loss of more than three scheduled workdays. Filing this form does not affect liability under the Workers' Compensation Act and is not incriminatory in any sense. This information is confidential.

Southern Illinois Power Cooperative

TS-6 NEAR-MISS REPORT

DATE OF INCIDENT: _____ TIME OF INCIDENT: _____

LOCATION OF INCIDENT: _____

NUMBER OF EMPLOYEES THAT MAY HAVE BEEN INJURED: _____

Brief description of incident: _____

_____

_____

_____

_____

_____

In your opinion, what can be done to prevent this incident from recurring?

_____

_____

_____

_____

_____

Action to be taken: _____

_____

Submitted by: _____

Date: _____

Southern Illinois Power Cooperative
Incident Investigation Report

Employee Section

Employee Name:_____ Accident Date_____
Witnesses to the Injury: _____

Will there be lost time?_____ If so when did/will this begin?_____

Date of first treatment from a doctor:_____ Were you hospitalized?_____

What do you believe was the main reason for this accident?_____
_____

What do you believe could have been done to prevent this accident?_____
_____

Employee Signature_____Date_____

Supervisor Section

Date you discussed this accident with the injured employee:_____

Do you feel the above report is complete and accurate?_____

Were your instructions followed?_____ If no, explain_____
_____

Was this accident due to failure to obey safety rules?_____ If yes, explain_____
_____
_____

What will you do to prevent similar accidents in the future?_____
_____

Supervisor Signature_____Date_____

Manager Section

List what will be done to prevent similar accidents in the future_____
_____
_____

Manager Signature_____Date_____

CONFINED SPACE ENTRY PERMIT

DATE: _____

JOB SITE: _____

PERMIT EXPIRATION TIME: _____

EQUIPMENT TO BE WORKED ON: _____

TEST TIME: _____

JOB SUPERVISOR: _____

CLASS: _____

WORK TO BE PERFORMED: _____

PRE-ENTRY

ATMOSPHERIC CHECKS:

TIME	
OXYGEN - %	
EXPLOSIVE - %	
TOXIC - PPM	

SOURCE ISOLATION:	N/A	YES	NO
PUMPS OR LINES BLINDED	( )	( )	( )
DISCONNECTED OR BLOCKED	( )	( )	( )

VENTILATION MODIFICATION:	N/A	YES	NO
MECHANICAL	( )	( )	( )
NATURAL VENTILATION ONLY	( )	( )	( )

ATMOSPHERIC CHECKS AFTER MODIFCATION:

TIME	
OXYGEN	& (> 19.5%)
EXPLOSIVE	% LEL (< 10%)
TOXIC	PPM (< 10 PPM H2S)

ENTRY

1. ENTRY, STANDBY, & BACKUP PERSONS:	YES	NO
COMPLETED REQUIRED TRAINING?	( )	( )
IS IT CURRENT?	( )	( )

2. EQUIPMENT:	N/A	YES	NO
GAS MONITOR TESTED	( )	( )	( )
HARNESS & LIFELINES FOR ALL PEOPLE	( )	( )	( )
HOISTING EQUIPMENT	( )	( )	( )
POWERED COMMUNICATIONS	( )	( )	( )
SCBA's FOR ENTRY & STANDBY PERSONS	( )	( )	( )
PROTECTIVE CLOTHING	( )	( )	( )
ALL ELECTRIC EQUIPMENT LISTED	( )	( )	( )
NON SPARKING TOOLS	( )	( )	( )

RESCUE PROCEDURE: _____

ISSUED BY: _____

APPROVED BY: _____



Procedures

Document #	SIPC-PD-SWITCH-001
Revision #	1
Origination Date	January 28, 2004
Effective Date	May 15, 2023

Switching Procedure for Energizing/De-energizing Lines and Equipment

Revision History

Rev. #	Date	Reason for Revision	By Initials
1	2/9/2023	Reviewed by Power Delivery Department personnel and moved into Ensur	JSJ

PURPOSE

The Clearance and Permit System is established for the purpose of providing safety to workmen and protection to electrical service and equipment during the period work is performed whenever such work is in any way connected with the physical and electrical operation of the Southern Illinois Power Cooperative (SIPC) electrical system.

[*Note*: **This Clearance and Permit system does not apply to the Power Supply Department.** That department is covered by a separate clearance and permit system.]

APPLICATION

The application of this system requires that no work shall be done on any part of the electrical system until the employee has requested and has been issued either (a) a Clearance, (b) a Hazard, or (c) an Emergency Clearance.

A ***Clearance*** provides that the line or equipment to be worked on will be de-energized and all work will be done with the line or equipment de-energized. *(Clearance may be referred to as a Hold-Off.)*

A ***Hazard*** provides that all work will be done without interruption to service, and the work will be done with the line or equipment energized. Men working on or near energized lines or equipment where a Clearance is not required shall request a Hazard on the lines or equipment. This includes all work in, on or near lines, circuit breakers, transformers, switches, relays, equipment rooms, switching stations, and/or substations. *(Hazard may be referred to as a One-Shot.)*

An ***Emergency Clearance*** provides for immediate de-energizing of a line(s) or equipment to save life or protect property.

AUTHORITY

Clearance

Whenever it is necessary to do work which requires a Clearance, the request should be made, if possible, twenty-four (24) hours before the line or equipment is expected to be taken out of service.

The location, nature of work contemplated, and approximate length of time required to do the work will be explained to the System Operator when the request is made.

Clearances will be reviewed and approved by the System Operator.

Contractors are not allowed to create, submit, or approve Clearance requests.

Hazard

Hazards will be issued by the System Operator without reference to higher authority for work on energized line(s) or equipment. All automatic reclosures will be put in the OFF position before commencing work and returned to the ON position upon completion of work.

Emergency Clearance

Emergency switching to save life or protect property may be done by the most expedient way. In all cases, the System Operator should be notified as soon as possible.

RESPONSIBILITY FOR SWITCHING

The System Operator is in charge of the lines and equipment and their means of disconnection. All switching orders will be issued by the System Operator for the work to be done that requires a Clearance. Switching orders will be issued in numerical sequence and will include the following: date, time, time completed, issued to, requested by, order of operations, the time each order is completed, switch numbers, purpose of switching, contact information, etc. This information will be recorded in the System Operator's Switching Order spreadsheet.

Any line or equipment ordered to be de-energized shall not be energized by any person other than the one who has been ordered to do so by the System Operator.

THREE-PART COMMUNICATION

All Switching Order instructions issued by the System Operator will be completed using 3-part communication as required by NERC Reliability Standard COM-003. When a System Operator issues Switching Order instructions, those instructions will be repeated back by the field personnel taking the orders, followed by System Operator confirmation. After instructions are performed, the field personnel will follow the same 3-part communication protocol with the System Operator. Both parties shall speak slowly and distinctly and shall stay on the phone or radio until both are positive they understand each other.

When possible, the switching will be done by the same person who received the order, in an effort to reduce the chance of error. Without exception, the person who is given instructions shall carry through the instruction to completion.

When switching orders involve the operation of gang-operated disconnect or air break switches, the field personnel shall report that all switch blades are properly opened or closed to the System Operator.

These rules must be rigidly observed as life may depend on the correct understanding of orders and the proper operation of switches.

SWITCHING ORDER FORMS

Switching order forms will be used by the System Operators to record the steps taken in granting a Clearance on line(s) or substation equipment to be de-energized to permit maintenance or repair work to be done with the power off. The Switching Order form will be filled out completely by the System Operator for his own information and that of the personnel who relieves him. Additionally, Switching Order forms will be used by the System Operators to record the steps taken in granting a Hazard for work performed on energized lines or equipment.

All completed Switching Order forms will be sent to the SIPC Power Delivery Department and those distribution cooperative personnel who are responsible for the service territory in which the switching will take place. If a change is required to an existing Switching Order form, a revised form must be created and submitted to the appropriate personnel for review.

SWITCHING

No work shall be done until the workmen have been provided Clearance by the System Operator after the completion of the Switching Order. No line(s) or equipment are to be considered de-energized until grounds have been applied.

Any part of the system which is operated as a loop will be opened by opening power circuit breakers or load break switches. No switch will be opened under load unless it is a load break switch. Opening or closing switches will be performed by field personnel under the direction of the System Operator using three-part communication. Each switch opened or checked open to provide Clearance to workmen will be locked open and will have a Red Tag attached to the switch. *(Red Tag shown in Appendix A)*

Instructions for Red Tags are issued by the System Operator. Prior to hanging the Red Tag, the date and Switching Order Number will be written on the Red Tag by the person completing the Switching Order.

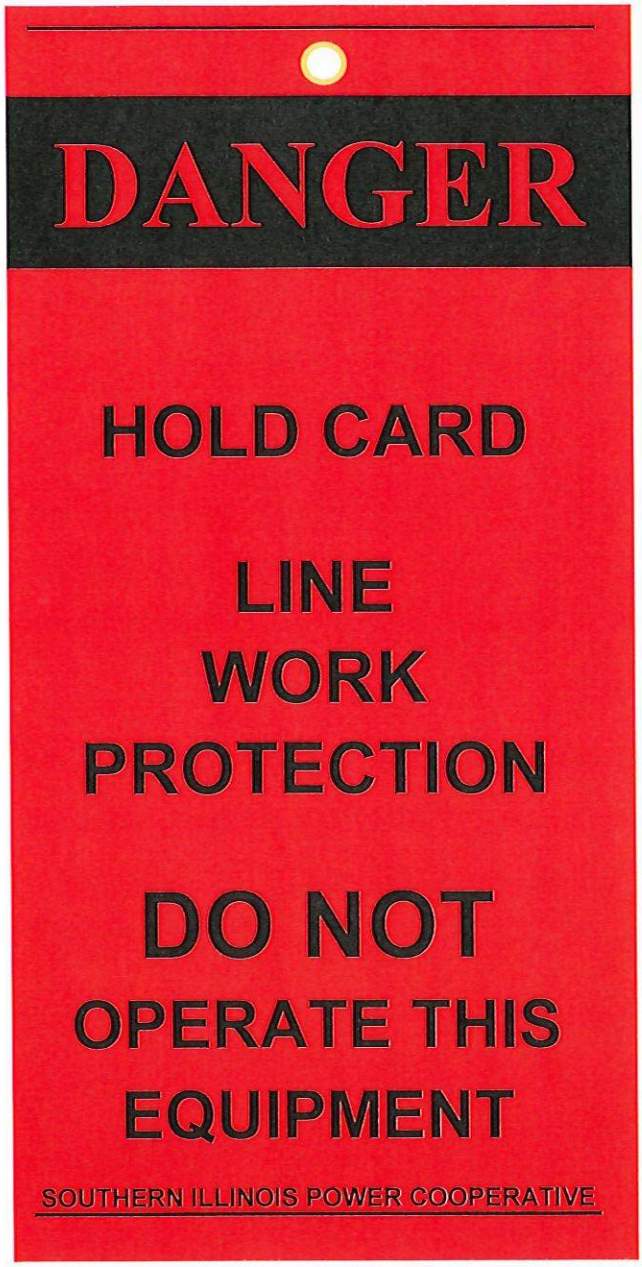
Red Tags will be used to assure that all locked open switches are kept open until the System Operator is satisfied that all workmen are in the clear, all grounds have been removed, and the line(s) or equipment is in proper condition to be restored to service.

NOTIFICATION

When members desire to have the primary side of their substation de-energized, if possible, they should give SIPC twenty-four (24) hours advance notice. This will allow SIPC to perform maintenance or modifications on the substation or transmission lines while it is de-energized.

Appendix A

Front



Back



wsp.com