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**DATE**  
31 January 2025

**SUBJECT**  
Eleventh Post-Closure  
Groundwater Monitoring Report  
Fourth Quarter 2024  
Grand Tower Energy Center  
Closed Coal Combustion Residuals  
Impoundment  
1820 Power Plant Rd  
Grand Tower, IL 62942  
BOW ID No. W0770400003

**REFERENCE**  
ERM Project No. 0599247

To Whom it May Concern:

Environmental Resources Management Inc. (ERM) is submitting this report which provides the results and findings of the Grand Tower Energy Center (GTEC) quarterly post-closure groundwater sampling and closed coal combustion residuals (CCR) impoundment inspection event conducted during the fourth quarter 2024 at the GTEC facility located at 1820 Power Plant Rd, Grand Tower, Illinois (the "Site"). The fourth quarter groundwater sampling event took place between 15 October and 17 October 2024, and the closed impoundment inspection event was conducted on 16 October 2024. A Site location map is provided in Figure 1.

The fourth quarter 2024 groundwater sampling event was performed in accordance with the post-closure groundwater monitoring program presented within the Grand Tower Operating Permit Application (OPA) submitted to the Illinois Environmental Protection Administration (IEPA) on 28 October 2021, as modified in accordance with the Consolidated IEPA Comments dated 17 March 2022 and included in the updated Closure/Post-Closure Plan submitted to the IEPA with the 27 February 2024 response to the 23 January 2023 OPA comment letter from the IEPA. The purpose of the sampling event was to continue the initial five-year period of quarterly groundwater monitoring for the evaluation of the concentration and areal distribution of impacts related to the closed CCR impoundment in Site groundwater. The parameters detected in the groundwater are associated with the historical CCR impoundment, which was capped and closed in 2020. The quarterly results include a summary of field activities, laboratory analytical, and documentation of other associated Site activity, as necessary.

Fourth quarter 2024 site activities, performed in accordance with the proposed post-closure groundwater monitoring program, the results of which are summarized below, included:

- Inspection of the final cover system of the closed CCR impoundment.
- Inspection of the groundwater monitoring well array; and
- Groundwater monitoring activities.

### QUARTERLY CLOSED CCR IMPOUNDMENT INSPECTION

During the fourth quarter of 2024, an inspection of the closed CCR impoundment cover system and associated features was completed, and the full quarterly inspection report can be found in Appendix A. Woody vegetation (up to 1" diameter) noted to be within the riprap on the CCR impoundment cap faces, is treated with herbicide. No herbicide treatment was necessary in 2024. However, a limited amount of live woody vegetation growth continues to be observed within the riprap. The largest of the erosional features, on the northern impoundment cap face, was repaired during the Q4 sampling event. Additional erosional channels on the west, south, and east faces, uncovered after clearing the vegetation on the impoundment cap, are all less than 6" deep in the deepest locations and will be monitored during subsequent inspection events and recommendations made to repair these features, if necessary. No significant degradation or issues were noted associated with the overall closed CCR impoundment cover system.

### QUARTERLY MONITORING WELL INSPECTION AND GAUGING

During the fourth quarter of 2024, monitoring well inspections were conducted. The monitoring well protectors and casings were inspected for damage and/or signs of settling that might impact the integrity of the surface seals. The inspection tasks also included gauging total depths as well as static groundwater elevations. Both measurements were referenced from the top of casing (TOC) at each of the Site monitoring wells. Total depth and groundwater level measurements were obtained from the monitoring wells using a water level meter with an accuracy of 0.01 foot. The quarterly monitoring well inspection forms can be found in Appendix B. Based upon these measurements, a shallow groundwater contour map for the Site was developed for the fourth quarter of 2024. The groundwater gradient is primarily from east to west towards the Mississippi River except during times of flooding events that may cause a reverse flow from west to east for a short period of time (Natural Resource Technology, Phase 1 Hydrogeologic Assessment Report, March 2013). Figure 2 shows monitoring well locations with a groundwater contour and groundwater gradient direction arrow(s), groundwater elevations at each monitoring well, and the Mississippi River elevation at the time of groundwater level gauging.

## QUARTERLY GROUNDWATER MONITORING

The Groundwater Protection Standards (GWPS) for the Site are those provided in 35 IAC §845.600(a). Assessment of corrective measures began on 16 June 2022 with the commencement of the initial post-closure groundwater sampling event. During the fourth quarter 2024 sampling event, 12 monitoring wells (APW-01R, APW-02, APW-03, APW-04, APW-05R, APW-06D, APW-06S, APW-07, APW-08, APW-09, APW-10D, and APW-10S) were sampled. The monitoring wells were purged prior to sampling using a submersible pump according to United States Environmental Protection Administration (USEPA) low flow purging and sampling procedures (“Low Stress Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells” revised September 19, 2017). The pump intake was placed within the screened interval of each monitoring well sampled and stabilization measurements were collected using a calibrated YSI ProDSS meter during purging activities for the collection of pH, specific conductivity, temperature, dissolved oxygen, and oxidation reduction potential (ORP) readings. Turbidity readings were also collected from each monitoring well using a Hach 2100Q Turbidimeter. Well purging continued until stabilization of each field parameter was achieved according to USEPA guidelines for low-flow sampling. Once the field parameters stabilized, the YSI meter was disconnected, and groundwater samples were collected for analysis using the same dedicated polyethylene tubing that was used to purge the well. Field parameter measurements collected during this sampling event were recorded on field data forms. Copies of the field data forms are included in Appendix C.

The groundwater samples collected were placed in laboratory-provided sample containers for analysis by Pace Analytical located in Mt. Juliet, TN which is an IEPA-approved laboratory. Samples were transported via FedEx under chain-of-custody procedures to the laboratory for analytical testing within laboratory provided coolers containing ice. The laboratory analytical reports for the fourth quarter 2024 sampling event are included in Appendices D & E.

In accordance with the 3 March 2022 draft comments received from the IEPA Groundwater Section associated with the post-closure groundwater monitoring program contained in the Operating Permit Application submitted to the IEPA on 28 October 2021, the IEPA evaluates the efficacy of corrective actions for closed CCR impoundments through the comparison of the groundwater analytical results to the GWPS contained in 35 IAC §845.600. Under 35 IAC §845.600, the following groundwater parameters are to be monitored:

- Antimony
- Arsenic
- Barium
- Beryllium
- Boron
- Cadmium
- Chloride
- Chromium
- Cobalt
- Fluoride
- Lead
- Lithium
- Mercury
- Molybdenum
- pH
- Selenium
- Sulfate
- Thallium
- TDS
- Radium 226/228
- Calcium
- Turbidity

## GROUNDWATER ANALYTICAL RESULTS

The analytical results for the post-closure groundwater sampling event conducted during the fourth quarter 2024 are presented in Table 1. During the fourth quarter 2024 sampling event, the following analytes were detected in the listed wells above the GWPS:

- Arsenic: APW-02, APW-06D, APW-10S
- Boron: APW-02, APW-03, APW-05R, APW-06D, APW-06S
- Calcium: APW-02, APW-03, APW-05R, APW-06D, APW-06S, APW-07, APW-10S, APW-10D
- Lead: APW-02
- Lithium: APW-02
- Molybdenum: APW-02, APW-05R, APW-06S
- Turbidity: APW-02, APW-04, APW-05R, APW-08, APW-10D, APW-10S

APW-10S, located approximately one-half mile south of the closed CCR impoundment, continues to exhibit elevated arsenic concentrations. However, the occurrence of arsenic in this well is not considered to be related to the closed CCR impoundment due to its distance and location hydraulically side gradient in relation to the Site. Additionally, the monitoring wells located between the closed CCR impoundment (APW-03, APW-07, APW-08, APW-09, and APW-10D) and APW-10S, do not exhibit arsenic concentration above the GWPS.

The GTEC closed CCR impoundment is currently in Corrective Action Monitoring (CAM). As reported in the *2023 Grand Tower Energy Center Annual Groundwater Monitoring Report* submitted by ERM and dated January 2024, statistical analysis conducted on the data collected from the first seven quarters of post-closure monitoring (2<sup>nd</sup> quarter 2022 through 4<sup>th</sup> quarter 2023) indicates that arsenic, boron, lithium, molybdenum, and sulfate exceed the calculated background concentrations and the IEPA GWPS established in 35 IAC Section 845.600 in monitoring wells at the Site. Statistical analysis of the groundwater sampling results will continue to be completed on an annual basis to evaluate if statistically significant increases or decreases have occurred after cap and closure occurred in 2020 in accordance with 35 IAC Section §845.640(f). In accordance with 35 IAC Section §845.550(a) an Annual Groundwater Monitoring and Corrective Action Report will be submitted for 2024 by or before 31 January 312025.

At the end of the current five-year monitoring and reporting post-closure time frame, a groundwater performance monitoring report will be submitted to IEPA to either demonstrate restoration of groundwater quality to Class I standards or present a continued groundwater monitoring plan for an additional five years. In addition, the

results will be compared to the modeled concentrations to evaluate if a decreasing trend, as defined through modeling, is occurring at the predicted rate. Significant changes from the model results will lead to additional calibration and assessment of future expected rates of decrease for the constituents of concern (COCs).

## SUMMARY AND CONCLUSIONS

Based upon the results of the fourth quarter 2024 groundwater sampling event, well inspection, and closed CCR impoundment inspection, the following observations and conclusions have been made:

- Similar to the groundwater sampling results obtained during the eight pre-closure sampling events in 2017 to 2018, and 11 post-closure groundwater sampling events, concentrations of COCs above the GWPS continue to be detected at well locations downgradient of the closed CCR impoundment.
- Boron has historically been the key indicator for corrective action and continued monitoring of groundwater at the Site. Incorporating data from the eight rounds of pre-closure groundwater sampling conducted during 2017 and 2018, as well as the 11 post groundwater monitoring events, boron concentrations have shown a decreasing trend in Site monitoring wells.
- During this event, erosion on the northern face of the impoundment cap was repaired. No other significant degradation or issues were noted associated with the overall closed CCR impoundment cover system. ERM will continue monitoring of Site conditions and cap and impoundment maintenance items through quarterly visual inspections and monthly remote satellite image inspections when visual inspections are not conducted.
- During the Q4 event, minor woody vegetation was observed in the riprap, less than 1" thick. Continued monitoring of woody growth, and treatment recommendation, if necessary, will take place.

If you have any questions, please contact me at (314) 447-7237.

Sincerely,



Randy Homburg  
*Managing Consultant*



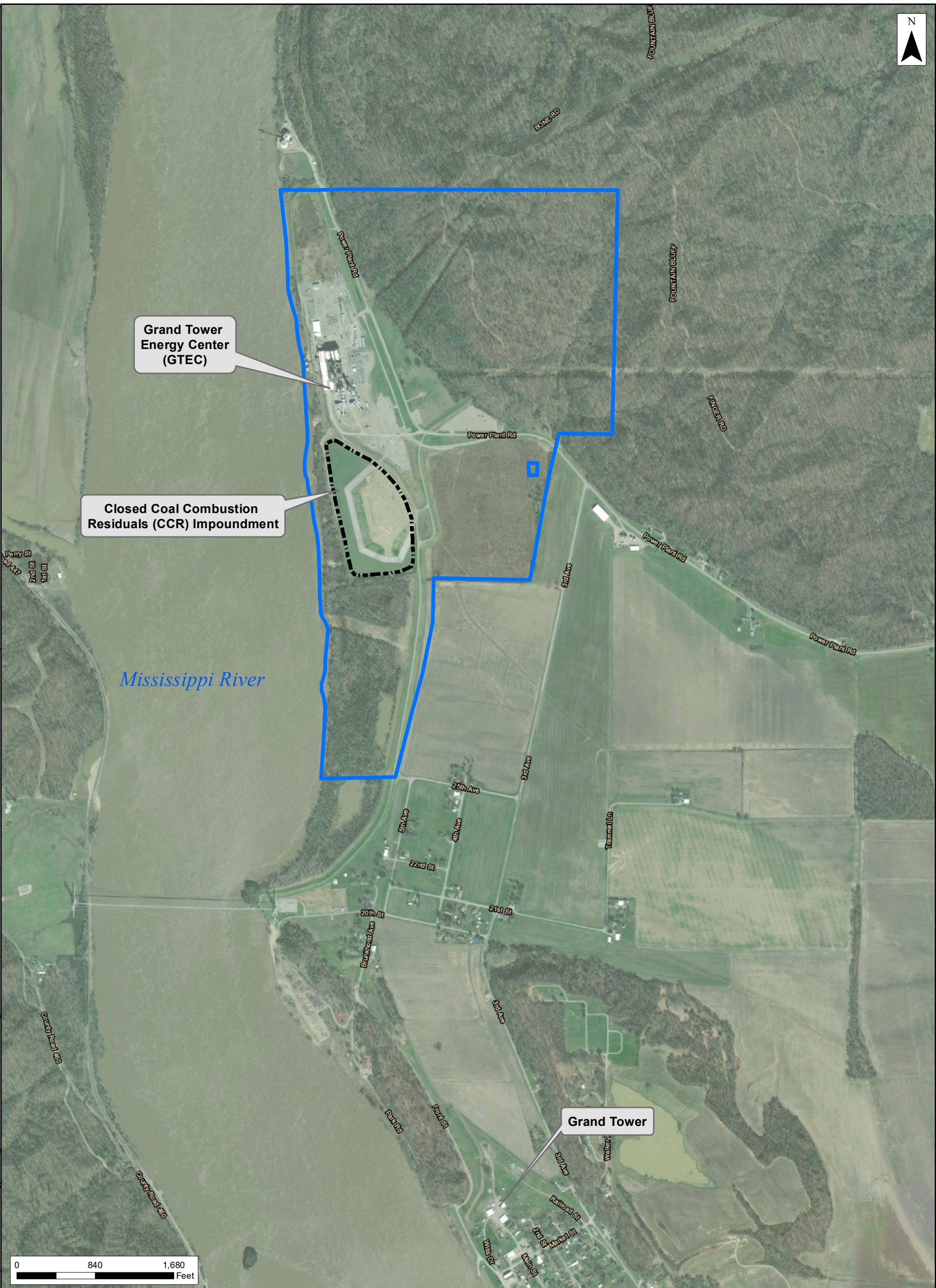
Alan J. Cork, P.E.  
*Partner, Engineer*

Attachments

cc: Mr. John Brodhead, Grand Tower Energy Center (electronic)

## FIGURES

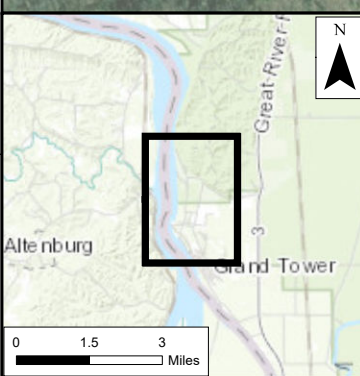
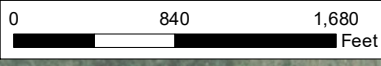
FILE: \\usbdfs02\data\Philadelphia\Team\DM\GIS\Projects\Grand Tower Energy Center\ MXD\FIGURE1-SITELLOCATIONMAP\_20221003.mxd | REVISED: 10/03/2022 | SCALE: 1:12,000 when printed at 11x17



Grand Tower Energy Center (GTEC)

Closed Coal Combustion Residuals (CCR) Impoundment

Grand Tower



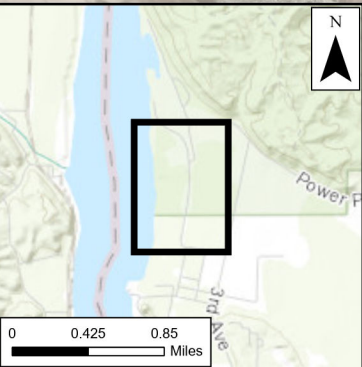
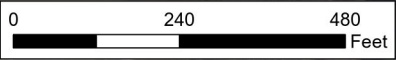
- Legend**
- Closed Coal Combustion Residuals (CCR) Impoundment
  - Approximate Parcel Boundary

Notes:  
 1. CCR Surface Impoundment Closed Prior to July 31, 2021  
 2. World Imagery (3/24/2021)

**Figure 1**  
**Site Location Map**  
 Grand Tower Energy Center, LLC  
 Grand Tower, Illinois  
 Jackson County



\*Mississippi River Elevation = 347.74 Ft



**Legend**

- Monitoring Well Location
- Groundwater Contour (0.5 Ft. Interval) - Dashed where inferred
- Groundwater Flow Direction
- 328.84 Groundwater Elevation

- Notes:
1. CCR Surface Impoundment Closed Prior to July 31, 2021
  2. Date of gauging - October 15, 2024
  3. Ft AMSL - Feet Above Mean Sea Level
  4. (D) - Designated Wells not used in contouring
  5. \* River stage at Mississippi River Gauge at Grand Tower, IL (NGVD29) (<https://rivergages.mvr.usace.army.mil/WaterControl/shefdata2.cfm?sid=CE358576&d=31&dt=E>)
  6. BING Imagery, 2022

**Figure 2: Fourth Quarter 2024 Groundwater Contour Map**  
 Grand Tower Energy Center, LLC  
 Grand Tower, Illinois  
 Jackson County



## TABLES

**Table 3**  
**Groundwater Summary Table**  
**Grand Tower Energy Center (GETC)**  
**Grand Tower, US-IL**

Parameter/Analyte	Total or Observed Units	Standard Action Level of CER Response												Post-Closure Sampling							
		APW-18-20170907	APW-18-20170927	APW-18-20170916	APW-18-20171108	APW-18-20171122	APW-18-20171228	APW-18-20180117	APW-18-20180207	APW-18-WG-20220615	APW-18-WG-20220915	APW-18-WG-20221130	APW-18-WG-20230301	APW-18-WG-20230627	APW-18-WG-20230920	APW-18-WG-20231120	APW-18-WG-20240110	APW-18-WG-20240501	APW-18-WG-20240905	APW-18-WG-20241015	
Location ID	Sample Date	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
<b>UNSPECIFIED</b>																					
Thiuron	NA	PCUL	NS	0.15	0.17	0.16	0.12	0.14	0.15	0.18	0.16	0.15	0.18	0.17	0.14	0.17	0.183	0.206	0.201	0.213	0.13
Thiuron-26	NA	PCUL	NS	0.25 ± 0.12 U	0.18 ± 0.09 U	0.307 ± 0.120	0.13 ± 0.43 U	-0.07 ± 0.14 U	0.23 ± 0.1 U	0.03 ± 0.07 U	-0.04 ± 0.08 U	0.032 ± 0.141 U	0.24 ± 0.1 U	0.4 ± 0.169 U	0.17 ± 0.11 U	0.24 ± 0.08 U	0.738 ± 0.354	0.30 ± 0.294	0.167 ± 0.144 U	0.126 ± 0.144 U	0.14
Thiuron-28	NA	PCUL	NS	2.25 ± 0.98	0.51 ± 0.39 U	0.17 ± 0.132	0.57 ± 0.33 U	0.47 ± 0.54 U	0.04 ± 0.34 U	0.06 ± 0.62 U	0.22 ± 0.14 U	0.46 ± 0.257	0.43 ± 0.49 UDFP	0.41 ± 0.56 U	0.53 ± 0.284	0.85 ± 0.41 U	0.32 ± 0.56 U	0.97 ± 0.67 U	0.67 ± 0.262	0.19 ± 0.205 U	0.18 ± 0.205 U
Ureide	NA	PCUL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
<b>CAIC</b>																					
Radon-222/228	NA	PCUL	3.002	2.54 ± 1.1	0.60 ± 0.48 U	0.427 ± 0.652	0.7 ± 0.75 U	0.47 ± 0.7 U	0.27 ± 0.44 U	1.01 ± 0.69 U	0.22 ± 0.42 U	0.493 ± 0.293	0.81 ± 0.68 U	0.601 ± 0.350	1.12 ± 0.72 U	0.84 ± 0.67 U	1.21 ± 0.75 U	2.18 ± 0.422	1.05 ± 0.394	0.167 ± 0.338 U	0.300 ± 0.251 U
<b>FIELD PARAM</b>																					
Turbidity, Field	NA	NTU	12.667									33.6	31.7	89.5	83.2	133	85.6	25.6	71.3	19.2	16.8
<b>General Chem</b>																					
Chloride	NA	mg/L	200	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Dissolved Solids, Total	NA	mg/L	1200	350	420	370	358.8	432	474	424	392	342	420 U	385	384	338	355	330	385	430	385
Iron	NA	ppm	0.30	0.54	0.54	0.5	0.8	7.41	0.56	7.06	0.52	0.50	0.51	0.45	0.57	0.53 U	0.46 U	0.59 U	7.49 U	7.04 U	0.56 U
<b>METALS</b>																					
Antimony	D	mg/L	0.006		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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.004 U F1	0.004 U
Arsenic	D	mg/L	0.01	0.002 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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U F1	0.002 U
Boron	D	mg/L	0.01	0.002 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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U F1	0.002 U
Barium	D	mg/L	2	0.168	0.193	0.171	0.176	0.165	0.178	0.162	0.18	0.165	0.153	0.156	0.144	0.21	0.245	0.159	0.194 U	0.154	0.162
Beryllium	D	mg/L	0.004	0.004	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	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U F1	0.002 U	0.002 U
Bismuth	D	mg/L	0.004	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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U F1	0.002 U
Bromine	D	mg/L	2	0.228	0.201	0.201	0.201	0.201	0.201	0.201	0.201	0.201	0.201	0.201	0.201	0.201	0.201	0.201	0.201	0.201	0.201
Calcium	D	mg/L	0.008	0.218	0.201	0.208	0.21	0.225	0.229	0.217	0.211	0.201	0.201	0.201	0.201	0.201	0.201	0.201	0.201	0.201	0.201
Cadmium	D	mg/L	0.005	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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Cesium	D	mg/L	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Cobalt	D	mg/L	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Copper	D	mg/L	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Chromium	D	mg/L	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Lead	D	mg/L	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Manganese	D	mg/L	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Nickel	D	mg/L	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Selenium	D	mg/L	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Strontium	D	mg/L	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Thallium	D	mg/L	0.002	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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Vanadium	D	mg/L	0.002	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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Zinc	D	mg/L	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Notes:  
 Empty cells = not analyzed  
 N = Normal Environmental Sample  
 ID = Field Duplicate Sample  
 NA = not applicable  
 T = total  
 D = dissolved  
 mg/L = milligrams per liter  
 µCi/L = picocuries per liter  
 NTU = nephelometric turbidity units  
 U = holding time exceeded  
 J = Analyte detected below quantitation limits  
 F1 = Sample filtration was performed in the laboratory  
 3 = The associated batch QC was outside the established quality control range for precision  
 3c = The sample matrix interfered with the ability to make an accurate determination; spike value is low  
 S = Spike Recovery outside recovery limits  
 R = RFD outside associated recovery limits  
 U = Not Detected at the Reporting Limit  
 TB = Sample received past/before close to holding time expiration

1 Standard is from the Upper Tolerable Limit (UTL) calculated from background  
 2 Standard value 6.22 is from the Lower Tolerable Limit (LTL) calculated from  
 3 Eight associates of groundwater sampling were conducted from September 2017  
 4 Well was repaired in February 2018, Location ID of APW-05A  
 Highlighted value exceed action level  
 NS = No standard



**Table 1**  
**Groundwater Summary Table**  
**Grand Tower Energy Center (GETEC)**  
**Grand Tower, US-IL**

Parameter/Analyte	Total or Dissolved	Units	Sample ID Location ID Sample Date Sample Type	Sampling Prior to Cleanup of O&E Impoundment										Post-Cleanup Sampling									
				APW-03 09/06/2017	APW-03 09/29/2017	APW-03 10/20/2017	APW-3 20171102	APW-3 20171120	APW-3 20171122	APW-3 20180110	APW-3 20180208	APW-03 02/04/2018	APW-03 06/16/2022	APW-03 09/15/2022	APW-03 11/30/2022	APW-03 01/30/2023	APW-03 06/26/2023	APW-03 09/19/2023	APW-03 11/27/2023	APW-03 01/11/2024	APW-03-WG-20240430	APW-03 09/04/2024	APW-03-WG-20241016
<b>UNSPECIFIED</b>																							
Fluoride	NA	mg/L	4	0.28	0.29	0.29	0.31	0.27	0.29	0.29	0.34	0.26	0.2	0.26	0.23	0.25	0.24	0.202	0.37	0.285	0.15 U		
Barium-226	NA	dpm/L	NS	0.33 ± 0.18 U	0.04 ± 0.028 U	0.09 ± 0.043 U	0.18 ± 0.13 U	0.3 ± 0.17 U	0.2 ± 0.1 U	0.1 ± 0.1 U	0.1 ± 0.13 U	0.201 ± 0.135 U	0.58 ± 0.13 U	0.39 ± 0.3 U	0.23 ± 0.212 U	0.23 ± 0.11 U	0.2 ± 0.09 U	0.11 ± 0.03 U	1.18 ± 0.045 U	0.59 ± 0.383 U	0.001 ± 0.146 U		
Barium-228	NA	dpm/L	NS	2.05 ± 98	1.01 ± 0.57	0.492 ± 0.373	0.72 ± 0.373	0.31 ± 0.49 U	0.37 ± 0.44 U	1.32 ± 0.48	0.06 ± 0.38 U	1.89 ± 0.26 U	0.4 ± 0.3 U	0.67 ± 0.59 U	0.110 ± 0.435 U	0.61 ± 0.34 U	0.45 ± 0.52 U	0.66 ± 0.58 U	0.0217 ± 0.241 U	0.585 ± 0.256 U	1.4 ± 0.319 U	1.92 ± 0.261 U	
Calcium	NA	mg/L	460	175	222	201	207	204	188	152	194	193	150	226	322	380	285	133	261	259	271		
CALC	NA	µg/L	7.002	2.58 ± 1.14	1.05 ± 0.66 U	0.901 ± 0.799	0.9 ± 0.48 U	0.64 ± 0.66 U	0.57 ± 0.54 U	1.42 ± 0.78 U	0.37 ± 0.51 U	2.09 ± 0.303	0.96 ± 0.83 U	0.88 ± 0.69 U	0.412 ± 0.478 U	0.84 ± 0.48 U	1.05 ± 0.61 U	0.77 ± 0.83 U	3.18 ± 0.717 U	1.18 ± 0.461 U	1.9 ± 0.498 U	1.13 ± 0.299 U	
<b>FIELD PARAM</b>																							
Turbidity Field	NA	NTU	17.861									46.3	56.1	103	50.7	6.04	2.72	4	1.94	4.48			
<b>SEASON</b>																							
Chloride	NA	mg/L	300	23	21	21	23	19	20	16	23	20	16	20	21	17	16	11	8.04	15	11.6	10.5	
Iron Solub. Limit	NA	mg/L	350	464	514	486	489	454	504	498	728	650	626	656	524	614	436	556	428	567	587	587	
pH	NA	µm-sec	6.22-9.07	7.88	7.46	7.55	7.93	7.5	7.48	7.26	7.78	7.45	7.46	7.21	7.45	7.77 U	7.84 U	7.24 U	7.24 U	7.45 U	7.88 U	7.88 U	
<b>METALS</b>																							
Arsenic	D	mg/L	0.006									0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0018	0.004 U	0.004 U F1	0.004 U	0.004 U	
Asimetry	T	mg/L	0.006	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	0.001 U	0.001 U	0.001 U	0.001 U	0.0018	0.004 U	0.004 U	0.004 U	0.004 U	
Arsenic	D	mg/L	0.01	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	0.001 U	0.001 U	0.001 U	0.001 U	0.0018	0.004 U	0.004 U	0.004 U	0.004 U	
Arsenic	T	mg/L	0.01	0.0022	0.0029	0.0021	0.0018	0.0023	0.0024	0.0028	0.0018	0.002	0.0046	0.0039	0.003	0.004	0.0037	0.002	0.0024	0.0024	0.002 U	0.002 U	
Boron	D	mg/L	3									0.139	0.124	0.108	0.17	0.138	0.122	0.122	0.122 U	0.114	0.103		
Boron	T	mg/L	2	0.111	0.146	0.104	0.121	0.1	0.15	0.0806	0.158	0.181	0.137	0.135	0.137	0.135	0.123	0.123	0.119	0.116	0.108		
Beryllium	D	mg/L	0.004									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		
Beryllium	T	mg/L	0.004	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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		
Bismuth	D	mg/L	2									4.73	4.49	4.58	4.64	4.11	4.49	4.71	4.07	4.18	4.18		
Bismuth	T	mg/L	2	4.16	4.21 U	4.7	4.67	4.44 U	4.52	4.08	4.39	4.27	4.34	4.39	4.47	4.15	4.28	4.32	4.21	4.21	4.21		
Cadmium	D	mg/L	0.005									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		
Cadmium	T	mg/L	0.005	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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		
Calcium	D	mg/L	103.2									124	125	101	121	125	137	121	123	121	121		
Calcium	T	mg/L	103.2	143.2	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5		
Chromium	D	mg/L	0.1	86.3	104.5	86.7	74.9	116.5	95	101	77.1	151	144	114	122	116	126	116	116	116	116		
Chromium	T	mg/L	0.1	0.0081	0.0067	0.0026	0.001 U	0.005	0.0025	0.001 U	0.005	0.0011 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U		
Cobalt	D	mg/L	0.006									0.004	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		
Cobalt	T	mg/L	0.006	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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		
Copper	D	mg/L	NS									0.0005 U	0.0014	0.0005 U	0.0014	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		
Copper	T	mg/L	NS									1.88	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		
Lead	D	mg/L	0.0075									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		
Lead	T	mg/L	0.0075	0.0021	0.0042	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0013 U	0.0023	0.0023	0.0044	0.0044	0.0044	0.0044	0.0044	0.0044	0.0044		
Lithium	D	mg/L	0.04									0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006		
Lithium	T	mg/L	0.04	0.0238	0.0262	0.0239	0.0245	0.0208	0.027	0.035	0.0238	0.0238	0.0238	0.0238	0.0238	0.0238	0.0238	0.0238	0.0238	0.0238	0.0238		
Manganese	D	mg/L	NS									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		
Manganese	T	mg/L	NS									0.321	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		
Magnesium	D	mg/L	0.002									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		
Magnesium	T	mg/L	0.002	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	0.0002 U		
Molybdenum	D	mg/L	0.1									0.007	0.0342	0.0048	0.0021	0.0056	0.0487	0.0303	0.0642 U	0.0656	0.0626		
Molybdenum	T	mg/L	0.1	0.0778	0.0754	0.0761	0.0713	0.0684	0.0748	0.0834	0.0689	0.0651	0.0413	0.0571	0.0528	0.0553	0.0558	0.0318	0.0567	0.0608	0.0608		
Nickel	D	mg/L	NS									0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016		
Nickel	T	mg/L	NS									0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013		
Selenium	D	mg/L	0.05	0.0055	0.0051	0.0019	0.001 U	0.001 U	0.0026	0.0025	0.001	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		
Selenium	T	mg/L	0.05	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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		
Thallium	D	mg/L	0.002									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		
Thallium	T	mg/L	0.002	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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		

Notes:  
 Empty cells = not analyzed  
 N = Normal Environmental Sample  
 FD = Field Duplicate Sample  
 NS = not applicable  
 T = Total  
 D = dissolved  
 mg/L = milligrams per liter  
 µCi/L = microcuries per liter  
 NTU = nephelometric turbidity units  
 H = holding time exceeded  
 F1 = Filtered detected below quantitation limits  
 F1 = Sample filtration was performed in the laboratory  
 J3 = The associated batch QC was outside the established quality control range for precision  
 J6 = The sample matrix interfered with the ability to make any accurate determination: spike value is low  
 S = Spike Recoveries outside recovery limits  
 U = RPD outside associated recovery limits  
 U = Not Detected at the Reporting Limit  
 TB = Sample received within close to holding time expiration  
 1 Standard is from the Upper Tolerance Limit (UTL) calculated from background  
 2 Standard value of 22 U from the Lower Tolerance Limit (LL) calculated from  
 3 Eight episodes of groundwater sampling were conducted from September 2017  
 4 Well was re drilled in February with Location ID of APW-05R  
 Highlighted values exceed action level  
 NS = No Standard

**Table 1**  
**Groundwater Summary Table**  
**Grand Tower Energy Center (GETEC)**  
**Grand Tower, US-IL**

Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards <sup>1</sup>	Sample Prior to Cleanup of CER Remediation										Post-Cleanup Sampling																					
				APW-4-20170907		APW-4-20170920		APW-4-20171116		APW-4-20171108		APW-4-20171228		APW-4-20180118		APW-4-20180208		APW-4-WG-20220615		APW-4-WG-20220621		APW-4-WG-20220621		APW-4-WG-20230920		APW-4-WG-20231120		APW-4-WG-20240110		APW-4-WG-20240501		APW-4-WG-20240624		APW-4-WG-20241017	
				NA	NTU	NA	NTU	NA	NTU	NA	NTU	NA	NTU	NA	NTU	NA	NTU	NA	NTU	NA	NTU	NA	NTU	NA	NTU	NA	NTU	NA	NTU	NA	NTU	NA	NTU	NA	NTU
<b>UNSPECIFIED</b>																																			
Fluoride	NA	mg/L	4	0.18																															
Barium-226	NA	dpm/L	NS	0.18 ± 0.18 U	0.02 ± 0.08 U	0.18	0.17	0.18	0.17	0.18	0.17	0.17	0.18	0.2	0.17	0.15	0.16	0.15	0.18	0.17	0.20	0.17	0.20	0.18	0.17	0.20	0.18	0.17	0.20	0.18	0.17	0.20	0.18	0.17	
Barium-228	NA	dpm/L	NS	0.95 ± 0.64 J	0.45 ± 0.68 J	0.53 ± 0.38 J	0.18 ± 0.19 U	0.19 ± 0.13 U	0.17 ± 0.09 U	0.19 ± 0.13 U	0.17 ± 0.09 U	0.19 ± 0.13 U	0.17 ± 0.09 U	0.19 ± 0.13 U	0.17 ± 0.09 U	0.19 ± 0.13 U	0.17 ± 0.09 U	0.19 ± 0.13 U	0.17 ± 0.09 U	0.19 ± 0.13 U	0.17 ± 0.09 U	0.19 ± 0.13 U	0.17 ± 0.09 U	0.19 ± 0.13 U	0.17 ± 0.09 U	0.19 ± 0.13 U	0.17 ± 0.09 U	0.19 ± 0.13 U	0.17 ± 0.09 U	0.19 ± 0.13 U	0.17 ± 0.09 U	0.19 ± 0.13 U			
Calcium	NA	mg/L	400	126	116	109	120	107	100	99	92	84	82	83	68	65	66	65	66	65	66	65	66	65	66	65	66	65	66	65	66	65	66		
Barium-226/228	NA	dpm/L	7,000	1.33 ± 0.8 U	0.02 ± 0.76 U	0.53 ± 0.71	0.79 ± 0.4 U	0.97 ± 0.77 U	0.9 ± 0.45 U	0.34 ± 0.59 U	0.77 ± 0.59 U	0.348 ± 0.287 J	2.65 ± 0.91	1.58 ± 0.75 U	1.31 ± 0.376	1.25 ± 0.8 U	1.27 ± 0.74 U	0.85 ± 0.71 U	0.85 ± 0.71 U	0.597 ± 0.396 J	0.811 ± 0.327	0.811 ± 0.327	0.811 ± 0.327	0.811 ± 0.327	0.811 ± 0.327	0.811 ± 0.327	0.811 ± 0.327	0.811 ± 0.327	0.811 ± 0.327	0.811 ± 0.327	0.811 ± 0.327	0.811 ± 0.327	0.811 ± 0.327		
<b>FIELD PARAM</b>																																			
Turbidity Field	NA	NTU	17.86 <sup>2</sup>									19.1	18.3	26.5	37.3	38.7	21.6	22.8	29.8	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2		
<b>SEMI-METALS</b>																																			
Arsenic	D	mg/L	0.006									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	0.001 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	0.001 U	0.001 U		
Barium	D	mg/L	0.004	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	0.001 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	0.001 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	0.001 U	
Bismuth	D	mg/L	0.001									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	0.001 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	0.001 U	0.001 U	0.001 U	
Boron	D	mg/L	2	0.145	0.139	0.123	0.13	0.143	0.144	0.155	0.144	0.132	0.138	0.135	0.137	0.138	0.135	0.137	0.138	0.135	0.137	0.138	0.135	0.137	0.138	0.135	0.137	0.138	0.135	0.137	0.138	0.135	0.137	0.138	
Calcium	D	mg/L	400	126	116	109	120	107	100	99	92	84	82	83	68	65	66	65	66	65	66	65	66	65	66	65	66	65	66	65	66	65	66	65	66
Cadmium	D	mg/L	0.005	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	0.001 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	0.001 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	0.001 U	
Chromium	D	mg/L	100	10	11	11	11	11	10	11	10	10	11	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Cobalt	D	mg/L	0.001									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	0.001 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	0.001 U	0.001 U	0.001 U	
Copper	D	mg/L	0.005	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	0.001 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	0.001 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	0.001 U	
Iron	D	mg/L	NS									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	0.001 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	0.001 U	0.001 U	0.001 U	
Manganese	D	mg/L	NS									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	0.001 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	0.001 U	0.001 U	0.001 U	
Nickel	D	mg/L	0.005	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	0.001 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	0.001 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	0.001 U	
Selenium	D	mg/L	0.05	0.0158	0.015	0.0149	0.0161	0.016	0.014	0.013	0.0101	0.0102	0.0099	0.0101	0.0099	0.0101	0.0099	0.0101	0.0099	0.0101	0.0099	0.0101	0.0099	0.0101	0.0099	0.0101	0.0099	0.0101	0.0099	0.0101	0.0099	0.0101	0.0099	0.0101	
Vanadium	D	mg/L	0.002	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	0.001 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	0.001 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	0.001 U	

Notes:  
 Empty cells = not analyzed  
 N = Normal Environmental Sample  
 FD = Field Duplicate Sample  
 NA = not applicable  
 T = total  
 D = dissolved  
 mg/L = milligrams per liter  
 dpm/L = disintegrations per liter  
 NTU = nephelometric turbidity units  
 H = holding time exceeded  
 J = Analyte detected below quantitation limits  
 F1 = Sample filtration was performed in the laboratory  
 J3 = The associated batch QC was outside the established quality control range for precision  
 J6 = The sample matrix interfered with the ability to make any accurate determination: spike value is low  
 S = Spike Recoveries outside recovery limits  
 R = RPD outside associated recovery limits  
 U = Not Detected at the Reporting Limit  
 TS = Sample received within close to holding time expiration

1 Standard is from the Upper Tolerance Limit (UTL) calculated from background  
 2 Standard value of 22 U from the Lower Tolerance Limit (LL) calculated from  
 3 Eight episodes of groundwater sampling were conducted from September 2017  
 4 Well was re-drilled in February with Location ID of APW-05R  
 Highlighted values exceed action level  
 NS = No Standard





**Table 3**  
Groundwater Summary Table  
Grand Tower Energy Center (GETC)  
Grand Tower, US-IL

Parameter/Analyte	Total or Observed Units	Sampling Prior to Closure of ORB (Background)																Post-Closure Sampling				
		Sample ID	APW-65-20170907	APW-65-20170928	APW-65-20171016	APW-65-20171109	APW-65-20171128	APW-65-20171227	APW-65-20180118	APW-65-20180208	APW-65-20220204	APW-65-20220211	APW-65-20220219	APW-65-20220301	APW-65-20220307	APW-65-20220309	APW-65-20220311	APW-65-20240110	APW-65-20240504	APW-65-20240905	APW-65-20241004	
Location ID	Sample Date	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
Protection Standards <sup>1</sup>																						
<b>UNSPECIFIED</b>																						
Thiuron	NA	µg/L	ND	0.41	0.36	0.25	0.26	0.36	0.26	0.25	0.27	0.24	0.28	0.17	0.28	0.17	0.26	0.17	0.27	0.13	0.22	0.16
Dechlorane	NA	µg/L	ND	0.36 ± 0.14 U	0.59 ± 0.08 U	0.317 ± 0.333	0.23 ± 0.11 U	0.18 ± 0.11 U	0.11 ± 0.09 U	0.09 ± 0.09 U	0.15 ± 0.11 U	0.269 ± 0.182	0.2 ± 0.28 U	0.0283 ± 0.232 U	0.11 ± 0.08 U	0.32 ± 0.11 U	0.09 ± 0.09 U	0.25 ± 0.411	0.20 ± 0.335	0.31 ± 0.217	0.080 ± 0.231 U	0.22
Dechlorane	NA	µg/L	ND	0.56 ± 0.77 U	1.06 ± 0.53	0.481 ± 0.316	0.52 ± 0.57	0.44 ± 0.44 U	0.71 ± 0.53 U	0.89 ± 0.58 U	0.22 ± 0.248 U	0.27 ± 0.9	0.22 ± 0.248 U	1.44 ± 0.518	0.03 ± 0.39 U	0.41 ± 0.38 U	0.25 ± 0.38 U	0.088 ± 0.243	0.41 ± 0.345	0.667 ± 0.386 U	0.09 ± 0.221	0.5
Dechlorane	NA	µg/L	ND	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	
<b>CALC</b>																						
Dechlorane	NA	µg/L	7.002	0.92 ± 0.91 U	1.15 ± 0.61 U	0.798 ± 0.647	1.25 ± 0.52 U	1.1 ± 0.73 U	0.55 ± 0.53 U	0.8 ± 0.62 U	1.04 ± 0.49 U	0.497 ± 0.308	2.93 ± 0.568	0.11 ± 0.47 U	1.47 ± 0.568	0.38 ± 0.556 U	1.93 ± 0.477	1.66 ± 0.461	0.977 ± 0.443	0.979 ± 0.325		
<b>FIELD PARAM</b>																						
Temperature	NA	°F	17.66 <sup>2</sup>									30.5	15.1	5.56	6.67	9.86	8.99	1.26	3.32	3.81	5.99	5.20
<b>GEN CHEM</b>																						
Chloride	NA	mg/L	208	31	28	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
Dissolved Solids, Total	NA	mg/L	1200	550	545	574	538	556	588	595	656	650	630 U	655	638	615	555	635	644	678 U	599	599
Dechlorane	NA	ppm on H <sub>2</sub> O	6.22-9.6 <sup>2</sup>	7.36	7.06	7.18	7.24	7.09	7.13	7.06	7.02	7.24	7.38	7.04	7.12	7.05 U	7.22 U	7.47 U	7.36 U	7.27 U	7.27 U	7.27 U
<b>METALS</b>																						
Antimony	D	mg/L	0.006	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	0.001 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
Arsenic	D	mg/L	0.01	0.003 U	0.001 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
Boron	D	mg/L	2	0.222	0.237	0.285	0.226	0.214	0.213	0.224	0.285	0.25	0.223	0.19	0.209	0.224	0.206	0.204	0.23	0.232	0.233	0.232
Beryllium	D	mg/L	0.004	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	0.001 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
Barium	D	mg/L	0.004	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	0.001 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
Bismuth	D	mg/L	2	0.222	0.237	0.285	0.226	0.214	0.213	0.224	0.285	0.25	0.223	0.19	0.209	0.224	0.206	0.204	0.23	0.232	0.233	0.232
Bromine	D	mg/L	2	0.222	0.237	0.285	0.226	0.214	0.213	0.224	0.285	0.25	0.223	0.19	0.209	0.224	0.206	0.204	0.23	0.232	0.233	0.232
Calcium	D	mg/L	0.008	0.46	0.49	0.48	0.46	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
Chromium	D	mg/L	0.002	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	0.001 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
Cadmium	D	mg/L	0.002	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	0.001 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
Cobalt	D	mg/L	0.002	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	0.001 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
Copper	D	mg/L	0.002	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	0.001 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
Iron	D	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	D	mg/L	0.002	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	0.001 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
Lithium	D	mg/L	0.04	0.035	0.0413	0.4	0.0413	0.042	0.0408	0.0401	0.0417	0.039	0.040	0.039	0.0406	0.0411	0.039	0.0406	0.0406	0.0406	0.0406	0.0406
Manganese	D	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	D	mg/L	0.002	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	0.002 U
Molybdenum	D	mg/L	0.1	0.249	0.247	0.222	0.243	0.274	0.244	0.244	0.244	0.244	0.244	0.244	0.244	0.244	0.244	0.244	0.244	0.244	0.244	0.244
Nickel	D	mg/L	NS	0.0021	0.009	0.0021	0.0012	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011
Selenium	D	mg/L	0.01	0.0021	0.009	0.0021	0.0012	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011
Strontium	D	mg/L	0.002	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	0.001 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
Thallium	D	mg/L	0.002	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	0.001 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
Zinc	D	mg/L	0.002	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	0.001 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

Notes:  
Empty cells = not analyzed  
N = Normal Environmental Sample  
ID = Field Duplicate Sample  
NA = not applicable  
T = total  
D = dissolved  
mg/L = milligrams per liter  
µg/L = micrograms per liter  
NTU = nephelometric turbidity units  
H = holding time exceeded  
J = Analyte detected below quantitation limits  
F1 = Sample filtration was performed in the laboratory  
J3 = The associated batch QC was outside the established quality control range for precision  
36 = The sample matrix interfered with the ability to make any accurate determination; spike value is low  
S = Spike Recovery outside recovery limits  
R = RFD outside associated recovery limits  
U = Not Detected at the Reporting Limit  
TB = Sample retained past/less than holding time expiration

1 Standard is from the Upper Tolerable Limit (UTL) calculated from background  
2 Standard value 6.22 is from the Lower Tolerable Limit (LTL) calculated  
3 Right associated of groundwater sampling was conducted from September 2017  
4 Well was re-drilled in February with Location ID of APW-05A  
Highlighted values exceed action level  
NS = No standard

**Table 1**  
**Groundwater Summary Table**  
**Grand Tower Energy Center (GTEC)**  
**Grand Tower, US-IL**

Parameter/Analyte	Total or Dissolved	Units	Sample ID Location ID Sample Date Roundwater Protection Standards <sup>1</sup>	Sampling Prior to Closure of CCR Impoundment														Post-Closure Sampling					
				APW-07 09/07/2017	APW-07 09/28/2017	APW-7-20170928 APW-07 10/19/2017	APW-7-20171101 APW-07 11/09/2017	APW-7-20171126 APW-07 12/27/2017	APW-7-20180118 APW-07 01/18/2018	APW-7-20180208 APW-07 02/08/2018	APW-07-WG-20220616 APW-07 06/16/2022	APW-07-WG-20220914 APW-07 09/14/2022	APW-07-WG-20221130 APW-07 11/30/2022	APW-07-WG-20230130 APW-07 01/30/2023	APW-07-WG-20230626 APW-07 06/26/2023	APW-07-WG-20230911 APW-07 09/19/2023	APW-07-WG-20231128 APW-07 11/28/2023	APW-07-WG-20240111 APW-07 01/11/2024	APW-07-WG-20240430 APW-07 04/30/2024	APW-07-WG-20240524 APW-07 05/24/2024	APW-07-WG-20241016 APW-07 10/16/2024		
				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
<b>UNSPECIFIED</b>																							
Fluoride	NA	mg/L	4	0.35	0.21	0.19	0.2	0.2	0.19	0.2	0.18	0.18	0.17	0.18	0.19	0.17	0.18	0.2	0.172	0.15 U	0.199 FI	0.15 U	
Barium-226	NA	dpm/L	NS	0.47 ± 0.13 U	0.8108 U	0.501 ± 0.39	0.11 ± 0.08 U	0.16 ± 0.14 U	0.23 ± 0.1 U	0.14 ± 0.09 U	0.24 ± 0.14 U	0.33 ± 0.208	0.18 ± 0.09 U	0.2 ± 0.12 U	0.37 ± 0.203	0.01 ± 0.028 U	0.11 ± 0.07 U	0.16 ± 0.08 U	0.73 ± 0.378	0.637 ± 0.358	0.197 ± 0.174	0.232 ± 0.121 U	
Barium-228	NA	dpm/L	NS	0.42 ± 0.79 U	0.76 ± 0.61	0.785 ± 0.412	1.13 ± 0.39	0.61 ± 0.51 U	0.14 ± 0.35 U	1.19 ± 0.55	0.53 ± 0.4 U	0.766 ± 0.234	1.45 ± 0.72	1.13 ± 0.66	1.77 ± 0.352	1.11 ± 0.74	0.99 ± 0.62 228R	0.45 ± 0.37 U	1.93 ± 0.264	0.803 ± 0.291	0.736 ± 0.361	1.77 ± 0.347	
Calcium	NA	mg/L	400	460	59	52	50	61	63	67	66	72	76	48	54	48	48	56.3	56.3	56.3	56.3	46.3	
Calcium-226/228	NA	dpm/L	7,000	0.47 ± 0.34 U	0.76 ± 0.67 U	1.29 ± 0.808	1.24 ± 0.47 U	0.77 ± 0.65 U	0.39 ± 0.45 U	1.33 ± 0.64 U	0.77 ± 0.54 U	1.1 ± 0.313	1.63 ± 0.81 U	1.33 ± 0.77 U	2.1 ± 0.641	1.11 ± 0.8 U	1.1 ± 0.69 U	0.61 ± 0.63 U	2.7 ± 0.461	1.42 ± 0.460	0.933 ± 0.401	2.01 ± 0.407	
<b>FIELD PARAMS</b>																							
Turbidity Field	NA	NTU																					
Turbidity Field	NA	NTU	17.961									66.2	34.8	10.5	79.2	14.8		42.9	21	4.36	3.34	5.27	6.88
<b>HEAVY METALS</b>																							
Arsenic	NA	mg/L	300	15	15	14	15	16	15	15	15	11	12	12	14	10	8	11	11.5	9.63	11.5	9.63	
Barium	NA	mg/L	300	700	700	624	720	742	726	720	700	700	714	690	624	660	740	700	720	670	720	740	
Cadmium	NA	mg/L	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
Chromium	NA	mg/L	0.1	0.027	0.027	0.026	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	
Cobalt	NA	mg/L	0.05	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	
Copper	NA	mg/L	0.05	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	
Iron	NA	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Lead	NA	mg/L	0.05	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	
Lithium	NA	mg/L	0.04	0.0147	0.0147	0.0147	0.0147	0.0147	0.0147	0.0147	0.0147	0.0147	0.0147	0.0147	0.0147	0.0147	0.0147	0.0147	0.0147	0.0147	0.0147	0.0147	
Manganese	NA	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Molybdenum	NA	mg/L	0.05	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	
Nickel	NA	mg/L	0.05	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	
Selenium	NA	mg/L	0.05	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	
Silver	NA	mg/L	0.05	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	
Thallium	NA	mg/L	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	
Thallium	NA	mg/L	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	

Notes:  
 Empty cells = not analyzed  
 N = Normal Environmental Sample  
 FD = Field Duplicate Sample  
 NA = not applicable  
 T = total  
 D = dissolved  
 mg/L = milligrams per liter  
 dpm/L = disintegrations per liter  
 NTU = nephelometric turbidity units  
 H = holding time exceeded  
 I = Inflow detected below quantitation limits  
 F1 = Sample filtration was performed in the laboratory  
 J3 = The associated batch QC was outside the established quality control range for precision  
 IS = The sample matrix interfered with the ability to make an accurate determination: spike value is low  
 S = Spike Recoveries outside recovery limits  
 R = RPD outside associated recovery limits  
 U = Not Detected at the Reporting Limit  
 TB = Sample received within close to holding time expiration  
 1 Standard is from the Upper Tolerance Limit (UTL) calculated from background  
 2 Standard value of 22 U from the Lower Tolerance Limit (LL) calculated from  
 3 Eight episodes of groundwater sampling were conducted from September 2017  
 4 Well was re drilled in February with Location ID of APW-05R  
 Highlighted values exceed action level  
 NS = No Standard





**Table 1**  
Groundwater Summary Table  
Grand Tower Energy Center (GTEC)  
Grand Tower, US-IL

Parameter/Analyte	Total or Constituent	Units	Original Prior to Closure of CO2 Emplacement														Post Closure Sampling																									
			APW-100-20170907		APW-100-20170922		APW-100-20171019		APW-100-20171109		APW-100-20171128		APW-100-20180118		APW-100-20180209		APW-100-20220615		APW-100-WG-20220918		APW-100-WG-20221129		APW-100-WG-20230202		APW-100-WG-20230505		APW-100-WG-20230913		APW-100-WG-20231127		APW-100-WG-20240111		APW-100-WG-20240430		APW-100-WG-20240905		APW-100-WG-20241015					
			Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type	Sample Date	Sample Type		
<b>UNDETECTED</b>																																										
Chloride	NA	mg/L	4	0.1	0.12	0.1	0.1	0.1	0.11	0.1	0.1	0.1	0.1	0.1	0.1	0.12	0.1	0.12	0.1	0.11	0.14	0.15	0.1	0.14	0.15	0.1	0.14	0.15	0.1	0.14	0.15	0.1	0.14	0.15	0.1	0.14	0.15	0.1	0.14	0.15		
Fluoride	NA	mg/L	78	0.3 ± 0.12 U	0.1 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U	0.12 ± 0.1 U		
Iron	NA	mg/L	78	1.18 ± 0.72	1.22 ± 0.74	1.01 ± 0.76	0.98 ± 0.71	0.97 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	
Sulfate	NA	mg/L	490	38	44	42	42	42	44	44	44	44	44	44	44	41	43	42	39	44	31	28	35	31	28	35	31	28	35	31	28	35	31	28	35	31	28	35	31	28	35	
<b>CAIC</b>																																										
Leadium 202/206	NA	µCi/L	7.002	1.5 ± 0.84 U	1.22 ± 0.74 U	0.754 ± 0.303	1.17 ± 0.45 U	0.63 ± 0.48 U	0.57 ± 0.47 U	1.08 ± 0.7 U	0.59 ± 0.5 U	1.48 ± 0.924	0.28 ± 0.87 U	0.93 ± 0.54 U	1.03 ± 0.602	1.7 ± 0.88 U	0.82 ± 0.58 U	1.53 ± 0.90	1.02 ± 0.655	1.5 ± 0.88 U	1.53 ± 0.90	1.02 ± 0.655	1.5 ± 0.88 U	1.53 ± 0.90	1.02 ± 0.655	1.5 ± 0.88 U	1.53 ± 0.90	1.02 ± 0.655	1.5 ± 0.88 U	1.53 ± 0.90	1.02 ± 0.655	1.5 ± 0.88 U	1.53 ± 0.90	1.02 ± 0.655	1.5 ± 0.88 U	1.53 ± 0.90	1.02 ± 0.655	1.5 ± 0.88 U	1.53 ± 0.90	1.02 ± 0.655	1.5 ± 0.88 U	1.53 ± 0.90
<b>TRU PARAM</b>																																										
Turbidity, Field	NA	NTU	17.90																																							
<b>DETECT</b>																																										
Acetone	NA	mg/L	200	24	17	17	15	17	16	14	16	16	14	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	
1,1,1-Trichloroethane, Total	NA	mg/L	400	46	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	
Gas Lab	NA	ppm-100	6.22 ± 0.37	7.12	7.11	7.05	7.11	7.12	7.15	7.03	7.03	7.21	7.26	7.37	7.04	7.37	6.98	7.48	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22		
<b>METALS</b>																																										
Antimony	D	mg/L	0.006	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	0.001 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	0.001 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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		
Barium	D	mg/L	0.01	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	0.001 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	0.001 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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Beryllium	D	mg/L	0.004	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	0.001 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	0.001 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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		
Bismuth	D	mg/L	0.004	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	0.001 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	0.001 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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Boron	D	mg/L	0.004	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	0.001 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	0.001 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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		
Bromine	D	mg/L	0.004	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	0.001 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	0.001 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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		
Cadmium	D	mg/L	0.005	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	0.001 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	0.001 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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		
Calcium	D	mg/L	100.2	140	136	120	121	120	121	148.5	124.8	121	124	121	124	121	124	121	124	121	124	121	124	121	124	121	124	121	124	121	124	121	124	121	124	121	124	121	124			
Chromium	D	mg/L	0.1	0.0036	0.0078	0.0022	0.0011	0.001 U	0.001 U	0.0042	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	0.001 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	0.001 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			
Copper	D	mg/L	0.006	0.0039	0.0024	0.0025	0.0032	0.0017	0.0013	0.0026	0.0026	0.0024	0.0049	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003			
Cobalt	D	mg/L	0.006	0.0039	0.0024	0.0025	0.0032	0.0017	0.0013	0.0026	0.0026	0.0024	0.0049	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003			
Iron	D	mg/L	78	1.18 ± 0.72	1.22 ± 0.74	1.01 ± 0.76	0.98 ± 0.71	0.97 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71	0.98 ± 0.71			
Lead	D	mg/L	0.0075	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	0.001 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	0.001 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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U			
Lithium	D	mg/L	0.004	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	0.001 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	0.001 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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U			
Manganese	D	mg/L	0.004	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	0.001 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	0.001 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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U			
Mercury	D	mg/L	0.002	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.																																		



APPENDIX A FOURTH QUARTER 2024 CCR  
IMPOUNDMENT INSPECTION REPORT



**Grand Tower Energy Center  
Closed CCR Impoundment  
Quarterly Inspection Form**

Date: 10/16/2024  
Time: 13:10 – 13:40  
Name: Marshall Arendell  
(Inspector)

**Weather:**

Temperature:

60 deg. F

- Sunny
- Cloudy
- Raining
- Other

\_\_\_\_\_

**Observations:**

- Erosion / Gullies
- Cracking / Sloughing
- Ponding / Damp Areas
- No Problems Identified
- Woody Vegetation Growth
- Other

\_\_\_\_\_  
\_\_\_\_\_

**Conditions Limiting Visibility:**

- Snow Cover
- Vegetation
- None
- Other

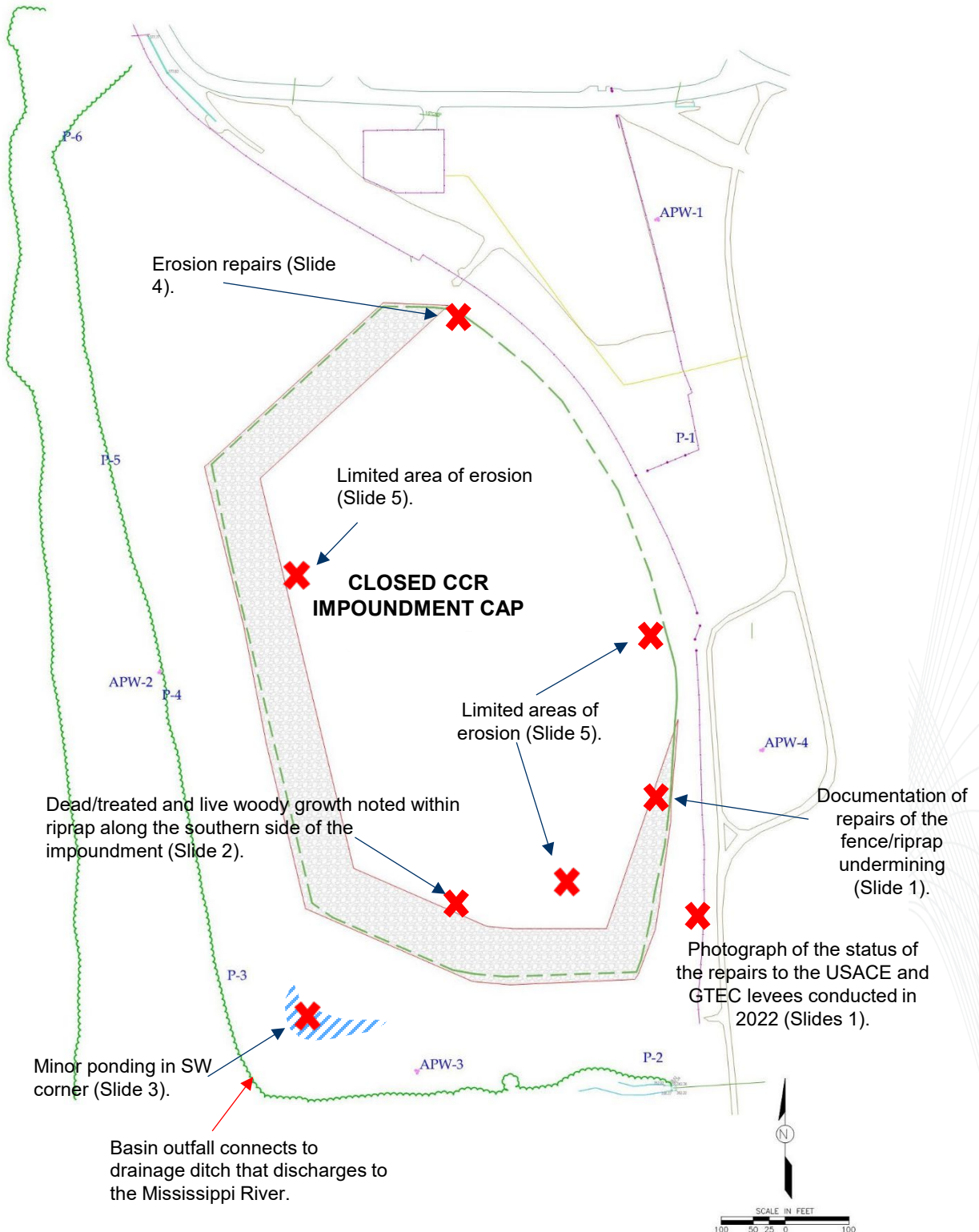
\_\_\_\_\_

**Observations in Detail Below:**

- ERM onsite for the Q4 2024 inspection of the closed CCR impoundment and groundwater sampling event.
- Repairs made to the United States Army Corps of Engineers (USACE) and GTEC levees in 2022 continue to hold, and revegetation of levee face was successful.
- The impoundment cap was mowed during Q4 2024 and found to be in generally good condition.
- Post clearing of the CCR Impoundment in Q4 2024, additional erosion channels were noted across the west, east, and southern closed CCR impoundment cap faces up to 6" deep. ERM will continue to monitor and will recommend controls if erosion worsens.
- Ponding continues to be noted in the SW corner of the basin near the outfall. No adverse effects to the impoundment cap are associated with the ponding.
- The inspector will continue to assess woody vegetation growth and will recommend additional treatment in the spring of 2025.

Attach additional pages if necessary.

# Observation Locations Map



# Grand Tower Energy Center Q4 2024 Closed CCR Impoundment Cap Inspection

Fenceline and Levee on the SE Side of Closed CCR Impoundment Cap



View facing northwest along the fence-line, riprap, and levee area.



View facing north along the fence-line, riprap, and levee area.

Levee has successfully revegetated since repairs were made in 2022.

# Woody Growth Observations

Dead/herbicide treated woody vegetation noted within riprap up to 1" diameter. Limited amount of live woody growth remains.



Sparse woody vegetation on southern riprap

Picture facing north towards impoundment cap.



Woody vegetation on south facing riprap. Picture facing south from atop impoundment cap.

# Ponding in the SW Corner of Site Basin Near the Outfall



Ponded area in southwest corner of site as viewed from mowed impoundment cap. Potential woody vegetation removal in spillway will be assessed in Q1 2025.



Ponded area in southwest corner of site as viewed from southwest corner.

Note: Mississippi River backwater enters the GTEC CCR Impoundment Basin when the river level gage operated by the U.S. Army Corps of Engineers at Grand Tower, IL reaches a stage of approximately 27 ft.

# Erosion Repairs

Repairs to impoundment cap conducted during Q4 2024 event near the northeastern section of the impoundment cap.



Erosion repairs made near the northeastern section of the impoundment cap. Photo taken from northeastern section of impoundment cap, facing south.

Photo taken from northeastern section of impoundment cap, facing west.



# Minor Erosional Channels

October 16<sup>th</sup>, 2024, at 1:26:02 PM



Erosion on the south side, roughly 6" deep, of impoundment cap. Photo taken facing north towards the impoundment cap.

Erosion on the west side, roughly 6" deep, of impoundment cap. Photo taken facing west from the top of the impoundment cap.

October 16<sup>th</sup>, 2024, at 1:17:02 PM



October 16<sup>th</sup>, 2024, at 1:35:26 PM



Erosion on the east side, roughly 4" deep, of impoundment cap. Photo taken facing west from the bottom of the impoundment cap.

APPENDIX B FOURTH QUARTER 2024  
GROUDNWATER MONITORING WELL  
INSPECTION FORMS

# Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-01R Date: 10/15/2024  
Total Depth (Actual): 58.30 (BTOC) Time: 11:30 AM  
Total Depth (Measured): 59.03 (BTOC) Collection Order: 8  
Depth to Water (Measured): 35.69 (BTOC)

Is well screen occluded more than 10%? No  
If Yes, list steps for redevelopment: \_\_\_\_\_

LNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_  
DNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_

## Well Completion Type:

Condition of protector: INTACT Yes  
Well ID present and readable: Yes  
Locks intact: Yes  
Weep hole present: No  
Water present in protector: Yes  
Are well "markers" (i.e.bumper posts) needed at this location: No  
If yes, are current well "markers" adequate around well: \_\_\_\_\_  
Comments: \_\_\_\_\_

## Well Surface Seal: INTACT

Is surrounding area sloped away from well: Yes  
Any observed ponding: No  
Is surface run-off flow evident around well: No

## Well Casing Condition: INTACT

Size of well (diameter) = 2 inches  
Marking point present: Yes  
Well cap in place: Yes  
Comments: \_\_\_\_\_

## General Comments:

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# Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-02 Date: 10/15/2024  
Total Depth (Actual): 58.75 (BTOC) Time: 12:00 PM  
Total Depth (Measured): 59.10 (BTOC) Collection Order: 11  
Depth to Water (Measured): 36.30 (BTOC)

Is well screen occluded more than 10%? No  
If Yes, list steps for redevelopment: \_\_\_\_\_

LNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_  
DNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_

## Well Completion Type:

Condition of protector: INTACT Yes  
Well ID present and readable: Yes  
Locks intact: Yes  
Weep hole present: No  
Water present in protector: Yes  
Are well "markers" (i.e.bumper posts) needed at this location: No  
If yes, are current well "markers" adequate around well: \_\_\_\_\_  
Comments: \_\_\_\_\_

## Well Surface Seal: INTACT

Is surrounding area sloped away from well: Yes  
Any observed ponding: No  
Is surface run-off flow evident around well: No

## Well Casing Condition: INTACT

Size of well (diameter) = 2 inches  
Marking point present: Yes  
Well cap in place: Yes  
Comments: \_\_\_\_\_

## General Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-03 Date: 10/15/2024  
Total Depth (Actual): 54.65 (BTOC) Time: 11:00 AM  
Total Depth (Measured): 60.27 (BTOC) Collection Order: 5  
Depth to Water (Measured): 34.67 (BTOC)

Is well screen occluded more than 10%? No  
If Yes, list steps for redevelopment: \_\_\_\_\_

LNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_  
DNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_

## Well Completion Type:

Condition of protector: INTACT Yes  
Well ID present and readable: Yes  
Locks intact: Yes  
Weep hole present: No  
Water present in protector: Yes  
Are well "markers" (i.e.bumper posts) needed at this location: No  
If yes, are current well "markers" adequate around well: \_\_\_\_\_  
Comments: \_\_\_\_\_

## Well Surface Seal: INTACT

Is surrounding area sloped away from well: Yes  
Any observed ponding: No  
Is surface run-off flow evident around well: No

## Well Casing Condition: INTACT

Size of well (diameter) = 2 inches  
Marking point present: No  
Well cap in place: Yes  
Comments: \_\_\_\_\_

## General Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-04 Date: 10/15/2024  
Total Depth (Actual): 60.40 (BTOC) Time: 11:10 AM  
Total Depth (Measured): 60.77 (BTOC) Collection Order: 6  
Depth to Water (Measured): 36.21 (BTOC)

Is well screen occluded more than 10%? No  
If Yes, list steps for redevelopment: \_\_\_\_\_

LNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_  
DNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_

## Well Completion Type:

Condition of protector: INTACT Yes  
Well ID present and readable: Yes  
Locks intact: Yes  
Weep hole present: No  
Water present in protector: No  
Are well "markers" (i.e.bumper posts) needed at this location: No  
If yes, are current well "markers" adequate around well: \_\_\_\_\_  
Comments: 2 ballards are very lose.

## Well Surface Seal: INTACT

Is surrounding area sloped away from well: Yes  
Any observed ponding: No  
Is surface run-off flow evident around well: No

## Well Casing Condition: INTACT

Size of well (diameter) = 2 inches  
Marking point present: No  
Well cap in place: Yes  
Comments: \_\_\_\_\_

## General Comments:

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# Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-05R Date: 10/15/2024  
Total Depth (Actual): 56.90 (BTOC) Time: 12:05 PM  
Total Depth (Measured): 63.50 (BTOC) Collection Order: 12  
Depth to Water (Measured): 34.50 (BTOC)

Is well screen occluded more than 10%? No  
If Yes, list steps for redevelopment: \_\_\_\_\_

LNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_  
DNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_

## Well Completion Type:

Condition of protector: INTACT Yes  
Well ID present and readable: Yes  
Locks intact: Yes  
Weep hole present: No  
Water present in protector: No  
Are well "markers" (i.e.bumper posts) needed at this location: No  
If yes, are current well "markers" adequate around well: \_\_\_\_\_  
Comments: No ballards present.

## Well Surface Seal: INTACT

Is surrounding area sloped away from well: Yes  
Any observed ponding: No  
Is surface run-off flow evident around well: No

## Well Casing Condition: INTACT

Size of well (diameter) = 2 inches  
Marking point present: Yes  
Well cap in place: Yes  
Comments: \_\_\_\_\_

## General Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-06D Date: 10/15/2024  
Total Depth (Actual): 152.57 (BTOC) Time: 11:48 AM  
Total Depth (Measured): 157.56 (BTOC) Collection Order: 9  
Depth to Water (Measured): 33.29 (BTOC)

Is well screen occluded more than 10%? No  
If Yes, list steps for redevelopment: \_\_\_\_\_

LNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_  
DNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_

## Well Completion Type:

Condition of protector: INTACT Yes  
Well ID present and readable: Yes  
Locks intact: Yes  
Weep hole present: No  
Water present in protector: No  
Are well "markers" (i.e.bumper posts) needed at this location: No  
If yes, are current well "markers" adequate around well: \_\_\_\_\_  
Comments: \_\_\_\_\_

## Well Surface Seal: INTACT

Is surrounding area sloped away from well: Yes  
Any observed ponding: No  
Is surface run-off flow evident around well: No

## Well Casing Condition: INTACT

Size of well (diameter) = 2 inches  
Marking point present: Yes  
Well cap in place: Yes  
Comments: \_\_\_\_\_

## General Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-06S Date: 10/15/2024  
Total Depth (Actual): 63.98 (BTOC) Time: 11:52 AM  
Total Depth (Measured): 64.80 (BTOC) Collection Order: 10  
Depth to Water (Measured): 33.36 (BTOC)

Is well screen occluded more than 10%? No  
If Yes, list steps for redevelopment: \_\_\_\_\_

LNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_  
DNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_

### Well Completion Type:

Condition of protector: INTACT Yes  
Well ID present and readable: No  
Locks intact: Yes  
Weep hole present: No  
Water present in protector: No  
Are well "markers" (i.e.bumper posts) needed at this location: No  
If yes, are current well "markers" adequate around well: \_\_\_\_\_  
Comments: \_\_\_\_\_

### Well Surface Seal: INTACT

Is surrounding area sloped away from well: Yes  
Any observed ponding: No  
Is surface run-off flow evident around well: No

### Well Casing Condition: INTACT

Size of well (diameter) = 2 inches  
Marking point present: Yes  
Well cap in place: Yes  
Comments: \_\_\_\_\_

### General Comments:

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# Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-07 Date: 10/15/2024  
Total Depth (Actual): 63.35 (BTOC) Time: 10:40 AM  
Total Depth (Measured): 64.28 (BTOC) Collection Order: 3  
Depth to Water (Measured): 30.35 (BTOC)

Is well screen occluded more than 10%? No  
If Yes, list steps for redevelopment: \_\_\_\_\_

LNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_  
DNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_

## Well Completion Type:

Condition of protector: INTACT Yes  
Well ID present and readable: Yes  
Locks intact: Yes  
Weep hole present: No  
Water present in protector: No  
Are well "markers" (i.e.bumper posts) needed at this location: No  
If yes, are current well "markers" adequate around well: \_\_\_\_\_  
Comments: \_\_\_\_\_

## Well Surface Seal: INTACT

Is surrounding area sloped away from well: Yes  
Any observed ponding: No  
Is surface run-off flow evident around well: No

## Well Casing Condition: INTACT

Size of well (diameter) = 2 inches  
Marking point present: Yes  
Well cap in place: Yes  
Comments: \_\_\_\_\_

## General Comments:

Well was pressurized.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-08 Date: 10/15/2024  
Total Depth (Actual): 61.89 (BTOC) Time: 10:50 AM  
Total Depth (Measured): 62.70 (BTOC) Collection Order: 4  
Depth to Water (Measured): 31.13 (BTOC)

Is well screen occluded more than 10%? No  
If Yes, list steps for redevelopment: \_\_\_\_\_

LNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_  
DNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_

## Well Completion Type:

Condition of protector: INTACT Yes  
Well ID present and readable: Yes  
Locks intact: Yes  
Weep hole present: No  
Water present in protector: No  
Are well "markers" (i.e.bumper posts) needed at this location: No  
If yes, are current well "markers" adequate around well: \_\_\_\_\_  
Comments: \_\_\_\_\_

## Well Surface Seal: INTACT

Is surrounding area sloped away from well: Yes  
Any observed ponding: No  
Is surface run-off flow evident around well: No

## Well Casing Condition: INTACT

Size of well (diameter) = 2 inches  
Marking point present: Yes  
Well cap in place: Yes  
Comments: \_\_\_\_\_

## General Comments:

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# Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-09 Date: 10/15/2024  
Total Depth (Actual): 63.40 (BTOC) Time: 11:20 AM  
Total Depth (Measured): 64.05 (BTOC) Collection Order: 7  
Depth to Water (Measured): 35.13 (BTOC)

Is well screen occluded more than 10%? No  
If Yes, list steps for redevelopment: \_\_\_\_\_

LNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_  
DNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_

## Well Completion Type:

Condition of protector: INTACT Yes  
Well ID present and readable: Yes  
Locks intact: Yes  
Weep hole present: No  
Water present in protector: No  
Are well "markers" (i.e.bumper posts) needed at this location: No  
If yes, are current well "markers" adequate around well: \_\_\_\_\_  
Comments: \_\_\_\_\_

## Well Surface Seal: INTACT

Is surrounding area sloped away from well: Yes  
Any observed ponding: No  
Is surface run-off flow evident around well: No

## Well Casing Condition: INTACT

Size of well (diameter) = 2 inches  
Marking point present: Yes  
Well cap in place: Yes  
Comments: \_\_\_\_\_

## General Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-10D Date: 10/15/2024  
Total Depth (Actual): 98.19 (BTOC) Time: 10:20 AM  
Total Depth (Measured): 99.26 (BTOC) Collection Order: 1  
Depth to Water (Measured): 27.24 (BTOC)

Is well screen occluded more than 10%? No  
If Yes, list steps for redevelopment: \_\_\_\_\_

LNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_  
DNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_

## Well Completion Type:

Condition of protector: INTACT Yes  
Well ID present and readable: Yes  
Locks intact: Yes  
Weep hole present: No  
Water present in protector: No  
Are well "markers" (i.e.bumper posts) needed at this location: No  
If yes, are current well "markers" adequate around well: \_\_\_\_\_  
Comments: \_\_\_\_\_

## Well Surface Seal: INTACT

Is surrounding area sloped away from well: Yes  
Any observed ponding: No  
Is surface run-off flow evident around well: No

## Well Casing Condition: INTACT

Size of well (diameter) = 2 inches  
Marking point present: Yes  
Well cap in place: Yes  
Comments: \_\_\_\_\_

## General Comments:

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# Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-10S Date: 10/14/2024  
Total Depth (Actual): 62.84 (BTOC) Time: 10:30 AM  
Total Depth (Measured): 62.73 (BTOC) Collection Order: 2  
Depth to Water (Measured): 28.95 (BTOC)

Is well screen occluded more than 10%? No  
If Yes, list steps for redevelopment: \_\_\_\_\_

LNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_  
DNAPL Present: No  
If Yes, measured thickness = \_\_\_\_\_

## Well Completion Type:

Condition of protector: INTACT Yes  
Well ID present and readable: Yes  
Locks intact: Yes  
Weep hole present: No  
Water present in protector: No  
Are well "markers" (i.e.bumper posts) needed at this location: No  
If yes, are current well "markers" adequate around well: \_\_\_\_\_  
Comments: \_\_\_\_\_

## Well Surface Seal: INTACT

Is surrounding area sloped away from well: No  
Any observed ponding: No  
Is surface run-off flow evident around well: No

## Well Casing Condition: INTACT

Size of well (diameter) = 2 inches  
Marking point present: Yes  
Well cap in place: Yes  
Comments: \_\_\_\_\_

## General Comments:

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APPENDIX C FOURTH QUARTER 2024 FIELD DATA  
FORMS



# Low Flow Groundwater Sampling Field Data Form

Well ID: APW-01R  
Well Permit No:

Date: 2024/10/15

<b>Site ID</b> GTEC-GRAND-TOWER	<b>Purge Method / Pump Intake Depth</b> Low_Flow / 54.03 (ft)	<b>Reference Elevation</b> 366.82 (ft)
<b>Site Address</b> 1820 Power Plant Road, Grand Tower, US-IL	<b>Purge Equipment</b> NA	<b>Depth to Water / Free Product</b> 35.75 (ft) / None
<b>Project Number</b> 0599247	<b>Sample Equipment</b> NA	<b>Total Well Depth</b> 59.03 (ft)
<b>Project Name</b> 20241015-GWMonitor	<b>Average Purge Rate</b> 500 (mL/min)	<b>Well Diameter / Well Screen Interval</b> 2 (in) / 48.3 - 58.3 ( )
<b>Sampler</b> marshall arendell	<b>Volume of Water in Well / Total Volume Purged</b> 3.8 (gal) / 3 (gal)	<b>Well Construction</b>

**Well Head Vapor Measurements**  
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (gal)	Temperature (C) ±3%	pH ±0.1pH units	Specific Conductivity (uS/cm) ±3%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
17:45	35.75	500	0	15	6.4	366	NM	2.36	22.3	309	NM	TRANSLUCENT, NO ODOR
17:50	35.7	500	0.25	15.7	6.43	480	NM	2.61	30.8	200	NM	TRANSLUCENT, NO ODOR
17:55	35.7	500	0.5	15.8	6.49	521	NM	3.5	30.1	95.3	NM	TRANSLUCENT, NO ODOR
18:00	35.7	500	1	15.9	6.5	539	NM	4.45	29.5	34.7	NM	TRANSLUCENT, NO ODOR
18:05	35.7	500	1.5	16	6.52	543	NM	5.87	29.8	23.5	NM	TRANSLUCENT, NO ODOR
18:10	35.7	500	2	16.1	6.52	542	NM	5.87	29.6	17.5	NM	TRANSLUCENT, NO ODOR
18:15	35.7	500	2.5	16.1	6.52	545	NM	5.84	29.7	16.9	NM	TRANSLUCENT, NO ODOR
18:20	35.7	500	3	16.2	6.52	547	NM	5.81	29.8	16.8	NM	TRANSLUCENT, NO ODOR

<b>Sample ID(s):</b> APW-01R-WG-20241015	<b>Additional Comments</b>	<b>SAMPLER NAME AND SIGNATURE</b> Marshall Arendell 	<b>Date Time</b> 10/22/2024 15:38
<b>Analysis:</b>			



# Low Flow Groundwater Sampling Field Data Form


**Well ID: APW-02**  
**Well Permit No:**

**Date: 2024/10/15**

<b>Site ID</b> GTEC-GRAND-TOWER	<b>Purge Method / Pump Intake Depth</b> Low_Flow / 54.03 (ft)	<b>Reference Elevation</b> 364.61 (ft)
<b>Site Address</b> 1820 Power Plant Road, Grand Tower, US-IL	<b>Purge Equipment</b> NA	<b>Depth to Water / Free Product</b> 34.4 (ft) / None
<b>Project Number</b> 0599247	<b>Sample Equipment</b> NA	<b>Total Well Depth</b> 59.03 (ft)
<b>Project Name</b> 20241015-GWMonitor	<b>Average Purge Rate</b> 200 (mL/min)	<b>Well Diameter / Well Screen Interval</b> 2 (in) / 47.2 - 57.2 ( )
<b>Sampler</b> marshall arendell	<b>Volume of Water in Well / Total Volume Purged</b> 4.02 (gal) / 1.1 (gal)	<b>Well Construction</b>

**Well Head Vapor Measurements**  
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (gal)	Temperature (C) ±3%	pH ±0.1pH units	Specific Conductivity (uS/cm) ±3%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
12:53	39	200	0	15.5	7.23	1025	NM	4.23	53.8	1000	NM	OPAQUE, GREY, ROTTEN EGG-LIKE ODOR
12:58	40.1	200	0.25	16.5	7.19	1034	NM	2.07	-11	1000	NM	OPAQUE, GREY, ROTTEN EGG-LIKE ODOR
13:03	40.25	200	0.5	16.8	7.16	1029	NM	2.32	-27.1	1000	NM	OPAQUE, GREY, ROTTEN EGG-LIKE ODOR
13:08	40.65	200	0.6	17.6	7.15	1026	NM	2.14	-37	1000	NM	OPAQUE, GREY, ROTTEN EGG-LIKE ODOR
13:13	42.4	200	0.7	17.2	7.14	1023	NM	2.23	-51.8	1000	NM	OPAQUE, GREY, ROTTEN EGG-LIKE ODOR
13:18	45.4	200	0.8	17.7	7.14	1011	NM	2.27	-50.4	545	NM	OPAQUE, GREY, ROTTEN EGG-LIKE ODOR
13:23	47.8	200	0.9	18.5	7.13	1015	NM	2.16	-51.6	665	NM	TRANSLUCENT, GREY, ROTTEN EGG-LIKE ODOR
13:28	48.65	200	1	17.6	7.16	1019	NM	2.05	-52.7	673	NM	TRANSLUCENT, GREY, ROTTEN EGG-LIKE ODOR
13:33	50.1	200	1.1	18.8	7.18	1024	NM	2.01	-61.6	663	NM	TRANSLUCENT, GREY, ROTTEN EGG-LIKE ODOR

<b>Sample ID(s):</b> APW-02-WG-20241015	<b>Additional Comments</b>	<b>SAMPLER NAME AND SIGNATURE</b> Marshall Arendell 	<b>Date Time</b> 10/22/2024 15:39
<b>Analysis:</b>			



# Low Flow Groundwater Sampling Field Data Form

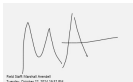
**Well ID: APW-03**  
**Well Permit No:**

**Date: 2024/10/16**

<b>Site ID</b> GTEC-GRAND-TOWER	<b>Purge Method / Pump Intake Depth</b> Low_Flow / 55.27 (ft)	<b>Reference Elevation</b> 365.79 (ft)
<b>Site Address</b> 1820 Power Plant Road, Grand Tower, US-IL	<b>Purge Equipment</b> NA	<b>Depth to Water / Free Product</b> 34.8 (ft) / None
<b>Project Number</b> 0599247	<b>Sample Equipment</b> NA	<b>Total Well Depth</b> 60.27 (ft)
<b>Project Name</b> 20241015-GWMonitor	<b>Average Purge Rate</b> 500 (mL/min)	<b>Well Diameter / Well Screen Interval</b> 2 (in) / 45.7 - 55.7 ( )
<b>Sampler</b> marshall arendell	<b>Volume of Water in Well / Total Volume Purged</b> 4.16 (gal) / 4 (gal)	<b>Well Construction</b>

**Well Head Vapor Measurements**  
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (gal)	Temperature (C) ±3%	pH ±0.1pH units	Specific Conductivity (uS/cm) ±3%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
14:10	34.75	500	0	15.3	7.77	730	NM	1.14	23.4	43.1	NM	TRANSLUCENT, GREY, NO ODOR
14:15	34.75	500	0.25	16.2	7.96	753	NM	0.23	-7.5	23.9	NM	CLEAR, NO ODOR
14:20	34.75	500	0.5	17.1	7.99	757	NM	0.16	-49	17.9	NM	CLEAR, NO ODOR
14:25	34.75	500	1	16.8	7.99	754	NM	0.16	-67.8	13.9	NM	CLEAR, NO ODOR
14:30	34.75	500	1.5	16.8	7.98	756	NM	0.16	-89.4	11.8	NM	CLEAR, NO ODOR
14:35	34.75	500	2	16.8	7.99	753	NM	0.14	-105.9	8.67	NM	CLEAR, NO ODOR
14:40	34.75	500	2.5	17	7.98	756	NM	0.11	-117.1	6.37	NM	CLEAR, NO ODOR
14:45	34.75	500	3	17.1	7.99	754	NM	0.13	-125.1	4.98	NM	CLEAR, NO ODOR
14:50	34.75	500	3.5	17	7.98	755	NM	0.14	-130.9	4.84	NM	CLEAR, NO ODOR
14:55	34.75	500	4	17	8	753	NM	0.15	-134	4.48	NM	CLEAR, NO ODOR

<b>Sample ID(s):</b> APW-03-WG-20241016	<b>Additional Comments</b>	<b>SAMPLER NAME AND SIGNATURE</b>  Marshall Arendell 	<b>Date Time</b>  10/22/2024 21:32
<b>Analysis:</b>			



# Low Flow Groundwater Sampling Field Data Form

**Well ID: APW-04**  
**Well Permit No:**

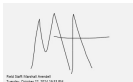
**Date: 2024/10/17**

<b>Site ID</b> GTEC-GRAND-TOWER	<b>Purge Method / Pump Intake Depth</b> Low_Flow / 55.77 (ft)	<b>Reference Elevation</b> 367.44 (ft)
<b>Site Address</b> 1820 Power Plant Road, Grand Tower, US-IL	<b>Purge Equipment</b> NA	<b>Depth to Water / Free Product</b> 36.35 (ft) / None
<b>Project Number</b> 0599247	<b>Sample Equipment</b> NA	<b>Total Well Depth</b> 60.77 (ft)
<b>Project Name</b> 20241015-GWMonitor	<b>Average Purge Rate</b> 460 (mL/min)	<b>Well Diameter / Well Screen Interval</b> 2 (in) / 45.7 - 55.7 ( )
<b>Sampler</b> marshall arendell	<b>Volume of Water in Well / Total Volume Purged</b> 3.99 (gal) / 1.5 (gal)	<b>Well Construction</b>

### Well Head Vapor Measurements

PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (gal)	Temperature (C) ±3%	pH ±0.1pH units	Specific Conductivity (uS/cm) ±3%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
08:20	36.4	300	0	14.7	7.29	559	NM	1.02	-37.5	1000	NM	OPAQUE, BROWN, NO ODOR
08:25	36.4	500	0.25	16	7.18	578	NM	0.41	-27.6	235	NM	TRANSLUCENT, BROWN, NO ODOR
08:30	36.4	500	0.5	15.8	7.16	597	NM	0.39	-20.3	96.3	NM	CLEAR, NO ODOR
08:35	36.4	500	1	15.8	7.14	604	NM	0.49	-17.7	98.9	NM	CLEAR, NO ODOR
08:40	36.4	500	1.5	15.8	7.15	606	NM	0.43	-15.7	91.4	NM	CLEAR, NO ODOR

<b>Sample ID(s):</b> APW-04-WG-20241017	<b>Additional Comments</b>	<b>SAMPLER NAME AND SIGNATURE</b>  Marshall Arendell 	<b>Date Time</b>  10/22/2024 21:33
<b>Analysis:</b>			



# Low Flow Groundwater Sampling Field Data Form

**Well ID: APW-05R**  
**Well Permit No:**


**Date: 2024/10/16**

<b>Site ID</b> GTEC-GRAND-TOWER	<b>Purge Method / Pump Intake Depth</b> Low_Flow / 58.5 (ft)	<b>Reference Elevation</b> ( )
<b>Site Address</b> 1820 Power Plant Road, Grand Tower, US-IL	<b>Purge Equipment</b> NA	<b>Depth to Water / Free Product</b> 34.65 (ft) / None
<b>Project Number</b> 0599247	<b>Sample Equipment</b> NA	<b>Total Well Depth</b> 63.5 (ft)
<b>Project Name</b> 20241015-GWMonitor	<b>Average Purge Rate</b> 500 (mL/min)	<b>Well Diameter / Well Screen Interval</b> 2 (in) / - ( )
<b>Sampler</b> marshall arendell	<b>Volume of Water in Well / Total Volume Purged</b> 4.71 (gal) / 5 (gal)	<b>Well Construction</b>

### Well Head Vapor Measurements

PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (gal)	Temperature (C) ±3%	pH ±0.1pH units	Specific Conductivity (uS/cm) ±3%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
11:25	34.65	500	0	16.3	7.33	474	NM	0.67	41.3	156	NM	TRANSLUCENT, ROTTEN EGG-LIKE ODOR
11:30	34.65	500	0.25	16.7	7.36	469	NM	0.32	34.9	310	NM	TRANSLUCENT, ROTTEN EGG-LIKE ODOR
11:35	34.7	500	0.5	17	7.34	452	NM	0.21	40.3	109	NM	TRANSLUCENT, NO ODOR
11:40	34.7	500	1	16.7	7.33	455	NM	0.21	43.8	76.5	NM	TRANSLUCENT, NO ODOR
11:45	34.7	500	1.5	17	7.32	395	NM	0.23	46.8	60.9	NM	CLEAR, NO ODOR
11:50	34.7	500	2	17.1	7.33	321	NM	0.29	47.4	54.2	NM	CLEAR, NO ODOR
11:55	34.7	500	2.5	17.2	7.32	346	NM	0.27	44.3	42.9	NM	CLEAR, NO ODOR
12:00	34.7	500	3	17.6	7.32	847	NM	0.2	10.1	61.5	NM	CLEAR, NO ODOR
12:05	34.7	500	3.5	17.5	7.33	845	NM	0.15	-34.3	37	NM	CLEAR, NO ODOR
12:10	34.7	500	4	17.2	7.32	841	NM	0.13	-96.9	26.2	NM	CLEAR, NO ODOR
12:15	34.7	500	4.5	17.3	7.33	840	NM	0.13	-101.2	24.3	NM	CLEAR, NO ODOR
12:20	34.7	500	5	17.3	7.34	828	NM	0.11	-101.6	23.4	NM	CLEAR, NO ODOR

<b>Sample ID(s):</b> APW-05R-WG-20241016,DUP-01-WG-20241016	<b>Additional Comments</b>	<b>SAMPLER NAME AND SIGNATURE</b>  Marshall Arendell 	<b>Date Time</b>  10/22/2024 21:37
<b>Analysis:</b>			



# Low Flow Groundwater Sampling Field Data Form

**Well ID: APW-06D**  
**Well Permit No:**

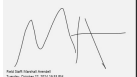
**Date: 2024/10/16**

<b>Site ID</b> GTEC-GRAND-TOWER	<b>Purge Method / Pump Intake Depth</b> Low_Flow / 152.56 (ft)	<b>Reference Elevation</b> 363.69 (ft)
<b>Site Address</b> 1820 Power Plant Road, Grand Tower, US-IL	<b>Purge Equipment</b> NA	<b>Depth to Water / Free Product</b> 33.4 (ft) / None
<b>Project Number</b> 0599247	<b>Sample Equipment</b> NA	<b>Total Well Depth</b> 157.56 (ft)
<b>Project Name</b> 20241015-GWMonitor	<b>Average Purge Rate</b> 455 (mL/min)	<b>Well Diameter / Well Screen Interval</b> 2 (in) / 140 - 150 (ft)
<b>Sampler</b> marshall arendell	<b>Volume of Water in Well / Total Volume Purged</b> 20.26 (gal) / 4 (gal)	<b>Well Construction</b>

### Well Head Vapor Measurements

PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (gal)	Temperature (C) ±3%	pH ±0.1pH units	Specific Conductivity (uS/cm) ±3%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
08:25	33.4	500	0	13.2	7.3	756	NM	4.27	-19.2	15.1	NM	CLEAR, ROTTEN EGG-LIKE ODOR
08:30	33.4	450	0.25	13.9	7.26	779	NM	1.31	-29.9	85.7	NM	CLEAR, ROTTEN EGG-LIKE ODOR
08:35	33.4	450	0.5	14.3	7.24	785	NM	0.7	-37.4	76.4	NM	CLEAR, ROTTEN EGG-LIKE ODOR
08:40	33.4	450	1	14.7	7.24	787	NM	0.66	-46.6	44.9	NM	CLEAR, ROTTEN EGG-LIKE ODOR
08:45	33.4	450	1.5	14.6	7.24	787	NM	0.69	-50.4	28.5	NM	CLEAR, ROTTEN EGG-LIKE ODOR
08:50	33.4	450	2	14.4	7.25	784	NM	0.5	-53.8	18.7	NM	CLEAR, ROTTEN EGG-LIKE ODOR
08:55	33.4	450	2.5	14.6	7.24	789	NM	0.39	-55.2	20.3	NM	CLEAR, ROTTEN EGG-LIKE ODOR
09:00	33.4	450	3	15.1	7.24	789	NM	0.32	-61.7	9.91	NM	CLEAR, SLIGHT ROTTEN EGG-LIKE ODOR
09:05	33.4	450	3.5	15	7.24	788	NM	0.27	-65.8	8.83	NM	CLEAR, SLIGHT ROTTEN EGG-LIKE ODOR
09:10	33.4	450	4	15.2	7.24	788	NM	0.24	-70.6	8.39	NM	CLEAR, SLIGHT ROTTEN EGG-LIKE ODOR

<b>Sample ID(s):</b> APW-06D-WG-20241016	<b>Additional Comments</b>	<b>SAMPLER NAME AND SIGNATURE</b>  Marshall Arendell 	<b>Date Time</b>  10/22/2024 21:35
<b>Analysis:</b>			



# Low Flow Groundwater Sampling Field Data Form


**Well ID: APW-06S**  
**Well Permit No:**

**Date: 2024/10/15**

<b>Site ID</b> GTEC-GRAND-TOWER	<b>Purge Method / Pump Intake Depth</b> Low_Flow / 59.8 (ft)	<b>Reference Elevation</b> 363.51 (ft)
<b>Site Address</b> 1820 Power Plant Road, Grand Tower, US-IL	<b>Purge Equipment</b> NA	<b>Depth to Water / Free Product</b> 33.53 (ft) / None
<b>Project Number</b> 0599247	<b>Sample Equipment</b> NA	<b>Total Well Depth</b> 64.8 (ft)
<b>Project Name</b> 20241015-GWMonitor	<b>Average Purge Rate</b> 414.3 (mL/min)	<b>Well Diameter / Well Screen Interval</b> 2 (in) / 50 - 60 (ft)
<b>Sampler</b> marshall arendell	<b>Volume of Water in Well / Total Volume Purged</b> 5.1 (gal) / 2 (gal)	<b>Well Construction</b>

**Well Head Vapor Measurements**  
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (gal)	Temperature (C) ±3%	pH ±0.1pH units	Specific Conductivity (uS/cm) ±3%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
10:00	33.65	300	0	15.1	7.12	857	NM	1.37	-43.9	211	NM	TRANSLUCENT, GREY, ROTTEN EGG-LIKE ODOR
10:05	33.8	300	0.25	14.8	7.1	888	NM	1.06	-62.1	79.5	NM	TRANSLUCENT, GREY, ROTTEN EGG-LIKE ODOR
10:10	33.85	300	0.5	15.3	7.09	882	NM	0.93	-70.7	27.8	NM	CLEAR, ROTTEN EGG-LIKE ODOR
10:15	33.85	500	0.75	15.4	7.09	883	NM	0.48	-85.2	13.8	NM	CLEAR, ROTTEN EGG-LIKE ODOR
10:20	33.85	500	1	15.3	7.1	885	NM	0.18	-95.9	5.19	NM	CLEAR, ROTTEN EGG-LIKE ODOR
10:25	33.85	500	1.5	15.5	7.1	883	NM	0.17	-102.3	4.08	NM	CLEAR, NO ODOR
10:30	33.85	500	2	15.5	7.1	883	NM	0.15	-105.4	5.72	NM	CLEAR, NO ODOR

<b>Sample ID(s):</b> APW-06S-WG-20241016	<b>Additional Comments</b>	<b>SAMPLER NAME AND SIGNATURE</b>  Marshall Arendell 	<b>Date Time</b>  10/22/2024 21:36
<b>Analysis:</b>			



# Low Flow Groundwater Sampling Field Data Form

**Well ID: APW-07**  
**Well Permit No:**

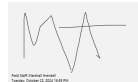
**Date: 2024/10/16**

<b>Site ID</b> GTEC-GRAND-TOWER	<b>Purge Method / Pump Intake Depth</b> Low_Flow / 59.28 (ft)	<b>Reference Elevation</b> 360.61 (ft)
<b>Site Address</b> 1820 Power Plant Road, Grand Tower, US-IL	<b>Purge Equipment</b> NA	<b>Depth to Water / Free Product</b> 30.58 (ft) / None
<b>Project Number</b> 0599247	<b>Sample Equipment</b> NA	<b>Total Well Depth</b> 64.28 (ft)
<b>Project Name</b> 20241015-GWMonitor	<b>Average Purge Rate</b> 500 (mL/min)	<b>Well Diameter / Well Screen Interval</b> 2 (in) / 50 - 60 (ft)
<b>Sampler</b> marshall arendell	<b>Volume of Water in Well / Total Volume Purged</b> 5.5 (gal) / 3.5 (gal)	<b>Well Construction</b>

**Well Head Vapor Measurements**  
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (gal)	Temperature (C) ±3%	pH ±0.1pH units	Specific Conductivity (uS/cm) ±3%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
17:05	30.58	500	0	15.1	6.7	1218	NM	0.3	-8.3	39.1	NM	CLEAR, NO ODOR
17:10	30.58	500	0.5	16.2	6.72	1211	NM	0.49	-31.4	38.6	NM	CLEAR, NO ODOR
17:15	30.58	500	1	16.2	6.74	1209	NM	0.26	-43.7	27.7	NM	CLEAR, NO ODOR
17:20	30.58	500	1.5	16.1	6.72	1209	NM	0.2	-51.5	17.9	NM	CLEAR, NO ODOR
17:25	30.58	500	2	16.3	6.73	1208	NM	0.19	-55.8	14.2	NM	CLEAR, NO ODOR
17:30	30.58	500	2.5	16.5	6.71	1209	NM	0.18	-59.9	9.51	NM	CLEAR, NO ODOR
17:35	30.58	500	3	16.5	6.73	1205	NM	0.17	-63.1	6.54	NM	CLEAR, NO ODOR
17:40	30.58	500	3.5	16.5	6.73	1205	NM	0.15	-64.4	6.88	NM	CLEAR, NO ODOR

<b>Sample ID(s):</b> APW-07-WG-20241016	<b>Additional Comments</b>	<b>SAMPLER NAME AND SIGNATURE</b>  Marshall Arendell	<b>Date Time</b>  10/22/2024 21:39
<b>Analysis:</b>			





# Low Flow Groundwater Sampling Field Data Form

**Well ID: APW-08**  
**Well Permit No:**


**Date: 2024/10/16**

<b>Site ID</b> GTEC-GRAND-TOWER	<b>Purge Method / Pump Intake Depth</b> Low_Flow / 57.7 (ft)	<b>Reference Elevation</b> 362.71 (ft)
<b>Site Address</b> 1820 Power Plant Road, Grand Tower, US-IL	<b>Purge Equipment</b> NA	<b>Depth to Water / Free Product</b> 31.25 (ft) / None
<b>Project Number</b> 0599247	<b>Sample Equipment</b> NA	<b>Total Well Depth</b> 62.7 (ft)
<b>Project Name</b> 20241015-GWMonitor	<b>Average Purge Rate</b> 500 (mL/min)	<b>Well Diameter / Well Screen Interval</b> 2 (in) / 50 - 60 (ft)
<b>Sampler</b> marshall arendell	<b>Volume of Water in Well / Total Volume Purged</b> 5.13 (gal) / 5.5 (gal)	<b>Well Construction</b>

### Well Head Vapor Measurements

PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (gal)	Temperature (C) ±3%	pH ±0.1pH units	Specific Conductivity (uS/cm) ±3%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
15:30	31.25	500	0	16.4	7.03	643	NM	1.79	1.9	1000	NM	OPAQUE, TAN, NO ODOR
15:35	31.25	500	1	17	6.99	657	NM	0.83	-10.6	521	NM	OPAQUE, TAN, NO ODOR
15:40	31.25	500	1.5	16.9	6.98	657	NM	0.39	-11.8	338	NM	OPAQUE, TAN, NO ODOR
15:45	31.25	500	2	17	6.98	658	NM	0.64	-14.9	243	NM	OPAQUE, TAN, NO ODOR
15:50	31.25	500	2.5	17	6.97	656	NM	0.35	-15.9	155	NM	TRANSLUCENT, TAN, NO ODOR
15:55	31.25	500	3	17.1	6.98	655	NM	0.25	-14.1	126	NM	TRANSLUCENT, TAN, NO ODOR
16:00	31.25	500	3.5	17	6.96	654	NM	0.24	-16	77	NM	TRANSLUCENT, TAN, NO ODOR
16:05	31.25	500	4	17.1	6.99	654	NM	0.21	-16.3	64.6	NM	TRANSLUCENT, TAN, NO ODOR
16:10	31.25	500	4.5	16.9	6.97	651	NM	0.19	-16	51.1	NM	TRANSLUCENT, TAN, NO ODOR
16:15	31.25	500	5	16.8	6.97	648	NM	0.25	-15.9	48.4	NM	CLEAR, NO ODOR
16:20	31.25	500	5.5	16.9	6.97	645	NM	0.22	-16	47.5	NM	CLEAR, NO ODOR

<b>Sample ID(s):</b> APW-08-WG-20241016	<b>Additional Comments</b>	<b>SAMPLER NAME AND SIGNATURE</b>	<b>Date Time</b>
		Marshall Arendell 	10/22/2024 21:40
<b>Analysis:</b>			



# Low Flow Groundwater Sampling Field Data Form

**Well ID: APW-09**  
**Well Permit No:**

**Date: 2024/10/17**

<b>Site ID</b> GTEC-GRAND-TOWER	<b>Purge Method / Pump Intake Depth</b> Low_Flow / 59.05 (ft)	<b>Reference Elevation</b> 366.84 (ft)
<b>Site Address</b> 1820 Power Plant Road, Grand Tower, US-IL	<b>Purge Equipment</b> NA	<b>Depth to Water / Free Product</b> 35.26 (ft) / None
<b>Project Number</b> 0599247	<b>Sample Equipment</b> NA	<b>Total Well Depth</b> 64.05 (ft)
<b>Project Name</b> 20241015-GWMonitor	<b>Average Purge Rate</b> 400 (mL/min)	<b>Well Diameter / Well Screen Interval</b> 2 (in) / 50 - 60 (ft)
<b>Sampler</b> marshall arendell, bre houska, emma portell	<b>Volume of Water in Well / Total Volume Purged</b> 4.7 (gal) / 3.5 (gal)	<b>Well Construction</b>

### Well Head Vapor Measurements

PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (gal)	Temperature (C) ±3%	pH ±0.1pH units	Specific Conductivity (uS/cm) ±3%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
09:10	35.26	400	0	12.1	7.48	535	NM	5.67	6.4	222	NM	CLOUDY, NO ODOR
09:15	35.26	400	0.5	14.9	7.3	551	NM	2.15	-5.1	103	NM	CLOUDY, NO ODOR
09:20	35.26	400	1	15	7.28	553.9	NM	0.83	-5.3	39.9	NM	CLEAR, NO ODOR
09:25	35.26	400	1.5	15	7.27	554	NM	0.5	-5.8	20.9	NM	CLEAR, NO ODOR
09:30	35.26	400	2	15.1	7.27	553.9	NM	0.4	-6.4	17.9	NM	CLEAR, NO ODOR
09:35	35.26	400	2.5	15.2	7.27	554	NM	0.29	-7.7	16.5	NM	CLEAR, NO ODOR
09:40	35.26	400	3	15.3	7.27	553.5	NM	0.38	-8.4	15.3	NM	CLEAR, NO ODOR
09:45	35.26	400	3.5	15.9	7.27	554.2	NM	0.35	-9.4	13.9	NM	CLEAR, NO ODOR

<b>Sample ID(s):</b> APW-09-WG-20241017,DUP-02-WG-20241017	<b>Additional Comments</b>	<b>SAMPLER NAME AND SIGNATURE</b>  Marshall Arendell 	<b>Date Time</b>  10/22/2024 21:41
<b>Analysis:</b>			



# Low Flow Groundwater Sampling Field Data Form

**Well ID: APW-10D**  
**Well Permit No:**


**Date: 2024/10/15**

<b>Site ID</b> GTEC-GRAND-TOWER	<b>Purge Method / Pump Intake Depth</b> Low_Flow / 94.26 (ft)	<b>Reference Elevation</b> 359.41 (ft)
<b>Site Address</b> 1820 Power Plant Road, Grand Tower, US-IL	<b>Purge Equipment</b> NA	<b>Depth to Water / Free Product</b> 27.25 (ft) / None
<b>Project Number</b> 0599247	<b>Sample Equipment</b> NA	<b>Total Well Depth</b> 99.26 (ft)
<b>Project Name</b> 20241015-GWMonitor	<b>Average Purge Rate</b> 318.2 (mL/min)	<b>Well Diameter / Well Screen Interval</b> 2 (in) / 86 - 96 (ft)
<b>Sampler</b> marshall arendell	<b>Volume of Water in Well / Total Volume Purged</b> 11.75 (gal) / 2.5 (gal)	<b>Well Construction</b>

### Well Head Vapor Measurements

PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (gal)	Temperature (C) ±3%	pH ±0.1pH units	Specific Conductivity (uS/cm) ±3%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
14:40	27.28	500	0	15	7.09	676	NM	1.9	34.6	154	NM	TRANSLUCENT, NO ODOR
14:45	27.25	250	0.25	15.2	7.09	679	NM	0.7	16.5	418	NM	OPAQUE, GREY, , NO ODOR
14:50	27.25	250	0.5	15.3	7.07	684	NM	0.52	12.8	213	NM	TRANSLUCENT, GREY, NO ODOR
14:55	27.25	250	0.75	15.4	7.05	687	NM	0.51	9.5	172	NM	TRANSLUCENT, GREY, NO ODOR
15:00	27.25	250	1	15.4	7.05	691	NM	1.07	7.3	152	NM	TRANSLUCENT, GREY, NO ODOR
15:05	27.25	250	1.25	15.4	7.04	694	NM	0.78	5.8	107	NM	TRANSLUCENT, GREY, NO ODOR
15:10	27.25	350	1.5	15.4	7.04	695	NM	0.67	4.8	92.5	NM	TRANSLUCENT, GREY, NO ODOR
15:15	27.25	350	1.75	15.4	7.03	698	NM	0.5	3.7	75.5	NM	TRANSLUCENT, GREY, NO ODOR
15:20	27.25	350	2	15.4	7.03	700	NM	0.49	2.9	49.1	NM	TRANSLUCENT, GREY, NO ODOR
15:25	27.25	350	2.25	15.4	7.03	699	NM	0.47	2.2	43.5	NM	CLEAR, NO ODOR
15:30	27.25	350	2.5	15.4	7.02	700	NM	0.49	2.1	45.3	NM	CLEAR, NO ODOR

<b>Sample ID(s):</b> APW-10D-WG-20241015	<b>Additional Comments</b>	<b>SAMPLER NAME AND SIGNATURE</b>  Marshall Arendell 	<b>Date Time</b>  10/22/2024 21:42
<b>Analysis:</b>			



# Low Flow Groundwater Sampling Field Data Form

**Well ID: APW-10S**  
**Well Permit No:**

**Date: 2024/10/15**

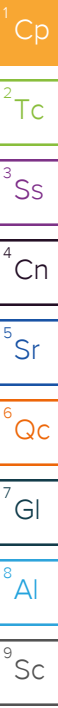
<b>Site ID</b> GTEC-GRAND-TOWER	<b>Purge Method / Pump Intake Depth</b> Low_Flow / 57.73 (ft)	<b>Reference Elevation</b> 359.47 (ft)
<b>Site Address</b> 1820 Power Plant Road, Grand Tower, US-IL	<b>Purge Equipment</b> NA	<b>Depth to Water / Free Product</b> 28.95 (ft) / None
<b>Project Number</b> 0599247	<b>Sample Equipment</b> NA	<b>Total Well Depth</b> 62.73 (ft)
<b>Project Name</b> 20241015-GWMonitor	<b>Average Purge Rate</b> 475 (mL/min)	<b>Well Diameter / Well Screen Interval</b> 2 (in) / 50 - 60 (ft)
<b>Sampler</b> marshall arendell	<b>Volume of Water in Well / Total Volume Purged</b> 5.51 (gal) / 2.25 (gal)	<b>Well Construction</b>

**Well Head Vapor Measurements**  
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (gal)	Temperature (C) ±3%	pH ±0.1pH units	Specific Conductivity (uS/cm) ±3%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
16:10	29.1	250	0	16	6.96	1274	NM	1.2	-62	1000	NM	OPAQUE, GREY, ROTTEN EGG-LIKE ODOR
16:15	29.3	500	0.25	16.9	6.94	1276	NM	1.05	-73.5	1000	NM	OPAQUE, GREY, ROTTEN EGG-LIKE ODOR
16:20	29.3	500	0.5	16.7	6.95	1268	NM	0.59	-106.7	154	NM	TRANSLUCENT, GREY, ROTTEN EGG-LIKE ODOR
16:25	29.5	500	0.75	16.5	6.95	1258	NM	0.53	-111.9	142	NM	TRANSLUCENT, GREY, ROTTEN EGG-LIKE ODOR
16:30	29.5	500	1	16.1	6.95	1253	NM	0.46	-115	219	NM	TRANSLUCENT, GREY, ROTTEN EGG-LIKE ODOR
16:35	29.45	500	1.25	16.4	6.94	1261	NM	0.42	-119.2	64.3	NM	CLEAR, ROTTEN EGG-LIKE ODOR
16:40	29.45	500	1.5	16.3	6.95	1264	NM	0.34	-122.7	38.8	NM	CLEAR, ROTTEN EGG-LIKE ODOR
16:45	29.55	500	1.75	16.1	6.95	1272	NM	0.3	-125.7	21.2	NM	CLEAR, ROTTEN EGG-LIKE ODOR
16:50	29.55	500	2	16.1	6.95	1260	NM	0.25	-128.3	20.8	NM	CLEAR, ROTTEN EGG-LIKE ODOR
16:55	29.55	500	2.25	16.1	6.94	1275	NM	0.23	-128.8	20.4	NM	CLEAR, ROTTEN EGG-LIKE ODOR

<b>Sample ID(s):</b> APW-10S-WG-20241015	<b>Additional Comments</b>	<b>SAMPLER NAME AND SIGNATURE</b>  Marshall Arendell	<b>Date Time</b>  10/22/2024 21:45
<b>Analysis:</b>			

APPENDIX D FOURTH QUARTER 2024 LABORATORY  
ANALYTICAL REPORT



## ERM - St. Louis, MO

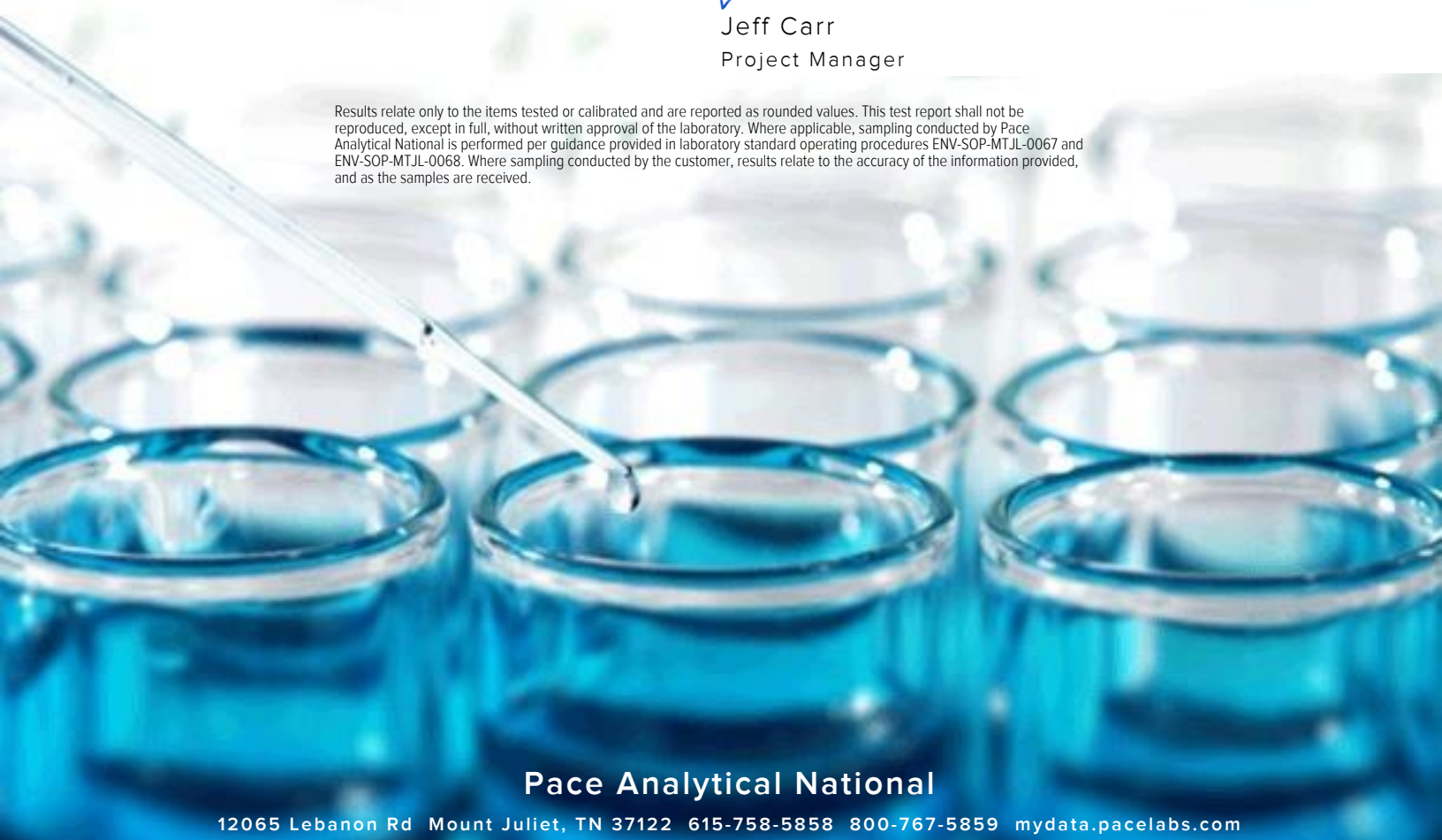
Sample Delivery Group: L1790474  
Samples Received: 10/18/2024  
Project Number: 0599247  
Description: Grand Tower Energy Center Groundwater 4Q24 Sampling  
Report To: Randy Homburg  
1968 Craig Road, Suite 100  
Saint Louis, MO 63146

Entire Report Reviewed By:



Jeff Carr  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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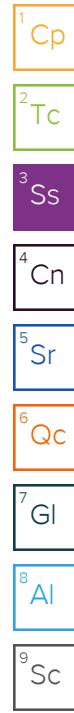
<sup>1</sup> Cp
<sup>2</sup> Tc
<sup>3</sup> Ss
<sup>4</sup> Cn
<sup>5</sup> Sr
<sup>6</sup> Qc
<sup>7</sup> Gl
<sup>8</sup> Al
<sup>9</sup> Sc

# SAMPLE SUMMARY

## APW-03-WG-20241016 L1790474-01 GW

Collected by: Marshall Arendell  
 Collected date/time: 10/16/24 15:00  
 Received date/time: 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2385254	1	10/18/24 22:17	10/19/24 17:11	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385378	1	10/21/24 22:37	10/21/24 22:37	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385378	10	10/22/24 03:05	10/22/24 03:05	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2385247	1	10/18/24 22:40	10/18/24 22:40	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2385483	1	10/24/24 14:08	10/25/24 18:04	LAS	Mt. Juliet, TN
Mercury by Method 7470A	WG2385490	1	10/21/24 16:21	10/22/24 18:35	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387810	1	10/31/24 22:56	11/01/24 14:07	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2393512	1	11/02/24 18:40	11/03/24 15:11	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387793	1	10/31/24 21:52	11/01/24 17:36	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387926	1	10/31/24 23:24	11/01/24 14:52	JPD	Mt. Juliet, TN



## APW-08-WG-20241016 L1790474-02 GW

Collected by: Marshall Arendell  
 Collected date/time: 10/16/24 16:25  
 Received date/time: 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2385254	1	10/18/24 22:17	10/19/24 17:11	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385378	1	10/21/24 22:50	10/21/24 22:50	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2385247	1	10/18/24 22:40	10/18/24 22:40	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2385483	1	10/24/24 14:08	10/25/24 18:37	LAS	Mt. Juliet, TN
Mercury by Method 7470A	WG2385490	1	10/21/24 16:21	10/22/24 18:37	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387810	1	10/31/24 22:56	11/01/24 14:12	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2393512	1	11/02/24 18:40	11/03/24 15:13	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387793	1	10/31/24 21:52	11/01/24 17:39	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387926	1	10/31/24 23:24	11/01/24 15:42	JPD	Mt. Juliet, TN

## APW-07-WG-20241016 L1790474-03 GW

Collected by: Marshall Arendell  
 Collected date/time: 10/16/24 17:45  
 Received date/time: 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2385254	1	10/18/24 22:17	10/19/24 17:11	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385378	1	10/21/24 23:03	10/21/24 23:03	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2385247	1	10/18/24 22:40	10/18/24 22:40	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2385483	1	10/24/24 14:08	10/25/24 18:39	LAS	Mt. Juliet, TN
Mercury by Method 7470A	WG2385490	1	10/21/24 16:21	10/22/24 18:40	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387810	1	10/31/24 22:56	11/01/24 14:13	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2393512	1	11/02/24 18:40	11/03/24 15:18	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387793	1	10/31/24 21:52	11/01/24 17:42	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387926	1	10/31/24 23:24	11/01/24 15:45	JPD	Mt. Juliet, TN

## APW-10S-WG-20241015 L1790474-04 GW

Collected by: Marshall Arendell  
 Collected date/time: 10/15/24 17:00  
 Received date/time: 10/18/24 09:00

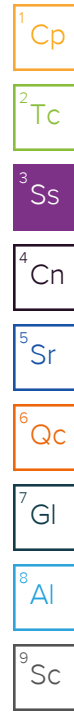
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2385254	1	10/18/24 22:17	10/19/24 17:11	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385378	1	10/21/24 23:16	10/21/24 23:16	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2385247	1	10/18/24 22:40	10/18/24 22:40	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2385483	1	10/24/24 14:08	10/25/24 18:41	LAS	Mt. Juliet, TN
Mercury by Method 7470A	WG2385490	1	10/21/24 16:21	10/22/24 18:42	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387810	1	10/31/24 22:56	11/01/24 14:15	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2393512	1	11/02/24 18:40	11/03/24 15:19	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387793	1	10/31/24 21:52	11/01/24 18:09	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387926	1	10/31/24 23:24	11/01/24 15:48	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387926	5	10/31/24 23:24	11/01/24 16:26	JPD	Mt. Juliet, TN

# SAMPLE SUMMARY

## APW-10D-WG-20241015 L1790474-05 GW

Collected by: Marshall Arendell  
 Collected date/time: 10/15/24 15:35  
 Received date/time: 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2385254	1	10/18/24 22:17	10/19/24 17:11	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385378	1	10/21/24 23:54	10/21/24 23:54	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2385247	1	10/18/24 22:40	10/18/24 22:40	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2385483	1	10/24/24 14:08	10/25/24 19:04	LAS	Mt. Juliet, TN
Mercury by Method 7470A	WG2385490	1	10/21/24 16:21	10/22/24 18:49	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387810	1	10/31/24 22:56	11/01/24 14:17	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2393512	1	11/02/24 18:40	11/03/24 15:21	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387793	1	10/31/24 21:52	11/01/24 17:48	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387926	1	10/31/24 23:24	11/01/24 15:51	JPD	Mt. Juliet, TN



## APW-06S-WG-20241016 L1790474-06 GW

Collected by: Marshall Arendell  
 Collected date/time: 10/16/24 10:35  
 Received date/time: 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2385254	1	10/18/24 22:17	10/19/24 17:11	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385378	1	10/22/24 00:06	10/22/24 00:06	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2385247	1	10/18/24 22:40	10/18/24 22:40	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2385483	1	10/24/24 14:08	10/25/24 19:07	LAS	Mt. Juliet, TN
Mercury by Method 7470A	WG2385490	1	10/21/24 16:21	10/22/24 18:52	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387810	1	10/31/24 22:56	11/01/24 13:55	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2393512	1	11/02/24 18:40	11/03/24 15:22	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387793	1	10/31/24 21:52	11/01/24 17:51	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387926	1	10/31/24 23:24	11/01/24 15:54	JPD	Mt. Juliet, TN

## APW-06D-WG-20241016 L1790474-07 GW

Collected by: Marshall Arendell  
 Collected date/time: 10/16/24 09:15  
 Received date/time: 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2385254	1	10/18/24 22:17	10/19/24 17:11	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385378	1	10/22/24 00:19	10/22/24 00:19	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385378	10	10/22/24 03:55	10/22/24 03:55	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2385247	1	10/18/24 22:40	10/18/24 22:40	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2385483	1	10/24/24 14:08	10/25/24 19:09	LAS	Mt. Juliet, TN
Mercury by Method 7470A	WG2385490	1	10/21/24 16:21	10/22/24 18:54	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387810	1	10/31/24 22:56	11/01/24 14:18	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2393512	1	11/02/24 18:40	11/03/24 15:24	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387793	1	10/31/24 21:52	11/01/24 17:54	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387926	1	10/31/24 23:24	11/01/24 16:08	JPD	Mt. Juliet, TN

## APW-05R-WG-20241016 L1790474-08 GW

Collected by: Marshall Arendell  
 Collected date/time: 10/16/24 12:25  
 Received date/time: 10/18/24 09:00

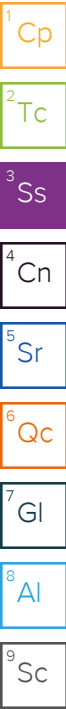
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2385254	1	10/18/24 22:17	10/19/24 17:11	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385378	1	10/22/24 00:32	10/22/24 00:32	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2385247	1	10/18/24 22:40	10/18/24 22:40	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2385483	1	10/24/24 14:08	10/25/24 19:12	LAS	Mt. Juliet, TN
Mercury by Method 7470A	WG2385490	1	10/21/24 16:21	10/22/24 18:57	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387787	1	10/31/24 12:38	10/31/24 19:35	MAP	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387810	1	10/31/24 22:56	11/01/24 14:20	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387793	1	10/31/24 21:52	11/01/24 18:12	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387926	1	10/31/24 23:24	11/01/24 16:11	JPD	Mt. Juliet, TN

# SAMPLE SUMMARY

## APW-09-WG-20241017 L1790474-09 GW

Collected by: Marshall Arendell  
 Collected date/time: 10/17/24 09:50  
 Received date/time: 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2385254	1	10/18/24 22:17	10/19/24 17:11	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385378	1	10/22/24 00:45	10/22/24 00:45	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2385247	1	10/18/24 22:40	10/18/24 22:40	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2385483	1	10/24/24 14:08	10/25/24 19:14	LAS	Mt. Juliet, TN
Mercury by Method 7470A	WG2385490	1	10/21/24 16:21	10/22/24 18:59	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387787	1	10/31/24 12:38	10/31/24 19:37	MAP	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387810	1	10/31/24 22:56	11/01/24 14:22	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387793	1	10/31/24 21:52	11/01/24 18:15	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387926	1	10/31/24 23:24	11/01/24 16:14	JPD	Mt. Juliet, TN



## APW-02-WG-20241015 L1790474-10 GW

Collected by: Marshall Arendell  
 Collected date/time: 10/15/24 13:38  
 Received date/time: 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2385254	1	10/18/24 22:17	10/19/24 17:11	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385378	10	10/22/24 00:57	10/22/24 00:57	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2385247	1	10/18/24 22:40	10/18/24 22:40	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2385483	1	10/24/24 14:08	10/25/24 19:16	LAS	Mt. Juliet, TN
Mercury by Method 7470A	WG2385970	1	10/23/24 12:47	10/24/24 15:59	LAS	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387787	1	10/31/24 12:38	10/31/24 19:38	MAP	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387810	1	10/31/24 22:56	11/01/24 14:23	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387793	1	10/31/24 21:52	11/01/24 18:19	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387926	1	10/31/24 23:24	11/01/24 16:17	JPD	Mt. Juliet, TN

## APW-01R-WG-20241015 L1790474-11 GW

Collected by: Marshall Arendell  
 Collected date/time: 10/15/24 18:25  
 Received date/time: 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2385254	1	10/18/24 22:17	10/19/24 17:11	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385378	1	10/22/24 01:10	10/22/24 01:10	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2385247	1	10/18/24 22:40	10/18/24 22:40	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2385483	1	10/24/24 14:08	10/25/24 19:19	LAS	Mt. Juliet, TN
Mercury by Method 7470A	WG2385970	1	10/23/24 12:47	10/24/24 16:07	LAS	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387787	1	10/31/24 12:38	10/31/24 19:40	MAP	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387810	1	10/31/24 22:56	11/01/24 14:25	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387793	1	10/31/24 21:52	11/01/24 18:22	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387926	1	10/31/24 23:24	11/01/24 16:20	JPD	Mt. Juliet, TN

## APW-04-WG-20241017 L1790474-12 GW

Collected by: Marshall Arendell  
 Collected date/time: 10/17/24 08:45  
 Received date/time: 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2385254	1	10/18/24 22:17	10/19/24 17:11	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385378	1	10/22/24 01:23	10/22/24 01:23	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2385247	1	10/18/24 22:40	10/18/24 22:40	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2385483	1	10/24/24 14:08	10/25/24 19:21	LAS	Mt. Juliet, TN
Mercury by Method 7470A	WG2385970	1	10/23/24 12:47	10/24/24 16:10	LAS	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387787	1	10/31/24 12:38	10/31/24 19:45	MAP	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387810	1	10/31/24 22:56	11/01/24 14:27	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387793	1	10/31/24 21:52	11/01/24 18:25	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387926	1	10/31/24 23:24	11/01/24 16:23	JPD	Mt. Juliet, TN

# SAMPLE SUMMARY

## EB-01-WG-20241015 L1790474-13 GW

Collected by Marshall Arendell    Collected date/time 10/15/24 10:15    Received date/time 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2385254	1	10/18/24 22:17	10/19/24 17:11	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385378	1	10/22/24 01:36	10/22/24 01:36	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2385247	1	10/18/24 22:40	10/18/24 22:40	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2385483	1	10/24/24 14:08	10/25/24 19:24	LAS	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387810	1	10/31/24 22:56	11/01/24 13:37	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387929	1	10/31/24 22:32	11/01/24 15:14	JPD	Mt. Juliet, TN

1  
Cp

2  
Tc

3  
Ss

4  
Cn

## DUP-01-WG-20241016 L1790474-14 GW

Collected by Marshall Arendell    Collected date/time 10/16/24 00:01    Received date/time 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2385254	1	10/18/24 22:17	10/19/24 17:11	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385378	1	10/22/24 01:48	10/22/24 01:48	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2385247	1	10/18/24 22:40	10/18/24 22:40	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2385487	1	10/23/24 12:51	10/24/24 18:48	NDL	Mt. Juliet, TN
Mercury by Method 7470A	WG2385970	1	10/23/24 12:47	10/24/24 16:12	LAS	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387787	1	10/31/24 12:38	10/31/24 19:47	MAP	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387810	1	10/31/24 22:56	11/01/24 13:38	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387797	1	11/01/24 07:51	11/04/24 16:37	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387929	1	10/31/24 22:32	11/01/24 15:27	JPD	Mt. Juliet, TN

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

## DUP-02-WG-20241017 L1790474-15 GW

Collected by Marshall Arendell    Collected date/time 10/17/24 00:02    Received date/time 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2385254	1	10/18/24 22:17	10/19/24 17:11	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2385382	1	10/22/24 01:59	10/22/24 01:59	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2385247	1	10/18/24 22:40	10/18/24 22:40	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2385487	1	10/23/24 12:51	10/24/24 18:59	NDL	Mt. Juliet, TN
Mercury by Method 7470A	WG2385970	1	10/23/24 12:47	10/24/24 16:15	LAS	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387787	1	10/31/24 12:38	10/31/24 19:49	MAP	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2387810	1	10/31/24 22:56	11/01/24 13:40	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387797	1	11/01/24 07:51	11/04/24 16:40	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2387929	1	10/31/24 22:32	11/01/24 15:31	JPD	Mt. Juliet, TN

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jeff Carr  
Project Manager

## Sample Delivery Group (SDG) Narrative

Analysis was filtered in the laboratory.

<u>Lab Sample ID</u>	<u>Project Sample ID</u>	<u>Method</u>
<a href="#">L1790474-01</a>	<a href="#">APW-03-WG-20241016</a>	7470A, 6020B, 6010D
<a href="#">L1790474-02</a>	<a href="#">APW-08-WG-20241016</a>	7470A, 6020B, 6010D
<a href="#">L1790474-03</a>	<a href="#">APW-07-WG-20241016</a>	7470A, 6020B, 6010D
<a href="#">L1790474-04</a>	<a href="#">APW-10S-WG-20241015</a>	7470A, 6020B, 6010D
<a href="#">L1790474-05</a>	<a href="#">APW-10D-WG-20241015</a>	7470A, 6020B, 6010D
<a href="#">L1790474-06</a>	<a href="#">APW-06S-WG-20241016</a>	7470A, 6020B, 6010D
<a href="#">L1790474-07</a>	<a href="#">APW-06D-WG-20241016</a>	7470A, 6020B, 6010D
<a href="#">L1790474-08</a>	<a href="#">APW-05R-WG-20241016</a>	7470A, 6010D, 6020B
<a href="#">L1790474-09</a>	<a href="#">APW-09-WG-20241017</a>	7470A, 6010D, 6020B
<a href="#">L1790474-10</a>	<a href="#">APW-02-WG-20241015</a>	7470A, 6010D, 6020B
<a href="#">L1790474-11</a>	<a href="#">APW-01R-WG-20241015</a>	7470A, 6010D, 6020B
<a href="#">L1790474-12</a>	<a href="#">APW-04-WG-20241017</a>	7470A, 6010D, 6020B
<a href="#">L1790474-14</a>	<a href="#">DUP-01-WG-20241016</a>	7470A, 6010D, 6020B
<a href="#">L1790474-15</a>	<a href="#">DUP-02-WG-20241017</a>	7470A, 6010D, 6020B
<a href="#">R4141842-3</a>		6020B

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	587		10.0	1	10/19/2024 17:11	<a href="#">WG2385254</a>

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	10.5		1.00	1	10/21/2024 22:37	<a href="#">WG2385378</a>
Fluoride	ND		0.150	1	10/21/2024 22:37	<a href="#">WG2385378</a>
Sulfate	271		50.0	10	10/22/2024 03:05	<a href="#">WG2385378</a>

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.94	<u>T8</u>	1	10/18/2024 22:40	<a href="#">WG2385247</a>

Sample Narrative:

L1790474-01 WG2385247: 7.94 at 18.9C

Mercury by Method 7470A

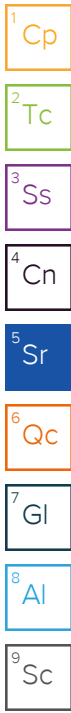
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/25/2024 18:04	<a href="#">WG2385483</a>
Mercury,Dissolved	ND		0.000200	1	10/22/2024 18:35	<a href="#">WG2385490</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	4.41		0.200	1	11/01/2024 14:07	<a href="#">WG2387810</a>
Boron,Dissolved	4.38		0.200	1	11/03/2024 15:11	<a href="#">WG2393512</a>
Calcium	123		1.00	1	11/01/2024 14:07	<a href="#">WG2387810</a>
Calcium,Dissolved	121		1.00	1	11/03/2024 15:11	<a href="#">WG2393512</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		0.00400	1	11/01/2024 14:52	<a href="#">WG2387926</a>
Antimony,Dissolved	ND		0.00400	1	11/01/2024 17:36	<a href="#">WG2387793</a>
Arsenic	ND		0.00200	1	11/01/2024 14:52	<a href="#">WG2387926</a>
Arsenic,Dissolved	ND		0.00200	1	11/01/2024 17:36	<a href="#">WG2387793</a>
Barium	0.108		0.00200	1	11/01/2024 14:52	<a href="#">WG2387926</a>
Barium,Dissolved	0.103		0.00200	1	11/01/2024 17:36	<a href="#">WG2387793</a>
Beryllium	ND		0.00200	1	11/01/2024 14:52	<a href="#">WG2387926</a>
Beryllium,Dissolved	ND		0.00200	1	11/01/2024 17:36	<a href="#">WG2387793</a>
Cadmium	ND		0.00100	1	11/01/2024 14:52	<a href="#">WG2387926</a>
Cadmium,Dissolved	ND		0.00100	1	11/01/2024 17:36	<a href="#">WG2387793</a>
Chromium	ND		0.00200	1	11/01/2024 14:52	<a href="#">WG2387926</a>
Chromium,Dissolved	ND		0.00200	1	11/01/2024 17:36	<a href="#">WG2387793</a>
Cobalt	ND		0.00200	1	11/01/2024 14:52	<a href="#">WG2387926</a>
Cobalt,Dissolved	ND		0.00200	1	11/01/2024 17:36	<a href="#">WG2387793</a>
Lead	ND		0.00200	1	11/01/2024 14:52	<a href="#">WG2387926</a>
Lead,Dissolved	ND		0.00200	1	11/01/2024 17:36	<a href="#">WG2387793</a>
Lithium	0.0328		0.00200	1	11/01/2024 14:52	<a href="#">WG2387926</a>
Lithium,Dissolved	0.0357		0.00200	1	11/01/2024 17:36	<a href="#">WG2387793</a>
Molybdenum	0.0608		0.00500	1	11/01/2024 14:52	<a href="#">WG2387926</a>



Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.0626		0.00500	1	11/01/2024 17:36	<a href="#">WG2387793</a>
Selenium	ND		0.00200	1	11/01/2024 14:52	<a href="#">WG2387926</a>
Selenium,Dissolved	ND		0.00200	1	11/01/2024 17:36	<a href="#">WG2387793</a>
Thallium	ND		0.00200	1	11/01/2024 14:52	<a href="#">WG2387926</a>
Thallium,Dissolved	ND		0.00200	1	11/01/2024 17:36	<a href="#">WG2387793</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	403		10.0	1	10/19/2024 17:11	<a href="#">WG2385254</a>

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	8.61		1.00	1	10/21/2024 22:50	<a href="#">WG2385378</a>
Fluoride	ND		0.150	1	10/21/2024 22:50	<a href="#">WG2385378</a>
Sulfate	29.4		5.00	1	10/21/2024 22:50	<a href="#">WG2385378</a>

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.33	<u>T8</u>	1	10/18/2024 22:40	<a href="#">WG2385247</a>

Sample Narrative:

L1790474-02 WG2385247: 7.33 at 19.1C

Mercury by Method 7470A

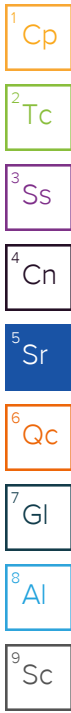
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/25/2024 18:37	<a href="#">WG2385483</a>
Mercury,Dissolved	ND		0.000200	1	10/22/2024 18:37	<a href="#">WG2385490</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		0.200	1	11/01/2024 14:12	<a href="#">WG2387810</a>
Boron,Dissolved	ND		0.200	1	11/03/2024 15:13	<a href="#">WG2393512</a>
Calcium	102		1.00	1	11/01/2024 14:12	<a href="#">WG2387810</a>
Calcium,Dissolved	99.9		1.00	1	11/03/2024 15:13	<a href="#">WG2393512</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		0.00400	1	11/01/2024 15:42	<a href="#">WG2387926</a>
Antimony,Dissolved	ND		0.00400	1	11/01/2024 17:39	<a href="#">WG2387793</a>
Arsenic	ND		0.00200	1	11/01/2024 15:42	<a href="#">WG2387926</a>
Arsenic,Dissolved	ND		0.00200	1	11/01/2024 17:39	<a href="#">WG2387793</a>
Barium	0.192		0.00200	1	11/01/2024 15:42	<a href="#">WG2387926</a>
Barium,Dissolved	0.188		0.00200	1	11/01/2024 17:39	<a href="#">WG2387793</a>
Beryllium	ND		0.00200	1	11/01/2024 15:42	<a href="#">WG2387926</a>
Beryllium,Dissolved	ND		0.00200	1	11/01/2024 17:39	<a href="#">WG2387793</a>
Cadmium	ND		0.00100	1	11/01/2024 15:42	<a href="#">WG2387926</a>
Cadmium,Dissolved	ND		0.00100	1	11/01/2024 17:39	<a href="#">WG2387793</a>
Chromium	0.00738		0.00200	1	11/01/2024 15:42	<a href="#">WG2387926</a>
Chromium,Dissolved	ND		0.00200	1	11/01/2024 17:39	<a href="#">WG2387793</a>
Cobalt	ND		0.00200	1	11/01/2024 15:42	<a href="#">WG2387926</a>
Cobalt,Dissolved	ND		0.00200	1	11/01/2024 17:39	<a href="#">WG2387793</a>
Lead	ND		0.00200	1	11/01/2024 15:42	<a href="#">WG2387926</a>
Lead,Dissolved	ND		0.00200	1	11/01/2024 17:39	<a href="#">WG2387793</a>
Lithium	0.0187		0.00200	1	11/01/2024 15:42	<a href="#">WG2387926</a>
Lithium,Dissolved	0.0196		0.00200	1	11/01/2024 17:39	<a href="#">WG2387793</a>
Molybdenum	ND		0.00500	1	11/01/2024 15:42	<a href="#">WG2387926</a>



Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	ND		0.00500	1	11/01/2024 17:39	<a href="#">WG2387793</a>
Selenium	0.0187		0.00200	1	11/01/2024 15:42	<a href="#">WG2387926</a>
Selenium,Dissolved	0.0193		0.00200	1	11/01/2024 17:39	<a href="#">WG2387793</a>
Thallium	ND		0.00200	1	11/01/2024 15:42	<a href="#">WG2387926</a>
Thallium,Dissolved	ND		0.00200	1	11/01/2024 17:39	<a href="#">WG2387793</a>

- 1  
Cp
- 2  
Tc
- 3  
Ss
- 4  
Cn
- 5  
Sr
- 6  
Qc
- 7  
Gl
- 8  
Al
- 9  
Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	741		13.3	1	10/19/2024 17:11	<a href="#">WG2385254</a>

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	9.63		1.00	1	10/21/2024 23:03	<a href="#">WG2385378</a>
Fluoride	ND		0.150	1	10/21/2024 23:03	<a href="#">WG2385378</a>
Sulfate	46.3		5.00	1	10/21/2024 23:03	<a href="#">WG2385378</a>

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	6.93	<u>T8</u>	1	10/18/2024 22:40	<a href="#">WG2385247</a>

Sample Narrative:

L1790474-03 WG2385247: 6.93 at 19C

Mercury by Method 7470A

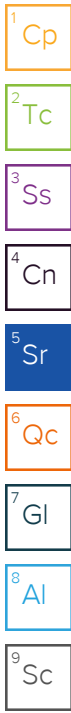
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/25/2024 18:39	<a href="#">WG2385483</a>
Mercury,Dissolved	ND		0.000200	1	10/22/2024 18:40	<a href="#">WG2385490</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	0.228		0.200	1	11/01/2024 14:13	<a href="#">WG2387810</a>
Boron,Dissolved	0.225		0.200	1	11/03/2024 15:18	<a href="#">WG2393512</a>
Calcium	219		1.00	1	11/01/2024 14:13	<a href="#">WG2387810</a>
Calcium,Dissolved	171		1.00	1	11/03/2024 15:18	<a href="#">WG2393512</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		0.00400	1	11/01/2024 15:45	<a href="#">WG2387926</a>
Antimony,Dissolved	ND		0.00400	1	11/01/2024 17:42	<a href="#">WG2387793</a>
Arsenic	ND		0.00200	1	11/01/2024 15:45	<a href="#">WG2387926</a>
Arsenic,Dissolved	ND		0.00200	1	11/01/2024 17:42	<a href="#">WG2387793</a>
Barium	0.351		0.00200	1	11/01/2024 15:45	<a href="#">WG2387926</a>
Barium,Dissolved	0.265		0.00200	1	11/01/2024 17:42	<a href="#">WG2387793</a>
Beryllium	ND		0.00200	1	11/01/2024 15:45	<a href="#">WG2387926</a>
Beryllium,Dissolved	ND		0.00200	1	11/01/2024 17:42	<a href="#">WG2387793</a>
Cadmium	ND		0.00100	1	11/01/2024 15:45	<a href="#">WG2387926</a>
Cadmium,Dissolved	ND		0.00100	1	11/01/2024 17:42	<a href="#">WG2387793</a>
Chromium	ND		0.00200	1	11/01/2024 15:45	<a href="#">WG2387926</a>
Chromium,Dissolved	ND		0.00200	1	11/01/2024 17:42	<a href="#">WG2387793</a>
Cobalt	ND		0.00200	1	11/01/2024 15:45	<a href="#">WG2387926</a>
Cobalt,Dissolved	ND		0.00200	1	11/01/2024 17:42	<a href="#">WG2387793</a>
Lead	ND		0.00200	1	11/01/2024 15:45	<a href="#">WG2387926</a>
Lead,Dissolved	ND		0.00200	1	11/01/2024 17:42	<a href="#">WG2387793</a>
Lithium	0.0169		0.00200	1	11/01/2024 15:45	<a href="#">WG2387926</a>
Lithium,Dissolved	0.0173		0.00200	1	11/01/2024 17:42	<a href="#">WG2387793</a>
Molybdenum	ND		0.00500	1	11/01/2024 15:45	<a href="#">WG2387926</a>



Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	ND		0.00500	1	11/01/2024 17:42	<a href="#">WG2387793</a>
Selenium	ND		0.00200	1	11/01/2024 15:45	<a href="#">WG2387926</a>
Selenium,Dissolved	ND		0.00200	1	11/01/2024 17:42	<a href="#">WG2387793</a>
Thallium	ND		0.00200	1	11/01/2024 15:45	<a href="#">WG2387926</a>
Thallium,Dissolved	ND		0.00200	1	11/01/2024 17:42	<a href="#">WG2387793</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	758		20.0	1	10/19/2024 17:11	<a href="#">WG2385254</a>

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	13.2		1.00	1	10/21/2024 23:16	<a href="#">WG2385378</a>
Fluoride	ND		0.150	1	10/21/2024 23:16	<a href="#">WG2385378</a>
Sulfate	ND		5.00	1	10/21/2024 23:16	<a href="#">WG2385378</a>

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.16	<u>T8</u>	1	10/18/2024 22:40	<a href="#">WG2385247</a>

Sample Narrative:

L1790474-04 WG2385247: 7.16 at 19.3C

Mercury by Method 7470A

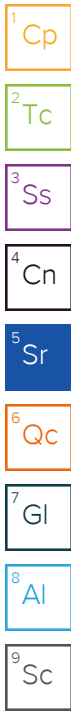
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/25/2024 18:41	<a href="#">WG2385483</a>
Mercury,Dissolved	ND		0.000200	1	10/22/2024 18:42	<a href="#">WG2385490</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	0.567		0.200	1	11/01/2024 14:15	<a href="#">WG2387810</a>
Boron,Dissolved	0.562		0.200	1	11/03/2024 15:19	<a href="#">WG2393512</a>
Calcium	162		1.00	1	11/01/2024 14:15	<a href="#">WG2387810</a>
Calcium,Dissolved	152		1.00	1	11/03/2024 15:19	<a href="#">WG2393512</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		0.00400	1	11/01/2024 15:48	<a href="#">WG2387926</a>
Antimony,Dissolved	ND		0.00400	1	11/01/2024 18:09	<a href="#">WG2387793</a>
Arsenic	0.190		0.00200	1	11/01/2024 15:48	<a href="#">WG2387926</a>
Arsenic,Dissolved	0.0557		0.00200	1	11/01/2024 18:09	<a href="#">WG2387793</a>
Barium	0.474		0.0100	5	11/01/2024 16:26	<a href="#">WG2387926</a>
Barium,Dissolved	0.305		0.00200	1	11/01/2024 18:09	<a href="#">WG2387793</a>
Beryllium	ND		0.00200	1	11/01/2024 15:48	<a href="#">WG2387926</a>
Beryllium,Dissolved	ND		0.00200	1	11/01/2024 18:09	<a href="#">WG2387793</a>
Cadmium	ND		0.00100	1	11/01/2024 15:48	<a href="#">WG2387926</a>
Cadmium,Dissolved	ND		0.00100	1	11/01/2024 18:09	<a href="#">WG2387793</a>
Chromium	ND		0.00200	1	11/01/2024 15:48	<a href="#">WG2387926</a>
Chromium,Dissolved	ND		0.00200	1	11/01/2024 18:09	<a href="#">WG2387793</a>
Cobalt	ND		0.00200	1	11/01/2024 15:48	<a href="#">WG2387926</a>
Cobalt,Dissolved	ND		0.00200	1	11/01/2024 18:09	<a href="#">WG2387793</a>
Lead	ND		0.00200	1	11/01/2024 15:48	<a href="#">WG2387926</a>
Lead,Dissolved	ND		0.00200	1	11/01/2024 18:09	<a href="#">WG2387793</a>
Lithium	0.0297		0.00200	1	11/01/2024 15:48	<a href="#">WG2387926</a>
Lithium,Dissolved	0.0296		0.00200	1	11/01/2024 18:09	<a href="#">WG2387793</a>
Molybdenum	ND		0.00500	1	11/01/2024 15:48	<a href="#">WG2387926</a>



Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	ND		0.00500	1	11/01/2024 18:09	<a href="#">WG2387793</a>
Selenium	ND		0.00200	1	11/01/2024 15:48	<a href="#">WG2387926</a>
Selenium,Dissolved	ND		0.00200	1	11/01/2024 18:09	<a href="#">WG2387793</a>
Thallium	ND		0.00200	1	11/01/2024 15:48	<a href="#">WG2387926</a>
Thallium,Dissolved	ND		0.00200	1	11/01/2024 18:09	<a href="#">WG2387793</a>

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	447		10.0	1	10/19/2024 17:11	<a href="#">WG2385254</a>

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	15.0		1.00	1	10/21/2024 23:54	<a href="#">WG2385378</a>
Fluoride	ND		0.150	1	10/21/2024 23:54	<a href="#">WG2385378</a>
Sulfate	32.9		5.00	1	10/21/2024 23:54	<a href="#">WG2385378</a>

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.31	<u>T8</u>	1	10/18/2024 22:40	<a href="#">WG2385247</a>

Sample Narrative:

L1790474-05 WG2385247: 7.31 at 19.3C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/25/2024 19:04	<a href="#">WG2385483</a>
Mercury,Dissolved	ND		0.000200	1	10/22/2024 18:49	<a href="#">WG2385490</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		0.200	1	11/01/2024 14:17	<a href="#">WG2387810</a>
Boron,Dissolved	ND		0.200	1	11/03/2024 15:21	<a href="#">WG2393512</a>
Calcium	129		1.00	1	11/01/2024 14:17	<a href="#">WG2387810</a>
Calcium,Dissolved	113		1.00	1	11/03/2024 15:21	<a href="#">WG2393512</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		0.00400	1	11/01/2024 15:51	<a href="#">WG2387926</a>
Antimony,Dissolved	ND		0.00400	1	11/01/2024 17:48	<a href="#">WG2387793</a>
Arsenic	ND		0.00200	1	11/01/2024 15:51	<a href="#">WG2387926</a>
Arsenic,Dissolved	ND		0.00200	1	11/01/2024 17:48	<a href="#">WG2387793</a>
Barium	0.342		0.00200	1	11/01/2024 15:51	<a href="#">WG2387926</a>
Barium,Dissolved	0.334		0.00200	1	11/01/2024 17:48	<a href="#">WG2387793</a>
Beryllium	ND		0.00200	1	11/01/2024 15:51	<a href="#">WG2387926</a>
Beryllium,Dissolved	ND		0.00200	1	11/01/2024 17:48	<a href="#">WG2387793</a>
Cadmium	ND		0.00100	1	11/01/2024 15:51	<a href="#">WG2387926</a>
Cadmium,Dissolved	ND		0.00100	1	11/01/2024 17:48	<a href="#">WG2387793</a>
Chromium	ND		0.00200	1	11/01/2024 15:51	<a href="#">WG2387926</a>
Chromium,Dissolved	ND		0.00200	1	11/01/2024 17:48	<a href="#">WG2387793</a>
Cobalt	0.00242		0.00200	1	11/01/2024 15:51	<a href="#">WG2387926</a>
Cobalt,Dissolved	ND		0.00200	1	11/01/2024 17:48	<a href="#">WG2387793</a>
Lead	ND		0.00200	1	11/01/2024 15:51	<a href="#">WG2387926</a>
Lead,Dissolved	ND		0.00200	1	11/01/2024 17:48	<a href="#">WG2387793</a>
Lithium	0.0147		0.00200	1	11/01/2024 15:51	<a href="#">WG2387926</a>
Lithium,Dissolved	0.0156		0.00200	1	11/01/2024 17:48	<a href="#">WG2387793</a>
Molybdenum	ND		0.00500	1	11/01/2024 15:51	<a href="#">WG2387926</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	ND		0.00500	1	11/01/2024 17:48	<a href="#">WG2387793</a>
Selenium	ND		0.00200	1	11/01/2024 15:51	<a href="#">WG2387926</a>
Selenium,Dissolved	ND		0.00200	1	11/01/2024 17:48	<a href="#">WG2387793</a>
Thallium	ND		0.00200	1	11/01/2024 15:51	<a href="#">WG2387926</a>
Thallium,Dissolved	ND		0.00200	1	11/01/2024 17:48	<a href="#">WG2387793</a>

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	599		10.0	1	10/19/2024 17:11	<a href="#">WG2385254</a>

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	19.4		1.00	1	10/22/2024 00:06	<a href="#">WG2385378</a>
Fluoride	ND		0.150	1	10/22/2024 00:06	<a href="#">WG2385378</a>
Sulfate	148		5.00	1	10/22/2024 00:06	<a href="#">WG2385378</a>

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.27	<u>T8</u>	1	10/18/2024 22:40	<a href="#">WG2385247</a>

Sample Narrative:

L1790474-06 WG2385247: 7.27 at 19.2C

Mercury by Method 7470A

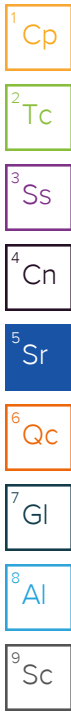
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/25/2024 19:07	<a href="#">WG2385483</a>
Mercury,Dissolved	ND		0.000200	1	10/22/2024 18:52	<a href="#">WG2385490</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	4.58		0.200	1	11/01/2024 13:55	<a href="#">WG2387810</a>
Boron,Dissolved	4.60		0.200	1	11/03/2024 15:22	<a href="#">WG2393512</a>
Calcium	126		1.00	1	11/01/2024 13:55	<a href="#">WG2387810</a>
Calcium,Dissolved	112		1.00	1	11/03/2024 15:22	<a href="#">WG2393512</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		0.00400	1	11/01/2024 15:54	<a href="#">WG2387926</a>
Antimony,Dissolved	ND		0.00400	1	11/01/2024 17:51	<a href="#">WG2387793</a>
Arsenic	ND		0.00200	1	11/01/2024 15:54	<a href="#">WG2387926</a>
Arsenic,Dissolved	ND		0.00200	1	11/01/2024 17:51	<a href="#">WG2387793</a>
Barium	0.233		0.00200	1	11/01/2024 15:54	<a href="#">WG2387926</a>
Barium,Dissolved	0.162		0.00200	1	11/01/2024 17:51	<a href="#">WG2387793</a>
Beryllium	ND		0.00200	1	11/01/2024 15:54	<a href="#">WG2387926</a>
Beryllium,Dissolved	ND		0.00200	1	11/01/2024 17:51	<a href="#">WG2387793</a>
Cadmium	ND		0.00100	1	11/01/2024 15:54	<a href="#">WG2387926</a>
Cadmium,Dissolved	ND		0.00100	1	11/01/2024 17:51	<a href="#">WG2387793</a>
Chromium	ND		0.00200	1	11/01/2024 15:54	<a href="#">WG2387926</a>
Chromium,Dissolved	ND		0.00200	1	11/01/2024 17:51	<a href="#">WG2387793</a>
Cobalt	ND		0.00200	1	11/01/2024 15:54	<a href="#">WG2387926</a>
Cobalt,Dissolved	ND		0.00200	1	11/01/2024 17:51	<a href="#">WG2387793</a>
Lead	ND		0.00200	1	11/01/2024 15:54	<a href="#">WG2387926</a>
Lead,Dissolved	ND		0.00200	1	11/01/2024 17:51	<a href="#">WG2387793</a>
Lithium	0.0370		0.00200	1	11/01/2024 15:54	<a href="#">WG2387926</a>
Lithium,Dissolved	0.0393		0.00200	1	11/01/2024 17:51	<a href="#">WG2387793</a>
Molybdenum	0.187		0.00500	1	11/01/2024 15:54	<a href="#">WG2387926</a>



Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.189		0.00500	1	11/01/2024 17:51	<a href="#">WG2387793</a>
Selenium	ND		0.00200	1	11/01/2024 15:54	<a href="#">WG2387926</a>
Selenium,Dissolved	ND		0.00200	1	11/01/2024 17:51	<a href="#">WG2387793</a>
Thallium	ND		0.00200	1	11/01/2024 15:54	<a href="#">WG2387926</a>
Thallium,Dissolved	ND		0.00200	1	11/01/2024 17:51	<a href="#">WG2387793</a>

- <sup>1</sup>Cp
- <sup>2</sup>Tc
- <sup>3</sup>Ss
- <sup>4</sup>Cn
- <sup>5</sup>Sr
- <sup>6</sup>Qc
- <sup>7</sup>Gl
- <sup>8</sup>Al
- <sup>9</sup>Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	568		10.0	1	10/19/2024 17:11	<a href="#">WG2385254</a>

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	14.7		1.00	1	10/22/2024 00:19	<a href="#">WG2385378</a>
Fluoride	ND		0.150	1	10/22/2024 00:19	<a href="#">WG2385378</a>
Sulfate	214		50.0	10	10/22/2024 03:55	<a href="#">WG2385378</a>

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.42	<u>T8</u>	1	10/18/2024 22:40	<a href="#">WG2385247</a>

Sample Narrative:

L1790474-07 WG2385247: 7.42 at 19.2C

Mercury by Method 7470A

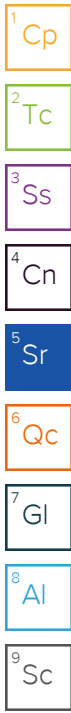
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/25/2024 19:09	<a href="#">WG2385483</a>
Mercury,Dissolved	ND		0.000200	1	10/22/2024 18:54	<a href="#">WG2385490</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	3.99		0.200	1	11/01/2024 14:18	<a href="#">WG2387810</a>
Boron,Dissolved	4.03		0.200	1	11/03/2024 15:24	<a href="#">WG2393512</a>
Calcium	120		1.00	1	11/01/2024 14:18	<a href="#">WG2387810</a>
Calcium,Dissolved	118		1.00	1	11/03/2024 15:24	<a href="#">WG2393512</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		0.00400	1	11/01/2024 16:08	<a href="#">WG2387926</a>
Antimony,Dissolved	ND		0.00400	1	11/01/2024 17:54	<a href="#">WG2387793</a>
Arsenic	0.0103		0.00200	1	11/01/2024 16:08	<a href="#">WG2387926</a>
Arsenic,Dissolved	0.00485		0.00200	1	11/01/2024 17:54	<a href="#">WG2387793</a>
Barium	0.119		0.00200	1	11/01/2024 16:08	<a href="#">WG2387926</a>
Barium,Dissolved	0.113		0.00200	1	11/01/2024 17:54	<a href="#">WG2387793</a>
Beryllium	ND		0.00200	1	11/01/2024 16:08	<a href="#">WG2387926</a>
Beryllium,Dissolved	ND		0.00200	1	11/01/2024 17:54	<a href="#">WG2387793</a>
Cadmium	ND		0.00100	1	11/01/2024 16:08	<a href="#">WG2387926</a>
Cadmium,Dissolved	ND		0.00100	1	11/01/2024 17:54	<a href="#">WG2387793</a>
Chromium	ND		0.00200	1	11/01/2024 16:08	<a href="#">WG2387926</a>
Chromium,Dissolved	ND		0.00200	1	11/01/2024 17:54	<a href="#">WG2387793</a>
Cobalt	ND		0.00200	1	11/01/2024 16:08	<a href="#">WG2387926</a>
Cobalt,Dissolved	ND		0.00200	1	11/01/2024 17:54	<a href="#">WG2387793</a>
Lead	ND		0.00200	1	11/01/2024 16:08	<a href="#">WG2387926</a>
Lead,Dissolved	ND		0.00200	1	11/01/2024 17:54	<a href="#">WG2387793</a>
Lithium	0.0168		0.00200	1	11/01/2024 16:08	<a href="#">WG2387926</a>
Lithium,Dissolved	0.0173		0.00200	1	11/01/2024 17:54	<a href="#">WG2387793</a>
Molybdenum	0.0527		0.00500	1	11/01/2024 16:08	<a href="#">WG2387926</a>



Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.0542		0.00500	1	11/01/2024 17:54	<a href="#">WG2387793</a>
Selenium	ND		0.00200	1	11/01/2024 16:08	<a href="#">WG2387926</a>
Selenium,Dissolved	ND		0.00200	1	11/01/2024 17:54	<a href="#">WG2387793</a>
Thallium	ND		0.00200	1	11/01/2024 16:08	<a href="#">WG2387926</a>
Thallium,Dissolved	ND		0.00200	1	11/01/2024 17:54	<a href="#">WG2387793</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	560		10.0	1	10/19/2024 17:11	<a href="#">WG2385254</a>

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	18.9		1.00	1	10/22/2024 00:32	<a href="#">WG2385378</a>
Fluoride	0.199		0.150	1	10/22/2024 00:32	<a href="#">WG2385378</a>
Sulfate	192		5.00	1	10/22/2024 00:32	<a href="#">WG2385378</a>

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.53	<u>T8</u>	1	10/18/2024 22:40	<a href="#">WG2385247</a>

Sample Narrative:

L1790474-08 WG2385247: 7.53 at 19.1C

Mercury by Method 7470A

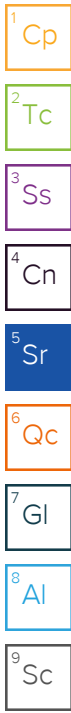
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/25/2024 19:12	<a href="#">WG2385483</a>
Mercury,Dissolved	ND		0.000200	1	10/22/2024 18:57	<a href="#">WG2385490</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	6.19		0.200	1	11/01/2024 14:20	<a href="#">WG2387810</a>
Boron,Dissolved	6.29		0.200	1	10/31/2024 19:35	<a href="#">WG2387787</a>
Calcium	111		1.00	1	11/01/2024 14:20	<a href="#">WG2387810</a>
Calcium,Dissolved	111		1.00	1	10/31/2024 19:35	<a href="#">WG2387787</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		0.00400	1	11/01/2024 16:11	<a href="#">WG2387926</a>
Antimony,Dissolved	ND		0.00400	1	11/01/2024 18:12	<a href="#">WG2387793</a>
Arsenic	0.00236		0.00200	1	11/01/2024 16:11	<a href="#">WG2387926</a>
Arsenic,Dissolved	ND		0.00200	1	11/01/2024 18:12	<a href="#">WG2387793</a>
Barium	0.158		0.00200	1	11/01/2024 16:11	<a href="#">WG2387926</a>
Barium,Dissolved	0.116		0.00200	1	11/01/2024 18:12	<a href="#">WG2387793</a>
Beryllium	ND		0.00200	1	11/01/2024 16:11	<a href="#">WG2387926</a>
Beryllium,Dissolved	ND		0.00200	1	11/01/2024 18:12	<a href="#">WG2387793</a>
Cadmium	ND		0.00100	1	11/01/2024 16:11	<a href="#">WG2387926</a>
Cadmium,Dissolved	ND		0.00100	1	11/01/2024 18:12	<a href="#">WG2387793</a>
Chromium	ND		0.00200	1	11/01/2024 16:11	<a href="#">WG2387926</a>
Chromium,Dissolved	ND		0.00200	1	11/01/2024 18:12	<a href="#">WG2387793</a>
Cobalt	ND		0.00200	1	11/01/2024 16:11	<a href="#">WG2387926</a>
Cobalt,Dissolved	ND		0.00200	1	11/01/2024 18:12	<a href="#">WG2387793</a>
Lead	0.00237		0.00200	1	11/01/2024 16:11	<a href="#">WG2387926</a>
Lead,Dissolved	ND		0.00200	1	11/01/2024 18:12	<a href="#">WG2387793</a>
Lithium	0.0314		0.00200	1	11/01/2024 16:11	<a href="#">WG2387926</a>
Lithium,Dissolved	0.0316		0.00200	1	11/01/2024 18:12	<a href="#">WG2387793</a>
Molybdenum	0.164		0.00500	1	11/01/2024 16:11	<a href="#">WG2387926</a>



Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.168		0.00500	1	11/01/2024 18:12	<a href="#">WG2387793</a>
Selenium	ND		0.00200	1	11/01/2024 16:11	<a href="#">WG2387926</a>
Selenium,Dissolved	ND		0.00200	1	11/01/2024 18:12	<a href="#">WG2387793</a>
Thallium	ND		0.00200	1	11/01/2024 16:11	<a href="#">WG2387926</a>
Thallium,Dissolved	ND		0.00200	1	11/01/2024 18:12	<a href="#">WG2387793</a>

- 1  
Cp
- 2  
Tc
- 3  
Ss
- 4  
Cn
- 5  
Sr
- 6  
Qc
- 7  
Gl
- 8  
Al
- 9  
Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	370		10.0	1	10/19/2024 17:11	<a href="#">WG2385254</a>

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	10.7		1.00	1	10/22/2024 00:45	<a href="#">WG2385378</a>
Fluoride	ND		0.150	1	10/22/2024 00:45	<a href="#">WG2385378</a>
Sulfate	40.8		5.00	1	10/22/2024 00:45	<a href="#">WG2385378</a>

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.51	<u>T8</u>	1	10/18/2024 22:40	<a href="#">WG2385247</a>

Sample Narrative:

L1790474-09 WG2385247: 7.51 at 19.1C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/25/2024 19:14	<a href="#">WG2385483</a>
Mercury,Dissolved	ND		0.000200	1	10/22/2024 18:59	<a href="#">WG2385490</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	0.471		0.200	1	11/01/2024 14:22	<a href="#">WG2387810</a>
Boron,Dissolved	0.466		0.200	1	10/31/2024 19:37	<a href="#">WG2387787</a>
Calcium	88.4		1.00	1	11/01/2024 14:22	<a href="#">WG2387810</a>
Calcium,Dissolved	89.4		1.00	1	10/31/2024 19:37	<a href="#">WG2387787</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		0.00400	1	11/01/2024 16:14	<a href="#">WG2387926</a>
Antimony,Dissolved	ND		0.00400	1	11/01/2024 18:15	<a href="#">WG2387793</a>
Arsenic	0.00219		0.00200	1	11/01/2024 16:14	<a href="#">WG2387926</a>
Arsenic,Dissolved	0.00210		0.00200	1	11/01/2024 18:15	<a href="#">WG2387793</a>
Barium	0.116		0.00200	1	11/01/2024 16:14	<a href="#">WG2387926</a>
Barium,Dissolved	0.111		0.00200	1	11/01/2024 18:15	<a href="#">WG2387793</a>
Beryllium	ND		0.00200	1	11/01/2024 16:14	<a href="#">WG2387926</a>
Beryllium,Dissolved	ND		0.00200	1	11/01/2024 18:15	<a href="#">WG2387793</a>
Cadmium	ND		0.00100	1	11/01/2024 16:14	<a href="#">WG2387926</a>
Cadmium,Dissolved	ND		0.00100	1	11/01/2024 18:15	<a href="#">WG2387793</a>
Chromium	0.00338		0.00200	1	11/01/2024 16:14	<a href="#">WG2387926</a>
Chromium,Dissolved	ND		0.00200	1	11/01/2024 18:15	<a href="#">WG2387793</a>
Cobalt	ND		0.00200	1	11/01/2024 16:14	<a href="#">WG2387926</a>
Cobalt,Dissolved	ND		0.00200	1	11/01/2024 18:15	<a href="#">WG2387793</a>
Lead	ND		0.00200	1	11/01/2024 16:14	<a href="#">WG2387926</a>
Lead,Dissolved	ND		0.00200	1	11/01/2024 18:15	<a href="#">WG2387793</a>
Lithium	0.0160		0.00200	1	11/01/2024 16:14	<a href="#">WG2387926</a>
Lithium,Dissolved	0.0162		0.00200	1	11/01/2024 18:15	<a href="#">WG2387793</a>
Molybdenum	0.0196		0.00500	1	11/01/2024 16:14	<a href="#">WG2387926</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.0194		0.00500	1	11/01/2024 18:15	<a href="#">WG2387793</a>
Selenium	0.0182		0.00200	1	11/01/2024 16:14	<a href="#">WG2387926</a>
Selenium,Dissolved	0.0191		0.00200	1	11/01/2024 18:15	<a href="#">WG2387793</a>
Thallium	ND		0.00200	1	11/01/2024 16:14	<a href="#">WG2387926</a>
Thallium,Dissolved	ND		0.00200	1	11/01/2024 18:15	<a href="#">WG2387793</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	816		13.3	1	10/19/2024 17:11	<a href="#">WG2385254</a>

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	ND		10.0	10	10/22/2024 00:57	<a href="#">WG2385378</a>
Fluoride	ND		1.50	10	10/22/2024 00:57	<a href="#">WG2385378</a>
Sulfate	385		50.0	10	10/22/2024 00:57	<a href="#">WG2385378</a>

Sample Narrative:

L1790474-10 WG2385378: Dilution due to matrix impact on instrumentation at lower dilution

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.20	T8	1	10/18/2024 22:40	<a href="#">WG2385247</a>

Sample Narrative:

L1790474-10 WG2385247: 7.2 at 19.1C

Mercury by Method 7470A

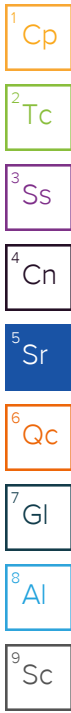
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/25/2024 19:16	<a href="#">WG2385483</a>
Mercury,Dissolved	ND		0.000200	1	10/24/2024 15:59	<a href="#">WG2385970</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	8.09		0.200	1	11/01/2024 14:23	<a href="#">WG2387810</a>
Boron,Dissolved	8.21		0.200	1	10/31/2024 19:38	<a href="#">WG2387787</a>
Calcium	170		1.00	1	11/01/2024 14:23	<a href="#">WG2387810</a>
Calcium,Dissolved	155		1.00	1	10/31/2024 19:38	<a href="#">WG2387787</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		0.00400	1	11/01/2024 16:17	<a href="#">WG2387926</a>
Antimony,Dissolved	ND		0.00400	1	11/01/2024 18:19	<a href="#">WG2387793</a>
Arsenic	0.0267		0.00200	1	11/01/2024 16:17	<a href="#">WG2387926</a>
Arsenic,Dissolved	0.00280		0.00200	1	11/01/2024 18:19	<a href="#">WG2387793</a>
Barium	0.173		0.00200	1	11/01/2024 16:17	<a href="#">WG2387926</a>
Barium,Dissolved	0.141		0.00200	1	11/01/2024 18:19	<a href="#">WG2387793</a>
Beryllium	ND		0.00200	1	11/01/2024 16:17	<a href="#">WG2387926</a>
Beryllium,Dissolved	ND		0.00200	1	11/01/2024 18:19	<a href="#">WG2387793</a>
Cadmium	ND		0.00100	1	11/01/2024 16:17	<a href="#">WG2387926</a>
Cadmium,Dissolved	ND		0.00100	1	11/01/2024 18:19	<a href="#">WG2387793</a>
Chromium	0.0191		0.00200	1	11/01/2024 16:17	<a href="#">WG2387926</a>
Chromium,Dissolved	ND		0.00200	1	11/01/2024 18:19	<a href="#">WG2387793</a>
Cobalt	0.00570		0.00200	1	11/01/2024 16:17	<a href="#">WG2387926</a>
Cobalt,Dissolved	ND		0.00200	1	11/01/2024 18:19	<a href="#">WG2387793</a>
Lead	0.0176		0.00200	1	11/01/2024 16:17	<a href="#">WG2387926</a>
Lead,Dissolved	ND		0.00200	1	11/01/2024 18:19	<a href="#">WG2387793</a>



Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Lithium	0.0480		0.00200	1	11/01/2024 16:17	<a href="#">WG2387926</a>
Lithium,Dissolved	0.0444		0.00200	1	11/01/2024 18:19	<a href="#">WG2387793</a>
Molybdenum	0.129		0.00500	1	11/01/2024 16:17	<a href="#">WG2387926</a>
Molybdenum,Dissolved	0.163		0.00500	1	11/01/2024 18:19	<a href="#">WG2387793</a>
Selenium	ND		0.00200	1	11/01/2024 16:17	<a href="#">WG2387926</a>
Selenium,Dissolved	ND		0.00200	1	11/01/2024 18:19	<a href="#">WG2387793</a>
Thallium	ND		0.00200	1	11/01/2024 16:17	<a href="#">WG2387926</a>
Thallium,Dissolved	ND		0.00200	1	11/01/2024 18:19	<a href="#">WG2387793</a>

- 1  
Cp
- 2  
Tc
- 3  
Ss
- 4  
Cn
- 5  
Sr
- 6  
Qc
- 7  
Gl
- 8  
Al
- 9  
Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	384		10.0	1	10/19/2024 17:11	<a href="#">WG2385254</a>

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	6.15		1.00	1	10/22/2024 01:10	<a href="#">WG2385378</a>
Fluoride	ND		0.150	1	10/22/2024 01:10	<a href="#">WG2385378</a>
Sulfate	58.5		5.00	1	10/22/2024 01:10	<a href="#">WG2385378</a>

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	6.85	<u>T8</u>	1	10/18/2024 22:40	<a href="#">WG2385247</a>

Sample Narrative:

L1790474-11 WG2385247: 6.85 at 19C

Mercury by Method 7470A

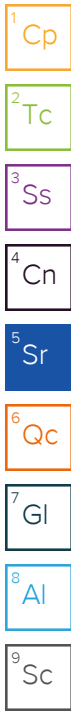
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/25/2024 19:19	<a href="#">WG2385483</a>
Mercury,Dissolved	ND		0.000200	1	10/24/2024 16:07	<a href="#">WG2385970</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	0.242		0.200	1	11/01/2024 14:25	<a href="#">WG2387810</a>
Boron,Dissolved	0.238		0.200	1	10/31/2024 19:40	<a href="#">WG2387787</a>
Calcium	89.5		1.00	1	11/01/2024 14:25	<a href="#">WG2387810</a>
Calcium,Dissolved	91.1		1.00	1	10/31/2024 19:40	<a href="#">WG2387787</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		0.00400	1	11/01/2024 16:20	<a href="#">WG2387926</a>
Antimony,Dissolved	ND		0.00400	1	11/01/2024 18:22	<a href="#">WG2387793</a>
Arsenic	ND		0.00200	1	11/01/2024 16:20	<a href="#">WG2387926</a>
Arsenic,Dissolved	ND		0.00200	1	11/01/2024 18:22	<a href="#">WG2387793</a>
Barium	0.165		0.00200	1	11/01/2024 16:20	<a href="#">WG2387926</a>
Barium,Dissolved	0.162		0.00200	1	11/01/2024 18:22	<a href="#">WG2387793</a>
Beryllium	ND		0.00200	1	11/01/2024 16:20	<a href="#">WG2387926</a>
Beryllium,Dissolved	ND		0.00200	1	11/01/2024 18:22	<a href="#">WG2387793</a>
Cadmium	ND		0.00100	1	11/01/2024 16:20	<a href="#">WG2387926</a>
Cadmium,Dissolved	ND		0.00100	1	11/01/2024 18:22	<a href="#">WG2387793</a>
Chromium	0.00206		0.00200	1	11/01/2024 16:20	<a href="#">WG2387926</a>
Chromium,Dissolved	ND		0.00200	1	11/01/2024 18:22	<a href="#">WG2387793</a>
Cobalt	ND		0.00200	1	11/01/2024 16:20	<a href="#">WG2387926</a>
Cobalt,Dissolved	ND		0.00200	1	11/01/2024 18:22	<a href="#">WG2387793</a>
Lead	ND		0.00200	1	11/01/2024 16:20	<a href="#">WG2387926</a>
Lead,Dissolved	ND		0.00200	1	11/01/2024 18:22	<a href="#">WG2387793</a>
Lithium	0.0152		0.00200	1	11/01/2024 16:20	<a href="#">WG2387926</a>
Lithium,Dissolved	0.0165		0.00200	1	11/01/2024 18:22	<a href="#">WG2387793</a>
Molybdenum	ND		0.00500	1	11/01/2024 16:20	<a href="#">WG2387926</a>



Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	ND		0.00500	1	11/01/2024 18:22	<a href="#">WG2387793</a>
Selenium	0.00327		0.00200	1	11/01/2024 16:20	<a href="#">WG2387926</a>
Selenium,Dissolved	0.00341		0.00200	1	11/01/2024 18:22	<a href="#">WG2387793</a>
Thallium	ND		0.00200	1	11/01/2024 16:20	<a href="#">WG2387926</a>
Thallium,Dissolved	ND		0.00200	1	11/01/2024 18:22	<a href="#">WG2387793</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	418		10.0	1	10/19/2024 17:11	<a href="#">WG2385254</a>

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	10.1		1.00	1	10/22/2024 01:23	<a href="#">WG2385378</a>
Fluoride	ND		0.150	1	10/22/2024 01:23	<a href="#">WG2385378</a>
Sulfate	65.6		5.00	1	10/22/2024 01:23	<a href="#">WG2385378</a>

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.46	<u>T8</u>	1	10/18/2024 22:40	<a href="#">WG2385247</a>

Sample Narrative:

L1790474-12 WG2385247: 7.46 at 19C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/25/2024 19:21	<a href="#">WG2385483</a>
Mercury,Dissolved	ND		0.000200	1	10/24/2024 16:10	<a href="#">WG2385970</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	1.07		0.200	1	11/01/2024 14:27	<a href="#">WG2387810</a>
Boron,Dissolved	1.10		0.200	1	10/31/2024 19:45	<a href="#">WG2387787</a>
Calcium	101		1.00	1	11/01/2024 14:27	<a href="#">WG2387810</a>
Calcium,Dissolved	102		1.00	1	10/31/2024 19:45	<a href="#">WG2387787</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		0.00400	1	11/01/2024 16:23	<a href="#">WG2387926</a>
Antimony,Dissolved	ND		0.00400	1	11/01/2024 18:25	<a href="#">WG2387793</a>
Arsenic	0.00219		0.00200	1	11/01/2024 16:23	<a href="#">WG2387926</a>
Arsenic,Dissolved	ND		0.00200	1	11/01/2024 18:25	<a href="#">WG2387793</a>
Barium	0.142		0.00200	1	11/01/2024 16:23	<a href="#">WG2387926</a>
Barium,Dissolved	0.126		0.00200	1	11/01/2024 18:25	<a href="#">WG2387793</a>
Beryllium	ND		0.00200	1	11/01/2024 16:23	<a href="#">WG2387926</a>
Beryllium,Dissolved	ND		0.00200	1	11/01/2024 18:25	<a href="#">WG2387793</a>
Cadmium	ND		0.00100	1	11/01/2024 16:23	<a href="#">WG2387926</a>
Cadmium,Dissolved	ND		0.00100	1	11/01/2024 18:25	<a href="#">WG2387793</a>
Chromium	0.00762		0.00200	1	11/01/2024 16:23	<a href="#">WG2387926</a>
Chromium,Dissolved	ND		0.00200	1	11/01/2024 18:25	<a href="#">WG2387793</a>
Cobalt	ND		0.00200	1	11/01/2024 16:23	<a href="#">WG2387926</a>
Cobalt,Dissolved	ND		0.00200	1	11/01/2024 18:25	<a href="#">WG2387793</a>
Lead	ND		0.00200	1	11/01/2024 16:23	<a href="#">WG2387926</a>
Lead,Dissolved	ND		0.00200	1	11/01/2024 18:25	<a href="#">WG2387793</a>
Lithium	0.0293		0.00200	1	11/01/2024 16:23	<a href="#">WG2387926</a>
Lithium,Dissolved	0.0314		0.00200	1	11/01/2024 18:25	<a href="#">WG2387793</a>
Molybdenum	0.0458		0.00500	1	11/01/2024 16:23	<a href="#">WG2387926</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.0502		0.00500	1	11/01/2024 18:25	<a href="#">WG2387793</a>
Selenium	0.0176		0.00200	1	11/01/2024 16:23	<a href="#">WG2387926</a>
Selenium,Dissolved	0.0172		0.00200	1	11/01/2024 18:25	<a href="#">WG2387793</a>
Thallium	ND		0.00200	1	11/01/2024 16:23	<a href="#">WG2387926</a>
Thallium,Dissolved	ND		0.00200	1	11/01/2024 18:25	<a href="#">WG2387793</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	322		10.0	1	10/19/2024 17:11	<a href="#">WG2385254</a>

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	8.81		1.00	1	10/22/2024 01:36	<a href="#">WG2385378</a>
Fluoride	ND		0.150	1	10/22/2024 01:36	<a href="#">WG2385378</a>
Sulfate	13.9		5.00	1	10/22/2024 01:36	<a href="#">WG2385378</a>

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.97	<u>T8</u>	1	10/18/2024 22:40	<a href="#">WG2385247</a>

Sample Narrative:

L1790474-13 WG2385247: 7.97 at 19C

Mercury by Method 7470A

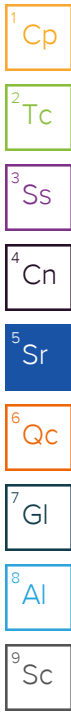
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/25/2024 19:24	<a href="#">WG2385483</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		0.200	1	11/01/2024 13:37	<a href="#">WG2387810</a>
Calcium	71.5		1.00	1	11/01/2024 13:37	<a href="#">WG2387810</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		0.00400	1	11/01/2024 15:14	<a href="#">WG2387929</a>
Arsenic	ND		0.00200	1	11/01/2024 15:14	<a href="#">WG2387929</a>
Barium	0.0182		0.00200	1	11/01/2024 15:14	<a href="#">WG2387929</a>
Beryllium	ND		0.00200	1	11/01/2024 15:14	<a href="#">WG2387929</a>
Cadmium	ND		0.00100	1	11/01/2024 15:14	<a href="#">WG2387929</a>
Chromium	ND		0.00200	1	11/01/2024 15:14	<a href="#">WG2387929</a>
Cobalt	ND		0.00200	1	11/01/2024 15:14	<a href="#">WG2387929</a>
Lead	ND		0.00200	1	11/01/2024 15:14	<a href="#">WG2387929</a>
Lithium	0.00219		0.00200	1	11/01/2024 15:14	<a href="#">WG2387929</a>
Molybdenum	ND		0.00500	1	11/01/2024 15:14	<a href="#">WG2387929</a>
Selenium	ND		0.00200	1	11/01/2024 15:14	<a href="#">WG2387929</a>
Thallium	ND		0.00200	1	11/01/2024 15:14	<a href="#">WG2387929</a>



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	543		10.0	1	10/19/2024 17:11	<a href="#">WG2385254</a>

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	18.7		1.00	1	10/22/2024 01:48	<a href="#">WG2385378</a>
Fluoride	0.177		0.150	1	10/22/2024 01:48	<a href="#">WG2385378</a>
Sulfate	191		5.00	1	10/22/2024 01:48	<a href="#">WG2385378</a>

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.54	<u>T8</u>	1	10/18/2024 22:40	<a href="#">WG2385247</a>

Sample Narrative:

L1790474-14 WG2385247: 7.54 at 19.1C

Mercury by Method 7470A

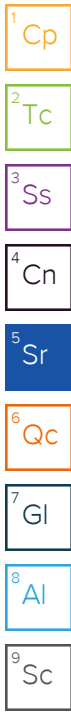
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/24/2024 18:48	<a href="#">WG2385487</a>
Mercury,Dissolved	ND		0.000200	1	10/24/2024 16:12	<a href="#">WG2385970</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	6.23		0.200	1	11/01/2024 13:38	<a href="#">WG2387810</a>
Boron,Dissolved	6.28		0.200	1	10/31/2024 19:47	<a href="#">WG2387787</a>
Calcium	112		1.00	1	11/01/2024 13:38	<a href="#">WG2387810</a>
Calcium,Dissolved	112		1.00	1	10/31/2024 19:47	<a href="#">WG2387787</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		0.00400	1	11/01/2024 15:27	<a href="#">WG2387929</a>
Antimony,Dissolved	ND		0.00400	1	11/04/2024 16:37	<a href="#">WG2387797</a>
Arsenic	0.00374		0.00200	1	11/01/2024 15:27	<a href="#">WG2387929</a>
Arsenic,Dissolved	ND		0.00200	1	11/04/2024 16:37	<a href="#">WG2387797</a>
Barium	0.166		0.00200	1	11/01/2024 15:27	<a href="#">WG2387929</a>
Barium,Dissolved	0.117		0.00200	1	11/04/2024 16:37	<a href="#">WG2387797</a>
Beryllium	ND		0.00200	1	11/01/2024 15:27	<a href="#">WG2387929</a>
Beryllium,Dissolved	ND		0.00200	1	11/04/2024 16:37	<a href="#">WG2387797</a>
Cadmium	ND		0.00100	1	11/01/2024 15:27	<a href="#">WG2387929</a>
Cadmium,Dissolved	ND		0.00100	1	11/04/2024 16:37	<a href="#">WG2387797</a>
Chromium	0.00211		0.00200	1	11/01/2024 15:27	<a href="#">WG2387929</a>
Chromium,Dissolved	ND		0.00200	1	11/04/2024 16:37	<a href="#">WG2387797</a>
Cobalt	ND		0.00200	1	11/01/2024 15:27	<a href="#">WG2387929</a>
Cobalt,Dissolved	ND		0.00200	1	11/04/2024 16:37	<a href="#">WG2387797</a>
Lead	ND		0.00200	1	11/01/2024 15:27	<a href="#">WG2387929</a>
Lead,Dissolved	ND		0.00200	1	11/04/2024 16:37	<a href="#">WG2387797</a>
Lithium	0.0304		0.00200	1	11/01/2024 15:27	<a href="#">WG2387929</a>
Lithium,Dissolved	0.0303		0.00200	1	11/04/2024 16:37	<a href="#">WG2387797</a>
Molybdenum	0.165		0.00500	1	11/01/2024 15:27	<a href="#">WG2387929</a>



Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.165		0.00500	1	11/04/2024 16:37	<a href="#">WG2387797</a>
Selenium	ND		0.00200	1	11/01/2024 15:27	<a href="#">WG2387929</a>
Selenium,Dissolved	ND		0.00200	1	11/04/2024 16:37	<a href="#">WG2387797</a>
Thallium	ND		0.00200	1	11/01/2024 15:27	<a href="#">WG2387929</a>
Thallium,Dissolved	ND		0.00200	1	11/04/2024 16:37	<a href="#">WG2387797</a>

- <sup>1</sup>Cp
- <sup>2</sup>Tc
- <sup>3</sup>Ss
- <sup>4</sup>Cn
- <sup>5</sup>Sr
- <sup>6</sup>Qc
- <sup>7</sup>Gl
- <sup>8</sup>Al
- <sup>9</sup>Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	371		10.0	1	10/19/2024 17:11	<a href="#">WG2385254</a>

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	11.1		1.00	1	10/22/2024 01:59	<a href="#">WG2385382</a>
Fluoride	0.203		0.150	1	10/22/2024 01:59	<a href="#">WG2385382</a>
Sulfate	41.5		5.00	1	10/22/2024 01:59	<a href="#">WG2385382</a>

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.56	<u>T8</u>	1	10/18/2024 22:40	<a href="#">WG2385247</a>

Sample Narrative:

L1790474-15 WG2385247: 7.56 at 19.4C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/24/2024 18:59	<a href="#">WG2385487</a>
Mercury,Dissolved	ND		0.000200	1	10/24/2024 16:15	<a href="#">WG2385970</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	0.466		0.200	1	11/01/2024 13:40	<a href="#">WG2387810</a>
Boron,Dissolved	0.469		0.200	1	10/31/2024 19:49	<a href="#">WG2387787</a>
Calcium	87.5		1.00	1	11/01/2024 13:40	<a href="#">WG2387810</a>
Calcium,Dissolved	89.7		1.00	1	10/31/2024 19:49	<a href="#">WG2387787</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		0.00400	1	11/01/2024 15:31	<a href="#">WG2387929</a>
Antimony,Dissolved	ND		0.00400	1	11/04/2024 16:40	<a href="#">WG2387797</a>
Arsenic	0.00210		0.00200	1	11/01/2024 15:31	<a href="#">WG2387929</a>
Arsenic,Dissolved	0.00213		0.00200	1	11/04/2024 16:40	<a href="#">WG2387797</a>
Barium	0.121		0.00200	1	11/01/2024 15:31	<a href="#">WG2387929</a>
Barium,Dissolved	0.114		0.00200	1	11/04/2024 16:40	<a href="#">WG2387797</a>
Beryllium	ND		0.00200	1	11/01/2024 15:31	<a href="#">WG2387929</a>
Beryllium,Dissolved	ND		0.00200	1	11/04/2024 16:40	<a href="#">WG2387797</a>
Cadmium	ND		0.00100	1	11/01/2024 15:31	<a href="#">WG2387929</a>
Cadmium,Dissolved	ND		0.00100	1	11/04/2024 16:40	<a href="#">WG2387797</a>
Chromium	0.00350		0.00200	1	11/01/2024 15:31	<a href="#">WG2387929</a>
Chromium,Dissolved	ND		0.00200	1	11/04/2024 16:40	<a href="#">WG2387797</a>
Cobalt	ND		0.00200	1	11/01/2024 15:31	<a href="#">WG2387929</a>
Cobalt,Dissolved	ND		0.00200	1	11/04/2024 16:40	<a href="#">WG2387797</a>
Lead	ND		0.00200	1	11/01/2024 15:31	<a href="#">WG2387929</a>
Lead,Dissolved	ND		0.00200	1	11/04/2024 16:40	<a href="#">WG2387797</a>
Lithium	0.0149		0.00200	1	11/01/2024 15:31	<a href="#">WG2387929</a>
Lithium,Dissolved	0.0151		0.00200	1	11/04/2024 16:40	<a href="#">WG2387797</a>
Molybdenum	0.0191		0.00500	1	11/01/2024 15:31	<a href="#">WG2387929</a>



Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.0190		0.00500	1	11/04/2024 16:40	<a href="#">WG2387797</a>
Selenium	0.0190		0.00200	1	11/01/2024 15:31	<a href="#">WG2387929</a>
Selenium,Dissolved	0.0175		0.00200	1	11/04/2024 16:40	<a href="#">WG2387797</a>
Thallium	ND		0.00200	1	11/01/2024 15:31	<a href="#">WG2387929</a>
Thallium,Dissolved	ND		0.00200	1	11/04/2024 16:40	<a href="#">WG2387797</a>

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc

Method Blank (MB)

(MB) R4136127-1 10/19/24 17:11

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Dissolved Solids	U		10.0	10.0

1 Cp

2 Tc

3 Ss

L1790437-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1790437-07 10/19/24 17:11 • (DUP) R4136127-3 10/19/24 17:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	304	309	1	1.63		10

4 Cn

5 Sr

L1790474-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1790474-15 10/19/24 17:11 • (DUP) R4136127-4 10/19/24 17:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	371	385	1	3.70		10

6 Qc

7 Gl

8 Al

Laboratory Control Sample (LCS)

(LCS) R4136127-2 10/19/24 17:11

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Dissolved Solids	8800	8890	101	85.0-115	

9 Sc

Method Blank (MB)

(MB) R4135722-1 10/21/24 20:56

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Chloride	U		0.547	1.00
Fluoride	U		0.0761	0.150
Sulfate	U		0.637	5.00

L1790069-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1790069-07 10/21/24 21:34 • (DUP) R4135722-3 10/22/24 05:37

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	33.4	34.4	1	2.94		15
Fluoride	0.412	0.389	1	5.72		15
Sulfate	19.2	20.3	1	5.98		15

L1790069-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1790069-11 10/21/24 22:25 • (DUP) R4135722-6 10/22/24 06:15

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	ND	ND	1	0.000		15
Fluoride	ND	ND	1	0.000		15
Sulfate	ND	ND	1	0.000		15

Laboratory Control Sample (LCS)

(LCS) R4135722-2 10/21/24 21:08

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/l	mg/l	%	%	
Chloride	40.0	38.7	96.9	80.0-120	
Fluoride	8.00	8.23	103	80.0-120	
Sulfate	40.0	39.0	97.4	80.0-120	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1790069-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790069-07 10/21/24 21:34 • (MS) R4135722-4 10/22/24 05:50 • (MSD) R4135722-5 10/22/24 06:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	33.4	64.1	65.8	76.7	81.2	1	80.0-120	J6		2.73	15
Fluoride	8.00	0.412	8.08	8.39	95.9	99.7	1	80.0-120			3.67	15
Sulfate	40.0	19.2	53.5	54.4	85.8	88.2	1	80.0-120			1.77	15

L1790069-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L1790069-11 10/21/24 22:25 • (MS) R4135722-7 10/22/24 06:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	ND	38.0	95.0	1	80.0-120	
Fluoride	8.00	ND	7.99	99.9	1	80.0-120	
Sulfate	40.0	ND	38.2	95.6	1	80.0-120	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4136364-1 10/22/24 01:24

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		0.547	1.00
Fluoride	U		0.0761	0.150
Sulfate	U		0.637	5.00

L1790474-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1790474-15 10/22/24 01:59 • (DUP) R4136364-3 10/22/24 14:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	11.1	11.1	1	0.156		15
Fluoride	0.203	0.151	1	29.8	J3	15
Sulfate	41.5	41.5	1	0.0231		15

Laboratory Control Sample (LCS)

(LCS) R4136364-2 10/22/24 01:42

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Chloride	40.0	41.9	105	80.0-120	
Fluoride	8.00	8.57	107	80.0-120	
Sulfate	40.0	42.9	107	80.0-120	

L1790474-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790474-15 10/22/24 01:59 • (MS) R4136364-4 10/22/24 14:45 • (MSD) R4136364-5 10/22/24 15:03

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	40.0	11.1	47.0	45.5	89.8	86.0	1	80.0-120			3.34	15
Fluoride	8.00	0.203	8.01	7.75	97.5	94.4	1	80.0-120			3.20	15
Sulfate	40.0	41.5	72.6	70.2	77.7	71.6	1	80.0-120	J6	J6	3.40	15

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1790474-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1790474-01 10/18/24 22:40 • (DUP) R4134842-2 10/18/24 22:40

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.94	7.95	1	0.126		1

Sample Narrative:

OS: 7.94 at 18.9C  
DUP: 7.95 at 18.9C

L1790606-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1790606-02 10/18/24 22:40 • (DUP) R4134842-3 10/18/24 22:40

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.56	6.57	1	0.152		1

Sample Narrative:

OS: 6.56 at 19.3C  
DUP: 6.57 at 19.2C

Laboratory Control Sample (LCS)

(LCS) R4134842-1 10/18/24 22:40

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10.02 at 19.4C



Method Blank (MB)

(MB) R4137876-1 10/25/24 17:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.0000700	0.000200

Laboratory Control Sample (LCS)

(LCS) R4137876-2 10/25/24 18:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.00300	0.00320	107	80.0-120	

L1790474-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790474-01 10/25/24 18:04 • (MS) R4137876-4 10/25/24 18:09 • (MSD) R4137876-5 10/25/24 18:12

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00318	0.00323	106	108	1	75.0-125			1.56	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4137442-1 10/24/24 18:43

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.0000700	0.000200

Laboratory Control Sample (LCS)

(LCS) R4137442-2 10/24/24 18:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.00300	0.00265	88.3	80.0-120	

L1790474-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790474-14 10/24/24 18:48 • (MS) R4137442-4 10/24/24 18:54 • (MSD) R4137442-5 10/24/24 18:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00260	0.00262	86.7	87.2	1	75.0-125			0.581	20

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Method Blank (MB)

(MB) R4136138-1 10/22/24 17:51

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury,Dissolved	U		0.0000700	0.000200

1 Cp

2 Tc

3 Ss

Laboratory Control Sample (LCS)

(LCS) R4136138-2 10/22/24 17:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury,Dissolved	0.00300	0.00303	101	80.0-120	

4 Cn

5 Sr

L1789540-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1789540-01 10/22/24 17:56 • (MS) R4136138-4 10/22/24 18:01 • (MSD) R4136138-5 10/22/24 18:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury,Dissolved	0.00300	ND	0.00303	0.00316	101	105	1	75.0-125			4.24	20

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4137309-1 10/24/24 15:43

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury,Dissolved	U		0.0000700	0.000200

1 Cp

2 Tc

3 Ss

Laboratory Control Sample (LCS)

(LCS) R4137309-2 10/24/24 15:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury,Dissolved	0.00300	0.00346	115	80.0-120	

4 Cn

5 Sr

L1791012-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1791012-05 10/24/24 15:49 • (MS) R4137309-4 10/24/24 15:54 • (MSD) R4137309-5 10/24/24 15:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury,Dissolved	0.00300	ND	0.00329	0.00309	110	103	1	75.0-125			6.02	20

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4140519-1 10/31/24 19:24

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Boron,Dissolved	U		0.0200	0.200
Calcium,Dissolved	U		0.0793	1.00

Laboratory Control Sample (LCS)

(LCS) R4140519-2 10/31/24 19:26

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/l	mg/l	%	%	
Boron,Dissolved	1.00	0.940	94.0	80.0-120	
Calcium,Dissolved	10.0	9.76	97.6	80.0-120	

L1790615-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790615-01 10/31/24 19:28 • (MS) R4140519-4 10/31/24 19:31 • (MSD) R4140519-5 10/31/24 19:33

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Boron,Dissolved	1.00	ND	1.00	1.02	93.5	95.5	1	75.0-125			1.95	20
Calcium,Dissolved	10.0	166	173	173	69.8	71.8	1	75.0-125	V	V	0.120	20

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R4140949-1 11/01/24 13:52

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Boron	U		0.0200	0.200
Calcium	U		0.0793	1.00

Laboratory Control Sample (LCS)

(LCS) R4140949-2 11/01/24 13:54

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/l	mg/l	%	%	
Boron	1.00	0.950	95.0	80.0-120	
Calcium	10.0	9.85	98.5	80.0-120	

L1790474-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790474-06 11/01/24 13:55 • (MS) R4140949-4 11/01/24 13:59 • (MSD) R4140949-5 11/01/24 14:00

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Boron	1.00	4.58	5.48	5.48	90.5	89.9	1	75.0-125			0.119	20
Calcium	10.0	126	134	134	72.3	75.1	1	75.0-125	V		0.211	20

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Method Blank (MB)

(MB) R4141402-1 11/03/24 14:38

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Boron,Dissolved	U		0.0200	0.200
Calcium,Dissolved	U		0.0793	1.00

Laboratory Control Sample (LCS)

(LCS) R4141402-2 11/03/24 14:39

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/l	mg/l	%	%	
Boron,Dissolved	1.00	0.984	98.4	80.0-120	
Calcium,Dissolved	10.0	9.91	99.1	80.0-120	

L1789575-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1789575-14 11/03/24 14:41 • (MS) R4141402-4 11/03/24 14:44 • (MSD) R4141402-5 11/03/24 14:46

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Boron,Dissolved	1.00	ND	0.992	0.997	96.9	97.5	1	75.0-125			0.517	20
Calcium,Dissolved	10.0	52.1	64.4	64.9	123	128	1	75.0-125	V		0.792	20

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Method Blank (MB)

(MB) R4141034-1 11/01/24 16:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony,Dissolved	U		0.000310	0.00400
Arsenic,Dissolved	U		0.000120	0.00200
Barium,Dissolved	U		0.000500	0.00200
Beryllium,Dissolved	U		0.000200	0.00200
Cadmium,Dissolved	U		0.000120	0.00100
Chromium,Dissolved	U		0.000900	0.00200
Cobalt,Dissolved	U		0.000100	0.00200
Lead,Dissolved	U		0.000500	0.00200
Lithium,Dissolved	U		0.000600	0.00200
Molybdenum,Dissolved	U		0.000500	0.00500
Selenium,Dissolved	U		0.000250	0.00200
Thallium,Dissolved	U		0.000130	0.00200

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R4141034-2 11/01/24 16:48

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony,Dissolved	0.0500	0.0486	97.1	80.0-120	
Arsenic,Dissolved	0.0500	0.0480	95.9	80.0-120	
Barium,Dissolved	0.0500	0.0451	90.2	80.0-120	
Beryllium,Dissolved	0.0500	0.0484	96.8	80.0-120	
Cadmium,Dissolved	0.0500	0.0508	102	80.0-120	
Chromium,Dissolved	0.0500	0.0500	100	80.0-120	
Cobalt,Dissolved	0.0500	0.0504	101	80.0-120	
Lead,Dissolved	0.0500	0.0469	93.7	80.0-120	
Lithium,Dissolved	0.0500	0.0505	101	80.0-120	
Molybdenum,Dissolved	0.0500	0.0486	97.1	80.0-120	
Selenium,Dissolved	0.0500	0.0481	96.2	80.0-120	
Thallium,Dissolved	0.0500	0.0459	91.7	80.0-120	

L1790387-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790387-01 11/01/24 16:51 • (MS) R4141034-4 11/01/24 16:57 • (MSD) R4141034-5 11/01/24 17:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony,Dissolved	0.0500	ND	0.0506	0.0507	101	101	1	75.0-125			0.205	20
Arsenic,Dissolved	0.0500	ND	0.0488	0.0476	97.1	94.6	1	75.0-125			2.52	20
Barium,Dissolved	0.0500	0.0115	0.0583	0.0590	93.5	95.0	1	75.0-125			1.28	20

L1790387-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790387-01 11/01/24 16:51 • (MS) R4141034-4 11/01/24 16:57 • (MSD) R4141034-5 11/01/24 17:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Beryllium,Dissolved	0.0500	ND	0.0487	0.0478	97.5	95.7	1	75.0-125			1.88	20
Cadmium,Dissolved	0.0500	ND	0.0501	0.0494	100	98.8	1	75.0-125			1.34	20
Chromium,Dissolved	0.0500	ND	0.0499	0.0486	99.8	97.1	1	75.0-125			2.73	20
Cobalt,Dissolved	0.0500	ND	0.0499	0.0485	99.8	96.9	1	75.0-125			2.97	20
Lead,Dissolved	0.0500	ND	0.0462	0.0470	92.3	94.0	1	75.0-125			1.83	20
Lithium,Dissolved	0.0500	0.0470	0.0961	0.0959	98.1	97.7	1	75.0-125			0.203	20
Molybdenum,Dissolved	0.0500	ND	0.0510	0.0506	102	101	1	75.0-125			0.730	20
Selenium,Dissolved	0.0500	0.0367	0.0856	0.0857	97.7	97.9	1	75.0-125			0.0998	20
Thallium,Dissolved	0.0500	ND	0.0445	0.0455	89.1	91.1	1	75.0-125			2.27	20

- 1  
Cp
- 2  
Tc
- 3  
Ss
- 4  
Cn
- 5  
Sr
- 6  
Qc
- 7  
Gl
- 8  
Al
- 9  
Sc

Method Blank (MB)

(MB) R4141842-1 11/04/24 16:17

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony,Dissolved	U		0.000310	0.00400
Arsenic,Dissolved	U		0.000120	0.00200
Barium,Dissolved	U		0.000500	0.00200
Beryllium,Dissolved	U		0.000200	0.00200
Cadmium,Dissolved	U		0.000120	0.00100
Chromium,Dissolved	U		0.000900	0.00200
Cobalt,Dissolved	U		0.000100	0.00200
Lead,Dissolved	U		0.000500	0.00200
Lithium,Dissolved	U		0.000600	0.00200
Molybdenum,Dissolved	U		0.000500	0.00500
Selenium,Dissolved	U		0.000250	0.00200
Thallium,Dissolved	U		0.000130	0.00200

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R4141842-2 11/04/24 16:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony,Dissolved	0.0500	0.0502	100	80.0-120	
Arsenic,Dissolved	0.0500	0.0481	96.2	80.0-120	
Barium,Dissolved	0.0500	0.0470	94.0	80.0-120	
Beryllium,Dissolved	0.0500	0.0483	96.5	80.0-120	
Cadmium,Dissolved	0.0500	0.0491	98.2	80.0-120	
Chromium,Dissolved	0.0500	0.0501	100	80.0-120	
Cobalt,Dissolved	0.0500	0.0498	99.7	80.0-120	
Lead,Dissolved	0.0500	0.0479	95.7	80.0-120	
Lithium,Dissolved	0.0500	0.0498	99.6	80.0-120	
Molybdenum,Dissolved	0.0500	0.0474	94.7	80.0-120	
Selenium,Dissolved	0.0500	0.0475	95.1	80.0-120	
Thallium,Dissolved	0.0500	0.0497	99.4	80.0-120	

L1790704-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790704-01 11/04/24 16:24 • (MS) R4141842-4 11/04/24 16:30 • (MSD) R4141842-5 11/04/24 16:34

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony,Dissolved	0.0500	ND	0.0497	0.0498	99.4	99.7	1	75.0-125			0.257	20
Arsenic,Dissolved	0.0500	ND	0.0493	0.0477	97.9	94.7	1	75.0-125			3.21	20
Barium,Dissolved	0.0500	0.192	0.234	0.234	84.2	83.5	1	75.0-125			0.155	20

L1790704-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790704-01 11/04/24 16:24 • (MS) R4141842-4 11/04/24 16:30 • (MSD) R4141842-5 11/04/24 16:34

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Beryllium,Dissolved	0.0500	ND	0.0480	0.0471	96.1	94.1	1	75.0-125			2.04	20
Cadmium,Dissolved	0.0500	ND	0.0491	0.0480	98.3	96.0	1	75.0-125			2.33	20
Chromium,Dissolved	0.0500	ND	0.0501	0.0486	97.3	94.3	1	75.0-125			3.07	20
Cobalt,Dissolved	0.0500	ND	0.0490	0.0479	98.1	95.8	1	75.0-125			2.35	20
Lead,Dissolved	0.0500	ND	0.0494	0.0466	98.7	93.2	1	75.0-125			5.76	20
Lithium,Dissolved	0.0500	0.00467	0.0532	0.0527	97.1	96.0	1	75.0-125			1.06	20
Molybdenum,Dissolved	0.0500	ND	0.0474	0.0477	94.9	95.4	1	75.0-125			0.583	20
Selenium,Dissolved	0.0500	0.00476	0.0510	0.0508	92.5	92.1	1	75.0-125			0.367	20
Thallium,Dissolved	0.0500	ND	0.0507	0.0487	101	97.4	1	75.0-125			4.06	20

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Method Blank (MB)

(MB) R4140974-1 11/01/24 14:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000310	0.00400
Arsenic	U		0.000120	0.00200
Barium	U		0.000500	0.00200
Beryllium	U		0.000200	0.00200
Cadmium	U		0.000120	0.00100
Chromium	U		0.000900	0.00200
Cobalt	U		0.000100	0.00200
Lead	U		0.000500	0.00200
Lithium	U		0.000600	0.00200
Molybdenum	U		0.000500	0.00500
Selenium	U		0.000250	0.00200
Thallium	U		0.000130	0.00200

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R4140974-2 11/01/24 14:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	0.0500	0.0494	98.9	80.0-120	
Arsenic	0.0500	0.0489	97.8	80.0-120	
Barium	0.0500	0.0471	94.3	80.0-120	
Beryllium	0.0500	0.0489	97.9	80.0-120	
Cadmium	0.0500	0.0513	103	80.0-120	
Chromium	0.0500	0.0514	103	80.0-120	
Cobalt	0.0500	0.0516	103	80.0-120	
Lead	0.0500	0.0493	98.6	80.0-120	
Lithium	0.0500	0.0493	98.7	80.0-120	
Molybdenum	0.0500	0.0485	96.9	80.0-120	
Selenium	0.0500	0.0469	93.7	80.0-120	
Thallium	0.0500	0.0480	96.1	80.0-120	

L1790474-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790474-01 11/01/24 14:52 • (MS) R4140974-4 11/01/24 14:58 • (MSD) R4140974-5 11/01/24 15:01

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	ND	0.0507	0.0495	101	99.0	1	75.0-125			2.33	20
Arsenic	0.0500	ND	0.0511	0.0516	98.8	99.8	1	75.0-125			1.04	20
Barium	0.0500	0.108	0.156	0.155	96.1	92.7	1	75.0-125			1.12	20

L1790474-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790474-01 11/01/24 14:52 • (MS) R4140974-4 11/01/24 14:58 • (MSD) R4140974-5 11/01/24 15:01

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Beryllium	0.0500	ND	0.0488	0.0499	97.7	99.8	1	75.0-125			2.10	20
Cadmium	0.0500	ND	0.0516	0.0515	103	103	1	75.0-125			0.151	20
Chromium	0.0500	ND	0.0514	0.0523	103	105	1	75.0-125			1.69	20
Cobalt	0.0500	ND	0.0510	0.0519	102	104	1	75.0-125			1.61	20
Lead	0.0500	ND	0.0480	0.0490	96.0	98.0	1	75.0-125			2.06	20
Lithium	0.0500	0.0328	0.0810	0.0812	96.5	96.7	1	75.0-125			0.149	20
Molybdenum	0.0500	0.0608	0.110	0.109	99.1	96.5	1	75.0-125			1.19	20
Selenium	0.0500	ND	0.0485	0.0500	96.9	100	1	75.0-125			3.11	20
Thallium	0.0500	ND	0.0464	0.0473	92.7	94.5	1	75.0-125			1.93	20

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Method Blank (MB)

(MB) R4140919-2 11/01/24 15:07

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000310	0.00400
Arsenic	U		0.000120	0.00200
Barium	U		0.000500	0.00200
Beryllium	U		0.000200	0.00200
Cadmium	U		0.000120	0.00100
Chromium	U		0.000900	0.00200
Cobalt	U		0.000100	0.00200
Lead	U		0.000500	0.00200
Lithium	U		0.000600	0.00200
Molybdenum	U		0.000500	0.00500
Selenium	U		0.000250	0.00200
Thallium	U		0.000130	0.00200

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R4140919-3 11/01/24 15:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	0.0500	0.0545	109	80.0-120	
Arsenic	0.0500	0.0499	99.8	80.0-120	
Barium	0.0500	0.0497	99.3	80.0-120	
Beryllium	0.0500	0.0479	95.8	80.0-120	
Cadmium	0.0500	0.0475	95.0	80.0-120	
Chromium	0.0500	0.0510	102	80.0-120	
Cobalt	0.0500	0.0505	101	80.0-120	
Lead	0.0500	0.0480	96.1	80.0-120	
Lithium	0.0500	0.0473	94.6	80.0-120	
Molybdenum	0.0500	0.0486	97.3	80.0-120	
Selenium	0.0500	0.0481	96.3	80.0-120	
Thallium	0.0500	0.0458	91.6	80.0-120	

L1790474-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790474-13 11/01/24 15:14 • (MS) R4140919-5 11/01/24 15:21 • (MSD) R4140919-6 11/01/24 15:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	ND	0.0570	0.0558	113	111	1	75.0-125			2.02	20
Arsenic	0.0500	ND	0.0502	0.0502	99.7	99.7	1	75.0-125			0.0145	20
Barium	0.0500	0.0182	0.0686	0.0685	101	100	1	75.0-125			0.258	20

L1790474-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790474-13 11/01/24 15:14 • (MS) R4140919-5 11/01/24 15:21 • (MSD) R4140919-6 11/01/24 15:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Beryllium	0.0500	ND	0.0472	0.0489	94.3	97.8	1	75.0-125			3.59	20
Cadmium	0.0500	ND	0.0484	0.0482	96.8	96.4	1	75.0-125			0.409	20
Chromium	0.0500	ND	0.0519	0.0521	101	101	1	75.0-125			0.265	20
Cobalt	0.0500	ND	0.0496	0.0507	99.1	101	1	75.0-125			2.29	20
Lead	0.0500	ND	0.0489	0.0497	97.9	99.4	1	75.0-125			1.48	20
Lithium	0.0500	0.00219	0.0500	0.0519	95.6	99.5	1	75.0-125			3.85	20
Molybdenum	0.0500	ND	0.0504	0.0503	99.8	99.4	1	75.0-125			0.357	20
Selenium	0.0500	ND	0.0493	0.0500	97.7	99.0	1	75.0-125			1.31	20
Thallium	0.0500	ND	0.0467	0.0457	93.3	91.4	1	75.0-125			2.11	20

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

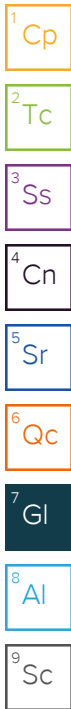
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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### Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.



# ACCREDITATIONS & LOCATIONS

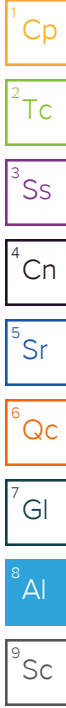
## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Company Name/Address:  
**ERM - St. Louis, MO**  
 1968 Craig Road, Suite 100  
 Saint Louis, MO 63146

Billing Information:  
**Accounts Payable Dept.**  
 1701 Golf Road, Suite 1-1000  
 Rolling Meadows, IL 60008-4242

Analysis / Container / Preservative

Chain of Custody Page 1 of 2



**MT JULIET, TN**

12065 Lebanon Rd Mount Juliet, TN 37122  
 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubfs/pas-standard-terms.pdf>

Report to:  
**Randy Homburg**

Email To:  
**Randy.Homburg@erm.com; Tim.Wilson@erm.com**

Project Description:  
**Grand Tower Energy Center Groundwater 4Q24**

City/State Collected:  
**Grand Tower, IL**

Please Circle:  
 PT MT  ET

Phone: **314-682-3980**

Client Project #  
**0599247**

Lab Project #  
**ERMSCMO-0599247**

Collected by (print):  
**Marshall Arendell**

Site/Facility ID #

P.O. #

Collected by (signature):  
*Marshall Arendell*

Rush? (Lab MUST Be Notified)  
 \_\_\_ Same Day \_\_\_ Five Day  
 \_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
 \_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
 \_\_\_ Three Day **Standard**

Quote #

Immediately Packed on Ice N \_\_\_ Y

Date Results Needed

Anions 125mlHDPE-NoPres	Dissolved Metals 250mlHDPE-NoPres	TDS 1L-HDPE NoPres	Total Metals 250mlHDPE-HNO3	pH 125mlHDPE-NoPres							
-------------------------	-----------------------------------	--------------------	-----------------------------	---------------------	--	--	--	--	--	--	--

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
APW-03-WG-2024 1016	Grab	GW	56.27	10/16/24	1500	5
APW-08-WG-2024 1016		GW	57.70	10/16/24	1625	5
APW-07-WG-2024 1016		GW	59.28	10/16/24	1745	5
APW-10S-WG-2024 1015		GW	57.73	10/15/24	1700	5
APW-10D-WG-2024 1015		GW	74.26	10/15/24	1535	5
APW-06S-WG-2024 1016		GW	59.80	10/16/24	1035	5
APW-06D-WG-2024 1016		GW	152.56	10/16/24	0915	5
APW-05R-WG-2024 1016		GW	58.50	10/16/24	1225	5
APW-09-WG-2024 1017		GW	59.05	10/17/24	0950	5
APW-02-WG-2024 1015		GW	54.03	10/15/24	1338	5

SDG # **U790474**  
 Table # **K001**  
 Acctnum: **ERMSCMO**  
 Template: **T243415**  
 Prelogin: **P1103193**  
 PM: **206 - Jeff Carr**  
 PB:  
 Shipped Via: **FedEx Ground**  
 Remarks Sample # (lab only)

\* Matrix:  
 SS - Soil AIR - Air F - Filter  
 GW - Groundwater B - Bioassay  
 WW - WasteWater  
 DW - Drinking Water  
 OT - Other

Remarks:  
 pH \_\_\_\_\_ Temp \_\_\_\_\_  
 Flow \_\_\_\_\_ Other \_\_\_\_\_

Samples returned via:  
 UPS \_\_\_ FedEx \_\_\_ Courier \_\_\_\_\_

Tracking # \_\_\_\_\_

Sample Receipt Checklist

COC Seal Present/Intact:	NP	<input checked="" type="checkbox"/>	N
COC Signed/Accurate:		<input checked="" type="checkbox"/>	N
Bottles arrive intact:		<input checked="" type="checkbox"/>	N
Correct bottles used:		<input checked="" type="checkbox"/>	N
Sufficient volume sent:		<input checked="" type="checkbox"/>	N
If Applicable			
VOA Zero Headpace:		<input checked="" type="checkbox"/>	N
Preservation Correct/Checked:		<input checked="" type="checkbox"/>	N
RAD Screen <0.5 mR/hr:		<input checked="" type="checkbox"/>	N

Relinquished by: (Signature)  
*Marshall Arendell* ERM

Date: 10/17/24  
 Time: 12:40

Received by: (Signature)  
*Jeff Carr* 10/17/24 1240

Trip Blank Received: Yes / (No)  
 HCL / MeOH TBR

Relinquished by: (Signature)  
*Jeff Carr*

Date: 10/17/24  
 Time: 1240

Received by: (Signature)

Temp: °C Bottles Received: 74

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received for lab by: (Signature)  
*Jeff Carr*

Date: 10/18/24 Time: 0900

Hold: \_\_\_\_\_ Condition: NCF /  OK

Company Name/Address:  
**ERM - St. Louis, MO**  
 1968 Craig Road, Suite 100  
 Saint Louis, MO 63146

Billing Information:  
**Accounts Payable Dept.**  
 1701 Golf Road, Suite 1-1000  
 Rolling Meadows, IL 60008-4242

Pres Chk	Analysis / Container / Preservative									



**MT JULIET, TN**

12065 Lebanon Rd Mount Juliet, TN 37122  
 Submitting a sample via this chain of custody  
 constitutes acknowledgment and acceptance of the  
 Pace Terms and Conditions found at:  
<https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

Report to:  
**Randy Homburg**

Email To:  
**Randy.Homburg@erm.com; Tim.Wilson@erm.co**

Project Description:  
**Grand Tower Energy Center Groundwater 4Q24**

City/State  
 Collected: **Grand Tower, IL**

Please Circle:  
 PT MT **DET**

Phone: **314-682-3980**

Client Project #  
**0599247**

Lab Project #  
**ERMSCMO-0599247**

Collected by (print):  
**Marshall Arendell**

Site/Facility ID #

P.O. #

Collected by (signature):  
*Marshall Arendell*

**Rush?** (Lab MUST Be Notified)  
 \_\_\_ Same Day \_\_\_ Five Day  
 \_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
 \_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
 \_\_\_ Three Day **Standard**

Quote #

Immediately Packed on Ice N \_\_\_ Y **X**

Date Results Needed

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions 125mlHDPE-NoPres	Dissolved Metals 250mlHDPE-NoPres	TDS 1L-HDPE NoPres	Total Metals 250mlHDPE-HNO3	pH 125mlHDPE-NoPres					
APW-01R-WG-2024 1015	Grab	GW	54.03	10/15/24	1825	5	X	X	X	X	X					
APW-04-WG-2024 1017		GW	55.77	10/17/24	0845	5	X	X	X	X	X					
EB-01-WG-2024 1015	L	GW	-	10/15/24	1015	5	X	X	X	X	X					
DUP-01-WG-2024 1016		GW	-	10/16/24	0001	5	X	X	X	X	X					
DUP-02-WG-2024 1017		GW	-	10/17/24	0002	5	X	X	X	X	X					

SDG # **6790474**  
 Table #  
 Acctnum: **ERMSCMO**  
 Template: **T243415**  
 Prelogin: **P1103193**  
 PM: **206 - Jeff Carr**  
 PB:  
 Shipped Via: **FedEX Ground**

Remarks	Sample # (lab only)
	-11
	-12
No dis. collected	-13
	-14
	-15

\* Matrix:  
 SS - Soil AIR - Air F - Filter  
 GW - Groundwater B - Bioassay  
 WW - WasteWater  
 DW - Drinking Water  
 OT - Other

Remarks:  
 pH \_\_\_\_\_ Temp \_\_\_\_\_  
 Flow \_\_\_\_\_ Other \_\_\_\_\_  
 Samples returned via:  
 UPS \_\_\_ FedEx \_\_\_ Courier \_\_\_\_\_  
 Tracking # \_\_\_\_\_

Sample Receipt Checklist  
 COC Seal Present/Intact: \_\_\_ NP \_\_\_ N  
 COC Signed/Accurate: \_\_\_ Y \_\_\_ N  
 Bottles arrive intact: \_\_\_ Y \_\_\_ N  
 Correct bottles used: \_\_\_ Y \_\_\_ N  
 Sufficient volume sent: \_\_\_ Y \_\_\_ N  
 If Applicable  
 VOA Zero Headspace: \_\_\_ Y \_\_\_ N  
 Preservation Correct/Checked: \_\_\_ Y \_\_\_ N  
 RAD Screen <0.5 mR/hr: \_\_\_ Y \_\_\_ N

Relinquished by: (Signature)  
*Marshall Arendell* ERM

Date: **10/17/24**

Time: **12:00**

Received by: (Signature)  
*John Clark* 10/17/24 12:40

Trip Blank Received: Yes (No) HCL/MeOH TBR

Relinquished by: (Signature)  
*John Clark*

Date: **10/17/24**

Time: **12:00**

Received by: (Signature)

Temp: °C Bottles Received: **74**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)  
*John Clark*

Date: **10/18/24** Time: **0900**

Hold: Condition: **NCF / OK**



APPENDIX E FOURTH QUARTER 2024 RADIOLOGICAL  
LABORATORY ANALYTICAL REPORT

**ERM - St. Louis, MO**

Sample Delivery Group: L1790479  
Samples Received: 10/18/2024  
Project Number: 0599247  
Description: Grand Tower Energy Center Groundwater 4Q24 Sampling  
Report To: Randy Homburg  
1968 Craig Road, Suite 100  
Saint Louis, MO 63146

Entire Report Reviewed By:



Jeff Carr  
Project Manager

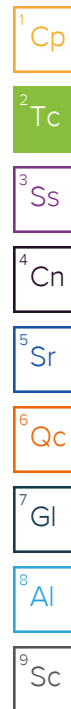
Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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APW-01R-WG-20241015 L1790479-11	17
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# SAMPLE SUMMARY

## APW-03-WG-20241016 L1790479-01 Non-Potable Water

Collected by Marshall Arendell    Collected date/time 10/16/24 15:00    Received date/time 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2389747	1	11/04/24 22:11	11/08/24 20:00	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/14/24 00:00	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/14/24 00:00	ZRG	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

## APW-08-WG-20241016 L1790479-02 Non-Potable Water

Collected by Marshall Arendell    Collected date/time 10/16/24 16:25    Received date/time 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2389747	1	11/04/24 22:11	11/08/24 20:00	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN

4 Cn

5 Sr

6 Qc

## APW-07-WG-20241016 L1790479-03 Non-Potable Water

Collected by Marshall Arendell    Collected date/time 10/16/24 17:45    Received date/time 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2389747	1	11/04/24 22:11	11/08/24 20:00	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN

7 Gl

8 Al

9 Sc

## APW-10S-WG-20241015 L1790479-04 Non-Potable Water

Collected by Marshall Arendell    Collected date/time 10/15/24 17:00    Received date/time 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN

## APW-10D-WG-20241015 L1790479-05 Non-Potable Water

Collected by Marshall Arendell    Collected date/time 10/15/24 15:35    Received date/time 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN

## APW-06S-WG-20241016 L1790479-06 Non-Potable Water

Collected by Marshall Arendell    Collected date/time 10/16/24 10:35    Received date/time 10/18/24 09:00

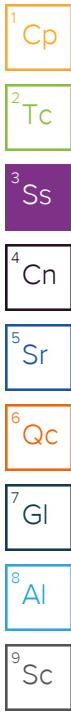
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN

# SAMPLE SUMMARY

## APW-06D-WG-20241016 L1790479-07 Non-Potable Water

Collected by Marshall Arendell  
 Collected date/time 10/16/24 09:15  
 Received date/time 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN



## APW-05R-WG-20241016 L1790479-08 Non-Potable Water

Collected by Marshall Arendell  
 Collected date/time 10/16/24 12:25  
 Received date/time 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN

## APW-09-WG-20241017 L1790479-09 Non-Potable Water

Collected by Marshall Arendell  
 Collected date/time 10/17/24 09:50  
 Received date/time 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN

## APW-02-WG-20241015 L1790479-10 Non-Potable Water

Collected by Marshall Arendell  
 Collected date/time 10/15/24 13:38  
 Received date/time 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN

## APW-01R-WG-20241015 L1790479-11 Non-Potable Water

Collected by Marshall Arendell  
 Collected date/time 10/15/24 18:25  
 Received date/time 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN

## APW-04-WG-20241017 L1790479-12 Non-Potable Water

Collected by Marshall Arendell  
 Collected date/time 10/17/24 08:45  
 Received date/time 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN

# SAMPLE SUMMARY

## EB-01-WG-20241015 L1790479-13 Non-Potable Water

Collected by: Marshall Arendell  
 Collected date/time: 10/15/24 10:15  
 Received date/time: 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

## DUP-01-WG-20241016 L1790479-14 Non-Potable Water

Collected by: Marshall Arendell  
 Collected date/time: 10/16/24 00:01  
 Received date/time: 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

## DUP-02-WG-20241017 L1790479-15 Non-Potable Water

Collected by: Marshall Arendell  
 Collected date/time: 10/17/24 00:02  
 Received date/time: 10/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jeff Carr  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.09		0.261	0.487	0.446	0.236	11/08/2024 20:00	<a href="#">WG2389747</a>
(T) Barium	99.1					30.0-143	11/08/2024 20:00	<a href="#">WG2389747</a>
(T) Yttrium	79.7					30.0-136	11/08/2024 20:00	<a href="#">WG2389747</a>

1 Cp

2 Tc

3 Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.15		0.299	0.512	11/14/2024 00:00	<a href="#">WG2397322</a>

4 Cn

5 Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.0651	<u>U</u>	0.146	0.203	0.252	0.181	11/14/2024 00:00	<a href="#">WG2397322</a>
(T) Barium-133	88.5					30.0-143	11/14/2024 00:00	<a href="#">WG2397322</a>

6 Qc

7 Gl

8 Al

9 Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.874		0.414	0.714	0.732	0.388	11/08/2024 20:00	<a href="#">WG2389747</a>
(T) Barium	56.2					30.0-143	11/08/2024 20:00	<a href="#">WG2389747</a>
(T) Yttrium	84.4					30.0-136	11/08/2024 20:00	<a href="#">WG2389747</a>

1 Cp

2 Tc

3 Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.04		0.452	0.770	11/08/2024 20:15	<a href="#">WG2397322</a>

4 Cn

5 Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.171	J	0.182	0.347	0.239	0.167	11/08/2024 20:15	<a href="#">WG2397322</a>
(T) Barium-133	104					30.0-143	11/08/2024 20:15	<a href="#">WG2397322</a>

6 Qc

7 Gl

8 Al

9 Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.77		0.347	0.650	0.573	0.303	11/08/2024 20:00	<a href="#">WG2389747</a>
(T) Barium	114					30.0-143	11/08/2024 20:00	<a href="#">WG2389747</a>
(T) Yttrium	85.0					30.0-136	11/08/2024 20:00	<a href="#">WG2389747</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.01		0.407	0.628	11/08/2024 20:15	<a href="#">WG2397322</a>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.232	J	0.212	0.321	0.256	0.181	11/08/2024 20:15	<a href="#">WG2397322</a>
(T) Barium-133	90.9					30.0-143	11/08/2024 20:15	<a href="#">WG2397322</a>

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.934		0.351	0.639	0.629	0.329	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Barium	103					30.0-143	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Yttrium	93.3					30.0-136	11/06/2024 17:23	<a href="#">WG2391148</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.17		0.441	0.726	11/08/2024 20:15	<a href="#">WG2397322</a>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.236	J	0.267	0.415	0.362	0.245	11/08/2024 20:15	<a href="#">WG2397322</a>
(T) Barium-133	92.6					30.0-143	11/08/2024 20:15	<a href="#">WG2397322</a>

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.282	J	0.302	0.537	0.557	0.292	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Barium	74.9					30.0-143	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Yttrium	97.5					30.0-136	11/06/2024 17:23	<a href="#">WG2391148</a>

1 Cp

2 Tc

3 Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.390	J	0.408	0.712	11/08/2024 20:15	<a href="#">WG2397322</a>

4 Cn

5 Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.108	U	0.274	0.462	0.444	0.290	11/08/2024 20:15	<a href="#">WG2397322</a>
(T) Barium-133	93.6					30.0-143	11/08/2024 20:15	<a href="#">WG2397322</a>

6 Qc

7 Gl

8 Al

9 Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.895		0.221	0.434	0.382	0.202	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Barium	86.9					30.0-143	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Yttrium	107					30.0-136	11/06/2024 17:23	<a href="#">WG2391148</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.979		0.321	0.544	11/08/2024 20:15	<a href="#">WG2397322</a>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.0841	<u>U</u>	0.233	0.331	0.388	0.258	11/08/2024 20:15	<a href="#">WG2397322</a>
(T) Barium-133	102					30.0-143	11/08/2024 20:15	<a href="#">WG2397322</a>

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.642		0.345	0.575	0.627	0.328	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Barium	90.7					30.0-143	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Yttrium	82.1					30.0-136	11/06/2024 17:23	<a href="#">WG2391148</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.900		0.429	0.707	11/08/2024 20:15	<a href="#">WG2397322</a>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.258	J	0.255	0.397	0.326	0.226	11/08/2024 20:15	<a href="#">WG2397322</a>
(T) Barium-133	95.1					30.0-143	11/08/2024 20:15	<a href="#">WG2397322</a>

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.468	J	0.329	0.567	0.602	0.315	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Barium	96.8					30.0-143	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Yttrium	73.8					30.0-136	11/06/2024 17:23	<a href="#">WG2391148</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.730		0.379	0.622	11/08/2024 20:15	<a href="#">WG2397322</a>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.261		0.188	0.367	0.155	0.128	11/08/2024 20:15	<a href="#">WG2397322</a>
(T) Barium-133	96.2					30.0-143	11/08/2024 20:15	<a href="#">WG2397322</a>

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	-0.422	<u>U</u>	0.295	0.517	0.567	0.297	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Barium	88.3					30.0-143	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Yttrium	89.8					30.0-136	11/06/2024 17:23	<a href="#">WG2391148</a>

1 Cp

2 Tc

3 Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0259	<u>U</u>	0.303	0.586	11/08/2024 20:15	<a href="#">WG2397322</a>

4 Cn

5 Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.0259	<u>U</u>	0.0696	0.122	0.149	0.123	11/08/2024 20:15	<a href="#">WG2397322</a>
(T) Barium-133	101					30.0-143	11/08/2024 20:15	<a href="#">WG2397322</a>

6 Qc

7 Gl

8 Al

9 Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.218	<u>U</u>	0.450	0.932	0.849	0.451	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Barium	130					30.0-143	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Yttrium	92.4					30.0-136	11/06/2024 17:23	<a href="#">WG2391148</a>

1 Cp

2 Tc

3 Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.51		0.634	0.885	11/08/2024 20:15	<a href="#">WG2397322</a>

4 Cn

5 Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	1.29		0.447	1.04	0.251	0.183	11/08/2024 20:15	<a href="#">WG2397322</a>
(T) Barium-133	114					30.0-143	11/08/2024 20:15	<a href="#">WG2397322</a>

6 Qc

7 Gl

8 Al

9 Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.183	J	0.206	0.418	0.385	0.204	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Barium	104					30.0-143	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Yttrium	88.1					30.0-136	11/06/2024 17:23	<a href="#">WG2391148</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.309	J	0.251	0.427	11/08/2024 20:15	<a href="#">WG2397322</a>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.126	J	0.144	0.206	0.185	0.145	11/08/2024 20:15	<a href="#">WG2397322</a>
(T) Barium-133	103					30.0-143	11/08/2024 20:15	<a href="#">WG2397322</a>

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.379	J	0.275	0.515	0.507	0.269	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Barium	77.9					30.0-143	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Yttrium	88.2					30.0-136	11/06/2024 17:23	<a href="#">WG2391148</a>

1 Cp

2 Tc

3 Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.494	J	0.305	0.535	11/08/2024 20:15	<a href="#">WG2397322</a>

4 Cn

5 Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.116	J	0.132	0.230	0.170	0.133	11/08/2024 20:15	<a href="#">WG2397322</a>
(T) Barium-133	112					30.0-143	11/08/2024 20:15	<a href="#">WG2397322</a>

6 Qc

7 Gl

8 Al

9 Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.273	J	0.279	0.492	0.514	0.269	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Barium	106					30.0-143	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Yttrium	86.9					30.0-136	11/06/2024 17:23	<a href="#">WG2391148</a>

1 Cp

2 Tc

3 Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.421	J	0.315	0.541	11/08/2024 20:15	<a href="#">WG2397322</a>

4 Cn

5 Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.148	J	0.147	0.272	0.170	0.134	11/08/2024 20:15	<a href="#">WG2397322</a>
(T) Barium-133	101					30.0-143	11/08/2024 20:15	<a href="#">WG2397322</a>

6 Qc

7 Gl

8 Al

9 Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.498		0.226	0.435	0.409	0.216	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Barium	98.4					30.0-143	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Yttrium	91.9					30.0-136	11/06/2024 17:23	<a href="#">WG2391148</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.498		0.261	0.489	11/08/2024 20:15	<a href="#">WG2397322</a>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.000	<u>U</u>	0.130	0.161	0.268	0.184	11/08/2024 20:15	<a href="#">WG2397322</a>
(T) Barium-133	102					30.0-143	11/08/2024 20:15	<a href="#">WG2397322</a>

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.314	J	0.253	0.464	0.465	0.244	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Barium	99.6					30.0-143	11/06/2024 17:23	<a href="#">WG2391148</a>
(T) Yttrium	89.0					30.0-136	11/06/2024 17:23	<a href="#">WG2391148</a>

1 Cp

2 Tc

3 Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.536		0.315	0.506	11/08/2024 20:15	<a href="#">WG2397322</a>

4 Cn

5 Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.222		0.187	0.325	0.200	0.152	11/08/2024 20:15	<a href="#">WG2397322</a>
(T) Barium-133	96.7					30.0-143	11/08/2024 20:15	<a href="#">WG2397322</a>

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4144729-1 11/08/24 20:00

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.0958	<u>U</u>	0.161	0.296	0.156
(T) Barium	118		118		
(T) Yttrium	89.2		89.2		

L1790479-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1790479-03 11/08/24 20:00 • (DUP) R4144729-5 11/08/24 20:00

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	1.77	0.347	0.573	0.303	1.45	0.469	0.823	0.429	20.3	0.560		20	3
(T) Barium	114				117	117							
(T) Yttrium	85.0				77.9	77.9							

Laboratory Control Sample (LCS)

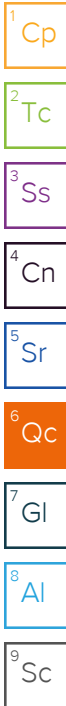
(LCS) R4144729-2 11/08/24 20:00

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.21	104	80.0-120	
(T) Barium			112		
(T) Yttrium			89.2		

L1788389-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1788389-31 11/08/24 20:00 • (MS) R4144729-3 11/08/24 20:00 • (MSD) R4144729-4 11/08/24 20:00

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	2.07	18.3	16.3	97.2	85.1	1	70.0-130			11.7		20
(T) Barium		104			106	91.0							
(T) Yttrium		84.4			85.0	95.0							



Method Blank (MB)

(MB) R4143953-5 11/08/24 13:52

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	-0.471	<u>U</u>	0.166	0.181	0.0939
(T) Barium	95.7		95.7		
(T) Yttrium	94.2		94.2		

L1790745-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1790745-06 11/06/24 17:23 • (DUP) R4143953-4 11/06/24 17:23

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.233	1.38	1.24	0.640	-0.0938	0.385	0.721	0.376	200	0.228	<u>U</u>	20	3
(T) Barium	37.7				94.8	94.8							
(T) Yttrium	84.0				101	101							

Laboratory Control Sample (LCS)

(LCS) R4143953-1 11/06/24 17:23

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.02	100	80.0-120	
(T) Barium			112		
(T) Yttrium			99.9		

L1789938-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1789938-01 11/06/24 17:23 • (MS) R4143953-2 11/06/24 17:23 • (MSD) R4143953-3 11/06/24 17:23

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	3.74	20.3	20.1	99.1	97.7	1	70.0-130			1.19		20
(T) Barium		84.6			104	88.7							
(T) Yttrium		102			88.0	91.1							

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R4146049-1 11/08/24 20:15

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0136	<u>U</u>	0.0487	0.0853	0.0572
(T) Barium-133	96.5		96.5		

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1790745-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1790745-05 11/09/24 00:31 • (DUP) R4146049-5 11/08/24 20:15

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.0512	0.218	0.385	0.257	0.151	0.187	0.257	0.196	98.7	0.348	<u>J</u>	20	3
(T) Barium-133	90.9				85.6	85.6							

Laboratory Control Sample (LCS)

(LCS) R4146049-2 11/08/24 20:15

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	5.11	102	80.0-120	
(T) Barium-133			90.9		

L1790479-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790479-01 11/14/24 00:00 • (MS) R4146049-6 11/14/24 00:00 • (MSD) R4146049-7 11/14/24 00:00

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.0651	16.3	16.4	81.1	81.7	1	75.0-125			0.673		20
(T) Barium-133		88.5			95.2	98.4							

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

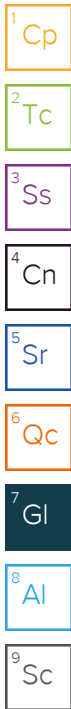
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.



# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Company Name/Address:  
**ERM - St. Louis, MO**

1968 Craig Road, Suite 100  
Saint Louis, MO 63146

Billing Information:  
**Accounts Payable Dept.  
1701 Golf Road, Suite 1-1000  
Rolling Meadows, IL 60008-4242**

Pres  
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 2



**MT JULIET, TN**

12065 Lebanon Rd Mount Juliet, TN 37122  
Submitting a sample via this chain of custody  
constitutes acknowledgment and acceptance of the  
Pace Terms and Conditions found at:  
<https://info.pacelabs.com/hubfs/pas-standard-terms.pdf>

Report to:  
**Randy Homburg**

Email To:  
**Randy.Homburg@erm.com; Tim.Wilson@erm.co**

Project Description:  
**Grand Tower Energy Center Groundwater 4Q24**

City/State  
Collected: **Grand Tower, IL**

Please Circle:  
PT MT **DET**

Phone: **314-682-3980**

Client Project #  
**0599247**

Lab Project #  
**ERMSCMO-0599247**

Collected by (print):  
**Marshall Arendell**

Site/Facility ID #

P.O. #

Collected by (signature):  
**Will Clark**

**Rush?** (Lab MUST Be Notified)

Quote #

\_\_\_ Same Day \_\_\_ Five Day  
\_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
\_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
\_\_\_ Three Day **Standard**

Date Results Needed

Immediately  
Packed on Ice N \_\_\_ Y **X**

No.  
of  
Cnts

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA-226 1L-HDPE-Add-HNO3	RA-228 1L-HDPE-Add-HNO3											
APW-03-WG-2024 1016	Grab	NPW	55.27	10/16/24	1500	3	X	X											
APW-08-WG-2024 1016	I	NPW	57.70	L	1625	3	X	X										-01	
APW-07-WG-2024 1016		NPW	<del>55.28</del>	L	1745	3	X	X											-02
APW-10S-WG-2024 1015		NPW	57.73	10/15/24	1700	3	X	X											-03
APW-10D-WG-2024 1015		NPW	94.26	10/15/24	1535	3	X	X											-04
APW-06S-WG-2024 1016		NPW	59.80	10/16/24	1035	3	X	X											-05
APW-06D-WG-2024 1016		NPW	152.26	L	0915	3	X	X											-06
APW-05R-WG-2024 1016		NPW	58.50	L	1225	3	X	X											-07
APW-09-WG-2024 1017		NPW	59.05	10/17/24	0950	3	X	X											-08
APW-02-WG-2024 1015		NPW	54.03	10/15/24	1338	3	X	X											-09
																			-10

Depth = 59.28

\* Matrix:  
SS - Soil AIR - Air F - Filter  
GW - Groundwater B - Bioassay  
WW - WasteWater  
DW - Drinking Water  
OT - Other

Remarks:

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Samples returned via:  
\_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier

Tracking #

Sample Receipt Checklist	
COC Seal Present/Intact:	NP <input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
COC Signed/Accurate:	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
Bottles arrive intact:	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
Correct bottles used:	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
Sufficient volume sent:	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
If Applicable	
VOA Zero Headpace:	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
Preservation Correct/Checked:	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
RAD Screen <0.5 mR/hr:	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>

Relinquished by: (Signature)

**ERM**

Date: **10/17/24** Time: **1240**

Received by: (Signature)

**Will Clark**

**10/17/24 124**

Trip Blank Received: Yes (No)  HCL/MeOH TBR

Relinquished by: (Signature)

**Will Clark**

Date: **10/17/24** Time: **1240**

Received by: (Signature)

Received for lab by: (Signature)

**Will Clark**

Temp: \_\_\_\_\_ °C Bottles Received: **45**

Date: **10/18/24** Time: **0900**

If preservation required by Login: Date/Time

Hold: \_\_\_\_\_ Condition: **NCF / OK**

Company Name/Address:

**ERM - St. Louis, MO**

1968 Craig Road, Suite 100  
Saint Louis, MO 63146

Billing Information:

Accounts Payable Dept.  
1701 Golf Road, Suite 1-1000  
Rolling Meadows, IL 60008-4242

Pres  
Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 2



**MT JULIET, TN**

12065 Lebanon Rd Mount Juliet, TN 37122  
Submitting a sample via this chain of custody  
constitutes acknowledgment and acceptance of the  
Pace Terms and Conditions found at:  
<https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

Report to:  
**Randy Homburg**

Email To:  
Randy.Homburg@erm.com; Tim.Wilson@erm.co

Project Description:  
**Grand Tower Energy Center Groundwater 4Q24**

City/State  
Collected: **Grand Tower, IL**

Please Circle:  
PT MT  ET

Phone: **314-682-3980**

Client Project #  
**0599247**

Lab Project #  
**ERMSCMO-0599247**

Collected by (print):  
**Marshall Arendell**

Site/Facility ID #  
**6-010**

P.O. #

Collected by (signature):  
*Marshall Arendell*

**Rush?** (Lab MUST Be Notified)

Quote #

Same Day  Five Day  
 Next Day  5 Day (Rad Only)  
 Two Day  10 Day (Rad Only)  
 Three Day **Standard**

Date Results Needed

Immediately  
Packed on Ice N  Y

No.  
of  
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3											
APW-01R-WG-2024 1015	Grab	NPW	54.03	10/15/24	1825	3	X	X											
APW-04-WG-2024 1017	I	NPW	55.77	10/17/24	0845	3	X	X											
EB-01-WG-2024 1015		NPW	-	10/15/24	1015	3	X	X											
DUP-01-WG-2024 1016		NPW	-	10/16/24	0001	3	X	X											
DUP-02-WG-2024 1017		NPW	-	10/17/24	0002	3	X	X											

SDG # **L7990474**

Table #

Acctnum: **ERMSCMO**

Template: **T243472**

Prelogin: **P1103195**

PM: **206 - Jeff Carr**

PB:

Shipped Via: **FedEX Ground**

Remarks Sample # (lab only)

-11  
-12  
-13  
-14  
-15  
-16  
TR

\* Matrix:  
SS - Soil AIR - Air F - Filter  
GW - Groundwater B - Bioassay  
WW - WasteWater  
DW - Drinking Water  
OT - Other

Remarks:

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Samples returned via:

UPS FedEx Courier

Tracking #

Relinquished by: (Signature)

*Marshall Arendell* ERM

Date: 10/17/24  
Time: 1240

Date: 10/17/24  
Time: 1240

Received by: (Signature)

*Julie Clark* 10/17/24 1240

Trip Blank Received: Yes / No

HCL/MeOH  
TBR

Relinquished by: (Signature)

*Julie Clark*

Date: 10/17/24  
Time: 1240

Date: 10/17/24  
Time: 1240

Received by: (Signature)

Temp: \_\_\_\_\_ °C Bottles Received: **45**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Received for lab by: (Signature)

*James*

Date: 10/18/24 Time: 0900

Hold:

Condition:  
NCF / OK

Sample Receipt Checklist

COC Seal Present/Intact:  NP  N  
COC Signed/Accurate:   N  
Bottles arrive intact:   N  
Correct bottles used:   N  
Sufficient volume sent:   N  
if Applicable  
VOA Zero Headspace:   N  
Preservation Correct/Checked:   N  
RAD Screen <0.5 mR/hr:   N

