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Illinois Environmental Protection Agency
BOW-Permits #15-CCR Coordinator
2520 W Iles Ave
P.O. Box 19276
Springfield, IL 62794-9276

DATE
24 October 2025

SUBJECT
Twelfth Post-Closure Groundwater Monitoring Report
First Quarter 2025
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. 0761817

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 first quarter 2025 at the GTEC facility located at 1820 Power Plant Rd, Grand Tower, Illinois (the “Site”). The first quarter groundwater sampling event took place between 14 January and 16 January 2025, and the closed impoundment inspection event was conducted on 16 January 2025. A Site location map is provided in Figure 1.

The first quarter 2025 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.

First quarter 2025 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 first quarter of 2025, 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. A limited amount of woody vegetation (up to 1" diameter) was noted within the riprap around the toe of the side slope of the CCR impoundment cap faces. ERM will implement herbicide treatment during the Q2 2025 sampling event period. Additionally, woody vegetation was noted in the outfall channel, which allows discharge of water within the basin at the foot of the closed CCR side slope to the Mississippi River via an un-named drainage ditch. Erosional channels on the west, south, and east faces were noted as 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 INPSECTION AND GAUGING

During the first quarter of 2025, 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 and/or the well casings. The inspection tasks also included gauging total depths as well as static groundwater elevations in all site wells. 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 first quarter of 2025. 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 first quarter 2025 sampling event, 11 monitoring wells (APW-01R, APW-02, APW-03, APW-04, APW-05R, APW-06D, APW-06S, APW-08, APW-09, APW-10D, and APW-10S) were sampled.

During this event, trees were noted to be down along the access roads to APW-03, APW-07, APW-08, APW-10D, & APW-10S, impeding access to these well locations with the fleet sampling vehicle equipped with an onboard generator. Therefore, a supplemental portable generator was acquired to sample these wells. However, the reduced power of the Honda EU2200i generator compared to the onboard fleet sampling vehicle generator was not able to purge water from APW-07. As a result, a sample was not collected from APW-07 during Q1 2025. ERM will implement additional access road maintenance activities prior to Q2 2025 in an effort to provide fleet sampling vehicle access to the wells so that the onboard generator can be used to power the pumps to surge groundwater from these wells during future events.

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 first quarter 2025 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 first quarter 2025 are presented in Table 1. During the first quarter 2025 sampling event, the following analytes and/or field parameters were detected in the listed wells above the GWPS:

- Arsenic: APW-10S,
- Boron: APW-02, APW-03, APW-05R, APW-06D, APW-06S,
- Calcium: APW-02, APW-03, APW-04, APW-05R, APW-06D, APW-06S, APW-08, APW-10D, APW-10S,
- Lithium: APW-02, APW-06S,
- Molybdenum: APW-02, APW-05R, APW-06S,
- Sulfate: APW-02,
- Turbidity: APW-02, APW-05R, APW-09, APW-10D,

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 *2024 Annual Groundwater Monitoring Report - Grand Tower Energy Center* submitted by ERM and dated January 2025, statistical analysis conducted on the data collected from the first eleven quarters of post-closure

monitoring (2nd quarter 2022 through 4th quarter 2024) 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 2025 by or before 31 January 2026.

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 first quarter 2025 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 12 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 12 post groundwater monitoring events, boron concentrations have shown a decreasing trend in Site monitoring wells.
- During this event, trees were noted to be down across the access roads to APW-03, APW-07, APW-08, APW-10D, & APW-10S. Additional field equipment was acquired to sample these wells. However, the reduced power of the Honda EU2200i generator compared to the onboard fleet vehicle generator was not able to purge water from APW-07.
    - Additional maintenance of the access roads leading to monitoring wells south of the impoundment cap will be completed before Q2 2025 in an effort to provide access to all monitoring wells for the 2nd quarterly event.

- During the Q1 2025 event, minor woody vegetation was observed in the riprap, less than 1” thicken diameter. Continued monitoring of woody growth, and treatment recommendation, if necessary, will take place during subsequent quarterly sampling events.

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

Sincerely,

Randy Homburg
Managing Consultant

Wayne T. Sicora, P.E.
Principal Engineer

Attachments

cc: Mr. Bob Henderson, Perdomo - Grand Tower Energy Center (electronic)

FIGURES

DRAWN BY: S. Vickery

FILE: \\usbdcfs02\data\Philadelphia\Team\DMMV\GIS\Projects\Grand Tower Energy Center_MXD\FIGURE1-SITELOCATIONMAP_20221003.mxd | REVISED: 10/03/2022 | SCALE: 1:12,000 when printed at 11x17

N

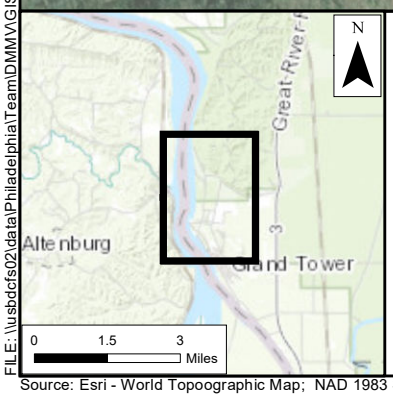
Grand Tower Energy Center (GTEC)

Closed Coal Combustion Residuals (CCR) Impoundment

Mississippi River

Grand Tower

0 840 1,680 Feet



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

Environmental Resources Management
www.erm.com

Source: Esri - World Topoographic Map; NAD 1983 StatePlane Illinois West FIPS 1202 Feet

DRAWN BY: ECLW

APW-1R
332.10

APW-05R
329.30

APW-02
328.31

APW-04
331.23

APW-06S
329.95

APW-06D
330.27

APW-03
331.12

APW-09
331.71

APW-07
330.26

APW-08
331.58

APW-10D
332.17

APW-10S
330.52

329

329.5

330

330.5

331

331.5

332

*Mississippi River
Elevation = 331.03 Ft

Mississippi River

N

0 240 480 Feet

0 0.425 0.85 Miles

Power P

3rd Ave

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 - January 14, 2025
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: First Quarter 2025 Groundwater Contour Map
Grand Tower Energy Center, LLC
Grand Tower, Illinois
Jackson County

ERM

Source: Esri - World Topoographic Map; NAD 1983 StatePlane Illinois West FIPS 1202 Feet

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TABLES

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

				Sampled prior to closure of CCR Impoundment									Post-Closure Sampling										
			Sample ID	APW-1R-20170907	APW-1R-20170927	APW-1R-20171018	APW-1R-20171108	APW-1R-20171127	APW-1R-20171228	APW-1R-20180117	APW-1R-20180207	APW-1R-WG-20220615	APW-01R-WG-20220915	APW-01R-WG-20221130	APW-01R-WG-20230202	APW-01R-WG-20230627	APW-01R-WG-20230920	APW-01R-WG-20231129	APW-01R-WG-20240110	APW-01R-WG-20240501	APW-01R-WG-20240905	APW-01R-WG-20241015	APW-01R-WG-20250115
			Location ID	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R
			Sample Date	09/05/2017	09/27/2017	10/18/2017	11/08/2017	11/27/2017	12/28/2017	01/17/2018	02/07/2018	06/15/2022	09/15/2022	11/30/2022	02/02/2023	06/27/2023	09/20/2023	11/29/2023	01/10/2024	05/01/2024	09/05/2024	10/15/2024	01/15/2025
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards[4]																				
UNSPECIFIED																							
Fluoride	N	mg/L	4	0.15	0.17	0.16	0.12	0.14	0.15	0.18	0.16	0.21	0.15	0.18	0.17	0.14	0.17	0.17	0.183	0.326	0.201	0.15 U	0.15 U
Radium-226	N	pCi/L	NS	0.25 ± .12 U	0.18 ± .09 U	0.51 ± .39 U	0.307 ± .320	0.13 ± 0.43 U	-0.07 ± 0.16 U	0.23 ± 0.1 U	0.03 ± 0.07 U	0.0323 ± 0.141 U	0.24 ± 0.1 U	0.4 ± 0.12 U	0.16 ± 0.169 J	0.27 ± 0.11 U	0.32 ± 0.11 U	0.24 ± 0.08 U	0.738 ± 0.354	0.383 ± 0.294	0.167 ± 0.164 J	0.126 ± 0.144 J	0.0217 ± 0.0838 U
Radium-228	N	pCi/L	NS	2.29 ± .98	0.51 ± .39 U	0.12 ± .332	0.57 ± 0.33 U	0.47 ± 0.54 U	0.04 ± 0.34 U	0.98 ± 0.62 J	0.22 ± 0.34 U	0.661 ± 0.257	0.43 ± 0.49 UQM-	0.41 ± 0.56 U	0.531 ± 0.284	0.85 ± 0.61 J	0.32 ± 0.56 U	0.97 ± 0.67 J	1.44 ± 0.229	0.671 ± 0.262	-0.199 ± 0.295 U	0.183 ± 0.206 J	0.924 ± 0.295
Sulfate	N	mg/L	400	41	65	65	54	58	88	78	79	33	73 S	69	74	37	79	73	68.9	61.7	34	58.5	81.4
CALC																							
Radium-226/228	N	pCi/L	7.002	2.54 ± 1.1	0.69 ± 0.48 U	0.427 ± 0.652	0.7 ± 0.76 U	0.47 ± 0.7 U	0.27 ± 0.44 U	1.01 ± 0.69 U	0.22 ± 0.42 U	0.693 ± 0.293	0.67 ± 0.59 U	0.81 ± 0.68 U	0.691 ± 0.330	1.12 ± 0.72 U	0.64 ± 0.67 U	1.21 ± 0.75 U	2.18 ± 0.422	1.05 ± 0.394	0.167 ± 0.338 U	0.309 ± 0.251 J	0.946 ± 0.307
GEN CHEM																							
Turbidity, Field	N	NTU	17.96									33.9	31.7	31.7	88.5	83.2	133	95.6	25.6	71.3	19.2	16.8	8.95
METALS																							
Chloride	N	mg/L	200	5 U	5 U	5 U	5 U	5 U	9	11	10	2	7	7	7	4 U	5	7	9.07	7.19	1.97	6.15	9.52
Dissolved Solids, Total	N	mg/L	1200	400	428	376	358 R	412	474	434	392	342	420 H	385	384	328	355	300	385	439	372	384	395
pH, Lab	N	pH units	9	6.64	6.54	6.6	6.8	7.11	6.96	7.09	6.52	6.98	6.91	6.43	6.57	6.53 H	6.66 H	6.59 H	7.19 T8	7.04 T8	6.88 T8	6.85 T8	7.25 T8
METALS																							
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	0.004 U	0.004 U F1	0.004 U	0.004 U	0.004 U
Antimony	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	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Arsenic	D	mg/L	0.01									0.0012	0.001 U	0.001 U	0.001 U	0.0011	0.0016	0.0015	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Arsenic	T	mg/L	0.01	0.0012	0.0012	0.001 U	0.0012	0.0011	0.001 U	0.0011	0.0011	0.0019	0.0019	0.0021	0.0016	0.0013	0.0029	0.0033	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Barium	D	mg/L	2									0.16	0.153	0.162 B	0.155	0.164	0.21	0.245	0.159	0.194 F1	0.154	0.162	0.163
Barium	T	mg/L	2	0.168	0.193	0.171	0.176	0.165	0.178	0.182	0.18	0.197	0.185	0.199	0.178	0.168	0.202	0.259	0.169	0.204	0.155	0.165	0.168
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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 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	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Boron	D	mg/L	2									0.163	0.244	0.219	0.205	0.249	0.204	0.279		0.238 F1	0.205	0.238	0.261
Boron	T	mg/L	2	0.218	0.251	0.238	0.211	0.225	0.329	0.357	0.311	0.228	0.242	0.222	0.221	0.176	0.18	0.263		0.247	0.2 U	0.242	0.244
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 F1	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	0.001 U	0.001 U
Calcium	D	mg/L	103.2									85.6	83.8 S	73.9	71.4	66.4	72.1	57.6	76.8	101 F1	94.1	91.1	89.8
Calcium	T	mg/L	103.2	84.3 S	93 S	86.2 S	88.2	91.2 S	91	97.1	85.8 S	90.3	91.4	79.7	75.5 S	66.8 B	59.2 S	94.3	78.4	98	89.5	89.5	95.4
Chromium	D	mg/L	0.1									0.0009 J	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Chromium	T	mg/L	0.1	0.0023	0.0021	0.0033	0.001 U	0.001 U	0.0018	0.0015	0.0015	0.0031	0.0034	0.0041	0.0022	0.0015 U	0.0085	0.0049	0.00248	0.00322	0.002 U	0.00206	0.002 U
Cobalt	D	mg/L	0.006									0.0002 J	0.001 U	0.001 U	0.001 U	0.001 U	0.0012	0.0013	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 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	0.0017	0.0017	0.0031	0.0013	0.0014	0.0041	0.0027	0.002 U	0.00225	0.002 U	0.002 U	0.002 U
Iron	D	mg/L	NS																0.1 U				
Iron	T	mg/L	NS									1.42							0.405				
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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Lead	T	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	0.0013	0.0002	0.0014	0.001 U	0.001 U	0.0026	0.002	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Lithium	D	mg/L	0.04									0.0127	0.0156	0.0139	0.0135	0.015	0.0211	0.0193	0.014	0.0143 F1	0.013	0.0165	0.0145
Lithium	T	mg/L	0.04	0.0155	0.018	0.0173	0.0175	0.018	0.0179	0.0164	0.0159	0.0171	0.0169	0.0155	0.0157	0.0142	0.0147	0.0189	0.0153	0.015	0.0133	0.0152	0.0154
Manganese	D	mg/L	NS																0.0362				
Manganese	T	mg/L	NS									0.139							0.0791				
Mercury	D	mg/L	0.002										0.0002 U						0.0002 U	0.0002 U F1	0.0002	0.0002 U	0.0002 U
Mercury	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	0.0002 U	0.0002 U
Molybdenum	D	mg/L	0.1									0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.00523	0.005 U F1	0.005 U	0.005 U	0.005 U
Molybdenum	T	mg/L	0.1	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nickel	D	mg/L	NS									0.0043		0.0061					0.00664				
Nickel	T	mg/L	NS	0.0044	0.0062	0.0054	0.004	0.0038	0.0046	0.005	0.0057	0.0083		0.012					0.00804				
Selenium	D	mg/L	0.05									0.0028	0.0032	0.0033	0.0032	0.0032	0.0037	0.0058	0.00435	0.00444 F1	0.00269	0.00341	0.0042
Selenium	T	mg/L	0.05	0.0038	0.004	0.0034	0.0044	0.0041	0.004	0.004	0.0037	0.0028	0.0038	0.0035	0.0037	0.0033	0.0037	0.0054	0.00514	0.00437	0.00351	0.00327	0.00337
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 F1	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	0.0014	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

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
pCi/L = picocuries per liter
NTU = nephelometric turbidity units
H = Holding times 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 Recovery outside recovery limits
R = RPD outside accepted recovery limits
U = Not Detected at the Reporting Limit
T8 = Sample received past/too close to holding time expiration

1 Standard is from the Upper Tolerance Limit (UTL) calculated from
2 Standard value 6.22 is from the Lower Tolerance Limit (LTL)
3 Eight episodes of groundwater sampling were conducted from
4 Well was redrilled 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

Sampled prior to closure of CCR Impoundment

Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards[3]	APW-2-20170907	APW-2-20170927	APW-2-20171020	APW-2-20171109	APW-2-20171129	APW-2-20171227	APW-2-20180119	APW-2-20180207
Location ID				APW-02	APW-02	APW-02	APW-02	APW-02	APW-02	APW-02	APW-02
Sample Date				09/06/2017	09/28/2017	10/20/2017	11/09/2017	11/29/2017	12/27/2017	01/19/2018	02/07/2018
Sample Type				N	N	N	N	N	N	N	N
UNSPECIFIED											
Fluoride	N	mg/L	4	0.24	0.26	0.25	0.24	0.24	0.25	0.26	0.24
Radium-226	N	pCi/L	NS	1.06 ± 0.21	0.03 ± 0.1 U	-0.132 ± 0.410	1.47 ± 0.26		0.33 ± 0.12 U	0.47 ± 0.15 U	0.97 ± 0.23 J
Radium-228	N	pCi/L	NS	1.98 ± 0.95	-0.01 ± 0.6 U	0.504 ± 0.378	0.91 ± 0.36 J		0.95 ± 0.52 J	1.08 ± 0.59	0.99 ± 0.5 J
Sulfate	N	mg/L	400	462	460	472 S	479	472	426	443	416
CALC											
Radium-226/228	N	pCi/L	7.002	3.04 ± 1.16	0.03 ± 0.7 U	0.504 ± 0.788	2.38 ± 0.62		1.28 ± 0.64 U	1.55 ± 0.74 U	1.96 ± 0.73 U
FIELD PARAM											
Turbidity, Field	N	NTU	17.96[1]								
GEN CHEM											
Chloride	N	mg/L	200	13	12	11	11	12	12	12	12
Dissolved Solids, Total	N	mg/L	1200	858	880	934	916	870	848	836	888
pH, Lab	N	pH units	6.22-9.0[2]	7.09	7.05	7.08	7.07	7.05	7.14	7.06	6.96
METALS											
Antimony	D	mg/L	0.006								
Antimony	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	0.0021
Arsenic	D	mg/L	0.01								
Arsenic	T	mg/L	0.01	0.0199	0.0147	0.0212	0.017	0.0169	0.0157	0.0148	0.0243
Barium	D	mg/L	2								
Barium	T	mg/L	2	0.479	0.355	0.685	0.44	0.427	0.338	0.351	0.739
Beryllium	D	mg/L	0.004								
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	0.0011
Boron	D	mg/L	2								
Boron	T	mg/L	2	8.16	8.73	8.94 S	9	8.98	8.39	8.19	8.24
Cadmium	D	mg/L	0.005								
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
Calcium	D	mg/L	103.2								
Calcium	T	mg/L	103.2	148	145	171 S	157	158	135	134	175
Chromium	D	mg/L	0.1								
Chromium	T	mg/L	0.1	0.0374	0.0455	0.0503	0.0235	0.014	0.0566	0.127	0.112
Cobalt	D	mg/L	0.006								
Cobalt	T	mg/L	0.006	0.0057	0.0023	0.0097	0.0041	0.0038	0.0018	0.0028	0.011
Iron	D	mg/L	NS								
Iron	T	mg/L	NS								
Lead	D	mg/L	0.0075								
Lead	T	mg/L	0.0075	0.0115	0.0054	0.0201	0.0096	0.0075	0.0031	0.0048	0.0239
Lithium	D	mg/L	0.04								
Lithium	T	mg/L	0.04	0.05	0.0455	0.0647	0.0521	0.0542	0.0474	0.045	0.0604
Manganese	D	mg/L	NS								
Manganese	T	mg/L	NS								
Mercury	D	mg/L	0.002								
Mercury	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
Molybdenum	D	mg/L	0.1								
Molybdenum	T	mg/L	0.1	0.172	0.147	0.214	0.175	0.165	0.111	0.0951	0.131
Nickel	D	mg/L	NS								
Nickel	T	mg/L	NS	0.0288	0.0263	0.0412	0.0202	0.0135	0.0295	0.0631	0.0725
Selenium	D	mg/L	0.05								
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
Thallium	D	mg/L	0.002								
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

Post-Closure Sampling

Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards[3]	APW-02-WG-20220616	APW-02-WG-20220914	DUP-002-WG-20220914	APW-02-WG-20221129	DUP-02-WG-20221129	APW-02-WG-20230201	DUP-02-WG-20230201	APW-02-WG-20230627	DUP-02-WG-20230627	APW-02-WG-20230920	APW-02-WG-20231128	APW-02-WG-20240110	APW-02-WG-20250115
Location ID				APW-02	APW-02	APW-02	APW-02	APW-02	APW-02	APW-02	APW-02	APW-02	APW-02	APW-02	APW-02	APW-02
Sample Date				06/16/2022	09/14/2022	09/14/2022	11/29/2022	11/29/2022	02/01/2023	02/01/2023	06/27/2023	06/27/2023	09/20/2023	11/28/2023	01/10/2024	01/15/2025
Sample Type				N	N	FD	N	FD	N	FD	N	FD	N	N	N	N
UNSPECIFIED																
Fluoride	N	mg/L	4	0.25	0.22	0.22	0.25	0.26	0.23	0.22	0.22	0.22	0.24	0.26	0.23	0.224
Radium-226	N	pCi/L	NS	0.159 ± 0.181 J	0.27 ± 0.1 UODR	0.14 ± 0.07 U	0.5 ± 0.14 U	0.35 ± 0.12 U	0.0737 ± 0.256 U	0.175 ± 0.279 J	0.21 ± 0.1 U	-0.05 ± 0.07 U	0.38 ± 0.12 U	0.12 ± 0.06 U	0.0909 ± 0.186 U	0.301 ± 0.253
Radium-228	N	pCi/L	NS	0.308 ± 0.236 J3U	0.4 ± 0.48 UODR	2.81 ± 1.03	0.24 ± 0.44 U	0.27 ± 0.55 U	1.07 ± 0.466	0.981 ± 0.290	-0.42 ± 0.6 U	0.13 ± 0.52 U	3.71 ± 0.93	0.56 ± 0.64 U	0.243 ± 0.202 J	1.89 ± 0.774
Sulfate	N	mg/L	400	496	491	490	418	438	459	455	500	465	460	440	411	509
CALC																
Radium-226/228	N	pCi/L	7.002	0.467 ± 0.297 J	0.67 ± 0.58 U	2.95 ± 1.1	0.74 ± 0.58 U	0.62 ± 0.67 U	1.14 ± 0.532	1.16 ± 0.402	0.21 ± 0.7 U	0.13 ± 0.59 U	4.09 ± 1.05	0.68 ± 0.7 U	0.333 ± 0.275 J	2.19 ± 0.814
FIELD PARAM																
Turbidity, Field	N	NTU	17.96[1]	38	19.2		132		93.6		104.3		97	169	104	127
GEN CHEM																
Chloride	N	mg/L	200	9	11	10	9	9	10	10	7	8	7	8	7.78	8.58
Dissolved Solids, Total	N	mg/L	1200	930	890 H	905 H	885	855	852	866	920	870	845	920	820	861
pH, Lab	N	pH units	6.22-9.0[2]	7.21	7.32	7.25	7.01	7.02	6.98	7.05	6.9 H	7.03 H	7.15 H	7.11 H	7.52 T8	7.67 T8
METALS																
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	0.004 U	0.004 U
Antimony	T	mg/L	0.006	0.0006 J	0.001 U	0.001 U	0.001 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	0.004 U
Arsenic	D	mg/L	0.01	0.0117	0.0048	0.0049	0.0012	0.0187	0.016	0.0138	0.011	0.0107	0.0072	0.0168	0.00409	0.00299
Arsenic	T	mg/L	0.01	0.0158	0.026	0.0176	0.022	0.0173	0.0185	0.0175	0.0148	0.0146	0.0093	0.0237	0.0112	0.00904
Barium	D	mg/L	2	0.154	0.123	0.135	0.125 B	0.148 B	0.187	0.154	0.142	0.145	0.133	0.205	0.131	0.125
Barium	T	mg/L	2	0.237	0.408	0.238	0.254	0.218	0.214	0.159	0.149	0.206	0.152	0.303	0.155	0.147
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	0.002 U	0.002 U
Beryllium	T	mg/L	0.004	0.002 U	0.001 U	0.001 U	0.001 SU	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U
Boron	D	mg/L	2	8.17	7.49 S	7.9	0.656	6.63	8.21	7.39	8.97	9.24	8.91	9.57 S		9.11
Boron	T	mg/L	2	8.13	9.43	8.72	8.97 S	7.69	7.75	8.32 S	9.14	9.51 S	8.24	9.62		9.07
Cadmium	D	mg/L	0.005	0.0003 J	0.001 U	0.001 U	0.001 U	0.001 U	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	0.0006 J	0.001 U	0.001 U	0.001 U	0.001 U	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	175	136 S	165	96.1	129	108	144	147	148	151	121 S	144	150
Calcium	T	mg/L	103.2	189	198	178	145 S	149	144	149 S	161 B	167 S	132	132	146	165
Chromium	D	mg/L	0.1	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	0.0015 U	0.0015 U	0.002 U	0.002 U
Chromium	T	mg/L	0.1	0.0254	0.0148	0.0066	0.0064	0.0054	0.0052	0.0022	0.0024	0.0079	0.008	0.0092	0.002 U	0.00228
Cobalt	D	mg/L	0.006	0.0003 J	0.001 U	0.001 U	0.001 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	0.002 U
Cobalt	T	mg/L	0.006	0.0011 J	0.0044	0.0011	0.0015	0.0011	0.001 U	0.001 U	0.001 U	0.0016	0.001 U	0.0027	0.002 U	0.002 U
Iron	D	mg/L	NS												0.1 U	
Iron	T	mg/L	NS	11.7											7.63	
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	0.002 U	0.002 U
Lead	T	mg/L	0.0075	0.0022	0.0119	0.0033	0.0033	0.0034	0.0027	0.0023	0.0025	0.0029	0.002	0.0057	0.00235	0.00229
Lithium	D	mg/L	0.04	0.037	0.0374	0.0404	0.028	0.0356	0.0425	0.0387	0.0442	0.0455	0.0583	0.0506	0.0396	0.0424
Lithium	T	mg/L	0.04	0.0507	0.0559	0.0456	0.0386	0.0411	0.0417	0.044	0.0459	0.048	0.0422	0.056	0.0416	0.0437
Manganese	D	mg/L	NS												0.616	
Manganese	T	mg/L	NS	0.752											0.669	
Mercury	D	mg/L	0.002		0.0002 U	0.0002 U									0.0002 U	0.0002 U
Mercury	T	mg/L	0.002	0.0002 U	0.00043	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	0.201	0.139	0.156	0.0337	0.145	0.151	0.155	0.227	0.227	0.214	0.205	0.157	0.193
Molybdenum	T	mg/L	0.1	0.24	0.174	0.174	0.128	0.119	0.165	0.16	0.229	0.252	0.198	0.147	0.158	0.188
Nickel	D	mg/L	NS	0.0039			0.0022	0.001 U							0.002 U	
Nickel	T	mg/L	NS	0.0142			0.0045	0.0047							0.00237	
Selenium	D	mg/L	0.05	0.001 U	0.001 U	0.001 U	0.0071	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 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	0.0015	0.002 U	0.002 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	0.002 U	0.002 U	0.002 U
Thallium	T	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

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
pCi/L = picocuries per liter
NTU = nephelometric turbidity units
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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 Recovery outside recovery limits
R = RPD outside accepted recovery limits
U = Not Detected at the Reporting Limit
T8 = Sample received past/too close to holding time expiration

1 Standard is from the Upper Tolerance Limit (UTL) calculated from
2 Standard value 6.22 is from the Lower Tolerance Limit (LTL)
3 Eight episodes of groundwater sampling were conducted from
4 Well was redrilled 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

				Sampled prior to closure of CCR Impoundment									Post-Closure Sampling										
			Sample ID	APW-3-20170907	APW-3-20170929	APW-3-20171020	APW-3-20171110	APW-3-20171129	APW-3-20171228	APW-3-20180119	APW-3-20180208	APW-03-WG-20220616	APW-03-WG-20220915	APW-03-WG-20221130	APW-03-WG-20230130	APW-03-WG-20230626	APW-03-WG-20230919	APW-03-WG-20231127	APW-03-WG-20240111	APW-03-WG-20240430	APW-03-WG-20240904	APW-03-WG-20241016	APW-03-WG-20250116
			Location ID	APW-03	APW-03	APW-03	APW-03	APW-03	APW-03	APW-03	APW-03	APW-03	APW-03	APW-03	APW-03	APW-03	APW-03	APW-03	APW-03	APW-03	APW-03	APW-03	APW-03
			Sample Date	09/06/2017	09/29/2017	10/20/2017	11/10/2017	11/29/2017	12/28/2017	01/19/2018	02/08/2018	06/16/2022	09/15/2022	11/30/2022	01/30/2023	06/26/2023	09/19/2023	11/27/2023	01/11/2024	04/30/2024	09/04/2024	10/16/2024	01/16/2025
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards[1]																				
UNSPECIFIED																							
Fluoride	N	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	0.23	0.25	0.24	0.202	0.37	0.285	0.15 U	0.254
Radium-226	N	pCi/L	NS	0.53 ± .18 U	0.04 ± 0.09 U	0.409 ± 0.426	0.18 ± 0.11 U	0.33 ± 0.17 U	0.2 ± 0.1 U	0.1 ± 0.1 U	0.31 ± 0.15 U	0.201 ± 0.155	0.56 ± 0.13 U	0.19 ± 0.1 U	0.293 ± 0.212	0.23 ± 0.11 U	0.2 ± 0.09 U	0.11 ± 0.05 U	3.18 ± 0.675	0.594 ± 0.383	0.493 ± 0.251	0.0651 ± 0.146 U	0.096 ± 0.120 J
Radium-228	N	pCi/L	NS	2.05 ± .96	1.01 ± 0.57	0.492 ± 0.373	0.72 ± 0.37 J	0.31 ± 0.49 U	0.37 ± 0.44 U	1.32 ± 0.68	0.06 ± 0.36 U	1.89 ± 0.26 J3	0.4 ± 0.5 UJDR	0.67 ± 0.59 U	0.119 ± 0.430 U	0.61 ± 0.54 U	0.85 ± 0.52 J	0.66 ± 0.58 JDDR	-0.0217 ± 0.241 U	0.585 ± 0.256	1.4 ± 0.319	1.09 ± 0.261	0.698 ± 0.382
Sulfate	N	mg/L	400	175	222	201	207	204	168	152	194	393	150	226	322	292	280	133	80.1	285	259	271	299
CALC																							
Radium-226/228	N	pCi/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 ± 0.63 U	0.86 ± 0.69 U	0.412 ± 0.479 J	0.84 ± 0.65 U	1.05 ± 0.61 U	0.77 ± 0.63 U	3.18 ± 0.717	1.18 ± 0.461	1.9 ± 0.406	1.15 ± 0.299	0.794 ± 0.400
FIELD PARAM																							
Turbidity, Field	N	NTU	17.96[3]									40.3	56.1	103	50.7	6.04	2.72	4	7.12	2.53	1.94	4.48	7.69
GEN CHEM																							
Chloride	N	mg/L	200	22	21	21	22	19	20	16	23	20	16	20	21	17	16	11	8.04	15	11.6	10.5	10.4
Dissolved Solids, Total	N	mg/L	1200	464	514	486	450	554	504	498	456	724	602 H	610	524	614	636	556	489	627	567	587	577
pH, Lab	N	pH units	6.22-9.0[2]	7.88	7.46	7.65	7.93	7.5	7.48	7.26	7.78	7.85	7.46	7.21	7.45	7.77 H	7.84 H	7.24 H	7.4 T8	7.8 T8	7.88 T8	7.94 T8	8.08 T8
METALS																							
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	0.0018	0.004 U	0.004 U F1	0.004 U	0.004 U	0.004 U
Antimony	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	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Arsenic	D	mg/L	0.01									0.0015	0.0014	0.0024	0.002	0.0016	0.0019	0.0013	0.002 U	0.00219 F1	0.002 U	0.002 U	0.002 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	0.0059	0.003	0.004	0.0017	0.002	0.002 U	0.00254	0.002 U	0.002 U	0.002 U
Barium	D	mg/L	2									0.139	0.124	0.108 B	0.139	0.13	0.136	0.122	0.122	0.122 F1	0.114	0.103	0.102
Barium	T	mg/L	2	0.111	0.146	0.104	0.0814	0.121	0.1	0.15	0.0806	0.158	0.181	0.19	0.135	0.155	0.137	0.167	0.123	0.119	0.116	0.108	0.11
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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 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	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Boron	D	mg/L	2									4.23	1.49	2.99	4.98	4.64	4.11	1.69		4.2 F1	4.07	4.38	4.74
Boron	T	mg/L	2	4.16	4.21 S	4.7	4.67	4.44 S	4.52	4.08	4.92	4.27	1.84	3.59	4.94	4.67	4.19 S	2.22		4.28	4.22	4.41	4.83
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 F1	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	0.0002 J	0.001 U	0.001 U	0.001 U	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									174	126	101	121	126	137	111	123	126 F1	122	121	116
Calcium	T	mg/L	103.2	86.3	104 S	88.1	74.9	116 S	95	101	77.1	153	143	115	111	139 B	124 S	115	122	121	125	123	124
Chromium	D	mg/L	0.1									0.0011 J	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Chromium	T	mg/L	0.1	0.0081	0.0053	0.0026	0.001 U	0.001 U	0.005	0.0025	0.001 U	0.0044	0.0083	0.0118	0.0019	0.0241	0.0015 U	0.0015 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cobalt	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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Cobalt	T	mg/L	0.006	0.001 U	0.0015	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 J	0.0014	0.0021	0.001 U	0.0014	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Iron	D	mg/L	NS																0.1 U				
Iron	T	mg/L	NS									1.66							0.367				
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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 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	0.0023	0.0029	0.001 U	0.0044	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Lithium	D	mg/L	0.04									0.0338	0.0288	0.0266	0.0275	0.0262	0.0406	0.0256	0.0281	0.0289 F1	0.0314	0.0357	0.0297
Lithium	T	mg/L	0.04	0.0258	0.0262	0.0259	0.0245	0.0308	0.027	0.035	0.0239	0.0361	0.0329	0.029	0.0276	0.0352	0.0312	0.0324	0.0316	0.0327	0.0315	0.0328	0.0307
Manganese	D	mg/L	NS																0.438				
Manganese	T	mg/L	NS									0.321							0.435				
Mercury	D	mg/L	0.002										0.0002 U						0.0002 U	0.0002 U F1	0.0002 U	0.0002 U	0.0002 U
Mercury	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	0.0002 U	0.0002 U
Molybdenum	D	mg/L	0.1									0.057	0.0342	0.0648	0.0521	0.0656	0.0487	0.0303	0.0274	0.0642 F1	0.0656	0.0626	0.0656
Molybdenum	T	mg/L	0.1	0.0778	0.0754	0.0761	0.0713	0.0684	0.0748	0.0824	0.0849	0.0601	0.0413	0.0621	0.0528	0.0553	0.0558	0.0319	0.0262	0.0608	0.0656	0.0608	0.0673
Nickel	D	mg/L	NS									0.0016		0.0011					0.002 U				
Nickel	T	mg/L	NS	0.0055	0.0051	0.0019	0.001 U	0.001 U	0.0026	0.0025	0.001	0.0033		0.01					0.002 U				
Selenium	D	mg/L	0.05									0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0012	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 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	0.0011	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0019	0.002 U	0.002 U	0.002 U	0.002 U	0.002 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 F1	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	0.002 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

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
pCi/L = picocuries per liter
NTU = nephelometric turbidity units
H = Holding times 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 Recovery outside recovery limits
R = RPD outside accepted recovery limits
U = Not Detected at the Reporting Limit
T8 = Sample received past/too close to holding time expiration

1 Standard is from the Upper Tolerance Limit (UTL) calculated from
2 Standard value 6.22 is from the Lower Tolerance Limit (LTL)
3 Eight episodes of groundwater sampling were conducted from
4 Well was redrilled 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

				Sampled prior to closure of CCR Impoundment										Post-Closure Sampling									
			Sample ID	APW-4-20170907	APW-4-20170929	APW-4-20171019	APW-4-20171108	APW-4-20171128	APW-4-20171228	APW-4-20180119	APW-4-20180208	APW-04-WG-20220615	APW-04-WG-20220915	APW-04-WG-20221128	APW-04-WG-20230202	APW-04-WG-20230627	APW-04-WG-20230920	APW-04-WG-20231129	APW-04-WG-20240110	APW-04-WG-20240501	APW-04-WG-20240904	APW-04-WG-20241017	APW-04-WG-20250114
			Location ID	APW-04	APW-04	APW-04	APW-04	APW-04	APW-04	APW-04	APW-04	APW-04	APW-04	APW-04	APW-04	APW-04	APW-04	APW-04	APW-04	APW-04	APW-04	APW-04	APW-04
			Sample Date	09/08/2017	09/29/2017	10/19/2017	11/08/2017	11/28/2017	12/28/2017	01/19/2018	02/08/2018	06/15/2022	09/15/2022	11/28/2022	02/02/2023	06/27/2023	09/20/2023	11/30/2023	01/10/2024	05/01/2024	09/04/2024	10/17/2024	01/14/2025
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards[4]																				
UNSPECIFIED																							
Fluoride	N	mg/L	4	0.18	0.19	0.18	0.17	0.18	0.17	0.17	0.16	0.2	0.17	0.17	0.15	0.16	0.15	0.18	0.17	0.201	0.178	0.15 U	0.15 U
Radium-226	N	pCi/L	NS	0.38 ± 0.16 U	0.02 ± 0.08 U	-0.272 ± 0.328	0.15 ± 0.09 U	0.09 ± 0.13 U	0.17 ± 0.09 U	-0.05 ± 0.08 U	0.13 ± 0.11 U	0.103 ± 0.164 J	0.5 ± 0.13 U	0.11 ± 0.08 U	0.352 ± 0.232	0.33 ± 0.12 U	0.09 ± 0.07 U	0.19 ± 0.07 U	0.223 ± 0.242 J	0.146 ± 0.275 U	0.302 ± 0.252	0.116 ± 0.132 J	0.0629 ± 0.123 U
Radium-228	N	pCi/L	NS	0.95 ± 0.64 J	-0.45 ± 0.68 U	0.53 ± 0.382	0.64 ± 0.31 U	0.88 ± 0.64 J	0.73 ± 0.36 J	0.34 ± 0.51 U	0.64 ± 0.48 U	0.245 ± 0.235 J	2.15 ± 0.78	1.47 ± 0.67	0.961 ± 0.296	0.92 ± 0.68 J	1.18 ± 0.67	0.66 ± 0.64 J	0.629 ± 0.280	0.451 ± 0.288 J	0.51 ± 0.209	0.379 ± 0.275 J	0.111 ± 0.567 U
Sulfate	N	mg/L	400	126	116	109	120	107	100	99	92	94	83	68	62	65	68	54	50.9 J6	53.9	86.2	65.6	70.8
CALC																							
Radium-226/228	N	pCi/L	7.002	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	0.852 ± 0.370	0.597 ± 0.398 J	0.811 ± 0.327	0.494 ± 0.305 J	0.174 ± 0.580 U
FIELD PARAM																							
Turbidity, Field	N	NTU	17.96[1]									19.1	18.3	26.5	37.3	38.7	21.6	22.8	29.8	91.7	30.2	91.4	15.7
GEN CHEM																							
Chloride	N	mg/L	200	12	11	11	11	11	11	10	11	12	10	11	10	12	9	11	9.21	11.6	9.98	10.1	10.4
Dissolved Solids, Total	N	mg/L	1200	460	484	452	472	492	514	424	528	430	436 H	446	416	432	476	430	418	404		418	440
pH, Lab	N	pH units	6.22-9.0[2]	7.31	7.33	7.31	7.42	7.32	7.33	7.25	7.2	7.41	7.51	7.34	7.21	7.39 H	7.56 H	7.31 H	8.17 T8	7.5 T8	7.65 T8	7.46 T8	7.77 T8
METALS																							
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	0.004 U	0.004 U F1	0.004 U	0.004 U	0.004 U
Antimony	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	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Arsenic	D	mg/L	0.01									0.0013	0.0013	0.0021	0.0011	0.0014	0.0016	0.002	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Arsenic	T	mg/L	0.01	0.0025	0.0018	0.0016	0.0018	0.0016	0.0014	0.0016	0.0015	0.0015	0.0029	0.0016	0.0017	0.002	0.0019	0.0028	0.002 U	0.002 U	0.002 U	0.00219	0.002 U
Barium	D	mg/L	2									0.116	0.132	0.13 B	0.116	0.122	0.138	0.165	0.13	0.128 F1	0.134	0.126	0.132
Barium	T	mg/L	2	0.145	0.139	0.123	0.13	0.128	0.141	0.155	0.144	0.143	0.165	0.133	0.134	0.138	0.131	0.153	0.139	0.12	0.14	0.142	0.139
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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 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	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Boron	D	mg/L	2									1.41	0.875	7.33	0.619	0.908	0.591	0.645		0.556 F1	1.85	1.1	0.71
Boron	T	mg/L	2	2.37	2.16	2.12	2.21	2.03	1.7	1.33	1.18	1.88	0.973	0.653	0.65	0.876	0.672	0.559		0.578	1.79	1.07	0.733
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 F1	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	0.001 U	0.001 U
Calcium	D	mg/L	103.2									111	93.7	108	93.3 S	88.3	101 S	77.9	90.6	93.1 F1	110	102	105
Calcium	T	mg/L	103.2	101 S	105	89.4	97.5	107	107	113	113	97.8	108 S	102	100	97.5 B	87.9	124	94.1	93.4	107	101	110
Chromium	D	mg/L	0.1									0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Chromium	T	mg/L	0.1	0.0041	0.0025	0.0017	0.001 U	0.001 U	0.0027	0.0037	0.001 U	0.0015 U	0.0251	0.0043	0.0016	0.0015 U	0.0023	0.0033	0.00267	0.002 U	0.002 U	0.00782	0.002 U
Cobalt	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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Cobalt	T	mg/L	0.006	0.0013	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0006 J	0.0025	0.001 U	0.001 U	0.001 U	0.001 U	0.0012	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Iron	D	mg/L	NS																0.1 U				
Iron	T	mg/L	NS									0.563							0.709				
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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Lead	T	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	0.0016	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Lithium	D	mg/L	0.04									0.0264	0.0283	0.0355	0.0292	0.0311	0.0411	0.0333	0.0266	0.0264 F1	0.0277	0.0314	0.0275
Lithium	T	mg/L	0.04	0.0404	0.0403	0.0412	0.0406	0.0424	0.0416	0.0411	0.0397	0.036	0.0322	0.0293	0.0326	0.0314	0.0299	0.0298	0.029	0.0277	0.0284	0.0293	0.0293
Manganese	D	mg/L	NS																0.171				
Manganese	T	mg/L	NS									0.192							0.21				
Mercury	D	mg/L	0.002										0.0002 U						0.0002 U	0.0002 U F1	0.0002 U	0.0002 U	0.0002 U
Mercury	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	0.0002 U	0.0002 U
Molybdenum	D	mg/L	0.1									0.0653	0.0445	0.227	0.0383	0.0503	0.0367	0.0461	0.037	0.0511 F1	0.0543	0.0502	0.044
Molybdenum	T	mg/L	0.1	0.0891	0.084	0.0793	0.0812	0.0748	0.0714	0.0592	0.057	0.0788	0.0494	0.0406	0.0377	0.0449	0.0299	0.0347	0.0332	0.0494	0.0517	0.0458	0.0443
Nickel	D	mg/L	NS									0.0019		0.0017					0.00313				
Nickel	T	mg/L	NS	0.0065	0.0034	0.0029	0.002	0.002	0.0026	0.0039	0.003	0.0045		0.0051					0.00557				
Selenium	D	mg/L	0.05									0.0134	0.0101	0.001 U	0.009	0.0165	0.0096	0.0139	0.00962	0.0221 F1	0.0176	0.0172	0.0111
Selenium	T	mg/L	0.05	0.0158	0.015	0.0149	0.0161	0.014	0.013	0.0101	0.0102	0.0133	0.0111	0.0085	0.0099	0.0165	0.009	0.015	0.0105	0.0218	0.0186	0.0176	0.0117
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 F1	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	0.002 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

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T8 = Sample received past/too close to holding time expiration

1 Standard is from the Upper Tolerance Limit (UTL) calculated from
2 Standard value 6.22 is from the Lower Tolerance Limit (LTL)
3 Eight episodes of groundwater sampling were conducted from
4 Well was redrilled 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 Dissolved	Units	Groundwater Protection Standards[3]	Sampled prior to closure of CCR Impoundment							
			Sample ID	APW-5-20170907	APW-5-20170928	APW-5-20171019	APW-5-20171109	APW-5-20171129	APW-5-20171227	APW-5-20180118	APW-5-20180207
			Location ID	APW-05	APW-05	APW-05	APW-05	APW-05	APW-05	APW-05	APW-05
			Sample Date	09/06/2017	09/28/2017	10/19/2017	11/09/2017	11/29/2017	12/27/2017	01/18/2018	02/07/2018
			Sample Type	N	N	N	N	N	N	N	N
UNSPECIFIED											
Fluoride	N	mg/L	4	0.34	0.34	0.32	0.32	0.32	0.33	0.36	0.32
Radium-226	N	pCi/L	NS	0.37 ± 0.14 U	0.19 ± 0.1 U	0.133 ± 0.370	0.48 ± 0.15 U		0.35 ± 0.12 U	0.13 ± 0.1 U	0.26 ± 0.13 U
Radium-228	N	pCi/L	NS	1.07 ± 0.8	0.89 ± 0.55 J	0.661 ± 0.418	1.17 ± 0.33		0.49 ± 0.42 U	1.04 ± 0.56	0.35 ± 0.4 U
Sulfate	N	mg/L	400	407	460	399	413	381	394	439	378
CALC											
Radium-226/228	N	pCi/L	7.002	1.44 ± 0.94 U	1.08 ± 0.65 U	0.794 ± 0.78	1.65 ± 0.48 U		0.84 ± 0.54 U	1.17 ± 0.66 U	0.61 ± 0.53 U
FIELD PARAM											
Turbidity, Field	N	NTU	17.96[1]								
GEN CHEM											
Chloride	N	mg/L	200	15	15	15	14	16	16	16	16
Dissolved Solids, Total	N	mg/L	1200	842	832	804	826	790	792	552	804
pH, Lab	N	pH units	6.22-9.0[2]	7.37	7.3	7.26	7.3	7.26	7.31	7.23	7.18
METALS											
Antimony	D	mg/L	0.006								
Antimony	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
Arsenic	D	mg/L	0.01								
Arsenic	T	mg/L	0.01	0.0031	0.0026	0.0015	0.0016	0.0016	0.0019	0.0021	0.0019
Barium	D	mg/L	2								
Barium	T	mg/L	2	0.226	0.233	0.183	0.216	0.193	0.214	0.214	0.195
Beryllium	D	mg/L	0.004								
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
Boron	D	mg/L	2								
Boron	T	mg/L	2	9.3	10.3	8.89	9.98	9.1	9.83	9.25	8.73
Cadmium	D	mg/L	0.005								
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
Calcium	D	mg/L	103.2								
Calcium	T	mg/L	103.2	136	142	119	131	123	125	121	124
Chromium	D	mg/L	0.1								
Chromium	T	mg/L	0.1	0.0137	0.001 U	0.0041	0.001 U	0.001 U	0.0084	0.0033	0.001 U
Cobalt	D	mg/L	0.006								
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
Iron	D	mg/L	NS								
Iron	T	mg/L	NS								
Lead	D	mg/L	0.0075								
Lead	T	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
Lithium	D	mg/L	0.04								
Lithium	T	mg/L	0.04	0.0363	0.0443	0.0393	0.0405	0.0415	0.0433	0.0404	0.0397
Manganese	D	mg/L	NS								
Manganese	T	mg/L	NS								
Mercury	D	mg/L	0.002								
Mercury	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
Molybdenum	D	mg/L	0.1								
Molybdenum	T	mg/L	0.1	0.172	0.195	0.201	0.168	0.193	0.246	0.244	0.249
Nickel	D	mg/L	NS								
Nickel	T	mg/L	NS	0.0074	0.0012	0.0023	0.001 U	0.001 U	0.0043	0.0021	0.001 U
Selenium	D	mg/L	0.05								
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
Thallium	D	mg/L	0.002								
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

Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards[3]	Post-Closure Sampling						
			Sample ID	APW-05-WG-20220616	DUP-001-WG-20220616	APW-05-WG-20220914	DUP-001-WG-20220914	APW-05-WG-20221128	DUP-01-WG-20221128	APW-05-WG-20230201
			Location ID	APW-05	APW-05	APW-05	APW-05	APW-05	APW-05	APW-05
			Sample Date	06/16/2022	06/16/2022	09/14/2022	09/14/2022	11/28/2022	11/28/2022	02/01/2023
			Sample Type	N	FD	N	FD	N	FD	N
UNSPECIFIED										
Fluoride	N	mg/L	4	0.35	0.33	0.33	0.31	0.37	0.38	0.33
Radium-226	N	pCi/L	NS	0.649 ± 0.316	0.259 ± 0.27 J	0.17 ± 0.08 U	0.11 ± 0.07 U	0.11 ± 0.11 U	0.17 ± 0.08 U	0.209 ± 0.245 J
Radium-228	N	pCi/L	NS	1.1 ± 0.282	0.715 ± 0.31	0.82 ± 0.88 J	0.27 ± 0.55 U	0.49 ± 0.49 U	1.24 ± 0.71	0.399 ± 0.422 J
Sulfate	N	mg/L	400	224	239	379	403	324	338	325
CALC										
Radium-226/228	N	pCi/L	7.002	1.75 ± 0.424	0.973 ± 0.411	0.99 ± 0.96 U	0.38 ± 0.62 U	0.6 ± 0.6 U	1.41 ± 0.79 U	0.608 ± 0.488 J
FIELD PARAM										
Turbidity, Field	N	NTU	17.96[1]	51.8		9.19		4.65		8.21
GEN CHEM										
Chloride	N	mg/L	200	19	19	15	15	19	19	18
Dissolved Solids, Total	N	mg/L	1200	650	690	750 H	774 H	714	728 H	696
pH, Lab	N	pH units	6.22-9.0[2]	7.35	7.49	7.55	7.57	7.24	7.27	7.31
METALS										
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
Antimony	T	mg/L	0.006	0.001 U	0.001 U	0.0011	0.001 U	0.001 U	0.001 U	0.001 U
Arsenic	D	mg/L	0.01	0.002	0.0021	0.001	0.001	0.001 U	0.0019	0.0026
Arsenic	T	mg/L	0.01	0.0048	0.0041	0.0025	0.0023	0.0022	0.0023	0.0024
Barium	D	mg/L	2	0.133	0.132	0.13	0.128	0.172 B	0.13 B	0.175
Barium	T	mg/L	2	0.187	0.174	0.154	0.152	0.14	0.136	0.145
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
Beryllium	T	mg/L	0.004	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Boron	D	mg/L	2	7.63	7.7	7.42	7.09	6.12	7.03 S	8.68 S
Boron	T	mg/L	2	7.67	8.24 S	7.76	7.62	7.48	7.97	7.35
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
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
Calcium	D	mg/L	103.2	139	141	119	131	87.4	110 S	106 S
Calcium	T	mg/L	103.2	127	129 S	127	137	117	118	112
Chromium	D	mg/L	0.1	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U
Chromium	T	mg/L	0.1	0.0016 J	0.003 U	0.0015 U	0.0015 U	0.0015 U	0.0016	0.0015 U
Cobalt	D	mg/L	0.006	0.0006 J	0.0005 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Cobalt	T	mg/L	0.006	0.0013 J	0.0011 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Iron	D	mg/L	NS							
Iron	T	mg/L	NS	2.77	1.89					
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
Lead	T	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
Lithium	D	mg/L	0.04	0.0282	0.029	0.0381	0.0373	0.0338	0.0365	0.045
Lithium	T	mg/L	0.04	0.0331	0.0363	0.0408	0.0397	0.0373	0.0371	0.0399
Manganese	D	mg/L	NS							
Manganese	T	mg/L	NS	0.9	0.904					
Mercury	D	mg/L	0.002			0.0002 U	0.0002 U			
Mercury	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
Molybdenum	D	mg/L	0.1	0.172	0.17	0.213	0.206	0.293	0.211 S	0.187
Molybdenum	T	mg/L	0.1	0.203	0.195	0.235	0.224	0.223	0.226	0.217
Nickel	D	mg/L	NS	0.0036	0.0035			0.0011	0.0024	
Nickel	T	mg/L	NS	0.0037	0.0039			0.002	0.0029	
Selenium	D	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
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
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
Thallium	T	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

Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards[3]	Post-Closure Sampling (cont.)						
			Sample ID	DUP-01-WG-20230201	APW-05R-WG-20230627	DUP-01-WG-20230627	APW-05R-WG-20230920	DUP-01-WG-20230920	APW-05R-WG-20250115	DUP-01-WG-20250115
			Location ID	APW-05	APW-05R[4]	APW-05R[4]	APW-05R[4]	APW-05R[4]	APW-05R[4]	APW-05R[4]
			Sample Date	02/01/2023	06/27/2023	06/27/2023	09/20/2023	09/20/2023	01/15/2025	01/15/2025
			Sample Type	FD	N	FD	N	FD	N	FD
UNSPECIFIED										
Fluoride	N	mg/L	4	0.33	0.3	0.32	0.35	0.34	0.289	0.295
Radium-226	N	pCi/L	NS	0.205 ± 0.241 J	0.23 ± 0.1 U	0.11 ± 0.08 U	0.49 ± 0.13 U	0.36 ± 0.13 U	0.71 ± 0.394	0.356 ± 0.228
Radium-228	N	pCi/L	NS	0.249 ± 0.228 J	0.31 ± 0.5 UODR	0.61 ± 0.67 U	5.85 ± 1.14 *	0.42 ± 0.71 U	1.4 ± 0.828	1.48 ± 0.434
Sulfate	N	mg/L	400	305	335	326	343	333	373	374
CALC										
Radium-226/228	N	pCi/L	7.002	0.454 ± 0.332 J	0.54 ± 0.6 U	0.72 ± 0.75 U	6.34 ± 1.53	0.78 ± 0.84 U	2.1 ± 0.917	1.83 ± 0.490
FIELD PARAM										
Turbidity, Field	N	NTU	17.96[1]		42.6		33.7		27.2	
GEN CHEM										
Chloride	N	mg/L	200	18	17	18	14	14	16.1	16.2
Dissolved Solids, Total	N	mg/L	1200	670	740	695	680	710	700	688
pH, Lab	N	pH units	6.22-9.0[2]	7.33	7.27 H	7.3 H	7.36 H	7.36 H	7.77 T8	7.82 T8
METALS										
Antimony	D	mg/L	0.006	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.004 U	0.004 U
Antimony	T	mg/L	0.006	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.004 U	0.004 U
Arsenic	D	mg/L	0.01	0.0018	0.0024	0.0025	0.0023	0.0024	0.002 U	0.002 U
Arsenic	T	mg/L	0.01	0.0025	0.003	0.003	0.0028	0.0026	0.00203	0.00206
Barium	D	mg/L	2	0.135	0.168	0.167	0.167	0.172	0.144	0.137
Barium	T	mg/L	2	0.148	0.183	0.181	0.162	0.158	0.194	0.198
Beryllium	D	mg/L	0.004	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U
Beryllium	T	mg/L	0.004	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U
Boron	D	mg/L	2	6.76	8.64	8.37	7.91	8.05	8.2	8.17
Boron	T	mg/L	2	7.59	8.76	8.68	7.12	8.33 S	8.37	8.28
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
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
Calcium	D	mg/L	103.2	111	120	120	118	119	132	134
Calcium	T	mg/L	103.2	114	136 B	133 B	105	126 S	141	141
Chromium	D	mg/L	0.1	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.002 U	0.002 U
Chromium	T	mg/L	0.1	0.0015 U	0.0015 U	0.0015 U	0.0031	0.0016	0.002 U	0.002 U
Cobalt	D	mg/L	0.006	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U
Cobalt	T	mg/L	0.006	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U
Iron	D	mg/L	NS							
Iron	T	mg/L	NS							
Lead	D	mg/L	0.0075	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U
Lead	T	mg/L	0.0075	0.001 U	0.0011	0.001	0.0026	0.0021	0.002 U	0.002 U
Lithium	D	mg/L	0.04	0.0375	0.0384	0.0398	0.0624	0.0509	0.0342	0.0326
Lithium	T	mg/L	0.04	0.0402	0.0423	0.0415	0.0367	0.0425	0.0373	0.0361
Manganese	D	mg/L	NS							
Manganese	T	mg/L	NS							
Mercury	D	mg/L	0.002						0.0002 U	0.0002 U
Mercury	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
Molybdenum	D	mg/L	0.1	0.199	0.213	0.204	0.235	0.233	0.182	0.172
Molybdenum	T	mg/L	0.1	0.212	0.212	0.21	0.223	0.235	0.185	0.185
Nickel	D	mg/L	NS							
Nickel	T	mg/L	NS							
Selenium	D	mg/L	0.05	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U
Selenium	T	mg/L	0.05	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 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
Thallium	T	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

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
pCi/L = picocuries per liter
NTU = nephelometric turbidity units
H = Holding times 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 Recovery outside recovery limits
R = RPD outside accepted recovery limits
U = Not Detected at the Reporting Limit
T8 = Sample received past/too close to holding time expiration

1 Standard is from the Upper Tolerance Limit (UTL) calculated from
2 Standard value 6.22 is from the Lower Tolerance Limit (LTL)
3 Eight episodes of groundwater sampling were conducted from
4 Well was redrilled 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

				Sampled prior to closure of CCR Impoundment									Post-Closure Sampling									
			Sample ID Location ID Sample Date Sample Type	APW-6D-20170907 APW-06D 09/06/2017 N	APW-6D-20170927 APW-06D 09/28/2017 N	APW-6D-20171019 APW-06D 10/19/2017 N	APW-6D-20171109 APW-06D 11/09/2017 N	APW-6D-20171128 APW-06D 11/28/2017 N	APW-6D-20171227 APW-06D 12/27/2017 N	APW-6D-20180118 APW-06D 01/18/2018 N	APW-6D-20180208 APW-06D 02/08/2018 N	APW-06D-WG-20220913 APW-06D 09/13/2022 N	APW-06D-WG-20221128 APW-06D 11/28/2022 N	APW-06D-WG-20230201 APW-06D 02/01/2023 N	APW-06D-WG-20230627 APW-06D 06/27/2023 N	APW-06D-WG-20230920 APW-06D 09/20/2023 N	APW-06D-WG-20231128 APW-06D 11/28/2023 N	APW-06D-WG-20240110 APW-06D 01/10/2024 N	APW-06D-WG-20240501 APW-06D 05/01/2024 N	APW-06D-WG-20240905 APW-06D 09/05/2024 N	APW-06D-WG-20241016 APW-06D 10/16/2024 N	APW-06D-WG-20250115 APW-06D 01/15/2025 N
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards[4]																			
UNSPECIFIED																						
Fluoride	N	mg/L	4	0.22	0.23	0.21	0.22	0.21	0.22	0.23	0.21	0.2	0.24	0.21	0.2	0.22	0.24	0.212	0.15 U	0.205	0.15 U	0.17
Radium-226	N	pCi/L	NS	0.62 ± 0.17 U	0.37 ± 0.11 U	1.22 ± 0.744	0.39 ± 0.15 U	0.38 ± 0.18 U	0.3 ± 0.12 U	0.03 ± 0.08 U	0.2 ± 0.13 U	0.31 ± 0.1 U	0.62 ± 0.15 U	0.355 ± 0.275	0.3 ± 0.12 U	0.18 ± 0.09 U	0.11 ± 0.05 U	0.582 ± 0.361	0.422 ± 0.235	0.447 ± 0.249	0.258 ± 0.255 J	0.227 ± 0.176
Radium-228	N	pCi/L	NS	1.07 ± 0.65	0.61 ± 0.33 U	0.549 ± 0.377	0.86 ± 0.37 J	1.4 ± 0.71	0.78 ± 0.48 J	0.74 ± 0.57 J	0.24 ± 0.34 U	1.46 ± 0.71	0.28 ± 0.43 U	1.02 ± 0.451	0.74 ± 0.54 J	2.62 ± 0.76	0.76 ± 0.6 J	1.24 ± 0.276	1.1 ± 0.285	1.83 ± 0.372	0.642 ± 0.345	2.46 ± 0.606
Sulfate	N	mg/L	400	215	228	206	222	230	236	211	189	272	254	269	270	218	184	180	184	242	214	266
CALC																						
Radium-226/228	N	pCi/L	7.002	1.69 ± 0.82 U	0.98 ± 0.44 U	1.77 ± 1.12	1.12 ± 0.51 U	1.78 ± 0.89 U	1.08 ± 0.6 U	0.77 ± 0.65 U	0.44 ± 0.47 U	1.77 ± 0.81 U	0.9 ± 0.58 U	1.38 ± 0.528	1.04 ± 0.66 U	2.8 ± 0.85	0.87 ± 0.65 U	1.82 ± 0.454	1.52 ± 0.369	2.27 ± 0.448	0.9 ± 0.429	2.68 ± 0.631
FIELD PARAM																						
Turbidity, Field	N	NTU	17.96[1]									18.5	74.4	26.9	181	65.5	3.02	18.2	35.8	21.8	8.39	11
GEN CHEM																						
Chloride	N	mg/L	200	17	17	16	16	16	16	17	17	14	17	16	15	16	22	21.2	21.5	15	14.7	20.5
Dissolved Solids, Total	N	mg/L	1200	558	560	562	564	590	516 R	482	584	670 H	580	582	735	565	580	536	549	624	568	549
pH, Lab	N	pH units	6.22-9.0[2]	7.23	7.25	7.23	7.19	7.2	7.22	7.21	7.2	7.42	7.21	7.29	7.39 H	7.3 H	7.36 H	7.73 T8	7.54 T8	7.46 T8	7.42 T8	7.64 T8
METALS																						
Antimony	D	mg/L	0.006									0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.004 U	0.004 U F1	0.004 U	0.004 U	0.004 U
Antimony	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	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Arsenic	D	mg/L	0.01									0.004	0.0116	0.012	0.0107	0.01	0.0161	0.00451	0.00585 F1	0.00479	0.00485	0.00414
Arsenic	T	mg/L	0.01	0.0068	0.0101	0.0075	0.0074	0.009	0.0095	0.0106	0.0096	0.0104	0.0111	0.0107	0.0115	0.0109	0.0135	0.0102	0.0108	0.0103	0.0103	0.00988
Barium	D	mg/L	2									0.129	0.118 B	0.152	0.13	0.121	0.185	0.106	0.115 F1	0.121	0.113	0.111
Barium	T	mg/L	2	0.173	0.172	0.142	0.153	0.155	0.163	0.166	0.148	0.143	0.142	0.134	0.145	0.128	0.151	0.115	0.119	0.129	0.119	0.124
Beryllium	D	mg/L	0.004									0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 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	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Boron	D	mg/L	2									5.32	4.14	4.39	5.01	3.77	4.67		2.98 F1	4.36	4.03	3.33
Boron	T	mg/L	2	3.72	3.87	3.55	3.58	3.9	3.84	3.3	3.09	5.51	4.29	3.95	4.99	3.81	3.8		3.13	4.31	3.99	3.46
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 F1	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	0.001 U
Calcium	D	mg/L	103.2									118	105	109	118	114	80.3	106	114 F1	130	118	114
Calcium	T	mg/L	103.2	99.9	110	96.7	100	110	107	105 S	105	123	110	116	128 B	106	98.4	111	114	124	120	120
Chromium	D	mg/L	0.1									0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Chromium	T	mg/L	0.1	0.001 U	0.0013	0.001 U	0.001 U	0.001 U	0.0017	0.003	0.0014	0.0015 U	0.0063	0.0015 U	0.0057	0.0727	0.0015 U	0.00881	0.002 U	0.002 U	0.002 U	0.002 U
Cobalt	D	mg/L	0.006									0.0013	0.0012	0.001	0.001 U	0.001 U	0.0012	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Cobalt	T	mg/L	0.006	0.0012	0.001	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0035	0.0013	0.0054	0.0035	0.0013	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Iron	D	mg/L	NS															0.1 U				
Iron	T	mg/L	NS															3.65				
Lead	D	mg/L	0.0075									0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Lead	T	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	0.0012	0.001 U	0.0016	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Lithium	D	mg/L	0.04									0.0179	0.0155	0.0194	0.016	0.0197	0.0241	0.0161	0.0159 F1	0.0156	0.0173	0.0156
Lithium	T	mg/L	0.04	0.016	0.0176	0.0161	0.0163	0.0178	0.0181	0.0165	0.0162	0.0185	0.0175	0.0172	0.0184	0.0169	0.0199	0.0171	0.0171	0.0163	0.0168	0.0167
Manganese	D	mg/L	NS															0.611				
Manganese	T	mg/L	NS															0.622				
Mercury	D	mg/L	0.002									0.0002 U						0.0002 U	0.0002 U F1	0.000209	0.0002 U	0.0002 U
Mercury	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	0.0002 U
Molybdenum	D	mg/L	0.1									0.0669	0.0796	0.0583	0.0643	0.0559	0.0949	0.0617	0.0748 F1	0.0647	0.0542	0.0524
Molybdenum	T	mg/L	0.1	0.0646	0.0606	0.0582	0.0589	0.06	0.0584	0.0465	0.0463	0.0719	0.0696	0.0683	0.0602	0.0672	0.0557	0.0605	0.072	0.0628	0.0527	0.0553
Nickel	D	mg/L	NS										0.002					0.00219				
Nickel	T	mg/L	NS	0.0032	0.0028	0.0018	0.002	0.0017	0.0022	0.0032	0.0025		0.0093					0.00825				
Selenium	D	mg/L	0.05									0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 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	0.002 U	0.002 U	0.002 U	0.002 U	0.002 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 F1	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	0.002 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

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
pCi/L = picocuries per liter
NTU = nephelometric turbidity units
H = Holding times 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 Recovery outside recovery limits
R = RPD outside accepted recovery limits
U = Not Detected at the Reporting Limit
T8 = Sample received past/too close to holding time expiration

1 Standard is from the Upper Tolerance Limit (UTL) calculated from
2 Standard value 6.22 is from the Lower Tolerance Limit (LTL)
3 Eight episodes of groundwater sampling were conducted from
4 Well was redrilled 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

				Sampled prior to closure of CCR Impoundment							
			Sample ID	APW-6S-20170907	APW-6S-20170928	APW-6S-20171019	APW-6S-20171109	APW-6S-20171128	APW-6S-20171227	APW-6S-20180118	APW-6S-20180208
			Location ID	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S
			Sample Date	09/06/2017	09/28/2017	10/19/2017	11/09/2017	11/28/2017	12/27/2017	01/18/2018	02/08/2018
			Sample Type	N	N	N	N	N	N	N	N
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards[3]								
UNSPECIFIED											
Fluoride	N	mg/L	4	0.41	0.26	0.25	0.26	0.25	0.25	0.27	0.24
Radium-226	N	pCi/L	NS	0.36 ± 0.14 U	0.09 ± 0.08 U	0.317 ± 0.331	0.22 ± 0.11 U	0.18 ± 0.13 U	0.11 ± 0.09 U	0.09 ± 0.09 U	0.15 ± 0.11 U
Radium-228	N	pCi/L	NS	0.56 ± 0.77 U	1.06 ± 0.53	0.481 ± 0.316	0.9 ± 0.4 J	0.92 ± 0.6 J	0.44 ± 0.44 U	0.71 ± 0.53 J	0.89 ± 0.38 J
Sulfate	N	mg/L	400	127	177	167	151	189	201	233	220
CALC											
Radium-226/228	N	pCi/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
FIELD PARAM											
Turbidity, Field	N	NTU	17.96[1]								
GEN CHEM											
Chloride	N	mg/L	200	31	28	27	27	26	27	26	25
Dissolved Solids, Total	N	mg/L	1200	500	546	574	528	566	588	598	666
pH, Lab	N	pH units	6.22-9.0[2]	7.16	7.06	7.18	7.23	7.09	7.13	7.09	7.02
METALS											
Antimony	D	mg/L	0.006								
Antimony	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
Arsenic	D	mg/L	0.01								
Arsenic	T	mg/L	0.01	0.0017	0.0016	0.0018	0.002	0.0013	0.0012	0.0011	0.0011
Barium	D	mg/L	2								
Barium	T	mg/L	2	0.222	0.237	0.205	0.226	0.214	0.213	0.224	0.205
Beryllium	D	mg/L	0.004								
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
Boron	D	mg/L	2								
Boron	T	mg/L	2	4.65	5.93	5.83	5.64 S	5.8	6.93 S	7.42	6.66
Cadmium	D	mg/L	0.005								
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
Calcium	D	mg/L	103.2								
Calcium	T	mg/L	103.2	101	97.2	87.5	96.8 S	99.5	98.1	98.7	97.4
Chromium	D	mg/L	0.1								
Chromium	T	mg/L	0.1	0.0027	0.0173	0.0028	0.001 U	0.001 U	0.0048	0.0012	0.001 U
Cobalt	D	mg/L	0.006								
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
Iron	D	mg/L	NS								
Iron	T	mg/L	NS								
Lead	D	mg/L	0.0075								
Lead	T	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
Lithium	D	mg/L	0.04								
Lithium	T	mg/L	0.04	0.0335	0.0413	0.04	0.0415	0.042	0.0458	0.0451	0.0417
Manganese	D	mg/L	NS								
Manganese	T	mg/L	NS								
Mercury	D	mg/L	0.002								
Mercury	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
Molybdenum	D	mg/L	0.1								
Molybdenum	T	mg/L	0.1	0.249	0.287	0.272	0.243	0.274	0.314	0.324	0.323
Nickel	D	mg/L	NS								
Nickel	T	mg/L	NS	0.0021	0.009	0.0021	0.0012	0.001 U	0.0031	0.0016	0.0012
Selenium	D	mg/L	0.05								
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
Thallium	D	mg/L	0.002								
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

				Post-Closure Sampling											
			Sample ID	APW-6S-WG-20220616	APW-06S-WG-20220913	APW-06S-WG-20221128	APW-06S-WG-20230201	APW-06S-WG-20230627	APW-06S-WG-20230920	APW-06S-WG-20231128	APW-06S-WG-20240110	APW-06S-WG-20240501	APW-06S-WG-20240905	APW-06S-WG-20241016	APW-06S-WG-20250115
			Location ID	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S
			Sample Date	06/16/2022	09/13/2022	11/28/2022	02/01/2023	06/27/2023	09/20/2023	11/28/2023	01/10/2024	05/01/2024	09/05/2024	10/16/2024	01/15/2025
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards[3]												
UNSPECIFIED															
Fluoride	N	mg/L	4	0.29	0.28	0.32	0.29	0.26	0.3	0.33	0.277	0.15 U	0.242	0.15 U	0.239
Radium-226	N	pCi/L	NS	0.269 ± 0.182	0.2 ± 0.08 U	0.19 ± 0.09 U	0.0283 ± 0.232 U	0.11 ± 0.08 U	0.32 ± 0.11 U	0.09 ± 0.05 U	1.25 ± 0.411	0.707 ± 0.335	0.31 ± 0.217	0.0841 ± 0.233 U	0.262 ± 0.188
Radium-228	N	pCi/L	NS	0.228 ± 0.248 J	2.73 ± 0.9	0.41 ± 0.5 U	1.44 ± 0.518	-0.03 ± 0.59 U	0.41 ± 0.38 U	0.29 ± 0.51 U	0.688 ± 0.243	0.951 ± 0.345	0.667 ± 0.386 J	0.895 ± 0.221	2.23 ± 0.613
Sulfate	N	mg/L	400	200	227	243	247	208	221	237	240	211	133	148	246
CALC															
Radium-226/228	N	pCi/L	7.002	0.497 ± 0.308	2.93 ± 0.98	0.6 ± 0.59 U	1.47 ± 0.568	0.11 ± 0.67 U	0.73 ± 0.49 U	0.38 ± 0.56 U	1.93 ± 0.477	1.66 ± 0.481	0.977 ± 0.443	0.979 ± 0.321	2.49 ± 0.641
FIELD PARAM															
Turbidity, Field	N	NTU	17.96[1]	30.5	15.1	5.56	6.67	9.06	8.99	1.26	3.32	3.81	5.09	5.72	8.11
GEN CHEM															
Chloride	N	mg/L	200	24	25	24	24	23	20	22	21.2	21.6	21.1	19.4	21
Dissolved Solids, Total	N	mg/L	1200	600	630 H	605	638	615	565	635	644	678 O	599	599	673
pH, Lab	N	pH units	6.22-9.0[2]	7.24	7.38	7.04	7.12	7.05 H	7.21 H	7.12 H	7.67 T8	7.35 T8	7.2 T8	7.27 T8	7.39 T8
METALS															
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	0.004 U	0.004 U F1	0.004 U	0.004 U	0.004 U
Antimony	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	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Arsenic	D	mg/L	0.01	0.0009 J	0.001 U	0.001 U	0.0013	0.001	0.001 U	0.0019	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Arsenic	T	mg/L	0.01	0.0009 J	0.0012	0.001	0.0011	0.001 U	0.0012	0.0016	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Barium	D	mg/L	2	0.233	0.146	0.19 B	0.219	0.21	0.216	0.269	0.155	0.199 F1	0.18	0.162	0.187
Barium	T	mg/L	2	0.25	0.221	0.19	0.202	0.224	0.206	0.305	0.204	0.23	0.232	0.233	0.262
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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 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	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Boron	D	mg/L	2	4.92	5.95	6.88	7.12	5.83	6.65	8.41		5.36 F1	4.1	4.6	5.34
Boron	T	mg/L	2	4.77	6.61	6.31	6.84 S	5.84	5.79	9.19		5.54	4.05	4.58	5.34
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 F1	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
Calcium	D	mg/L	103.2	124	93.7	98	94.1	100	107	88.8	100 V	120 F1	136	112	134
Calcium	T	mg/L	103.2	115	105	103	97.1 S	109 B	92.7	90	101	120	131	126	139
Chromium	D	mg/L	0.1	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Chromium	T	mg/L	0.1	0.0028	0.0015 U	0.0022	0.0015 U	0.0019	0.0067	0.0015 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cobalt	D	mg/L	0.006	0.0002 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Cobalt	T	mg/L	0.006	0.0002 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Iron	D	mg/L	NS								0.1 U				
Iron	T	mg/L	NS	9.35							9.18				
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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Lead	T	mg/L	0.0075	0.001 U	0.0028	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Lithium	D	mg/L	0.04	0.0355	0.0384	0.0386	0.0406	0.0411	0.0487	0.0498	0.0383	0.038 F1	0.0318	0.0393	0.0386
Lithium	T	mg/L	0.04	0.0363	0.041	0.0393	0.0406	0.0412	0.0369	0.0564	0.0421	0.0408	0.032	0.037	0.0409
Manganese	D	mg/L	NS								0.478				
Manganese	T	mg/L	NS	0.53							0.512				
Mercury	D	mg/L	0.002		0.0002 U						0.0002 U	0.0002 U F1	0.000221	0.0002 U	0.0002 U
Mercury	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
Molybdenum	D	mg/L	0.1	0.229	0.235	0.24	0.244	0.232	0.234	0.309	0.26	0.24 F1	0.178	0.189	0.19
Molybdenum	T	mg/L	0.1	0.237	0.271	0.259	0.265	0.235	0.225	0.207	0.255	0.231	0.176	0.187	0.195
Nickel	D	mg/L	NS	0.0015		0.001 U					0.002 U				
Nickel	T	mg/L	NS	0.0027		0.0023					0.002 U				
Selenium	D	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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 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	0.002 U	0.002 U	0.002 U	0.002 U	0.002 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 F1	0.002 U	0.002 U	0.002 U
Thallium	T	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

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
pCi/L = picocuries per liter
NTU = nephelometric turbidity units
H = Holding times 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 Recovery outside recovery limits
R = RPD outside accepted recovery limits
U = Not Detected at the Reporting Limit
T8 = Sample received past/too close to holding time expiration

1 Standard is from the Upper Tolerance Limit (UTL) calculated from
2 Standard value 6.22 is from the Lower Tolerance Limit (LTL)
3 Eight episodes of groundwater sampling were conducted from
4 Well was redrilled 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

				Sampled prior to closure of CCR Impoundment									Post-Closure Sampling									
			Sample ID	APW-7-20170907	APW-7-20170928	APW-7-20171019	APW-7-20171109	APW-7-20171128	APW-7-20171227	APW-7-20180118	APW-7-20180208	APW-07-WG-20220616	APW-07-WG-20220914	APW-07-WG-20221130	APW-07-WG-20230130	APW-07-WG-20230626	APW-07-WG-20230919	APW-07-WG-20231128	APW-07-WG-20240111	APW-07-WG-20240430	APW-07-WG-20240904	APW-07-WG-20241016
			Location ID	APW-07	APW-07	APW-07	APW-07	APW-07	APW-07	APW-07	APW-07	APW-07	APW-07	APW-07	APW-07	APW-07	APW-07	APW-07	APW-07	APW-07	APW-07	APW-07
			Sample Date	09/07/2017	09/28/2017	10/19/2017	11/09/2017	11/28/2017	12/27/2017	01/18/2018	02/08/2018	06/16/2022	09/14/2022	11/30/2022	01/30/2023	06/26/2023	09/19/2023	11/28/2023	01/11/2024	04/30/2024	09/04/2024	10/16/2024
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards[2]																			
UNSPECIFIED																						
Fluoride	N	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 P1	0.15 U
Radium-226	N	pCi/L	NS	0.47 ± 0.15 U	0 ± 0.06 U	0.505 ± 0.396	0.11 ± 0.08 U	0.16 ± 0.14 U	0.25 ± 0.1 U	0.14 ± 0.09 U	0.24 ± 0.14 U	0.333 ± 0.208	0.18 ± 0.09 U	0.2 ± 0.11 U	0.337 ± 0.265	-0.01 ± 0.06 U	0.11 ± 0.07 U	0.16 ± 0.06 U	0.775 ± 0.378	0.617 ± 0.356	0.197 ± 0.174	0.232 ± 0.212 J
Radium-228	N	pCi/L	NS	-0.42 ± 0.79 U	0.76 ± 0.61 J	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 JDDR	0.45 ± 0.57 U	1.93 ± 0.264	0.803 ± 0.291	0.736 ± 0.361	1.77 ± 0.347
Sulfate	N	mg/L	400	66	59	52	50	61	63	67	64	72	78	48	48	54	44	40	68.8	56.3	34.7 J6	46.3
CALC																						
Radium-226/228	N	pCi/L	7.002	0.47 ± 0.94 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 ± 0.441	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
FIELD PARAM																						
Turbidity, Field	N	NTU	17.96[1]									66.2	34.8	10.5	79.2	14.8	42.9	21	4.36	3.34	5.27	6.88
GEN CHEM																						
Chloride	N	mg/L	200	15	15	14	15	16	15	15	15	11	12	12	14	10	9	11	11.5	9.63	11.5	9.63
Dissolved Solids, Total	N	mg/L	1200	762	786	624	730	742	736	720	740	780	815 H	800	824	665	740	790	734	737	673	741
pH, Lab	N	pH units	6.22-9.0[2]	6.84	6.84	6.86	6.87	6.83	6.96	6.97	6.88	6.88	7.02	6.78	7.23	6.79 H	6.94 H	6.86 H	7.31 T8	7.02 T8	7.03 T8	6.93 T8
METALS																						
Antimony	D	mg/L	0.006									0.001 U	0.001 U	0.001 U	0.0015	0.001 U	0.001 U	0.001 U	0.004 U	0.004 U F1	0.004 U	0.004 U
Antimony	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	0.004 U	0.004 U	0.004 U	0.004 U
Arsenic	D	mg/L	0.01									0.0011	0.001 U	0.001 U	0.001 U	0.0012	0.0013	0.0016	0.002 U	0.002 U F1	0.002 U	0.002 U
Arsenic	T	mg/L	0.01	0.0014	0.0012	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0023	0.0016	0.0011	0.0014	0.0014	0.0018	0.0022	0.002 U	0.002 U	0.002 U	0.002 U
Barium	D	mg/L	2									0.334	0.255	0.354 B	0.411	0.303	0.336	0.465	0.256	0.28 F1	0.252	0.265
Barium	T	mg/L	2	0.465	0.448	0.394	0.401	0.37	0.374	0.38	0.359	0.374	0.282	0.381	0.371	0.312	0.303	0.522	0.36	0.349	0.309	0.351
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	0.002 U	0.002 U F1	0.002 U	0.002 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	0.002 U	0.002 U	0.002 U	0.002 U
Boron	D	mg/L	2									0.148	0.193	0.199	0.267	0.208	0.192	0.243		0.2 U F1	0.505	0.225
Boron	T	mg/L	2	0.235	0.308	0.302	0.3	0.278	0.342	0.298	0.318	0.168	0.208	0.217	0.246	0.237	0.181	0.274		0.2 U	0.526	0.228
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 F1	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	0.001 U
Calcium	D	mg/L	103.2									222	199	204	199	180 S	196	162	203	216 F1	185	171
Calcium	T	mg/L	103.2	192	204	171	187	196	193	191	185	238	210	209	200	183 BS	161	177	209	213	192	219
Chromium	D	mg/L	0.1									0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.002 U	0.002 U F1	0.002 U	0.002 U
Chromium	T	mg/L	0.1	0.0017	0.0063	0.0026	0.001 U	0.001 U	0.0329	0.001 U	0.001 U	0.0041	0.0021	0.0015 U	0.0034	0.0015 U	0.0057	0.0024	0.002 U	0.002 U	0.002 U	0.002 U
Cobalt	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	0.002 U	0.002 U F1	0.002 U	0.002 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 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0013	0.002 U	0.002 U	0.002 U	0.002 U
Iron	D	mg/L	NS																0.1 U			
Iron	T	mg/L	NS									17.3							18.9			
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	0.002 U	0.002 U F1	0.002 U	0.002 U
Lead	T	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	0.0074	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U	0.002 U
Lithium	D	mg/L	0.04									0.0126	0.0148	0.0158	0.0191	0.0136	0.0184	0.0212	0.0176	0.0167 F1	0.0151	0.0173
Lithium	T	mg/L	0.04	0.0147	0.0181	0.0172	0.0176	0.0185	0.0191	0.0181	0.0178	0.0143	0.0161	0.0166	0.0181	0.0153	0.0141	0.0231	0.019	0.0174	0.0152	0.0169
Manganese	D	mg/L	NS																1.16			
Manganese	T	mg/L	NS									1.11							1.19			
Mercury	D	mg/L	0.002										0.0002 U						0.0002 U	0.0002 U F1	0.0002 U	0.0002 U
Mercury	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	0.0002 U
Molybdenum	D	mg/L	0.1									0.0026	0.0026	0.0021	0.0027	0.0027	0.0029	0.004	0.005 U	0.005 U F1	0.005 U	0.005 U
Molybdenum	T	mg/L	0.1	0.0046	0.0036	0.0033	0.0023	0.003	0.0044	0.0037	0.0036	0.0035	0.003	0.0029	0.0031	0.0028	0.0029	0.0042	0.005 U	0.005 U	0.005 U	0.005 U
Nickel	D	mg/L	NS									0.0008 J		0.001 U					0.002 U			
Nickel	T	mg/L	NS	0.0014	0.0033	0.0013	0.001 U	0.001 U	0.015	0.001 U	0.001 U	0.0042		0.001 U					0.002 U			
Selenium	D	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	0.002 U	0.002 U F1	0.002 U	0.002 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	0.002 U	0.002 U	0.002 U	0.002 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 F1	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	0.002 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

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
pCi/L = picocuries per liter
NTU = nephelometric turbidity units
H = Holding times 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 Recovery outside recovery limits
R = RPD outside accepted recovery limits
U = Not Detected at the Reporting Limit
T8 = Sample received past/too close to holding time expiration

1 Standard is from the Upper Tolerance Limit (UTL) calculated from
2 Standard value 6.22 is from the Lower Tolerance Limit (LTL)
3 Eight episodes of groundwater sampling were conducted from
4 Well was redrilled 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

				Sampled prior to closure of CCR Impoundment								Post-Closure Sampling										
			Sample ID	APW-8-20170907	APW-8-20170928	APW-8-20171018	APW-8-20171108	APW-8-20171127	APW-8-20171227	APW-8-20180117	APW-8-20180208	APW-08-WG-20220616	APW-08-WG-20220915	APW-08-WG-20221130	APW-08-WG-20230202	APW-08-WG-20230626	APW-08-WG-20230919	APW-08-WG-20231128	APW-08-WG-20240111	APW-08-WG-20240430	APW-08-WG-20240904	APW-08-WG-20241016	APW-08-WG-20250115
			Location ID	APW-08	APW-08	APW-08	APW-08	APW-08	APW-08	APW-08	APW-08	APW-08	APW-08	APW-08	APW-08	APW-08	APW-08	APW-08	APW-08	APW-08	APW-08	APW-08	APW-08
			Sample Date	09/07/2017	09/28/2017	10/18/2017	11/08/2017	11/27/2017	12/27/2017	01/17/2018	02/08/2018	06/16/2022	09/15/2022	11/30/2022	02/02/2023	06/26/2023	09/19/2023	11/28/2023	01/11/2024	04/30/2024	09/04/2024	10/16/2024	01/15/2025
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards[4]																				
UNSPECIFIED																							
Fluoride	N	mg/L	4	0.3	0.3	0.29	0.29	0.28	0.28	0.3	0.28	0.29	0.26	0.28	0.26	0.26	0.26	0.29	0.232	0.336	0.254	0.15 U	0.238 F1
Radium-226	N	pCi/L	NS	0.22 ± 0.12 U	0.12 ± 0.08 U	0.2 ± 0.393	0.11 ± 0.1 U	0.35 ± 0.16 U	0.14 ± 0.08 U	0.21 ± 0.11 U	0.39 ± 0.15 U	0.208 ± 0.236 J	0.27 ± 0.1 U	0.4 ± 0.13 U	0.247 ± 0.244 J	0.34 ± 0.12 U	0.23 ± 0.09 U	0.1 ± 0.05 U	1.71 ± 0.459	0.341 ± 0.271	0.296 ± 0.200	0.171 ± 0.182 J	0.382 ± 0.233
Radium-228	N	pCi/L	NS	1.13 ± 0.63	0.88 ± 0.48 J	1.3 ± 0.545	0.37 ± 0.25 U	0.77 ± 0.55 J	1.31 ± 0.58	0.64 ± 0.49 U	0.49 ± 0.43 U	0.526 ± 0.224	0.86 ± 0.62 J	1.68 ± 0.77	-0.157 ± 0.282 U	0.11 ± 0.6 U	0.81 ± 0.49 JQDR	0.15 ± 0.54 U	0.687 ± 0.215	-0.254 ± 0.268 U	0.959 ± 0.240	0.874 ± 0.414	1.1 ± 0.445
Sulfate	N	mg/L	400	43	40	38	40	39	38	39	37	39	39	34	29	31	23	24	24.7	28.6	33.4 J6	29.4	28.5
CALC																							
Radium-226/228	N	pCi/L	7.002	1.35 ± 0.75 U	1 ± 0.56 U	1.5 ± 1.61	0.48 ± 0.35 U	1.12 ± 0.71 U	1.45 ± 0.66 U	0.85 ± 0.6 U	0.88 ± 0.58 U	0.735 ± 0.325	1.13 ± 0.72 U	2.08 ± 0.9	0.247 ± 0.373 J	0.45 ± 0.72 U	1.04 ± 0.58 U	0.25 ± 0.59 U	2.39 ± 0.507	0.341 ± 0.381 J	1.26 ± 0.312	1.04 ± 0.452	1.48 ± 0.502
FIELD PARAM																							
Turbidity, Field	N	NTU	6.22-9.0[2]									119	139	305	26.9	152	141	169	23.1	136	97.4	47.5	8.97
GEN CHEM																							
Chloride	N	mg/L	200	9	10	10	10	10	11	12	11	9	11	12	13	10	10	11	10.6	10.2	8.97	8.61	8.85
Dissolved Solids, Total	N	mg/L	1200	438	458	436	446	466	410	398	442	382	372 H	370	378	420	440	395	370	371	393	403	418
pH, Lab	N	pH units	9	7.04	7.07	7	7.12	7.25	7.11	7.04	7.04	7.34	7.47	7.25	7.31	7.18 H	7.16 H	7.27 H	7.68 T8	7.53 T8	7.2 T8	7.33 T8	7.53 T8
METALS																							
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	0.004 U	0.004 U F1	0.004 U	0.004 U	0.004 U
Antimony	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	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Arsenic	D	mg/L	0.01									0.0011	0.001 U	0.0012	0.001	0.001	0.0014	0.0019	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Arsenic	T	mg/L	0.01	0.001 U	0.0011	0.001 U	0.001 U	0.001 U	0.001	0.001 U	0.001 U	0.0022	0.0015	0.0017	0.0016	0.002	0.0018	0.0025	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Barium	D	mg/L	2									0.194	0.163	0.146 B	0.15	0.191	0.236	0.255	0.17	0.172 F1	0.184	0.188	0.191
Barium	T	mg/L	2	0.207	0.256	0.219	0.24	0.217	0.223	0.226	0.215	0.235	0.19	0.179	0.167	0.225	0.199	0.261	0.17	0.173	0.197	0.192	0.199
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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 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	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Boron	D	mg/L	2									0.0777	0.0993	0.0844	0.0895	0.124	0.117	0.154		0.2 U F1	0.2 U	0.2 U	0.2 U
Boron	T	mg/L	2	0.132	0.154	0.135	0.138	0.141	0.145	0.151	0.132	0.115	0.11	0.103	0.095	0.103	0.116	0.155		0.2 U	0.2 U	0.2 U	0.2 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 F1	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	0.0002 J	0.001 U	0.001 U	0.001 U	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									108	79.7	75.4	72.1	92.6	94.1 S	71.3	83.1	88.4 F1	94.9	99.9	102
Calcium	T	mg/L	103.2	97.4	105	92.6	101	102	98.6	95	97.8	93.3	85.1	82.8	79.4	99.4 B	86.4	81.2	82.8	87.8	98.3	102	105
Chromium	D	mg/L	0.1									0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Chromium	T	mg/L	0.1	0.0018	0.0023	0.001 U	0.0059	0.001 U	0.0021	0.001 U	0.001 U	0.0054	0.0016	0.0036	0.0027	0.0082	0.0031	0.0049	0.002 U	0.002 U	0.002 U	0.00738	0.002 U
Cobalt	D	mg/L	0.006									0.0013	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Cobalt	T	mg/L	0.006	0.0017	0.0013	0.001	0.0012	0.001 U	0.001 U	0.001 U	0.001 U	0.002	0.0013	0.0016	0.0012	0.0019	0.0014	0.0021	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Iron	D	mg/L	NS																0.1 U				
Iron	T	mg/L	NS									3.14							0.44				
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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Lead	T	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	0.0024	0.001 U	0.0012	0.001 U	0.0028	0.0015	0.0018	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Lithium	D	mg/L	0.04									0.0141	0.0142	0.0132	0.0131	0.0125	0.022	0.0204	0.0134	0.0137 F1	0.0168	0.0196	0.017
Lithium	T	mg/L	0.04	0.0196	0.0206	0.0207	0.0216	0.0223	0.0216	0.0192	0.0196	0.016	0.016	0.0147	0.0155	0.0157	0.0177	0.0211	0.0142	0.0147	0.0173	0.0187	0.0181
Manganese	D	mg/L	NS																0.0443				
Manganese	T	mg/L	NS									0.202							0.0435				
Mercury	D	mg/L	0.002										0.0002 U						0.0002 U	0.0002 U F1	0.0002 U	0.0002 U	0.0002 U
Mercury	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	0.0002 U	0.0002 U
Molybdenum	D	mg/L	0.1									0.0008 J	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.005 U	0.005 U F1	0.005 U	0.005 U	0.005 U
Molybdenum	T	mg/L	0.1	0.0011	0.001 U	0.001 U	0.0011	0.001 U	0.001 U	0.001 U	0.001 U	0.0015 J	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nickel	D	mg/L	NS									0.0023		0.0012					0.00227				
Nickel	T	mg/L	NS	0.0039	0.0043	0.0029	0.0062	0.0026	0.0027	0.0026	0.0026	0.0054		0.0077					0.00354				
Selenium	D	mg/L	0.05									0.0027	0.0068	0.0126	0.0128	0.0113	0.0121	0.0231	0.0173	0.0195 F1	0.00425	0.0193	0.0203
Selenium	T	mg/L	0.05	0.008	0.0141	0.0132	0.0149	0.0135	0.0141	0.0149	0.013	0.0036	0.0077	0.011	0.0148	0.0129	0.0122	0.0221	0.0169	0.0182	0.00529	0.0187	0.0196
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 F1	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	0.002 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

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
pCi/L = picocuries per liter
NTU = nephelometric turbidity units
H = Holding times 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 Recovery outside recovery limits
R = RPD outside accepted recovery limits
U = Not Detected at the Reporting Limit
T8 = Sample received past/too close to holding time expiration

1 Standard is from the Upper Tolerance Limit (UTL) calculated from
2 Standard value 6.22 is from the Lower Tolerance Limit (LTL)
3 Eight episodes of groundwater sampling were conducted from
4 Well was redrilled 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

Sampled prior to closure of CCR Impoundment

Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards[3]	APW-9-20170907	APW-9-20170927	APW-9-20171018	APW-9-20171108	APW-9-20171127	APW-9-20171228	APW-9-20180117	APW-9-20180208
			Location ID	APW-09	APW-09	APW-09	APW-09	APW-09	APW-09	APW-09	APW-09
			Sample Date	09/05/2017	09/27/2017	10/18/2017	11/08/2017	11/27/2017	12/28/2017	01/17/2018	02/08/2018
			Sample Type	N	N	N	N	N	N	N	N
UNSPECIFIED											
Fluoride	N	mg/L	4	0.19	0.22	0.21	0.2	0.2	0.2	0.22	0.19
Radium-226	N	pCi/L	NS	0.17 ± .12 U	0.03 ± 0.07 U	-0.229 ± 0.389	0.14 ± 0.09 U	-0.06 ± 0.1 U	0.14 ± 0.08 U	0.05 ± 0.08 U	0.13 ± 0.13 U
Radium-228	N	pCi/L	NS	0.91 ± .69 J	0.67 ± 0.56 U	0.275 ± 0.316	0.49 ± 0.29 U	1.07 ± 0.48 U	1.06 ± 0.51	0.46 ± 0.46 U	0.23 ± 0.37 U
Sulfate	N	mg/L	400	65	47	53	65	50	42	28	25
CALC											
Radium-226/228	N	pCi/L	7.002	1.08 ± 0.81 U	0.7 ± 0.63 U	0.275 ± 0.705	0.63 ± 0.38 U	1.07 ± 0.58 U	1.2 ± 0.59 U	0.51 ± 0.54 U	0.36 ± 0.5 U
FIELD PARAM											
Turbidity, Field	N	NTU	17.96[1]								
GEN CHEM											
Chloride	N	mg/L	200	13	13	13	13	13	13	13	768
Dissolved Solids, Total	N	mg/L	1200	364 R	372	324	366	392	278	348	3380
pH, Lab	N	pH units	6.22-9.0[2]	7.31	7.35	7.39	7.39	7.52	7.42	7.57	7.33
METALS											
Antimony	D	mg/L	0.006								
Antimony	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
Arsenic	D	mg/L	0.01								
Arsenic	T	mg/L	0.01	0.0031	0.0024	0.0018	0.0022	0.002	0.002	0.0022	0.0022
Barium	D	mg/L	2								
Barium	T	mg/L	2	0.227	0.171	0.118	0.133	0.121	0.129	0.133	0.125
Beryllium	D	mg/L	0.004								
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
Boron	D	mg/L	2								
Boron	T	mg/L	2	0.877	0.569	0.668	0.792	0.506	0.369	0.317	0.255
Cadmium	D	mg/L	0.005								
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
Calcium	D	mg/L	103.2								
Calcium	T	mg/L	103.2	85.9	85.3	76.5	81.9	85.6	81.5 S	80.3	92
Chromium	D	mg/L	0.1								
Chromium	T	mg/L	0.1	0.0148	0.0021	0.001 U	0.001 U	0.001 U	0.0011	0.0016	0.001 U
Cobalt	D	mg/L	0.006								
Cobalt	T	mg/L	0.006	0.0031	0.0014	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Iron	D	mg/L	NS								
Iron	T	mg/L	NS								
Lead	D	mg/L	0.0075								
Lead	T	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
Lithium	D	mg/L	0.04								
Lithium	T	mg/L	0.04	0.0176	0.0173	0.0174	0.018	0.0167	0.0173	0.0155	0.0148
Manganese	D	mg/L	NS								
Manganese	T	mg/L	NS								
Mercury	D	mg/L	0.002								
Mercury	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
Molybdenum	D	mg/L	0.1								
Molybdenum	T	mg/L	0.1	0.0223	0.0252	0.0327	0.0303	0.0247	0.0246	0.0223	0.0224
Nickel	D	mg/L	NS								
Nickel	T	mg/L	NS	0.012	0.0032	0.001 U	0.001	0.001 U	0.001 U	0.0012	0.001 U
Selenium	D	mg/L	0.05								
Selenium	T	mg/L	0.05	0.0126	0.0139	0.017	0.0186	0.0138	0.0143	0.0147	0.0134
Thallium	D	mg/L	0.002								
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	0.001 U

Post-Closure Sampling

Parameter/Analyte	Total or Dissolved	APW-09-WG-20220615	APW-09-WG-20220913	APW-09-WG-20221130	APW-09-WG-20230201	APW-09-WG-20230627	APW-09-WG-20230920	DUP-02-WG-20230920
Location ID		APW-09	APW-09	APW-09	APW-09	APW-09	APW-09	APW-09
Sample Date		06/15/2022	09/13/2022	11/30/2022	02/01/2023	06/27/2023	09/20/2023	09/20/2023
Sample Type		N	N	N	N	N	N	FD
UNSPECIFIED								
Fluoride	N	0.23	0.19	0.2	0.19	0.19	0.2	0.19
Radium-226	N	0.267 ± 0.199	0.24 ± 0.09 U	0.06 ± 0.06 U	0.0975 ± 0.156 J	0.18 ± 0.09 U	0 ± 0.05 U	-0.02 ± 0.05 U
Radium-228	N	-0.213 ± 0.244 U	0.22 ± 0.49 U	0.77 ± 0.55 J	0.023 ± 0.243 U	0.35 ± 0.65 U	1.17 ± 0.6	0.22 ± 0.41 U
Sulfate	N	104	39	36	38	47	32	31
CALC								
Radium-226/228	N	0.267 ± 0.315 J	0.46 ± 0.58 U	0.83 ± 0.61 U	0.12 ± 0.289 U	0.53 ± 0.74 U	1.17 ± 0.65 U	0.22 ± 0.46 U
FIELD PARAM								
Turbidity, Field	N	34.2	7.3	7.28	23.6	24.7	5.64	
GEN CHEM								
Chloride	N	13	12	12	13	12	11	11
Dissolved Solids, Total	N	424	380 H	372	360	386	372	386
pH, Lab	N	7.48	7.59	7.32	7.72	7.32 H	7.56 H	7.65 H
METALS								
Antimony	D	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Antimony	T	0.001 U	0.001 U	0.001 U	0.001 U	0.001	0.001 U	0.001 U
Arsenic	D	0.0019	0.0021	0.0019	0.0019	0.0021	0.0022	0.0021
Arsenic	T	0.0026	0.0025	0.0021	0.0024	0.0021	0.002	0.0023
Barium	D	0.129	0.111	0.109 B	0.107	0.116	0.114	0.117
Barium	T	0.186	0.134	0.124	0.122	0.123	0.12	0.125
Beryllium	D	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Beryllium	T	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Boron	D	1.32	0.327	0.24	0.239	0.572	0.234	0.236
Boron	T	1.61	0.329	0.243	0.225	0.473	0.209	0.239
Cadmium	D	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Cadmium	T	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Calcium	D	107 S	76.5	78.3	76.3	82.8 S	81	81.1
Calcium	T	110	89.5	80.5	80.3	86.9 B	69.5	87.5
Chromium	D	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U
Chromium	T	0.0011 J	0.0015 U	0.0015	0.0015 U	0.0015 U	0.0018	0.0015 U
Cobalt	D	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Cobalt	T	0.001	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Iron	D							
Iron	T	0.496						
Lead	D	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Lead	T	0.001 U	0.0039	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Lithium	D	0.0184	0.0137	0.0131	0.0125	0.0163	0.0196	0.0184
Lithium	T	0.0246	0.0143	0.0131	0.0137	0.0157	0.0134	0.015
Manganese	D							
Manganese	T	0.599						
Mercury	D		0.0002 U					
Mercury	T	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Molybdenum	D	0.0351	0.0182	0.0139	0.0165	0.0211	0.0167	0.0173
Molybdenum	T	0.0455	0.0194	0.015	0.0173	0.0189	0.0162	0.0173
Nickel	D	0.0017		0.001 U				
Nickel	T	0.004		0.0019				
Selenium	D	0.021	0.0142	0.0147	0.0179	0.0186	0.0155	0.0162
Selenium	T	0.0219	0.0151	0.0138	0.0196	0.0198	0.0153	0.0182
Thallium	D	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Thallium	T	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U

Parameter/Analyte	Total or Dissolved	APW-09-WG-20231129	DUP-02-WG-20231129	APW-09-WG-20240111	DUP-02-WG-20240111	APW-09-WG-20240430	APW-09-WG-20250115	DUP-02-WG-20250115
Location ID		APW-09	APW-09	APW-09	APW-09	APW-09	APW-09	APW-09
Sample Date		11/29/2023	11/29/2023	01/11/2024	01/11/2024	04/30/2024	01/15/2025	01/15/2025
Sample Type		N	FD	N	FD	N	N	FD
UNSPECIFIED								
Fluoride	N	0.2	0.21	0.197	0.186	0.339	0.15	0.162
Radium-226	N	0 ± 0.02 U	0.03 ± 0.03 U	0.203 ± 0.210 J	0.459 ± 0.287	0.252 ± 0.234 J	0.246 ± 0.256 J	0.0607 ± 0.0981 J
Radium-228	N	0.8 ± 0.65 J	0.2 ± 0.66 U	1.09 ± 0.251	0.723 ± 0.211	0.614 ± 0.214	1.21 ± 0.764	0.63 ± 0.376 J
Sulfate	N	34	35	35.3	35.4	53.6	46.8	41.7
CALC								
Radium-226/228	N	0.8 ± 0.67 U	0.23 ± 0.69 U	1.29 ± 0.327	1.18 ± 0.356	0.866 ± 0.317	1.46 ± 0.806	0.691 ± 0.389
FIELD PARAM								
Turbidity, Field	N	3.82		13.4		5.69	19.4	
GEN CHEM								
Chloride	N	12	12	12.1	12.1	14.3	12.8	14.8
Dissolved Solids, Total	N	380	376	354	361	367	370	362
pH, Lab	N	7.5 H	7.45 H	8.03 T8	8.1 T8	7.7 T8	7.81 T8	8.15 T8
METALS								
Antimony	D	0.0011	0.001 U	0.004 U	0.004 U	0.004 U F1	0.004 U	0.004 U
Antimony	T	0.001 U	0.001 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Arsenic	D	0.002	0.002	0.00216	0.00206	0.00222 F1	0.00202	0.002 U
Arsenic	T	0.0026	0.0028	0.00235	0.00214	0.00227	0.00226	0.00211
Barium	D	0.109	0.108	0.118	0.12	0.114 F1	0.113	0.106
Barium	T	0.131	0.143	0.138	0.136	0.113	0.125	0.124
Beryllium	D	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U F1	0.002 U	0.002 U
Beryllium	T	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Boron	D	0.169	0.166			0.481 F1	0.311	0.318
Boron	T	0.191	0.221			0.501	0.301	0.31
Cadmium	D	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U F1	0.001 U	0.001 U
Cadmium	T	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Calcium	D	73.5	73.6	80.2	78.4	88.5 F1	88.2	86.1
Calcium	T	80.9	111	80.4	80.9	88.3	90	90.2
Chromium	D	0.0015 U	0.0015 U	0.002 U	0.002 U	0.002 U F1	0.002 U	0.002 U
Chromium	T	0.0015 U	0.0015 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cobalt	D	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U F1	0.002 U	0.002 U
Cobalt	T	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Iron	D			0.1 U	0.1 U			
Iron	T			0.179	0.21			
Lead	D	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U F1	0.002 U	0.002 U
Lead	T	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Lithium	D	0.0121	0.012	0.0129	0.0142	0.0159 F1	0.0144	0.0128
Lithium	T	0.0138	0.0163	0.0139	0.0143	0.0163	0.0155	0.0146
Manganese	D			0.005 U	0.005 U			
Manganese	T			0.124	0.119			
Mercury	D			0.0002 U	0.0002 U	0.0002 U F1	0.0002 U	0.0002 U
Mercury	T	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Molybdenum	D	0.0154	0.0146	0.0186	0.0188	0.0311 F1	0.0213	0.0205
Molybdenum	T	0.0188	0.0171	0.0163	0.0157	0.031	0.0214	0.0213
Nickel	D			0.002 U	0.002 U			
Nickel	T			0.002 U	0.002 U			
Selenium	D	0.0163	0.0159	0.022	0.0216	0.0319 F1	0.0208	0.0203
Selenium	T	0.0214	0.0194	0.0225	0.0222	0.0334	0.0204	0.0216
Thallium	D	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U F1	0.002 U	0.002 U
Thallium	T	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U

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Grand Tower Energy Center (GTEC)
Grand Tower, US-IL

				Sampled prior to closure of CCR impoundment										Post-Closure Sampling											
			Sample ID	APW-10D-20170907	APW-10D-20170927	APW-10D-20171019	APW-10D-20171109	APW-10D-20171128	APW-10D-20171228	APW-10D-20180118	APW-10D-20180209	APW-10D-WG-20220615	APW-10D-WG-20220916	APW-10D-WG-20221129	APW-10D-WG-20230202	APW-10D-WG-20230626	APW-10D-WG-20230919	APW-10D-WG-20231127	APW-10D-WG-20240111	APW-10D-WG-20240430	APW-10D-WG-20240905	APW-10D-WG-20241015	APW-10D-WG-20250116
			Location ID	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D
			Sample Date	09/07/2017	09/27/2017	10/19/2017	11/09/2017	11/28/2017	12/28/2017	01/18/2018	02/09/2018	06/15/2022	09/16/2022	11/29/2022	02/02/2023	06/26/2023	09/19/2023	11/27/2023	01/11/2024	04/30/2024	09/05/2024	10/15/2024	01/16/2025
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards[4]																				
UNSPECIFIED																							
Fluoride	N	mg/L	4	0.1	0.12	0.1	0.1 U	0.11	0.1	0.11	0.1 U	0.12	0.1	0.12	0.12	0.11	0.11	0.14	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Radium-226	N	pCi/L	NS	0.54 ± 0.12 U	0.11 ± 0.1 U	0.121 ± 0.337	0.19 ± 0.12 U	0.16 ± 0.13 U	0.25 ± 0.11 U	0.08 ± 0.1 U	0 ± 0.07 U	0.245 ± 0.267	0.22 ± 0.09 U	0.31 ± 0.13 U	0.186 ± 0.157	0.31 ± 0.13 U	0.21 ± 0.09 U	0.14 ± 0.06 U	0.64 ± 0.170 U	0.134 ± 0.196 J	0.163 ± 0.151	0.108 ± 0.074 U	0.114 ± 0.141 J
Radium-228	N	pCi/L	NS	1.16 ± 0.52	1.72 ± 0.64	0.633 ± 0.366	0.98 ± 0.33 J	0.47 ± 0.55 U	0.34 ± 0.37 U	0.98 ± 0.6 J	0.59 ± 0.43 U	1.19 ± 0.311	0.58 ± 0.58 U	0.28 ± 0.43 U	0.847 ± 0.370	1.39 ± 0.76	0.61 ± 0.49 U	1.36 ± 0.77	1.49 ± 0.351	0.886 ± 0.294	-0.266 ± 0.253 U	0.282 ± 0.302 J	2.1 ± 0.605
Sulfate	N	mg/L	400	38	44	43	42	42	44	44	44	41	43	42	39	44	31	26	35.5	35.3	37.1	32.9	44.5
CALC																							
Radium-226/228	N	pCi/L	7.002	1.5 ± 0.64 U	1.72 ± 0.74 U	0.754 ± 0.703	1.17 ± 0.45 U	0.63 ± 0.68 U	0.57 ± 0.47 U	1.06 ± 0.7 U	0.59 ± 0.5 U	1.44 ± 0.374	0.78 ± 0.67 U	0.59 ± 0.54 U	1.03 ± 0.402	1.7 ± 0.88 U	0.82 ± 0.58 U	1.5 ± 0.83 U	1.53 ± 0.390	1.02 ± 0.355	0.163 ± 0.295 U	0.39 ± 0.408 J	2.21 ± 0.621
FIELD PARAM																							
Turbidity, Field	N	NTU	17.96[1]									46.9	21.9	36.4	45.3	176	169	196	4.76	198	5.56	45.3	169
GEN CHEM																							
Chloride	N	mg/L	200	24	17	17	15	17	16	14	16	18	18	14	13	14	10	10	15.4	10.9	25.5	15	13.3
Dissolved Solids, Total	N	mg/L	1200	466	474	442	468	482	448	448	512	452	460 H	460	454	485	468	445	436	459	351	447	447
pH, Lab	N	pH units	6.22-9.0[2]	7.12	7.11	7.05	7.11	7.12	7.15	7.03	7.03	7.21	7.29	7.04	7.57	6.98 H	7.22 H	7.08 H	7.66 T8	7.38 T8	7.28 T8	7.31 T8	7.37 T8
METALS																							
Antimony	D	mg/L	0.006									0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0013	0.004 U	0.004 U F1	0.004 U	0.004 U	0.004 U
Antimony	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	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Arsenic	D	mg/L	0.01									0.0008 J	0.0011 U	0.0012	0.0011	0.0011	0.0011	0.0018	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Arsenic	T	mg/L	0.01	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001	0.001 U	0.0017	0.0057	0.0014	0.0017	0.0019	0.0016	0.0021	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Barium	D	mg/L	2									0.342	0.321	0.318	0.304	0.348	0.355	0.448	0.336	0.393 F1	0.217	0.334	0.34
Barium	T	mg/L	2	0.437	0.404	0.365	0.395	0.384	0.395	0.361	0.367	0.457	0.418	0.376	0.343	0.486	0.398	0.508	0.341	0.361	0.22	0.347	0.354
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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 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	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Boron	D	mg/L	2									0.0786	0.0711	0.0841	0.0579	0.0704	0.0639	0.0823		0.2 U F1	0.2 U	0.2 U	0.2 U
Boron	T	mg/L	2	0.0999	0.101	0.0843	0.0713	0.0885	0.0922	0.0923	0.0906	0.118	0.0731	0.0572	0.073	0.0674	0.066	0.0754		0.2 U	0.2 U	0.2 U	0.2 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 F1	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	0.0011	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									143	124	113	114	114	116	83.4	119	121 F1	101	113	126
Calcium	T	mg/L	103.2	118	136	120	121	125	123	148 S	124 S	135	374	115	122	611 B	118	100	125	141	98.5	129	142
Chromium	D	mg/L	0.1									0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Chromium	T	mg/L	0.1	0.0036	0.0078	0.0022	0.0011	0.001 U	0.001 U	0.0042	0.001 U	0.0015 U	0.0148	0.0024	0.0015 U	0.0015	0.0042	0.0021	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cobalt	D	mg/L	0.006									0.0025	0.0021	0.0032	0.003	0.0026	0.0026	0.0038	0.00228	0.00238 F1	0.002 U	0.002 U	0.00244
Cobalt	T	mg/L	0.006	0.0039	0.0024	0.0025	0.0032	0.0017	0.0013	0.0026	0.0026	0.0034	0.0049	0.003	0.0033	0.007	0.0031	0.0039	0.00261	0.00271	0.002 U	0.00242	0.00271
Iron	D	mg/L	NS																0.1 U				
Iron	T	mg/L	NS									0.758							0.175				
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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Lead	T	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	0.002	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Lithium	D	mg/L	0.04									0.0135	0.0135	0.0133	0.012	0.0148	0.02	0.0176	0.0135	0.014 F1	0.0116	0.0158	0.0142
Lithium	T	mg/L	0.04	0.0147	0.0155	0.0146	0.0146	0.0153	0.0155	0.0142	0.014	0.018	0.0156	0.0126	0.0146	0.0158	0.0148	0.0154	0.0152	0.0142	0.0113	0.0147	0.0152
Manganese	D	mg/L	NS																0.647				
Manganese	T	mg/L	NS									1.16							0.88				
Mercury	D	mg/L	0.002										0.0002 U						0.0002 U	0.0002 U F1	0.000229	0.0002 U	0.0002 U
Mercury	T	mg/L	0.002	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U
Molybdenum	D	mg/L	0.1									0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0025	0.005 U	0.005 U F1	0.005 U	0.005 U	0.005 U
Molybdenum	T	mg/L	0.1	0.0024	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nickel	D	mg/L	NS									0.0054		0.0054					0.0474				
Nickel	T	mg/L	NS	0.0095	0.0077	0.0065	0.0057	0.0035	0.0025	0.0072	0.0053	0.007		0.0063					0.00513				
Selenium	D	mg/L	0.05									0.001 U	0.0016	0.0015	0.0024	0.0013	0.0016	0.0043	0.0027 4	0.00238 F1	0.002 U	0.002 U	0.002 U
Selenium	T	mg/L	0.05	0.001 U	0.0011	0.0012	0.0013	0.001 U	0.0014	0.0016	0.0016	0.001 U	0.0021	0.0013	0.0027	0.0016	0.0013	0.0033	0.00269	0.00264	0.002 U	0.002 U	0.002 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 F1	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	0.002 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

Notes:
Empty cells = not analyzed
N = Normal Environmental Samole
FD = Field Duplicate Samole
NA = not applicable
T = total
D = dissolved
mg/L = milligrams per liter
pCi/L = picocuries per liter
NTU = nephelometric turbidity units
H = Holding times 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 Recovery outside recovery limits
R = RPD outside accepted recovery limits
U = Not Detected at the Reporting Limit
T8 = Sample received past/too close to holding time expiration

1 Standard is from the Upper Tolerance Limit (UTL) calculated from
2 Standard value 6.22 is from the Lower Tolerance Limit (LTL)
3 Eight episodes of groundwater sampling were conducted from
4 Well was redrilled 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

				Sampled prior to closure of CCR Impoundment							
			Sample ID	APW-10S-20170907	APW-10S-20170927	APW-10S-20171019	APW-10S-20171109	APW-10S-20171128	APW-10S-20171228	APW-10S-20180118	APW-10S-20180209
			Location ID	APW-10S	APW-10S	APW-10S	APW-10S	APW-10S	APW-10S	APW-10S	APW-10S
			Sample Date	09/07/2017	09/27/2017	10/19/2017	11/09/2017	11/28/2017	12/28/2017	01/18/2018	02/09/2018
			Sample Type	N	N	N	N	N	N	N	N
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards[3]								
UNSPECIFIED											
Fluoride	N	mg/L	4	0.19	0.21	0.16	0.16	0.16	0.17	0.17	0.16
Radium-226	N	pCi/L	NS	0.4 ± 0.14 U	0.19 ± 0.11 U	0.774 ± 0.430	0.16 ± 0.11 U	0.18 ± 0.16 U	0.23 ± 0.1 U	0.29 ± 0.12 U	0.24 ± 0.13 U
Radium-228	N	pCi/L	NS	0.38 ± 0.47 U	0.98 ± 0.7 J	0.856 ± 0.391	0.71 ± 0.33 J	0.66 ± 0.57 U	0.56 ± 0.43 U	2.71 ± 0.78	0.93 ± 0.52 J
Sulfate	N	mg/L	400	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U
CALC											
Radium-226/228	N	pCi/L	7.002	0.78 ± 0.61	1.17 ± 0.81 U	1.63 ± 0.821	0.87 ± 0.44 U	0.84 ± 0.73 U	0.79 ± 0.54 U	3 ± 0.9	1.17 ± 0.65 U
FIELD PARAM											
Turbidity, Field	N	NTU	17.96[1]								
GEN CHEM											
Chloride	N	mg/L	200	10	7	6	6	6	6	6	6
Dissolved Solids, Total	N	mg/L	1200	708	720	678	708	734	770	680 R	762
pH, Lab	N	pH units	6.22-9.0[2]	6.99	6.96	6.95	6.98	6.97	6.98	7.06	6.91
METALS											
Antimony	D	mg/L	0.006								
Antimony	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
Arsenic	D	mg/L	0.01								
Arsenic	T	mg/L	0.01	0.186	0.189	0.18	0.209	0.183	0.193	0.23	0.198
Barium	D	mg/L	2								
Barium	T	mg/L	2	0.613	0.634	0.543	0.668	0.565	0.598	0.703	0.585
Beryllium	D	mg/L	0.004								
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
Boron	D	mg/L	2								
Boron	T	mg/L	2	0.525	0.544	0.536	0.595	0.545	0.573	0.645	0.582
Cadmium	D	mg/L	0.005								
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
Calcium	D	mg/L	103.2								
Calcium	T	mg/L	103.2	136	144	135	152	150	145	140	140
Chromium	D	mg/L	0.1								
Chromium	T	mg/L	0.1	0.0091	0.0019	0.001	0.0016	0.001 U	0.0016	0.0019	0.001 U
Cobalt	D	mg/L	0.006								
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
Iron	D	mg/L	NS								
Iron	T	mg/L	NS								
Lead	D	mg/L	0.0075								
Lead	T	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
Lithium	D	mg/L	0.04								
Lithium	T	mg/L	0.04	0.0263	0.0278	0.0272	0.0289	0.0293	0.0308	0.0316	0.0297
Manganese	D	mg/L	NS								
Manganese	T	mg/L	NS								
Mercury	D	mg/L	0.002								
Mercury	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
Molybdenum	D	mg/L	0.1								
Molybdenum	T	mg/L	0.1	0.0017	0.0016	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Nickel	D	mg/L	NS								
Nickel	T	mg/L	NS	0.0051	0.0012	0.001 U	0.0015	0.001 U	0.001 U	0.0014	0.001 U
Selenium	D	mg/L	0.05								
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
Thallium	D	mg/L	0.002								
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

				Post-Closure Sampling											
			Sample ID	APW-10S-WG-20220615	APW-10S-WG-20220915	APW-10S-WG-20221129	APW-10S-WG-20230202	APW-10S-WG-20230626	APW-10S-WG-20230919	APW-10S-WG-20231127	APW-10S-WG-20240111	APW-10S-WG-20240430	APW-10S-WG-20240905	APW-10S-WG-20241015	APW-10S-WG-20250116
			Location ID	APW-10S	APW-10S	APW-10S	APW-10S	APW-10S	APW-10S	APW-10S	APW-10S	APW-10S	APW-10S	APW-10S	APW-10S
			Sample Date	06/15/2022	09/15/2022	11/29/2022	02/02/2023	06/26/2023	09/19/2023	11/27/2023	01/11/2024	04/30/2024	09/05/2024	10/15/2024	01/16/2025
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards[3]												
UNSPECIFIED															
Fluoride	N	mg/L	4	0.17	0.15	0.17	0.15	0.15	0.16	0.18	0.15 U	0.15 U	0.251	0.15 U	0.199
Radium-226	N	pCi/L	NS	0.778 ± 0.324	0.3 ± 0.1 U	0.31 ± 0.11 U	1.08 ± 0.395	0.37 ± 0.13 U	0.59 ± 0.14 U	0.32 ± 0.09 U	0.313 ± 0.206	0.347 ± 0.299 J	0.498 ± 0.257	0.236 ± 0.267 J	0.331 ± 0.211
Radium-228	N	pCi/L	NS	0.475 ± 0.268 J	2.52 ± 0.91	1.64 ± 0.68	0.162 ± 0.371 U	-0.18 ± 0.47 U	4.24 ± 0.91	0.95 ± 0.66 J	2.1 ± 0.228	0.234 ± 0.289 U	-0.0143 ± 0.345 U	0.934 ± 0.351	1.69 ± 0.451
Sulfate	N	mg/L	400	10 U	21 S	10 U	10 U	10 U	10 SU	10 U	5 U	5 U	5 U	5 U	5.15
CALC															
Radium-226/228	N	pCi/L	7.002	1.25 ± 0.42	2.82 ± 1.01	1.95 ± 0.79 U	1.24 ± 0.542	0.37 ± 0.6 U	4.83 ± 1.05	1.27 ± 0.75 U	2.42 ± 0.307	0.582 ± 0.416 J	0.498 ± 0.430 J	1.17 ± 0.441	2.02 ± 0.498
FIELD PARAM															
Turbidity, Field	N	NTU	17.96[1]	61.5	34.3	52.6	37.3	57.2	63.6	13.1	3.78	17.1	9.12	20.4	7.11
GEN CHEM															
Chloride	N	mg/L	200	12	15	18	21	14	15	20	17.2	11.4	10.3	13.2	14.4
Dissolved Solids, Total	N	mg/L	1200	735	770 H	750	780	725	775	900	692	744	751	758	758
pH, Lab	N	pH units	6.22-9.0[2]	7.09	7.2	6.95	7.2	7.01 H	7.17 H	7.01 H	7.58 T8	7.18 T8	6.96 T8	7.16 T8	7.28 T8
METALS															
Antimony	D	mg/L	0.006	0.001 U	0.001 U	0.001 U	0.0016	0.001 U	0.001 U	0.001 U	0.004 U	0.004 U F1	0.004 U	0.004 U	0.004 U
Antimony	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	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Arsenic	D	mg/L	0.01	0.152	0.0612	0.0138	0.171	0.166	0.176	0.251	0.0628	0.0639 F1	0.062	0.0557	0.0637
Arsenic	T	mg/L	0.01	0.185	0.187	0.182	0.191	0.194	0.174	0.276	0.196	0.198	0.19	0.19	0.191
Barium	D	mg/L	2	0.423	0.292	0.162 B	0.506	0.506	0.567	0.711	0.288	0.339 F1	0.299	0.305	0.316
Barium	T	mg/L	2	0.575	0.612	0.536	0.575	0.589	0.591	0.804	0.597	0.559	0.567	0.474	0.593
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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 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	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Boron	D	mg/L	2	0.57	0.541	7.48	0.497	0.578	0.571	0.682		0.544 F1	0.535	0.562	0.563
Boron	T	mg/L	2	0.683	0.565	0.569	0.592	0.582	0.553	0.555		0.571	0.554	0.567	0.554
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 F1	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
Calcium	D	mg/L	103.2	169	156	142	145	142	151	137	152	160 F1	154	152	159
Calcium	T	mg/L	103.2	161	171 S	154	145	153 B	134	129 S	162	163	163	162	168
Chromium	D	mg/L	0.1	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Chromium	T	mg/L	0.1	0.0015 J	0.015	0.0032	0.0023	0.0025	0.0087	0.0016	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cobalt	D	mg/L	0.006	0.0001 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Cobalt	T	mg/L	0.006	0.0006 J	0.0021	0.0013	0.001 U	0.001 U	0.0021	0.0013	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Iron	D	mg/L	NS								0.1 U				
Iron	T	mg/L	NS	19.6							17.2				
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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 U
Lead	T	mg/L	0.0075	0.0007 J	0.0043	0.0014	0.001 U	0.0016	0.0031	0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Lithium	D	mg/L	0.04	0.0266	0.0286	0.0387 R	0.0268	0.0278	0.0349	0.0359	0.0302	0.0284 F1	0.0268	0.0296	0.0285
Lithium	T	mg/L	0.04	0.0353	0.033	0.0307	0.0323	0.0291	0.0301	0.0401	0.0328	0.0293	0.0272	0.0297	0.031
Manganese	D	mg/L	NS								0.155				
Manganese	T	mg/L	NS	0.243							0.174				
Mercury	D	mg/L	0.002		0.0002 U						0.0002 U	0.0002 U F1	0.0002 U	0.0002 U	0.0002 U
Mercury	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
Molybdenum	D	mg/L	0.1	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.005 U	0.005 U F1	0.005 U	0.005 U	0.005 U
Molybdenum	T	mg/L	0.1	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0021	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nickel	D	mg/L	NS	0.001 U		0.001 U					0.002 U				
Nickel	T	mg/L	NS	0.0014		0.0031					0.002 U				
Selenium	D	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	0.002 U	0.002 U F1	0.002 U	0.002 U	0.002 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	0.002 U	0.002 U	0.002 U	0.002 U	0.002 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 F1	0.002 U	0.002 U	0.002 U
Thallium	T	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

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
pCi/L = picocuries per liter
NTU = nephelometric turbidity units
H = Holding times 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 Recovery outside recovery limits
R = RPD outside accepted recovery limits
U = Not Detected at the Reporting Limit
T8 = Sample received past/too close to holding time expiration

1 Standard is from the Upper Tolerance Limit (UTL) calculated from
2 Standard value 6.22 is from the Lower Tolerance Limit (LTL)
3 Eight episodes of groundwater sampling were conducted from
4 Well was redrilled in February with Location ID of APW-05R
Highlighted values exceed action level
NS = No standard

APPENDIX A FOURTH QUARTER 2024 CCR IMPOUNDMENT INSPECTION REPORT

Grand Tower Energy Center
Closed CCR Impoundment
Quarterly Inspection Form

Date: 1/16/2025

Time: 08:30 – 09:30

Name: Marshall Arendell
(Inspector)

Weather:

Temperature:

20 deg. F

☒ Sunny
☐ Cloudy
☐ Raining
☐ Other

_____

Conditions Limiting Visibility:

☒ Snow Cover
☐ Vegetation
☐ None
☐ Other

_____

Observations:

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

_____

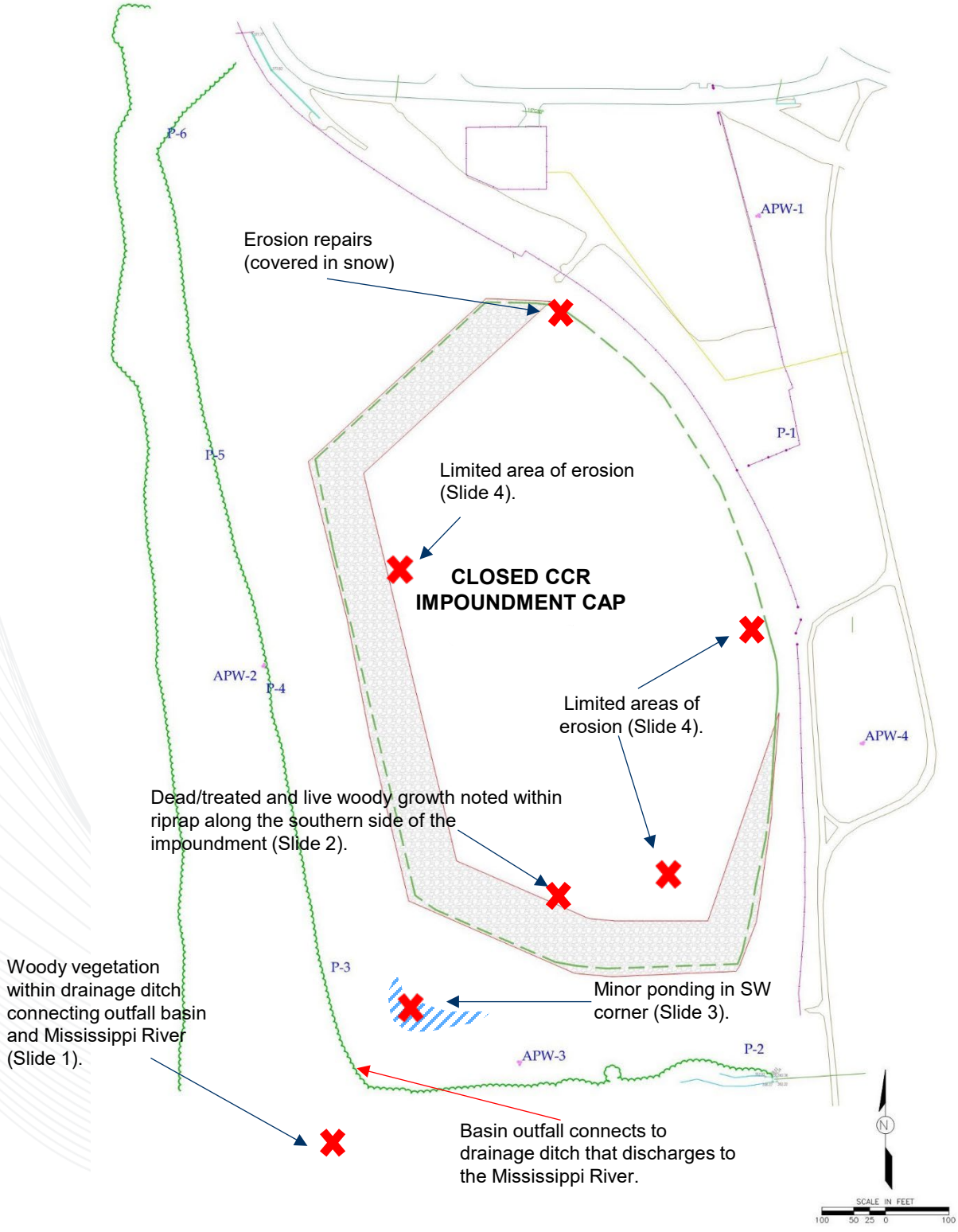
_____

Observations in Detail Below:

- ERM onsite for the Q1 2025 inspection of the closed CCR impoundment and groundwater sampling event.
- Repairs made to the erosional channel on the NE face of the impoundment cap in Q4 2024 held. ERM will continue to monitor.
- Continued monitoring of additional erosion channels noted across the west, east, and southern faces of the closed CCR impoundment cap. No additional controls necessary currently. ERM will continue to monitor.
- 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. ERM will continue to monitor.
- Woody vegetation noted on the south face of the closed CCR impoundment cap. Woody vegetation produced no foliage during Q1 inspection. Inspector will continue to monitor if vegetation is alive during the Q2 inspection and recommends herbicide treatment in the summer of 2025.
- Woody vegetation noted in the outfall channel to the drainage ditch connected to the Mississippi River. Vegetation does not present immediate issue to surface water flowing from the basin to the drainage ditch to the river. ERM will continue to monitor and will recommend removal if necessary.

Attach additional pages if necessary.

Observation Locations Map

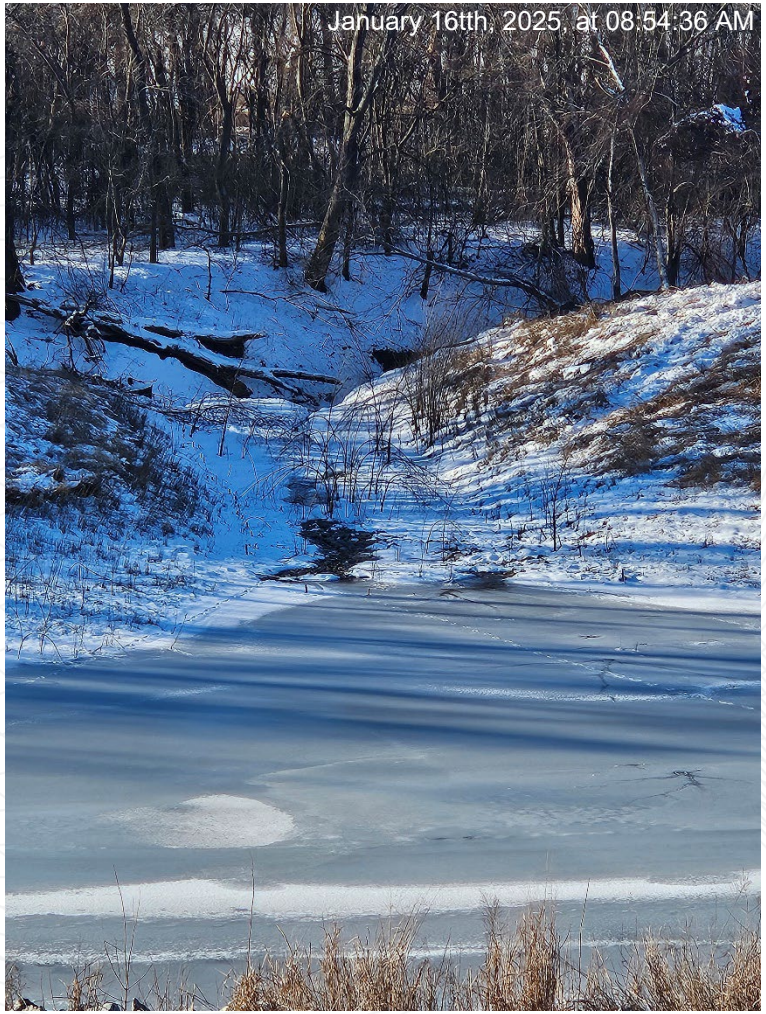


Grand Tower Energy Center Q1 2025 Closed CCR Impoundment Cap Inspection

Woody vegetation within drainage ditch connecting outfall basin and Mississippi River

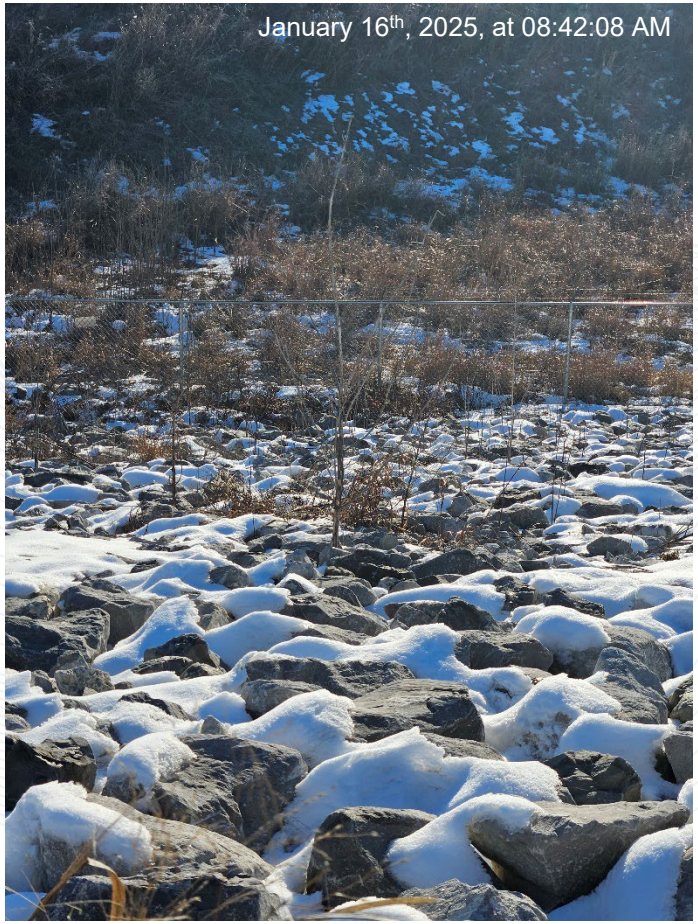
View facing north from the bottom SW edge of the outfall basin

View facing south from the SW corner of the impoundment cap



Woody Growth Observations

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



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

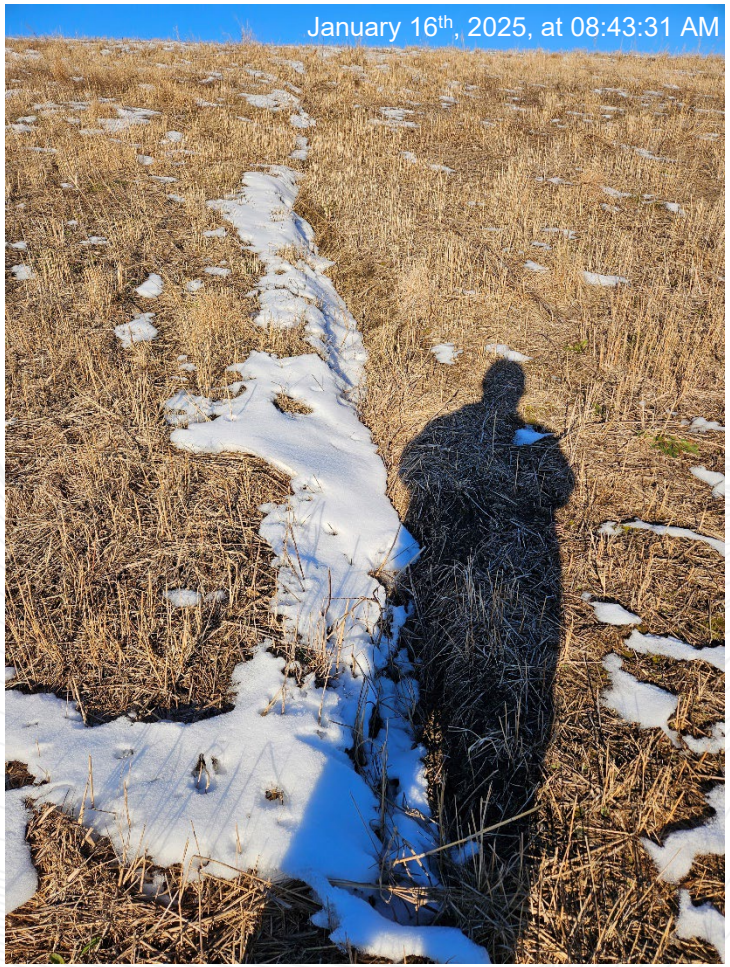
Ponding in the SW Corner of Site Basin Near the Outfall

Ponded area in southwest corner of site as viewed from atop impoundment cap.

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.

Minor Erosional Channels



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 east from the bottom of the impoundment cap.

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:	1/14/2025
Total Depth (Actual):	58.30	(BTOC)	Time:	12:15 PM
Total Depth (Measured):	58.25	(BTOC)	Collection Order:	6
Depth to Water (Measured):	34.72	(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-02		Date:	1/14/2025
Total Depth (Actual):	58.75	(BTOC)	Time:	11:25 AM
Total Depth (Measured):	58.19	(BTOC)	Collection Order:	3
Depth to Water (Measured):	34.18	(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:	1/14/2025
Total Depth (Actual):	54.65	(BTOC)	Time:	1:45 PM
Total Depth (Measured):	59.45	(BTOC)	Collection Order:	12
Depth to Water (Measured):	33.90	(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:	1/14/2025
Total Depth (Actual):	60.40	(BTOC)	Time:	12:20 PM
Total Depth (Measured):	60.28	(BTOC)	Collection Order:	7
Depth to Water (Measured):	35.54	(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:

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:	APW-05R		Date:	1/14/2025
Total Depth (Actual):	56.90	(BTOC)	Time:	11:40 AM
Total Depth (Measured):	62.80	(BTOC)	Collection Order:	4
Depth to Water (Measured):	33.35	(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:	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:	1/14/2025
Total Depth (Actual):	152.57	(BTOC)	Time:	11:15 AM
Total Depth (Measured):	151.96	(BTOC)	Collection Order:	1
Depth to Water (Measured):	32.03	(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:	1/14/2025
Total Depth (Actual):	63.98	(BTOC)	Time:	11:20 AM
Total Depth (Measured):	63.75	(BTOC)	Collection Order:	2
Depth to Water (Measured):	32.21	(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:	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:

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:	APW-07		Date:	1/14/2025
Total Depth (Actual):	63.35	(BTOC)	Time:	1:30 PM
Total Depth (Measured):	63.22	(BTOC)	Collection Order:	10
Depth to Water (Measured):	29.17	(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:	1/14/2025
Total Depth (Actual):	61.89	(BTOC)	Time:	1:40 PM
Total Depth (Measured):	62.11	(BTOC)	Collection Order:	11
Depth to Water (Measured):	30.68	(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-09		Date:	1/14/2025
Total Depth (Actual):	63.40	(BTOC)	Time:	12:05 PM
Total Depth (Measured):	63.17	(BTOC)	Collection Order:	5
Depth to Water (Measured):	34.70	(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:	1/14/2025
Total Depth (Actual):	98.19	(BTOC)	Time:	1:05 PM
Total Depth (Measured):	98.05	(BTOC)	Collection Order:	8
Depth to Water (Measured):	27.10	(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-10S		Date:	1/14/2025
Total Depth (Actual):	62.84	(BTOC)	Time:	1:10 PM
Total Depth (Measured):	62.71	(BTOC)	Collection Order:	9
Depth to Water (Measured):	28.05	(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:

APPENDIX C FOURTH QUARTER 2024 FIELD DATA FORMS

Low Flow Groundwater Sampling Field Data Form

Well ID: APW-01R
Well Permit No:

Date: 2025/01/15

Site ID GTEC-GRAND-TOWER	**Purge Method / Pump Intake Depth** Low_Flow / 58.17 (ft)	**Reference Elevation** 366.82 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	**Purge Equipment** NA	**Depth to Water / Free Product** 34.96 (ft) / None
Project Number 0761817	**Sample Equipment** NA	**Total Well Depth** 58.25 (ft)
Project Name 20240121-GWM	**Average Purge Rate** 500 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / 48.3 - 58.3 ()
Sampler Emma Portell; Marshall Arendell	**Volume of Water in Well / Total Volume Purged** 3.8 (gal) / 6 (gal)	**Well Construction**

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
12:15	34.96	500	1	14.4	6.57	0.427	NM	6.03	45.1	89.5	NM	Clear, no odor
12:20	34.96	500	2	14.6	6.42	0.48	NM	5.09	46.8	90.7	NM	Clear, no odor
12:25	34.96	500	3	14.6	6.53	0.533	NM	3.39	45.4	57.3	NM	Clear, no odor
12:30	34.96	500	4	14.6	6.56	0.552	NM	2.96	45	13.3	NM	Clear, no odor
12:35	34.96	500	5	14.7	6.56	0.555	NM	2.89	45.1	9.97	NM	Clear, no odor
12:40	34.96	500	6	14.7	6.57	0.556	NM	2.86	45	9.89	NM	Clear, no odor
12:45	36.96	500	7	14.7	6.57	0.556	NM	2.84	45	8.95	NM	Clear, no odor

Sample ID(s): APW-01R-WG-20250115	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Emma Portell 	01/31/2025 19:28

Low Flow Groundwater Sampling Field Data Form	Well ID: APW-02 Well Permit No:	Date: 2025/01/15

Site ID GTEC-GRAND-TOWER	**Purge Method / Pump Intake Depth** Low_Flow / 53.19 (ft)	**Reference Elevation** 364.61 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	**Purge Equipment** NA	**Depth to Water / Free Product** 32.91 (ft) / None
Project Number 0761817	**Sample Equipment** NA	**Total Well Depth** 58.19 (ft)
Project Name 20240121-GWM	**Average Purge Rate** 200 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / 47.2 - 57.2 ()
Sampler Emma Portell; Marshall Arendell	**Volume of Water in Well / Total Volume Purged** 4.13 (gal) / 0.6 (gal)	**Well Construction**

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
10:15	37.04	200	0.1	11.1	7.35	1.01	NM	5.03	28.1	219	NM	Cloudy, no odor
10:20	39.25	200	0.2	12.6	7.28	1.02	NM	3.83	6	128	NM	Cloudy, no odor
10:25	39.25	200	0.3	11.9	7.29	0.99	NM	3.27	-0.8	141	NM	Cloudy, no odor
10:30	39.25	200	0.4	12.7	7.24	1	NM	3.14	0.1	138	NM	Cloudy, no odor
10:35	39.25	200	0.5	12.8	7.24	1.01	NM	3.09	-0.1	132	NM	Cloudy, no odor
10:40	39.25	200	0.6	12.4	7.24	1.01	NM	3.11	1.3	127	NM	Cloudy, no odor

Sample ID(s):	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
APW-02-WG-20250115		Emma Portell 	01/31/2025 20:17
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: APW-03
Well Permit No:

Date: 2025/01/16

Site ID GTEC-GRAND-TOWER	**Purge Method / Pump Intake Depth** Low_Flow / 54.45 (ft)	**Reference Elevation** 365.79 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	**Purge Equipment** NA	**Depth to Water / Free Product** 34.32 (ft) / None
Project Number 0761817	**Sample Equipment** NA	**Total Well Depth** 59.45 (ft)
Project Name 20240121-GWM	**Average Purge Rate** 400 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / 45.7 - 55.7 ()
Sampler Emma Portell; Marshall Arendell	**Volume of Water in Well / Total Volume Purged** 4.1 (gal) / 9 (gal)	**Well Construction**

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
08:15	34.32	400	1	13.5	8.4	0.72	NM	7.81	32.5	38.4	NM	Clear, no odor
08:20	34.32	400	2	14.1	8.19	0.72	NM	7.5	52.7	14.3	NM	Clear, no odor
08:25	34.32	400	3	14.3	8.16	0.72	NM	7.26	52.6	9.81	NM	Clear, no odor
08:30	34.32	400	4	14.5	8.15	0.73	NM	6.11	52.2	9.24	NM	Clear, no odor
08:35	34.32	400	5	14.7	8.13	0.73	NM	4.01	51.2	6.47	NM	Clear, no odor
08:40	34.32	400	6	14.8	8.1	0.73	NM	2.97	50.8	6.23	NM	Clear, no odor
08:45	34.32	400	7	14.8	8.1	0.73	NM	2.51	49.8	6.88	NM	Clear, no odor
08:50	34.32	400	8	14.7	8.09	0.73	NM	2.52	49.7	7.15	NM	Clear, no odor
08:55	34.32	400	9	14.8	8.09	0.73	NM	2.51	49.4	7.69	NM	Clear, no odor

Sample ID(s): APW-03-WG-20250116	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Emma Portell 	01/31/2025 20:17

Low Flow Groundwater Sampling Field Data Form

Well ID: APW-04
Well Permit No:

Date: 2025/01/14

Site ID GTEC-GRAND-TOWER	**Purge Method / Pump Intake Depth** Low_Flow / 55.28 (ft)	**Reference Elevation** 367.44 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	**Purge Equipment** NA	**Depth to Water / Free Product** 35.54 (ft) / None
Project Number 0761817	**Sample Equipment** NA	**Total Well Depth** 60.28 (ft)
Project Name 20240121-GWM	**Average Purge Rate** 500 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / 45.7 - 55.7 ()
Sampler Emma Portell; Marshall Arendell	**Volume of Water in Well / Total Volume Purged** 4.04 (gal) / 9 (gal)	**Well Construction**

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
15:20	35.55	500	0	11.5	7.26	0.6116	NM	8.4	30.1	273	NM	Brown, no odor
15:25	35.55	500	1	13.8	5.89	0.634	NM	5.58	27.1	175	NM	Brown, no odor
15:30	35.55	500	2	13.8	7.18	0.634	NM	5.3	26.6	50	NM	Brown, no odor
15:35	35.55	500	3	13.6	7.22	0.633	NM	4.8	25.2	33	NM	Brown, no odor
15:40	35.55	500	4	13.5	7.22	0.634	NM	4.58	24.5	25.3	NM	Brown, no odor
15:45	35.55	500	5	13.6	7.21	0.635	NM	4.23	23.5	25	NM	Clear, no odor
15:50	35.55	500	6	13.5	7.22	0.634	NM	4.11	23.2	18.7	NM	Clear, no odor
15:55	35.55	500	7	13.6	7.22	0.633	NM	2.23	21.5	15.5	NM	Clear, no odor
16:00	35.55	500	8	13.6	7.22	0.634	NM	2.24	21.2	16.1	NM	Clear, no odor
16:05	35.55	500	9	13.6	7.21	0.635	NM	2.25	21.1	15.7	NM	Clear, no odor

Sample ID(s): APW-04-WG-20250114	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Emma Portell 	01/31/2025 21:18

Low Flow Groundwater Sampling Field Data Form

Well ID: APW-05R
Well Permit No:

Date: 2025/01/15

Site ID GTEC-GRAND-TOWER	**Purge Method / Pump Intake Depth** Low_Flow / 57.8 (ft)	**Reference Elevation** ()
Site Address 1820 Power Plant Road, Grand Tower, US-IL	**Purge Equipment** NA	**Depth to Water / Free Product** 33.55 (ft) / None
Project Number 0761817	**Sample Equipment** NA	**Total Well Depth** 62.8 (ft)
Project Name 20240121-GWM	**Average Purge Rate** 450 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler Emma Portell; Marshall Arendell	**Volume of Water in Well / Total Volume Purged** 4.77 (gal) / 4 (gal)	**Well Construction**

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
11:05	33.68	450	0	14.1	7.41	0.92	NM	2.41	21.5	461	NM	Cloudy, gray color, no odor
11:10	33.68	450	1	14.8	7.41	0.92	NM	2.2	18.5	78.4	NM	Cloudy, gray color, no odor
11:15	33.68	450	2	14.8	7.4	0.92	NM	2.03	3.9	28.4	NM	Clear, no odor
11:20	33.68	450	3	14.9	7.41	0.92	NM	1.98	1.8	27.6	NM	Clear, no odor
11:25	33.68	500	4	14.9	7.4	0.92	NM	2.08	-2	27.2	NM	Clear, no odor

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
APW-05R-WG-20250115,DUP-001-WG-20250115		Emma Portell 	01/31/2025 21:19
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: APW-06D
Well Permit No:

Date: 2025/01/15

Site ID GTEC-GRAND-TOWER	**Purge Method / Pump Intake Depth** Low_Flow / 146.96 (ft)	**Reference Elevation** 363.69 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	**Purge Equipment** NA	**Depth to Water / Free Product** 32.26 (ft) / None
Project Number 0761817	**Sample Equipment** NA	**Total Well Depth** 151.96 (ft)
Project Name 20240121-GWM	**Average Purge Rate** 475 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / 140 - 150 (ft)
Sampler Emma Portell; Marshall Arendell	**Volume of Water in Well / Total Volume Purged** 19.53 (gal) / 8 (gal)	**Well Construction**

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
09:15	32.31	475	1	14.1	7.76	0.73	NM	6.05	52.3	14.5	NM	Clear, no odor
09:20	32.31	475	2	14.6	7.53	0.73	NM	4.4	23.1	13.9	NM	Clear, no odor
09:25	32.31	475	3	12.3	7.48	0.73	NM	4.46	6.5	13.1	NM	Clear, no odor
09:30	32.31	475	4	14.7	7.41	0.73	NM	2.47	-4.7	12.5	NM	Clear, no odor
09:35	32.31	475	5	16.1	7.43	0.74	NM	2.38	-6.4	12.2	NM	Clear, no odor
09:40	32.31	475	6	15.3	7.43	0.74	NM	2.21	-10.5	11.8	NM	Clear, no odor
09:45	32.31	475	7	15.4	7.42	0.74	NM	2.17	-13.4	11.5	NM	Clear, no odor
09:50	32.31	475	8	15.2	7.42	0.74	NM	2.15	-14.9	11	NM	Clear, no odor

Sample ID(s): APW-06D-WG-20250115	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Emma Portell 	01/31/2025 21:19

Low Flow Groundwater Sampling Field Data Form	Well ID: APW-06S Well Permit No:	Date: 2025/01/15

Site ID GTEC-GRAND-TOWER	**Purge Method / Pump Intake Depth** Low_Flow / 58.75 (ft)	**Reference Elevation** 363.51 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	**Purge Equipment** NA	**Depth to Water / Free Product** 32.35 (ft) / None
Project Number 0761817	**Sample Equipment** NA	**Total Well Depth** 63.75 (ft)
Project Name 20240121-GWM	**Average Purge Rate** 500 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / 50 - 60 (ft)
Sampler Emma Portell; Marshall Arendell	**Volume of Water in Well / Total Volume Purged** 5.12 (gal) / 6 (gal)	**Well Construction**

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
07:35	32.53	500	1	10.7	7.4	0.94	NM	9.04	2.5	80.5	NM	Clear, no odor
07:40	32.53	500	2	14.4	7.32	0.95	NM	5.11	-45.1	14.4	NM	Clear, no odor
07:45	32.53	500	3	14.5	7.23	0.95	NM	4.3	-49.6	8.29	NM	Clear, no odor
07:50	32.53	500	4	14.6	7.22	0.94	NM	3.72	-48.6	8.97	NM	Clear, slight rotten egg-like odor
07:55	32.53	500	5	14.6	7.22	0.94	NM	3.68	-48.2	8.82	NM	Clear, slight rotten egg-like odor
08:00	32.53	500	6	14.5	7.22	0.94	NM	3.67	-47.9	8.11	NM	Clear, slight rotten egg-like odor

Sample ID(s):	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
APW-06S-WG-20250115		Emma Portell 	01/31/2025 21:20
Analysis:			

Low Flow Groundwater Sampling Field Data Form	Well ID: APW-07 Well Permit No:	Date: 2025/01/16

Site ID GTEC-GRAND-TOWER	**Purge Method / Pump Intake Depth** Low_Flow / 58.22 (ft)	**Reference Elevation** ()
Site Address 1820 Power Plant Road, Grand Tower, US-IL	**Purge Equipment** NA	**Depth to Water / Free Product** 29.82 (ft) / None
Project Number 0761817	**Sample Equipment** NA	**Total Well Depth** 63.22 (ft)
Project Name 20240121-GWM	**Average Purge Rate** ()	**Well Diameter / Well Screen Interval** 2 (in) /
Sampler Emma Portell; Marshall Arendell	**Volume of Water in Well / Total Volume Purged** 5.45 (gal) / 0 (gal)	**Well Construction**

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

Sample ID(s):	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:	Sample unable to be collected due to field equipment r	Emma Portell	01/31/2025 19:31

Low Flow Groundwater Sampling Field Data Form

Well ID: APW-08
Well Permit No:

Date: 2025/01/15

Site ID GTEC-GRAND-TOWER	**Purge Method / Pump Intake Depth** Low_Flow / 57.11 (ft)	**Reference Elevation** 362.71 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	**Purge Equipment** NA	**Depth to Water / Free Product** 30.8 (ft) / None
Project Number 0761817	**Sample Equipment** NA	**Total Well Depth** 62.11 (ft)
Project Name 20240121-GWM	**Average Purge Rate** 500 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / 50 - 60 (ft)
Sampler Emma Portell; Marshall Arendell	**Volume of Water in Well / Total Volume Purged** 5.11 (gal) / 9 (gal)	**Well Construction**

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
14:55	30.83	500	1	15.9	7.15	0.66	NM	1.7	49.3	1000	NM	Turbidity over range 1000+; gray and cloudy, no odor
15:00	30.83	500	2	15.5	7.11	0.65	NM	1.25	46.8	1000	NM	Turbidity over range 1000+; gray and cloudy, no odor
15:05	30.83	500	3	15.4	7.07	0.64	NM	1.16	45.9	253	NM	Gray and cloudy, no odor
15:10	30.83	500	4	15.2	7.06	0.64	NM	1.16	43.8	67.6	NM	Cloudy, no odor
15:15	30.83	500	5	15.1	7.06	0.64	NM	1.2	42.9	43	NM	Cloudy, no odor
15:20	30.83	500	6	15.1	7.05	0.63	NM	1.23	42	27.6	NM	Clear, no odor
15:25	30.83	500	7	15	7.06	0.63	NM	1.24	41.6	9.43	NM	Clear, no odor
15:30	30.83	500	8	15	7.06	0.63	NM	1.24	41.5	8.77	NM	Clear, no odor
15:35	30.83	500	9	15	7.06	0.63	NM	1.26	41.7	8.97	NM	Clear, no odor

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
APW-08-WG-20250115		Emma Portell 	01/31/2025 21:20
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: APW-09
Well Permit No:

Date: 2025/01/15

Site ID GTEC-GRAND-TOWER	**Purge Method / Pump Intake Depth** Low_Flow / 58.17 (ft)	**Reference Elevation** 366.84 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	**Purge Equipment** NA	**Depth to Water / Free Product** 34.84 (ft) / None
Project Number 0761817	**Sample Equipment** NA	**Total Well Depth** 63.17 (ft)
Project Name 20240121-GWM	**Average Purge Rate** 500 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / 50 - 60 (ft)
Sampler Emma Portell: Marshall Arendell	**Volume of Water in Well / Total Volume Purged** 4.62 (gal) / 6 (gal)	**Well Construction**

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
13:20	34.84	500	1	14.9	7.28	0.536	NM	2.35	47.6	133	NM	Cloudy, no odor
13:25	34.84	500	2	14.7	7.31	0.538	NM	1.45	40.8	35.3	NM	Cloudy, no odor
13:30	34.84	500	3	14.8	7.33	0.538	NM	1.27	39	22.9	NM	Clear, no odor
13:35	34.84	500	4	14.8	7.34	0.537	NM	1.24	38.5	19.8	NM	Clear, no odor
13:40	34.84	500	5	14.8	7.34	0.536	NM	1.23	38.3	20.6	NM	Clear, no odor
13:45	34.84	500	6	14.8	7.34	0.538	NM	1.23	37.9	19.4	NM	Clear, no odor

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
APW-09-WG-20250115,DUP-002-WG-20250115		Emma Portell 	01/31/2025 21:21
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: APW-10D
Well Permit No:

Date: 2025/01/16

Site ID GTEC-GRAND-TOWER	**Purge Method / Pump Intake Depth** Low_Flow / 93.05 (ft)	**Reference Elevation** 359.41 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	**Purge Equipment** NA	**Depth to Water / Free Product** 27.37 (ft) / None
Project Number 0761817	**Sample Equipment** NA	**Total Well Depth** 98.05 (ft)
Project Name 20240121-GWM	**Average Purge Rate** 250 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / 86 - 96 (ft)
Sampler Emma Portell; Marshall Arendell	**Volume of Water in Well / Total Volume Purged** 11.53 (gal) / 4.5 (gal)	**Well Construction**

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
10:05	27.37	250	0.5	13.9	6.99	0.66	NM	3.7	49.1	36.4	NM	Clear, no odor
10:10	27.37	250	1	14.3	7.1	0.68	NM	2.75	45.3	658	NM	Cloudy, no odor
10:15	27.37	250	1.5	14.6	7.13	0.68	NM	2.47	43.6	258	NM	Cloudy, no odor
10:20	27.37	250	2	14.6	7.09	0.68	NM	2.2	44.9	194	NM	Cloudy, no odor
10:25	27.37	250	2.5	14.7	7.05	0.68	NM	2.25	43.5	186	NM	Cloudy, no odor
10:30	27.37	250	3	14.8	7.04	0.68	NM	1.9	42.9	177	NM	Cloudy, no odor
10:35	27.37	250	3.5	14.8	7.05	0.68	NM	1.93	43.6	179	NM	Cloudy, no odor
10:40	37.37	250	4	14.8	7.04	0.68	NM	1.91	42.7	184	NM	Cloudy, no odor
10:45	27.37	250	4.5	14.8	7.03	0.68	NM	1.91	42.9	169	NM	Cloudy, no odor

Sample ID(s): APW-10D-WG-20250116	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Emma Portell 	01/31/2025 21:21

Low Flow Groundwater Sampling Field Data Form	Well ID: APW-10S Well Permit No:	Date: 2025/01/16

Site ID GTEC-GRAND-TOWER	**Purge Method / Pump Intake Depth** Low_Flow / 57.71 (ft)	**Reference Elevation** 359.47 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	**Purge Equipment** NA	**Depth to Water / Free Product** 28.18 (ft) / None
Project Number 0761817	**Sample Equipment** NA	**Total Well Depth** 62.71 (ft)
Project Name 20240121-GWM	**Average Purge Rate** 450 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / 50 - 60 (ft)
Sampler Emma Portell; Marshall Arendell	**Volume of Water in Well / Total Volume Purged** 5.64 (gal) / 4 (gal)	**Well Construction**

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
11:00	28.6	250	0.5	14.2	6.99	1.25	NM	1.92	14.1	1000	NM	Turbidity over range 1000+; cloudy, no odor
11:05	28.6	250	1	14.8	6.99	1.25	NM	1.99	0.3	404	NM	Cloudy, no odor
11:10	28.6	250	1.5	14.9	7	1.25	NM	1.98	-7.9	55.4	NM	Clear, no odor
11:15	28.6	450	2	15	7.01	1.25	NM	1.97	-11.7	29	NM	Clear, no odor
11:20	28.6	450	2.5	15	7.01	1.25	NM	1.95	-12.9	15.2	NM	Clear, no odor
11:25	28.6	450	3	15	7.01	1.25	NM	1.94	-13.1	8.03	NM	Clear, no odor
11:30	28.6	450	3.5	15	7	1.25	NM	1.95	-15.2	6.97	NM	Clear, no odor
11:35	28.6	450	4	15	7	1.25	NM	1.94	-15.1	7.11	NM	Clear, no odor

Sample ID(s):	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
APW-10S-WG-20250116		Emma Portell 	01/31/2025 21:22
Analysis:			

APPENDIX D FOURTH QUARTER 2024 LABORATORY ANALYTICAL REPORT

ANALYTICAL REPORT

January 27, 2025

ERM - St. Louis, MO

Sample Delivery Group:	L1818476
Samples Received:	01/18/2025
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

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

TABLE OF CONTENTS

APW-03-WG-20250116 L1818476-01 GW

Collected by	Collected date/time	Received date/time
	01/16/25 09:00	01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2436202	1	01/21/25 08:23	01/21/25 08:24	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	1	01/19/25 04:27	01/19/25 04:27	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	10	01/19/25 05:21	01/19/25 05:21	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2435741	1	01/18/25 19:00	01/18/25 19:00	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2435466	1	01/22/25 11:12	01/22/25 17:35	AKB	Mt. Juliet, TN
Mercury by Method 7470A	WG2435699	1	01/21/25 15:37	01/22/25 13:42	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2436138	1	01/21/25 23:53	01/22/25 12:53	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2437020	1	01/21/25 21:45	01/22/25 12:48	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2436367	1	01/21/25 21:51	01/22/25 19:54	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2436367	1	01/21/25 21:51	01/22/25 21:53	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2437013	1	01/21/25 23:45	01/22/25 13:43	JPD	Mt. Juliet, TN

APW-08-WG-20250115 L1818476-02 GW

Collected by	Collected date/time	Received date/time
	01/15/25 15:40	01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2436202	1	01/21/25 08:23	01/21/25 08:24	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	1	01/19/25 05:48	01/19/25 05:48	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2435741	1	01/18/25 19:00	01/18/25 19:00	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2435466	1	01/22/25 11:12	01/22/25 17:38	AKB	Mt. Juliet, TN
Mercury by Method 7470A	WG2435699	1	01/21/25 15:37	01/22/25 13:44	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2436138	1	01/21/25 23:53	01/22/25 12:55	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2437020	1	01/21/25 21:45	01/22/25 12:51	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2436367	1	01/21/25 21:51	01/22/25 19:58	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2436367	1	01/21/25 21:51	01/22/25 21:39	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2437013	1	01/21/25 23:45	01/22/25 13:46	JPD	Mt. Juliet, TN

APW-10S-WG-20250116 L1818476-03 GW

Collected by	Collected date/time	Received date/time
	01/16/25 11:40	01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2436213	1	01/20/25 09:16	01/21/25 11:47	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	1	01/19/25 06:29	01/19/25 06:29	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2435740	1	01/19/25 12:57	01/19/25 12:57	BJM	Mt. Juliet, TN
Mercury by Method 7470A	WG2435466	1	01/22/25 11:12	01/22/25 17:40	AKB	Mt. Juliet, TN
Mercury by Method 7470A	WG2435699	1	01/21/25 15:37	01/22/25 13:46	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2436138	1	01/21/25 23:53	01/22/25 12:56	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2437020	1	01/21/25 21:45	01/22/25 12:54	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2436367	1	01/21/25 21:51	01/22/25 20:01	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2436367	5	01/21/25 21:51	01/22/25 20:39	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2437013	1	01/21/25 23:45	01/22/25 13:49	JPD	Mt. Juliet, TN

APW-10D-WG-20250116 L1818476-04 GW

Collected by	Collected date/time	Received date/time
	01/16/25 10:50	01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2436213	1	01/20/25 09:16	01/21/25 11:47	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	1	01/19/25 06:42	01/19/25 06:42	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2435740	1	01/19/25 12:57	01/19/25 12:57	BJM	Mt. Juliet, TN
Mercury by Method 7470A	WG2435466	1	01/22/25 11:12	01/22/25 17:43	AKB	Mt. Juliet, TN
Mercury by Method 7470A	WG2435699	1	01/21/25 15:37	01/22/25 13:49	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2436138	1	01/21/25 23:53	01/22/25 12:58	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2437020	1	01/21/25 21:45	01/22/25 12:56	DJS	Mt. Juliet, TN

APW-10D-WG-20250116 L1818476-04 GW

Collected by	Collected date/time	Received date/time
	01/16/25 10:50	01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG2436367	1	01/21/25 21:51	01/22/25 20:04	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2437013	1	01/21/25 23:45	01/22/25 13:53	JPD	Mt. Juliet, TN

APW-06S-WG-20250115 L1818476-05 GW

Collected by	Collected date/time	Received date/time
	01/15/25 08:05	01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2436213	1	01/20/25 09:16	01/21/25 11:47	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	1	01/19/25 06:56	01/19/25 06:56	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	5	01/19/25 07:09	01/19/25 07:09	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2435740	1	01/19/25 12:57	01/19/25 12:57	BJM	Mt. Juliet, TN
Mercury by Method 7470A	WG2435699	1	01/21/25 15:37	01/22/25 13:53	AKB	Mt. Juliet, TN
Mercury by Method 7470A	WG2437894	1	01/25/25 13:24	01/26/25 18:49	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2436138	1	01/21/25 23:53	01/22/25 12:59	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2437020	1	01/21/25 21:45	01/22/25 12:59	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2436367	1	01/21/25 21:51	01/22/25 20:08	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2437013	1	01/21/25 23:45	01/22/25 13:56	JPD	Mt. Juliet, TN

APW-06D-WG-20250115 L1818476-06 GW

Collected by	Collected date/time	Received date/time
	01/15/25 09:55	01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2436213	1	01/20/25 09:16	01/21/25 11:47	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	1	01/19/25 07:23	01/19/25 07:23	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	10	01/19/25 08:03	01/19/25 08:03	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2435741	1	01/18/25 19:00	01/18/25 19:00	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2435699	1	01/21/25 15:37	01/22/25 13:56	AKB	Mt. Juliet, TN
Mercury by Method 7470A	WG2437894	1	01/25/25 13:24	01/26/25 19:00	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2436138	1	01/21/25 23:53	01/22/25 13:01	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2437020	1	01/21/25 21:45	01/22/25 13:02	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2436367	1	01/21/25 21:51	01/22/25 20:11	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2437013	1	01/21/25 23:45	01/22/25 13:59	JPD	Mt. Juliet, TN

APW-05R-WG-20250115 L1818476-07 GW

Collected by	Collected date/time	Received date/time
	01/15/25 11:30	01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2436213	1	01/20/25 09:16	01/21/25 11:47	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	1	01/19/25 08:17	01/19/25 08:17	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	10	01/19/25 08:30	01/19/25 08:30	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2435741	1	01/18/25 19:00	01/18/25 19:00	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2436630	1	01/24/25 10:35	01/24/25 19:23	SDG	Mt. Juliet, TN
Mercury by Method 7470A	WG2437894	1	01/25/25 13:24	01/26/25 19:02	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2436138	1	01/21/25 23:53	01/22/25 13:06	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2437020	1	01/21/25 21:45	01/22/25 13:05	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2436367	1	01/21/25 21:51	01/22/25 20:22	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2437013	1	01/21/25 23:45	01/22/25 14:03	JPD	Mt. Juliet, TN

APW-09-WG-20250115 L1818476-08 GW

Collected by	Collected date/time	Received date/time
	01/15/25 13:50	01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2436213	1	01/20/25 09:16	01/21/25 11:47	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	1	01/19/25 08:44	01/19/25 08:44	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2435741	1	01/18/25 19:00	01/18/25 19:00	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2436630	1	01/24/25 10:35	01/24/25 19:25	SDG	Mt. Juliet, TN
Mercury by Method 7470A	WG2437894	1	01/25/25 13:24	01/26/25 19:05	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2436138	1	01/21/25 23:53	01/22/25 13:08	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2437020	1	01/21/25 21:45	01/22/25 13:07	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2436367	1	01/21/25 21:51	01/22/25 20:25	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2436367	1	01/21/25 21:51	01/22/25 21:42	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2437013	1	01/21/25 23:45	01/22/25 14:12	JPD	Mt. Juliet, TN

APW-02-WG-20250115 L1818476-09 GW

Collected by	Collected date/time	Received date/time
	01/15/25 10:45	01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2436213	1	01/20/25 09:16	01/21/25 11:47	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	1	01/19/25 08:57	01/19/25 08:57	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	10	01/19/25 09:10	01/19/25 09:10	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2435741	1	01/18/25 19:00	01/18/25 19:00	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2436630	1	01/24/25 10:35	01/24/25 19:28	SDG	Mt. Juliet, TN
Mercury by Method 7470A	WG2437894	1	01/25/25 13:24	01/26/25 19:12	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2436138	1	01/21/25 23:53	01/22/25 13:09	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2437020	1	01/21/25 21:45	01/22/25 13:10	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2436367	1	01/21/25 21:51	01/22/25 20:29	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2437013	1	01/21/25 23:45	01/22/25 14:15	JPD	Mt. Juliet, TN

APW-01R-WG-20250115 L1818476-10 GW

Collected by	Collected date/time	Received date/time
	01/15/25 12:50	01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2436213	1	01/20/25 09:16	01/21/25 11:47	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	1	01/19/25 09:24	01/19/25 09:24	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2435741	1	01/18/25 19:00	01/18/25 19:00	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2436630	1	01/24/25 10:35	01/24/25 19:30	SDG	Mt. Juliet, TN
Mercury by Method 7470A	WG2437894	1	01/25/25 13:24	01/26/25 19:14	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2436138	1	01/21/25 23:53	01/22/25 13:11	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2437020	1	01/21/25 21:45	01/22/25 13:18	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2436367	1	01/21/25 21:51	01/22/25 20:32	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2436367	1	01/21/25 21:51	01/22/25 21:45	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2437013	1	01/21/25 23:45	01/22/25 14:19	JPD	Mt. Juliet, TN

APW-04-WG-20250114 L1818476-11 GW

Collected by	Collected date/time	Received date/time
	01/14/25 16:10	01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2436213	1	01/20/25 09:16	01/21/25 11:47	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	1	01/19/25 09:37	01/19/25 09:37	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2435741	1	01/18/25 19:00	01/18/25 19:00	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2436630	1	01/24/25 10:35	01/24/25 19:32	SDG	Mt. Juliet, TN
Mercury by Method 7470A	WG2437894	1	01/25/25 13:24	01/26/25 19:17	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2436138	1	01/21/25 23:53	01/22/25 13:13	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2437020	1	01/21/25 21:45	01/22/25 13:21	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2437013	1	01/21/25 23:45	01/22/25 14:22	JPD	Mt. Juliet, TN

APW-04-WG-20250114 L1818476-11 GW

Collected by | Collected date/time 01/14/25 16:10 | Received date/time 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG2437484	1	01/22/25 10:39	01/22/25 21:00	UNP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2437484	1	01/22/25 10:39	01/22/25 23:20	UNP	Mt. Juliet, TN

EB-01-WG-20250114 L1818476-12 GW

Collected by | Collected date/time 01/14/25 11:00 | Received date/time 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2436213	1	01/20/25 09:16	01/21/25 11:47	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	1	01/19/25 09:51	01/19/25 09:51	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2435741	1	01/18/25 19:00	01/18/25 19:00	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2436630	1	01/24/25 10:35	01/24/25 19:35	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2437020	1	01/21/25 21:45	01/22/25 13:24	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2437484	1	01/22/25 10:39	01/22/25 21:14	UNP	Mt. Juliet, TN

DUP-01-WG-20250115 L1818476-13 GW

Collected by | Collected date/time 01/15/25 00:01 | Received date/time 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2436213	1	01/20/25 09:16	01/21/25 11:47	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	1	01/19/25 10:04	01/19/25 10:04	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	10	01/19/25 10:45	01/19/25 10:45	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2435740	1	01/19/25 12:57	01/19/25 12:57	BJM	Mt. Juliet, TN
Mercury by Method 7470A	WG2436630	1	01/24/25 10:35	01/24/25 19:37	SDG	Mt. Juliet, TN
Mercury by Method 7470A	WG2437894	1	01/25/25 13:24	01/26/25 19:20	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2437015	1	01/21/25 22:13	01/22/25 12:22	DJS	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2437020	1	01/21/25 21:45	01/22/25 13:26	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2437484	1	01/22/25 10:39	01/22/25 21:17	UNP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2439338	1	01/24/25 17:30	01/24/25 20:49	UNP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2439338	1	01/24/25 17:30	01/26/25 11:52	SJM	Mt. Juliet, TN

DUP-02-WG-20250115 L1818476-14 GW

Collected by | Collected date/time 01/15/25 00:02 | Received date/time 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2436213	1	01/20/25 09:16	01/21/25 11:47	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435015	1	01/21/25 03:29	01/21/25 03:29	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2435686	1	01/19/25 10:58	01/19/25 10:58	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2435741	1	01/18/25 19:00	01/18/25 19:00	KRB	Mt. Juliet, TN
Mercury by Method 7470A	WG2436630	1	01/24/25 10:35	01/24/25 19:39	SDG	Mt. Juliet, TN
Mercury by Method 7470A	WG2437894	1	01/25/25 13:24	01/26/25 19:22	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2437015	1	01/21/25 22:13	01/22/25 12:25	DJS	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2437020	1	01/21/25 21:45	01/22/25 13:29	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2437484	1	01/22/25 10:39	01/22/25 21:20	UNP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2437484	1	01/22/25 10:39	01/22/25 23:24	UNP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2439338	1	01/24/25 17:30	01/24/25 20:53	UNP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2439338	1	01/24/25 17:30	01/26/25 11:55	SJM	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.

Lab Sample ID	Project Sample ID	Method
L1818476-01	APW-03-WG-20250116	6020B, 6010D, 7470A
L1818476-02	APW-08-WG-20250115	6020B, 7470A, 6010D
L1818476-03	APW-10S-WG-20250116	6010D, 6020B, 7470A
L1818476-04	APW-10D-WG-20250116	6020B, 6010D, 7470A
L1818476-05	APW-06S-WG-20250115	6020B, 7470A, 6010D
L1818476-06	APW-06D-WG-20250115	6020B, 7470A, 6010D
L1818476-07	APW-05R-WG-20250115	6020B, 6010D, 7470A
L1818476-08	APW-09-WG-20250115	6020B, 6010D, 7470A
L1818476-09	APW-02-WG-20250115	6020B, 6010D, 7470A
L1818476-10	APW-01R-WG-20250115	6010D, 6020B, 7470A
L1818476-11	APW-04-WG-20250114	6020B, 7470A, 6010D
L1818476-13	DUP-01-WG-20250115	6020B, 7470A, 6010D
L1818476-14	DUP-02-WG-20250115	6010D, 6020B, 7470A
R4169286-3		6010D
R4169406-3		6010D
R4170492-3		7470A

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	577		10.0	1	01/21/2025 08:24	WG2436202

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	10.4		1.00	1	01/19/2025 04:27	WG2435686
Fluoride	0.254		0.150	1	01/19/2025 04:27	WG2435686
Sulfate	299		50.0	10	01/19/2025 05:21	WG2435686

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.08	T8	1	01/18/2025 19:00	WG2435741

Sample Narrative:

L1818476-01 WG2435741: 8.08 at 18.8C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	01/22/2025 13:42	WG2435699
Mercury,Dissolved	ND		0.000200	1	01/22/2025 17:35	WG2435466

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	4.83		0.200	1	01/22/2025 12:48	WG2437020
Boron,Dissolved	4.74		0.200	1	01/22/2025 12:53	WG2436138
Calcium	124		1.00	1	01/22/2025 12:48	WG2437020
Calcium,Dissolved	116		1.00	1	01/22/2025 12:53	WG2436138

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00400	1	01/22/2025 21:53	WG2436367
Antimony,Dissolved	ND		0.00400	1	01/22/2025 13:43	WG2437013
Arsenic	ND		0.00200	1	01/22/2025 19:54	WG2436367
Arsenic,Dissolved	ND		0.00200	1	01/22/2025 13:43	WG2437013
Barium	0.110		0.00200	1	01/22/2025 19:54	WG2436367
Barium,Dissolved	0.102		0.00200	1	01/22/2025 13:43	WG2437013
Beryllium	ND		0.00200	1	01/22/2025 19:54	WG2436367
Beryllium,Dissolved	ND		0.00200	1	01/22/2025 13:43	WG2437013
Cadmium	ND		0.00100	1	01/22/2025 19:54	WG2436367
Cadmium,Dissolved	ND		0.00100	1	01/22/2025 13:43	WG2437013
Chromium	ND		0.00200	1	01/22/2025 19:54	WG2436367
Chromium,Dissolved	ND		0.00200	1	01/22/2025 13:43	WG2437013
Cobalt	ND		0.00200	1	01/22/2025 19:54	WG2436367
Cobalt,Dissolved	ND		0.00200	1	01/22/2025 13:43	WG2437013
Lead	ND		0.00200	1	01/22/2025 19:54	WG2436367
Lead,Dissolved	ND		0.00200	1	01/22/2025 13:43	WG2437013
Lithium	0.0307		0.00200	1	01/22/2025 19:54	WG2436367
Lithium,Dissolved	0.0297		0.00200	1	01/22/2025 13:43	WG2437013
Molybdenum	0.0673		0.00500	1	01/22/2025 19:54	WG2436367

Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.0656		0.00500	1	01/22/2025 13:43	WG2437013
Selenium	ND		0.00200	1	01/22/2025 19:54	WG2436367
Selenium,Dissolved	ND		0.00200	1	01/22/2025 13:43	WG2437013
Thallium	ND		0.00200	1	01/22/2025 19:54	WG2436367
Thallium,Dissolved	ND		0.00200	1	01/22/2025 13:43	WG2437013

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	418		10.0	1	01/21/2025 08:24	WG2436202

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	8.85		1.00	1	01/19/2025 05:48	WG2435686
Fluoride	0.238	P1	0.150	1	01/19/2025 05:48	WG2435686
Sulfate	28.5		5.00	1	01/19/2025 05:48	WG2435686

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.53	T8	1	01/18/2025 19:00	WG2435741

Sample Narrative:

L1818476-02 WG2435741: 7.53 at 18.6C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	01/22/2025 13:44	WG2435699
Mercury,Dissolved	ND		0.000200	1	01/22/2025 17:38	WG2435466

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	ND		0.200	1	01/22/2025 12:51	WG2437020
Boron,Dissolved	ND		0.200	1	01/22/2025 12:55	WG2436138
Calcium	105		1.00	1	01/22/2025 12:51	WG2437020
Calcium,Dissolved	102		1.00	1	01/22/2025 12:55	WG2436138

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00400	1	01/22/2025 19:58	WG2436367
Antimony,Dissolved	ND		0.00400	1	01/22/2025 13:46	WG2437013
Arsenic	ND		0.00200	1	01/22/2025 19:58	WG2436367
Arsenic,Dissolved	ND		0.00200	1	01/22/2025 13:46	WG2437013
Barium	0.199		0.00200	1	01/22/2025 19:58	WG2436367
Barium,Dissolved	0.191		0.00200	1	01/22/2025 13:46	WG2437013
Beryllium	ND		0.00200	1	01/22/2025 19:58	WG2436367
Beryllium,Dissolved	ND		0.00200	1	01/22/2025 13:46	WG2437013
Cadmium	ND		0.00100	1	01/22/2025 19:58	WG2436367
Cadmium,Dissolved	ND		0.00100	1	01/22/2025 13:46	WG2437013
Chromium	ND		0.00200	1	01/22/2025 19:58	WG2436367
Chromium,Dissolved	ND		0.00200	1	01/22/2025 13:46	WG2437013
Cobalt	ND		0.00200	1	01/22/2025 19:58	WG2436367
Cobalt,Dissolved	ND		0.00200	1	01/22/2025 13:46	WG2437013
Lead	ND		0.00200	1	01/22/2025 19:58	WG2436367
Lead,Dissolved	ND		0.00200	1	01/22/2025 13:46	WG2437013
Lithium	0.0181		0.00200	1	01/22/2025 19:58	WG2436367
Lithium,Dissolved	0.0170		0.00200	1	01/22/2025 13:46	WG2437013
Molybdenum	ND		0.00500	1	01/22/2025 19:58	WG2436367

Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	ND		0.00500	1	01/22/2025 13:46	WG2437013
Selenium	0.0196		0.00200	1	01/22/2025 21:39	WG2436367
Selenium,Dissolved	0.0203		0.00200	1	01/22/2025 13:46	WG2437013
Thallium	ND		0.00200	1	01/22/2025 19:58	WG2436367
Thallium,Dissolved	ND		0.00200	1	01/22/2025 13:46	WG2437013

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	758		20.0	1	01/21/2025 11:47	WG2436213

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	14.4		1.00	1	01/19/2025 06:29	WG2435686
Fluoride	0.199		0.150	1	01/19/2025 06:29	WG2435686
Sulfate	5.15		5.00	1	01/19/2025 06:29	WG2435686

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.28	T8	1	01/19/2025 12:57	WG2435740

Sample Narrative:
L1818476-03 WG2435740: 7.28 at 19.4C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	01/22/2025 13:46	WG2435699
Mercury,Dissolved	ND		0.000200	1	01/22/2025 17:40	WG2435466

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.554		0.200	1	01/22/2025 12:54	WG2437020
Boron,Dissolved	0.563		0.200	1	01/22/2025 12:56	WG2436138
Calcium	168		1.00	1	01/22/2025 12:54	WG2437020
Calcium,Dissolved	159		1.00	1	01/22/2025 12:56	WG2436138

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00400	1	01/22/2025 20:01	WG2436367
Antimony,Dissolved	ND		0.00400	1	01/22/2025 13:49	WG2437013
Arsenic	0.191		0.00200	1	01/22/2025 20:01	WG2436367
Arsenic,Dissolved	0.0637		0.00200	1	01/22/2025 13:49	WG2437013
Barium	0.593		0.0100	5	01/22/2025 20:39	WG2436367
Barium,Dissolved	0.316		0.00200	1	01/22/2025 13:49	WG2437013
Beryllium	ND		0.00200	1	01/22/2025 20:01	WG2436367
Beryllium,Dissolved	ND		0.00200	1	01/22/2025 13:49	WG2437013
Cadmium	ND		0.00100	1	01/22/2025 20:01	WG2436367
Cadmium,Dissolved	ND		0.00100	1	01/22/2025 13:49	WG2437013
Chromium	ND		0.00200	1	01/22/2025 20:01	WG2436367
Chromium,Dissolved	ND		0.00200	1	01/22/2025 13:49	WG2437013
Cobalt	ND		0.00200	1	01/22/2025 20:01	WG2436367
Cobalt,Dissolved	ND		0.00200	1	01/22/2025 13:49	WG2437013
Lead	ND		0.00200	1	01/22/2025 20:01	WG2436367
Lead,Dissolved	ND		0.00200	1	01/22/2025 13:49	WG2437013
Lithium	0.0310		0.00200	1	01/22/2025 20:01	WG2436367
Lithium,Dissolved	0.0285		0.00200	1	01/22/2025 13:49	WG2437013
Molybdenum	ND		0.00500	1	01/22/2025 20:01	WG2436367

Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	ND		0.00500	1	01/22/2025 13:49	WG2437013
Selenium	ND		0.00200	1	01/22/2025 20:01	WG2436367
Selenium,Dissolved	ND		0.00200	1	01/22/2025 13:49	WG2437013
Thallium	ND		0.00200	1	01/22/2025 20:01	WG2436367
Thallium,Dissolved	ND		0.00200	1	01/22/2025 13:49	WG2437013

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	447		10.0	1	01/21/2025 11:47	WG2436213

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	13.3		1.00	1	01/19/2025 06:42	WG2435686
Fluoride	ND		0.150	1	01/19/2025 06:42	WG2435686
Sulfate	44.5		5.00	1	01/19/2025 06:42	WG2435686

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.37	T8	1	01/19/2025 12:57	WG2435740

Sample Narrative:
L1818476-04 WG2435740: 7.37 at 19.3C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	01/22/2025 13:49	WG2435699
Mercury,Dissolved	ND		0.000200	1	01/22/2025 17:43	WG2435466

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	ND		0.200	1	01/22/2025 12:56	WG2437020
Boron,Dissolved	ND		0.200	1	01/22/2025 12:58	WG2436138
Calcium	142		1.00	1	01/22/2025 12:56	WG2437020
Calcium,Dissolved	126		1.00	1	01/22/2025 12:58	WG2436138

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00400	1	01/22/2025 20:04	WG2436367
Antimony,Dissolved	ND		0.00400	1	01/22/2025 13:53	WG2437013
Arsenic	ND		0.00200	1	01/22/2025 20:04	WG2436367
Arsenic,Dissolved	ND		0.00200	1	01/22/2025 13:53	WG2437013
Barium	0.354		0.00200	1	01/22/2025 20:04	WG2436367
Barium,Dissolved	0.340		0.00200	1	01/22/2025 13:53	WG2437013
Beryllium	ND		0.00200	1	01/22/2025 20:04	WG2436367
Beryllium,Dissolved	ND		0.00200	1	01/22/2025 13:53	WG2437013
Cadmium	ND		0.00100	1	01/22/2025 20:04	WG2436367
Cadmium,Dissolved	ND		0.00100	1	01/22/2025 13:53	WG2437013
Chromium	ND		0.00200	1	01/22/2025 20:04	WG2436367
Chromium,Dissolved	ND		0.00200	1	01/22/2025 13:53	WG2437013
Cobalt	0.00271		0.00200	1	01/22/2025 20:04	WG2436367
Cobalt,Dissolved	0.00244		0.00200	1	01/22/2025 13:53	WG2437013
Lead	ND		0.00200	1	01/22/2025 20:04	WG2436367
Lead,Dissolved	ND		0.00200	1	01/22/2025 13:53	WG2437013
Lithium	0.0152		0.00200	1	01/22/2025 20:04	WG2436367
Lithium,Dissolved	0.0142		0.00200	1	01/22/2025 13:53	WG2437013
Molybdenum	ND		0.00500	1	01/22/2025 20:04	WG2436367

Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	ND		0.00500	1	01/22/2025 13:53	WG2437013
Selenium	ND		0.00200	1	01/22/2025 20:04	WG2436367
Selenium,Dissolved	ND		0.00200	1	01/22/2025 13:53	WG2437013
Thallium	ND		0.00200	1	01/22/2025 20:04	WG2436367
Thallium,Dissolved	ND		0.00200	1	01/22/2025 13:53	WG2437013

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	673		13.3	1	01/21/2025 11:47	WG2436213

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	21.0		1.00	1	01/19/2025 06:56	WG2435686
Fluoride	0.239		0.150	1	01/19/2025 06:56	WG2435686
Sulfate	246		25.0	5	01/19/2025 07:09	WG2435686

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.39	T8	1	01/19/2025 12:57	WG2435740

Sample Narrative:

L1818476-05 WG2435740: 7.39 at 19.3C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	01/22/2025 13:53	WG2435699
Mercury,Dissolved	ND		0.000200	1	01/26/2025 18:49	WG2437894

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	5.34		0.200	1	01/22/2025 12:59	WG2437020
Boron,Dissolved	5.34		0.200	1	01/22/2025 12:59	WG2436138
Calcium	139		1.00	1	01/22/2025 12:59	WG2437020
Calcium,Dissolved	134		1.00	1	01/22/2025 12:59	WG2436138

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00400	1	01/22/2025 20:08	WG2436367
Antimony,Dissolved	ND		0.00400	1	01/22/2025 13:56	WG2437013
Arsenic	ND		0.00200	1	01/22/2025 20:08	WG2436367
Arsenic,Dissolved	ND		0.00200	1	01/22/2025 13:56	WG2437013
Barium	0.262		0.00200	1	01/22/2025 20:08	WG2436367
Barium,Dissolved	0.187		0.00200	1	01/22/2025 13:56	WG2437013
Beryllium	ND		0.00200	1	01/22/2025 20:08	WG2436367
Beryllium,Dissolved	ND		0.00200	1	01/22/2025 13:56	WG2437013
Cadmium	ND		0.00100	1	01/22/2025 20:08	WG2436367
Cadmium,Dissolved	ND		0.00100	1	01/22/2025 13:56	WG2437013
Chromium	ND		0.00200	1	01/22/2025 20:08	WG2436367
Chromium,Dissolved	ND		0.00200	1	01/22/2025 13:56	WG2437013
Cobalt	ND		0.00200	1	01/22/2025 20:08	WG2436367
Cobalt,Dissolved	ND		0.00200	1	01/22/2025 13:56	WG2437013
Lead	ND		0.00200	1	01/22/2025 20:08	WG2436367
Lead,Dissolved	ND		0.00200	1	01/22/2025 13:56	WG2437013
Lithium	0.0409		0.00200	1	01/22/2025 20:08	WG2436367
Lithium,Dissolved	0.0386		0.00200	1	01/22/2025 13:56	WG2437013
Molybdenum	0.195		0.00500	1	01/22/2025 20:08	WG2436367

Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.190		0.00500	1	01/22/2025 13:56	WG2437013
Selenium	ND		0.00200	1	01/22/2025 20:08	WG2436367
Selenium,Dissolved	ND		0.00200	1	01/22/2025 13:56	WG2437013
Thallium	ND		0.00200	1	01/22/2025 20:08	WG2436367
Thallium,Dissolved	ND		0.00200	1	01/22/2025 13:56	WG2437013

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	549		10.0	1	01/21/2025 11:47	WG2436213

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	20.5		1.00	1	01/19/2025 07:23	WG2435686
Fluoride	0.170		0.150	1	01/19/2025 07:23	WG2435686
Sulfate	266		50.0	10	01/19/2025 08:03	WG2435686

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.64	T8	1	01/18/2025 19:00	WG2435741

Sample Narrative:
L1818476-06 WG2435741: 7.64 at 18.6C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	01/22/2025 13:56	WG2435699
Mercury,Dissolved	ND		0.000200	1	01/26/2025 19:00	WG2437894

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	3.46		0.200	1	01/22/2025 13:02	WG2437020
Boron,Dissolved	3.33		0.200	1	01/22/2025 13:01	WG2436138
Calcium	120		1.00	1	01/22/2025 13:02	WG2437020
Calcium,Dissolved	114		1.00	1	01/22/2025 13:01	WG2436138

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00400	1	01/22/2025 20:11	WG2436367
Antimony,Dissolved	ND		0.00400	1	01/22/2025 13:59	WG2437013
Arsenic	0.00988		0.00200	1	01/22/2025 20:11	WG2436367
Arsenic,Dissolved	0.00414		0.00200	1	01/22/2025 13:59	WG2437013
Barium	0.124		0.00200	1	01/22/2025 20:11	WG2436367
Barium,Dissolved	0.111		0.00200	1	01/22/2025 13:59	WG2437013
Beryllium	ND		0.00200	1	01/22/2025 20:11	WG2436367
Beryllium,Dissolved	ND		0.00200	1	01/22/2025 13:59	WG2437013
Cadmium	ND		0.00100	1	01/22/2025 20:11	WG2436367
Cadmium,Dissolved	ND		0.00100	1	01/22/2025 13:59	WG2437013
Chromium	ND		0.00200	1	01/22/2025 20:11	WG2436367
Chromium,Dissolved	ND		0.00200	1	01/22/2025 13:59	WG2437013
Cobalt	ND		0.00200	1	01/22/2025 20:11	WG2436367
Cobalt,Dissolved	ND		0.00200	1	01/22/2025 13:59	WG2437013
Lead	ND		0.00200	1	01/22/2025 20:11	WG2436367
Lead,Dissolved	ND		0.00200	1	01/22/2025 13:59	WG2437013
Lithium	0.0167		0.00200	1	01/22/2025 20:11	WG2436367
Lithium,Dissolved	0.0156		0.00200	1	01/22/2025 13:59	WG2437013
Molybdenum	0.0553		0.00500	1	01/22/2025 20:11	WG2436367

Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.0524		0.00500	1	01/22/2025 13:59	WG2437013
Selenium	ND		0.00200	1	01/22/2025 20:11	WG2436367
Selenium,Dissolved	ND		0.00200	1	01/22/2025 13:59	WG2437013
Thallium	ND		0.00200	1	01/22/2025 20:11	WG2436367
Thallium,Dissolved	ND		0.00200	1	01/22/2025 13:59	WG2437013

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	700		13.3	1	01/21/2025 11:47	WG2436213

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	16.1		1.00	1	01/19/2025 08:17	WG2435686
Fluoride	0.289		0.150	1	01/19/2025 08:17	WG2435686
Sulfate	373		50.0	10	01/19/2025 08:30	WG2435686

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.77	T8	1	01/18/2025 19:00	WG2435741

Sample Narrative:

L1818476-07 WG2435741: 7.77 at 18.8C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	01/24/2025 19:23	WG2436630
Mercury,Dissolved	ND		0.000200	1	01/26/2025 19:02	WG2437894

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	8.37		0.200	1	01/22/2025 13:05	WG2437020
Boron,Dissolved	8.20		0.200	1	01/22/2025 13:06	WG2436138
Calcium	141		1.00	1	01/22/2025 13:05	WG2437020
Calcium,Dissolved	132		1.00	1	01/22/2025 13:06	WG2436138

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00400	1	01/22/2025 20:22	WG2436367
Antimony,Dissolved	ND		0.00400	1	01/22/2025 14:03	WG2437013
Arsenic	0.00203		0.00200	1	01/22/2025 20:22	WG2436367
Arsenic,Dissolved	ND		0.00200	1	01/22/2025 14:03	WG2437013
Barium	0.194		0.00200	1	01/22/2025 20:22	WG2436367
Barium,Dissolved	0.144		0.00200	1	01/22/2025 14:03	WG2437013
Beryllium	ND		0.00200	1	01/22/2025 20:22	WG2436367
Beryllium,Dissolved	ND		0.00200	1	01/22/2025 14:03	WG2437013
Cadmium	ND		0.00100	1	01/22/2025 20:22	WG2436367
Cadmium,Dissolved	ND		0.00100	1	01/22/2025 14:03	WG2437013
Chromium	ND		0.00200	1	01/22/2025 20:22	WG2436367
Chromium,Dissolved	ND		0.00200	1	01/22/2025 14:03	WG2437013
Cobalt	ND		0.00200	1	01/22/2025 20:22	WG2436367
Cobalt,Dissolved	ND		0.00200	1	01/22/2025 14:03	WG2437013
Lead	ND		0.00200	1	01/22/2025 20:22	WG2436367
Lead,Dissolved	ND		0.00200	1	01/22/2025 14:03	WG2437013
Lithium	0.0373		0.00200	1	01/22/2025 20:22	WG2436367
Lithium,Dissolved	0.0342		0.00200	1	01/22/2025 14:03	WG2437013
Molybdenum	0.185		0.00500	1	01/22/2025 20:22	WG2436367

Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.182		0.00500	1	01/22/2025 14:03	WG2437013
Selenium	ND		0.00200	1	01/22/2025 20:22	WG2436367
Selenium,Dissolved	ND		0.00200	1	01/22/2025 14:03	WG2437013
Thallium	ND		0.00200	1	01/22/2025 20:22	WG2436367
Thallium,Dissolved	ND		0.00200	1	01/22/2025 14:03	WG2437013

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	370		10.0	1	01/21/2025 11:47	WG2436213

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	12.8		1.00	1	01/19/2025 08:44	WG2435686
Fluoride	0.150		0.150	1	01/19/2025 08:44	WG2435686
Sulfate	46.8		5.00	1	01/19/2025 08:44	WG2435686

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.81	T8	1	01/18/2025 19:00	WG2435741

Sample Narrative:
L1818476-08 WG2435741: 7.81 at 18.5C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	01/24/2025 19:25	WG2436630
Mercury,Dissolved	ND		0.000200	1	01/26/2025 19:05	WG2437894

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.301		0.200	1	01/22/2025 13:07	WG2437020
Boron,Dissolved	0.311		0.200	1	01/22/2025 13:08	WG2436138
Calcium	90.0		1.00	1	01/22/2025 13:07	WG2437020
Calcium,Dissolved	88.2		1.00	1	01/22/2025 13:08	WG2436138

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00400	1	01/22/2025 20:25	WG2436367
Antimony,Dissolved	ND		0.00400	1	01/22/2025 14:12	WG2437013
Arsenic	0.00226		0.00200	1	01/22/2025 20:25	WG2436367
Arsenic,Dissolved	0.00202		0.00200	1	01/22/2025 14:12	WG2437013
Barium	0.125		0.00200	1	01/22/2025 20:25	WG2436367
Barium,Dissolved	0.113		0.00200	1	01/22/2025 14:12	WG2437013
Beryllium	ND		0.00200	1	01/22/2025 20:25	WG2436367
Beryllium,Dissolved	ND		0.00200	1	01/22/2025 14:12	WG2437013
Cadmium	ND		0.00100	1	01/22/2025 20:25	WG2436367
Cadmium,Dissolved	ND		0.00100	1	01/22/2025 14:12	WG2437013
Chromium	ND		0.00200	1	01/22/2025 20:25	WG2436367
Chromium,Dissolved	ND		0.00200	1	01/22/2025 14:12	WG2437013
Cobalt	ND		0.00200	1	01/22/2025 20:25	WG2436367
Cobalt,Dissolved	ND		0.00200	1	01/22/2025 14:12	WG2437013
Lead	ND		0.00200	1	01/22/2025 20:25	WG2436367
Lead,Dissolved	ND		0.00200	1	01/22/2025 14:12	WG2437013
Lithium	0.0155		0.00200	1	01/22/2025 20:25	WG2436367
Lithium,Dissolved	0.0144		0.00200	1	01/22/2025 14:12	WG2437013
Molybdenum	0.0214		0.00500	1	01/22/2025 20:25	WG2436367

Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.0213		0.00500	1	01/22/2025 14:12	WG2437013
Selenium	0.0204		0.00200	1	01/22/2025 21:42	WG2436367
Selenium,Dissolved	0.0208		0.00200	1	01/22/2025 14:12	WG2437013
Thallium	ND		0.00200	1	01/22/2025 20:25	WG2436367
Thallium,Dissolved	ND		0.00200	1	01/22/2025 14:12	WG2437013

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	861		13.3	1	01/21/2025 11:47	WG2436213

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	8.58		1.00	1	01/19/2025 08:57	WG2435686
Fluoride	0.224		0.150	1	01/19/2025 08:57	WG2435686
Sulfate	509		50.0	10	01/19/2025 09:10	WG2435686

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.67	T8	1	01/18/2025 19:00	WG2435741

Sample Narrative:

L1818476-09 WG2435741: 7.67 at 19.2C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	01/24/2025 19:28	WG2436630
Mercury,Dissolved	ND		0.000200	1	01/26/2025 19:12	WG2437894

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	9.07		0.200	1	01/22/2025 13:10	WG2437020
Boron,Dissolved	9.11		0.200	1	01/22/2025 13:09	WG2436138
Calcium	165		1.00	1	01/22/2025 13:10	WG2437020
Calcium,Dissolved	150		1.00	1	01/22/2025 13:09	WG2436138

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00400	1	01/22/2025 20:29	WG2436367
Antimony,Dissolved	ND		0.00400	1	01/22/2025 14:15	WG2437013
Arsenic	0.00904		0.00200	1	01/22/2025 20:29	WG2436367
Arsenic,Dissolved	0.00299		0.00200	1	01/22/2025 14:15	WG2437013
Barium	0.147		0.00200	1	01/22/2025 20:29	WG2436367
Barium,Dissolved	0.125		0.00200	1	01/22/2025 14:15	WG2437013
Beryllium	ND		0.00200	1	01/22/2025 20:29	WG2436367
Beryllium,Dissolved	ND		0.00200	1	01/22/2025 14:15	WG2437013
Cadmium	ND		0.00100	1	01/22/2025 20:29	WG2436367
Cadmium,Dissolved	ND		0.00100	1	01/22/2025 14:15	WG2437013
Chromium	0.00228		0.00200	1	01/22/2025 20:29	WG2436367
Chromium,Dissolved	ND		0.00200	1	01/22/2025 14:15	WG2437013
Cobalt	ND		0.00200	1	01/22/2025 20:29	WG2436367
Cobalt,Dissolved	ND		0.00200	1	01/22/2025 14:15	WG2437013
Lead	0.00229		0.00200	1	01/22/2025 20:29	WG2436367
Lead,Dissolved	ND		0.00200	1	01/22/2025 14:15	WG2437013
Lithium	0.0437		0.00200	1	01/22/2025 20:29	WG2436367
Lithium,Dissolved	0.0424		0.00200	1	01/22/2025 14:15	WG2437013
Molybdenum	0.188		0.00500	1	01/22/2025 20:29	WG2436367

Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.193		0.00500	1	01/22/2025 14:15	WG2437013
Selenium	ND		0.00200	1	01/22/2025 20:29	WG2436367
Selenium,Dissolved	ND		0.00200	1	01/22/2025 14:15	WG2437013
Thallium	ND		0.00200	1	01/22/2025 20:29	WG2436367
Thallium,Dissolved	ND		0.00200	1	01/22/2025 14:15	WG2437013

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	395		10.0	1	01/21/2025 11:47	WG2436213

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	9.52		1.00	1	01/19/2025 09:24	WG2435686
Fluoride	ND		0.150	1	01/19/2025 09:24	WG2435686
Sulfate	81.4		5.00	1	01/19/2025 09:24	WG2435686

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.25	T8	1	01/18/2025 19:00	WG2435741

Sample Narrative:

L1818476-10 WG2435741: 7.25 at 18.5C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	01/24/2025 19:30	WG2436630
Mercury,Dissolved	ND		0.000200	1	01/26/2025 19:14	WG2437894

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.244		0.200	1	01/22/2025 13:18	WG2437020
Boron,Dissolved	0.261		0.200	1	01/22/2025 13:11	WG2436138
Calcium	95.4		1.00	1	01/22/2025 13:18	WG2437020
Calcium,Dissolved	89.8		1.00	1	01/22/2025 13:11	WG2436138

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00400	1	01/22/2025 20:32	WG2436367
Antimony,Dissolved	ND		0.00400	1	01/22/2025 14:19	WG2437013
Arsenic	ND		0.00200	1	01/22/2025 20:32	WG2436367
Arsenic,Dissolved	ND		0.00200	1	01/22/2025 14:19	WG2437013
Barium	0.168		0.00200	1	01/22/2025 20:32	WG2436367
Barium,Dissolved	0.163		0.00200	1	01/22/2025 14:19	WG2437013
Beryllium	ND		0.00200	1	01/22/2025 20:32	WG2436367
Beryllium,Dissolved	ND		0.00200	1	01/22/2025 14:19	WG2437013
Cadmium	ND		0.00100	1	01/22/2025 20:32	WG2436367
Cadmium,Dissolved	ND		0.00100	1	01/22/2025 14:19	WG2437013
Chromium	ND		0.00200	1	01/22/2025 20:32	WG2436367
Chromium,Dissolved	ND		0.00200	1	01/22/2025 14:19	WG2437013
Cobalt	ND		0.00200	1	01/22/2025 20:32	WG2436367
Cobalt,Dissolved	ND		0.00200	1	01/22/2025 14:19	WG2437013
Lead	ND		0.00200	1	01/22/2025 20:32	WG2436367
Lead,Dissolved	ND		0.00200	1	01/22/2025 14:19	WG2437013
Lithium	0.0154		0.00200	1	01/22/2025 20:32	WG2436367
Lithium,Dissolved	0.0145		0.00200	1	01/22/2025 14:19	WG2437013
Molybdenum	ND		0.00500	1	01/22/2025 20:32	WG2436367

Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	ND		0.00500	1	01/22/2025 14:19	WG2437013
Selenium	0.00337		0.00200	1	01/22/2025 21:45	WG2436367
Selenium,Dissolved	0.00420		0.00200	1	01/22/2025 14:19	WG2437013
Thallium	ND		0.00200	1	01/22/2025 20:32	WG2436367
Thallium,Dissolved	ND		0.00200	1	01/22/2025 14:19	WG2437013

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	440		10.0	1	01/21/2025 11:47	WG2436213

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	10.4		1.00	1	01/19/2025 09:37	WG2435686
Fluoride	ND		0.150	1	01/19/2025 09:37	WG2435686
Sulfate	70.8		5.00	1	01/19/2025 09:37	WG2435686

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.77	T8	1	01/18/2025 19:00	WG2435741

Sample Narrative:

L1818476-11 WG2435741: 7.77 at 18.5C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	01/24/2025 19:32	WG2436630
Mercury,Dissolved	ND		0.000200	1	01/26/2025 19:17	WG2437894

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.733		0.200	1	01/22/2025 13:21	WG2437020
Boron,Dissolved	0.710		0.200	1	01/22/2025 13:13	WG2436138
Calcium	110		1.00	1	01/22/2025 13:21	WG2437020
Calcium,Dissolved	105		1.00	1	01/22/2025 13:13	WG2436138

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00400	1	01/22/2025 21:00	WG2437484
Antimony,Dissolved	ND		0.00400	1	01/22/2025 14:22	WG2437013
Arsenic	ND		0.00200	1	01/22/2025 21:00	WG2437484
Arsenic,Dissolved	ND		0.00200	1	01/22/2025 14:22	WG2437013
Barium	0.139		0.00200	1	01/22/2025 21:00	WG2437484
Barium,Dissolved	0.132		0.00200	1	01/22/2025 14:22	WG2437013
Beryllium	ND		0.00200	1	01/22/2025 21:00	WG2437484
Beryllium,Dissolved	ND		0.00200	1	01/22/2025 14:22	WG2437013
Cadmium	ND		0.00100	1	01/22/2025 21:00	WG2437484
Cadmium,Dissolved	ND		0.00100	1	01/22/2025 14:22	WG2437013
Chromium	ND		0.00200	1	01/22/2025 21:00	WG2437484
Chromium,Dissolved	ND		0.00200	1	01/22/2025 14:22	WG2437013
Cobalt	ND		0.00200	1	01/22/2025 21:00	WG2437484
Cobalt,Dissolved	ND		0.00200	1	01/22/2025 14:22	WG2437013
Lead	ND		0.00200	1	01/22/2025 21:00	WG2437484
Lead,Dissolved	ND		0.00200	1	01/22/2025 14:22	WG2437013
Lithium	0.0293		0.00200	1	01/22/2025 21:00	WG2437484
Lithium,Dissolved	0.0275		0.00200	1	01/22/2025 14:22	WG2437013
Molybdenum	0.0443		0.00500	1	01/22/2025 21:00	WG2437484

Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.0440		0.00500	1	01/22/2025 14:22	WG2437013
Selenium	0.0117		0.00200	1	01/22/2025 23:20	WG2437484
Selenium,Dissolved	0.0111		0.00200	1	01/22/2025 14:22	WG2437013
Thallium	ND		0.00200	1	01/22/2025 21:00	WG2437484
Thallium,Dissolved	ND		0.00200	1	01/22/2025 14:22	WG2437013

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	ND		10.0	1	01/21/2025 11:47	WG2436213

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	ND		1.00	1	01/19/2025 09:51	WG2435686
Fluoride	ND		0.150	1	01/19/2025 09:51	WG2435686
Sulfate	7.83		5.00	1	01/19/2025 09:51	WG2435686

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	5.45	T8	1	01/18/2025 19:00	WG2435741

Sample Narrative:

L1818476-12 WG2435741: 5.45 at 18.6C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	01/24/2025 19:35	WG2436630

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	ND		0.200	1	01/22/2025 13:24	WG2437020
Calcium	ND		1.00	1	01/22/2025 13:24	WG2437020

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00400	1	01/22/2025 21:14	WG2437484
Arsenic	ND		0.00200	1	01/22/2025 21:14	WG2437484
Barium	ND		0.00200	1	01/22/2025 21:14	WG2437484
Beryllium	ND		0.00200	1	01/22/2025 21:14	WG2437484
Cadmium	ND		0.00100	1	01/22/2025 21:14	WG2437484
Chromium	ND		0.00200	1	01/22/2025 21:14	WG2437484
Cobalt	ND		0.00200	1	01/22/2025 21:14	WG2437484
Lead	ND		0.00200	1	01/22/2025 21:14	WG2437484
Lithium	ND		0.00200	1	01/22/2025 21:14	WG2437484
Molybdenum	ND		0.00500	1	01/22/2025 21:14	WG2437484
Selenium	ND		0.00200	1	01/22/2025 21:14	WG2437484
Thallium	ND		0.00200	1	01/22/2025 21:14	WG2437484

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	688		13.3	1	01/21/2025 11:47	WG2436213

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	16.2		1.00	1	01/19/2025 10:04	WG2435686
Fluoride	0.295		0.150	1	01/19/2025 10:04	WG2435686
Sulfate	374		50.0	10	01/19/2025 10:45	WG2435686

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.82	T8	1	01/19/2025 12:57	WG2435740

Sample Narrative:

L1818476-13 WG2435740: 7.82 at 19.7C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	01/24/2025 19:37	WG2436630
Mercury,Dissolved	ND		0.000200	1	01/26/2025 19:20	WG2437894

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	8.28		0.200	1	01/22/2025 13:26	WG2437020
Boron,Dissolved	8.17		0.200	1	01/22/2025 12:22	WG2437015
Calcium	141		1.00	1	01/22/2025 13:26	WG2437020
Calcium,Dissolved	134		1.00	1	01/22/2025 12:22	WG2437015

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00400	1	01/22/2025 21:17	WG2437484
Antimony,Dissolved	ND		0.00400	1	01/24/2025 20:49	WG2439338
Arsenic	0.00206		0.00200	1	01/22/2025 21:17	WG2437484
Arsenic,Dissolved	ND		0.00200	1	01/24/2025 20:49	WG2439338
Barium	0.198		0.00200	1	01/22/2025 21:17	WG2437484
Barium,Dissolved	0.137		0.00200	1	01/24/2025 20:49	WG2439338
Beryllium	ND		0.00200	1	01/22/2025 21:17	WG2437484
Beryllium,Dissolved	ND		0.00200	1	01/24/2025 20:49	WG2439338
Cadmium	ND		0.00100	1	01/22/2025 21:17	WG2437484
Cadmium,Dissolved	ND		0.00100	1	01/24/2025 20:49	WG2439338
Chromium	ND		0.00200	1	01/22/2025 21:17	WG2437484
Chromium,Dissolved	ND		0.00200	1	01/26/2025 11:52	WG2439338
Cobalt	ND		0.00200	1	01/22/2025 21:17	WG2437484
Cobalt,Dissolved	ND		0.00200	1	01/24/2025 20:49	WG2439338
Lead	ND		0.00200	1	01/22/2025 21:17	WG2437484
Lead,Dissolved	ND		0.00200	1	01/24/2025 20:49	WG2439338
Lithium	0.0361		0.00200	1	01/22/2025 21:17	WG2437484
Lithium,Dissolved	0.0326		0.00200	1	01/24/2025 20:49	WG2439338
Molybdenum	0.185		0.00500	1	01/22/2025 21:17	WG2437484

Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.172		0.00500	1	01/24/2025 20:49	WG2439338
Selenium	ND		0.00200	1	01/22/2025 21:17	WG2437484
Selenium,Dissolved	ND		0.00200	1	01/26/2025 11:52	WG2439338
Thallium	ND		0.00200	1	01/22/2025 21:17	WG2437484
Thallium,Dissolved	ND		0.00200	1	01/24/2025 20:49	WG2439338

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	362		10.0	1	01/21/2025 11:47	WG2436213

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	14.8		1.00	1	01/19/2025 10:58	WG2435686
Fluoride	0.162		0.150	1	01/19/2025 10:58	WG2435686
Sulfate	41.7		5.00	1	01/21/2025 03:29	WG2435015

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.15	T8	1	01/18/2025 19:00	WG2435741

Sample Narrative:

L1818476-14 WG2435741: 8.15 at 18.7C

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	01/24/2025 19:39	WG2436630
Mercury,Dissolved	ND		0.000200	1	01/26/2025 19:22	WG2437894

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.310		0.200	1	01/22/2025 13:29	WG2437020
Boron,Dissolved	0.318		0.200	1	01/22/2025 12:25	WG2437015
Calcium	90.2		1.00	1	01/22/2025 13:29	WG2437020
Calcium,Dissolved	86.1		1.00	1	01/22/2025 12:25	WG2437015

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00400	1	01/22/2025 21:20	WG2437484
Antimony,Dissolved	ND		0.00400	1	01/24/2025 20:53	WG2439338
Arsenic	0.00211		0.00200	1	01/22/2025 21:20	WG2437484
Arsenic,Dissolved	ND		0.00200	1	01/24/2025 20:53	WG2439338
Barium	0.124		0.00200	1	01/22/2025 21:20	WG2437484
Barium,Dissolved	0.106		0.00200	1	01/24/2025 20:53	WG2439338
Beryllium	ND		0.00200	1	01/22/2025 21:20	WG2437484
Beryllium,Dissolved	ND		0.00200	1	01/24/2025 20:53	WG2439338
Cadmium	ND		0.00100	1	01/22/2025 21:20	WG2437484
Cadmium,Dissolved	ND		0.00100	1	01/24/2025 20:53	WG2439338
Chromium	ND		0.00200	1	01/22/2025 21:20	WG2437484
Chromium,Dissolved	ND		0.00200	1	01/26/2025 11:55	WG2439338
Cobalt	ND		0.00200	1	01/22/2025 21:20	WG2437484
Cobalt,Dissolved	ND		0.00200	1	01/24/2025 20:53	WG2439338
Lead	ND		0.00200	1	01/22/2025 21:20	WG2437484
Lead,Dissolved	ND		0.00200	1	01/24/2025 20:53	WG2439338
Lithium	0.0146		0.00200	1	01/22/2025 21:20	WG2437484
Lithium,Dissolved	0.0128		0.00200	1	01/24/2025 20:53	WG2439338
Molybdenum	0.0213		0.00500	1	01/22/2025 21:20	WG2437484

Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Molybdenum,Dissolved	0.0205		0.00500	1	01/24/2025 20:53	WG2439338
Selenium	0.0216		0.00200	1	01/22/2025 23:24	WG2437484
Selenium,Dissolved	0.0203		0.00200	1	01/26/2025 11:55	WG2439338
Thallium	ND		0.00200	1	01/22/2025 21:20	WG2437484
Thallium,Dissolved	ND		0.00200	1	01/24/2025 20:53	WG2439338

Method Blank (MB)

(MB) R4169800-1 01/21/25 08:24

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1818118-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1818118-01 01/21/25 08:24 • (DUP) R4169800-3 01/21/25 08:24

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	20300	20100	1	1.19		10

L1818548-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1818548-04 01/21/25 08:24 • (DUP) R4169800-4 01/21/25 08:24

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	3040	3050	1	0.164		10

Laboratory Control Sample (LCS)

(LCS) R4169800-2 01/21/25 08:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8840	100	85.0-115	

Method Blank (MB)

(MB) R4170024-1 01/21/25 11:47

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1817537-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1817537-01 01/21/25 11:47 • (DUP) R4170024-3 01/21/25 11:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	151	150	1	0.664		10

L1818586-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1818586-01 01/21/25 11:47 • (DUP) R4170024-4 01/21/25 11:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	2270	2220	1	2.01		10

Laboratory Control Sample (LCS)

(LCS) R4170024-2 01/21/25 11:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8810	100	85.0-115	

Method Blank (MB)

(MB) R4168996-1 01/20/25 21:45

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	U		0.637	5.00

L1817892-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1817892-07 01/20/25 23:40 • (DUP) R4168996-3 01/20/25 23:53

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	9.16	8.95	1	2.41		15

L1817892-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1817892-09 01/21/25 00:44 • (DUP) R4168996-6 01/21/25 00:56

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

Laboratory Control Sample (LCS)

(LCS) R4168996-2 01/20/25 21:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40.0	40.1	100	80.0-120	

L1817892-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1817892-07 01/20/25 23:40 • (MS) R4168996-4 01/21/25 00:05 • (MSD) R4168996-5 01/21/25 00:18

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 %
Sulfate	40.0	9.16	47.5	47.8	95.8	96.5	1	80.0-120			0.594	15

L1817892-09 Original Sample (OS) • Matrix Spike (MS)

(OS) L1817892-09 01/21/25 00:44 • (MS) R4168996-7 01/21/25 01:09

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	40.0	ND	38.8	96.9	1	80.0-120	

Method Blank (MB)

(MB) R4168240-1 01/19/25 00:52

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

L1818476-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1818476-01 01/19/25 04:27 • (DUP) R4168240-3 01/19/25 04:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	10.4	10.4	1	0.262		15
Fluoride	0.254	0.290	1	13.0		15

L1818476-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1818476-01 01/19/25 05:21 • (DUP) R4168240-6 01/19/25 05:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	299	301	10	0.594		15

L1818476-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1818476-02 01/19/25 05:48 • (DUP) R4168240-7 01/19/25 06:02

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	8.85	8.88	1	0.250		15
Fluoride	0.238	0.279	1	16.1	P1	15
Sulfate	28.5	29.0	1	1.45		15

Laboratory Control Sample (LCS)

(LCS) R4168240-2 01/19/25 01:05

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.8	99.6	80.0-120	
Fluoride	8.00	7.97	99.6	80.0-120	
Sulfate	40.0	40.6	101	80.0-120	

L1818476-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818476-01 01/19/25 04:27 • (MS) R4168240-4 01/19/25 04:54 • (MSD) R4168240-5 01/19/25 05:08

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	10.4	48.7	49.0	95.8	96.7	1	80.0-120			0.679	15
Fluoride	8.00	0.254	8.32	8.34	101	101	1	80.0-120			0.270	15
Sulfate	40.0	297	255	257	0.000	0.000	1	80.0-120	E V	E V	0.762	15

L1818476-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1818476-02 01/19/25 05:48 • (MS) R4168240-8 01/19/25 06:15

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	8.85	47.6	96.8	1	80.0-120	
Fluoride	8.00	0.238	8.30	101	1	80.0-120	
Sulfate	40.0	28.5	67.8	98.2	1	80.0-120	

L1818025-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1818025-02 01/19/25 12:57 • (DUP) R4168214-2 01/19/25 12:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.08	8.07	1	0.124		1

Sample Narrative:

OS: 8.08 at 19.2C

DUP: 8.07 at 19.3C

L1818476-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1818476-13 01/19/25 12:57 • (DUP) R4168214-3 01/19/25 12:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.82	7.81	1	0.128		1

Sample Narrative:

OS: 7.82 at 19.7C

DUP: 7.81 at 19.3C

Laboratory Control Sample (LCS)

(LCS) R4168214-1 01/19/25 12:57

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: 10.01 at 20.3C

L1818261-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1818261-01 01/18/25 19:00 • (DUP) R4168167-2 01/18/25 19:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.18	8.22	1	0.488		1

Sample Narrative:

OS: 8.18 at 19.4C

DUP: 8.22 at 18.7C

L1818491-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1818491-06 01/18/25 19:00 • (DUP) R4168167-3 01/18/25 19:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.37	8.38	1	0.119		1

Sample Narrative:

OS: 8.37 at 19C

DUP: 8.38 at 18.9C

Laboratory Control Sample (LCS)

(LCS) R4168167-1 01/18/25 19:00

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: 10.01 at 20.3C

Method Blank (MB)

(MB) R4169475-1 01/22/25 15:30

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

Laboratory Control Sample (LCS)

(LCS) R4169475-6 01/22/25 17:03

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury,Dissolved	0.00300	0.00298	99.3	80.0-120	

L1818118-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818118-05 01/22/25 15:40 • (MS) R4169475-4 01/22/25 15:45 • (MSD) R4169475-5 01/22/25 15:47

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	0.00277	0.00269	92.4	89.7	1	75.0-125			2.90	20

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

Method Blank (MB)

(MB) R4169376-1 01/22/25 12:56

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) R4169376-2 01/22/25 12:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.00300	0.00314	105	80.0-120	

L1818384-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818384-01 01/22/25 13:09 • (MS) R4169376-4 01/22/25 13:13 • (MSD) R4169376-5 01/22/25 13:16

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	0.00306	0.00302	102	101	1	75.0-125			1.32	20

Method Blank (MB)

(MB) R4170239-1 01/24/25 19:01

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) R4170239-6 01/24/25 20:04

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.00300	0.00275	91.7	80.0-120	

L1819082-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1819082-02 01/24/25 19:06 • (MS) R4170239-4 01/24/25 19:11 • (MSD) R4170239-5 01/24/25 19:18

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	0.00266	0.00280	88.6	93.5	1	75.0-125			5.37	20

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

Method Blank (MB)

(MB) R4170492-1 01/26/25 18:43

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

Laboratory Control Sample (LCS)

(LCS) R4170492-2 01/26/25 18:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury,Dissolved	0.00300	0.00304	101	80.0-120	

L1818476-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818476-05 01/26/25 18:49 • (MS) R4170492-4 01/26/25 18:54 • (MSD) R4170492-5 01/26/25 18:57

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	0.00318	0.00326	106	109	1	75.0-125			2.43	20

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

Method Blank (MB)

(MB) R4169406-1 01/22/25 12:27

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron,Dissolved	U		0.0233	0.200
Calcium,Dissolved	U		0.153	1.00

Laboratory Control Sample (LCS)

(LCS) R4169406-2 01/22/25 12:28

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron,Dissolved	1.00	0.938	93.8	80.0-120	
Calcium,Dissolved	10.0	9.97	99.7	80.0-120	

L1818298-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818298-01 01/22/25 12:30 • (MS) R4169406-4 01/22/25 12:33 • (MSD) R4169406-5 01/22/25 12:35

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 %
Boron,Dissolved	1.00	ND	0.974	0.965	97.4	96.5	1	75.0-125			0.854	20
Calcium,Dissolved	10.0	54.9	66.0	64.9	111	100	1	75.0-125			1.68	20

Method Blank (MB)

(MB) R4169286-1 01/22/25 11:43

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron,Dissolved	U		0.0233	0.200
Calcium,Dissolved	U		0.153	1.00

Laboratory Control Sample (LCS)

(LCS) R4169286-6 01/22/25 12:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron,Dissolved	1.00	0.949	94.9	80.0-120	
Calcium,Dissolved	10.0	9.80	98.0	80.0-120	

L1818919-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818919-09 01/22/25 11:52 • (MS) R4169286-4 01/22/25 11:57 • (MSD) R4169286-5 01/22/25 11:59

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 %
Boron,Dissolved	1.00	ND	1.06	1.08	94.9	96.9	1	75.0-125			1.84	20
Calcium,Dissolved	10.0	108	117	117	89.7	95.8	1	75.0-125			0.527	20

Method Blank (MB)

(MB) R4169350-1 01/22/25 12:13

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0233	0.200
Calcium	U		0.153	1.00

Laboratory Control Sample (LCS)

(LCS) R4169350-2 01/22/25 12:16

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1.00	0.942	94.2	80.0-120	
Calcium	10.0	9.87	98.7	80.0-120	

L1818261-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818261-01 01/22/25 12:18 • (MS) R4169350-4 01/22/25 12:24 • (MSD) R4169350-5 01/22/25 12:26

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 %
Boron	1.00	ND	0.943	0.925	94.3	92.5	1	75.0-125			1.92	20
Calcium	10.0	47.3	56.1	55.8	88.0	84.4	1	75.0-125			0.643	20

Method Blank (MB)

(MB) R4169488-1 01/22/25 18:47

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

Laboratory Control Sample (LCS)

(LCS) R4169488-2 01/22/25 18:50

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	0.0500	0.0505	101	80.0-120	
Arsenic	0.0500	0.0488	97.7	80.0-120	
Barium	0.0500	0.0459	91.9	80.0-120	
Beryllium	0.0500	0.0482	96.5	80.0-120	
Cadmium	0.0500	0.0517	103	80.0-120	
Chromium	0.0500	0.0505	101	80.0-120	
Cobalt	0.0500	0.0508	102	80.0-120	
Lead	0.0500	0.0489	97.8	80.0-120	
Lithium	0.0500	0.0489	97.8	80.0-120	
Molybdenum	0.0500	0.0482	96.4	80.0-120	
Selenium	0.0500	0.0496	99.2	80.0-120	
Thallium	0.0500	0.0494	98.8	80.0-120	

L1818194-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818194-24 01/22/25 18:54 • (MS) R4169488-4 01/22/25 19:01 • (MSD) R4169488-5 01/22/25 19:04

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	0.0496	0.0493	99.3	98.6	1	75.0-125			0.679	20
Arsenic	0.0500	ND	0.0476	0.0474	95.3	94.8	1	75.0-125			0.562	20
Barium	0.0500	ND	0.0488	0.0473	97.6	94.7	1	75.0-125			3.02	20

L1818194-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818194-24 01/22/25 18:54 • (MS) R4169488-4 01/22/25 19:01 • (MSD) R4169488-5 01/22/25 19:04

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	0.0490	0.0479	98.0	95.8	1	75.0-125			2.24	20
Cadmium	0.0500	ND	0.0492	0.0501	98.3	100	1	75.0-125			1.86	20
Chromium	0.0500	ND	0.0494	0.0495	98.8	99.1	1	75.0-125			0.224	20
Cobalt	0.0500	ND	0.0495	0.0499	99.1	99.7	1	75.0-125			0.658	20
Lead	0.0500	ND	0.0476	0.0478	95.2	95.7	1	75.0-125			0.507	20
Lithium	0.0500		0.0492	0.0488	98.3	97.6	1	75.0-125			0.732	20
Molybdenum	0.0500	ND	0.0479	0.0480	95.9	96.0	1	75.0-125			0.103	20
Selenium	0.0500	ND	0.0481	0.0498	96.2	99.7	1	75.0-125			3.58	20
Thallium	0.0500	ND	0.0480	0.0479	95.9	95.8	1	75.0-125			0.171	20

Method Blank (MB)

(MB) R4169333-1 01/22/25 12:48

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

Laboratory Control Sample (LCS)

(LCS) R4169333-2 01/22/25 12:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony,Dissolved	0.0500	0.0539	108	80.0-120	
Arsenic,Dissolved	0.0500	0.0504	101	80.0-120	
Barium,Dissolved	0.0500	0.0474	94.8	80.0-120	
Beryllium,Dissolved	0.0500	0.0498	99.6	80.0-120	
Cadmium,Dissolved	0.0500	0.0517	103	80.0-120	
Chromium,Dissolved	0.0500	0.0513	103	80.0-120	
Cobalt,Dissolved	0.0500	0.0519	104	80.0-120	
Lead,Dissolved	0.0500	0.0489	97.9	80.0-120	
Lithium,Dissolved	0.0500	0.0499	99.8	80.0-120	
Molybdenum,Dissolved	0.0500	0.0497	99.5	80.0-120	
Selenium,Dissolved	0.0500	0.0488	97.5	80.0-120	
Thallium,Dissolved	0.0500	0.0480	96.0	80.0-120	

L1818282-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818282-21 01/22/25 12:56 • (MS) R4169333-4 01/22/25 13:02 • (MSD) R4169333-5 01/22/25 13:06

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	0.0575	0.0569	114	112	1	75.0-125			1.07	20
Arsenic,Dissolved	0.0500	ND	0.0509	0.0497	101	98.5	1	75.0-125			2.42	20
Barium,Dissolved	0.0500	0.640	0.680	0.678	79.7	75.1	1	75.0-125			0.337	20

L1818282-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818282-21 01/22/25 12:56 • (MS) R4169333-4 01/22/25 13:02 • (MSD) R4169333-5 01/22/25 13:06

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	0.0453	0.0443	90.7	88.5	1	75.0-125			2.44	20
Cadmium,Dissolved	0.0500	ND	0.0521	0.0510	104	102	1	75.0-125			2.10	20
Chromium,Dissolved	0.0500	ND	0.0506	0.0491	99.0	96.1	1	75.0-125			2.92	20
Cobalt,Dissolved	0.0500	0.00259	0.0513	0.0498	97.4	94.4	1	75.0-125			2.90	20
Lead,Dissolved	0.0500	ND	0.0478	0.0469	95.7	93.9	1	75.0-125			1.90	20
Lithium,Dissolved	0.0500		0.0525	0.0513	88.5	86.0	1	75.0-125			2.43	20
Molybdenum,Dissolved	0.0500	ND	0.0551	0.0537	107	104	1	75.0-125			2.66	20
Selenium,Dissolved	0.0500	ND	0.0533	0.0507	107	101	1	75.0-125			4.99	20
Thallium,Dissolved	0.0500	ND	0.0469	0.0463	93.7	92.6	1	75.0-125			1.20	20

Method Blank (MB)

(MB) R4169535-1 01/22/25 20:53

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

Laboratory Control Sample (LCS)

(LCS) R4169535-2 01/22/25 20:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	0.0500	0.0503	101	80.0-120	
Arsenic	0.0500	0.0503	101	80.0-120	
Barium	0.0500	0.0504	101	80.0-120	
Beryllium	0.0500	0.0518	104	80.0-120	
Cadmium	0.0500	0.0535	107	80.0-120	
Chromium	0.0500	0.0533	107	80.0-120	
Cobalt	0.0500	0.0535	107	80.0-120	
Lead	0.0500	0.0515	103	80.0-120	
Lithium	0.0500	0.0533	107	80.0-120	
Molybdenum	0.0500	0.0487	97.4	80.0-120	
Selenium	0.0500	0.0506	101	80.0-120	
Thallium	0.0500	0.0525	105	80.0-120	

L1818476-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818476-11 01/22/25 21:00 • (MS) R4169535-4 01/22/25 21:07 • (MSD) R4169535-5 01/22/25 21:10

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	0.0527	0.0527	105	105	1	75.0-125			0.0870	20
Arsenic	0.0500	ND	0.0525	0.0519	102	101	1	75.0-125			1.15	20
Barium	0.0500	0.139	0.193	0.191	109	105	1	75.0-125			1.04	20

L1818476-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818476-11 01/22/25 21:00 • (MS) R4169535-4 01/22/25 21:07 • (MSD) R4169535-5 01/22/25 21:10

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	0.0507	0.0511	101	102	1	75.0-125			0.781	20
Cadmium	0.0500	ND	0.0533	0.0522	107	104	1	75.0-125			2.14	20
Chromium	0.0500	ND	0.0533	0.0530	107	106	1	75.0-125			0.498	20
Cobalt	0.0500	ND	0.0523	0.0517	104	103	1	75.0-125			1.23	20
Lead	0.0500	ND	0.0512	0.0506	102	101	1	75.0-125			1.17	20
Lithium	0.0500	0.0293	0.0805	0.0822	102	106	1	75.0-125			2.02	20
Molybdenum	0.0500	0.0443	0.0968	0.0968	105	105	1	75.0-125			0.0535	20
Selenium	0.0500	0.0111	0.0622	0.0624	102	103	1	75.0-125			0.339	20
Thallium	0.0500	ND	0.0522	0.0510	104	102	1	75.0-125			2.31	20

Method Blank (MB)

(MB) R4170247-1 01/24/25 20:29

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony,Dissolved	0.000825	J	0.000310	0.00400
Arsenic,Dissolved	0.000247	J	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
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
Thallium,Dissolved	U		0.000130	0.00200

Method Blank (MB)

(MB) R4170421-1 01/26/25 11:33

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chromium,Dissolved	U		0.000900	0.00200
Selenium,Dissolved	U		0.000250	0.00200

Laboratory Control Sample (LCS)

(LCS) R4170247-2 01/24/25 20:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony,Dissolved	0.0500	0.0474	94.8	80.0-120	
Arsenic,Dissolved	0.0500	0.0465	93.0	80.0-120	
Barium,Dissolved	0.0500	0.0431	86.2	80.0-120	
Beryllium,Dissolved	0.0500	0.0470	94.0	80.0-120	
Cadmium,Dissolved	0.0500	0.0476	95.1	80.0-120	
Cobalt,Dissolved	0.0500	0.0479	95.7	80.0-120	
Lead,Dissolved	0.0500	0.0459	91.7	80.0-120	
Lithium,Dissolved	0.0500	0.0431	86.2	80.0-120	
Molybdenum,Dissolved	0.0500	0.0473	94.7	80.0-120	
Thallium,Dissolved	0.0500	0.0446	89.2	80.0-120	

Laboratory Control Sample (LCS)

(LCS) R4170421-2 01/26/25 11:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Dissolved	0.0500	0.0496	99.2	80.0-120	
Selenium,Dissolved	0.0500	0.0462	92.4	80.0-120	

L1819840-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1819840-01 01/24/25 20:36 • (MS) R4170247-4 01/24/25 20:43 • (MSD) R4170247-5 01/24/25 20:46

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	0.0498	0.0491	95.1	93.9	1	75.0-125			1.29	20
Arsenic,Dissolved	0.0500	0.0929	0.137	0.139	87.3	93.1	1	75.0-125			2.11	20
Barium,Dissolved	0.0500	0.0311	0.0722	0.0714	82.3	80.5	1	75.0-125			1.23	20
Beryllium,Dissolved	0.0500	ND	0.0471	0.0452	94.2	90.4	1	75.0-125			4.15	20
Cadmium,Dissolved	0.0500	ND	0.0450	0.0458	89.9	91.5	1	75.0-125			1.75	20
Cobalt,Dissolved	0.0500	0.0238	0.0693	0.0685	91.1	89.4	1	75.0-125			1.20	20
Lead,Dissolved	0.0500	0.00323	0.0484	0.0475	90.4	88.5	1	75.0-125			1.93	20
Lithium,Dissolved	0.0500	0.00351	0.0475	0.0463	87.9	85.6	1	75.0-125			2.43	20
Molybdenum,Dissolved	0.0500	0.0153	0.0632	0.0629	95.9	95.3	1	75.0-125			0.473	20
Thallium,Dissolved	0.0500	ND	0.0455	0.0456	88.9	89.2	1	75.0-125			0.301	20

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

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
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
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 [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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 [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	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 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] 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

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 (CT) 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):

Immediately Packed on Ice N ___ Y X

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 #

Date Results Needed

Analysis / Container / Preservative

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	Pres Chk	Remarks	Sample # (lab only)
APW-03-WG-2024(MS)5011G	Grab	GW		1/16/25	0900	5	X	X	X	X	X			01
APW-08-WG-2024(5011S		GW		1/15/25	1540	5	X	X	X	X	X			02
~~APW-07-WG-2024(5011~~		~~GW~~		1/16/25		5	X	X	X	X	X		No samples collected	
APW-10S-WG-2024(5011G		GW		"	1140	5	X	X	X	X	X			03
APW-10D-WG-2024(5011G		GW		"	1055	5	X	X	X	X	X			04
APW-06S-WG-2024(5011S		GW		1/15/25	0805	5	X	X	X	X	X			05
APW-06D-WG-2024(5011S		GW			0955	5	X	X	X	X	X			06
APW-05R-WG-2024(5011S		GW			1130	5	X	X	X	X	X			07
APW-09-WG-2024(5011S		GW			1350	5	X	X	X	X	X			08
APW-02-WG-2024(5011S		GW			1045	5	X	X	X	X	X			09

* 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)	Date:	Time:	Received by: (Signature)
	1/17/25	12:30	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	1/17/25	13:00	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Dewang

Trip Blank Received: Yes / No — HCL / MeoH TBR

Temp: °C Bottles Received: 69

Date: 1.18.25 Time: 0900

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y 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

If p... te/Time

PH – 10BDH2631
TRC – 3327A333

Hold:

Condition: NCF / OK

Chain of Custody Page 1 of 2

Pace PEOPLE ADVANCING SCIENCE

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

SDG # 458164770

A115

Acctnum: **ERMSCMO**
Template: **T243415**
Prelogin: **P1122249**
PM: **206 - Jeff Carr**
PB:

Shipped Via: **FedEx Ground**

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

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 CT 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):
Immediately
Packed on Ice N ____ Y X

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 #

Date Results Needed

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	Remarks	Sample # (lab only)
APW-01R-WG-2024[MD]50115	Grab	GW		1/15/25	1250	5	X	X	X	X	X		10
APW-04-WG-2024[MD]50114		GW		1/14/25	1610	5	X	X	X	X	X		-11
EB-01-WG-2024[MD]50114		GW		1/14/25	1100	4	X	X	X	X	X	No dissolved collected	-12
DUP-01-WG-2024[MD]50115		GW		1/15/25	0001	5	X	X	X	X	X		-13
DUP-02-WG-2024[MD]50115		GW		1/15/25	0002	5	X	X	X	X	X		-14

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

Pace
PEOPLE ADVANCING SCIENCE

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

SDG # L1851010

Table #

Acctnum: **ERMSCMO**
Template: **T243415**
Prelogin: **P1122249**
PM: **206 - Jeff Carr**
PB:

Shipped Via: **FedEX Ground**

* 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 __Y __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)	Date:	Time:	Received by: (Signature)
Marshall Arendell	1/17/25	12:30	ESCMO
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	1/17/25	13:00	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)
			Dwayne G

Trip Blank Received: Yes / No — HCL / MeoH TBR

Temp: °C Bottles Received: 69

Date: 1.18.25 Time: 0900

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

L# ____________________

Fed Ex tracking #	Gun ID	Temperature
425709337279	EDA9	1.3 to.4=1.7
425709337327	EDA9	2.1 to.4=2.5
425709337280	EDA4	1.4 to.4=1.8

Demanty
Name

1.18.25
Date

4818476

APPENDIX E FOURTH QUARTER 2024 RADIOLOGICAL LABORATORY ANALYTICAL REPORT

ANALYTICAL REPORT

February 14, 2025

ERM - St. Louis, MO

Sample Delivery Group:	L1818469
Samples Received:	01/18/2025
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

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

TABLE OF CONTENTS

APW-03-WG-20250116 L1818469-01 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/16/25 09:00 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2436311	1	01/20/25 16:16	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2436773	1	01/21/25 12:37	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2436773	1	01/21/25 12:37	01/23/25 18:57	ZRG	Mt. Juliet, TN

APW-08-WG-20250115 L1818469-02 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/16/25 15:40 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2436311	1	01/20/25 16:16	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2436773	1	01/21/25 12:37	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2436773	1	01/21/25 12:37	01/23/25 18:57	ZRG	Mt. Juliet, TN

APW-10S-WG-20250116 L1818469-03 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/16/25 11:40 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2436311	1	01/20/25 16:16	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2436773	1	01/21/25 12:37	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2436773	1	01/21/25 12:37	01/23/25 18:57	ZRG	Mt. Juliet, TN

APW-10D-WG-20250116 L1818469-04 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/16/25 10:50 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2436311	1	01/20/25 16:16	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2436773	1	01/21/25 12:37	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2436773	1	01/21/25 12:37	01/23/25 18:57	ZRG	Mt. Juliet, TN

APW-06S-WG-20250115 L1818469-05 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/15/25 08:05 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2436311	1	01/20/25 16:16	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2436773	1	01/21/25 12:37	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2436773	1	01/21/25 12:37	01/23/25 18:57	ZRG	Mt. Juliet, TN

APW-06D-WG-20250115 L1818469-06 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/15/25 09:55 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2436311	1	01/20/25 16:16	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2436773	1	01/21/25 12:37	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2436773	1	01/21/25 12:37	01/23/25 18:57	ZRG	Mt. Juliet, TN

APW-05R-WG-20250115 L1818469-07 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/15/25 11:30 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2436311	1	01/20/25 16:16	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2439063	1	01/24/25 09:17	01/28/25 11:53	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2439063	1	01/24/25 09:17	01/28/25 11:53	ZRG	Mt. Juliet, TN

APW-09-WG-20250115 L1818469-08 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/15/25 13:50 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2436311	1	01/20/25 16:16	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2439063	1	01/24/25 09:17	01/28/25 11:53	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2439063	1	01/24/25 09:17	01/28/25 11:53	ZRG	Mt. Juliet, TN

APW-02-WG-20250115 L1818469-09 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/15/25 10:45 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2440415	1	01/27/25 12:39	01/30/25 18:46	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2439063	1	01/24/25 09:17	01/30/25 18:46	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2439063	1	01/24/25 09:17	01/28/25 11:53	ZRG	Mt. Juliet, TN

APW-01R-WG-20250115 L1818469-10 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/15/25 12:50 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2441146	1	01/30/25 10:21	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2439063	1	01/24/25 09:17	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2439063	1	01/24/25 09:17	01/28/25 11:53	ZRG	Mt. Juliet, TN

APW-04-WG-20250114 L1818469-11 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/14/25 16:10 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2441146	1	01/30/25 10:21	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2439063	1	01/24/25 09:17	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2439063	1	01/24/25 09:17	01/28/25 11:53	ZRG	Mt. Juliet, TN

EB-01-WG-20250114 L1818469-12 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/14/25 11:00 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2441146	1	01/30/25 10:21	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2439063	1	01/24/25 09:17	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2439063	1	01/24/25 09:17	01/28/25 11:53	ZRG	Mt. Juliet, TN

SAMPLE SUMMARY

DUP-01-WG-20250115 L1818469-13 Non-Potable Water

Collected by: Marshall A
Collected date/time: 01/15/25 00:01
Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2441146	1	01/30/25 10:21	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2439063	1	01/24/25 09:17	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2439063	1	01/24/25 09:17	01/28/25 11:53	ZRG	Mt. Juliet, TN

DUP-02-WG-20250115 L1818469-14 Non-Potable Water

Collected by: Marshall A
Collected date/time: 01/15/25 00:02
Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2441146	1	01/30/25 10:21	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2439063	1	01/24/25 09:17	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2439063	1	01/24/25 09:17	01/28/25 11:53	ZRG	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 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

Project Narrative

-12 container label ID EB-01-WG-202501 differs from COC

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	0.698		0.382	0.674	0.670	0.356	01/27/2025 18:18	WG2436311
(T) Barium	*85.1*					*30.0-143*	*01/27/2025 18:18*	WG2436311
(T) Yttrium	*58.1*					*30.0-136*	*01/27/2025 18:18*	WG2436311

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.794		0.400	0.688	01/27/2025 18:18	WG2436773

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	0.0960	J	0.120	0.221	0.158	0.131	01/23/2025 18:57	WG2436773
(T) Barium-133	*98.4*					*30.0-143*	*01/23/2025 18:57*	WG2436773

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	1.10		0.445	0.719	0.767	0.401	01/27/2025 18:18	WG2436311
(T) Barium	*114*					*30.0-143*	*01/27/2025 18:18*	WG2436311
(T) Yttrium	*59.3*					*30.0-136*	*01/27/2025 18:18*	WG2436311

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.48		0.502	0.791	01/27/2025 18:18	WG2436773

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	0.382		0.233	0.461	0.194	0.147	01/23/2025 18:57	WG2436773
(T) Barium-133	*110*					*30.0-143*	*01/23/2025 18:57*	WG2436773

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	1.69		0.451	0.803	0.758	0.401	01/27/2025 18:18	WG2436311
(T) Barium	*96.4*					*30.0-143*	*01/27/2025 18:18*	WG2436311
(T) Yttrium	*68.4*					*30.0-136*	*01/27/2025 18:18*	WG2436311

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.02		0.498	0.774	01/27/2025 18:18	WG2436773

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	0.331		0.211	0.402	0.156	0.128	01/23/2025 18:57	WG2436773
(T) Barium-133	*106*					*30.0-143*	*01/23/2025 18:57*	WG2436773

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	2.10		0.605	0.995	1.03	0.539	01/27/2025 18:18	WG2436311
(T) Barium	*91.7*					*30.0-143*	*01/27/2025 18:18*	WG2436311
(T) Yttrium	*60.2*					*30.0-136*	*01/27/2025 18:18*	WG2436311

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.21		0.621	1.05	01/27/2025 18:18	WG2436773

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	0.114	J	0.141	0.242	0.194	0.147	01/23/2025 18:57	WG2436773
(T) Barium-133	*108*					*30.0-143*	*01/23/2025 18:57*	WG2436773

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	2.23		0.613	0.907	0.706	0.372	01/27/2025 18:18	WG2436311
(T) Barium	*88.4*					*30.0-143*	*01/27/2025 18:18*	WG2436311
(T) Yttrium	*56.5*					*30.0-136*	*01/27/2025 18:18*	WG2436311

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.49		0.641	0.723	01/27/2025 18:18	WG2436773

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	0.262		0.188	0.357	0.155	0.128	01/23/2025 18:57	WG2436773
(T) Barium-133	*108*					*30.0-143*	*01/23/2025 18:57*	WG2436773

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	2.46		0.606	0.856	0.696	0.364	01/27/2025 18:18	WG2436311
(T) Barium	*86.5*					*30.0-143*	*01/27/2025 18:18*	WG2436311
(T) Yttrium	*73.6*					*30.0-136*	*01/27/2025 18:18*	WG2436311

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.68		0.631	0.713	01/27/2025 18:18	WG2436773

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	0.227		0.176	0.340	0.154	0.127	01/23/2025 18:57	WG2436773
(T) Barium-133	*100*					*30.0-143*	*01/23/2025 18:57*	WG2436773

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	1.40		0.828	1.21	0.992	0.521	01/27/2025 18:18	WG2436311
(T) Barium	*88.8*					*30.0-143*	*01/27/2025 18:18*	WG2436311
(T) Yttrium	*62.8*					*30.0-136*	*01/27/2025 18:18*	WG2436311

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.10		0.917	1.07	01/28/2025 11:53	WG2439063

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	0.710		0.394	0.781	0.403	0.261	01/28/2025 11:53	WG2439063
(T) Barium-133	*108*					*30.0-143*	*01/28/2025 11:53*	WG2439063

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	1.21		0.764	1.13	0.915	0.478	01/27/2025 18:18	WG2436311
(T) Barium	*109*					*30.0-143*	*01/27/2025 18:18*	WG2436311
(T) Yttrium	*64.4*					*30.0-136*	*01/27/2025 18:18*	WG2436311

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.46		0.806	0.975	01/28/2025 11:53	WG2439063

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	0.246	J	0.256	0.405	0.338	0.227	01/28/2025 11:53	WG2439063
(T) Barium-133	*111*					*30.0-143*	*01/28/2025 11:53*	WG2439063

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	1.89		0.774	1.33	1.44	0.755	01/30/2025 18:46	WG2440415
(T) Barium	*75.5*					*30.0-143*	*01/30/2025 18:46*	WG2440415
(T) Yttrium	*91.9*					*30.0-136*	*01/30/2025 18:46*	WG2440415

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.19		0.814	1.47	01/30/2025 18:46	WG2439063

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	0.301		0.253	0.388	0.284	0.207	01/28/2025 11:53	WG2439063
(T) Barium-133	*109*					*30.0-143*	*01/28/2025 11:53*	WG2439063

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	0.924		0.295	0.533	0.493	0.260	02/05/2025 17:17	WG2441146
(T) Barium	*112*					*30.0-143*	*02/05/2025 17:17*	WG2441146
(T) Yttrium	*72.9*					*30.0-136*	*02/05/2025 17:17*	WG2441146

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.946		0.307	0.529	02/05/2025 17:17	WG2439063

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	0.0217	U	0.0838	0.135	0.191	0.150	01/28/2025 11:53	WG2439063
(T) Barium-133	*94.0*					*30.0-143*	*01/28/2025 11:53*	WG2439063

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	0.111	U	0.567	0.936	0.996	0.520	02/05/2025 17:17	WG2441146
(T) Barium	*105*					*30.0-143*	*02/05/2025 17:17*	WG2441146
(T) Yttrium	*62.5*					*30.0-136*	*02/05/2025 17:17*	WG2441146

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.174	U	0.580	1.02	02/05/2025 17:17	WG2439063

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	0.0629	U	0.123	0.204	0.208	0.151	01/28/2025 11:53	WG2439063
(T) Barium-133	*104*					*30.0-143*	*01/28/2025 11:53*	WG2439063

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	0.689		0.386	0.645	0.662	0.347	02/05/2025 17:17	WG2441146
(T) Barium	*90.1*					*30.0-143*	*02/05/2025 17:17*	WG2441146
(T) Yttrium	*67.5*					*30.0-136*	*02/05/2025 17:17*	WG2441146

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.839		0.417	0.686	02/05/2025 17:17	WG2439063

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	0.149	J	0.158	0.291	0.181	0.150	01/28/2025 11:53	WG2439063
(T) Barium-133	*85.8*					*30.0-143*	*01/28/2025 11:53*	WG2439063

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	1.48		0.434	0.706	0.723	0.378	02/05/2025 17:17	WG2441146
(T) Barium	*91.1*					*30.0-143*	*02/05/2025 17:17*	WG2441146
(T) Yttrium	*62.4*					*30.0-136*	*02/05/2025 17:17*	WG2441146

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.83		0.490	0.750	02/05/2025 17:17	WG2439063

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	0.356		0.228	0.447	0.198	0.150	01/28/2025 11:53	WG2439063
(T) Barium-133	*98.0*					*30.0-143*	*01/28/2025 11:53*	WG2439063

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	0.630	J	0.376	0.624	0.645	0.337	02/05/2025 17:17	WG2441146
(T) Barium	*107*					*30.0-143*	*02/05/2025 17:17*	WG2441146
(T) Yttrium	*68.4*					*30.0-136*	*02/05/2025 17:17*	WG2441146

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.691		0.389	0.664	02/05/2025 17:17	WG2439063

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	0.0607	J	0.0981	0.169	0.156	0.128	01/28/2025 11:53	WG2439063
(T) Barium-133	*109*					*30.0-143*	*01/28/2025 11:53*	WG2439063

Method Blank (MB)

(MB) R4171569-1 01/27/25 18:18

Analyte	MB Result	MB Qualifier	MB 2 sigma CE	MB MDA	MB Lc
	pCi/l		+ / -	pCi/l	pCi/l
Radium-228	0.174	U	0.229	0.410	0.216
(T) Barium	*115*		*115*		
(T) Yttrium	*60.2*		*60.2*		

L1818469-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1818469-07 01/27/25 18:18 • (DUP) R4171569-5 01/27/25 18:18

Analyte	Original Result	Original 2 sigma CE	Original MDA	Original Lc	DUP Result	DUP 2 sigma CE	DUP MDA	DUP Lc	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	+ / -	pCi/l	pCi/l	pCi/l	+ / -	pCi/l	pCi/l	%			%	
Radium-228	1.40	0.828	0.992	0.521	0.319	0.639	1.14	0.593	126	1.03	U	20	3
(T) Barium	*88.8*				*83.7*	*83.7*							
(T) Yttrium	*62.8*				*66.6*	*66.6*							

Laboratory Control Sample (LCS)

(LCS) R4171569-2 01/27/25 18:18

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-228	5.00	5.53	111	80.0-120	
(T) Barium			*122*		
(T) Yttrium			*74.2*		

L1818231-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818231-06 01/27/25 18:18 • (MS) R4171569-3 01/27/25 18:18 • (MSD) R4171569-4 01/27/25 18:18

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
Radium-228	16.7	2.05	20.5	22.0	111	120	1	70.0-130			6.96		20
(T) Barium		*93.4*			*98.6*	*104*							
(T) Yttrium		*66.5*			*71.1*	*64.0*							

Method Blank (MB)

(MB) R4172937-1 01/30/25 18:46

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.373		0.188	0.354	0.185
(T) Barium	*83.8*		*83.8*		
(T) Yttrium	*101*		*101*		

L1820183-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1820183-07 01/31/25 16:37 • (DUP) R4172937-5 01/30/25 18:46

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	0.767	0.381	0.674	0.357	2.13	0.845	1.57	0.823	94.1	1.47		20	3
(T) Barium	*85.9*				*79.9*	*79.9*							
(T) Yttrium	*82.4*				*81.0*	*81.0*							

Laboratory Control Sample (LCS)

(LCS) R4172937-2 01/30/25 18:46

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.80	116	80.0-120	
(T) Barium			*84.9*		
(T) Yttrium			*91.5*		

L1819831-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1819831-03 01/31/25 16:37 • (MS) R4172937-3 01/30/25 18:46 • (MSD) R4172937-4 01/30/25 18:46

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	0.666	19.9	20.9	115	121	1	70.0-130			4.51		20
(T) Barium		*93.7*			*83.3*	*86.6*							
(T) Yttrium		*89.6*			*92.8*	*93.2*							

QUALITY CONTROL SUMMARY

L1818469-10,11,12,13,14

Method Blank (MB)

(MB) R4176524-1 02/04/25 17:04

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.0392	U	0.179	0.348	0.182
(T) Barium	*95.1*		*95.1*		
(T) Yttrium	*85.3*		*85.3*		

L1820688-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1820688-10 02/05/25 22:14 • (DUP) R4176524-5 02/04/25 17:04

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	0.374	0.533	1.03	0.537	-0.193	0.575	1.12	0.586	200	0.723	U	20	3
(T) Barium	*98.1*				*106*	*106*							
(T) Yttrium	*61.2*				*93.1*	*93.1*							

Laboratory Control Sample (LCS)

(LCS) R4176524-2 02/04/25 17:04

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.76	115	80.0-120	
(T) Barium			*112*		
(T) Yttrium			*86.5*		

L1818469-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818469-11 02/05/25 17:17 • (MS) R4176524-3 02/04/25 17:04 • (MSD) R4176524-4 02/04/25 17:04

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	10.0	0.111	11.4	10.8	113	107	1	70.0-130			5.41		20
(T) Barium		*105*			*107*	*92.5*							
(T) Yttrium		*62.5*			*83.4*	*77.8*							

Method Blank (MB)

(MB) R4170041-5 01/23/25 22:51

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0136	J	0.0163	0.0239	0.0171
(T) Barium-133	*103*		*103*		

L1818231-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1818231-03 01/23/25 22:51 • (DUP) R4170041-4 01/23/25 18:56

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	0.0660	0.129	0.218	0.159	0.000	0.166	0.343	0.235	200	0.314	U	20	3
(T) Barium-133	*95.3*				*97.9*	*97.9*							

Laboratory Control Sample (LCS)

(LCS) R4170041-1 01/23/25 18:56

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	5.70	114	80.0-120	
(T) Barium-133			*74.4*		

L1818231-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818231-07 01/23/25 18:56 • (MS) R4170041-2 01/23/25 18:56 • (MSD) R4170041-3 01/23/25 18:56

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	0.0629	18.1	18.0	90.2	89.7	1	75.0-125			0.554		20
(T) Barium-133		*112*			*99.0*	*101*							

Method Blank (MB)

(MB) R4171352-1 01/28/25 11:53

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0112	U	0.0346	0.0594	0.0365
(T) Barium-133	*87.3*		*87.3*		

L1817489-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1817489-06 01/28/25 11:53 • (DUP) R4171352-5 01/28/25 11:53

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	21.3	1.83	0.318	0.220	16.8	1.60	0.245	0.182	23.5	1.84		20	3
(T) Barium-133	*109*				*104*	*104*							

Laboratory Control Sample (LCS)

(LCS) R4171352-2 01/28/25 11:53

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	4.34	86.8	80.0-120	
(T) Barium-133			*97.5*		

L1819451-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1819451-04 01/28/25 11:53 • (MS) R4171352-3 01/28/25 11:53 • (MSD) R4171352-4 01/28/25 11:53

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	0.330	18.5	17.6	90.8	86.1	1	75.0-125			5.16		20
(T) Barium-133		*101*			*97.8*	*102*							

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 [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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 [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	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 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] 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

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 CT 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):

Immediately Packed on Ice N ___ Y X

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 #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

Pace
PEOPLE ADVANCING SCIENCE

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

SDG # L1818469
F184

Acctnum: **ERMSCMO**
Template: **T243472**
Prelogin: **P1122251**
PM: **206 - Jeff Carr**
PB:
Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres Chk	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add-HNO3	Remarks	Sample # (lab only)
APW-03-WG-2024[5]0116	Grab	NPW		1/16/25	0900	3		X	X		-01
APW-08-WG-2024[5]0115		NPW		1/15/25	1540	3		X	X		02
~~APW-07-WG-2024[5]0116~~		~~NPW~~		~~1/16/25~~		3		X	X	No samples collected	
APW-10S-WG-2024[5]0116		NPW		"	1140	3		X	X		03
APW-10D-WG-2024[5]0116		NPW		"	1050	3		X	X		04
APW-06S-WG-2024[5]0116		NPW		1/15/25	0805	3		X	X		05
APW-06D-WG-2024[5]0115		NPW		"	0955	3		X	X		06
APW-05R-WG-2024[5]0115		NPW		"	1130	3		X	X		07
APW-09-WG-2024[5]0115		NPW		"	1350	3		X	X		08
APW-02-WG-2024[5]0115		NPW		"	1045	3		X	X		09

* 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 Y 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)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Marshall Arendell	1/17/25	12:30	Esmo	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 42
	1/17/25	13:00		PH – 10BDH0941 TRC – 3227A333 : Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time: Hold: Condition: NCF / OK
			CRobeiza	01.18.25 0900

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

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 (CT) 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

Immediately Packed on Ice N ____ Y X

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 #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add-HNO3	Remarks	Sample # (lab only)
APW-01R-WG-2024 50115	Grab	NPW		1/15/25	1250	3	X	X		-10
APW-04-WG-2024 50114		NPW		1/14/25	1610	3	X	X		11
EB-01-WG-2024 50114		NPW		1/14/25	1100	3	X	X		12
DUP-01-WG-2024 50115		NPW		1/15/25	0001	3	X	X		13
DUP-02-WG-2024 50115		NPW		1/15/25	0002	3	X	X		14

Analysis / Container / Preservative — Pres Chk

Chain of Custody Page 2 of 2

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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

SDG # L1518469

Table #

Acctnum: **ERMSCMO**

Template: **T243472**

Prelogin: **P1122251**

PM: **206 - Jeff Carr**

PB:

Shipped Via: **FedEX Ground**

* 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	Y 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	Date: 1/17/25	Time: 12:30	Received by: (Signature) ESCO	Trip Blank Received: Yes / No (HCL / MeoH TBR)
Relinquished by : (Signature)	Date: 1/17/25	Time: 13:00	Received by: (Signature)	Temp: °C Bottles Received: 42 — If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) CRobe WD	Date: 01.18.25 Time: 0900 — Hold: — Condition: NCF / OK

L# L1818469

Fed Ex tracking #	Gun ID	Temperature
4257 0933 7305	EDA9	2.8+0.4 = 3.2
4257 0933 7290	"	4.6+0.4 = 5.0
4257 0933 7316	"	2.4+0.4 = 2.8

Name

Date