

26 July 2023



Lauren Hunt Martin, MS
Illinois Environmental Protection Agency
Bureau of Water
Division of Public Water Supplies
Groundwater Section
1021 N. Grand Avenue
Springfield, IL 62702

Subject: 2022 Annual Consolidated Report
Grand Tower Energy Center
Closed Coal Combustion Residuals Impoundment
1820 Power Plant Rd
Grand Tower, IL 62942
ERM Project No. 0599247

Dear Lauren:

Environmental Resources Management (ERM) Inc. is submitting the 2022 Annual Consolidated Report in accordance with 35 Illinois Administrative Code (IAC) §845.550(a)(3) and 35 IAC §845.610(e) for the Grand Tower Energy Center (GTEC) facility located at 1820 Power Plant Rd, Grand Tower, Illinois (the "Site"). Attached to this letter is the 2022 GTEC Annual Groundwater Monitoring Report as well as the 2022 GTEC Annual Inspection Report.

Additionally, ERM is currently addressing the 29 January 2023 IEPA comments to the Grand Tower Operating Permit Application submitted to the Illinois Environmental Protection Administration (IEPA) on 28 October 2021.

If you have any questions, please feel free to contact me at (314) 733-4495.

Sincerely,

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

Matt Halley, CHMM
Senior Consultant

Attachments

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



Rockland Capital, LLC

2022 Grand Tower Energy Center Annual Groundwater Monitoring Report

26 July 2023

Project No.: 0599247

Signature Page

26 July 2023

2022 Grand Tower Energy Center Annual Groundwater Monitoring Report



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



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Senior Consultant

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1. EXECUTIVE SUMMARY

In accordance with 35 IAC §845.610(e)(4), the following section provides a summary overview of groundwater monitoring activity at the Site during 2022:

- Eight episodes of groundwater sampling were conducted from September 2017 through February 2018 to establish background concentrations at the Site utilizing data from background wells APW-1R and APW-09. The final Groundwater Protection Standards (GPS) are the higher of the values between those provided in 35 IAC §845.600(a) and the calculated background concentrations.
- Assessment of corrective measures began on June 16, 2022 with the commencement of the initial post-closure groundwater sampling event. Groundwater monitoring, monitoring well inspection and monitoring well gauging events were conducted during the second, third, and fourth quarters of 2022. Figures 3, 4, and 5 provide a visual delineation of monitoring well locations with exceedances of the GPS in accordance with 35 IAC §845.600(a)1 and 35 IAC §845.600(a)2 during the second, third, and fourth quarters of 2022, respectively.
- During 2022 there were exceedances of the GPS during one or more quarters. These exceedances are summarized as follows:
 - APW-01R exceeded the standard for turbidity.
 - APW-02 exceeded standards for sulfate, turbidity, arsenic, boron, calcium, lead, lithium, and molybdenum.
 - APW-03 exceeded standards for turbidity, boron, and calcium.
 - APW-04 exceeded standards for turbidity, boron, calcium, and molybdenum.
 - APW-05 exceeded standards for sulfate, turbidity, boron, calcium, lithium, and molybdenum.
 - APW-06D exceeded standards for turbidity, arsenic, boron, and calcium.
 - APW-06S exceeded standards for turbidity, boron, calcium, lithium, and molybdenum.
 - APW-07 exceeded standards for turbidity and calcium.
 - APW-08 exceeded standards for turbidity and calcium.
 - APW-09 exceeded standards for turbidity and calcium.
 - APW-10D exceeded standards for turbidity and calcium.
 - APW-10S exceeded standards for turbidity, arsenic, boron, and calcium.
- The GTEC coal combustion residuals (CCR) impoundment is currently in Corrective Action Monitoring (CAM). After seven quarterly CAM events have been completed, the groundwater sampling results will be evaluated to determine if statistically significant increases or decreases have occurred after cap and closure occurred in 2020 in accordance with 35 IAC Section §845.640(f). The statistical evaluation of the first seven CAM groundwater sampling events is anticipated to be completed during the first quarter of 2024.
- A potentiometric surface map for the second, third, and fourth quarters of 2022, as required by 35 IAC §845.650(b)(2), are included as Figures 6, 7, and 8.
- The well screen of APW-05 was found to be damaged during 2022, which had allowed the sand pack to enter the monitoring well. An Illinois licensed well driller abandoned and replaced APW-05 during the first quarter of 2023.

2. INTRODUCTION

Environmental Resources Management (ERM) Inc. is submitting the 2022 Annual Groundwater Monitoring Report in accordance with 35 Illinois Administrative Code (IAC) §845.550(a)(3) and 35 IAC §845.610(e) for the Grand Tower Energy Center (GTEC) facility located at 1820 Power Plant Rd, Grand Tower, Illinois (the “Site”). A Site location map is provided as Figure 1. The location of all Site monitoring wells is provided as Figure 2. This report summarizes the results and findings of the GTEC quarterly post-closure groundwater sampling events conducted during 2022. It should be noted that groundwater sampling was initiated following the 28 April 2022 approval to begin groundwater sampling by the Illinois Environmental Protection Agency (IEPA), following the submittal of the 28 October 2021 Grand Tower Operating Permit Application, which was under review by the IEPA for the duration of 2022. Therefore, the 2022 annual report includes groundwater results from the second, third, and fourth quarters of 2022.

3. BACKGROUND

GTEC historically operated as a merchant facility, which sold energy into the Midcontinent Independent System Operator (MISO) distribution system, and has been idled since late 2020. The immediate project site, south of the idled power generation facility, consists of an approximately 21-acre area consisting of an impoundment and associated drainage basin. The GTEC CCR impoundment was capped and closed in 2020 and is subject to USEPA 40 CFR 257 and IEPA 35 IAC 845, as applicable. Approximately 235,000 cubic yards of CCR materials are present in the closed impoundment. These materials have been excavated, consolidated, and covered by a 40-mil LLDPE liner, cover soil, and geotextile liner which covers a 14-acre footprint within the Site.

The 2022 groundwater sampling activities were performed in accordance with the post-closure groundwater monitoring program presented within the Grand Tower Operating Permit Application submitted to the IEPA on 28 October 2021 and further modified according to the Consolidated IEPA Comments dated 17 March 2022 received via email. The purpose of the sampling was to initiate the 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 Ash Basin.

4. KEY ACTIONS COMPLETED DURING 2022

The following Site activities were completed quarterly during 2022 and are summarized below:

- Inspection of the groundwater monitoring well array and gauging;
- Groundwater monitoring; and
- Preparation and submittal of groundwater monitoring result reports to the IEPA.

4.1 Monitoring Well Inspection and Gauging

During the first, second, third, and fourth quarters of 2022, monitoring well inspections and gauging events were conducted. The monitoring well inspection forms can be found within Appendix A of this report. The inspection tasks included gauging total depths as well as static groundwater elevations and completing a shallow groundwater contour map for the Site. Groundwater surface contour maps for second, third, and fourth quarter 2022 are included as Figures 6, 7, and 8, respectively. The groundwater gradient is primarily from east to west towards the Mississippi River except for 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). The monitoring well protectors and casings were also inspected for damage and/or signs of settling that might impact the integrity of the surface seals. During the second quarter of 2022, the casing at APW-

06D was found to be damaged and the well unable to be sampled. APW-06D was subsequently repaired and sampled during the third and fourth quarter 2022 sampling events. Additionally, during 2022 the well screen of monitoring well APW-05 was found to be occluded > 40% due to infiltration of filter-pack sand into the well casing from a compromised well screen. ERM subsequently abandoned and re-drilled APW-05 utilizing an Illinois licensed well driller during the first quarter of 2023.

4.2 Groundwater Monitoring

The groundwater monitoring well network surrounding the closed CCR impoundment includes APW-01R, APW-02, APW-03, APW-04, APW-05, APW-06D, APW-06S, APW-07, APW-08, APW-09, APW-10D, and APW-10S. APW-01R and APW-09 serve as background wells. As mentioned in the preceding section, APW-06D was found to be damaged and unable to be sampled during the second quarter of 2022. APW-06D was subsequently repaired and included with the third and fourth quarter 2022 sampling events. The remaining 11 groundwater monitoring wells were sampled during all three quarters of sampling in 2022.

Monitoring Event	Sampling Dates	Number of Wells Sampled
Second Quarter 2022	6/15/2022 - 6/17/2022	11
Third Quarter 2022	9/13/2022 - 9/16/2022	12
Fourth Quarter 2022	11/28/2022 - 11/30/2022	12

The monitoring wells were purged prior to sampling using a submersible pump according to 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 Professional Plus 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 the second, third, and fourth quarter of 2022 were recorded on field data forms. Copies of the 2022 field data forms are included in Appendix B. The groundwater samples collected were placed in laboratory-provided sample containers for analysis by Teklab, Inc. located in Collinsville, IL which is an IEPA-approved laboratory. Samples were transported under chain-of-custody procedures to the laboratory for analytical testing within laboratory provided coolers containing ice. The laboratory analytical reporting for the second, third, and fourth quarters of 2022 are included in Appendix C.

In accordance with the 17 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 GPS contained in the 35 IAC §845.600. As required by 35 IAC §845.600, the following groundwater parameters were monitored during 2022:

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

4.2.1 Groundwater Analytical Results

The analytical results for the three post-closure groundwater sampling events conducted during 2022 are presented within the attached Table.

During 2022 there were exceedances of the GPS during one or more quarters. These exceedances are summarized as follows:

- **APW-01R** exceeded the standard for turbidity.
- **APW-02** exceeded standards for sulfate, turbidity, arsenic, boron, calcium, lead, lithium, and molybdenum.
- **APW-03** exceeded standards for turbidity, boron, and calcium.
- **APW-04** exceeded standards for turbidity, boron, calcium, and molybdenum.
- **APW-05** exceeded standards for sulfate, turbidity, boron, calcium, lithium, and molybdenum.
- **APW-06D** exceeded standards for turbidity, arsenic, boron, and calcium.
- **APW-06S** exceeded standards for turbidity, boron, calcium, lithium, and molybdenum.
- **APW-07** exceeded standards for turbidity and calcium.
- **APW-08** exceeded standards for turbidity and calcium.
- **APW-09** exceeded standards for turbidity and calcium.
- **APW-10D** exceeded standards for turbidity and calcium.
- **APW-10S** exceeded standards for turbidity, arsenic, boron, and calcium.

APW-10S, located approximately one-half mile south of the closed CCR impoundment historically has exhibited 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, and APW-09) and APW-10S have not historically exhibited arsenic concentrations above the GPS.

5. SUMMARY AND LOOK FORWARD

Based upon the results of 2022 groundwater sampling events and monitoring well inspections, the following observations and conclusions have been made:

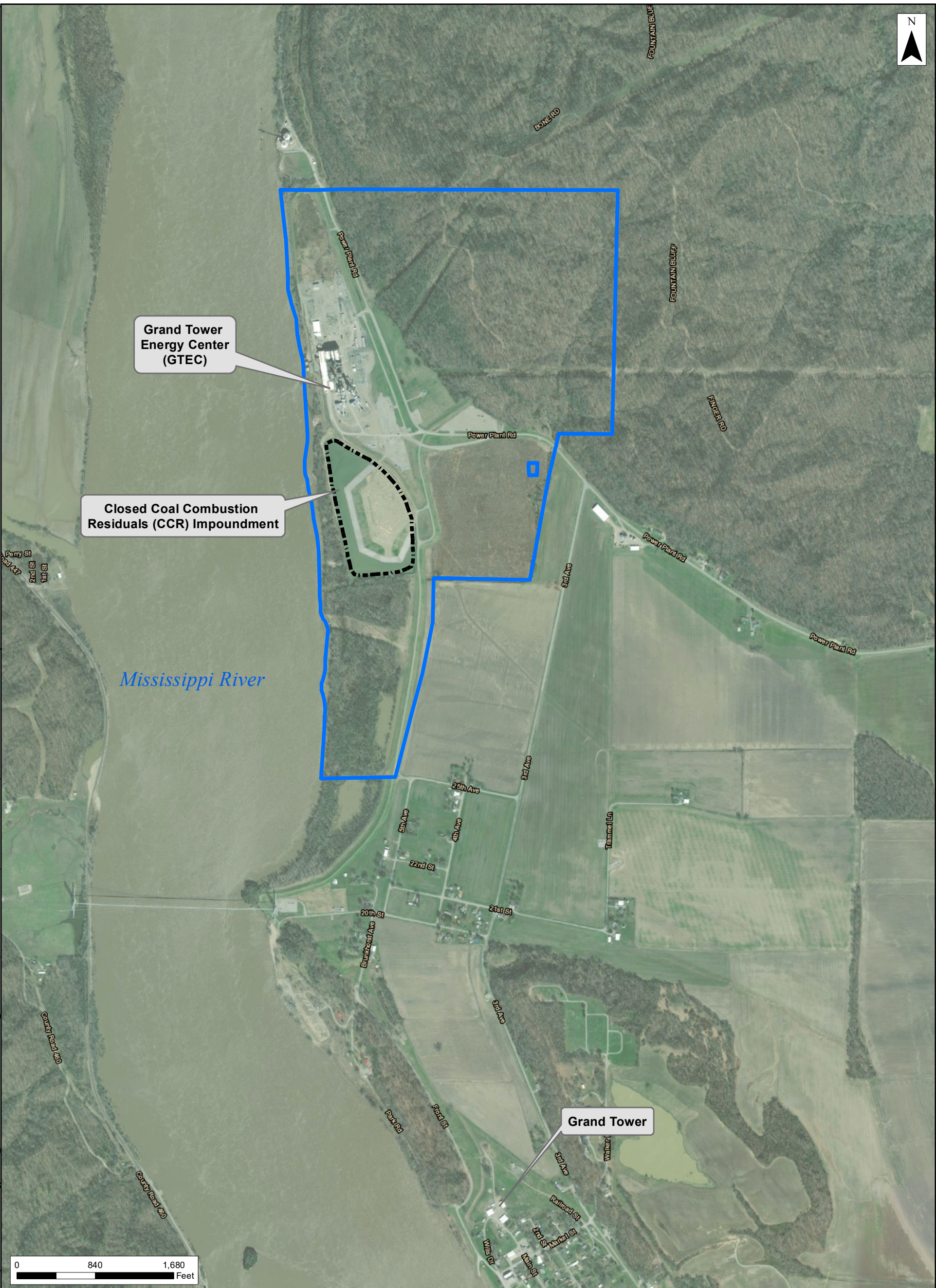
- Similar to the groundwater sampling results obtained during the eight pre-closure sampling events in 2017 to 2018, arsenic and sulfate continue to be detected at well locations downgradient of the closed CCR impoundment.
- Boron has historically been the key indicator for corrective action and continued monitoring of groundwater at the Site. Based upon a Mann-Kendall analysis incorporating data from the eight

rounds of pre-closure groundwater sampling conducted during 2017 and 2018, as well as the second, third, and fourth quarter 2022 groundwater monitoring events, boron continues to demonstrate a decreasing trend at APW-04 and APW-05.

- APW-05, found to be damaged during 2022, was abandoned, re-drilled and replaced by an Illinois licensed well driller during the first quarter of 2023 due to a rupture in the well screen which had allowed the sand pack to enter the monitoring well.
- Quarterly groundwater monitoring events are scheduled for all four quarters of 2023.
- After seven quarterly CAM events have been completed, the groundwater sampling results will be evaluated in accordance with 35 IAC §845.640(f) to determine if statistically significant increases or decreases have occurred after cap and closure occurred in 2020. The statistical evaluation of the first seven CAM groundwater sampling events is anticipated to be reported within the 2023 Annual Groundwater Monitoring Report.
- 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 modelled concentrations to evaluate if a decreasing trend, as defined through modelling, 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 COCs.

FIGURES

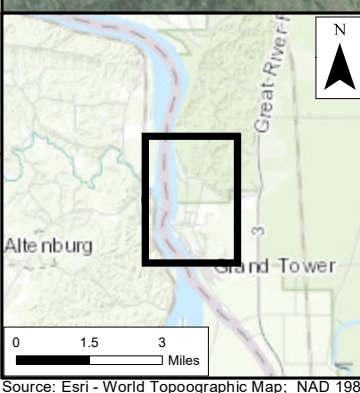
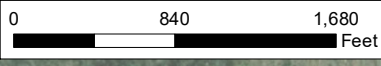
FILE: \\usbdfs02\data\Philadelphia\Team\DM\GIS\Projects\Grand Tower Energy Center\ MXD\FIGURE1-SITELLOCATIONMAP_20221003.mxd | REVISED: 10/03/2022 | SCALE: 1:12,000 when printed at 11x17



Grand Tower Energy Center (GTEC)

Closed Coal Combustion Residuals (CCR) Impoundment

Grand Tower



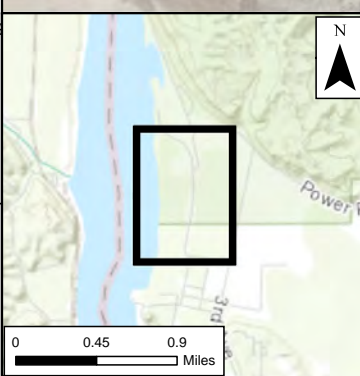
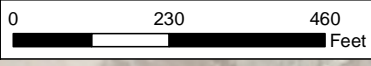
- Legend**
- Closed Coal Combustion Residuals (CCR) Impoundment
 - Approximate Parcel Boundary




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

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

DRAWN BY: S. Vicky

FILE: E:\DMM\GIS\Projects\Grand Tower Energy Center_MXD\Figure\EX-MONITORINGWELLNETWORK_20230829.mxd | REVISED: 03/29/2023 | SCALE: 1:3,400 when printed at 11x17

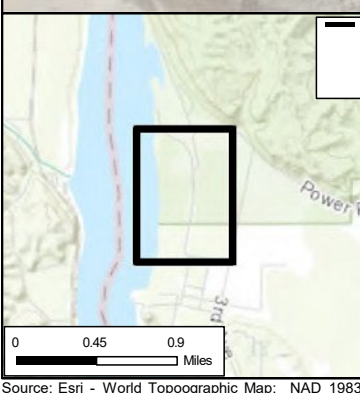
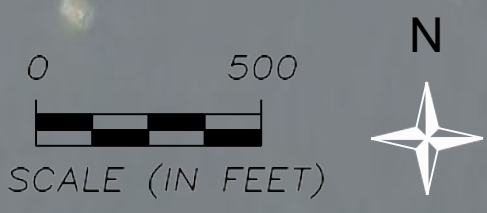
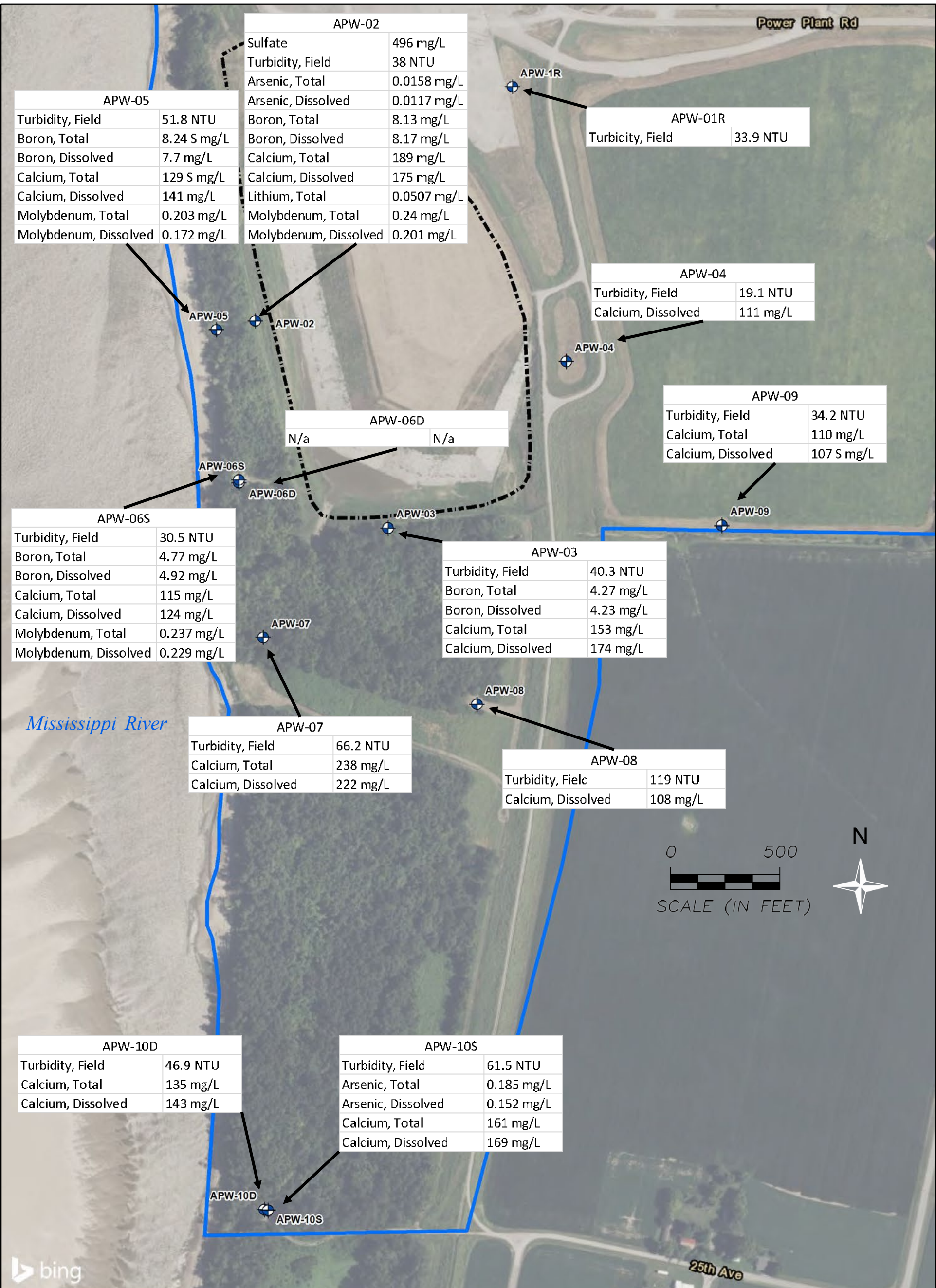


- Legend**
-  Monitoring Well Location
 -  Closed Coal Combustion Residuals (CCR) Impoundment
 -  Approximate Parcel Boundary

Notes:
1. CCR Surface Impoundment Closed Prior to July 31, 2021

Figure 2
Monitoring Well Network
Grand Tower Energy Center, LLC
Grand Tower, Illinois
Jackson County

DRAWN BY: S. Vickery
 FILE: E:\DMM\GIS\Projects\Grand Tower Energy Center\MXDFIGUREX-MONITORINGWELLNETWORK_20230329.mxd | REVISION: 03/29/2023 | SCALE: 1:3,400 when printed at 11x17



Legend

- Monitoring Well Location
- Closed Coal Combustion Residuals (CCR) Impoundment
- Approximate Parcel Boundary

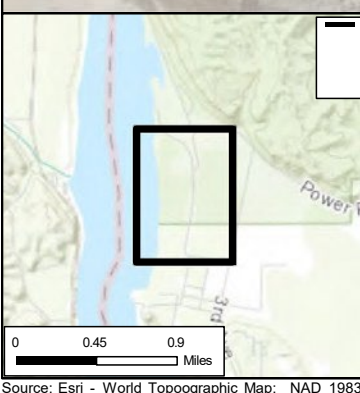
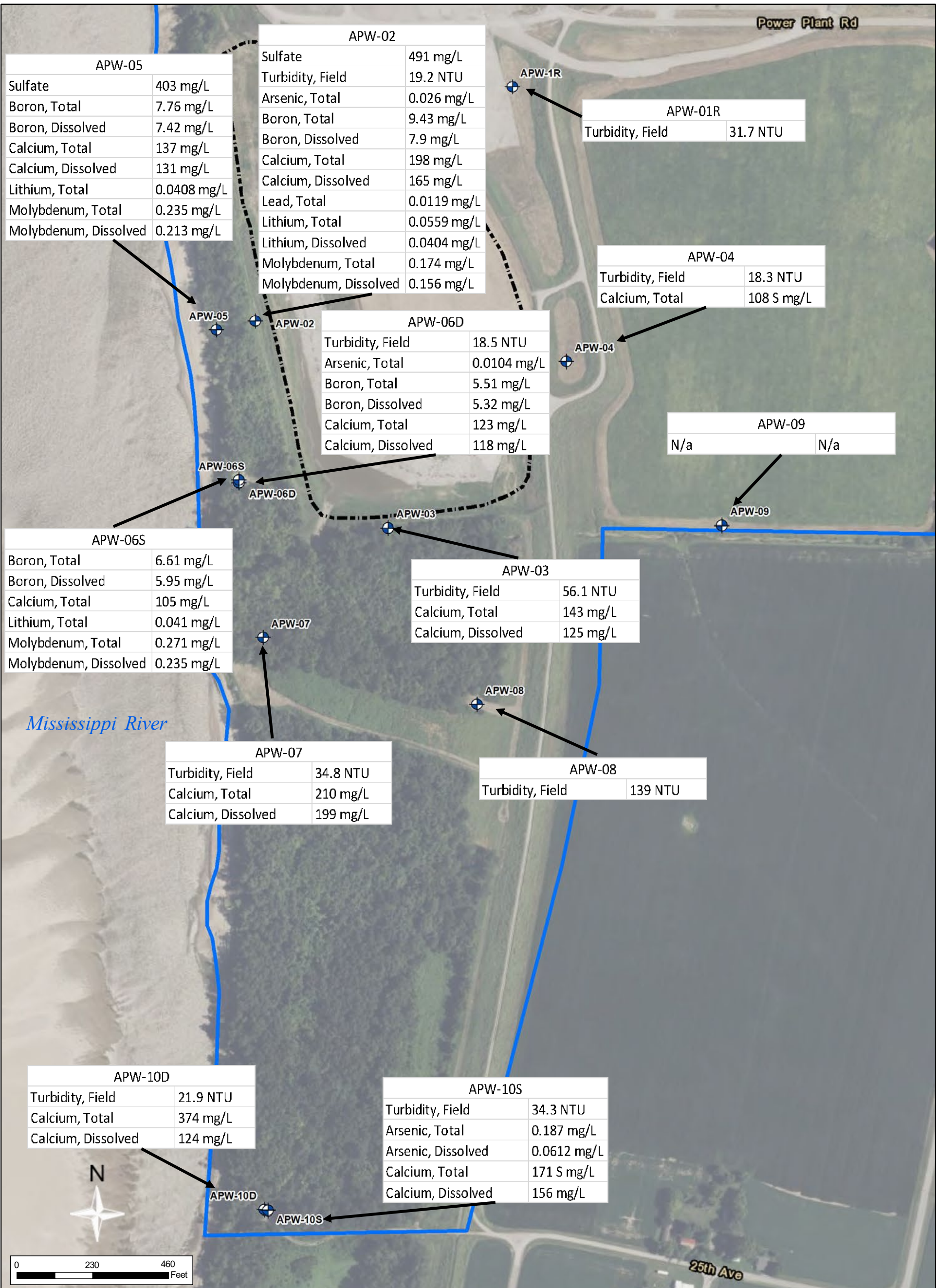
Notes:

1. CCR Surface Impoundment Closed Prior to July 31, 2021
2. APW-06D was not sampled during 2nd Quarter 2022 due to a damaged casing.
3. Eight episodes of groundwater sampling were conducted from September 2017 through February 2018 to establish background concentrations for the Site utilizing data from background wells APW-1R and APW-09. The final Groundwater Protection Standards (GPS) are the higher of the values provided in 35 IAC 845.600(a) and the final background concentrations as found in Table 6 of the 07/25/2019 GMZ Application with the exception of turbidity and pH.

Figure 3 – 2nd Quarter 2022 Groundwater Exceedances
 Grand Tower Energy Center, LLC
 Grand Tower, Illinois
 Jackson County

Environmental Resources Management
www.erm.com

DRAWN BY: S. Vickery
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Legend

- APW-07 Monitoring Well Location
- Closed Coal Combustion Residuals (CCR) Impoundment
- Approximate Parcel Boundary

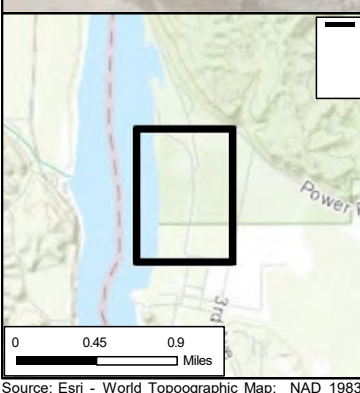
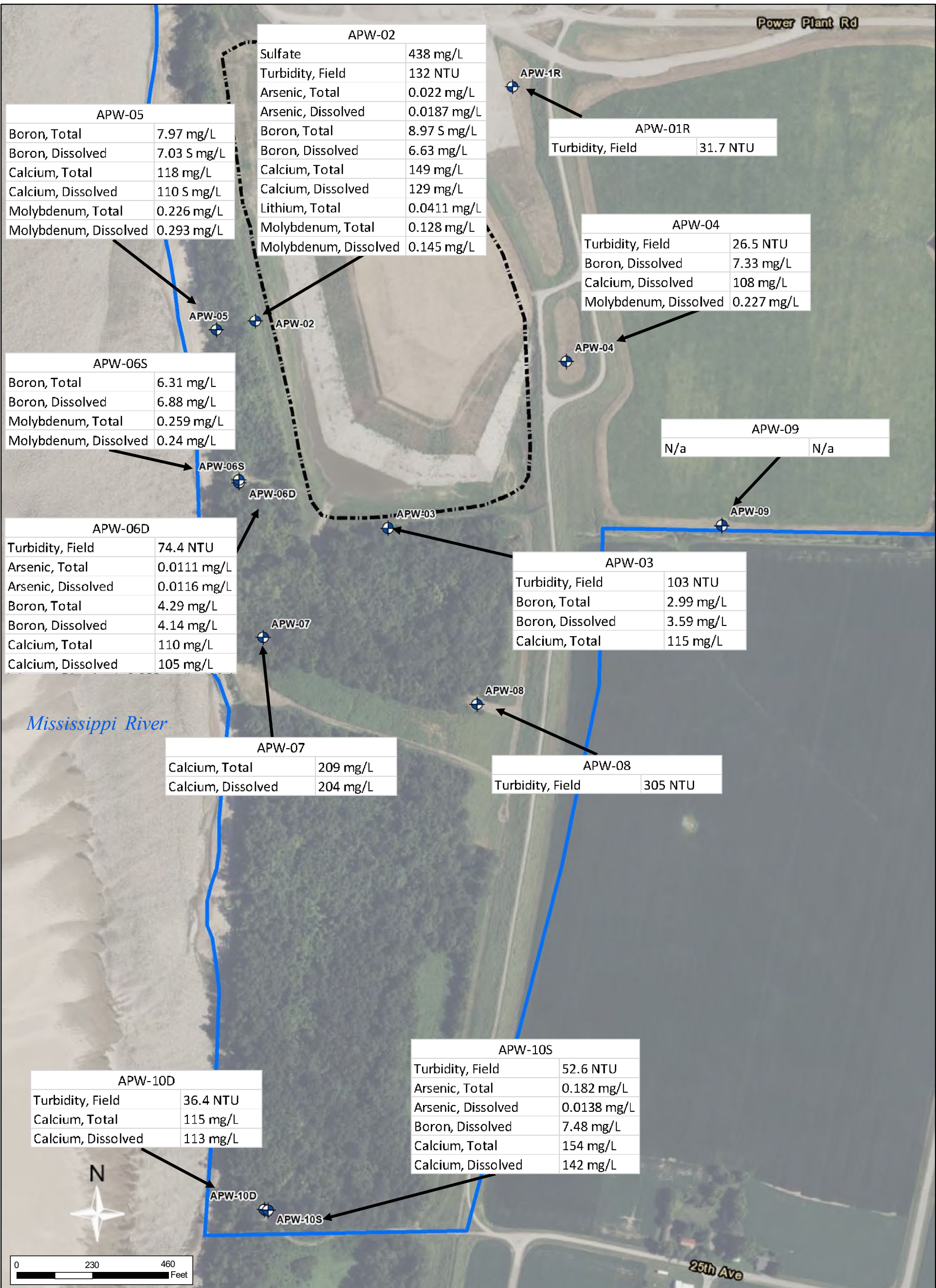
Notes:

1. CCR Surface Impoundment Closed Prior to July 31, 2021
2. There were no exceedances of the Groundwater Protection Standards (GPS) during 3rd Quarter 2022 at APW-09.
3. Eight episodes of groundwater sampling were conducted from September 2017 through February 2018 to establish background concentrations for the Site utilizing data from background wells APW-1R and APW-9. The final GPS are the higher of the values provided in 35 IAC 845.600(a) and the final background concentrations as found in Table 6 of the 07/25/2019 GMZ Application with the exception of turbidity and pH.

**Figure 4 – 3rd Quarter 2022
 Groundwater Exceedances**
 Grand Tower Energy Center, LLC
 Grand Tower, Illinois
 Jackson County

Environmental Resources Management
www.erm.com

DRAWN BY: S. Vickery
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Legend

- Monitoring Well Location
- Closed Coal Combustion Residuals (CCR) Impoundment
- Approximate Parcel Boundary

Notes:

- CCR Surface Impoundment Closed Prior to July 31, 2021
- There were no exceedances of the Groundwater Protection Standards (GPS) during 4th Quarter 2022 at APW-09.
- Eight episodes of groundwater sampling were conducted from September 2017 through February 2018 to establish background concentrations for the Site utilizing data from background wells APW-1R and APW-9. The final GPS are the higher of the values provided in 35 IAC 845.600(a) and the final background concentrations as found in Table 6 of the 07/25/2019 GMZ Application with the exception of turbidity and pH.

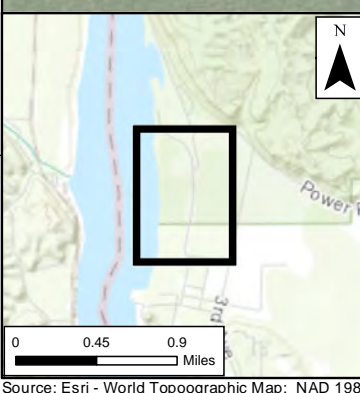
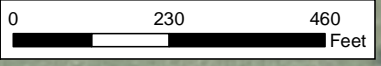
Figure 5 – 4th Quarter 2022 Groundwater Exceedances
 Grand Tower Energy Center, LLC
 Grand Tower, Illinois
 Jackson County

Environmental Resources Management
www.erm.com

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*Mississippi River Elevation = 354.89

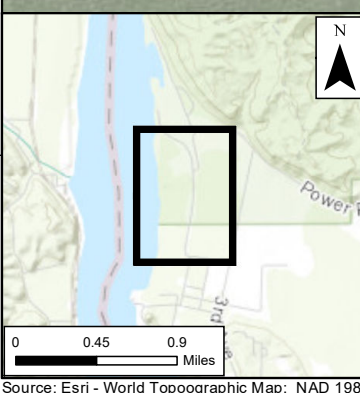
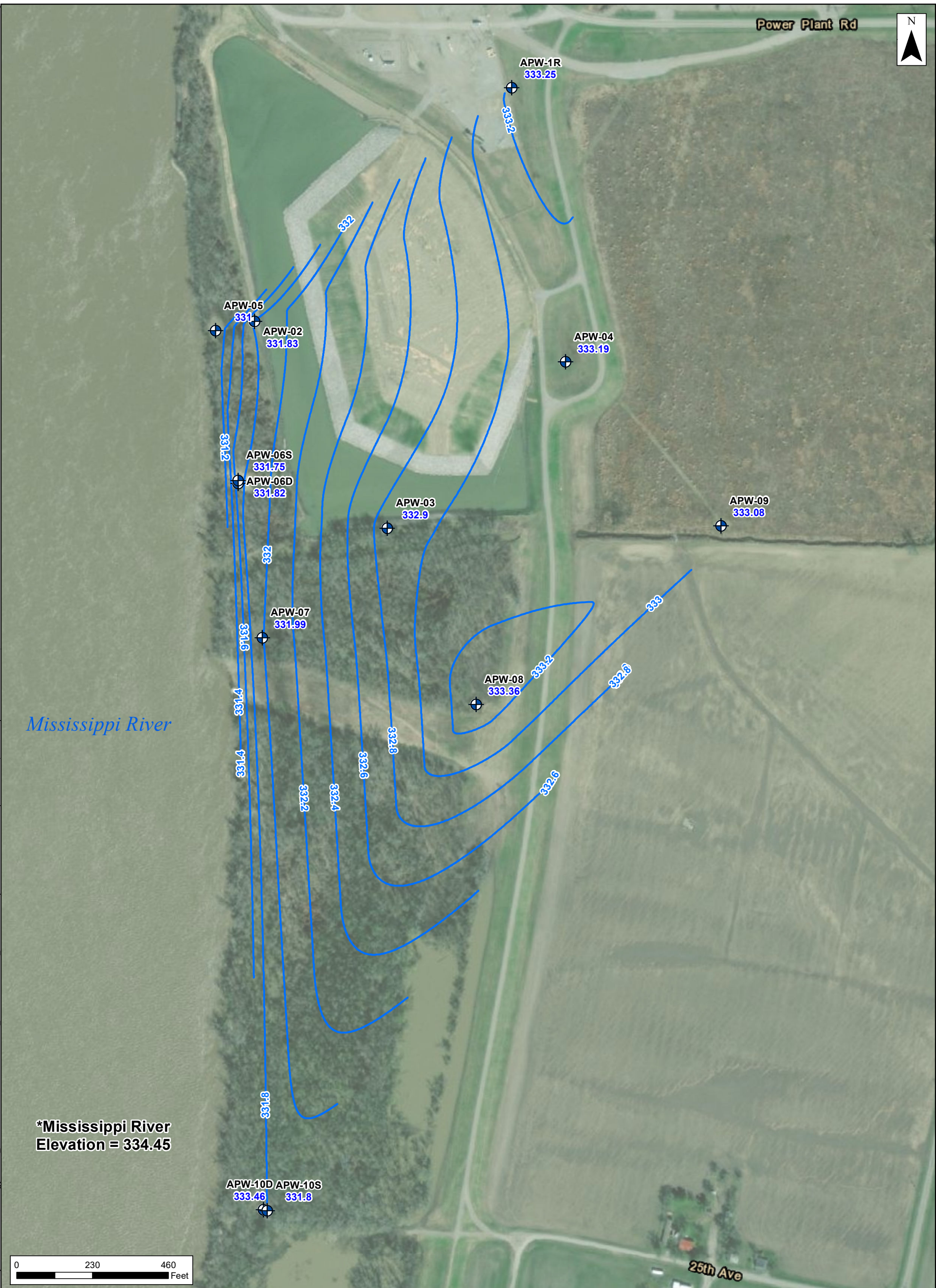


- Legend**
- Monitoring Well Location
 - Groundwater Contour (0.2 Ft. Interval)
 - 348.37 Groundwater Elevation

- Notes:**
1. CCR Surface Impoundment Closed Prior to July 31, 2021
 2. Date of gauging June 14, 2022
 3. Ft AMSL - Feet Above Mean Sea Level
 4. APW-10D 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. World Imagery (3/24/2021)

Figure 6
Monitoring Well Locations and Groundwater Contour Map
June 2022
 Grand Tower Energy Center, LLC
 Grand Tower, Illinois
 Jackson County

FILE: \\usbdofis02\data\Philadelphia\Team\DMV\GIS\Projects\Grand Tower Energy Center\ MXD\Groundwater\FIGUREX-GWC. SEPTMBER2022_20221129.mxd | REVISED: 11/29/2022 | SCALE: 1:3,400 when printed at 11x17



Legend

- Monitoring Well Location
- Groundwater Contour (0.2 Ft. Interval)
- 348.37 Groundwater Elevation

Notes:

- CCR Surface Impoundment Closed Prior to July 31, 2021
- Date of gauging September 13, 2022
- Ft AMSL - Feet Above Mean Sea Level
- APW-10D not used in contouring
- * 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>)
- World Imagery (3/24/2021)

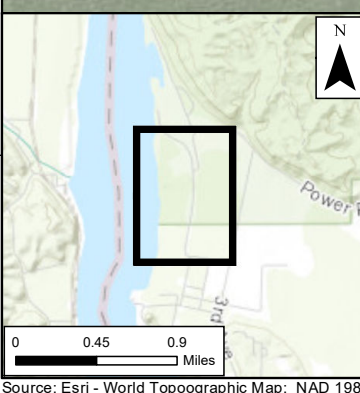
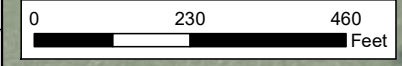
Figure 7
Monitoring Well Locations and Groundwater Contour Map
September 2022
 Grand Tower Energy Center, LLC
 Grand Tower, Illinois
 Jackson County

Environmental Resources Management
 www.erm.com

FILE: \\usbdofis02\data\Philadelphia\Team\DM\GIS\Projects\Grand Tower Energy Center\ MXD\Groundwater\FIGUREX-GWC_NOVEMBER2022_20230104.mxd | REVISED: 01/11/2023 | SCALE: 1:3,400 when printed at 11x17



*Mississippi River Elevation = 329.63



- Legend**
- Monitoring Well Location
 - Groundwater Contour (0.2 Ft. Interval)
 - 348.37 Groundwater Elevation

- Notes:**
1. CCR Surface Impoundment Closed Prior to July 31, 2021
 2. Date of gauging November 28, 2022
 3. Ft AMSL - Feet Above Mean Sea Level
 4. APW-10D not used in contouring
 5. * River stage at Mississippi River Gauge at Grand Tower, IL (NGVD29) as of November 28, 2022 (<https://rivergages.mvr.usace.army.mil/WaterControl/stationinfo2.cfm?sid=CE358576&fid=GDTI2&dt=S&dt=E>)
 6. Contours are dashed where inferred
 7. World Imagery (3/24/2021)

Figure 8
Monitoring Well Locations and Groundwater Contour Map
November 2022
 Grand Tower Energy Center, LLC
 Grand Tower, Illinois
 Jackson County

TABLE

2022 Annual Groundwater Results Summary Table
Grand Tower Energy Center (GTEC)
Grand Tower, US-IL

Sample ID	Sampled prior to closure of CCR Impoundment									Post-Closure Sampling				
	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	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R	APW-01R			
Location ID	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			
Sample Date	N	N	N	N	N	N	N	N	N	N	N			
Sample Type														
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards ³											
UNSPECIFIED														
Fluoride	NA	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
Radium-226	NA	pCi/L	NS	0.25 ± .12 U	0.18 ± .09 U	0.307 ± .320	0.13 ± 0.43 U	-0.07 ± 0.16 U	0.23 ± 0.1 U	0.03 ± 0.07 U	-0.04 ± 0.08 U	0.0323 ± 0.141 U	0.24 ± 0.1 U	0.4 ± 0.12 U
Radium-228	NA	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
Sulfate	NA	mg/L	400	41	65	65	54	58	88	78	79	33	73 S	69
CALC														
Radium-226/228	NA	pCi/L	7.002									0.693 ± 0.293	0.67 ± 0.59 U	0.81 ± 0.68 U
FIELD PARAM														
Turbidity, Field	NA	NTU	17.96 ¹									33.9	31.7	31.7
GEN CHEM														
Chloride	NA	mg/L	200	5 U	5 U	5 U	5 U	5 U	9	11	10	2	7	7
Dissolved Solids, Total	NA	mg/L	1200	400	428	376	358 R	412	474	434	392	342	420 H	385
pH, Lab	NA	pH units	6.22-9.0 ²	6.64	6.54	6.6	6.8	7.11	6.96	7.09	6.52	6.98	6.91	6.43
METALS														
Antimony	D	mg/L	0.006									0.001 U	0.001 U	0.001 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
Arsenic	D	mg/L	0.01									0.0012	0.001 U	0.001 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
Barium	D	mg/L	2									0.16	0.153	0.162 B
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
Beryllium	D	mg/L	0.004									0.001 U	0.001 U	0.001 U
Beryllium	T	mg/L	0.004	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Boron	D	mg/L	2									0.163	0.244	0.219
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
Cadmium	D	mg/L	0.005									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
Calcium	D	mg/L	103.2									85.6	83.8 S	73.9
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
Chromium	D	mg/L	0.1									0.0009 J	0.0015 U	0.0015 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
Cobalt	D	mg/L	0.006									0.0002 J	0.001 U	0.001 U
Cobalt	T	mg/L	0.006	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0017	0.0017	0.0031
Iron	T	mg/L	NS									1.42		
Lead	D	mg/L	0.0075									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	0.001 U	0.0013	0.0062	0.0014
Lithium	D	mg/L	0.04									0.0127	0.0156	0.0139
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
Manganese	T	mg/L	NS									0.139		
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	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
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
Nickel	D	mg/L	NS									0.0043		0.0061
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
Selenium	D	mg/L	0.05									0.0028	0.0032	0.0033
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
Thallium	D	mg/L	0.002									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

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
 J3 = The associated batch QC was outside the established quality control range for precision
 S = Spike Recovery outside recovery limits
 R = RPD outside accepted recovery limits
 U = Not Detected at the Reporting Limit

*Protection Standard is from Title 35 Section 845.600 unless otherwise noted
 1 Standard is from the Upper Tolerance Limit (UTL) calculated from background well APW-01R concentrations from 8 quarterly sampling events from 2017-2018
 2 Standard value 6.22 is from the Lower Tolerance Limit (LTL) calculated from background well APW-01R concentrations from 8 quarterly sampling events from 2017-2018 and 9.0 is the regulatory standard
 3 Eight episodes of groundwater sampling were conducted from September 2017 through February 2018 to establish background concentrations for the Site utilizing data from background wells APW-1R and APW-9. The final Groundwater Protection Standards (GPS) are the higher of the values provided in 35 IAC 845.600(a) and the final background concentrations as found in Table 6 of the 07/25/2019 GMZ Application with the exception of turbidity and pH. Radium 226+228 was the only value taken from Table 6.
 Highlighted values exceed action level
 NS = No standard

2022 Annual Groundwater Results Summary Table
Grand Tower Energy Center (GTEC)
Grand Tower, US-IL

Sample ID	Sampled prior to closure of CCR Impoundment								Post-Closure Sampling							
	APW-2-20170907	APW-2-20170927	APW-2-20171020	APW-2-20171109	APW-2-20171129	APW-2-20171227	APW-2-20180119	APW-2-20180207	APW-02-WG-20220616	APW-02-WG-20220914	DUP-002-WG-20220914	APW-02-WG-20221129	DUP-02-WG-20221129			
	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			
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	09/06/2017	09/28/2017	10/20/2017	11/09/2017	11/29/2017	12/27/2017	01/19/2018	02/07/2018	06/16/2022	09/14/2022	09/14/2022	11/29/2022	11/29/2022			
Sample Type	N	N	N	N	N	N	N	N	N	N	FD	N	FD			
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards ³													
UNSPECIFIED																
Fluoride	NA	mg/L	4	0.24	0.26	0.25	0.24	0.24	0.25	0.26	0.24	0.25	0.22	0.22	0.25	0.26
Radium-226	NA	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	0.159 ± 0.181 J	0.27 ± 0.1 UQDR	0.14 ± 0.07 U	0.5 ± 0.14 U	0.35 ± 0.12 U
Radium-228	NA	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	0.308 ± 0.236 J3U	0.4 ± 0.48 UQDR	2.81 ± 1.03	0.24 ± 0.44 U	0.27 ± 0.55 U
Sulfate	NA	mg/L	400	462	460	472 S	479	472	426	443	416	496	491	490	418	438
CALC																
Radium-226/228	NA	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
FIELD PARAM																
Turbidity, Field	NA	NTU	17.96 ¹									38	19.2		132	
GEN CHEM																
Chloride	NA	mg/L	200	13	12	11	11	12	12	12	12	9	11	10	9	9
Dissolved Solids, Total	NA	mg/L	1200	858	880	934	916	870	848	836	888	930	890 H	905 H	885	855
pH, Lab	NA	pH units	6.22-9.0 ²	7.09	7.05	7.08	7.07	7.05	7.14	7.06	6.96	7.21	7.32	7.25	7.01	7.02
METALS																
Antimony	D	mg/L	0.006									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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0021	0.0006 J	0.001 U	0.001 U	0.001 U	0.001 U
Arsenic	D	mg/L	0.01									0.0117	0.0048	0.0049	0.0012	0.0187
Arsenic	T	mg/L	0.01	0.0199	0.0147	0.0212	0.017	0.0169	0.0157	0.0148	0.0243	0.0158	0.026	0.0176	0.022	0.0173
Barium	D	mg/L	2									0.154	0.123	0.135	0.125 B	0.148 B
Barium	T	mg/L	2	0.479	0.355	0.685	0.44	0.427	0.338	0.351	0.739	0.237	0.408	0.238	0.254	0.218
Beryllium	D	mg/L	0.004									0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Beryllium	T	mg/L	0.004	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0011	0.002 U	0.001 U	0.001 U	0.001 SU	0.001 U
Boron	D	mg/L	2									8.17	7.49 S	7.9	6.656	6.63
Boron	T	mg/L	2	8.16	8.73	8.94 S	9	8.98	8.39	8.19	8.24	8.13	9.43	8.72	8.97 S	7.69
Cadmium	D	mg/L	0.005									0.0003 J	0.001 U	0.001 U	0.001 U	0.001 U
Cadmium	T	mg/L	0.005	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0006 J	0.001 U	0.001 U	0.001 U	0.001 U
Calcium	D	mg/L	103.2 ¹									175	136 S	165	96.1	129
Calcium	T	mg/L	103.2 ¹	148	145	171 S	157	158	135	134	175	189	198	178	145 S	149
Chromium	D	mg/L	0.1									0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U
Chromium	T	mg/L	0.1	0.0374	0.0455	0.0503	0.0235	0.014	0.0566	0.127	0.112	0.0254	0.0148	0.0066	0.0064	0.0054
Cobalt	D	mg/L	0.006									0.0003 J	0.001 U	0.001 U	0.001 U	0.001 U
Cobalt	T	mg/L	0.006	0.0057	0.0023	0.0097	0.0041	0.0038	0.0018	0.0028	0.011	0.0011 J	0.0044	0.0011	0.0015	0.0011
Iron	T	mg/L	NS									11.7				
Lead	D	mg/L	0.0075									0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Lead	T	mg/L	0.0075	0.0115	0.0054	0.0201	0.0096	0.0075	0.0031	0.0048	0.0239	0.0022	0.0119	0.0033	0.0033	0.0034
Lithium	D	mg/L	0.04									0.037	0.0374	0.0404	0.028	0.0356
Lithium	T	mg/L	0.04	0.05	0.0455	0.0647	0.0521	0.0542	0.0474	0.045	0.0604	0.0507	0.0559	0.0456	0.0386	0.0411
Manganese	T	mg/L	NS									0.752				
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	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00043	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
Molybdenum	T	mg/L	0.1	0.172	0.147	0.214	0.175	0.165	0.111	0.0951	0.131	0.24	0.174	0.174	0.128	0.119
Nickel	D	mg/L	NS									0.0039			0.0022	0.001 U
Nickel	T	mg/L	NS	0.0288	0.0263	0.0412	0.0202	0.0135	0.0295	0.0631	0.0725	0.0142			0.0045	0.0047
Selenium	D	mg/L	0.05									0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Selenium	T	mg/L	0.05	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Thallium	D	mg/L	0.002									0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Thallium	T	mg/L	0.002	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U

Notes:
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 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
 J3 = The associated batch QC was outside the established quality control range for precision
 S = Spike Recovery outside recovery limits
 R = RPD outside accepted recovery limits
 U = Not Detected at the Reporting Limit

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 2 Standard value 6.22 is from the Lower Tolerance Limit (LTL) calculated from background well APW-01R concentrations from 8 quarterly sampling events from 2017-2018 and 9.0 is the regulatory standard
 3 Eight episodes of groundwater sampling were conducted from September 2017 through February 2018 to establish background concentrations for the Site utilizing data from background wells APW-1R and APW-9. The final Groundwater Protection Standards (GPS) are the higher of the values provided in 35 IAC 845.600(a) and the final background concentrations as found in Table 6 of the 07/25/2019 GMZ Application with the exception of turbidity and pH. Radium 226+228 was the only value taken from Table 6.
 Highlighted values exceed action level
 NS = No standard

2022 Annual Groundwater Results 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								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
				Location ID	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
				Sample Type	N	N	N	N	N	N	N	N	N	N	N
UNSPECIFIED															
Fluoride	NA	mg/L	4	0.28	0.29	0.29	0.31	0.27	0.29	0.29	0.34	0.26	0.2	0.26	
Radium-226	NA	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	
Radium-228	NA	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 UQDR	0.67 ± 0.59 U	
Sulfate	NA	mg/L	400	175	222	201	207	204	168	152	194	393	150	226	
CALC															
Radium-226/228	NA	pCi/L	7.002									2.09 ± 0.303	0.96 ± 0.63 U	0.86 ± 0.69 U	
FIELD PARAM															
Turbidity, Field	NA	NTU	17.96 ¹									40.3	56.1	103	
GEN CHEM															
Chloride	NA	mg/L	200	22	21	21	22	19	20	16	23	20	16	20	
Dissolved Solids, Total	NA	mg/L	1200	464	514	486	450	554	504	498	456	724	602 H	610	
pH, Lab	NA	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	
METALS															
Antimony	D	mg/L	0.006									0.001 U	0.001 U	0.001 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	
Arsenic	D	mg/L	0.01									0.0015	0.0014	0.0024	
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	
Barium	D	mg/L	2									0.139	0.124	0.108 B	
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	
Beryllium	D	mg/L	0.004									0.001 U	0.001 U	0.001 U	
Beryllium	T	mg/L	0.004	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Boron	D	mg/L	2									4.23	1.49	2.99	
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	
Cadmium	D	mg/L	0.005									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	
Calcium	D	mg/L	103.2 ¹									174	125	101	
Calcium	T	mg/L	103.2 ¹	86.3	104 S	88.1	74.9	116 S	95	101	77.1	153	143	115	
Chromium	D	mg/L	0.1									0.0011 J	0.0015 U	0.0015 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	
Cobalt	D	mg/L	0.006									0.001 U	0.001 U	0.001 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	
Iron	T	mg/L	NS									1.66			
Lead	D	mg/L	0.0075									0.001 U	0.001 U	0.001 U	
Lead	T	mg/L	0.0075	0.0021	0.0042	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0013	0.0023	0.0029	
Lithium	D	mg/L	0.04									0.0338	0.0288	0.0266	
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	
Manganese	T	mg/L	NS									0.321			
Mercury	D	mg/L	0.002										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									0.057	0.0342	0.0648	
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	
Nickel	D	mg/L	NS									0.0016		0.0011	
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	
Selenium	D	mg/L	0.05									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	0.0011	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	
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	

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
 J3 = The associated batch QC was outside the established quality control range for precision
 S = Spike Recovery outside recovery limits
 R = RPD outside accepted recovery limits
 U = Not Detected at the Reporting Limit

*Protection Standard is from Title 35 Section 845.600 unless otherwise noted
 1 Standard is from the Upper Tolerance Limit (UTL) calculated from background well APW-01R concentrations from 8 quarterly sampling events from 2017-2018
 2 Standard value 6.22 is from the Lower Tolerance Limit (LTL) calculated from background well APW-01R concentrations from 8 quarterly sampling events from 2017-2018 and 9.0 is the regulatory standard
 3 Eight episodes of groundwater sampling were conducted from September 2017 through February 2018 to establish background concentrations for the Site utilizing data from background wells APW-1R and APW-9. The final Groundwater Protection Standards (GPS) are the higher of the values provided in 35 IAC 845.600(a) and the final background concentrations as found in Table 6 of the 07/25/2019 GMZ Application with the exception of turbidity and pH. Radium 226+228 was the only value taken from Table 6.
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2022 Annual Groundwater Results 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								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
				Location ID	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
				Sample Type	N	N	N	N	N	N	N	N	N	N	N
UNSPECIFIED															
Fluoride	NA	mg/L	4	0.18	0.19	0.18	0.17	0.18	0.17	0.17	0.17	0.16	0.2	0.17	0.17
Radium-226	NA	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	
Radium-228	NA	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	
Sulfate	NA	mg/L	400	126	116	109	120	107	100	99	92	94	83	68	
CALC															
Radium-226/228	NA	pCi/L	7.002										0.348 ± 0.287 J	2.65 ± 0.91	1.58 ± 0.75 U
FIELD PARAM															
Turbidity, Field	NA	NTU	17.96 ¹										19.1	18.3	26.5
GEN CHEM															
Chloride	NA	mg/L	200	12	11	11	11	11	11	10	11	12	10	11	
Dissolved Solids, Total	NA	mg/L	1200	460	484	452	472	492	514	424	528	430	436 H	446	
pH, Lab	NA	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	
METALS															
Antimony	D	mg/L	0.006									0.001 U	0.001 U	0.001 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	
Arsenic	D	mg/L	0.01									0.0013	0.0013	0.0021	
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	
Barium	D	mg/L	2									0.116	0.132	0.13 B	
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	
Beryllium	D	mg/L	0.004									0.001 U	0.001 U	0.001 U	
Beryllium	T	mg/L	0.004	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Boron	D	mg/L	2									1.41	0.875	7.33	
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	
Cadmium	D	mg/L	0.005									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	
Calcium	D	mg/L	103.2 ¹									111	93.7	108	
Calcium	T	mg/L	103.2 ¹	101 S	105	89.4	97.5	107	107	113	113	97.8	108 S	102	
Chromium	D	mg/L	0.1									0.0015 U	0.0015 U	0.0015 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	
Cobalt	D	mg/L	0.006									0.001 U	0.001 U	0.001 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	
Iron	T	mg/L	NS									0.563			
Lead	D	mg/L	0.0075									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	0.001 U	0.001 U	0.0016	0.001 U	
Lithium	D	mg/L	0.04									0.0264	0.0283	0.0355	
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	
Manganese	T	mg/L	NS									0.192			
Mercury	D	mg/L	0.002										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									0.0653	0.0445	0.227	
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	
Nickel	D	mg/L	NS									0.0019		0.0017	
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	
Selenium	D	mg/L	0.05									0.0134	0.0101	0.001 U	
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	
Thallium	D	mg/L	0.002									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	

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 NS = No standard

2022 Annual Groundwater Results Summary Table
Grand Tower Energy Center (GTEC)
Grand Tower, US-IL

Sample ID	Sampled prior to closure of CCR Impoundment								Post-Closure Sampling							
	APW-5-20170907	APW-5-20170928	APW-5-20171019	APW-5-20171109	APW-5-20171129	APW-5-20171227	APW-5-20180118	APW-5-20180207	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	APW-05	APW-05	APW-05	APW-05	APW-05	APW-05	APW-05	APW-05	APW-05	APW-05	APW-05	APW-05	APW-05		
	09/06/2017	09/28/2017	10/19/2017	11/09/2017	11/29/2017	12/27/2017	01/18/2018	02/07/2018	06/16/2022	06/16/2022	09/14/2022	09/14/2022	11/28/2022	11/28/2022		
Location ID																
Sample Date																
Sample Type	N								FD							
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards ³													
UNSPECIFIED																
Fluoride	NA	mg/L	4	0.34	0.34	0.32	0.32	0.32	0.33	0.36	0.32	0.35	0.33	0.33	0.31	0.37
Radium-226	NA	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	0.649 ± 0.316	0.259 ± 0.27 J	0.17 ± 0.08 U	0.11 ± 0.07 U	0.17 ± 0.08 U
Radium-228	NA	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	1.1 ± 0.282	0.715 ± 0.31	0.82 ± 0.88 J	0.27 ± 0.55 U	0.49 ± 0.49 U
Sulfate	NA	mg/L	400	407	460	399	413	381	394	439	378	224	239	379	403	324
CALC																
Radium-226/228	NA	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
FIELD PARAM																
Turbidity, Field	NA	NTU	17.96 ¹									51.8		9.19		4.65
GEN CHEM																
Chloride	NA	mg/L	200	15	15	15	14	16	16	16	16	19	19	15	15	19
Dissolved Solids, Total	NA	mg/L	1200	842	832	804	826	790	792	552	804	650	690	750 H	774 H	714
pH, Lab	NA	pH units	6.22-9.0 ²	7.37	7.3	7.26	7.3	7.26	7.31	7.23	7.18	7.35	7.49	7.55	7.57	7.27
METALS																
Antimony	D	mg/L	0.006									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	0.001 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
Arsenic	D	mg/L	0.01									0.002	0.0021	0.001	0.001 U	0.0019
Arsenic	T	mg/L	0.01	0.0031	0.0026	0.0015	0.0016	0.0016	0.0019	0.0021	0.0019	0.0048	0.0041	0.0025	0.0023	0.0023
Barium	D	mg/L	2									0.133	0.132	0.13	0.128	0.13 B
Barium	T	mg/L	2	0.226	0.233	0.183	0.216	0.193	0.214	0.214	0.195	0.187	0.174	0.154	0.152	0.14
Beryllium	D	mg/L	0.004									0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Beryllium	T	mg/L	0.004	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 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
Boron	T	mg/L	2	9.3	10.3	8.89	9.98	9.1	9.83	9.25	8.73	7.67	8.24 S	7.76	7.62	7.48
Cadmium	D	mg/L	0.005									0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Cadmium	T	mg/L	0.005	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Calcium	D	mg/L	103.2 ¹									139	141	119	131	87.4
Calcium	T	mg/L	103.2 ¹	136	142	119	131	123	125	121	124	127	129 S	127	137	117
Chromium	D	mg/L	0.1									0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U
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	0.0016 J	0.003 U	0.0015 U	0.0015 U	0.0016
Cobalt	D	mg/L	0.006									0.0006 J	0.0005 J	0.001 U	0.001 U	0.001 U
Cobalt	T	mg/L	0.006	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0013 J	0.0011 J	0.001 U	0.001 U	0.001 U
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
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	0.001 U	0.001 U	0.001 U	0.001 U
Lithium	D	mg/L	0.04									0.0282	0.029	0.0381	0.0373	0.0365
Lithium	T	mg/L	0.04	0.0363	0.0443	0.0393	0.0405	0.0415	0.0433	0.0404	0.0397	0.0331	0.0363	0.0408	0.0397	0.0373
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	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
Molybdenum	T	mg/L	0.1	0.172	0.195	0.201	0.168	0.193	0.246	0.244	0.249	0.203	0.195	0.235	0.224	0.226
Nickel	D	mg/L	NS									0.0036	0.0035		0.0011	0.0024
Nickel	T	mg/L	NS	0.0074	0.0012	0.0023	0.001 U	0.001 U	0.0043	0.0021	0.001 U	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
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
Thallium	D	mg/L	0.002									0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Thallium	T	mg/L	0.002	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U

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 Empty cells = not analyzed
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 NA = not applicable
 T = total
 D = dissolved
 mg/L = milligrams per liter
 pCi/L = picocuries per liter
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Sample ID	Sampled prior to closure of CCR Impoundment									Post-Closure Sampling				
	APW-6D-20170907	APW-6D-20170927	APW-6D-20171019	APW-6D-20171109	APW-6D-20171128	APW-6D-20171227	APW-6D-20180118	APW-6D-20180208	N/A	APW-06D-WG-20220913	APW-06D-WG-20221128			
Location ID	APW-06D	APW-06D	APW-06D	APW-06D	APW-06D	APW-06D	APW-06D	APW-06D	APW-06D	APW-06D	APW-06D			
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	6/16/2022	09/13/2022	11/28/2022			
Sample Type	N	N	N	N	N	N	N	N		N	N			
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards ³	Casing deflected, no sample collected during Q2 2022										
UNSPECIFIED														
Fluoride	NA	mg/L	4	0.22	0.23	0.21	0.22	0.21	0.22	0.23	0.21	N/A	0.2	0.24
Radium-226	NA	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	N/A	0.31 ± 0.1 U	0.62 ± 0.15 U
Radium-228	NA	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	N/A	1.46 ± 0.71	0.28 ± 0.43 U
Sulfate	NA	mg/L	400	215	228	206	222	230	236	211	189	N/A	272	254
CALC														
Radium-226/228	NA	pCi/L	7.002									N/A	1.77 ± 0.81 U	0.9 ± 0.58 U
FIELD PARAM														
Turbidity, Field	NA	NTU	17.96 ¹									N/A	18.5	74.4
GEN CHEM														
Chloride	NA	mg/L	200	17	17	16	16	16	16	17	17	N/A	14	17
Dissolved Solids, Total	NA	mg/L	1200	558	560	562	564	590	516 R	482	584	N/A	670 H	580
pH, Lab	NA	pH units	6.22-9.0 ²	7.23	7.25	7.23	7.19	7.2	7.22	7.21	7.2	N/A	7.42	7.21
METALS														
Antimony	D	mg/L	0.006									N/A	0.001 U	0.001 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	N/A	0.001 U	0.001 U
Arsenic	D	mg/L	0.01									N/A	0.004	0.0116
Arsenic	T	mg/L	0.01	0.0068	0.0101	0.0075	0.0074	0.009	0.0095	0.0106	0.0096	N/A	0.0104	0.0111
Barium	D	mg/L	2									N/A	0.129	0.118 B
Barium	T	mg/L	2	0.173	0.172	0.142	0.153	0.155	0.163	0.166	0.148	N/A	0.143	0.142
Beryllium	D	mg/L	0.004									N/A	0.001 U	0.001 U
Beryllium	T	mg/L	0.004	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	N/A	0.001 U	0.001 U
Boron	D	mg/L	2									N/A	5.32	4.14
Boron	T	mg/L	2	3.72	3.87	3.55	3.58	3.9	3.84	3.3	3.09	N/A	5.51	4.29
Cadmium	D	mg/L	0.005									N/A	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	N/A	0.001 U	0.001 U
Calcium	D	mg/L	103.2 ¹									N/A	118	105
Calcium	T	mg/L	103.2 ¹	99.9	110	96.7	100	110	107	105 S	105	N/A	123	110
Chromium	D	mg/L	0.1									N/A	0.0015 U	0.0015 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	N/A	0.0015 U	0.0063
Cobalt	D	mg/L	0.006									N/A	0.0013	0.0012
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	N/A	0.001 U	0.0035
Lead	D	mg/L	0.0075									N/A	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	0.001 U	N/A	0.001 U	0.0012
Lithium	D	mg/L	0.04									N/A	0.0179	0.0155
Lithium	T	mg/L	0.04	0.016	0.0176	0.0161	0.0163	0.0178	0.0181	0.0165	0.0162	N/A	0.0185	0.0175
Mercury	D	mg/L	0.002									N/A	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	N/A	0.0002 U	0.0002 U
Molybdenum	D	mg/L	0.1									N/A	0.0669	0.0796
Molybdenum	T	mg/L	0.1	0.0646	0.0606	0.0582	0.0589	0.06	0.0584	0.0465	0.0463	N/A	0.0719	0.0696
Nickel	D	mg/L	NS									N/A		0.002
Nickel	T	mg/L	NS	0.0032	0.0028	0.0018	0.002	0.0017	0.0022	0.0032	0.0025	N/A		0.0093
Selenium	D	mg/L	0.05									N/A	0.001 U	0.001 U
Selenium	T	mg/L	0.05	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	N/A	0.001 U	0.001 U
Thallium	D	mg/L	0.002									N/A	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	N/A	0.002 U	0.002 U

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 Highlighted values exceed action level
 NS = No standard

2022 Annual Groundwater Results Summary Table
Grand Tower Energy Center (GTEC)
Grand Tower, US-IL

Sample ID	Sampled prior to closure of CCR Impoundment									Post-Closure Sampling				
	APW-6S-20170907	APW-6S-20170928	APW-6S-20171019	APW-6S-20171109	APW-6S-20171128	APW-6S-20171227	APW-6S-20180118	APW-6S-20180208	APW-6S-WG-20220616	APW-6S-WG-20220913	APW-6S-WG-20221128			
	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S	APW-06S			
Location ID	09/06/2017	09/28/2017	10/19/2017	11/09/2017	11/28/2017	12/27/2017	01/18/2018	02/08/2018	06/16/2022	09/13/2022	11/28/2022			
Sample Date	N	N	N	N	N	N	N	N	N	N	N			
Sample Type														
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards ³											
UNSPECIFIED														
Fluoride	NA	mg/L	4	0.41	0.26	0.25	0.26	0.25	0.25	0.27	0.24	0.29	0.28	0.32
Radium-226	NA	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	0.269 ± 0.182	0.2 ± 0.08 U	0.19 ± 0.09 U
Radium-228	NA	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	0.228 ± 0.248 J	2.73 ± 0.9	0.41 ± 0.5 U
Sulfate	NA	mg/L	400	127	177	167	151	189	201	233	220	200	227	243
CALC														
Radium-226/228	NA	pCi/L	7.002									0.497 ± 0.308	2.93 ± 0.98	0.6 ± 0.59 U
FIELD PARAM														
Turbidity, Field	NA	NTU	17.96 ¹									30.5	15.1	5.56
GEN CHEM														
Chloride	NA	mg/L	200	31	28	27	27	26	27	26	25	24	25	24
Dissolved Solids, Total	NA	mg/L	1200	500	546	574	528	566	588	598	666	600	630 H	605
pH, Lab	NA	pH units	6.22-9.0 ²	7.16	7.06	7.18	7.23	7.09	7.13	7.09	7.02	7.24	7.38	7.04
METALS														
Antimony	D	mg/L	0.006									0.001 U	0.001 U	0.001 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
Arsenic	D	mg/L	0.01									0.0009 J	0.001 U	0.001 U
Arsenic	T	mg/L	0.01	0.0017	0.0016	0.0018	0.002	0.0013	0.0012	0.0011	0.0011	0.0009 J	0.0012	0.001
Barium	D	mg/L	2									0.233	0.146	0.19 B
Barium	T	mg/L	2	0.222	0.237	0.205	0.226	0.214	0.213	0.224	0.205	0.25	0.221	0.19
Beryllium	D	mg/L	0.004									0.001 U	0.001 U	0.001 U
Beryllium	T	mg/L	0.004	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Boron	D	mg/L	2									4.92	5.95	6.88
Boron	T	mg/L	2	4.65	5.93	5.83	5.64 S	5.8	6.93 S	7.42	6.66	4.77	6.61	6.31
Cadmium	D	mg/L	0.005									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
Calcium	D	mg/L	103.2 ¹									124	93.7	98
Calcium	T	mg/L	103.2 ¹	101	97.2	87.5	96.8 S	99.5	98.1	98.7	97.4	115	105	103
Chromium	D	mg/L	0.1									0.0015 U	0.0015 U	0.0015 U
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	0.0028	0.0015 U	0.0022
Cobalt	D	mg/L	0.006									0.0002 J	0.001 U	0.001 U
Cobalt	T	mg/L	0.006	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0002 J	0.001 U	0.001 U
Iron	T	mg/L	NS									9.35		
Lead	D	mg/L	0.0075									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	0.001 U	0.001 U	0.0028	0.001 U
Lithium	D	mg/L	0.04									0.0355	0.0384	0.0386
Lithium	T	mg/L	0.04	0.0335	0.0413	0.04	0.0415	0.042	0.0458	0.0451	0.0417	0.0363	0.041	0.0393
Manganese	T	mg/L	NS									0.53		
Mercury	D	mg/L	0.002										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
Molybdenum	T	mg/L	0.1	0.249	0.287	0.272	0.243	0.274	0.314	0.324	0.323	0.237	0.271	0.259
Nickel	D	mg/L	NS									0.0015		0.001 U
Nickel	T	mg/L	NS	0.0021	0.009	0.0021	0.0012	0.001 U	0.0031	0.0016	0.0012	0.0027		0.0023
Selenium	D	mg/L	0.05									0.001 U	0.001 U	0.001 U
Selenium	T	mg/L	0.05	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Thallium	D	mg/L	0.002									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

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2022 Annual Groundwater Results Summary Table
Grand Tower Energy Center (GTEC)
Grand Tower, US-IL

Sample ID	Sampled prior to closure of CCR Impoundment								Post-Closure Sampling					
	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			
Location ID	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			
Sample Type	N	N	N	N	N	N	N	N	N	N	N			
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards ³											
UNSPECIFIED														
Fluoride	NA	mg/L	4	0.35	0.21	0.19	0.2	0.2	0.19	0.2	0.18	0.17	0.18	
Radium-226	NA	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
Radium-228	NA	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
Sulfate	NA	mg/L	400	66	59	52	50	61	63	67	64	72	78	48
CALC														
Radium-226/228	NA	pCi/L	7.002									1.1 ± 0.313	1.63 ± 0.81 U	1.33 ± 0.77 U
FIELD PARAM														
Turbidity, Field	NA	NTU	17.96 ¹									66.2	34.8	10.5
GEN CHEM														
Chloride	NA	mg/L	200	15	15	14	15	16	15	15	15	11	12	12
Dissolved Solids, Total	NA	mg/L	1200	762	786	624	730	742	736	720	740	780	815 H	800
pH, Lab	NA	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
METALS														
Antimony	D	mg/L	0.006									0.001 U	0.001 U	0.001 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
Arsenic	D	mg/L	0.01									0.0011	0.001 U	0.001 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
Barium	D	mg/L	2									0.334	0.255	0.354 B
Barium	T	mg/L	2	0.465	0.448	0.394	0.401	0.37	0.374	0.38	0.359	0.374	0.382	0.381
Beryllium	D	mg/L	0.004									0.001 U	0.001 U	0.001 U
Beryllium	T	mg/L	0.004	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Boron	D	mg/L	2									0.148	0.193	0.199
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
Cadmium	D	mg/L	0.005									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
Calcium	D	mg/L	103.2 ¹									222	199	204
Calcium	T	mg/L	103.2 ¹	192	204	171	187	196	193	191	185	238	210	209
Chromium	D	mg/L	0.1									0.0015 U	0.0015 U	0.0015 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
Cobalt	D	mg/L	0.006									0.001 U	0.001 U	0.001 U
Cobalt	T	mg/L	0.006	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 J	0.001 U	0.001 U
Iron	T	mg/L	NS									17.3		
Lead	D	mg/L	0.0075									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	0.001 U	0.0074	0.001 U	0.001 U
Lithium	D	mg/L	0.04									0.0126	0.0148	0.0158
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
Manganese	T	mg/L	NS									1.11		
Mercury	D	mg/L	0.002										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									0.0026	0.0026	0.0021
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
Nickel	D	mg/L	NS									0.0008 J		0.001 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
Selenium	D	mg/L	0.05									0.001 U	0.001 U	0.001 U
Selenium	T	mg/L	0.05	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Thallium	D	mg/L	0.002									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

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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								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
				Location ID	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
				Sample Type	N	N	N	N	N	N	N	N	N	N	N
UNSPECIFIED															
Fluoride	NA	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
Radium-226	NA	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
Radium-228	NA	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
Sulfate	NA	mg/L	400		43	40	38	40	39	38	39	37	39	39	34
CALC															
Radium-226/228	NA	pCi/L	7.002										0.735 ± 0.325	1.13 ± 0.72 U	2.08 ± 0.9
FIELD PARAM															
Turbidity, Field	NA	NTU	17.96 ¹										119	139	305
GEN CHEM															
Chloride	NA	mg/L	200		9	10	10	10	10	11	12	11	9	11	12
Dissolved Solids, Total	NA	mg/L	1200		438	458	436	446	466	410	398	442	382	372 H	370
pH, Lab	NA	pH units	6.22-9.0 ²		7.04	7.07	7	7.12	7.25	7.11	7.04	7.04	7.34	7.47	7.25
METALS															
Antimony	D	mg/L	0.006										0.001 U	0.001 U	0.001 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
Arsenic	D	mg/L	0.01										0.0011	0.001 U	0.0012
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
Barium	D	mg/L	2										0.194	0.163	0.146 B
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
Beryllium	D	mg/L	0.004										0.001 U	0.001 U	0.001 U
Beryllium	T	mg/L	0.004		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Boron	D	mg/L	2										0.0777	0.0993	0.0844
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
Cadmium	D	mg/L	0.005										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
Calcium	D	mg/L	103.2 ¹										108	79.7	75.4
Calcium	T	mg/L	103.2 ¹		97.4	105	92.6	101	102	98.6	95	97.8	93.3	85.1	82.8
Chromium	D	mg/L	0.1										0.0015 U	0.0015 U	0.0015 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
Cobalt	D	mg/L	0.006										0.0013	0.001 U	0.001 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
Iron	T	mg/L	NS										3.14		
Lead	D	mg/L	0.0075										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	0.001 U	0.0024	0.001 U	0.0012
Lithium	D	mg/L	0.04										0.0141	0.0142	0.0132
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
Manganese	T	mg/L	NS										0.202		
Mercury	D	mg/L	0.002											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										0.0008 J	0.0015 U	0.0015 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
Nickel	D	mg/L	NS										0.0023		0.0012
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
Selenium	D	mg/L	0.05										0.0027	0.0068	0.0126
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
Thallium	D	mg/L	0.002										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

Notes:
 Empty cells = not analyzed
 N = Normal Environmental Sample
 FD = Field Duplicate Sample
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 T = total
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 mg/L = milligrams per liter
 pCi/L = picocuries per liter
 NTU = nephelometric turbidity units
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 J = Analyte detected below quantitation limits
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2022 Annual Groundwater Results 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								Post-Closure Sampling			
				Sample ID	APW-9-20170907	APW-9-20170927	APW-9-20171018	APW-9-20171108	APW-9-20171127	APW-9-20171228	APW-9-20180117	APW-9-20180208	APW-09-WG-20220615	APW-09-WG-20220913	APW-09-WG-20221130
				Location ID	APW-09	APW-09	APW-09	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	06/15/2022	09/13/2022	11/30/2022
				Sample Type	N	N	N	N	N	N	N	N	N	N	N
UNSPECIFIED															
Fluoride	NA	mg/L	4		0.19	0.22	0.21	0.2	0.2	0.2	0.22	0.19	0.23	0.19	0.2
Radium-226	NA	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	0.267 ± 0.199	0.24 ± 0.09 U	0.06 ± 0.06 U
Radium-228	NA	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	-0.213 ± 0.244 U	0.22 ± 0.49 U	0.77 ± 0.55 J
Sulfate	NA	mg/L	400		65	47	53	65	50	42	28	25	104	39	36
CALC															
Radium-226/228	NA	pCi/L	7.002										0.267 ± 0.315 J	0.46 ± 0.58 U	0.83 ± 0.61 U
FIELD PARAM															
Turbidity, Field	NA	NTU	17.96 ¹										34.2	7.3	7.28
GEN CHEM															
Chloride	NA	mg/L	200		13	13	13	13	13	13	13	768	13	12	12
Dissolved Solids, Total	NA	mg/L	1200		364 R	372	324	366	392	278	348	3380	424	380 H	372
pH, Lab	NA	pH units	6.22-9.0 ²		7.31	7.35	7.39	7.39	7.52	7.42	7.57	7.33	7.48	7.59	7.32
METALS															
Antimony	D	mg/L	0.006										0.001 U	0.001 U	0.001 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
Arsenic	D	mg/L	0.01										0.0019	0.0021	0.0019
Arsenic	T	mg/L	0.01		0.0031	0.0024	0.0018	0.0022	0.002	0.002	0.0022	0.0022	0.0026	0.0025	0.0021
Barium	D	mg/L	2										0.129	0.111	0.109 B
Barium	T	mg/L	2		0.227	0.171	0.118	0.133	0.121	0.129	0.133	0.125	0.186	0.134	0.124
Beryllium	D	mg/L	0.004										0.001 U	0.001 U	0.001 U
Beryllium	T	mg/L	0.004		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Boron	D	mg/L	2										1.32	0.327	0.24
Boron	T	mg/L	2		0.877	0.569	0.668	0.792	0.506	0.369	0.317	0.255	1.61	0.329	0.243
Cadmium	D	mg/L	0.005										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
Calcium	D	mg/L	103.2 ¹										107 S	76.5	78.3
Calcium	T	mg/L	103.2 ¹		85.9	85.3	76.5	81.9	85.6	81.5 S	80.3	92	110	89.5	80.5
Chromium	D	mg/L	0.1										0.0015 U	0.0015 U	0.0015 U
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	0.0011 J	0.0015 U	0.0015
Cobalt	D	mg/L	0.006										0.001 U	0.001 U	0.001 U
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	0.001 U	0.001 U	0.001 U
Iron	T	mg/L	NS										0.496		
Lead	D	mg/L	0.0075										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	0.001 U	0.001 U	0.0039	0.001 U
Lithium	D	mg/L	0.04										0.0184	0.0137	0.0131
Lithium	T	mg/L	0.04		0.0176	0.0173	0.0174	0.018	0.0167	0.0173	0.0155	0.0148	0.0246	0.0143	0.0131
Manganese	T	mg/L	NS										0.599		
Mercury	D	mg/L	0.002											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										0.0351	0.0182	0.0139
Molybdenum	T	mg/L	0.1		0.0223	0.0252	0.0327	0.0303	0.0247	0.0246	0.0223	0.0224	0.0455	0.0194	0.015
Nickel	D	mg/L	NS										0.0017		0.001 U
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	0.004		0.0019
Selenium	D	mg/L	0.05										0.021	0.0142	0.0147
Selenium	T	mg/L	0.05		0.0126	0.0139	0.017	0.0186	0.0138	0.0143	0.0147	0.0134	0.0219	0.0151	0.0138
Thallium	D	mg/L	0.002										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

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2022 Annual Groundwater Results Summary Table
Grand Tower Energy Center (GTEC)
Grand Tower, US-IL

Sample ID	Sampled prior to closure of CCR Impoundment								Post-Closure Sampling					
	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	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D	APW-10D			
Location ID	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			
Sample Type	N	N	N	N	N	N	N	N	N	N	N			
Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards ³											
UNSPECIFIED														
Fluoride	NA	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
Radium-226	NA	pCi/L	NS	0.34 ± 0.12 U	-0.11 ± 0.1 U	0.121 ± 0.337	0.19 ± 0.12 U	0.16 ± 0.13 U	0.23 ± 0.1 U	0.08 ± 0.1 U	0 ± 0.07 U	0.249 ± 0.207	0.22 ± 0.09 U	0.31 ± 0.11 U
Radium-228	NA	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	0.56 ± 0.58 U	0.28 ± 0.43 U
Sulfate	NA	mg/L	400	38	44	43	42	42	44	44	44	41	43	42
CALC														
Radium-226/228	NA	pCi/L	7.002									1.44 ± 0.374	0.78 ± 0.67 U	0.59 ± 0.54 U
FIELD PARAM														
Turbidity, Field	NA	NTU	17.96 ¹									46.9	21.9	36.4
GEN CHEM														
Chloride	NA	mg/L	200	24	17	17	15	17	16	14	16	16	18	14
Dissolved Solids, Total	NA	mg/L	1200	466	474	442	468	482	448	448	512	452	460 H	460
pH, Lab	NA	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
METALS														
Antimony	D	mg/L	0.006									0.001 U	0.001 U	0.001 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
Arsenic	D	mg/L	0.01									0.0008 J	0.001 U	0.0012
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
Barium	D	mg/L	2									0.342	0.321	0.3 B
Barium	T	mg/L	2	0.437	0.304	0.363	0.325	0.284	0.295	0.391	0.357	0.407	0.418	0.276
Beryllium	D	mg/L	0.004									0.001 U	0.001 U	0.001 U
Beryllium	T	mg/L	0.004	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Boron	D	mg/L	2									0.0786	0.0711	0.0841
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	0.0522
Cadmium	D	mg/L	0.005									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
Calcium	D	mg/L	103.2 ¹									143	124	113
Calcium	T	mg/L	103.2 ¹	118	136	120	121	125	123	148 S	124 S	135	374	115
Chromium	D	mg/L	0.1									0.0015 U	0.0015 U	0.0015 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
Cobalt	D	mg/L	0.006									0.0025	0.0021	0.0032
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
Iron	T	mg/L	NS									0.758		
Lead	D	mg/L	0.0075									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	0.001 U	0.001	0.002	0.001 U
Lithium	D	mg/L	0.04									0.0135	0.0135	0.0133
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
Manganese	T	mg/L	NS									1.16		
Mercury	D	mg/L	0.002										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									0.0015 U	0.0015 U	0.0015 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
Nickel	D	mg/L	NS									0.0054		0.0054
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
Selenium	D	mg/L	0.05									0.001 U	0.0016	0.0015
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
Thallium	D	mg/L	0.002									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

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 Empty cells = not analyzed
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 NA = not applicable
 T = total
 D = dissolved
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 pCi/L = picocuries per liter
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Parameter/Analyte	Total or Dissolved	Units	Groundwater Protection Standards ³	Sampled prior to closure of CCR Impoundment								Post-Closure Sampling			
				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	APW-10S-WG-20220615	APW-10S-WG-20220915	APW-10S-WG-20221129
				Location ID	APW-10S	APW-10S	APW-10S	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	06/15/2022	09/15/2022	11/29/2022
				Sample Type	N	N	N	N	N	N	N	N	N	N	N
UNSPECIFIED															
Fluoride	NA	mg/L	4		0.19	0.21	0.16	0.16	0.16	0.17	0.17	0.16	0.17	0.15	0.17
Radium-226	NA	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	0.778 ± 0.324	0.3 ± 0.1 U	0.31 ± 0.11 U
Radium-228	NA	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	0.475 ± 0.268 J	2.52 ± 0.91	1.64 ± 0.68
Sulfate	NA	mg/L	400		10	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	21 S	10 U
CALC															
Radium-226/228	NA	pCi/L	7.002										1.25 ± 0.42	2.82 ± 1.01	1.95 ± 0.79 U
FIELD PARAM															
Turbidity, Field	NA	NTU	17.96 ¹										61.5	34.3	52.6
GEN CHEM															
Chloride	NA	mg/L	200		10	7	6	6	6	6	6	6	12	15	18
Dissolved Solids, Total	NA	mg/L	1200		708	720	678	708	734	770	680 R	762	735	770 H	750
pH, Lab	NA	pH units	6.22-9.0 ²		6.99	6.96	6.95	6.98	6.97	6.98	7.06	6.91	7.09	7.2	6.95
METALS															
Antimony	D	mg/L	0.006										0.001 U	0.001 U	0.001 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
Arsenic	D	mg/L	0.01										0.152	0.0612	0.0138
Arsenic	T	mg/L	0.01		0.186	0.189	0.18	0.209	0.183	0.193	0.23	0.198	0.185	0.187	0.182
Barium	D	mg/L	2										0.423	0.292	0.162 B
Barium	T	mg/L	2		0.613	0.634	0.543	0.668	0.565	0.598	0.703	0.585	0.575	0.612	0.536
Beryllium	D	mg/L	0.004										0.001 U	0.001 U	0.001 U
Beryllium	T	mg/L	0.004		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Boron	D	mg/L	2										0.57	0.541	7.48
Boron	T	mg/L	2		0.525	0.544	0.536	0.595	0.545	0.573	0.645	0.582	0.683	0.565	0.569
Cadmium	D	mg/L	0.005										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
Calcium	D	mg/L	103.2 ¹										169	156	142
Calcium	T	mg/L	103.2 ¹		136	144	135	152	150	145	140	140	161	171 S	154
Chromium	D	mg/L	0.1										0.0015 U	0.0015 U	0.0015 U
Chromium	T	mg/L	0.1		0.0091	0.0019	0.001	0.0016	0.001 U	0.0016	0.0019	0.001 U	0.0015 J	0.015	0.0032
Cobalt	D	mg/L	0.006										0.0001 J	0.001 U	0.001 U
Cobalt	T	mg/L	0.006		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0006 J	0.0021	0.0013
Iron	T	mg/L	NS										19.6		
Lead	D	mg/L	0.0075										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	0.001 U	0.0007 J	0.0043	0.0014
Lithium	D	mg/L	0.04										0.0266	0.0286	0.0387 R
Lithium	T	mg/L	0.04		0.0263	0.0278	0.0272	0.0289	0.0293	0.0308	0.0316	0.0297	0.0353	0.033	0.0307
Manganese	T	mg/L	NS										0.243		
Mercury	D	mg/L	0.002											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										0.0015 U	0.0015 U	0.0015 U
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	0.0015 U	0.0015 U	0.0015 U
Nickel	D	mg/L	NS										0.001 U		0.001 U
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	0.001 U	0.001 U	0.0031
Selenium	D	mg/L	0.05										0.001 U	0.001 U	0.001 U
Selenium	T	mg/L	0.05		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Thallium	D	mg/L	0.002										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

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
 J3 = The associated batch QC was outside the established quality control range for precision
 S = Spike Recovery outside recovery limits
 R = RPD outside accepted recovery limits
 U = Not Detected at the Reporting Limit

*Protection Standard is from Title 35 Section 845.600 unless otherwise noted
 1 Standard is from the Upper Tolerance Limit (UTL) calculated from background well APW-01R concentrations from 8 quarterly sampling events from 2017-2018
 2 Standard value 6.22 is from the Lower Tolerance Limit (LTL) calculated from background well APW-01R concentrations from 8 quarterly sampling events from 2017-2018 and 9.0 is the regulatory standard
 3 Eight episodes of groundwater sampling were conducted from September 2017 through February 2018 to establish background concentrations for the Site utilizing data from background wells APW-1R and APW-9. The final Groundwater Protection Standards (GPS) are the higher of the values provided in 35 IAC 845.600(a) and the final background concentrations as found in Table 6 of the 07/25/2019 GMZ Application with the exception of turbidity and pH. Radium 226+228 was the only value taken from Table 6.
 Highlighted values exceed action level
 NS = No standard

APPENDIX A 2022 MONITORING WELL INSPECTION FORMS

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-1R

Date:

3/23/2022

Total Depth (Actual): 58.30 (BTOC)

Total Depth (Measured): 58.38' (hard bottom)

Is well screen occluded more than 10%?

If Yes, list steps for redevelopment: No

LNAPL Present: No

If Yes, measured thickness =

DNAPL Present: No

If Yes, measured thickness =

Well Completion Type: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: No, will relabel.

Locks intact: No, will replace.

Weep hole present: Unknown.

Water present in protector: No

Are well "markers" (i.e.bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: Yes

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:

All site locks to be replaced

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-2

Date: 3/23/22

Total Depth (Actual): 58.30'

Total Depth (Measured): 58.75' with soft bottom.

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: No, will relabel

Locks intact: No, will add new lock

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: Yes

Comments:

Well Surface Seal: INTACT

Is surrounding area sloped away from well: Yes

Any observed ponding: Yes

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:

Weep hole needed.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-3

Date: 3/23/2022

Total Depth (Actual): 59.90'

Total Depth (Measured): 59.65'

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: No, will relabel

Locks intact: No, will replace

Weep hole present: No

Water present in protector: Yes

Are well "markers" (i.e.bumper posts) needed at this location:

If yes, are current well "markers" adequate around well: Yes

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:

Flaking paint. Needs new lock. Needs weep hole. Foliage encroaching upon access.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-4

Date: 3/23/2022

Total Depth (Actual): 60.27'

Total Depth (Measured): 60.40'

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: No, will relabel

Locks intact: No, will replace lock

Weep hole present: No

Water present in protector: No

Are well "markers" (i.e.bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: No, missing 1 bumper post.

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:

Paint in poor condition, needs new lock.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-5

Date: 3/23/2022

Total Depth (Actual): 62.62 (BTOC)

Total Depth (Measured): 56.90' (soft bottom)

Is well screen occluded more than 10%? Yes

If Yes, list steps for redevelopment: _____

LNAPL Present: No

If Yes, measured thickness = _____

DNAPL Present: No

If Yes, measured thickness = _____

Well Completion Type: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: Yes

Locks intact: No, will replace

Weep hole present: No

Water present in protector: No

Are well "markers" (i.e. bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: Yes

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 will be redeveloped before first ground water sampling event.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, L

Well ID: APW-6S

Date: 3/23/2022

Total Depth (Actual): 62.65 (BTOC)

Total Depth (Measured): 63.98' (soft bottom)

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: No, will relabel

Locks intact: No, will replace

Weep hole present: No

Water present in protector: No

Are well "markers" (i.e.bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: Yes

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:

Needs new lock. Well completion is partially buried in sand.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-6D

Date: 3/23/2022

Total Depth (Actual): 152.57 (BTOC)

Total Depth (Measured): 155.59' (soft bottom)

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: No, will relabel

Locks intact: No, will replace lock

Weep hole present: No

Water present in protector: No

Are well "markers" (i.e.bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: No

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 stick up partially buried in sand, will need to uncover. Needs new lock and
repair to hinged lid to allow to close fully.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-7

Date: 3/23/2022

Total Depth (Actual): 62.40 (BTOC)

Total Depth (Measured): 63.35 (soft bottom)

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: Yes

Locks intact: No, will replace

Weep hole present: No

Water present in protector: No

Are well "markers" (i.e.bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: Yes

Comments:

Well Surface Seal: INTACT

Is surrounding area sloped away from well: Yes

Any observed ponding: Yes

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:

Needs new lock

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-8

Date: 3/23/2022

Total Depth (Actual): 62.83 (BTOC)

Total Depth (Measured): 61.89 (soft bottom)

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: Yes

Locks intact: No, will replace

Weep hole present: No

Water present in protector: No

Are well "markers" (i.e.bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: Yes

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:

Needs new lock

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-9

Date: 3/23/2022

Total Depth (Actual): 62.76 (BTOC)

Total Depth (Measured): 63.40 (soft bottom)

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: No, will relabel

Locks intact: No, will replace

Weep hole present: No

Water present in protector: No

Are well "markers" (i.e. bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: No

Comments: 1 bumper is loose

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:

Needs new lock

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-10S

Date: 3/23/2022

Total Depth (Actual): 62.41 (BT0C)

Total Depth (Measured): 62.84 (soft bottom)

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: Yes

Locks intact: No, will replace

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: Yes

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:

Needs new lock

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-10D

Date: 3/23/2022

Total Depth (Actual): 98.47' (BTOC)

Total Depth (Measured): 98.19' (soft bottom)

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: Yes

Locks intact: No, will replace

Weep hole present: No

Water present in protector: No

Are well "markers" (i.e. bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: Yes

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:

Needs new lock

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-1R

Date:

6/14/2022

Total Depth (Actual): 58.30 (BTOC)

Total Depth (Measured): 58.38'

Is well screen occluded more than 10%?

If Yes, list steps for redevelopment: No

LNAPL Present: No

If Yes, measured thickness =

DNAPL Present: No

If Yes, measured thickness =

Well Completion Type: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: No, will relabel.

Locks intact: No, will replace.

Weep hole present: Unknown.

Water present in protector: No

Are well "markers" (i.e.bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: Yes

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:

All site locks to be replaced

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-2

Date: 6/14/2022

Total Depth (Actual): 58.30'

Total Depth (Measured): 58.75' with soft bottom.

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: No, will relabel

Locks intact: No, will add new lock

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: Yes

Comments:

Well Surface Seal: INTACT

Is surrounding area sloped away from well: Yes

Any observed ponding: Yes

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:

Weep hole needed.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-3

Date: 6/14/2022

Total Depth (Actual): 59.90'

Total Depth (Measured): 59.65'

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: No, will relabel

Locks intact: No, will replace

Weep hole present: No

Water present in protector: Yes

Are well "markers" (i.e.bumper posts) needed at this location:

If yes, are current well "markers" adequate around well: Yes

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:

Flaking paint. Needs new lock. Needs weep hole. Foliage encroaching upon access.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-4

Date: 6/14/2022

Total Depth (Actual): 60.27'

Total Depth (Measured): 60.40'

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: No, will relabel

Locks intact: No, will replace lock

Weep hole present: No

Water present in protector: No

Are well "markers" (i.e.bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: No, missing 1 bumper post.

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:

Paint in poor condition, needs new lock.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-5

Date: 6/14/2022

Total Depth (Actual): 62.62 (BTOC)

Total Depth (Measured): 58.45' (soft bottom)

Is well screen occluded more than 10%? Yes

If Yes, list steps for redevelopment: Used submersible pump to attempt redevelopment.

Unable to extract material due to large grain size.

LNAPL Present: No

If Yes, measured thickness = _____

DNAPL Present: No

If Yes, measured thickness = _____

Well Completion Type: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: Yes

Locks intact: No, will replace

Weep hole present: No

Water present in protector: No

Are well "markers" (i.e. bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: Yes

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:

Attempted to be redeveloped - well screen is suspected of being breached.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-6S

Date: 6/14/2022

Total Depth (Actual): 62.65 (BTOC)

Total Depth (Measured): 63.98' (soft bottom)

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: No, will relabel

Locks intact: No, will replace

Weep hole present: No

Water present in protector: No

Are well "markers" (i.e.bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: Yes

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:

Needs new lock. Well completion is partially buried in sand.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-6D

Date: 6/14/2022

Total Depth (Actual): 152.57 (BTOC)

Total Depth (Measured): 155.10' (soft bottom)

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: No, will relabel

Locks intact: No, will replace lock

Weep hole present: No

Water present in protector: No

Are well "markers" (i.e.bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: No

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 stick up partially buried in sand, will need to uncover. Needs new lock and
repair to hinged lid to allow to close fully.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-7

Date: 6/14/2022

Total Depth (Actual): 62.40 (BTOC)

Total Depth (Measured): 63.35 (soft bottom)

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: Yes

Locks intact: No, will replace

Weep hole present: No

Water present in protector: No

Are well "markers" (i.e.bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: Yes

Comments:

Well Surface Seal: INTACT

Is surrounding area sloped away from well: Yes

Any observed ponding: Yes

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:

Needs new lock

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-8

Date: 6/14/2022

Total Depth (Actual): 62.83 (BTOC)

Total Depth (Measured): 61.89 (soft bottom)

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: Yes

Locks intact: No, will replace

Weep hole present: No

Water present in protector: No

Are well "markers" (i.e.bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: Yes

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:

Needs new lock

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-9

Date: 6/14/2022

Total Depth (Actual): 62.76 (BTOC)

Total Depth (Measured): 63.40 (soft bottom)

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: No, will relabel

Locks intact: No, will replace

Weep hole present: No

Water present in protector: No

Are well "markers" (i.e.bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: No

Comments: 1 bumper is loose

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:

Needs new lock

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-10S

Date: 6/14/2022

Total Depth (Actual): 62.41 (BT0C)

Total Depth (Measured): 62.84 (soft bottom)

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: Yes

Locks intact: No, will replace

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: Yes

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:

Needs new lock

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-10D

Date: 6/14/2022

Total Depth (Actual): 98.47' (BTOC)

Total Depth (Measured): 98.19' (soft bottom)

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: ABOVE GRADE

Condition of protector: Intact Non Intact

Well ID present and readable: Yes

Locks intact: No, will replace

Weep hole present: No

Water present in protector: No

Are well "markers" (i.e.bumper posts) needed at this location: Yes

If yes, are current well "markers" adequate around well: Yes

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:

Needs new lock

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-01R

Date:

9/13/2022

Total Depth (Record): 58.30'

Total Depth (Measured): 58.23'

Depth to Water (Measured): 34.15'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-02 Date: 9/13/2022

Total Depth (Record): 58.30'

Total Depth (Measured): 58.54'

Depth to Water (Measured): 32.42'

Note: All wells are measured from top of casing.

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

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:

Wrote on well ID with sharpie. Standing water 2 inches below top of PVC in protector.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-03

Date:

9/13/2022

Total Depth (Record): 59.90'

Total Depth (Measured): 59.39'

Depth to Water (Measured): 33.25'

Note: All wells are measured from top of casing.

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

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: 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:

Standing water 2 inches below PVC in protector.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-04

Date:

9/13/2022

Total Depth (Record): 60.27'

Total Depth (Measured): 60.18'

Depth to Water (Measured): 34.79'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Wrote well ID on with sharpie.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-05 Date: 9/13/2022

Total Depth (Record): 62.88'

Total Depth (Measured): 57.42'

Depth to Water (Measured): 32.73'

Note: All wells are measured from top of casing.

Is well screen occluded more than 10%? YES

If Yes, list steps for redevelopment: NA

LNAPL Present: NO

If Yes, measured thickness =

DNAPL Present: NO

If Yes, measured thickness =

Well Completion Type:

Condition of protector: INTACT

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-06S

Date:

9/13/2022

Total Depth (Record): 63.88'

Total Depth (Measured): 63.86'

Depth to Water (Measured): 31.76'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Sand surrounding the marking points and well.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-06D Date: 9/13/2022

Total Depth (Record): 155.10'

Total Depth (Measured): 155.05'

Depth to Water (Measured): 32.12'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

Water present in protector: NO

Are well "markers" (i.e.bumper posts) needed at this location: YES

If yes, are current well "markers" adequate around well:

Comments: One well marker has fallen over.

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:

Sand surrounding the marking points and well.

Hinged well protector lid repaired to allow locking of lid.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-07

Date:

9/13/2022

Total Depth (Record): 62.39'

Total Depth (Measured): 63.17'

Depth to Water (Measured): 28.68'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-08

Date:

9/13/2022

Total Depth (Record): 62.36'

Total Depth (Measured): 61.75'

Depth to Water (Measured): 29.78'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-09

Date:

9/13/2022

Total Depth (Record): 63.18'

Total Depth (Measured): 63.19'

Depth to Water (Measured): 33.76'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-10S

Date:

9/13/2022

Total Depth (Record): 62.55'

Total Depth (Measured): 62.80'

Depth to Water (Measured): 27.44'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-10D

Date:

9/13/2022

Total Depth (Record): 98.09'

Total Depth (Measured): 98.14'

Depth to Water (Measured): 25.97'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-01R

Date:

11/30/2022

Total Depth (Record): 58.30'

Total Depth (Measured): 58.25'

Depth to Water (Measured): 35.61'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-02

Date:

11/29/2022

Total Depth (Record): 58.30'

Total Depth (Measured): 58.57'

Depth to Water (Measured): 34.53'

Note: All wells are measured from top of casing.

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

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:

11/30/2022

Total Depth (Record): 59.90'

Total Depth (Measured): 59.47'

Depth to Water (Measured): 34.75'

Note: All wells are measured from top of casing.

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

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: 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:

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-04

Date:

11/28/2022

Total Depth (Record): 60.27'

Total Depth (Measured): 60.25'

Depth to Water (Measured): 36.40'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-05 Date: 11/28/2022

Total Depth (Record): 62.88'

Total Depth (Measured): 57.51'

Depth to Water (Measured): 33.43'

Note: All wells are measured from top of casing.

Is well screen occluded more than 10%? YES

If Yes, list steps for redevelopment: NA

LNAPL Present: NO

If Yes, measured thickness =

DNAPL Present: NO

If Yes, measured thickness =

Well Completion Type:

Condition of protector: INTACT

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Well screen occluded >40%. APW-05 scheduled to be abandoned and redrilled during Q1 2023.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-06S Date: 11/28/2022

Total Depth (Record): 63.88'

Total Depth (Measured): 63.87'

Depth to Water (Measured): 32.89'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Sand surrounding the marking points and well.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-06D

Date:

11/28/2022

Total Depth (Record): 155.10'

Total Depth (Measured): 154.94'

Depth to Water (Measured): 32.95'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: NO

Weep hole present: YES

Water present in protector: NO

Are well "markers" (i.e.bumper posts) needed at this location: YES

If yes, are current well "markers" adequate around well:

Comments: One well marker has fallen over.

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:

Sand surrounding the marking points and well.

Cut lock in order to access well.

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-07

Date:

11/30/2022

Total Depth (Record): 62.39'

Total Depth (Measured): 63.46'

Depth to Water (Measured): 30.07'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-08

Date:

11/30/2022

Total Depth (Record): 62.36'

Total Depth (Measured): 61.83'

Depth to Water (Measured): 31.63'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-09

Date:

11/30/2022

Total Depth (Record): 63.18'

Total Depth (Measured): 63.21'

Depth to Water (Measured): 35.75'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID: APW-10S Date: 11/29/2022

Total Depth (Record): 62.55'

Total Depth (Measured): 62.97'

Depth to Water (Measured): 28.90'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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:

Well Inspection Worksheet

Grand Tower Energy Center

Grand Tower, IL

Well ID:

APW-10D

Date:

11/29/2022

Total Depth (Record): 98.09'

Total Depth (Measured): 98.13'

Depth to Water (Measured): 28.05'

Note: All wells are measured from top of casing.

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

Well ID present and readable: YES

Locks intact: YES

Weep hole present: YES

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 B FIELD DATA FORMS



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-05


Date: 06/16/2022

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 51.9 (ft)	Reference Elevation 363.8 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 16.86 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 56.9 (ft)
Project Name 20220613-GWMonitor	Average Purge Rate 300 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Clay Sansoucie & Michael Abegg	Volume of Water in Well / Total Volume Purged 6.53 (gal) / 2.0 (gal)	Well Construction PVC

Well Head Vapor Measurements

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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
12:50	16.88	300	0.00	20.5	7.04	864	NM	3.78	-629.0	77.0	NM	Cloudy
12:55	16.90	300	0.50	21.2	7.02	867	NM	0.27	-66.8	167.0	NM	Turbid
13:00	16.90	300	1.00	21.0	7.16	869	NM	0.09	-67.3	65.8	NM	Turbid
13:05	16.90	300	1.50	21.6	7.18	870	NM	0.07	-71.5	55.8	NM	Turbid
13:10	16.90	300	1.75	21.8	7.18	880	NM	0.11	-74.2	52.3	NM	Turbid
13:15	16.90	300	2.00	21.9	7.19	877	NM	0.10	-75.2	51.8	NM	Turbid

Sample ID(s): APW-05-WG-20220616	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Michael Abegg 	07/05/2022 19:01



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-06S

Date: 06/16/2022

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 58.98 (ft)	Reference Elevation 363.51 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 16.48 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 63.98 (ft)
Project Name 20220613-GWMonitor	Average Purge Rate 400 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Clay Sansoucie & Michael Abegg	Volume of Water in Well / Total Volume Purged 7.75 (gal) / 3.0 (gal)	Well Construction PVC

Well Head Vapor Measurements

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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
11:27	16.55	400	0.0	21.3	7.09	485	NM	4.42	-140.7	72.1	NM	Cloudy
11:30	16.55	400	0.5	19.1	7.07	927	NM	0.63	-143.7	252.0	NM	Cloudy
11:35	16.55	400	1.0	19.0	7.08	922	NM	0.48	-128.1	155.0	NM	Cloudy
11:40	16.55	400	1.5	19.0	7.11	918	NM	0.42	-125.8	55.6	NM	Clear
11:45	16.55	400	2.0	18.9	7.12	914	NM	0.38	-124.9	33.5	NM	Clear
11:50	16.55	400	2.5	18.9	7.12	912	NM	0.36	-123.8	32.3	NM	Clear
11:55	16.55	400	3.0	18.9	7.11	910	NM	0.33	-122.1	30.5	NM	Clear

Sample ID(s): APW-6S-WG-20220616	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Michael Abegg 	07/05/2022 19:04



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-07

Date: 06/16/2022

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 58.35 (ft)	Reference Elevation 360.61 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 13.56 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 63.35 (ft)
Project Name 20220613-GWMonitor	Average Purge Rate 350 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Clay Sansoucie & Michael Abegg	Volume of Water in Well / Total Volume Purged 8.13 (gal) / 2.5 (gal)	Well Construction PVC

Well Head Vapor Measurements

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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
06:45	13.59	350	0.0	17.2	6.71	1082	NM	0.35	118.2	71.7	NM	Clear
06:50	13.59	350	0.5	17.5	6.71	1088	NM	0.34	119.7	49.7	NM	Clear
06:55	13.59	350	1.0	17.9	6.73	1106	NM	0.17	124.4	48.3	NM	Clear
07:00	13.59	350	1.5	18.0	6.72	1118	NM	0.12	127.3	61.2	NM	Clear
07:05	13.59	350	2.0	17.7	6.72	1125	NM	0.10	129.6	64.3	NM	Clear
07:10	13.59	350	2.5	17.9	6.72	1128	NM	0.08	129.4	66.2	NM	Clear

Sample ID(s): APW-07-WG-20220616	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Michael Abegg 	07/05/2022 19:07



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-08

Date: 06/16/2022

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 56.89 (ft)	Reference Elevation 362.71 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 15.82 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 61.89 (ft)
Project Name 20220613-GWMonitor	Average Purge Rate 313 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Clay Sansoucie & Michael Abegg	Volume of Water in Well / Total Volume Purged 7.52 (gal) / 3.5 (gal)	Well Construction PVC

Well Head Vapor Measurements

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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
07:45	15.85	500	0.00	18.5	7.27	548	NM	4.00	-77.1	75.4	NM	Clear
07:50	15.85	500	0.50	16.5	7.02	574	NM	0.85	-55.6	1000.0	NM	Turbid, brown
07:55	15.85	500	1.00	16.3	7.07	581	NM	0.47	-62.7	1000.0	NM	Turbid, brown
08:00	15.85	250	1.50	16.6	7.02	587	NM	0.41	-68.4	1000.0	NM	Turbid brown, turned pump down
08:05	15.86	250	1.75	17.7	7.07	588	NM	0.32	-73.6	755.0	NM	Turbid brown
08:10	15.86	250	2.00	17.7	7.04	590	NM	0.28	-76.2	494.0	NM	Turbid brown
08:15	15.86	250	2.25	17.6	7.04	590	NM	0.22	-81.4	359.0	NM	Cloudy
08:20	15.86	250	2.50	18.1	7.05	591	NM	0.18	-85.9	271.0	NM	Cloudy
08:25	15.86	250	2.75	18.3	7.05	591	NM	0.17	-87.6	224.0	NM	Cloudy
08:30	15.86	250	3.00	18.6	7.06	591	NM	0.14	-90.6	178.0	NM	Cloudy
08:35	15.86	250	3.25	18.9	7.07	593	NM	0.13	-95.1	221.0	NM	Cloudy
08:40	15.86	250	3.50	19.1	6.96	593	NM	0.12	-98.4	147.0	NM	Cloudy
08:45	15.86	250	3.75	19.0	7.06	593	NM	0.12	-99.2	126.0	NM	Cloudy
08:50	15.86	250	4.00	18.9	7.06	593	NM	0.11	-99.7	120.0	NM	Cloudy
08:55	15.86	250	4.25	18.9	7.06	593	NM	0.11	-100	119.0	NM	Silty, cloudy

Sample ID(s): APW-08-WG-20220616	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Michael Abegg 	07/05/2022 19:11



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-09

Date: 06/15/2022

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 58.4 (ft)	Reference Elevation 366.84 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 19.59 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 63.4 (ft)
Project Name 20220613-GWMonitor	Average Purge Rate 500 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Clay Sansoucie & Michael Abegg	Volume of Water in Well / Total Volume Purged 7.15 (gal) / 4.5 (gal)	Well Construction PVC

Well Head Vapor Measurements

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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
11:15	19.59	500	0.0	20.6	7.33	525	NM	2.42	-148.3	36.5	NM	Clear
11:20	19.59	500	0.5	21.5	7.14	633	NM	0.16	-164.0	254.0	NM	Cloudy
11:25	19.59	500	1.0	21.3	7.23	633	NM	0.10	-167.5	144.0	NM	Cloudy
11:30	19.59	500	1.5	21.8	7.26	632	NM	0.08	-167.9	117.0	NM	Cloudy
11:35	19.59	500	2.0	22.5	7.26	634	NM	0.08	-167.4	90.7	NM	Cloudy
11:40	19.59	500	2.5	22.4	7.24	633	NM	0.11	-164.6	66.5	NM	Cloudy
11:45	19.59	500	3.0	22.7	7.23	632	NM	0.07	-168.4	50.3	NM	Cloudy
11:50	19.59	500	3.5	22.6	7.24	635	NM	0.06	-169.6	37.1	NM	Cloudy
11:55	19.59	500	4.0	22.6	7.21	633	NM	0.06	-161.3	35.6	NM	Cloudy
12:00	19.59	500	4.5	22.7	7.22	633	NM	0.05	-160.7	34.2	NM	Cloudy

Sample ID(s): APW-09-WG-20220615	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Michael Abegg 	07/05/2022 19:10



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-10D


Date: 06/15/2022

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 93.19 (ft)	Reference Elevation 359.41 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 12.01 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 98.19 (ft)
Project Name 20220613-GWMonitor	Average Purge Rate 450 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 86 - 96 (ft)
Sampler Clay Sansoucie & Michael Abegg	Volume of Water in Well / Total Volume Purged 14.06 (gal) / 5.5 (gal)	Well Construction PVC

Well Head Vapor Measurements

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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
13:50	12.01	450	0.0	22.1	7.01	715	NM	1.15	-77.0	40.3	NM	Clear
13:55	12.03	450	0.5	18.8	6.86	689	NM	0.15	-59.8	996.0	NM	Turbid, brown
14:00	12.03	450	1.0	18.5	6.88	688	NM	0.11	-55.9	710.0	NM	Turbid, brown
14:05	12.03	450	1.5	18.2	6.89	686	NM	0.07	-56.7	411.0	NM	Turbid, brown
14:10	12.03	450	2.0	17.9	6.90	685	NM	0.06	-58.5	285.0	NM	Turbid brown
14:15	12.03	450	2.5	17.9	6.90	689	NM	0.05	-60.8	193.0	NM	Turbid brown
14:20	12.03	450	3.0	17.6	6.91	689	NM	0.04	-62.2	137.0	NM	Turbid, brown
14:25	12.03	450	3.5	17.5	6.90	688	NM	0.03	-63.1	107.0	NM	Turbid, brown
14:30	12.03	450	4.0	17.5	6.91	681	NM	0.03	-64.1	73.6	NM	Turbid brown
14:35	12.03	450	4.5	17.5	6.92	685	NM	0.03	-63.9	49.9	NM	Clear
14:40	12.03	450	5.0	17.5	6.92	689	NM	0.03	-63.1	47.3	NM	Clear
14:45	12.03	450	5.5	17.5	6.91	688	NM	0.03	-63.0	46.9	NM	Clear

Sample ID(s): APW-10D-WG-20220615	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Michael Abegg 	07/05/2022 19:12



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-10S


Date: 06/15/2022

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 57.84 (ft)	Reference Elevation 359.47 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 11.99 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 62.84 (ft)
Project Name 20220613-GWMonitor	Average Purge Rate 473 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Clay Sansoucie & Michael Abegg	Volume of Water in Well / Total Volume Purged 8.30 (gal) / 5.0 (gal)	Well Construction PVC

Well Head Vapor Measurements

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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
12:42	12.25	200	0.0	19.1	6.94	1216	NM	0.11	-182.3	1000.0	NM	Turbid, black
12:45	12.25	500	0.5	19.4	6.93	1230	NM	0.09	-182.1	1000.0	NM	Turbid, black
12:50	12.25	500	1.0	19.5	6.95	1234	NM	0.06	-182.1	645.0	NM	Turbid, black
12:55	12.25	500	1.5	19.4	6.93	1236	NM	0.05	-181.5	391.0	NM	Cloudy
13:00	12.25	500	2.0	19.1	6.91	1238	NM	0.04	-181.8	288.0	NM	Cloudy
13:05	12.25	500	2.5	18.9	6.92	1238	NM	0.03	-180.9	141.0	NM	Cloudy
13:10	12.25	500	3.0	19.0	6.91	1237	NM	0.03	-180.5	110.0	NM	Cloudy
13:15	12.25	500	3.5	18.7	6.91	1239	NM	0.02	-180.4	92.1	NM	Cloudy
13:20	12.25	500	4.0	18.7	6.90	1238	NM	0.02	-179.9	60.0	NM	Cloudy
13:25	12.25	500	4.5	18.7	6.91	1238	NM	0.20	-178.3	63.2	NM	Cloudy
13:30	12.25	500	5.0	18.7	6.91	1239	NM	0.20	-177.9	61.5	NM	Cloudy

Sample ID(s): APW-10S-WG-20220615	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Michael Abegg 	07/05/2022 19:13



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-02

Date: 06/16/2022

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 53.75 (ft)	Reference Elevation 364.61 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 15.85 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 58.75 (ft)
Project Name 20220613-GWMonitor	Average Purge Rate 196 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 48 - 58 (ft)
Sampler Clay Sansoucie & Michael Abegg	Volume of Water in Well / Total Volume Purged 7.00 (gal) / 1.6 (gal)	Well Construction PVC

Well Head Vapor Measurements

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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
14:21	18.80	480	0.0	18.9	7.00	1128	NM	0.44	-124.1	36.0	NM	Clear
14:25	20.59	300	0.5	21.5	7.05	1105	NM	0.22	-123.6	55.7	NM	Clear, turn down pump
14:30	21.24	140	1.0	24.4	7.05	1114	NM	0.28	-118.6	37.6	NM	Clear, turn down pump
14:35	21.63	140	1.1	24.6	6.90	1123	NM	0.32	-107.1	78.8	NM	Clear
14:40	22.03	140	1.2	25.5	6.98	1108	NM	0.36	-103.1	92.8	NM	Clear
14:45	22.35	140	1.3	25.9	6.96	1110	NM	0.54	-99.1	52.3	NM	Clear
14:50	22.60	140	1.4	26.0	6.93	1111	NM	0.43	-95.9	39.8	NM	Clear
14:55	22.65	140	1.5	26.0	6.92	1113	NM	0.42	-96.2	38.4	NM	Clear
15:00	22.65	140	1.6	26.0	6.93	1114	NM	0.41	-97.1	38.0	NM	Clear

Sample ID(s): APW-02-WG-20220616	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Michael Abegg 	07/05/2022 18:41



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-03

Date: 06/16/2022

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 54.65 (ft)	Reference Elevation 365.79 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 18.7 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 59.65 (ft)
Project Name 20220613-GWMonitor	Average Purge Rate 320 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Clay Sansoucie & Michael Abegg	Volume of Water in Well / Total Volume Purged 6.68 (gal) / 4.5 (gal)	Well Construction PVC

Well Head Vapor Measurements

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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
09:40	18.72	320	0.0	23.7	7.52	676	NM	5.46	-85.0	131.0	NM	Cloudy
09:45	18.74	320	0.5	18.6	7.78	879	NM	0.84	-157.2	726.0	NM	Turbid, brown
09:50	18.74	320	1.0	18.8	7.82	884	NM	0.71	-159.8	476.0	NM	Turbid, Brown
09:55	18.74	320	1.5	18.8	7.84	904	NM	0.95	-155.9	232.0	NM	Turbid, brown
10:00	18.74	320	2.0	18.8	7.85	907	NM	0.85	-156.7	121.0	NM	Turbid, brown
10:05	18.74	320	2.5	18.6	7.85	909	NM	0.71	-157.2	85.5	NM	Cloudy
10:10	18.74	320	3.0	18.6	7.85	912	NM	0.60	-159.7	57.9	NM	Clear
10:15	18.74	320	3.5	18.9	7.83	914	NM	0.53	-162.0	44.4	NM	Clear
10:20	18.74	320	4.0	19.1	7.87	915	NM	0.51	-163.0	42.6	NM	Clear
10:25	18.74	320	4.5	19.1	7.57	917	NM	0.50	-163.0	40.3	NM	Clear

Sample ID(s): APW-03-WG-20220616	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Michael Abegg	07/05/2022 18:56



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-04


Date: 06/15/2022

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 55.4 (ft)	Reference Elevation 367.44 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 19.99 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 60.4 (ft)
Project Name 20220613-GWMonitor	Average Purge Rate 400 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Clay Sansoucie & Michael Abegg	Volume of Water in Well / Total Volume Purged 6.59 (gal) / 5.5 (gal)	Well Construction PVC

Well Head Vapor Measurements

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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
08:16	19.99	400	0.0	17.5	7.07	603	NM	2.20	-121.3	63.7	NM	Cloudy, no odor
08:20	20.04	400	1.0	17.6	7.17	614	NM	0.55	-123.6	46.5	NM	Clear
08:25	20.04	400	1.5	17.5	7.25	620	NM	0.26	-130.3	66.0	NM	Clear
08:30	20.05	400	2.0	17.6	7.26	622	NM	0.20	-131.0	59.1	NM	Clear
08:35	20.05	400	2.5	17.6	7.23	623	NM	0.15	-128.1	49.5	NM	Clear
08:40	20.05	400	3.0	17.5	7.23	623	NM	0.15	-128.3	39.8	NM	Clear
08:50	20.05	400	3.5	17.6	7.24	625	NM	0.14	-127.5	46.7	NM	Clear
08:55	20.05	400	4.0	17.6	7.24	623	NM	0.14	-126.2	26.0	NM	Clear
09:00	20.05	400	4.5	17.7	7.24	621	NM	0.13	-119.2	20.1	NM	Clear
09:05	20.05	400	5.0	17.7	7.24	622	NM	0.13	-120.3	18.3	NM	Clear
09:10	20.05	400	5.5	17.7	7.23	623	NM	0.13	-120.4	19.1	NM	Clear

Sample ID(s): APW-04-WG-20220615	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Michael Abegg 	07/05/2022 18:59



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-01R

Date: 06/15/2022

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 53.38 (ft)	Reference Elevation 366.82 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 18.96 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 58.38 (ft)
Project Name 20220613-GWMonitor	Average Purge Rate 450 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 48 - 58 (ft)
Sampler Clay Sansoucie & Michael Abegg	Volume of Water in Well / Total Volume Purged	Well Construction PVC

Well Head Vapor Measurements 6.43 (gal) / 5.0 (gal)
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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
09:47	18.96	450	0.0	18.3	6.34	356.0	NM	4.56	-69.8	12.0	NM	Turbid rusty brown
09:50	18.95	450	0.5	18.3	6.16	391.0	NM	2.52	-66.5	744.0	NM	Turbid, rusty brown
09:55	18.95	450	1.0	18.2	6.33	425.8	NM	1.92	-67.0	282.0	NM	Turbid, rusty brown
10:00	18.96	450	1.5	18.2	6.43	446.3	NM	1.73	-71.3	197.0	NM	Rusty, turbid brown
10:05	18.97	450	2.0	18.2	6.48	469.0	NM	1.62	-72.6	126.0	NM	Cloudy
10:10	18.97	450	2.5	18.3	6.53	485.6	NM	1.55	-72.4	68.8	NM	Cloudy
10:15	18.97	450	3.0	18.4	6.54	491.1	NM	1.54	-71.4	59.5	NM	Cloudy
10:20	18.97	450	3.5	18.8	6.55	493.2	NM	1.53	-69.1	45.4	NM	Clear
10:25	18.97	450	4.5	18.7	6.54	498.1	NM	1.45	-64.6	36.2	NM	Clear
10:30	18.97	450	4.5	18.9	6.56	501.3	NM	1.42	-64.6	34.7	NM	Clear
10:35	18.97	450	5.0	18.9	6.56	500.8	NM	1.42	-64.3	33.9	NM	Clear

Sample ID(s): APW-1R-WG-20220615	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Michael Abegg 	07/05/2022 18:34



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-06D

Date:

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / (ft)	Reference Elevation 363.69 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment NA	Depth to Water / Free Product (ft) / None
Project Number 0599247	Sample Equipment NA	Total Well Depth 155.59(ft)
Project Name 20220613-GWMonitor	Average Purge Rate ()	Well Diameter / Well Screen Interval 2 (in) / 140 - 150 (ft)
Sampler	Volume of Water in Well / Total Volume Purged () / (gal)	Well Construction PVC

Well Head Vapor Measurements

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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments

Sample ID(s):	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:	Not sampled.		



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-01R
Well Permit No:

Date: 2022/09/15
Sunny

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 53.38 (ft)	Reference Elevation 366.82 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 33.57 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 58.23 (ft)
Project Name 20220912-GWMonitor	Average Purge Rate 0 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 48.30 - 58.30 (ft)
Sampler Marshall Arendell	Volume of Water in Well / Total Volume Purged 4.02 (gal) / 4 (gal)	Well Construction PVC

Well Head Vapor Measurements
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
07:45	33.57	600	0	15.8	6.83	383.7	NM	4.16	22.9	1000	NM	Dark grey/ slight organic odor
07:50	33.57	400	0.5	18	6.53	399.6	NM	3.54	46.2	751	NM	
07:55	33.57	600	0.75	18.3	6.41	417	NM	3.89	57.6	368	NM	
08:00	33.57	200	1.25	19.2	6.34	443.8	NM	1.72	59.8	230	NM	light grey, slightly turbid
08:05	33.57	400	1.75	18.6	6.3	466	NM	1.66	64.2	156	NM	
08:10	33.57	380	2.25	18.7	6.3	478.8	NM	1.57	65	128	NM	Odor no longer present
08:15	33.57	380	2.5	18.6	6.32	500.2	NM	1.62	65	92.9	NM	
08:20	33.57	380	2.75	19	6.36	519.6	NM	1.58	63.9	64.9	NM	
08:25	33.57	380	3.25	19	6.39	531.9	NM	1.52	63.7	47.1	NM	Transparent
08:30	33.57	380	3.5	19.1	6.41	541.1	NM	1.52	65.1	32.6	NM	Transparent
08:35	33.57	380	3.75	19.2	6.44	553.6	NM	1.45	68.2	33.1	NM	
08:40	33.57	380	4	19.1	6.47	555.1	NM	1.47	69.4	31.7	NM	

Sample ID(s): APW-01R-WG-20220915	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Marshall Arendell 	10/27/2022 22:47



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-02
Well Permit No:

Date: 2022/09/14
Sunny

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 53.54 (ft)	Reference Elevation 364.61 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 32.78 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 58.54 (ft)
Project Name 20220912-GWMonitor	Average Purge Rate 400 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 47.20 - 57.20 (ft)
Sampler Marshall Arendell	Volume of Water in Well / Total Volume Purged 4.12 (gal) / 4.5 (gal)	Well Construction PVC

Well Head Vapor Measurements
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
09:45	35.67	500	0	17.2	7.17	1134	NM	0.36	-83.9	446	NM	Cloudy, no odor
09:50	39.07	400	1	17.8	7.05	1066	NM	2.19	-70.3	310	NM	
09:55	40.97	400	1.5	18.3	7.01	1060	NM	2.31	-54	269	NM	
10:00	42.97	400	2	18.7	6.99	1070	NM	1.97	-59.9	222	NM	
10:05	43.51	400	2.25	19.2	7	1078	NM	1.58	-69.6	210	NM	
10:10	44.67	450	2.75	18.2	7	1095	NM	1.41	-78.9	168	NM	
10:15	45.9	400	3	18.4	7	1085	NM	1.77	-75.7	102	NM	
10:20	46.77	400	3.25	18.2	7	1086	NM	1.81	-73.4	56.7	NM	
10:25	46.77	400	3.5	18.2	6.97	1085	NM	1.7	-74.1	20.2	NM	
10:30	46.77	400	4	18.2	6.99	1090	NM	1.6	-77	20.1	NM	
10:35	46.77	400	4.5	18.2	6.99	1092	NM	1.61	-78.2	19.2	NM	

Sample ID(s): APW-02-WG-20220914,DUP-002-WG-20220914	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Marshall Arendell 	10/27/2022 22:48



Low Flow Groundwater Sampling Field Data Form


Well ID: APW-03
Well Permit No:

Date: 2022/09/15
sunny

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 54.65 (ft)	Reference Elevation 365.79 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 32.89 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 59.39 (ft)
Project Name 20220912-GWMonitor	Average Purge Rate 380 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 45.70 - 55.70 (ft)
Sampler Marshall Arendell	Volume of Water in Well / Total Volume Purged 4.32 (gal) / 3.45 (gal)	Well Construction PVC

Well Head Vapor Measurements
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
12:00	32.89	400	0	22.1	7.74	736	NM	5.98	52.9	47.5	NM	Black & turbid, sediment suspected
12:05	32.89	400	0.5	18.2	6.99	835	NM	0.49	-37.7	1000	NM	
12:10	32.89	400	1	20.1	7.11	853	NM	0.12	-71.7	488	NM	Organic odor
12:15	32.89	400	1.5	19.9	7.04	854	NM	0.11	-82.4	358	NM	
12:20	32.89	360	1.75	19.7	7.06	853	NM	0.11	-82.8	214	NM	Light grey color, slightly turbid, organic odor
12:25	32.89	360	2	19.8	7.06	851	NM	0.12	-93.3	143	NM	
12:30	32.89	360	2.5	19.6	7.04	849	NM	0.13	-44	81.6	NM	
12:35	32.89	360	2.75	20	7.05	847	NM	0.12	-95.8	60.8	NM	Clear, no odor
12:40	32.89	360	3.25	19.9	7.04	846	NM	0.1	-96.2	59.3	NM	
12:45	32.89	360	3.45	19.9	7.04	845	NM	0.09	-97.4	56.1	NM	

Sample ID(s): APW-03-WG-20220915	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Marshall Arendell 	10/27/2022 22:50



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-04
Well Permit No:

Date: 2022/09/15
sunny

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 55.4 (ft)	Reference Elevation 367.44 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 34.25 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 60.18 (ft)
Project Name 20220912-GWMonitor	Average Purge Rate 300 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 45.70 - 55.70 (ft)
Sampler Marshall Arendell	Volume of Water in Well / Total Volume Purged 4.23 (gal) / 3 (gal)	Well Construction PVC

Well Head Vapor Measurements

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
09:40	34.25	150	0	19.2	7.37	552.3	NM	5.8	73.7	589	NM	Turbid, no odor
09:45	34.25	200	0.1	19.8	7	566	NM	5.48	78.2	349	NM	
09:50	34.25	375	0.5	19.8	6.95	642	NM	3.17	74.8	152	NM	Slightly turbid, no odor
09:55	34.25	400	0.75	21.2	7.08	649	NM	2.31	66.3	60.4	NM	Clear, no odor
10:00	34.25	350	1.5	20.6	7.09	645	NM	0.4	57.1	56	NM	
10:05	34.25	300	1.75	19.8	7.01	647	NM	0.39	52.8	28.7	NM	
10:10	34.25	300	2	20.9	7.07	647	NM	0.43	50.9	19.7	NM	
10:15	34.25	200	2.5	21.3	7.09	646	NM	0.4	53	18.8	NM	
10:20	34.25	200	3	21.2	7.09	646	NM	0.42	53.2	18.3	NM	

Sample ID(s): APW-04-WG-20220915	Additional Comments	SAMPLER NAME AND SIGNATURE Marshall Arendell	Date Time 10/27/2022 22:51
Analysis: IAC Title 34 Section 845.600 groundwater parameters			



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-05
Well Permit No:

Date: 2022/09/14
sunny

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 51.9 (ft)	Reference Elevation 363.8 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 32.8 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 57.42 (ft)
Project Name 20220912-GWMonitor	Average Purge Rate 348.2 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Marshall Arendell	Volume of Water in Well / Total Volume Purged 4.02 (gal) / 5.75 (gal)	Well Construction PVC

Well Head Vapor Measurements
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
07:38	32.78	400	0	15.2	7.81	868	NM	4.94	-11.5	172	NM	Opaque, light brown, no odor
07:44	32.78	400	0.5	16.1	7.19	909	NM	3.43	-26.8	63.7	NM	Light brown, no odor
07:49	32.78	325	1	16.4	7.19	931	NM	2.6	-37.3	56.3	NM	Clear, no odor
07:54	32.78	300	1.25	16.5	7.2	938	NM	2.18	-45.3	40.2	NM	
07:59	32.78	300	1.75	16.6	7.21	943	NM	1.9	-49	33.5	NM	
08:04	32.78	350	2.25	16.6	7.19	943	NM	1.5	-52.9	22	NM	
08:09	32.78	350	2.75	16.6	7.18	944	NM	1.13	-56.8	20.7	NM	
08:14	32.78	350	3.25	16.6	7.18	946	NM	1.03	-60.1	19.4	NM	
08:19	32.78	350	3.5	16.6	7.17	945	NM	0.86	-62.9	9.21	NM	
08:24	32.78	350	4	16.6	7.17	945	NM	0.71	-64.1	7.39	NM	
08:29	32.78	350	4.5	16.6	7.17	946	NM	0.58	-66.5	9.24	NM	
08:34	32.78	350	4.75	16.5	7.17	958	NM	0.46	-68.6	9.32	NM	
08:39	32.78	350	5.25	16.5	7.16	959	NM	0.4	-70.1	7.4	NM	Clear, no odor
08:44	32.78	350	5.75	16.4	7.16	959	NM	0.37	-71.6	9.19	NM	

Sample ID(s): APW-05-WG-20220914,DUP-001-WG-20220914	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Marshall Arendell 	10/27/2022 22:52



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-06S
Well Permit No:

Date: 2022/09/13
sunny

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 58.98 (ft)	Reference Elevation 363.51 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 31.76 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 63.98 (ft)
Project Name 20220912-GWMonitor	Average Purge Rate 309.1 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Marshall Arendell	Volume of Water in Well / Total Volume Purged 5.26 (gal) / 4.25 (gal)	Well Construction PVC

Well Head Vapor Measurements

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
11:35	31.8	425	0	18.8	7.34	835	NM	6.74	-74.3	305	NM	Slightly turbid, no odor
11:40	31.81	425	0.5	17.2	6.93	870	NM	3.11	-88.5	350	NM	Turbid, dark grey, no odor
11:45	31.81	450	1.25	17.2	6.96	874	NM	1.94	-99.8	245	NM	Organic odor
11:50	31.81	350	1.75	17.7	6.95	871	NM	1.96	-97.2	111	NM	
11:55	31.81	250	2.25	18.1	6.99	869	NM	0.55	-111.4	65.1	NM	Light grey
12:00	31.81	250	2.5	17.9	7.04	868	NM	0.5	-117.2	34.8	NM	
12:05	31.81	250	2.75	18.2	7.02	869	NM	0.49	-117.6	30.3	NM	
12:10	31.81	250	3	18.2	7.03	867	NM	0.49	-117.3	20.6	NM	Clear, slight organic odor
12:15	31.81	250	3.25	18.3	7.03	869	NM	0.36	-118.4	16.8	NM	
12:20	31.81	250	3.75	18.4	7.03	867	NM	0.3	-120.7	14	NM	
12:25	31.81	250	4.25	18.4	7.03	868	NM	0.27	-121.1	15.1	NM	

Sample ID(s): APW-06S-WG-20220913	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Marshall Arendell 	10/27/2022 22:54



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-07
Well Permit No:

Date: 2022/09/14
sunny

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 58.35 (ft)	Reference Elevation 360.61 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 28.62 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 63.35 (ft)
Project Name 20220912-GWMonitor	Average Purge Rate 400 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Marshall Arendell	Volume of Water in Well / Total Volume Purged 5.67 (gal) / 3 (gal)	Well Construction PVC

Well Head Vapor Measurements
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
14:20	28.57	100	0	23	6.6	1076	NM	4.68	9.1	60.5	NM	Clear, no odor
14:25	28.6	350	0.5	18.1	6.44	1208	NM	2.34	-42.7	139	NM	
14:30	28.6	275	0.75	18.8	6.46	1222	NM	1.82	-52.9	91.9	NM	
14:35	28.6	200	1	18.6	6.51	1221	NM	1.43	-57.6	80.7	NM	
14:40	28.6	200	1.25	18.9	6.58	1228	NM	1.5	-63.8	129	NM	
14:45	28.6	200	1.5	19.3	6.55	1221	NM	1.27	-62.7	76.3	NM	
14:50	28.6	200	1.75	20.4	6.63	1235	NM	1.39	-67.6	54.9	NM	
14:55	28.6	200	2	19.2	6.68	1234	NM	1.35	-68.9	62.5	NM	
15:00	28.6	200	2.25	19.5	6.6	1232	NM	1.2	-64.5	36.6	NM	
15:05	28.6	200	2.5	19.6	6.63	1230	NM	1.08	-66.7	34.7	NM	
15:10	28.6	200	2.75	19.8	6.64	1230	NM	1.1	-67.3	36.3	NM	
15:15	28.6	200	3	19.9	6.64	1228	NM	1.11	-67.5	34.8	NM	

Sample ID(s): APW-07-WG-20220914	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Marshall Arendell 	10/27/2022 22:55



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-08
Well Permit No:

Date: 2022/09/15
sunny

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 56.89 (ft)	Reference Elevation 362.71 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 29.35 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 61.89 (ft)
Project Name 20220912-GWMonitor	Average Purge Rate 395 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Marshall Arendell	Volume of Water in Well / Total Volume Purged 5.31 (gal) / 4.5 (gal)	Well Construction PVC

Well Head Vapor Measurements
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
13:21	29.35	375	0	19.1	7.28	558	NM	0.1	-43.8	1000	NM	Very turbid, dark brown
13:26	29.35	375	0.5	18.8	7.12	554.7	NM	0.11	-52.9	1000	NM	Turbid, light grey, no odor
13:31	29.35	400	1	18.8	6.95	551.9	NM	0.11	-35.8	907	NM	
13:36	29.35	400	1.5	18.9	6.94	547.9	NM	0.1	-34.7	598	NM	
13:41	29.35	400	2	18.7	6.91	543.3	NM	0.12	-28.8	383	NM	
13:46	29.35	400	2.5	18.8	6.87	543.1	NM	0.11	-26.6	291	NM	Cloudy, no odor
13:51	29.35	400	3	18.7	6.92	542.1	NM	0.08	-28.6	181	NM	
13:56	29.35	400	3.5	18.7	6.9	541.7	NM	0.08	-27	144	NM	
14:01	29.35	400	4	18.8	6.89	540	NM	0.07	-24.9	142	NM	Clear, no odor
14:06	29.35	400	4.5	18.8	6.87	538.4	NM	0.07	-24.2	139	NM	

Sample ID(s): APW-08-WG-20220914	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Marshall Arendell 	11/02/2022 21:28



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-09
Well Permit No:

Date: 2022/09/13
sunny

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 58.4 (ft)	Reference Elevation 366.84 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 33.76 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 63.4 (ft)
Project Name 20220912-GWMonitor	Average Purge Rate 393.3 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Marshall Arendell	Volume of Water in Well / Total Volume Purged 4.84 (gal) / 3.5 (gal)	Well Construction PVC

Well Head Vapor Measurements
NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (gal)	Temperature (C) ±3%	pH ±0.1pH units	Specific Conductivity (uS/cm) ±3%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
14:10	33.76	380	0	21.6	7.42	400	NM	4.74	66.5	2.54	NM	Slightly turbid, no odor
14:15	33.76	200	0.25	21.5	6.96	353.7	NM	4.34	78.1	139	NM	
14:20	33.76	340	0.5	20.5	7.01	380.6	NM	4.51	77.1	78.1	NM	
14:25	33.76	200	0.6	22.3	7.22	354.1	NM	4.13	63.8	64.1	NM	
14:30	33.76	700	0.8	19.8	7.24	237.6	NM	2.62	65.7	41.6	NM	
14:35	33.76	500	1.5	21.6	7.11	226.3	NM	1.9	62.6	22.1	NM	
14:40	33.76	400	1.75	19.9	7.14	234.1	NM	2.42	56.1	28	NM	
14:45	33.76	400	2	20.3	7.19	232.7	NM	1.42	43	11.52	NM	Clear, no odor
14:50	33.76	400	2.5	20.3	7.17	231.9	NM	1.35	37	14.4	NM	
14:55	33.76	400	3	20.6	7.18	230.1	NM	1.25	32.5	6.72	NM	
15:00	33.76	400	3.25	20.6	7.19	230.9	NM	1.22	30.7	7.4	NM	
15:05	33.76	400	3.5	20.7	7.19	230.3	NM	1.21	30.1	7.3	NM	

Sample ID(s): APW-09-WG-20220913	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Marshall Arendell 	10/27/2022 22:57



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-10S
Well Permit No:

Date: 2022/09/15
sunny

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 57.84 (ft)	Reference Elevation 359.47 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 27.67 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 62.84 (ft)
Project Name 20220912-GWMonitor	Average Purge Rate 250 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Marshall Arendell	Volume of Water in Well / Total Volume Purged 5.74 (gal) / 3.5 (gal)	Well Construction PVC

Well Head Vapor Measurements
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
14:37	27.77	200	0	19.2	6.59	1250	NM	1.26	-89.5	1000	NM	Turbid, dark grey, organic odor
14:42	27.77	350	0.25	19.3	6.57	1245	NM	0.92	-96.7	1000	NM	
14:47	27.79	375	0.5	21.3	6.54	1252	NM	1.16	-96.2	1000	NM	
14:52	27.79	300	0.75	20.3	6.5	1244	NM	0.15	-107.1	674	NM	
14:57	27.79	350	1	19.3	6.49	1244	NM	0.17	-111.8	345	NM	Turbid, light gray, organic odor
15:02	27.79	300	1.5	19.5	6.46	1237	NM	0.13	-113.4	177	NM	Cloudy, organic odor
15:07	27.79	200	1.75	19.5	6.46	1231	NM	0.08	-114.9	136	NM	
15:12	27.79	250	2.25	19.3	6.43	1226	NM	0.05	-116.3	84.4	NM	Clear, organic odor
15:17	27.79	300	2.5	19.4	6.42	1223	NM	0.04	-117.3	50.3	NM	
15:22	27.79	300	3	19.6	6.41	1219	NM	0.04	-117.9	42	NM	
15:27	27.79	300	3.25	19.8	6.39	1213	NM	0.04	-118.3	37.2	NM	
15:32	27.79	300	3.5	19.9	6.36	1208	NM	0.03	-118.3	34.3	NM	

Sample ID(s): APW-10S-WG-20220915	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Marshall Arendell 	10/27/2022 22:59



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-10D
Well Permit No:

Date: 2022/09/16
sunny

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 93.19 (ft)	Reference Elevation 359.41 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 25.95 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 98.19 (ft)
Project Name 20220912-GWMonitor	Average Purge Rate 355.9 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 86 - 96 (ft)
Sampler Marshall Arendell	Volume of Water in Well / Total Volume Purged 11.56 (gal) / 5.5 (gal)	Well Construction PVC

Well Head Vapor Measurements
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
09:26	25.95	450	0	16.4	7.52	667	NM	5.14	-65.2	118	NM	Clear, no odor
09:31	26	350	0.75	16.5	6.99	657	NM	0.46	-28.6	1000	NM	Cloudy, no odor
09:36	26	350	1.25	16.6	7	660	NM	0.24	-25.3	1000	NM	Turbid, no odor
09:41	26	350	1.75	16.9	6.98	664	NM	0.2	-23.1	744	NM	
09:46	26	350	2	16.9	6.96	664	NM	0.17	-22.5	487	NM	
09:51	26	350	2.5	17	6.94	667	NM	0.13	-22.8	324	NM	Slightly turbid, no odor
09:56	26	350	2.75	17	6.94	669	NM	0.12	-23.6	253	NM	
10:01	26	350	3.25	17	6.91	671	NM	0.1	-23.6	184	NM	Cloudy, no odor
10:06	26	350	3.5	17	6.92	672	NM	0.09	-24.4	136	NM	
10:11	26	350	3.75	17	6.92	672	NM	0.08	-24.6	83.8	NM	Clear, no odor
10:16	26	350	4	17	6.9	673	NM	0.09	-23.5	59.4	NM	
10:21	26	350	4.25	17.1	6.9	675	NM	0.08	-22.7	67	NM	
10:26	26	350	4.5	17.1	6.91	674	NM	0.08	-22.4	48.3	NM	Clear, no odor
10:31	26	350	4.75	17.1	6.9	674	NM	0.08	-20.7	29.4	NM	
10:36	26	350	5	17.3	6.9	674	NM	0.07	-19.5	23.9	NM	
10:41	26	350	5.25	17.3	6.91	675	NM	0.07	-19.1	21.4	NM	
10:46	26	350	5.5	17.3	6.9	674	NM	0.07	-18.5	21.9	NM	

Sample ID(s): APW-10D-WG-20220916	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters		Marshall Arendell 	10/27/2022 22:58



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-06D
Well Permit No:

Date: 2022/09/13
sunny

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 150.59 (ft)	Reference Elevation 363.69 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 31.87 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 155.59 (ft)
Project Name 20220912-GWMonitor	Average Purge Rate 386.1 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 140 - 150 (ft)
Sampler Marshall Arendell	Volume of Water in Well / Total Volume Purged 20.19 (gal) / 3.5 (gal)	Well Construction PVC

Well Head Vapor Measurements
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
09:40	31.9	450	0	15.3	7.25	830	NM	0.66	-18.6	9.59	NM	Clear, no odor
09:45	31.9	425	1	15.9	6.9	827	NM	0.22	-83.1	11	NM	Paused due to pump problems
09:55	31.9	425	1.5	15.8	7.03	824	NM	1.07	-68.4	10.3	NM	
10:00	31.9	425	2	16.4	7.02	821	NM	1.18	-79.5	13.3	NM	
10:05	31.9	150	2.1	17.1	7.09	819	NM	0.85	-87	15.8	NM	
10:10	31.9	400	2.5	16.4	7.09	820	NM	0.71	-89.1	18.7	NM	
10:15	31.9	400	2.75	16.9	7.01	816	NM	0.49	-89.3	19.3	NM	
10:20	31.9	400	3.25	17	7.07	813	NM	0.39	-96.3	18.9	NM	
10:25	31.9	400	3.5	17	7.08	810	NM	0.31	-98.9	18.5	NM	

Sample ID(s): APW-06D-WG-20220913	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis: IAC Title 34 Section 845.600 groundwater parameters	Paused at 9:45 due to pump problem. Restarted at 9:55.	Marshall Arendell 	10/27/2022 22:53



Low Flow Groundwater Sampling Field Data Form

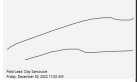
Well ID: APW-01R
Well Permit No:

Date: 2022/11/30
Sunny 30 Deg F

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 53.25 (ft)	Reference Elevation 366.82 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 35.61 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 58.25 (ft)
Project Name 20221201-GWMonitor	Average Purge Rate 450 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 48.3 - 58.3ft (ft)
Sampler Clay Sansoucie	Volume of Water in Well / Total Volume Purged 3.69 (gal) / 6 (gal)	Well Construction PVC

Well Head Vapor Measurements
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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
08:31	35.63	500	0	11.7	7.86	342.8	NM	3.57	89.7	694	NM	Turbid, brown, no odor
08:36	35.63	500	1	13.1	6.94	389.1	NM	2.26	84.7	427	NM	Turbid, brown, no odor
08:41	35.63	450	1.5	13.5	6.73	395.8	NM	1.89	84	223	NM	Turbid, brown, no odor
08:46	35.63	450	2	13.5	6.4	401.6	NM	1.71	80.5	180	NM	Sl. Turbid, brown, no odor
08:51	35.63	450	2.5	13.7	6.54	406.3	NM	1.52	76.6	130	NM	Sl. Turbid, brown, no odor
08:56	35.63	450	3	13.8	6.5	409	NM	1.4	75	92.9	NM	Cloudy, no odor
09:01	35.63	450	3.5	13.7	6.47	411.4	NM	1.32	74.6	69	NM	Cloudy, no odor
09:06	35.63	450	4	14	6.45	412.6	NM	1.31	74.6	54.5	NM	Clear, no odor
09:11	35.63	350	4.5	14.2	6.46	413.2	NM	1.29	73.8	42.2	NM	Clear, no odor
09:16	35.63	450	5	14.3	6.46	409.1	NM	1.27	74.2	33.4	NM	Clear, no odor
09:21	35.63	450	5.5	14	6.44	400.1	NM	1.27	75	32.9	NM	Clear, no odor
09:26	35.63	450	6	14.3	6.45	403.3	NM	1.26	75.5	31.7	NM	Clear, no odor

Sample ID(s): APW-01R-WG-20221130	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:		Clay Sansoucie 	12/30/2022 17:02



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-02
Well Permit No:

Date: 2022/11/29
Cloudy 50 Deg F

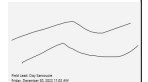
Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 53.57 (ft)	Reference Elevation 364.61 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 34.53 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 58.57 (ft)
Project Name 20221201-GWMonitor	Average Purge Rate 214.3 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 47.2 - 57.2 (ft)
Sampler Clay Sansoucie	Volume of Water in Well / Total Volume Purged 3.92 (gal) / 1.6 (gal)	Well Construction PVC

Well Head Vapor Measurements

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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
08:38	35.88	300	0	13.3	7.1	811	NM	3	-34.2	367	NM	Turbid, Lt. Brown, Sl. organic odor
08:43	37.55	200	0.5	14.4	7.23	1070	NM	0.6	-107.3	202	NM	Cloudy, Sl. organic odor
08:48	38.4	200	0.6	14.8	7.24	1085	NM	0.55	-111.8	158	NM	Cloudy, Sl. organic odor
08:53	39.63	200	0.9	15	7.24	1086	NM	0.44	-111.6	132	NM	Cloudy, Sl. organic odor
08:58	40.04	200	1.2	15.4	7.24	1090	NM	0.4	-111.5	160	NM	Cloudy, Sl. organic odor
09:03	40.67	200	1.4	15.5	7.22	1091	NM	0.36	-110.5	169	NM	Cloudy, Sl. organic odor
09:08	41.28	200	1.6	15.2	7.21	1094	NM	0.34	-110.6	164	NM	Cloudy, Sl. organic odor

Sample ID(s): APW-02-WG-20221129,DUP-02-WG-20221129	Additional Comments	SAMPLER NAME AND SIGNATURE Clay Sansoucie	Date Time 12/30/2022 17:02
Analysis:			





Low Flow Groundwater Sampling Field Data Form

Well ID: APW-03
Well Permit No:

Date: 2022/11/30
Sunny, 40 Deg F

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 54.47 (ft)	Reference Elevation 365.79 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 34.75 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 59.47 (ft)
Project Name 20221201-GWMonitor	Average Purge Rate 243.8 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 45.7 - 55.7 (ft)
Sampler Clay Sansoucie	Volume of Water in Well / Total Volume Purged 4.03 (gal) / 3 (gal)	Well Construction PVC

Well Head Vapor Measurements
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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
14:10	34.78	600	0	11.1	7.75	624.5	NM	4	44.6	787	NM	Turbid, Dark Gray, No odor
14:15	34.85	175	0.25	11.1	7.65	666	NM	0.6	-1.7	813	NM	Turbid, Dark Gray, No odor
14:20	35	300	0.5	11.5	7.54	670.4	NM	0.31	-12.3	386	NM	Turbid, Dark Gray, No Odor
14:25	35	250	1	11.8	7.51	676	NM	0.22	-23.4	277	NM	Cloudy, No Odor
14:30	35	200	1.25	11.5	7.48	675	NM	0.21	-27.2	221	NM	Cloudy, no odor
14:35	35	200	1.5	11.3	7.45	674	NM	0.19	-29.3	165	NM	Cloudy, no odor
14:40	35	200	1.75	10.5	7.42	674.6	NM	0.19	-29.6	131	NM	Cloudy, no odor
14:45	35	200	2	11.1	7.33	677.2	NM	0.2	-30.2	108	NM	Cloudy, no odor
14:50	35	200	2.25	10.8	7.37	678	NM	0.21	-31	77.7	NM	Clear, no odor
14:55	35	200	2.5	12.4	7.4	697	NM	0.18	-44.3	113	NM	Clear, no odor
15:00	35	200	2.75	12.2	7.42	701	NM	0.17	-44	109	NM	Clear, no odor
15:05	35	200	3	12.3	7.4	703	NM	0.13	-43.8	103	NM	Clear, no odor

Sample ID(s): APW-03-WG-20221130	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:		Clay Sansoucie	12/30/2022 17:03



Low Flow Groundwater Sampling Field Data Form

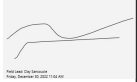
Well ID: APW-05
Well Permit No:

Date: 2022/11/28
Sunny 50 Deg F

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 52.71 (ft)	Reference Elevation 363.8 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 33.43 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 57.71 (ft)
Project Name 20221201-GWMonitor	Average Purge Rate 300 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Clay Sansoucie	Volume of Water in Well / Total Volume Purged 3.96 (gal) / 4.25 (gal)	Well Construction PVC

Well Head Vapor Measurements
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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
12:27	33.44	300	0	13.3	7.39	916	NM	4.28	-26.3	25.8	NM	clear, no odor
12:32	33.44	300	0.5	14.5	7.31	928	NM	1.76	-47	22.5	NM	clear, no odor
12:37	33.44	300	1	15	7.3	931	NM	1.49	-53.6	15	NM	clear, no odor
12:42	33.44	300	1.5	15.1	7.32	932	NM	1.24	-57.4	10.7	NM	clear, no odor
12:47	33.44	300	1.75	15.2	7.32	932	NM	0.86	-59.2	10.9	NM	clear, no odor
12:52	33.44	300	2.25	15.2	7.31	931	NM	0.75	-59.4	7.73	NM	clear, no odor
12:57	33.44	300	2.75	15.2	7.31	932	NM	0.62	-60.6	7.16	NM	clear, no odor
13:02	33.44	300	3	15.3	7.31	931	NM	0.54	-61.3	7.2	NM	clear, no odor
13:07	33.44	300	3.25	15.2	7.29	932	NM	0.44	-60.4	4.75	NM	clear, no odor
13:12	33.44	300	3.75	15.2	7.31	930	NM	0.44	-61.7	5.27	NM	clear, no odor
13:17	33.44	300	4.25	15.2	7.29	930	NM	0.41	-60.9	4.65	NM	clear, no odor

Sample ID(s): APW-05-WG-20221128,DUP-01-WG-20221128	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:		Clay Sansoucie 	12/30/2022 17:04



Low Flow Groundwater Sampling Field Data Form

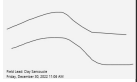
Well ID: APW-08
Well Permit No:

Date: 2022/11/30
Sunny 30 deg F

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 56.83 (ft)	Reference Elevation 362.71 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 31.63 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 61.83 (ft)
Project Name 20221201-GWMonitor	Average Purge Rate 295 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Clay Sansoucie	Volume of Water in Well / Total Volume Purged 4.93 (gal) / 2.75 (gal)	Well Construction PVC

Well Head Vapor Measurements
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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
15:35	31.63	100	0	11.4	7.58	521.8	NM	1.82	29.7	1000	NM	Turbid, dark gray, no odor
15:40	31.63	200	0.25	13.1	7.37	529	NM	0.13	-5.9	1000	NM	Turbid, dark gray, no odor
15:45	31.63	200	0.5	14	7.39	533	NM	0.06	-18.3	1000	NM	Turbid, dark gray, no odor
15:50	31.63	350	0.75	14.5	7.35	530.5	NM	0.11	-12.1	1000	NM	Turbid, dark gray, no odor
15:55	31.63	350	1.25	14.7	7.31	529.8	NM	0.19	-7.1	748	NM	Turbid, dark gray, no odor
16:00	31.63	350	1.5	14.7	7.28	529	NM	0.15	-4.9	507	NM	Turbid, dark gray, no odor
16:05	31.63	350	2	14.7	7.26	529.3	NM	0.12	-3.7	351	NM	Turbid, dark gray, no odor
16:10	31.63	350	2.25	14.6	7.22	529.5	NM	0.11	-2.1	297	NM	Turbid, dark gray, no odor
16:15	31.63	350	2.5	14.2	7.24	529.2	NM	0.13	-1.2	301	NM	Turbid, dark gray, no odor
16:20	31.63	350	2.75	14.5	7.22	527.9	NM	0.1	-1.3	305	NM	Turbid, dark gray, no odor

Sample ID(s): APW-08-WG-20221130	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:		Clay Sansoucie 	12/30/2022 17:06



Low Flow Groundwater Sampling Field Data Form


Well ID: APW-10D
Well Permit No:

Date: 2022/11/29
50s, Cloudy with Rain

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 93.13 (ft)	Reference Elevation 359.41 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 28.05 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 98.13 (ft)
Project Name 20221201-GWMonitor	Average Purge Rate 351.4 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 86 - 96 (ft)
Sampler Clay Sansoucie	Volume of Water in Well / Total Volume Purged 11.44 (gal) / 6 (gal)	Well Construction PVC

Well Head Vapor Measurements
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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
13:57	28.05	270	0	14.4	7.97	624.6	NM	0.87	37.1	1000	NM	Turbid, Dark Gray, No odor
14:02	28.05	250	0.5	14.4	7.37	639	NM	0.15	10.7	1000	NM	Turbid, Dark Gray, No odor
14:07	28.05	200	0.75	14.5	7.2	674	NM	0.18	12.3	391	NM	Sl. Turbid, Gray, No odor
14:12	28.05	350	1.25	14.7	7.13	679	NM	0.23	17	217	NM	Sl. Turbid, Gray, No odor
14:17	28.05	250	1.5	14.9	7.1	678	NM	0.22	20.4	132	NM	Cloudy, No odor
14:22	28.05	400	2	14.9	7.07	678	NM	0.13	22.6	95.6	NM	Cloudy, No odor
14:27	28.05	400	2.5	15.1	7.06	677	NM	0.12	24.3	113	NM	Cloudy, No odor
14:32	28.05	400	3	15	7.05	673	NM	0.14	24.6	86.7	NM	Cloudy, No odor
14:37	28.05	400	3.5	15.1	7.04	673	NM	0.15	25	73.7	NM	Clear, No odor
14:42	28.05	400	4	15.1	7.03	676	NM	0.14	25.4	55.3	NM	Clear, No odor
14:47	28.05	400	4.5	15.1	7.02	677	NM	0.12	25.5	41.9	NM	Clear, No odor
14:52	28.05	400	5	15.1	7.02	675	NM	0.1	25.6	37.5	NM	Clear, No odor
14:57	28.05	400	5.5	15.2	7.02	674	NM	0.1	25.6	38.6	NM	Clear, No odor
15:02	28.05	400	6	15.2	7.02	674	NM	0.09	25.8	36.4	NM	Clear, No odor

Sample ID(s): APW-10D-WG-20221129	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:		Clay Sansoucie 	12/30/2022 16:25



Low Flow Groundwater Sampling Field Data Form


Well ID: APW-10S
Well Permit No:

Date: 2022/11/29
Cloudy, Rainy, 50 deg F

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 57.97 (ft)	Reference Elevation 359.47 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 28.9 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 62.97 (ft)
Project Name 20221201-GWMonitor	Average Purge Rate 411.7 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Clay Sansoucie	Volume of Water in Well / Total Volume Purged 5.56 (gal) / 5 (gal)	Well Construction PVC

Well Head Vapor Measurements
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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
12:30	29.13	550	0	13.8	7.36	1229	NM	1.67	-76.3	1000	NM	Turbid, Dark Gray, Strong rotten egg like odor
12:35	29.13	270	0.25	14.3	6.97	1232	NM	0.46	-105.2	1000	NM	Turbid, Dark Gray, sl. rotten egg like odor
12:40	29.13	270	0.75	14.5	6.95	1229	NM	0.37	-110.5	1000	NM	Turbid, Dark Gray, sl. rotten egg like odor
12:45	29.13	250	1	14.8	6.96	1228	NM	0.28	-113.3	543	NM	Turbid, gray, no odor
12:50	29.13	450	1.5	15.6	6.97	1227	NM	0.17	-116.1	307	NM	Turbid, gray, no odor
12:55	29.13	450	2	15.5	6.99	1227	NM	0.14	-117.8	194	NM	Cloudy, no odor
13:00	29.13	450	2.5	15.3	6.99	1224	NM	0.12	-117.7	141	NM	Cloudy, no odor
13:05	29.13	450	3	15.4	6.99	1226	NM	0.1	-117.3	86	NM	Cloudy, no odor
13:10	29.13	450	3.5	15.4	6.99	1224	NM	0.1	-117.3	74.5	NM	Clear, no odor
13:15	29.13	450	4	15.5	6.99	1224	NM	0.1	-118.2	56.7	NM	Clear, no odor
13:20	29.13	450	4.5	15.5	6.99	1220	NM	0.09	-117.9	54.3	NM	Clear, no odor
13:25	29.13	450	5	15.5	6.99	1220	NM	0.09	-118	52.6	NM	Clear, no odor

Sample ID(s): APW-10S-WG-20221129	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:		Clay Sansoucie 	12/30/2022 17:08



Low Flow Groundwater Sampling Field Data Form


Well ID: APW-04
Well Permit No:

Date: 2022/11/28
Sunny 50 Deg F

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 55.25 (ft)	Reference Elevation 367.44 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 36.4 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 60.25 (ft)
Project Name 20221201-GWMonitor	Average Purge Rate 328.2 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 45.7 - 55.7 (ft)
Sampler Clay Sansoucie	Volume of Water in Well / Total Volume Purged 3.89 (gal) / 5.25 (gal)	Well Construction PVC

Well Head Vapor Measurements
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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
14:10	36.35	230	0	12.7	7.55	537.4	NM	5.69	37.4	310	NM	Sl. Turbid, Brown, no odor
14:15	36.35	260	0.5	13.3	7.29	581.8	NM	3.91	40.7	219	NM	Sl. Turbid, brown, no odor
14:20	36.35	320	0.75	16.7	7.23	609	NM	1.39	42.2	93.5	NM	Cloudy, No odor
14:25	36.35	350	1.25	15.8	7.31	644	NM	0.37	34.1	90.1	NM	Cloudy, No odor
14:30	36.35	350	2	17.4	7.2	640	NM	0.4	36.5	56.8	NM	Cloudy, No odor
14:35	36.35	350	2.75	16.2	7.25	646	NM	0.29	35.1	53.1	NM	Clear, no odor
14:40	36.35	350	3.25	16.1	7.21	647	NM	0.24	38.2	42.9	NM	Clear, no odor
14:45	36.35	350	3.75	16.3	7.19	645	NM	0.23	39.7	31.9	NM	Clear, no odor
14:50	36.35	350	4.25	16.2	7.2	645	NM	0.22	40.1	25.9	NM	Clear, no odor
14:55	36.35	350	4.75	16.3	7.2	645	NM	0.21	40.8	27	NM	Clear, no odor
15:00	36.35	350	5.25	16.3	7.19	645	NM	0.2	41	26.5	NM	Clear, no odor

Sample ID(s): APW-04-WG-20221128	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:		Clay Sansoucie 	12/30/2022 17:04



Low Flow Groundwater Sampling Field Data Form


Well ID: APW-06S
Well Permit No:

Date: 2022/11/28
Sunny 50 deg F

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 58.87 (ft)	Reference Elevation 363.51 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 32.89 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 63.87 (ft)
Project Name 20221201-GWMonitor	Average Purge Rate 370 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Clay Sansoucie	Volume of Water in Well / Total Volume Purged 5.06 (gal) / 4.75 (gal)	Well Construction PVC

Well Head Vapor Measurements
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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
11:02	32.91	370	0	14.5	7.24	868	NM	0.36	-84.3	173	NM	Cloudy, no odor
11:07	32.91	370	0.75	14.7	7.22	864	NM	0.31	-104.6	110	NM	Clear, no odor
11:12	32.91	370	1.5	14.7	7.26	858	NM	0.12	-113.7	63.2	NM	Clear, no odor
11:17	32.91	370	2	14.7	7.24	856	NM	0.11	-113.7	42.2	NM	Clear, no odor
11:22	32.91	370	2.5	14.9	7.24	856	NM	0.09	-113.5	22.1	NM	Clear, no odor
11:27	32.91	370	3	14.9	7.24	856	NM	0.12	-112.7	15.5	NM	Clear, no odor
11:32	32.91	370	3.25	14.8	7.23	854	NM	0.13	-111.6	13	NM	Clear, no odor
11:37	32.91	370	3.75	14.8	7.22	853	NM	0.09	-111.1	8.49	NM	Clear, no odor
11:42	32.91	370	4.25	14.9	7.23	864	NM	0.1	-110.3	9.61	NM	Clear, no odor
11:47	32.91	370	4.75	15	7.22	864	NM	0.11	-110.1	5.56	NM	Clear, no odor

Sample ID(s): APW-06S-WG-20221128	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:		Clay Sansoucie 	12/30/2022 17:05



Low Flow Groundwater Sampling Field Data Form

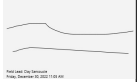
Well ID: APW-06D
Well Permit No:

Date: 2022/11/28
Sunny 40 deg F

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low_Flow / 149.94 (ft)	Reference Elevation 363.69 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 32.95 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 154.94 (ft)
Project Name 20221201-GWMonitor	Average Purge Rate 295.9 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 140 - 150 (ft)
Sampler Clay Sansoucie	Volume of Water in Well / Total Volume Purged 19.91 (gal) / 4.1 (gal)	Well Construction PVC

Well Head Vapor Measurements
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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
09:33	32.95	360	0	14	7.75	811	NM	5.13	-90	17.1	NM	Clear, rotten egg like odor
09:38	32.95	130	0.5	13.8	7.58	822	NM	1.44	-89.7	296	NM	Turbid, gray, strong rotten egg like odor
09:43	32.95	375	1	14.3	7.46	822	NM	0.43	-93.1	231	NM	Turbid, gray, strong rotten egg like odor
09:48	32.95	240	1.4	14.3	7.41	815	NM	0.35	-89.7	61.1	NM	Cloudy, no odor
09:53	32.95	240	1.7	14.3	7.37	812	NM	0.32	-86.1	73.3	NM	Cloudy, no odor
09:58	32.95	310	2.1	14.4	7.37	812	NM	0.22	-89	60.6	NM	Clear, no odor
10:03	32.95	320	2.5	14.5	7.35	808	NM	0.17	-89.1	68.4	NM	Clear, no odor
10:08	32.95	320	2.9	14.6	7.35	805	NM	0.15	-90.3	83.2	NM	Clear, no odor
10:13	32.95	320	3.3	14.5	7.34	802	NM	0.13	-89.9	71.1	NM	Clear, no odor
10:18	32.95	320	3.7	14.5	7.34	807	NM	0.14	-89.6	77.5	NM	Clear, no odor
10:23	32.95	320	4.1	14.5	7.34	807	NM	0.14	-89.1	74.4	NM	Clear, no odor

Sample ID(s): APW-06D-WG-20221128	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:		Clay Sansoucie 	12/30/2022 17:05



Low Flow Groundwater Sampling Field Data Form

Well ID: APW-07
Well Permit No:

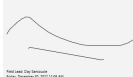
Date: 2022/11/30
Sunny, 30 deg F

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 58.46 (ft)	Reference Elevation 360.61 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 30.07 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 63.46 (ft)
Project Name 20221201-GWMonitor	Average Purge Rate 251.7 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Clay Sansoucie	Volume of Water in Well / Total Volume Purged 5.45 (gal) / 4.25 (gal)	Well Construction PVC

Well Head Vapor Measurements

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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
12:10	30.19	400	0	13.7	6.88	867	NM	0.16	-40.2	288	NM	Sl. Turbid, Brown, rotten egg like odor
12:15	30.19	120	1	13.1	6.89	897	NM	0.21	-45.8	102	NM	Cloudy, rotten egg like odor
12:20	30.19	250	1.5	12.9	6.83	879	NM	0.39	-53.3	88.8	NM	Cloudy, sl. rotten egg like odor
12:25	30.19	250	1.75	13.7	6.83	879	NM	0.2	-58	93.4	NM	Cloudy, sl. rotten egg like odor
12:30	30.19	250	2	13.5	6.84	865	NM	0.17	-60.3	46.4	NM	Clear, no odor
12:35	30.19	250	2.25	13.7	6.83	849	NM	0.18	-61.1	34.5	NM	Clear, no odor
12:40	30.19	250	2.75	13.7	6.83	844	NM	0.18	-61.5	24.2	NM	Clear, no odor
12:45	30.19	250	3	13.6	6.83	838	NM	0.17	-62	23.7	NM	Clear, no odor
12:50	30.19	250	3.5	13.7	6.83	828	NM	0.16	-62.2	13.6	NM	Clear, no odor
12:55	30.19	250	3.75	13.8	6.83	822	NM	0.15	-62.4	11.3	NM	Clear, no odor
13:00	30.19	250	4	13.7	6.85	820	NM	0.14	-62.7	10.8	NM	Clear, no odor
13:05	30.19	250	4.25	13.6	6.83	818	NM	0.14	-62.3	10.5	NM	Clear, no odor

Sample ID(s): APW-07-WG-20221130	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:		Clay Sansoucie 	12/30/2022 17:06



Low Flow Groundwater Sampling Field Data Form

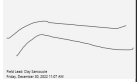
Well ID: APW-09
Well Permit No:

Date: 2022/11/30
Sunny 30 deg F

Site ID GTEC-GRAND-TOWER	Purge Method / Pump Intake Depth Low Flow / 58.21 (ft)	Reference Elevation 366.84 (ft)
Site Address 1820 Power Plant Road, Grand Tower, US-IL	Purge Equipment Submersible pump	Depth to Water / Free Product 35.75 (ft) / None
Project Number 0599247	Sample Equipment Submersible pump	Total Well Depth 63.21 (ft)
Project Name 20221201-GWMonitor	Average Purge Rate 275 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / 50 - 60 (ft)
Sampler Clay Sansoucie	Volume of Water in Well / Total Volume Purged 4.48 (gal) / 4 (gal)	Well Construction PVC

Well Head Vapor Measurements
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 (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
10:05	35.75	250	0	12.1	7.53	504.9	NM	1.08	74.1	331	NM	Turbid, brown, no odor
10:10	35.75	250	0.5	11	7.24	510.1	NM	0.87	79.4	355	NM	Turbid, brown, no odor
10:15	35.75	250	0.75	10.8	7.23	512.2	NM	0.86	77.1	143	NM	Cloudy, no odor
10:20	35.75	250	1	11.2	7.33	513.1	NM	0.88	74.8	122	NM	Cloudy, no odor
10:25	35.75	250	1.25	12.2	7.29	518.2	NM	0.82	71	56	NM	Clear, no odor
10:30	35.75	250	1.75	12.6	7.35	521.7	NM	1.05	65.1	36.8	NM	Clear, no odor
10:35	35.75	300	2	12.7	7.36	521.7	NM	1	64.4	21	NM	Clear, no odor
10:40	35.75	300	2.5	12.8	7.35	520.6	NM	0.99	64.2	15.8	NM	Clear, no odor
10:45	35.75	300	2.75	12.9	7.36	523.1	NM	0.97	62.9	12.5	NM	Clear, no odor
10:50	35.75	300	3	13	7.32	522.7	NM	0.95	62.4	7.88	NM	Clear, no odor
10:55	35.75	300	3.5	13.2	7.36	522.2	NM	0.94	61.7	7.32	NM	Clear, no odor
11:00	35.75	300	4	13	7.37	523.1	NM	0.94	61.3	7.28	NM	Clear, no odor

Sample ID(s): APW-09-WG-20221130	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:		Clay Sansoucie 	12/30/2022 17:07

APPENDIX C LABORATORY ANALYTICAL

July 20, 2022

Matt Halley
ERM
68 Villa Grove
Springfield, IL 62712
TEL: (217) 529-0914
FAX:



Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: GTEC

WorkOrder: 22061207

Dear Matt Halley:

TEKLAB, INC received 14 samples on 6/17/2022 8:12:00 AM for the analysis presented in the following report.

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

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

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

Sincerely,



Elizabeth A. Hurley
Director of Customer Service
(618)344-1004 ex 33
ehurley@teklabinc.com



Report Contents

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

This reporting package includes the following:

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Definitions	3
Case Narrative	5
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Laboratory Results	7
Sample Summary	35
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Quality Control Results	43
Receiving Check List	60
Chain of Custody	Appended

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

Abbr Definition

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.

CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.

DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.

DNI Did not ignite

DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

IDPH IL Dept. of Public Health

LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.

MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."

MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).

MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.

RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.

RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).

SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.

Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"

TNTC Too numerous to count (> 200 CFU)

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

Qualifiers

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

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

Cooler Receipt Temp: 3.2 °C

Radium-226 and Radium-228 analysis was performed by Pace Analytical National. See attached report for results.

Locations

Collinsville

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

Collinsville Air

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

Springfield

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

Chicago

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

Kansas City

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



Accreditations

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2023	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2023	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2023	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2023	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2022	Collinsville
Arkansas	ADEQ	88-0966		3/14/2023	Collinsville
Illinois	IDPH	17584		5/31/2023	Collinsville
Iowa	IDNR	430		6/1/2024	Collinsville
Kentucky	UST	0073		1/31/2023	Collinsville
Missouri	MDNR	00930		5/31/2023	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22061207-001
 Matrix: GROUNDWATER

Work Order: 22061207
 Report Date: 20-Jul-22
 Client Sample ID: EB-01-WQ-20220615
 Collection Date: 06/15/2022 7:30

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	16	20		< 20	mg/L	1	06/20/2022 9:38	R313502
SW-846 9036 (TOTAL)									
Sulfate	NELAP	6	10		< 10	mg/L	1	06/21/2022 20:35	R313491
SW-846 9040B, LABORATORY ANALYZED									
Lab pH	NELAP	0	1.00		6.05		1	06/22/2022 12:45	R313558
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.04	0.10		< 0.10	mg/L	1	06/21/2022 10:38	R313505
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	1		< 1	mg/L	1	06/21/2022 20:35	R313492
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 3:29	193827
Arsenic	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/26/2022 8:31	193827
Barium	NELAP	0.0007	0.0010		< 0.0010	mg/L	5	06/29/2022 3:29	193827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 3:29	193827
Boron	NELAP	0.0092	0.0250		< 0.0250	mg/L	5	06/26/2022 8:31	193827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 3:29	193827
Calcium	NELAP	0.080	0.12	J	0.12	mg/L	5	07/01/2022 14:06	193827
Chromium	NELAP	0.0007	0.0015	J	0.0007	mg/L	5	06/29/2022 3:29	193827
Cobalt	NELAP	0.0001	0.0010		< 0.0010	mg/L	5	06/29/2022 3:29	193827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/29/2022 3:29	193827
Lithium	*	0.0015	0.0030		< 0.0030	mg/L	5	06/29/2022 3:29	193827
Molybdenum	NELAP	0.0006	0.0015		< 0.0015	mg/L	5	06/29/2022 3:29	193827
Nickel	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	07/01/2022 14:06	193827
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 8:31	193827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 3:29	193827
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	07/01/2022 11:45	191827
Arsenic	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	07/05/2022 11:11	191827
Barium	NELAP	0.0007	0.0010	J	0.0007	mg/L	5	07/01/2022 11:45	191827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	07/01/2022 11:45	191827
Boron	NELAP	0.0092	0.025	J	0.014	mg/L	5	07/01/2022 11:45	191827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	07/01/2022 11:45	191827
Calcium	NELAP	0.070	0.12	J	0.085	mg/L	5	07/05/2022 11:11	191827
Chromium	NELAP	0.0007	0.0015		< 0.0015	mg/L	5	07/05/2022 11:11	191827
Cobalt	NELAP	0.0001	0.0010		< 0.0010	mg/L	5	07/01/2022 11:45	191827
Iron	NELAP	0.012	0.025	J	0.020	mg/L	5	07/01/2022 11:45	191827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	07/01/2022 11:45	191827
Lithium	*	0.0015	0.0030		< 0.0030	mg/L	5	07/05/2022 11:11	191827
Manganese	NELAP	0.0008	0.0020		< 0.0020	mg/L	5	07/01/2022 11:45	191827
Molybdenum	NELAP	0.0006	0.0015		< 0.0015	mg/L	5	07/01/2022 11:45	191827
Nickel	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	07/01/2022 11:45	191827
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	07/05/2022 11:11	191827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	07/01/2022 11:45	191827
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		< 0.00020	mg/L	1	06/21/2022 18:21	193766



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22061207-001
Matrix: GROUNDWATER

Work Order: 22061207
Report Date: 20-Jul-22
Client Sample ID: EB-01-WQ-20220615
Collection Date: 06/15/2022 7:30

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646
Radium-228	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22061207-002
 Matrix: GROUNDWATER

Work Order: 22061207
 Report Date: 20-Jul-22
 Client Sample ID: APW-04-WG-20220615
 Collection Date: 06/15/2022 9:15

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	16	20		430	mg/L	1	06/20/2022 9:38	R313502
SW-846 9036 (TOTAL)									
Sulfate	NELAP	31	50		94	mg/L	5	06/23/2022 14:21	R313623
SW-846 9040B, LABORATORY ANALYZED									
Lab pH	NELAP	0	1.00		7.41		1	06/22/2022 15:58	R313558
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.04	0.10		0.20	mg/L	1	06/21/2022 10:41	R313505
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	1		12	mg/L	1	06/21/2022 20:57	R313492
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 3:36	193827
Arsenic	NELAP	0.0004	0.0010		0.0013	mg/L	5	06/29/2022 3:36	193827
Barium	NELAP	0.0007	0.0010		0.116	mg/L	5	06/29/2022 3:36	193827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 3:36	193827
Boron	NELAP	0.0092	0.0250		1.41	mg/L	5	06/26/2022 8:36	193827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 3:36	193827
Calcium	NELAP	0.0800	0.125		111	mg/L	5	07/01/2022 14:11	193827
Chromium	NELAP	0.0007	0.0015		< 0.0015	mg/L	5	06/29/2022 3:36	193827
Cobalt	NELAP	0.0001	0.0010		< 0.0010	mg/L	5	06/29/2022 3:36	193827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/29/2022 3:36	193827
Lithium	*	0.0015	0.0030		0.0264	mg/L	5	06/29/2022 3:36	193827
Molybdenum	NELAP	0.0006	0.0015		0.0653	mg/L	5	06/29/2022 3:36	193827
Nickel	NELAP	0.0004	0.0010		0.0019	mg/L	5	07/01/2022 14:11	193827
Selenium	NELAP	0.0006	0.0010		0.0134	mg/L	5	06/26/2022 8:36	193827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 3:36	193827
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	07/01/2022 11:16	191827
Arsenic	NELAP	0.0004	0.0010		0.0015	mg/L	5	06/26/2022 12:47	191827
Barium	NELAP	0.0007	0.0010		0.143	mg/L	5	07/01/2022 11:16	191827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	07/01/2022 11:16	191827
Boron	NELAP	0.0092	0.0250		1.88	mg/L	5	07/01/2022 11:16	191827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	07/01/2022 11:16	191827
Calcium	NELAP	0.0700	0.125		97.8	mg/L	5	07/05/2022 10:42	191827
Chromium	NELAP	0.0007	0.0015		< 0.0015	mg/L	5	07/05/2022 10:42	191827
Cobalt	NELAP	0.0001	0.0010	J	0.0006	mg/L	5	07/01/2022 11:16	191827
Iron	NELAP	0.0115	0.0250		0.563	mg/L	5	07/01/2022 11:16	191827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	07/01/2022 11:16	191827
Lithium	*	0.0015	0.0030		0.0360	mg/L	5	07/01/2022 11:16	191827
Manganese	NELAP	0.0008	0.0020		0.192	mg/L	5	07/01/2022 11:16	191827
Molybdenum	NELAP	0.0006	0.0015		0.0788	mg/L	5	07/01/2022 11:16	191827
Nickel	NELAP	0.0004	0.0010		0.0045	mg/L	5	07/01/2022 11:16	191827
Selenium	NELAP	0.0006	0.0010		0.0133	mg/L	5	06/26/2022 12:47	191827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	07/01/2022 11:16	191827
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		< 0.00020	mg/L	1	06/21/2022 18:23	193766



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22061207-002
Matrix: GROUNDWATER

Work Order: 22061207
Report Date: 20-Jul-22
Client Sample ID: APW-04-WG-20220615
Collection Date: 06/15/2022 9:15

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646
Radium-228	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22061207-003
 Matrix: GROUNDWATER

Work Order: 22061207
 Report Date: 20-Jul-22
 Client Sample ID: APW-1R-WG-20220615
 Collection Date: 06/15/2022 10:40

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	16	20		342	mg/L	1	06/20/2022 9:38	R313502
SW-846 9036 (TOTAL)									
Sulfate	NELAP	6	10		33	mg/L	1	06/21/2022 21:05	R313491
SW-846 9040B, LABORATORY ANALYZED									
Lab pH	NELAP	0	1.00		6.98		1	06/22/2022 12:56	R313558
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.04	0.10		0.21	mg/L	1	06/21/2022 10:43	R313505
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	1		2	mg/L	1	06/21/2022 21:05	R313492
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 4:07	193827
Arsenic	NELAP	0.0004	0.0010		0.0012	mg/L	5	06/26/2022 8:42	193827
Barium	NELAP	0.0007	0.0010		0.160	mg/L	5	06/29/2022 4:07	193827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 4:07	193827
Boron	NELAP	0.0092	0.0250		0.163	mg/L	5	06/26/2022 8:42	193827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 4:07	193827
Calcium	NELAP	0.0800	0.125		85.6	mg/L	5	07/01/2022 14:17	193827
Chromium	NELAP	0.0007	0.0015	J	0.0009	mg/L	5	06/29/2022 4:07	193827
Cobalt	NELAP	0.0001	0.0010	J	0.0002	mg/L	5	06/29/2022 4:07	193827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/29/2022 4:07	193827
Lithium	*	0.0015	0.0030		0.0127	mg/L	5	06/29/2022 4:07	193827
Molybdenum	NELAP	0.0006	0.0015		< 0.0015	mg/L	5	06/29/2022 4:07	193827
Nickel	NELAP	0.0004	0.0010		0.0043	mg/L	5	07/01/2022 14:17	193827
Selenium	NELAP	0.0006	0.0010		0.0028	mg/L	5	06/26/2022 8:42	193827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 4:07	193827
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	07/01/2022 11:22	191827
Arsenic	NELAP	0.0004	0.0010		0.0019	mg/L	5	06/26/2022 12:52	191827
Barium	NELAP	0.0007	0.0010		0.197	mg/L	5	07/01/2022 11:22	191827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	07/01/2022 11:22	191827
Boron	NELAP	0.0092	0.0250		0.228	mg/L	5	07/01/2022 11:22	191827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	07/01/2022 11:22	191827
Calcium	NELAP	0.0700	0.125		90.3	mg/L	5	07/05/2022 10:48	191827
Chromium	NELAP	0.0007	0.0015		0.0031	mg/L	5	07/05/2022 10:48	191827
Cobalt	NELAP	0.0001	0.0010		0.0017	mg/L	5	07/01/2022 11:22	191827
Iron	NELAP	0.0115	0.0250		1.42	mg/L	5	07/01/2022 11:22	191827
Lead	NELAP	0.0006	0.0010		0.0013	mg/L	5	07/01/2022 11:22	191827
Lithium	*	0.0015	0.0030		0.0171	mg/L	5	07/01/2022 11:22	191827
Manganese	NELAP	0.0008	0.0020		0.139	mg/L	5	07/01/2022 11:22	191827
Molybdenum	NELAP	0.0006	0.0015		< 0.0015	mg/L	5	07/01/2022 11:22	191827
Nickel	NELAP	0.0004	0.0010		0.0083	mg/L	5	07/01/2022 11:22	191827
Selenium	NELAP	0.0006	0.0010		0.0028	mg/L	5	06/26/2022 12:52	191827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	07/01/2022 11:22	191827
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		< 0.00020	mg/L	1	06/21/2022 18:30	193766



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM Work Order: 22061207
Client Project: GTEC Report Date: 20-Jul-22
Lab ID: 22061207-003 Client Sample ID: APW-1R-WG-20220615
Matrix: GROUNDWATER Collection Date: 06/15/2022 10:40

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646
Radium-228	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22061207-004
 Matrix: GROUNDWATER

Work Order: 22061207
 Report Date: 20-Jul-22
 Client Sample ID: APW-09-WG-20220615
 Collection Date: 06/15/2022 12:10

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	16	20		424	mg/L	1	06/20/2022 9:39	R313502
SW-846 9036 (TOTAL)									
Sulfate	NELAP	61	100		104	mg/L	10	06/21/2022 21:34	R313491
SW-846 9040B, LABORATORY ANALYZED									
Lab pH	NELAP	0	1.00		7.48		1	06/22/2022 12:59	R313558
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.04	0.10		0.23	mg/L	1	06/21/2022 10:45	R313505
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	1		13	mg/L	1	06/21/2022 21:29	R313492
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 4:51	193827
Arsenic	NELAP	0.0004	0.0010		0.0019	mg/L	5	06/26/2022 8:58	193827
Barium	NELAP	0.0007	0.0010		0.129	mg/L	5	06/29/2022 4:51	193827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 4:51	193827
Boron	NELAP	0.0092	0.0250		1.32	mg/L	5	06/26/2022 8:58	193827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 4:51	193827
Calcium	NELAP	0.0800	0.125	S	107	mg/L	5	07/01/2022 14:28	193827
Chromium	NELAP	0.0007	0.0015		< 0.0015	mg/L	5	06/29/2022 4:51	193827
Cobalt	NELAP	0.0001	0.0010		< 0.0010	mg/L	5	06/29/2022 4:51	193827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/29/2022 4:51	193827
Lithium	*	0.0015	0.0030		0.0184	mg/L	5	06/29/2022 4:51	193827
Molybdenum	NELAP	0.0006	0.0015		0.0351	mg/L	5	06/29/2022 4:51	193827
Nickel	NELAP	0.0004	0.0010		0.0017	mg/L	5	07/01/2022 14:28	193827
Selenium	NELAP	0.0006	0.0010		0.0210	mg/L	5	06/26/2022 8:58	193827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 4:51	193827
<i>Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.</i>									
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	07/01/2022 11:28	191827
Arsenic	NELAP	0.0004	0.0010		0.0026	mg/L	5	06/26/2022 12:58	191827
Barium	NELAP	0.0007	0.0010		0.186	mg/L	5	07/01/2022 11:28	191827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	07/01/2022 11:28	191827
Boron	NELAP	0.0092	0.0250		1.61	mg/L	5	07/01/2022 11:28	191827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	07/01/2022 11:28	191827
Calcium	NELAP	0.0700	0.125		110	mg/L	5	07/05/2022 10:54	191827
Chromium	NELAP	0.0007	0.0015	J	0.0011	mg/L	5	07/05/2022 10:54	191827
Cobalt	NELAP	0.0001	0.0010		0.0010	mg/L	5	07/01/2022 11:28	191827
Iron	NELAP	0.0115	0.0250		0.496	mg/L	5	07/01/2022 11:28	191827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	07/01/2022 11:28	191827
Lithium	*	0.0015	0.0030		0.0246	mg/L	5	07/01/2022 11:28	191827
Manganese	NELAP	0.0008	0.0020		0.599	mg/L	5	07/01/2022 11:28	191827
Molybdenum	NELAP	0.0006	0.0015		0.0455	mg/L	5	07/01/2022 11:28	191827
Nickel	NELAP	0.0004	0.0010		0.0040	mg/L	5	07/01/2022 11:28	191827
Selenium	NELAP	0.0006	0.0010		0.0219	mg/L	5	06/26/2022 12:58	191827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	07/01/2022 11:28	191827
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		< 0.00020	mg/L	1	06/21/2022 18:37	193766



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22061207-004
Matrix: GROUNDWATER

Work Order: 22061207
Report Date: 20-Jul-22
Client Sample ID: APW-09-WG-20220615
Collection Date: 06/15/2022 12:10

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646
Radium-228	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22061207-005
 Matrix: GROUNDWATER

Work Order: 22061207
 Report Date: 20-Jul-22
 Client Sample ID: APW-10S-WG-20220615
 Collection Date: 06/15/2022 13:40

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	40	50		735	mg/L	2.5	06/20/2022 9:39	R313502
SW-846 9036 (TOTAL)									
Sulfate	NELAP	6	10		< 10	mg/L	1	06/21/2022 21:37	R313491
SW-846 9040B, LABORATORY ANALYZED									
Lab pH	NELAP	0	1.00		7.09		1	06/22/2022 16:00	R313558
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.04	0.10		0.17	mg/L	1	06/21/2022 10:47	R313505
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	1		12	mg/L	1	06/21/2022 21:37	R313492
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 4:13	193827
Arsenic	NELAP	0.0004	0.0010		0.152	mg/L	5	06/26/2022 8:47	193827
Barium	NELAP	0.0007	0.0010		0.423	mg/L	5	06/29/2022 4:13	193827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 4:13	193827
Boron	NELAP	0.0092	0.0250		0.570	mg/L	5	06/26/2022 8:47	193827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 4:13	193827
Calcium	NELAP	0.0800	0.125		169	mg/L	5	07/01/2022 14:23	193827
Chromium	NELAP	0.0007	0.0015		< 0.0015	mg/L	5	06/29/2022 4:13	193827
Cobalt	NELAP	0.0001	0.0010	J	0.0001	mg/L	5	06/29/2022 4:13	193827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/29/2022 4:13	193827
Lithium	*	0.0015	0.0030		0.0266	mg/L	5	06/29/2022 4:13	193827
Molybdenum	NELAP	0.0006	0.0015		< 0.0015	mg/L	5	06/29/2022 4:13	193827
Nickel	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	07/01/2022 14:23	193827
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 8:47	193827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 4:13	193827
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	07/01/2022 11:33	191827
Arsenic	NELAP	0.0004	0.0010		0.185	mg/L	5	06/26/2022 13:59	191827
Barium	NELAP	0.0007	0.0010		0.575	mg/L	5	07/01/2022 11:33	191827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	07/01/2022 11:33	191827
Boron	NELAP	0.0092	0.0250		0.683	mg/L	5	07/01/2022 11:33	191827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	07/01/2022 11:33	191827
Calcium	NELAP	0.0700	0.125		161	mg/L	5	07/05/2022 11:00	191827
Chromium	NELAP	0.0007	0.0015	J	0.0015	mg/L	5	07/05/2022 11:00	191827
Cobalt	NELAP	0.0001	0.0010	J	0.0006	mg/L	5	07/01/2022 11:33	191827
Iron	NELAP	0.0115	0.0250		19.6	mg/L	5	07/01/2022 11:33	191827
Lead	NELAP	0.0006	0.0010	J	0.0007	mg/L	5	07/01/2022 11:33	191827
Lithium	*	0.0015	0.0030		0.0353	mg/L	5	07/01/2022 11:33	191827
Manganese	NELAP	0.0008	0.0020		0.243	mg/L	5	07/01/2022 11:33	191827
Molybdenum	NELAP	0.0006	0.0015		< 0.0015	mg/L	5	07/01/2022 11:33	191827
Nickel	NELAP	0.0004	0.0010		0.0014	mg/L	5	07/01/2022 11:33	191827
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 13:59	191827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	07/01/2022 11:33	191827
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		< 0.00020	mg/L	1	06/21/2022 18:39	193766



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

Lab ID: 22061207-005

Client Sample ID: APW-10S-WG-20220615

Matrix: GROUNDWATER

Collection Date: 06/15/2022 13:40

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646
Radium-228	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22061207-006
 Matrix: GROUNDWATER

Work Order: 22061207
 Report Date: 20-Jul-22
 Client Sample ID: APW-10D-WG-20220615
 Collection Date: 06/15/2022 14:55

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	16	20		452	mg/L	1	06/20/2022 10:25	R313502
SW-846 9036 (TOTAL)									
Sulfate	NELAP	6	10		41	mg/L	1	06/21/2022 21:45	R313491
SW-846 9040B, LABORATORY ANALYZED									
Lab pH	NELAP	0	1.00		7.21		1	06/22/2022 13:19	R313558
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.04	0.10		0.12	mg/L	1	06/21/2022 10:50	R313505
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	1		16	mg/L	1	06/21/2022 21:45	R313492
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 4:20	193827
Arsenic	NELAP	0.0004	0.0010	J	0.0008	mg/L	5	06/26/2022 8:53	193827
Barium	NELAP	0.0007	0.0010		0.342	mg/L	5	06/29/2022 4:20	193827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 4:20	193827
Boron	NELAP	0.0092	0.0250		0.0786	mg/L	5	06/29/2022 4:20	193827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 4:20	193827
Calcium	NELAP	0.0800	0.125		143	mg/L	5	07/01/2022 15:08	193827
Chromium	NELAP	0.0007	0.0015		< 0.0015	mg/L	5	06/29/2022 4:20	193827
Cobalt	NELAP	0.0001	0.0010		0.0025	mg/L	5	06/29/2022 4:20	193827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/29/2022 4:20	193827
Lithium	*	0.0015	0.0030		0.0135	mg/L	5	06/29/2022 4:20	193827
Molybdenum	NELAP	0.0006	0.0015		< 0.0015	mg/L	5	06/29/2022 4:20	193827
Nickel	NELAP	0.0004	0.0010		0.0054	mg/L	5	07/01/2022 15:08	193827
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 8:53	193827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 4:20	193827
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	07/01/2022 11:39	191827
Arsenic	NELAP	0.0004	0.0010		0.0017	mg/L	5	06/26/2022 14:04	191827
Barium	NELAP	0.0007	0.0010		0.407	mg/L	5	07/01/2022 11:39	191827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	07/01/2022 11:39	191827
Boron	NELAP	0.0092	0.0250		0.118	mg/L	5	07/01/2022 11:39	191827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	07/01/2022 11:39	191827
Calcium	NELAP	0.0700	0.125		135	mg/L	5	07/05/2022 11:05	191827
Chromium	NELAP	0.0007	0.0015		< 0.0015	mg/L	5	07/05/2022 11:05	191827
Cobalt	NELAP	0.0001	0.0010		0.0034	mg/L	5	07/01/2022 11:39	191827
Iron	NELAP	0.0115	0.0250		0.758	mg/L	5	07/01/2022 11:39	191827
Lead	NELAP	0.0006	0.0010		0.0010	mg/L	5	07/01/2022 11:39	191827
Lithium	*	0.0015	0.0030		0.0180	mg/L	5	07/01/2022 11:39	191827
Manganese	NELAP	0.0008	0.0020		1.16	mg/L	5	07/01/2022 11:39	191827
Molybdenum	NELAP	0.0006	0.0015		< 0.0015	mg/L	5	07/01/2022 11:39	191827
Nickel	NELAP	0.0004	0.0010		0.0070	mg/L	5	07/01/2022 11:39	191827
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 14:04	191827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	07/01/2022 11:39	191827
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		< 0.00020	mg/L	1	06/21/2022 18:41	181135



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22061207-006
Matrix: GROUNDWATER

Work Order: 22061207
Report Date: 20-Jul-22
Client Sample ID: APW-10D-WG-20220615
Collection Date: 06/15/2022 14:55

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646
Radium-228	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22061207-007
 Matrix: GROUNDWATER

Work Order: 22061207
 Report Date: 20-Jul-22
 Client Sample ID: APW-07-WG-20220616
 Collection Date: 06/16/2022 7:15

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	40	50		780	mg/L	2.5	06/20/2022 10:25	R313502
SW-846 9036 (TOTAL)									
Sulfate	NELAP	12	20		72	mg/L	2	06/23/2022 14:23	R313623
SW-846 9040B, LABORATORY ANALYZED									
Lab pH	NELAP	0	1.00		6.88		1	06/22/2022 13:20	R313558
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.04	0.10		0.18	mg/L	1	06/21/2022 10:53	R313505
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	1		11	mg/L	1	06/21/2022 21:53	R313492
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 4:26	193827
Arsenic	NELAP	0.0004	0.0010		0.0011	mg/L	5	06/26/2022 9:54	193827
Barium	NELAP	0.0007	0.0010		0.334	mg/L	5	06/29/2022 4:26	193827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 4:26	193827
Boron	NELAP	0.0092	0.0250		0.148	mg/L	5	06/26/2022 9:54	193827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 4:26	193827
Calcium	NELAP	0.0800	0.125		222	mg/L	5	07/01/2022 15:14	193827
Chromium	NELAP	0.0007	0.0015		< 0.0015	mg/L	5	06/29/2022 4:26	193827
Cobalt	NELAP	0.0001	0.0010		< 0.0010	mg/L	5	06/29/2022 4:26	193827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/29/2022 4:26	193827
Lithium	*	0.0015	0.0030		0.0126	mg/L	5	06/29/2022 4:26	193827
Molybdenum	NELAP	0.0006	0.0015		0.0026	mg/L	5	06/29/2022 4:26	193827
Nickel	NELAP	0.0004	0.0010	J	0.0008	mg/L	5	07/01/2022 15:14	193827
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 9:54	193827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 4:26	193827
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 6:19	193823
Arsenic	NELAP	0.0004	0.0010		0.0023	mg/L	5	06/26/2022 11:01	193823
Barium	NELAP	0.0007	0.0010		0.374	mg/L	5	06/29/2022 6:19	193823
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 6:19	193823
Boron	NELAP	0.0092	0.0250		0.168	mg/L	5	06/26/2022 11:01	193823
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 6:19	193823
Calcium	NELAP	0.0700	0.125		238	mg/L	5	07/01/2022 12:24	193823
Chromium	NELAP	0.0007	0.0015		0.0041	mg/L	5	06/29/2022 6:19	193823
Cobalt	NELAP	0.0001	0.0010	J	0.0010	mg/L	5	06/29/2022 6:19	193823
Iron	NELAP	0.0150	0.0250		17.3	mg/L	5	06/29/2022 6:19	193823
Lead	NELAP	0.0006	0.0010		0.0074	mg/L	5	06/29/2022 6:19	193823
Lithium	*	0.0015	0.0030		0.0143	mg/L	5	06/29/2022 6:19	193823
Manganese	NELAP	0.0020	0.0020		1.11	mg/L	5	06/29/2022 6:19	193823
Molybdenum	NELAP	0.0006	0.0015		0.0035	mg/L	5	07/01/2022 12:24	193823
Nickel	NELAP	0.0004	0.0010		0.0042	mg/L	5	06/29/2022 6:19	193823
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 11:01	193823
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 6:19	193823
<i>Sample result(s) for B exceed 10 times the CCB. Data is reportable per the TNI Standard.</i>									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		< 0.00020	mg/L	1	06/21/2022 18:48	181135



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22061207-007
Matrix: GROUNDWATER

Work Order: 22061207
Report Date: 20-Jul-22
Client Sample ID: APW-07-WG-20220616
Collection Date: 06/16/2022 7:15

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646
Radium-228	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22061207-008
 Matrix: GROUNDWATER

Work Order: 22061207
 Report Date: 20-Jul-22
 Client Sample ID: APW-08-WG-20220616
 Collection Date: 06/16/2022 9:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	16	20		382	mg/L	1	06/20/2022 10:26	R313502
SW-846 9036 (TOTAL)									
Sulfate	NELAP	6	10		39	mg/L	1	06/21/2022 22:01	R313491
SW-846 9040B, LABORATORY ANALYZED									
Lab pH	NELAP	0	1.00		7.34		1	06/22/2022 13:23	R313558
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.04	0.10		0.29	mg/L	1	06/21/2022 10:55	R313505
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	1		9	mg/L	1	06/21/2022 22:01	R313492
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 4:32	193827
Arsenic	NELAP	0.0004	0.0010		0.0011	mg/L	5	06/26/2022 10:00	193827
Barium	NELAP	0.0007	0.0010		0.194	mg/L	5	06/29/2022 4:32	193827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 4:32	193827
Boron	NELAP	0.0092	0.0250		0.0777	mg/L	5	06/26/2022 10:00	193827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 4:32	193827
Calcium	NELAP	0.0800	0.125		108	mg/L	5	07/01/2022 15:19	193827
Chromium	NELAP	0.0007	0.0015		< 0.0015	mg/L	5	06/29/2022 4:32	193827
Cobalt	NELAP	0.0001	0.0010		0.0013	mg/L	5	06/29/2022 4:32	193827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/29/2022 4:32	193827
Lithium	*	0.0015	0.0030		0.0141	mg/L	5	06/29/2022 4:32	193827
Molybdenum	NELAP	0.0006	0.0015	J	0.0008	mg/L	5	06/29/2022 4:32	193827
Nickel	NELAP	0.0004	0.0010		0.0023	mg/L	5	07/01/2022 15:19	193827
Selenium	NELAP	0.0006	0.0010		0.0027	mg/L	5	06/26/2022 10:00	193827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 4:32	193827
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 6:25	193823
Arsenic	NELAP	0.0004	0.0010		0.0022	mg/L	5	06/26/2022 11:07	193823
Barium	NELAP	0.0007	0.0010		0.235	mg/L	5	06/29/2022 6:25	193823
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 6:25	193823
Boron	NELAP	0.0092	0.0250		0.115	mg/L	5	06/29/2022 6:25	193823
Cadmium	NELAP	0.0002	0.0010	J	0.0002	mg/L	5	06/29/2022 6:25	193823
Calcium	NELAP	0.140	0.250		93.3	mg/L	10	07/05/2022 11:58	193823
Chromium	NELAP	0.0007	0.0015		0.0054	mg/L	5	06/29/2022 6:25	193823
Cobalt	NELAP	0.0001	0.0010		0.0020	mg/L	5	06/29/2022 6:25	193823
Iron	NELAP	0.0150	0.0250		3.14	mg/L	5	06/29/2022 6:25	193823
Lead	NELAP	0.0006	0.0010		0.0024	mg/L	5	06/29/2022 6:25	193823
Lithium	*	0.0015	0.0030		0.0160	mg/L	5	06/29/2022 6:25	193823
Manganese	NELAP	0.0020	0.0020		0.202	mg/L	5	06/29/2022 6:25	193823
Molybdenum	NELAP	0.0006	0.0015	J	0.0015	mg/L	5	06/29/2022 6:25	193823
Nickel	NELAP	0.0004	0.0010		0.0054	mg/L	5	06/29/2022 6:25	193823
Selenium	NELAP	0.0006	0.0010		0.0036	mg/L	5	06/26/2022 11:07	193823
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 6:25	193823
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		< 0.00020	mg/L	1	06/21/2022 18:51	181135



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22061207-008
Matrix: GROUNDWATER

Work Order: 22061207
Report Date: 20-Jul-22
Client Sample ID: APW-08-WG-20220616
Collection Date: 06/16/2022 9:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646
Radium-228	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22061207-009
 Matrix: GROUNDWATER

Work Order: 22061207
 Report Date: 20-Jul-22
 Client Sample ID: APW-03-WG-20220616
 Collection Date: 06/16/2022 10:30

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	16	20		724	mg/L	1	06/20/2022 10:26	R313502
SW-846 9036 (TOTAL)									
Sulfate	NELAP	61	100		393	mg/L	10	06/21/2022 22:30	R313491
SW-846 9040B, LABORATORY ANALYZED									
Lab pH	NELAP	0	1.00		7.85		1	06/22/2022 13:26	R313558
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.04	0.10		0.26	mg/L	1	06/21/2022 11:06	R313505
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	4		20	mg/L	1	06/23/2022 14:26	R313624
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 4:38	193827
Arsenic	NELAP	0.0004	0.0010		0.0015	mg/L	5	06/26/2022 10:05	193827
Barium	NELAP	0.0007	0.0010		0.139	mg/L	5	06/29/2022 4:38	193827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 4:38	193827
Boron	NELAP	0.0092	0.0250		4.23	mg/L	5	06/26/2022 10:05	193827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 4:38	193827
Calcium	NELAP	0.0800	0.125		174	mg/L	5	07/01/2022 15:25	193827
Chromium	NELAP	0.0007	0.0015	J	0.0011	mg/L	5	06/29/2022 4:38	193827
Cobalt	NELAP	0.0001	0.0010		< 0.0010	mg/L	5	06/29/2022 4:38	193827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/29/2022 4:38	193827
Lithium	*	0.0015	0.0030		0.0338	mg/L	5	06/29/2022 4:38	193827
Molybdenum	NELAP	0.0006	0.0015		0.0570	mg/L	5	06/29/2022 4:38	193827
Nickel	NELAP	0.0004	0.0010		0.0016	mg/L	5	07/01/2022 15:25	193827
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 10:05	193827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 4:38	193827
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 6:31	193823
Arsenic	NELAP	0.0004	0.0010		0.0020	mg/L	5	06/26/2022 11:12	193823
Barium	NELAP	0.0007	0.0010		0.158	mg/L	5	06/29/2022 6:31	193823
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 6:31	193823
Boron	NELAP	0.0092	0.0250		4.27	mg/L	5	06/26/2022 11:12	193823
Cadmium	NELAP	0.0002	0.0010	J	0.0002	mg/L	5	06/29/2022 6:31	193823
Calcium	NELAP	0.140	0.250		153	mg/L	10	07/05/2022 12:04	193823
Chromium	NELAP	0.0007	0.0015		0.0044	mg/L	5	06/29/2022 6:31	193823
Cobalt	NELAP	0.0001	0.0010	J	0.0005	mg/L	5	06/29/2022 6:31	193823
Iron	NELAP	0.0150	0.0250		1.66	mg/L	5	06/29/2022 6:31	193823
Lead	NELAP	0.0006	0.0010		0.0013	mg/L	5	06/29/2022 6:31	193823
Lithium	*	0.0015	0.0030		0.0361	mg/L	5	06/29/2022 6:31	193823
Manganese	NELAP	0.0020	0.0020		0.321	mg/L	5	06/29/2022 6:31	193823
Molybdenum	NELAP	0.0006	0.0015		0.0601	mg/L	5	06/29/2022 6:31	193823
Nickel	NELAP	0.0004	0.0010		0.0033	mg/L	5	06/29/2022 6:31	193823
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 11:12	193823
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 6:31	193823
<i>Sample result(s) for B exceed 10 times the CCB. Data is reportable per the TNI Standard.</i>									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		< 0.00020	mg/L	1	06/21/2022 18:57	181135



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22061207-009
Matrix: GROUNDWATER

Work Order: 22061207
Report Date: 20-Jul-22
Client Sample ID: APW-03-WG-20220616
Collection Date: 06/16/2022 10:30

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646
Radium-228	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22061207-010
 Matrix: GROUNDWATER

Work Order: 22061207
 Report Date: 20-Jul-22
 Client Sample ID: APW-6S-WG-20220616
 Collection Date: 06/16/2022 12:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	40	50		600	mg/L	2.5	06/20/2022 10:26	R313502
SW-846 9036 (TOTAL)									
Sulfate	NELAP	61	100		200	mg/L	10	06/21/2022 22:43	R313491
SW-846 9040B, LABORATORY ANALYZED									
Lab pH	NELAP	0	1.00		7.24		1	06/22/2022 13:28	R313558
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.04	0.10		0.29	mg/L	1	06/21/2022 11:08	R313505
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	8		24	mg/L	2	06/23/2022 16:07	R313624
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 4:45	193827
Arsenic	NELAP	0.0004	0.0010	J	0.0009	mg/L	5	06/26/2022 10:11	193827
Barium	NELAP	0.0007	0.0010		0.233	mg/L	5	06/29/2022 4:45	193827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 4:45	193827
Boron	NELAP	0.0092	0.0250		4.92	mg/L	5	06/26/2022 10:11	193827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 4:45	193827
Calcium	NELAP	0.0800	0.125		124	mg/L	5	07/01/2022 15:31	193827
Chromium	NELAP	0.0007	0.0015		< 0.0015	mg/L	5	06/29/2022 4:45	193827
Cobalt	NELAP	0.0001	0.0010	J	0.0002	mg/L	5	06/29/2022 4:45	193827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/29/2022 4:45	193827
Lithium	*	0.0015	0.0030		0.0355	mg/L	5	06/29/2022 4:45	193827
Molybdenum	NELAP	0.0006	0.0015		0.229	mg/L	5	06/29/2022 4:45	193827
Nickel	NELAP	0.0004	0.0010		0.0015	mg/L	5	07/01/2022 15:31	193827
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 10:11	193827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 4:45	193827
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 6:38	193823
Arsenic	NELAP	0.0004	0.0010	J	0.0009	mg/L	5	06/26/2022 11:18	193823
Barium	NELAP	0.0007	0.0010		0.250	mg/L	5	06/29/2022 6:38	193823
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 6:38	193823
Boron	NELAP	0.0092	0.0250		4.77	mg/L	5	06/26/2022 11:18	193823
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 6:38	193823
Calcium	NELAP	0.140	0.250		115	mg/L	10	07/05/2022 12:10	193823
Chromium	NELAP	0.0007	0.0015		0.0028	mg/L	5	06/29/2022 6:38	193823
Cobalt	NELAP	0.0001	0.0010	J	0.0002	mg/L	5	06/29/2022 6:38	193823
Iron	NELAP	0.0150	0.0250		9.35	mg/L	5	06/29/2022 6:38	193823
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/29/2022 6:38	193823
Lithium	*	0.0015	0.0030		0.0363	mg/L	5	06/29/2022 6:38	193823
Manganese	NELAP	0.0020	0.0020		0.530	mg/L	5	06/29/2022 6:38	193823
Molybdenum	NELAP	0.0006	0.0015		0.237	mg/L	5	06/29/2022 6:38	193823
Nickel	NELAP	0.0004	0.0010		0.0027	mg/L	5	06/29/2022 6:38	193823
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 11:18	193823
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 6:38	193823
<i>Sample result(s) for B exceed 10 times the CCB. Data is reportable per the TNI Standard.</i>									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		< 0.00020	mg/L	1	06/21/2022 19:00	181135



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22061207-010
Matrix: GROUNDWATER

Work Order: 22061207
Report Date: 20-Jul-22
Client Sample ID: APW-6S-WG-20220616
Collection Date: 06/16/2022 12:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646
Radium-228	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22061207-011
 Matrix: GROUNDWATER

Work Order: 22061207
 Report Date: 20-Jul-22
 Client Sample ID: APW-05-WG-20220616
 Collection Date: 06/16/2022 13:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	40	50		650	mg/L	2.5	06/20/2022 10:26	R313502
SW-846 9036 (TOTAL)									
Sulfate	NELAP	61	100		224	mg/L	10	06/21/2022 22:59	R313491
SW-846 9040B, LABORATORY ANALYZED									
Lab pH	NELAP	0	1.00		7.35		1	06/22/2022 13:31	R313558
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.04	0.10		0.35	mg/L	1	06/21/2022 11:10	R313505
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	4		19	mg/L	1	06/23/2022 14:42	R313624
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 5:54	193827
Arsenic	NELAP	0.0004	0.0010		0.0020	mg/L	5	06/26/2022 10:16	193827
Barium	NELAP	0.0007	0.0010		0.133	mg/L	5	06/29/2022 5:54	193827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 5:54	193827
Boron	NELAP	0.0092	0.0250		7.63	mg/L	5	06/26/2022 10:16	193827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 5:54	193827
Calcium	NELAP	0.0800	0.125		139	mg/L	5	07/01/2022 15:36	193827
Chromium	NELAP	0.0007	0.0015		< 0.0015	mg/L	5	06/29/2022 5:54	193827
Cobalt	NELAP	0.0001	0.0010	J	0.0006	mg/L	5	06/29/2022 5:54	193827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/29/2022 5:54	193827
Lithium	*	0.0015	0.0030		0.0282	mg/L	5	06/29/2022 5:54	193827
Molybdenum	NELAP	0.0006	0.0015		0.172	mg/L	5	06/29/2022 5:54	193827
Nickel	NELAP	0.0004	0.0010		0.0036	mg/L	5	07/01/2022 15:36	193827
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 10:16	193827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 5:54	193827
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	07/01/2022 12:47	193823
Arsenic	NELAP	0.0004	0.0010		0.0048	mg/L	5	06/26/2022 11:23	193823
Barium	NELAP	0.0007	0.0010		0.187	mg/L	5	07/01/2022 12:47	193823
Beryllium	NELAP	0.0005	0.0020		< 0.0020	mg/L	10	07/06/2022 10:10	193823
Boron	NELAP	0.0092	0.0250		7.67	mg/L	5	06/26/2022 11:23	193823
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	07/01/2022 12:47	193823
Calcium	NELAP	0.140	0.250		127	mg/L	10	07/05/2022 12:16	193823
Chromium	NELAP	0.0014	0.0030	J	0.0016	mg/L	10	07/05/2022 12:16	193823
Cobalt	NELAP	0.0002	0.0020	J	0.0013	mg/L	10	07/05/2022 12:16	193823
Iron	NELAP	0.0230	0.0500		2.77	mg/L	10	07/05/2022 12:16	193823
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	07/01/2022 12:47	193823
Lithium	*	0.0029	0.0060		0.0331	mg/L	10	07/05/2022 12:16	193823
Manganese	NELAP	0.0015	0.0040		0.900	mg/L	10	07/05/2022 12:16	193823
Molybdenum	NELAP	0.0006	0.0015		0.203	mg/L	5	07/01/2022 12:47	193823
Nickel	NELAP	0.0009	0.0020		0.0037	mg/L	10	07/05/2022 12:16	193823
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 11:23	193823
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	07/01/2022 12:47	193823

Be - Elevated reporting limit due to matrix interference.

Cr and Co - Elevated reporting limit due to matrix interference.

Sample result(s) for B exceed 10 times the CCB. Data is reportable per the TNI Standard.



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

Lab ID: 22061207-011

Client Sample ID: APW-05-WG-20220616

Matrix: GROUNDWATER

Collection Date: 06/16/2022 13:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		< 0.00020	mg/L	1	06/21/2022 19:02	181135
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646
Radium-228	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22061207-012
 Matrix: GROUNDWATER

Work Order: 22061207
 Report Date: 20-Jul-22
 Client Sample ID: DUP-001-WG-20220616
 Collection Date: 06/16/2022 0:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	16	20		690	mg/L	1	06/20/2022 10:27	R313502
SW-846 9036 (TOTAL)									
Sulfate	NELAP	61	100		239	mg/L	10	06/21/2022 23:24	R313491
SW-846 9040B, LABORATORY ANALYZED									
Lab pH	NELAP	0	1.00		7.49		1	06/22/2022 13:34	R313558
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.07	0.20		0.33	mg/L	2	06/21/2022 16:23	R313505
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	4		19	mg/L	1	06/23/2022 14:45	R313624
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 6:00	193827
Arsenic	NELAP	0.0004	0.0010		0.0021	mg/L	5	06/26/2022 10:22	193827
Barium	NELAP	0.0007	0.0010		0.132	mg/L	5	06/29/2022 6:00	193827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 6:00	193827
Boron	NELAP	0.0092	0.0250		7.70	mg/L	5	06/26/2022 10:22	193827
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 6:00	193827
Calcium	NELAP	0.0800	0.125		141	mg/L	5	07/01/2022 15:42	193827
Chromium	NELAP	0.0007	0.0015		< 0.0015	mg/L	5	06/29/2022 6:00	193827
Cobalt	NELAP	0.0001	0.0010	J	0.0005	mg/L	5	06/29/2022 6:00	193827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/29/2022 6:00	193827
Lithium	*	0.0015	0.0030		0.0290	mg/L	5	06/29/2022 6:00	193827
Molybdenum	NELAP	0.0006	0.0015		0.170	mg/L	5	06/29/2022 6:00	193827
Nickel	NELAP	0.0004	0.0010		0.0035	mg/L	5	07/01/2022 15:42	193827
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 10:22	193827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 6:00	193827
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	07/01/2022 13:04	193823
Arsenic	NELAP	0.0004	0.0010		0.0041	mg/L	5	06/26/2022 11:40	193823
Barium	NELAP	0.0007	0.0010		0.174	mg/L	5	07/01/2022 13:04	193823
Beryllium	NELAP	0.0005	0.0020		< 0.0020	mg/L	10	07/06/2022 10:27	193823
Boron	NELAP	0.0092	0.0250	S	8.24	mg/L	5	06/26/2022 11:40	193823
Cadmium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	07/01/2022 13:04	193823
Calcium	NELAP	0.140	0.250	S	129	mg/L	10	07/06/2022 10:27	193823
Chromium	NELAP	0.0014	0.0030		< 0.0030	mg/L	10	07/05/2022 12:39	193823
Cobalt	NELAP	0.0002	0.0020	J	0.0011	mg/L	10	07/05/2022 12:39	193823
Iron	NELAP	0.0230	0.0500		1.89	mg/L	10	07/06/2022 10:27	193823
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	07/01/2022 13:04	193823
Lithium	*	0.0029	0.0060		0.0363	mg/L	10	07/06/2022 10:27	193823
Manganese	NELAP	0.0015	0.0040		0.904	mg/L	10	07/06/2022 10:27	193823
Molybdenum	NELAP	0.0006	0.0015		0.195	mg/L	5	07/01/2022 13:04	193823
Nickel	NELAP	0.0009	0.0020		0.0039	mg/L	10	07/05/2022 12:39	193823
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 11:40	193823
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	07/01/2022 13:04	193823



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM	Work Order: 22061207
Client Project: GTEC	Report Date: 20-Jul-22
Lab ID: 22061207-012	Client Sample ID: DUP-001-WG-20220616
Matrix: GROUNDWATER	Collection Date: 06/16/2022 0:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
<i>Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.</i>									
<i>Be - Elevated reporting limit due to matrix interference.</i>									
<i>Cr and Co - Elevated reporting limit due to matrix interference.</i>									
<i>Sample result(s) for B exceed 10 times the CCB. Data is reportable per the TNI Standard.</i>									
<i>Matrix spike control limits for B are not applicable due to high sample/spike ratio.</i>									
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		< 0.00020	mg/L	1	06/21/2022 19:04	181135
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646
Radium-228	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22061207-013
 Matrix: GROUNDWATER

Work Order: 22061207
 Report Date: 20-Jul-22
 Client Sample ID: APW-02-WG-20220616
 Collection Date: 06/16/2022 15:10

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	40	50		930	mg/L	2.5	06/20/2022 10:27	R313502
SW-846 9036 (TOTAL)									
Sulfate	NELAP	123	200		496	mg/L	20	06/23/2022 14:53	R313623
SW-846 9040B, LABORATORY ANALYZED									
Lab pH	NELAP	0	1.00		7.21		1	06/22/2022 13:37	R313558
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.04	0.10		0.25	mg/L	1	06/21/2022 11:12	R313505
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	4		9	mg/L	1	06/23/2022 14:47	R313624
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 6:06	193827
Arsenic	NELAP	0.0004	0.0010		0.0117	mg/L	5	06/26/2022 10:28	193827
Barium	NELAP	0.0007	0.0010		0.154	mg/L	5	06/29/2022 6:06	193827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 6:06	193827
Boron	NELAP	0.0092	0.0250		8.17	mg/L	5	06/26/2022 10:28	193827
Cadmium	NELAP	0.0002	0.0010	J	0.0003	mg/L	5	06/29/2022 6:06	193827
Calcium	NELAP	0.0800	0.125		175	mg/L	5	07/01/2022 15:48	193827
Chromium	NELAP	0.0007	0.0015		< 0.0015	mg/L	5	06/29/2022 6:06	193827
Cobalt	NELAP	0.0001	0.0010	J	0.0003	mg/L	5	06/29/2022 6:06	193827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/29/2022 6:06	193827
Lithium	*	0.0015	0.0030		0.0370	mg/L	5	06/29/2022 6:06	193827
Molybdenum	NELAP	0.0006	0.0015		0.201	mg/L	5	06/29/2022 6:06	193827
Nickel	NELAP	0.0004	0.0010		0.0039	mg/L	5	07/01/2022 15:48	193827
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 10:28	193827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 6:06	193827
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010	J	0.0006	mg/L	5	07/01/2022 12:53	193823
Arsenic	NELAP	0.0004	0.0010		0.0158	mg/L	5	06/26/2022 11:29	193823
Barium	NELAP	0.0007	0.0010		0.237	mg/L	5	07/01/2022 12:53	193823
Beryllium	NELAP	0.0005	0.0020		< 0.0020	mg/L	10	07/06/2022 10:16	193823
Boron	NELAP	0.0092	0.0250		8.13	mg/L	5	06/26/2022 11:29	193823
Cadmium	NELAP	0.0002	0.0010	J	0.0006	mg/L	5	07/01/2022 12:53	193823
Calcium	NELAP	0.140	0.250		189	mg/L	10	07/05/2022 12:22	193823
Chromium	NELAP	0.0014	0.0030		0.0254	mg/L	10	07/05/2022 12:22	193823
Cobalt	NELAP	0.0002	0.0020	J	0.0011	mg/L	10	07/05/2022 12:22	193823
Iron	NELAP	0.0230	0.0500		11.7	mg/L	10	07/05/2022 12:22	193823
Lead	NELAP	0.0006	0.0010		0.0022	mg/L	5	07/01/2022 12:53	193823
Lithium	*	0.0029	0.0060		0.0507	mg/L	10	07/05/2022 12:22	193823
Manganese	NELAP	0.0015	0.0040		0.752	mg/L	10	07/05/2022 12:22	193823
Molybdenum	NELAP	0.0006	0.0015		0.240	mg/L	5	07/01/2022 12:53	193823
Nickel	NELAP	0.0009	0.0020		0.0142	mg/L	10	07/05/2022 12:22	193823
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 11:29	193823
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	07/01/2022 12:53	193823

Be - Elevated reporting limit due to matrix interference.

Co - Elevated reporting limit due to matrix interference.

Sample result(s) for B exceed 10 times the CCB. Data is reportable per the TNI Standard.



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

Lab ID: 22061207-013

Client Sample ID: APW-02-WG-20220616

Matrix: GROUNDWATER

Collection Date: 06/16/2022 15:10

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		< 0.00020	mg/L	1	06/21/2022 19:06	181135
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646
Radium-228	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22061207-014
 Matrix: GROUNDWATER

Work Order: 22061207
 Report Date: 20-Jul-22
 Client Sample ID: DUP-002-WG-20220616
 Collection Date: 06/16/2022 0:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	40	50		905	mg/L	2.5	06/20/2022 10:27	R313502
SW-846 9036 (TOTAL)									
Sulfate	NELAP	123	200		511	mg/L	20	06/23/2022 15:17	R313623
SW-846 9040B, LABORATORY ANALYZED									
Lab pH	NELAP	0	1.00		7.18		1	06/22/2022 13:40	R313558
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.04	0.10		0.26	mg/L	1	06/21/2022 11:14	R313505
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	4		8	mg/L	1	06/23/2022 15:11	R313624
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)									
Antimony	NELAP	0.0004	0.0010		< 0.0010	mg/L	5	06/29/2022 6:12	193827
Arsenic	NELAP	0.0004	0.0010		0.0115	mg/L	5	06/26/2022 10:33	193827
Barium	NELAP	0.0007	0.0010		0.157	mg/L	5	06/29/2022 6:12	193827
Beryllium	NELAP	0.0002	0.0010		< 0.0010	mg/L	5	06/29/2022 6:12	193827
Boron	NELAP	0.0092	0.0250		8.16	mg/L	5	06/26/2022 10:33	193827
Cadmium	NELAP	0.0002	0.0010	J	0.0003	mg/L	5	06/29/2022 6:12	193827
Calcium	NELAP	0.0800	0.125		177	mg/L	5	07/01/2022 15:53	193827
Chromium	NELAP	0.0007	0.0015		< 0.0015	mg/L	5	06/29/2022 6:12	193827
Cobalt	NELAP	0.0001	0.0010	J	0.0002	mg/L	5	06/29/2022 6:12	193827
Lead	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/29/2022 6:12	193827
Lithium	*	0.0015	0.0030		0.0375	mg/L	5	06/29/2022 6:12	193827
Molybdenum	NELAP	0.0006	0.0015		0.198	mg/L	5	06/29/2022 6:12	193827
Nickel	NELAP	0.0004	0.0010		0.0041	mg/L	5	07/01/2022 15:53	193827
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 10:33	193827
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	06/29/2022 6:12	193827
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)									
Antimony	NELAP	0.0004	0.0010	J	0.0006	mg/L	5	07/01/2022 12:58	193823
Arsenic	NELAP	0.0004	0.0010		0.0165	mg/L	5	06/26/2022 11:34	193823
Barium	NELAP	0.0007	0.0010		0.234	mg/L	5	07/01/2022 12:58	193823
Beryllium	NELAP	0.0005	0.0020		< 0.0020	mg/L	10	07/06/2022 10:22	193823
Boron	NELAP	0.0092	0.0250		8.50	mg/L	5	06/26/2022 11:34	193823
Cadmium	NELAP	0.0002	0.0010	J	0.0005	mg/L	5	07/01/2022 12:58	193823
Calcium	NELAP	0.140	0.250		182	mg/L	10	07/05/2022 12:28	193823
Chromium	NELAP	0.0014	0.0030		0.0235	mg/L	10	07/05/2022 12:28	193823
Cobalt	NELAP	0.0002	0.0020	J	0.0009	mg/L	10	07/05/2022 12:28	193823
Iron	NELAP	0.0230	0.0500		10.1	mg/L	10	07/05/2022 12:28	193823
Lead	NELAP	0.0006	0.0010		0.0014	mg/L	5	07/01/2022 12:58	193823
Lithium	*	0.0029	0.0060		0.0480	mg/L	10	07/05/2022 12:28	193823
Manganese	NELAP	0.0015	0.0040		0.692	mg/L	10	07/05/2022 12:28	193823
Molybdenum	NELAP	0.0006	0.0015		0.242	mg/L	5	07/01/2022 12:58	193823
Nickel	NELAP	0.0009	0.0020		0.0127	mg/L	10	07/05/2022 12:28	193823
Selenium	NELAP	0.0006	0.0010		< 0.0010	mg/L	5	06/26/2022 11:34	193823
Thallium	NELAP	0.0010	0.0020		< 0.0020	mg/L	5	07/01/2022 12:58	193823

Co - Elevated reporting limit due to matrix interference.

Be - Elevated reporting limit due to matrix interference.

Sample result(s) for B exceed 10 times the CCB. Data is reportable per the TNI Standard.



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22061207-014
 Matrix: GROUNDWATER

Work Order: 22061207
 Report Date: 20-Jul-22
 Client Sample ID: DUP-002-WG-20220616
 Collection Date: 06/16/2022 0:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00006	0.00020		< 0.00020	mg/L	1	06/21/2022 19:09	181135
EPA 903.0/904.0, RADIUM 226/228									
Radium-226	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646
Radium-228	*	0	0		See Attached	pci/L	1	07/05/2022 0:00	R314646



Sample Summary

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
22061207-001	EB-01-WQ-20220615	Groundwater	4	06/15/2022 7:30
22061207-002	APW-04-WG-20220615	Groundwater	4	06/15/2022 9:15
22061207-003	APW-1R-WG-20220615	Groundwater	4	06/15/2022 10:40
22061207-004	APW-09-WG-20220615	Groundwater	4	06/15/2022 12:10
22061207-005	APW-10S-WG-20220615	Groundwater	4	06/15/2022 13:40
22061207-006	APW-10D-WG-20220615	Groundwater	4	06/15/2022 14:55
22061207-007	APW-07-WG-20220616	Groundwater	4	06/16/2022 7:15
22061207-008	APW-08-WG-20220616	Groundwater	4	06/16/2022 9:00
22061207-009	APW-03-WG-20220616	Groundwater	4	06/16/2022 10:30
22061207-010	APW-6S-WG-20220616	Groundwater	4	06/16/2022 12:00
22061207-011	APW-05-WG-20220616	Groundwater	4	06/16/2022 13:00
22061207-012	DUP-001-WG-20220616	Groundwater	4	06/16/2022 0:00
22061207-013	APW-02-WG-20220616	Groundwater	4	06/16/2022 15:10
22061207-014	DUP-002-WG-20220616	Groundwater	4	06/16/2022 0:00



Dates Report

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
22061207-001A	EB-01-WQ-20220615	06/15/2022 7:30	06/17/2022 8:12		
	Standard Methods 2540 C (Total) 1997, 2011				06/20/2022 9:38
	SW-846 9036 (Total)				06/21/2022 20:35
	SW-846 9040B, Laboratory Analyzed				06/22/2022 12:45
	SW-846 9214 (Total)				06/21/2022 10:38
	SW-846 9251 (Total)				06/21/2022 20:35
22061207-001B	EB-01-WQ-20220615	06/15/2022 7:30	06/17/2022 8:12		
	EPA 903.0/904.0, Radium 226/228				07/05/2022 0:00
22061207-001C	EB-01-WQ-20220615	06/15/2022 7:30	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	06/30/2022 23:39
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	07/01/2022 11:45
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	07/05/2022 11:11
	SW-846 7470A (Total)			06/21/2022 11:09	06/21/2022 18:21
22061207-001D	EB-01-WQ-20220615	06/15/2022 7:30	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/26/2022 8:31
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/29/2022 3:29
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	07/01/2022 14:06
22061207-002A	APW-04-WG-20220615	06/15/2022 9:15	06/17/2022 8:12		
	Standard Methods 2540 C (Total) 1997, 2011				06/20/2022 9:38
	SW-846 9036 (Total)				06/23/2022 14:21
	SW-846 9040B, Laboratory Analyzed				06/22/2022 15:58
	SW-846 9214 (Total)				06/21/2022 10:41
	SW-846 9251 (Total)				06/21/2022 20:57
22061207-002B	APW-04-WG-20220615	06/15/2022 9:15	06/17/2022 8:12		
	EPA 903.0/904.0, Radium 226/228				07/05/2022 0:00
22061207-002C	APW-04-WG-20220615	06/15/2022 9:15	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	06/26/2022 12:47
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	06/30/2022 23:11
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	07/01/2022 11:16
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	07/05/2022 10:42
	SW-846 7470A (Total)			06/21/2022 11:09	06/21/2022 18:23
22061207-002D	APW-04-WG-20220615	06/15/2022 9:15	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/26/2022 8:36
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/29/2022 3:36
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	07/01/2022 14:11
22061207-003A	APW-1R-WG-20220615	06/15/2022 10:40	06/17/2022 8:12		



Dates Report

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	Standard Methods 2540 C (Total) 1997, 2011				06/20/2022 9:38
	SW-846 9036 (Total)				06/21/2022 21:05
	SW-846 9040B, Laboratory Analyzed				06/22/2022 12:56
	SW-846 9214 (Total)				06/21/2022 10:43
	SW-846 9251 (Total)				06/21/2022 21:05
22061207-003B	APW-1R-WG-20220615	06/15/2022 10:40	06/17/2022 8:12		
	EPA 903.0/904.0, Radium 226/228				07/05/2022 0:00
22061207-003C	APW-1R-WG-20220615	06/15/2022 10:40	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	06/26/2022 12:52
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	06/30/2022 23:17
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	07/01/2022 11:22
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	07/05/2022 10:48
	SW-846 7470A (Total)			06/21/2022 11:09	06/21/2022 18:30
22061207-003D	APW-1R-WG-20220615	06/15/2022 10:40	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/26/2022 8:42
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/29/2022 4:07
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	07/01/2022 14:17
22061207-004A	APW-09-WG-20220615	06/15/2022 12:10	06/17/2022 8:12		
	Standard Methods 2540 C (Total) 1997, 2011				06/20/2022 9:39
	SW-846 9036 (Total)				06/21/2022 21:34
	SW-846 9040B, Laboratory Analyzed				06/22/2022 12:59
	SW-846 9214 (Total)				06/21/2022 10:45
	SW-846 9251 (Total)				06/21/2022 21:29
22061207-004B	APW-09-WG-20220615	06/15/2022 12:10	06/17/2022 8:12		
	EPA 903.0/904.0, Radium 226/228				07/05/2022 0:00
22061207-004C	APW-09-WG-20220615	06/15/2022 12:10	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	06/26/2022 12:58
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	06/30/2022 23:22
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	07/01/2022 11:28
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	07/05/2022 10:54
	SW-846 7470A (Total)			06/21/2022 11:09	06/21/2022 18:37
22061207-004D	APW-09-WG-20220615	06/15/2022 12:10	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/26/2022 8:58
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/29/2022 4:51
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	07/01/2022 14:28
22061207-005A	APW-10S-WG-20220615	06/15/2022 13:40	06/17/2022 8:12		
	Standard Methods 2540 C (Total) 1997, 2011				06/20/2022 9:39



Dates Report

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	SW-846 9036 (Total)				06/21/2022 21:37
	SW-846 9040B, Laboratory Analyzed				06/22/2022 16:00
	SW-846 9214 (Total)				06/21/2022 10:47
	SW-846 9251 (Total)				06/21/2022 21:37
22061207-005B	APW-10S-WG-20220615	06/15/2022 13:40	06/17/2022 8:12		
	EPA 903.0/904.0, Radium 226/228				07/05/2022 0:00
22061207-005C	APW-10S-WG-20220615	06/15/2022 13:40	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	06/26/2022 13:59
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	06/30/2022 23:28
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	07/01/2022 11:33
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	07/05/2022 11:00
	SW-846 7470A (Total)			06/21/2022 11:09	06/21/2022 18:39
22061207-005D	APW-10S-WG-20220615	06/15/2022 13:40	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/26/2022 8:47
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/29/2022 4:13
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	07/01/2022 14:23
22061207-006A	APW-10D-WG-20220615	06/15/2022 14:55	06/17/2022 8:12		
	Standard Methods 2540 C (Total) 1997, 2011				06/20/2022 10:25
	SW-846 9036 (Total)				06/21/2022 21:45
	SW-846 9040B, Laboratory Analyzed				06/22/2022 13:19
	SW-846 9214 (Total)				06/21/2022 10:50
	SW-846 9251 (Total)				06/21/2022 21:45
22061207-006B	APW-10D-WG-20220615	06/15/2022 14:55	06/17/2022 8:12		
	EPA 903.0/904.0, Radium 226/228				07/05/2022 0:00
22061207-006C	APW-10D-WG-20220615	06/15/2022 14:55	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	06/26/2022 14:04
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	06/30/2022 23:34
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	07/01/2022 11:39
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/20/2022 13:23	07/05/2022 11:05
	SW-846 7470A (Total)			06/21/2022 6:31	06/21/2022 18:41
22061207-006D	APW-10D-WG-20220615	06/15/2022 14:55	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/26/2022 8:53
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/29/2022 4:20
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	07/01/2022 15:08
22061207-007A	APW-07-WG-20220616	06/16/2022 7:15	06/17/2022 8:12		
	Standard Methods 2540 C (Total) 1997, 2011				06/20/2022 10:25
	SW-846 9036 (Total)				06/23/2022 14:23



Dates Report

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	SW-846 9040B, Laboratory Analyzed				06/22/2022 13:20
	SW-846 9214 (Total)				06/21/2022 10:53
	SW-846 9251 (Total)				06/21/2022 21:53
22061207-007B	APW-07-WG-20220616	06/16/2022 7:15	06/17/2022 8:12		
	EPA 903.0/904.0, Radium 226/228				07/05/2022 0:00
22061207-007C	APW-07-WG-20220616	06/16/2022 7:15	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	06/26/2022 11:01
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	06/29/2022 6:19
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/01/2022 0:19
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/01/2022 12:24
	SW-846 7470A (Total)			06/21/2022 6:31	06/21/2022 18:48
22061207-007D	APW-07-WG-20220616	06/16/2022 7:15	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/26/2022 9:54
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/29/2022 4:26
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	07/01/2022 15:14
22061207-008A	APW-08-WG-20220616	06/16/2022 9:00	06/17/2022 8:12		
	Standard Methods 2540 C (Total) 1997, 2011				06/20/2022 10:26
	SW-846 9036 (Total)				06/21/2022 22:01
	SW-846 9040B, Laboratory Analyzed				06/22/2022 13:23
	SW-846 9214 (Total)				06/21/2022 10:55
	SW-846 9251 (Total)				06/21/2022 22:01
22061207-008B	APW-08-WG-20220616	06/16/2022 9:00	06/17/2022 8:12		
	EPA 903.0/904.0, Radium 226/228				07/05/2022 0:00
22061207-008C	APW-08-WG-20220616	06/16/2022 9:00	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	06/26/2022 11:07
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	06/29/2022 6:25
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/01/2022 0:25
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/01/2022 12:30
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/05/2022 11:58
	SW-846 7470A (Total)			06/21/2022 6:31	06/21/2022 18:51
22061207-008D	APW-08-WG-20220616	06/16/2022 9:00	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/26/2022 10:00
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/29/2022 4:32
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	07/01/2022 15:19
22061207-009A	APW-03-WG-20220616	06/16/2022 10:30	06/17/2022 8:12		
	Standard Methods 2540 C (Total) 1997, 2011				06/20/2022 10:26
	SW-846 9036 (Total)				06/21/2022 22:30



Dates Report

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	SW-846 9040B, Laboratory Analyzed				06/22/2022 13:26
	SW-846 9214 (Total)				06/21/2022 11:06
	SW-846 9251 (Total)				06/23/2022 14:26
22061207-009B	APW-03-WG-20220616	06/16/2022 10:30	06/17/2022 8:12		
	EPA 903.0/904.0, Radium 226/228				07/05/2022 0:00
22061207-009C	APW-03-WG-20220616	06/16/2022 10:30	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	06/26/2022 11:12
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	06/29/2022 6:31
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/01/2022 0:30
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/01/2022 12:36
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/05/2022 12:04
	SW-846 7470A (Total)			06/21/2022 6:31	06/21/2022 18:57
22061207-009D	APW-03-WG-20220616	06/16/2022 10:30	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/26/2022 10:05
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/29/2022 4:38
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	07/01/2022 15:25
22061207-010A	APW-6S-WG-20220616	06/16/2022 12:00	06/17/2022 8:12		
	Standard Methods 2540 C (Total) 1997, 2011				06/20/2022 10:26
	SW-846 9036 (Total)				06/21/2022 22:43
	SW-846 9040B, Laboratory Analyzed				06/22/2022 13:28
	SW-846 9214 (Total)				06/21/2022 11:08
	SW-846 9251 (Total)				06/23/2022 16:07
22061207-010B	APW-6S-WG-20220616	06/16/2022 12:00	06/17/2022 8:12		
	EPA 903.0/904.0, Radium 226/228				07/05/2022 0:00
22061207-010C	APW-6S-WG-20220616	06/16/2022 12:00	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	06/26/2022 11:18
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	06/29/2022 6:38
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/01/2022 0:36
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/01/2022 12:41
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/05/2022 12:10
	SW-846 7470A (Total)			06/21/2022 6:31	06/21/2022 19:00
22061207-010D	APW-6S-WG-20220616	06/16/2022 12:00	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/26/2022 10:11
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/29/2022 4:45
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	07/01/2022 15:31
22061207-011A	APW-05-WG-20220616	06/16/2022 13:00	06/17/2022 8:12		
	Standard Methods 2540 C (Total) 1997, 2011				06/20/2022 10:26



Dates Report

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	SW-846 9036 (Total)				06/21/2022 22:59
	SW-846 9040B, Laboratory Analyzed				06/22/2022 13:31
	SW-846 9214 (Total)				06/21/2022 11:10
	SW-846 9251 (Total)				06/23/2022 14:42
22061207-011B	APW-05-WG-20220616	06/16/2022 13:00	06/17/2022 8:12		
	EPA 903.0/904.0, Radium 226/228				07/05/2022 0:00
22061207-011C	APW-05-WG-20220616	06/16/2022 13:00	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	06/26/2022 11:23
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/01/2022 0:42
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/01/2022 12:47
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/05/2022 12:16
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/06/2022 10:10
	SW-846 7470A (Total)			06/21/2022 6:31	06/21/2022 19:02
22061207-011D	APW-05-WG-20220616	06/16/2022 13:00	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/26/2022 10:16
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/29/2022 5:54
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	07/01/2022 15:36
22061207-012A	DUP-001-WG-20220616	06/16/2022 0:00	06/17/2022 8:12		
	Standard Methods 2540 C (Total) 1997, 2011				06/20/2022 10:27
	SW-846 9036 (Total)				06/21/2022 23:24
	SW-846 9040B, Laboratory Analyzed				06/22/2022 13:34
	SW-846 9214 (Total)				06/21/2022 16:23
	SW-846 9251 (Total)				06/23/2022 14:45
22061207-012B	DUP-001-WG-20220616	06/16/2022 0:00	06/17/2022 8:12		
	EPA 903.0/904.0, Radium 226/228				07/05/2022 0:00
22061207-012C	DUP-001-WG-20220616	06/16/2022 0:00	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	06/26/2022 11:40
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/01/2022 0:59
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/01/2022 13:04
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/05/2022 12:39
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/06/2022 10:27
	SW-846 7470A (Total)			06/21/2022 6:31	06/21/2022 19:04
22061207-012D	DUP-001-WG-20220616	06/16/2022 0:00	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/26/2022 10:22
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/29/2022 6:00
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	07/01/2022 15:42
22061207-013A	APW-02-WG-20220616	06/16/2022 15:10	06/17/2022 8:12		



Dates Report

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	Standard Methods 2540 C (Total) 1997, 2011				06/20/2022 10:27
	SW-846 9036 (Total)				06/23/2022 14:53
	SW-846 9040B, Laboratory Analyzed				06/22/2022 13:37
	SW-846 9214 (Total)				06/21/2022 11:12
	SW-846 9251 (Total)				06/23/2022 14:47
22061207-013B	APW-02-WG-20220616	06/16/2022 15:10	06/17/2022 8:12		
	EPA 903.0/904.0, Radium 226/228				07/05/2022 0:00
22061207-013C	APW-02-WG-20220616	06/16/2022 15:10	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	06/26/2022 11:29
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/01/2022 0:47
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/01/2022 12:53
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/05/2022 12:22
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/06/2022 10:16
	SW-846 7470A (Total)			06/21/2022 6:31	06/21/2022 19:06
22061207-013D	APW-02-WG-20220616	06/16/2022 15:10	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/26/2022 10:28
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/29/2022 6:06
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	07/01/2022 15:48
22061207-014A	DUP-002-WG-20220616	06/16/2022 0:00	06/17/2022 8:12		
	Standard Methods 2540 C (Total) 1997, 2011				06/20/2022 10:27
	SW-846 9036 (Total)				06/23/2022 15:17
	SW-846 9040B, Laboratory Analyzed				06/22/2022 13:40
	SW-846 9214 (Total)				06/21/2022 11:14
	SW-846 9251 (Total)				06/23/2022 15:11
22061207-014B	DUP-002-WG-20220616	06/16/2022 0:00	06/17/2022 8:12		
	EPA 903.0/904.0, Radium 226/228				07/05/2022 0:00
22061207-014C	DUP-002-WG-20220616	06/16/2022 0:00	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	06/26/2022 11:34
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/01/2022 0:53
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/01/2022 12:58
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/05/2022 12:28
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			06/21/2022 11:42	07/06/2022 10:22
	SW-846 7470A (Total)			06/21/2022 6:31	06/21/2022 19:09
22061207-014D	DUP-002-WG-20220616	06/16/2022 0:00	06/17/2022 8:12		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/26/2022 10:33
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	06/29/2022 6:12
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			06/21/2022 12:40	07/01/2022 15:53



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

STANDARD METHODS 2540 C (TOTAL) 1997, 2011

Batch R313502		SampType: MBLK		Units mg/L						
SampID: MBLK										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	06/20/2022
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	06/20/2022

Batch R313502		SampType: LCS		Units mg/L						
SampID: LCS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		964	1000	0	96.4	90	110	06/20/2022
Total Dissolved Solids		20		958	1000	0	95.8	90	110	06/20/2022

Batch R313502		SampType: DUP		Units mg/L						
SampID: 22061207-001ADUP										
										RPD Limit: 5
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		< 20				0	0.00	06/20/2022

Batch R313502		SampType: DUP		Units mg/L						
SampID: 22061207-004ADUP										
										RPD Limit: 5
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		434				424.0	2.33	06/20/2022

SW-846 9036 (TOTAL)

Batch R313491		SampType: MBLK		Units mg/L						
SampID: ICB/MBLK										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		< 10	6.140	0	0	-100	100	06/21/2022

Batch R313491		SampType: LCS		Units mg/L						
SampID: ICB/LCS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		20	20.00	0	100.2	90	110	06/21/2022

Batch R313491		SampType: MS		Units mg/L						
SampID: 22061207-001AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		19	20.00	0	96.4	85	115	06/21/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

SW-846 9036 (TOTAL)

Batch R313491		SampType: MSD		Units mg/L			RPD Limit: 10			
SampID: 22061207-001AMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate		10		20	20.00	0	99.2	19.27	2.91	06/21/2022

Batch R313491		SampType: MS		Units mg/L						
SampID: 22061207-010AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		100		387	200.0	199.5	93.8	85	115	06/21/2022

Batch R313491		SampType: MSD		Units mg/L			RPD Limit: 10			
SampID: 22061207-010AMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate		100		387	200.0	199.5	93.5	387.0	0.12	06/21/2022

Batch R313623		SampType: MBLK		Units mg/L						
SampID: ICB/MBLK										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		< 10	6.140	0	0	-100	100	06/23/2022

Batch R313623		SampType: LCS		Units mg/L						
SampID: ICV/LCS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		20	20.00	0	98.0	90	110	06/23/2022

SW-846 9040B, LABORATORY ANALYZED

Batch R313558		SampType: LCS		Units						
SampID: LCS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab pH		1.00		6.98	7.000	0	99.7	99.1	100.8	06/22/2022

Batch R313558		SampType: DUP		Units			RPD Limit: 10			
SampID: 22061207-001ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lab pH		1.00		5.97				6.050	1.33	06/22/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

SW-846 9040B, LABORATORY ANALYZED

Batch R313558		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22061207-002ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.39				7.410	0.27	06/22/2022

Batch R313558		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22061207-003ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		6.95				6.980	0.43	06/22/2022

Batch R313558		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22061207-004ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.52				7.480	0.53	06/22/2022

Batch R313558		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22061207-005ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.08				7.090	0.14	06/22/2022

Batch R313558		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22061207-006ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.20				7.210	0.14	06/22/2022

Batch R313558		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22061207-007ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		6.92				6.880	0.58	06/22/2022

Batch R313558		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22061207-008ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.33				7.340	0.14	06/22/2022

Batch R313558		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22061207-009ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.87				7.850	0.25	06/22/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

SW-846 9040B, LABORATORY ANALYZED

Batch R313558		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22061207-010ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.25				7.240	0.14	06/22/2022

Batch R313558		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22061207-011ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.34				7.350	0.14	06/22/2022

Batch R313558		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22061207-012ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.48				7.490	0.13	06/22/2022

Batch R313558		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22061207-013ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.13				7.210	1.12	06/22/2022

Batch R313558		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22061207-014ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.17				7.180	0.14	06/22/2022

SW-846 9214 (TOTAL)

Batch R313505		SampType: MBLK		Units mg/L		RPD Limit: 10				Date Analyzed
SampID: MBLK										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
Fluoride		0.10		< 0.10	0.0370	0	0	-100	100	06/21/2022

Batch R313505		SampType: LCS		Units mg/L		RPD Limit: 10				Date Analyzed
SampID: LCS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
Fluoride		0.10		1.01	1.000	0	100.6	90	110	06/21/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

SW-846 9214 (TOTAL)

Batch R313505		SampType: MS		Units mg/L						
SampID: 22061207-008AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		2.49	2.000	0.2910	109.9	75	125	06/21/2022

Batch R313505		SampType: MSD		Units mg/L							RPD Limit: 15
SampID: 22061207-008AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Fluoride		0.10		2.48	2.000	0.2910	109.2	2.489	0.52	06/21/2022	

Batch R313505		SampType: MS		Units mg/L						
SampID: 22061207-012AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.20		4.38	4.000	0.3340	101.2	75	125	06/21/2022

Batch R313505		SampType: MSD		Units mg/L							RPD Limit: 15
SampID: 22061207-012AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Fluoride		0.20		4.44	4.000	0.3340	102.8	4.382	1.40	06/21/2022	

SW-846 9251 (TOTAL)

Batch R313492		SampType: MBLK		Units mg/L						
SampID: ICB/MBLK										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		< 1	0.5000	0	0	-100	100	06/21/2022

Batch R313492		SampType: LCS		Units mg/L						
SampID: ICV/LCS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		19	20.00	0	95.6	90	110	06/21/2022

Batch R313492		SampType: MS		Units mg/L						
SampID: 22061207-001AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		1		18	20.00	0	88.7	85	115	06/21/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

SW-846 9251 (TOTAL)

Batch R313492		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22061207-001AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Chloride		1		17	20.00	0	87.1	17.74	1.82	06/21/2022	

Batch R313624		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		< 4	0.5000	0	0	-100	100	06/23/2022	

Batch R313624		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		21	20.00	0	103.2	90	110	06/23/2022	

Batch R313624		SampType: MS		Units mg/L							
SampID: 22061207-010AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		8		61	40.00	23.71	93.4	85	115	06/23/2022	

Batch R313624		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22061207-010AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Chloride		8		61	40.00	23.71	94.4	61.08	0.65	06/23/2022	



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 193827 SampType: MBLK Units mg/L

SampID: MBLK-193827

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	06/29/2022
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	06/26/2022
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	06/29/2022
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	06/29/2022
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	06/26/2022
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	06/29/2022
Calcium		0.125		< 0.125	0.0800	0	0	-100	100	07/01/2022
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	06/29/2022
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	06/29/2022
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	06/29/2022
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	06/29/2022
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	06/29/2022
Nickel		0.0010		< 0.0010	0.0004	0	0	-100	100	07/05/2022
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	06/26/2022
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	06/29/2022

Batch 193827 SampType: LCS Units mg/L

SampID: LCS-193827

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.501	0.5000	0	100.3	80	120	06/29/2022
Arsenic		0.0010		0.507	0.5000	0	101.5	80	120	06/26/2022
Barium		0.0010		2.01	2.000	0	100.6	80	120	06/29/2022
Beryllium		0.0010		0.0462	0.0500	0	92.4	80	120	06/29/2022
Boron		0.0250		0.481	0.5000	0	96.2	80	120	06/26/2022
Cadmium		0.0010		0.0487	0.0500	0	97.5	80	120	06/29/2022
Calcium		0.125		2.80	2.500	0	111.9	80	120	07/01/2022
Chromium		0.0015		0.183	0.2000	0	91.3	80	120	06/29/2022
Cobalt		0.0010		0.471	0.5000	0	94.3	80	120	06/29/2022
Lead		0.0010		0.448	0.5000	0	89.6	80	120	06/29/2022
Lithium	*	0.0030		0.514	0.5000	0	102.9	80	120	06/29/2022
Molybdenum		0.0015		0.451	0.5000	0	90.2	80	120	06/29/2022
Nickel		0.0010		0.517	0.5000	0	103.5	80	120	07/01/2022
Selenium		0.0010		0.455	0.5000	0	91.1	80	120	06/26/2022
Thallium		0.0020		0.242	0.2500	0	96.9	80	120	06/29/2022



Quality Control Results

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Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 193827		SampType: MS		Units mg/L							Date Analyzed
SampID: 22061207-004DMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Antimony		0.0010		0.474	0.5000	0	94.8	75	125	06/29/2022	
Arsenic		0.0010		0.489	0.5000	0.001883	97.5	75	125	06/26/2022	
Barium		0.0010		2.06	2.000	0.1293	96.6	75	125	06/29/2022	
Beryllium		0.0010		0.0427	0.0500	0	85.5	75	125	06/29/2022	
Boron		0.0250		1.73	0.5000	1.322	82.4	75	125	06/26/2022	
Cadmium		0.0010		0.0469	0.0500	0	93.9	75	125	06/29/2022	
Calcium		0.125		109	2.500	106.6	82.8	75	125	07/01/2022	
Chromium		0.0015		0.180	0.2000	0	90.1	75	125	06/29/2022	
Cobalt		0.0010		0.439	0.5000	0	87.9	75	125	06/29/2022	
Lead		0.0010		0.458	0.5000	0	91.5	75	125	06/29/2022	
Lithium	*	0.0030		0.500	0.5000	0.01842	96.4	75	125	06/29/2022	
Molybdenum		0.0015		0.471	0.5000	0.03512	87.1	75	125	06/29/2022	
Nickel		0.0010		0.487	0.5000	0.001683	97.1	75	125	07/01/2022	
Selenium		0.0010		0.446	0.5000	0.02099	84.9	75	125	06/26/2022	
Thallium		0.0020		0.243	0.2500	0	97.3	75	125	06/29/2022	

Batch 193827		SampType: MSD		Units mg/L							RPD Limit: 20	Date Analyzed
SampID: 22061207-004DMSD												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed		
Antimony		0.0010		0.487	0.5000	0	97.5	0.4738	2.85	06/29/2022		
Arsenic		0.0010		0.497	0.5000	0.001883	99.1	0.4893	1.61	06/26/2022		
Barium		0.0010		2.11	2.000	0.1293	98.8	2.060	2.19	06/29/2022		
Beryllium		0.0010		0.0456	0.0500	0	91.1	0.04274	6.39	06/29/2022		
Boron		0.0250		1.76	0.5000	1.322	86.8	1.734	1.25	06/26/2022		
Cadmium		0.0010		0.0469	0.0500	0	93.8	0.04693	0.09	06/29/2022		
Calcium		0.125	S	108	2.500	106.6	39.9	108.7	0.99	07/01/2022		
Chromium		0.0015		0.183	0.2000	0	91.4	0.1802	1.38	06/29/2022		
Cobalt		0.0010		0.453	0.5000	0	90.6	0.4394	3.01	06/29/2022		
Lead		0.0010		0.489	0.5000	0	97.7	0.4576	6.56	06/29/2022		
Lithium	*	0.0030		0.515	0.5000	0.01842	99.3	0.5004	2.85	06/29/2022		
Molybdenum		0.0015		0.523	0.5000	0.03512	97.7	0.4708	10.58	06/29/2022		
Nickel		0.0010		0.495	0.5000	0.001683	98.6	0.4870	1.59	07/01/2022		
Selenium		0.0010		0.452	0.5000	0.02099	86.1	0.4457	1.30	06/26/2022		
Thallium		0.0020		0.266	0.2500	0	106.3	0.2433	8.86	06/29/2022		



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 191827 SampType: MBLK Units mg/L

SampID: MBLK-191827

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	06/29/2022
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	06/26/2022
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	06/29/2022
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	06/29/2022
Boron		0.0250		< 0.0250	0.0150	0	0	-100	100	06/29/2022
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	06/29/2022
Calcium		0.125		< 0.125	0.0800	0	0	-100	100	06/29/2022
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	06/29/2022
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	06/29/2022
Iron		0.0250		< 0.0250	0.0150	0	0	-100	100	06/29/2022
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	06/29/2022
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	06/29/2022
Manganese		0.0020		< 0.0020	0.0008	0	0	-100	100	06/29/2022
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	06/29/2022
Nickel		0.0010		< 0.0010	0.0004	0	0	-100	100	06/29/2022
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	06/26/2022
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	06/29/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 191827 SampType: LCS Units mg/L

SampID: LCS-191827

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.565	0.5000	0	112.9	85	115	06/29/2022
Arsenic		0.0010		0.535	0.5000	0	107.1	85	115	06/26/2022
Barium		0.0010		2.19	2.000	0	109.5	85	115	06/29/2022
Beryllium		0.0010		0.0460	0.0500	0	91.9	85	115	06/29/2022
Boron		0.0250		0.476	0.5000	0	95.2	85	115	06/29/2022
Cadmium		0.0010		0.0538	0.0500	0	107.7	85	115	06/29/2022
Calcium		0.125		2.54	2.500	0	101.5	85	115	07/05/2022
Chromium		0.0015		0.192	0.2000	0	96.1	85	115	06/29/2022
Cobalt		0.0010		0.469	0.5000	0	93.9	85	115	06/29/2022
Iron		0.0250		1.78	2.000	0	89.0	85	115	06/29/2022
Lead		0.0010		0.524	0.5000	0	104.8	85	115	06/29/2022
Lithium	*	0.0030		0.505	0.5000	0	101.0	85	115	06/29/2022
Manganese		0.0020		0.489	0.5000	0	97.8	85	115	06/29/2022
Molybdenum		0.0015		0.516	0.5000	0	103.2	85	115	06/29/2022
Nickel		0.0010		0.471	0.5000	0	94.2	85	115	06/29/2022
Selenium		0.0010		0.475	0.5000	0	95.1	85	115	06/26/2022
Thallium		0.0020		0.248	0.2500	0	99.1	85	115	06/29/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 191827 SampType: MS Units mg/L

SampID: 22061207-001CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.554	0.5000	0	110.9	75	125	07/01/2022
Arsenic		0.0010		0.488	0.5000	0	97.7	75	125	07/05/2022
Barium		0.0010		2.23	2.000	0.0007276	111.2	75	125	07/01/2022
Beryllium		0.0010		0.0582	0.0500	0	116.4	75	125	07/01/2022
Boron		0.0250		0.612	0.5000	0.01384	119.6	75	125	07/01/2022
Cadmium		0.0010		0.0555	0.0500	0	111.1	75	125	07/01/2022
Calcium		0.125		2.35	2.500	0.08483	90.4	75	125	07/05/2022
Chromium		0.0015		0.194	0.2000	0	97.0	75	125	07/05/2022
Cobalt		0.0010		0.552	0.5000	0	110.4	75	125	07/01/2022
Iron		0.0250		2.38	2.000	0.02040	118.0	75	125	07/01/2022
Lead		0.0010		0.537	0.5000	0	107.4	75	125	07/01/2022
Lithium	*	0.0030		0.535	0.5000	0	107.0	75	125	07/05/2022
Manganese		0.0020		0.556	0.5000	0	111.1	75	125	07/01/2022
Molybdenum		0.0015		0.561	0.5000	0	112.2	75	125	07/01/2022
Nickel		0.0010		0.555	0.5000	0	110.9	75	125	07/01/2022
Selenium		0.0010		0.485	0.5000	0	97.1	75	125	07/05/2022
Thallium		0.0020		0.272	0.2500	0	108.8	75	125	07/01/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch	191827	SampType:	MSD	Units mg/L						RPD Limit: 20	
SampID: 22061207-001CMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Antimony		0.0010		0.550	0.5000	0	110.1	0.5544	0.74	07/01/2022	
Arsenic		0.0010		0.488	0.5000	0	97.6	0.4883	0.10	07/05/2022	
Barium		0.0010		2.23	2.000	0.0007276	111.4	2.225	0.15	07/01/2022	
Beryllium		0.0010		0.0583	0.0500	0	116.6	0.05819	0.17	07/01/2022	
Boron		0.0250		0.611	0.5000	0.01384	119.5	0.6117	0.04	07/01/2022	
Cadmium		0.0010		0.0555	0.0500	0	110.9	0.05554	0.14	07/01/2022	
Calcium		0.125		2.44	2.500	0.08483	94.1	2.346	3.78	07/05/2022	
Chromium		0.0015		0.192	0.2000	0	95.9	0.1940	1.15	07/05/2022	
Cobalt		0.0010		0.564	0.5000	0	112.8	0.5522	2.09	07/01/2022	
Iron		0.0250		2.34	2.000	0.02040	116.2	2.381	1.58	07/01/2022	
Lead		0.0010		0.574	0.5000	0	114.8	0.5368	6.66	07/01/2022	
Lithium	*	0.0030		0.536	0.5000	0	107.1	0.5352	0.10	07/05/2022	
Manganese		0.0020		0.558	0.5000	0	111.5	0.5555	0.38	07/01/2022	
Molybdenum		0.0015		0.549	0.5000	0	109.8	0.5612	2.20	07/01/2022	
Nickel		0.0010		0.563	0.5000	0	112.5	0.5547	1.42	07/01/2022	
Selenium		0.0010		0.485	0.5000	0	97.0	0.4854	0.08	07/05/2022	
Thallium		0.0020		0.283	0.2500	0	113.4	0.2720	4.16	07/01/2022	



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 193823 SampType: MBLK Units mg/L

SampID: MBLK-193823

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	06/29/2022
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	06/26/2022
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	06/29/2022
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	06/29/2022
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	06/26/2022
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	06/29/2022
Calcium		0.125		< 0.125	0.0700	0	0	-100	100	06/29/2022
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	06/29/2022
Cobalt		0.0010		< 0.0010	0.0002	0	0	-100	100	06/29/2022
Iron		0.0250		< 0.0250	0.0150	0	0	-100	100	06/29/2022
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	06/29/2022
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	06/29/2022
Manganese		0.0020		< 0.0020	0.0020	0	0	-100	100	06/29/2022
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	06/29/2022
Nickel		0.0010		< 0.0010	0.0004	0	0	-100	100	06/29/2022
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	06/26/2022
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	06/29/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 193823 SampType: LCS Units mg/L

SampID: LCS-193823

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.548	0.5000	0	109.6	85	115	06/29/2022
Arsenic		0.0010		0.550	0.5000	0	110.0	85	115	06/26/2022
Barium		0.0010		2.16	2.000	0	107.9	85	115	06/29/2022
Beryllium		0.0010		0.0469	0.0500	0	93.9	85	115	06/29/2022
Boron		0.0250		0.544	0.5000	0	108.9	85	115	06/26/2022
Cadmium		0.0010		0.0529	0.0500	0	105.9	85	115	06/29/2022
Calcium		0.125		2.37	2.500	0	94.7	80	120	07/05/2022
Chromium		0.0015		0.205	0.2000	0	102.3	85	115	06/29/2022
Cobalt		0.0010		0.474	0.5000	0	94.8	85	115	06/29/2022
Iron		0.0250		1.86	2.000	0	92.9	85	115	06/29/2022
Lead		0.0010		0.503	0.5000	0	100.6	85	115	06/29/2022
Lithium	*	0.0030		0.524	0.5000	0	104.9	85	115	06/29/2022
Manganese		0.0020		0.508	0.5000	0	101.6	85	115	06/29/2022
Molybdenum		0.0015		0.487	0.5000	0	97.5	85	115	06/29/2022
Nickel		0.0010		0.488	0.5000	0	97.5	85	115	06/29/2022
Selenium		0.0010		0.487	0.5000	0	97.4	85	115	06/26/2022
Thallium		0.0020		0.271	0.2500	0	108.3	85	115	06/29/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 193823 SampType: MS Units mg/L

SampID: 22061207-012CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.563	0.5000	0	112.5	75	125	07/01/2022
Arsenic		0.0010		0.544	0.5000	0.004092	108.0	75	125	06/26/2022
Barium		0.0010		2.40	2.000	0.1736	111.3	75	125	07/01/2022
Beryllium		0.0020		0.0547	0.0500	0	109.5	75	125	07/06/2022
Boron		0.0250	S	8.54	0.5000	8.235	61.8	75	125	06/26/2022
Cadmium		0.0010		0.0555	0.0500	0	111.0	75	125	07/01/2022
Calcium		0.250	S	133	2.500	128.6	190.5	75	125	07/06/2022
Chromium		0.0030		0.197	0.2000	0	98.3	75	125	07/05/2022
Cobalt		0.0020		0.479	0.5000	0.001104	95.7	75	125	07/05/2022
Iron		0.0500		4.16	2.000	1.891	113.4	75	125	07/06/2022
Lead		0.0010		0.560	0.5000	0	112.1	75	125	07/01/2022
Lithium	*	0.0060		0.650	0.5000	0.03630	122.8	75	125	07/06/2022
Manganese		0.0040		1.43	0.5000	0.9043	104.6	75	125	07/06/2022
Molybdenum		0.0015		0.774	0.5000	0.1948	115.9	75	125	07/01/2022
Nickel		0.0020		0.474	0.5000	0.003881	94.1	75	125	07/05/2022
Selenium		0.0010		0.485	0.5000	0	97.0	75	125	06/26/2022
Thallium		0.0020		0.285	0.2500	0	113.9	75	125	07/01/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 193823		SampType: MSD		Units mg/L				RPD Limit: 20			Date Analyzed
SampID: 22061207-012CMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Antimony		0.0010		0.544	0.5000	0	108.8	0.5626	3.40	07/01/2022	
Arsenic		0.0010		0.542	0.5000	0.004092	107.6	0.5440	0.32	06/26/2022	
Barium		0.0010		2.34	2.000	0.1736	108.3	2.400	2.56	07/01/2022	
Beryllium		0.0020		0.0540	0.0500	0	107.9	0.05474	1.43	07/06/2022	
Boron		0.0250	S	8.28	0.5000	8.235	8.1	8.544	3.19	06/26/2022	
Cadmium		0.0010		0.0546	0.0500	0	109.3	0.05550	1.55	07/01/2022	
Calcium		0.250	S	132	2.500	128.6	131.9	133.3	1.10	07/06/2022	
Chromium		0.0030		0.220	0.2000	0	110.1	0.1966	11.34	07/05/2022	
Cobalt		0.0020		0.533	0.5000	0.001104	106.3	0.4795	10.53	07/05/2022	
Iron		0.0500		4.00	2.000	1.891	105.5	4.159	3.85	07/06/2022	
Lead		0.0010		0.471	0.5000	0	94.3	0.5604	17.24	07/01/2022	
Lithium	*	0.0060		0.645	0.5000	0.03630	121.7	0.6503	0.86	07/06/2022	
Manganese		0.0040		1.41	0.5000	0.9043	102.0	1.427	0.92	07/06/2022	
Molybdenum		0.0015		0.772	0.5000	0.1948	115.5	0.7743	0.26	07/01/2022	
Nickel		0.0020		0.535	0.5000	0.003881	106.2	0.4742	12.05	07/05/2022	
Selenium		0.0010		0.488	0.5000	0	97.7	0.4850	0.70	06/26/2022	
Thallium		0.0020		0.248	0.2500	0	99.3	0.2848	13.76	07/01/2022	

SW-846 7470A (TOTAL)

Batch 181135		SampType: MBLK		Units mg/L							Date Analyzed
SampID: MBLK-181135											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020		< 0.00020	0.0001	0	0	-100	100	06/21/2022	

Batch 181135		SampType: LCS		Units mg/L							Date Analyzed
SampID: LCS-181135											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020		0.00456	0.0050	0	91.3	85	115	06/21/2022	

Batch 181135		SampType: MS		Units mg/L							Date Analyzed
SampID: 22061207-006CMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020		0.00446	0.0050	0	89.2	75	125	06/21/2022	



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

SW-846 7470A (TOTAL)

Batch 181135		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22061207-006CMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Mercury		0.00020		0.00463	0.0050	0	92.5	0.004460	3.68	06/21/2022	

Batch 193766		SampType: MBLK		Units mg/L							
SampID: MBLK-193766											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020		< 0.00020	0.0001	0	0	-100	100	06/21/2022	

Batch 193766		SampType: LCS		Units mg/L							
SampID: LCS-193766											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020		0.00475	0.0050	0	95.0	85	115	06/21/2022	

Batch 193766		SampType: MS		Units mg/L							
SampID: 22061207-003CMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020		0.00486	0.0050	0	97.1	75	125	06/21/2022	

Batch 193766		SampType: MSD		Units mg/L				RPD Limit: 15			
SampID: 22061207-003CMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Mercury		0.00020		0.00481	0.0050	0	96.2	0.004857	0.92	06/21/2022	



Receiving Check List

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22061207

Client Project: GTEC

Report Date: 20-Jul-22

Carrier: Michael Abegg

Received By: PWR

Completed by:

Reviewed by:

On:

On:

17-Jun-22

17-Jun-22

Ellie Hopkins

Elizabeth A. Hurley

Pages to follow: Chain of custody

Extra pages included

- Shipping container/cooler in good condition? Yes No Not Present Temp °C **3.2**
- Type of thermal preservation? None Ice Blue Ice Dry Ice
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Reported field parameters measured: Field Lab NA

Sample analyses to be measured in the field and/or within 15 minutes of collection were analyzed in the lab as soon as practicable. These analyses include Chlorine (demand, free and/or residual), Carbon Dioxide, Dissolved Oxygen, Ferrous Iron, pH, and Sulfite.

Container/Temp Blank temperature in compliance? Yes No

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

- Water – at least one vial per sample has zero headspace? Yes No No VOA vials
- Water - TOX containers have zero headspace? Yes No No TOX containers
- Water - pH acceptable upon receipt? Yes No NA
- NPDES/CWA TCN interferences checked/treated in the field? Yes No NA

Any No responses must be detailed below or on the COC.

pH strip #78198 - CET 6/17/22

Additional nitric acid (82107) was needed in all Ra226/228 containers except EB-01 upon arrival at the laboratory. - CET 6/17/22

CHAIN OF CUSTODY

pg. 1 of 2 Work order # 22061207

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

Client: ERM
Address: 68 Villa Grove
City / State / Zip: Springfield, IL 62712
Contact: Matt Halley **Phone:** (217) 529-0914
E-Mail: matt.halley@erm.com **Fax:** _____

Samples on: ICE BLUE ICE NO ICE 3.2 °C **LTG#** 5
Preserved in: LAB FIELD **FOR LAB USE ONLY**
Lab Notes: Add HNO3 @ 207 to all two liters except EB-01's. DW/ASAP. CET 6-17-22

Are these samples known to be involved in litigation? If yes, a surcharge will apply Yes No
 Are these samples known to be hazardous? Yes No
 Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. Yes No

Client Comments:
 Total/Dissolved Metals: Sb As Ba Be B Cd Ca Cr Co Pb Li Mo Se Tl
 Dissolved Metals are to be field-filtered.
bottles w/ red dot is field filtered

Project Name/Number GTEC		Sample Collector's Name <u>Aless / Sencouie</u>								MATRIX		INDICATE ANALYSIS REQUESTED													
Results Requested <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 1-2 Day (100% Surcharge) <input type="checkbox"/> Other _____ <input type="checkbox"/> 3 Day (50% Surcharge)		Billing Instructions			# and Type of Containers					Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	Dissolved Metals ICP/MS Chloride	Fluoride	pH	Ra226/228 (SUB)	Sulfate	TDS	Total Fe/Mn	Total Hg	Total Metals ICP/MS	
Lab Use Only	Sample Identification	Date/Time Sampled	UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4																OTHER
<u>22061207-021</u>	<u>EB-01-WA-20220615</u>	<u>6/15/22 0730</u>	<u>1</u>	<u>Y</u>											<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
<u>022</u>	<u>APW-04-WG-20220615</u>	<u>0915</u>																							
<u>023</u>	<u>APW-1R-WG-20220615</u>	<u>1040</u>																							
<u>024</u>	<u>APW-01-WG-20220615</u>	<u>1210</u>																							
<u>025</u>	<u>APW-05-WG-20220615</u>	<u>1340</u>																							
<u>026</u>	<u>APW-10D-WG-20220615</u>	<u>1455</u>																							
<u>027</u>	<u>APW-07-WG-20220615</u>	<u>6/16/22 0715</u>																							
<u>028</u>	<u>APW-08-WG-20220616</u>	<u>0900</u>																							
<u>029</u>	<u>APW-03-WG-20220616</u>	<u>1030</u>																							
<u>020</u>	<u>APW-05-WG-20220616</u>	<u>1200</u>																							
Relinquished By <u>Michael Aless (ERM)</u>			Date/Time <u>6/17/22</u>							Received By <u>[Signature]</u>			Date/Time <u>6/17/22 0812</u>												

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder: 72606



CET 6-17-22

CHAIN OF CUSTODY

pg. 2 of 2 Work order # 22061207

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

Client: ERM
Address: 68 Villa Grove
City / State / Zip: Springfield, IL 62712
Contact: Matt Halley **Phone:** (217) 529-0914
E-Mail: matt.halley@erm.com **Fax:** _____

Samples on: ICE BLUE ICE NO ICE 3.2 °C **LTG#** 5
Preserved in: LAB FIELD **FOR LAB USE ONLY**
Lab Notes

Are these samples known to be involved in litigation? If yes, a surcharge will apply Yes No
 Are these samples known to be hazardous? Yes No
 Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. Yes No

Client Comments:
 Total/Dissolved Metals: Sb As Ba Be B Cd Ca Cr Co Pb Li Mo Se Tl
 Dissolved Metals are to be field-filtered.

Project Name/Number GTEC		Sample Collector's Name <i>Paul / Simpson</i>										MATRIX		INDICATE ANALYSIS REQUESTED													
Results Requested <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 1-2 Day (100% Surcharge) <input type="checkbox"/> Other <input type="checkbox"/> 3 Day (50% Surcharge)		Billing Instructions		# and Type of Containers								Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	Dissolved Metals ICP/MS Chloride	Fluoride	pH	Ra226/228 (SUB)	Sulfate	TDS	Total Fe/Mn	Total Hg	Total Metals ICP/MS	
Lab Use Only	Sample Identification	Date/Time Sampled	UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER																	
011	RAW-05-WB-20220610	6/10/22														X	X	X	X	X	X	X	X	X	X	X	X
012	DUP-001-WB-20220610	6/10/22														X	X	X	X	X	X	X	X	X	X	X	X
013	RAW-02-WB-20220610	6/10/22														X	X	X	X	X	X	X	X	X	X	X	X
014	DUP-002-WB-20220610	6/10/22														X	X	X	X	X	X	X	X	X	X	X	X
Relinquished By		Date/Time		Received By								Date/Time															
<i>[Signature]</i>		6/17/22		<i>[Signature]</i>								6/17/22 0812															

TEKLAB, Inc.

Sample Delivery Group: L1507552
Samples Received: 06/22/2022
Project Number:
Description:

Report To: Elizabeth Hurley
5445 Horseshoe Lake Road
Collinsville, IL 62234

Entire Report Reviewed By:












Mark W. Beasley
Project Manager

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

Pace Analytical National

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

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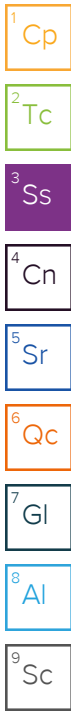
SAMPLE SUMMARY

22061207-001 L1507552-01 Non-Potable Water

Collected by
Collected date/time
Received date/time

06/15/22 07:30 06/22/22 12:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1888819	1	07/06/22 10:53	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1888214	1	07/04/22 09:22	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1888214	1	07/04/22 09:22	07/05/22 14:28	RGT	Mt. Juliet, TN



22061207-002 L1507552-02 Non-Potable Water

Collected by
Collected date/time
Received date/time

06/15/22 09:15 06/22/22 12:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1888819	1	07/06/22 10:53	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1888214	1	07/04/22 09:22	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1888214	1	07/04/22 09:22	07/05/22 14:28	RGT	Mt. Juliet, TN

22061207-003 L1507552-03 Non-Potable Water

Collected by
Collected date/time
Received date/time

06/15/22 10:40 06/22/22 12:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1888819	1	07/06/22 10:53	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1888214	1	07/04/22 09:22	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1888214	1	07/04/22 09:22	07/05/22 14:28	RGT	Mt. Juliet, TN

22061207-004 L1507552-04 Non-Potable Water

Collected by
Collected date/time
Received date/time

06/15/22 12:10 06/22/22 12:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1888819	1	07/06/22 10:53	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1888214	1	07/04/22 09:22	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1888214	1	07/04/22 09:22	07/05/22 14:28	RGT	Mt. Juliet, TN

22061207-005 L1507552-05 Non-Potable Water

Collected by
Collected date/time
Received date/time

06/15/22 13:40 06/22/22 12:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1888819	1	07/06/22 10:53	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1888214	1	07/04/22 09:22	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1888214	1	07/04/22 09:22	07/05/22 14:28	RGT	Mt. Juliet, TN

22061207-006 L1507552-06 Non-Potable Water

Collected by
Collected date/time
Received date/time

06/15/22 14:55 06/22/22 12:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1888819	1	07/06/22 10:53	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1888214	1	07/04/22 09:22	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1888214	1	07/04/22 09:22	07/05/22 14:28	RGT	Mt. Juliet, TN

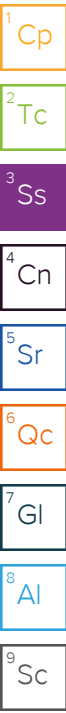
SAMPLE SUMMARY

22061207-007 L1507552-07 Non-Potable Water

Collected by
Collected date/time
Received date/time

06/16/22 07:15 06/22/22 12:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1888819	1	07/06/22 10:53	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1888214	1	07/04/22 09:22	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1888214	1	07/04/22 09:22	07/05/22 14:28	RGT	Mt. Juliet, TN



22061207-008 L1507552-08 Non-Potable Water

Collected by
Collected date/time
Received date/time

06/16/22 09:00 06/22/22 12:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1888819	1	07/06/22 10:53	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1888214	1	07/04/22 09:22	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1888214	1	07/04/22 09:22	07/05/22 14:28	RGT	Mt. Juliet, TN

22061207-009 L1507552-09 Non-Potable Water

Collected by
Collected date/time
Received date/time

06/16/22 10:30 06/22/22 12:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1888819	1	07/06/22 10:53	07/18/22 12:00	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1888214	1	07/04/22 09:22	07/18/22 12:00	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1888214	1	07/04/22 09:22	07/05/22 14:28	RGT	Mt. Juliet, TN

22061207-010 L1507552-10 Non-Potable Water

Collected by
Collected date/time
Received date/time

06/16/22 12:00 06/22/22 12:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1888819	1	07/06/22 10:53	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1888214	1	07/04/22 09:22	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1888214	1	07/04/22 09:22	07/05/22 14:28	RGT	Mt. Juliet, TN

22061207-011 L1507552-11 Non-Potable Water

Collected by
Collected date/time
Received date/time

06/16/22 13:00 06/22/22 12:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1888819	1	07/06/22 10:53	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1888214	1	07/04/22 09:22	07/14/22 15:50	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1888214	1	07/04/22 09:22	07/05/22 14:28	RGT	Mt. Juliet, TN

22061207-012 L1507552-12 Non-Potable Water

Collected by
Collected date/time
Received date/time

06/16/22 00:00 06/22/22 12:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1888820	1	07/06/22 16:04	07/13/22 16:39	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1888214	1	07/04/22 09:22	07/13/22 16:39	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1888214	1	07/04/22 09:22	07/05/22 14:28	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

22061207-013 L1507552-13 Non-Potable Water

Collected by
Collected date/time
Received date/time

06/16/22 15:10 06/22/22 12:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1888820	1	07/06/22 16:04	07/18/22 15:42	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1888214	1	07/04/22 09:22	07/18/22 15:42	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1888214	1	07/04/22 09:22	07/05/22 14:28	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

22061207-014 L1507552-14 Non-Potable Water

Collected by
Collected date/time
Received date/time

06/16/22 00:00 06/22/22 12:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1888820	1	07/06/22 16:04	07/13/22 16:39	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1888214	1	07/04/22 09:22	07/13/22 16:39	SWM	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1888214	1	07/04/22 09:22	07/05/22 14:28	RGT	Mt. Juliet, TN

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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.



Mark W. Beasley
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.210	<u>U</u>	0.223	0.420	07/14/2022 15:50	WG1888819
(T) Barium	108			62.0-143	07/14/2022 15:50	WG1888819
(T) Yttrium	102			79.0-136	07/14/2022 15:50	WG1888819

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.572		0.380	0.497	07/14/2022 15:50	WG1888214

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.572		0.308	0.266	07/05/2022 14:28	WG1888214
(T) Barium-133	87.9			30.0-143	07/05/2022 14:28	WG1888214

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.245	J	0.235	0.427	07/14/2022 15:50	WG1888819
(T) Barium	89.7			62.0-143	07/14/2022 15:50	WG1888819
(T) Yttrium	103			79.0-136	07/14/2022 15:50	WG1888819

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.348	J	0.287	0.497	07/14/2022 15:50	WG1888214

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.103	J	0.164	0.255	07/05/2022 14:28	WG1888214
(T) Barium-133	96.0			30.0-143	07/05/2022 14:28	WG1888214

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.661		0.257	0.452	07/14/2022 15:50	WG1888819
(T) Barium	91.4			62.0-143	07/14/2022 15:50	WG1888819
(T) Yttrium	100			79.0-136	07/14/2022 15:50	WG1888819

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.693		0.293	0.522	07/14/2022 15:50	WG1888214

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0323	<u>U</u>	0.141	0.261	07/05/2022 14:28	WG1888214
(T) Barium-133	94.8			30.0-143	07/05/2022 14:28	WG1888214

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.213	<u>U</u>	0.244	0.457	07/14/2022 15:50	WG1888819
(T) Barium	92.2			62.0-143	07/14/2022 15:50	WG1888819
(T) Yttrium	99.8			79.0-136	07/14/2022 15:50	WG1888819

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.267	<u>J</u>	0.315	0.503	07/14/2022 15:50	WG1888214

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.267		0.199	0.211	07/05/2022 14:28	WG1888214
(T) Barium-133	91.0			30.0-143	07/05/2022 14:28	WG1888214

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.475	J	0.268	0.478	07/14/2022 15:50	WG1888819
(T) Barium	95.4			62.0-143	07/14/2022 15:50	WG1888819
(T) Yttrium	105			79.0-136	07/14/2022 15:50	WG1888819

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.25		0.420	0.530	07/14/2022 15:50	WG1888214

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.778		0.324	0.230	07/05/2022 14:28	WG1888214
(T) Barium-133	96.9			30.0-143	07/05/2022 14:28	WG1888214

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.19		0.311	0.534	07/14/2022 15:50	WG1888819
(T) Barium	99.2			62.0-143	07/14/2022 15:50	WG1888819
(T) Yttrium	95.1			79.0-136	07/14/2022 15:50	WG1888819

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.44		0.374	0.585	07/14/2022 15:50	WG1888214

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.249		0.207	0.238	07/05/2022 14:28	WG1888214
(T) Barium-133	101			30.0-143	07/05/2022 14:28	WG1888214

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.766		0.234	0.406	07/14/2022 15:50	WG1888819
(T) Barium	99.4			62.0-143	07/14/2022 15:50	WG1888819
(T) Yttrium	101			79.0-136	07/14/2022 15:50	WG1888819

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.10		0.313	0.439	07/14/2022 15:50	WG1888214

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.333		0.208	0.166	07/05/2022 14:28	WG1888214
(T) Barium-133	107			30.0-143	07/05/2022 14:28	WG1888214

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.526		0.224	0.397	07/14/2022 15:50	WG1888819
(T) Barium	102			62.0-143	07/14/2022 15:50	WG1888819
(T) Yttrium	102			79.0-136	07/14/2022 15:50	WG1888819

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.735		0.325	0.511	07/14/2022 15:50	WG1888214

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.208	J	0.236	0.321	07/05/2022 14:28	WG1888214
(T) Barium-133	103			30.0-143	07/05/2022 14:28	WG1888214

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.89	<u>J3</u>	0.260	0.652	07/18/2022 12:00	WG1888819
(T) Barium	86.8			62.0-143	07/18/2022 12:00	WG1888819
(T) Yttrium	114			79.0-136	07/18/2022 12:00	WG1888819

1 Cp

2 Tc

3 Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.09		0.303	0.666	07/18/2022 12:00	WG1888214

4 Cn

5 Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.201		0.155	0.136	07/05/2022 14:28	WG1888214
(T) Barium-133	102			30.0-143	07/05/2022 14:28	WG1888214

6 Qc

7 Gl

8 Al

9 Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.228	J	0.248	0.451	07/14/2022 15:50	WG1888819
(T) Barium	98.0			62.0-143	07/14/2022 15:50	WG1888819
(T) Yttrium	95.8			79.0-136	07/14/2022 15:50	WG1888819

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.497		0.308	0.473	07/14/2022 15:50	WG1888214

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.269		0.182	0.141	07/05/2022 14:28	WG1888214
(T) Barium-133	102			30.0-143	07/05/2022 14:28	WG1888214

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.10		0.282	0.484	07/14/2022 15:50	WG1888819
(T) Barium	93.0			62.0-143	07/14/2022 15:50	WG1888819
(T) Yttrium	100			79.0-136	07/14/2022 15:50	WG1888819

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.75		0.424	0.559	07/14/2022 15:50	WG1888214

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.649		0.316	0.280	07/05/2022 14:28	WG1888214
(T) Barium-133	101			30.0-143	07/05/2022 14:28	WG1888214

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.715		0.310	0.551	07/13/2022 16:39	WG1888820
(T) Barium	78.5			62.0-143	07/13/2022 16:39	WG1888820
(T) Yttrium	96.5			79.0-136	07/13/2022 16:39	WG1888820

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.973		0.411	0.656	07/13/2022 16:39	WG1888214

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.259	J	0.270	0.356	07/05/2022 14:28	WG1888214
(T) Barium-133	79.6			30.0-143	07/05/2022 14:28	WG1888214

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.308	<u>J3 U</u>	0.236	0.672	07/18/2022 15:42	WG1888820
(T) Barium	91.1			62.0-143	07/18/2022 15:42	WG1888820
(T) Yttrium	101			79.0-136	07/18/2022 15:42	WG1888820

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.467	<u>J</u>	0.297	0.711	07/18/2022 15:42	WG1888214

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.159	<u>J</u>	0.181	0.233	07/05/2022 14:28	WG1888214
(T) Barium-133	83.1			30.0-143	07/05/2022 14:28	WG1888214

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.165	<u>U</u>	0.280	0.525	07/13/2022 16:39	WG1888820
(T) Barium	84.9			62.0-143	07/13/2022 16:39	WG1888820
(T) Yttrium	110			79.0-136	07/13/2022 16:39	WG1888820

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.218	<u>U</u>	0.420	0.695	07/13/2022 16:39	WG1888214

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.218	<u>J</u>	0.313	0.456	07/05/2022 14:28	WG1888214
(T) Barium-133	67.7			30.0-143	07/05/2022 14:28	WG1888214

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

Method Blank (MB)

(MB) R3816298-4 07/18/22 12:00

Analyte	MB Result	MB Qualifier	MB Uncertainty	MB MDA
	pCi/l		+ / -	pCi/l
Radium-228	0.469	<u>J</u>	0.185	0.514
(T) Barium	86.6		86.6	
(T) Yttrium	109		109	

L1507552-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1507552-09 07/18/22 12:00 • (DUP) R3816298-5 07/18/22 12:00

Analyte	Original Result	Original Uncertainty	Original MDA	DUP Result	DUP Uncertainty	DUP MDA	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	+ / -	pCi/l	pCi/l	+ / -	pCi/l		%			%	
Radium-228	1.89	0.260	0.652	0.490	0.326	0.652	1	118	3.36	<u>J3 U</u>	20	3
(T) Barium	86.8			93.0	93.0							
(T) Yttrium	114			105	105							

Laboratory Control Sample (LCS)

(LCS) R3816298-1 07/14/22 15:50

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-228	5.00	4.60	92.0	80.0-120	
(T) Barium			102		
(T) Yttrium			99.1		

L1507552-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1507552-01 07/14/22 15:50 • (MS) R3816298-2 07/14/22 15:50 • (MSD) R3816298-3 07/14/22 15:50

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	10.0	-0.210	9.18	8.81	91.8	88.1	1	70.0-130			4.15		20
(T) Barium		108			99.2	101							
(T) Yttrium		102			97.2	106							

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3816456-1 07/13/22 16:39

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-228	-0.123	<u>U</u>	0.211	0.194
(T) Barium	104		104	
(T) Yttrium	93.9		93.9	

L1507552-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1507552-13 07/18/22 15:42 • (DUP) R3816456-5 07/18/22 15:42

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.308	0.236	0.672	1.56	0.337	0.672	1	134	3.05	<u>J3</u>	20	3
(T) Barium	91.1			98.9	98.9							
(T) Yttrium	101			105	105							

Laboratory Control Sample (LCS)

(LCS) R3816456-2 07/13/22 16:39

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.01	80.3	80.0-120	
(T) Barium			106		
(T) Yttrium			105		

L1507552-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1507552-12 07/13/22 16:39 • (MS) R3816456-3 07/13/22 16:39 • (MSD) R3816456-4 07/13/22 16:39

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	0.715	10.3	10.3	95.7	95.5	1	70.0-130			0.195		20
(T) Barium		78.5			96.3	104							
(T) Yttrium		96.5			100	105							

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3812631-1 07/05/22 14:28

Analyte	MB Result	MB Qualifier	MB Uncertainty	MB MDA
	pCi/l		+ / -	pCi/l
Radium-226	-0.0152	<u>U</u>	0.0210	0.0613
(T) Barium-133	113		113	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1507552-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1507552-01 07/05/22 14:28 • (DUP) R3812631-5 07/05/22 14:28

Analyte	Original Result	Original Uncertainty	Original MDA	DUP Result	DUP Uncertainty	DUP MDA	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	+ / -	pCi/l	pCi/l	+ / -	pCi/l		%			%	
Radium-226	0.572	0.308	0.266	0.0145	0.0897	0.266	1	190	1.74	<u>U</u>	20	3
(T) Barium-133	87.9			91.7	91.7							

Laboratory Control Sample (LCS)

(LCS) R3812631-2 07/05/22 14:28

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-226	5.02	4.32	86.1	80.0-120	
(T) Barium-133			93.7		

L1507552-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1507552-14 07/05/22 14:28 • (MS) R3812631-3 07/05/22 14:28 • (MSD) R3812631-4 07/05/22 14:28

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-226	20.0	0.218	19.3	19.3	95.3	95.4	1	75.0-125			0.0519		20
(T) Barium-133		67.7			110	107							

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.
J3	The associated batch QC was outside the established quality control range for precision.
U	Below Detectable Limits: Indicates that the analyte was not detected.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCREDITATIONS & LOCATIONS

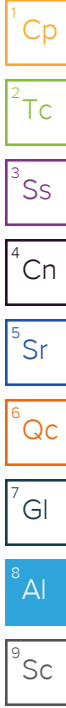
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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.



TEKLAB, INC. Chain of Custody

Pg ____ of ____

A224

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES NO With: Ice Blue Ice Preserved in: Lab Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp: Sampler: QC Level:

Project#

Comments: **Please Issue reports and invoices via email only**
Please analyze for Radium 226/228 on your standard turn around time.
Samples collected from an IL site.
Batch QC is required for all analyses requested. EDD requested..

Contact: Email:
Requested Due Date: Billing/PO:

Phone:

U507552

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately. Any changes to analysis/methods must be approved by Teklab, Inc.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix
-01	22061207 - 001	6/15/22 0730	HNO3	Groundwater
-02	22061207 - 002	6/15/22 0915	HNO3	Groundwater
-03	22061207 - 003	6/15/22 1040	HNO3	Groundwater
-04	22061207 - 004	6/15/22 1210	HNO3	Groundwater
-05	22061207 - 005	6/15/22 1340	HNO3	Groundwater
-06	22061207 - 006	6/15/22 1455	HNO3	Groundwater
-07	22061207 - 007	6/16/22 0715	HNO3	Groundwater
-08	22061207 - 008	6/16/22 0900	HNO3	Groundwater
-09	22061207 - 009	6/16/22 1030	HNO3	Groundwater
-10	22061207 - 010	6/16/22 1200	HNO3	Groundwater
-11	22061207 - 011	6/16/22 1300	HNO3	Groundwater

Ra226/228	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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*Relinquished By	Date/Time	Received By	Date/Time
<i>Michelle Adams</i>		<i>MNO</i>	6/23/22 1230

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples chilled? YES NO

With: Ice Blue Ice

Preserved in: Lab Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Cooler Temp: Sampler:

QC Level:

Project#

Comments: **Please Issue reports and invoices via email only**

Please analyze for Radium 226/228 on your standard turn around time.

Samples collected from an IL site.

Batch QC is required for all analyses requested. EDD requested.

Contact: Elizabeth Hurley

Email: EHurley@TekLabInc.com

Requested Due Date: Standard TAT

Billing/PO: 32938

Phone: (618) 344-1004

4507552

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately. Any changes to analysis/methods must be approved by Teklab, Inc.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix
-12	22061207 - 012	6/16/22	HNO3	Groundwater
-13	22061207 - 013	6/16/22 1510	HNO3	Groundwater
-14	22061207 - 014	6/16/22	HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater
			HNO3	Groundwater

Ra226/228	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Sample Receipt Checklist

COC Seal Present/Intact: Y N

COC Signed/Accurate: Y N If Applicable

Bottles arrive intact: Y N VOA Zero Headspace: Y N

Correct bottles used: Y N Pres. Correct/Check: Y N

Sufficient volume sent: Y N

RAD Screen <0.5 mR/hr: Y N

*Relinquished By	Date/Time	Received By	Date/Time
		<i>Elizabeth Hurley</i>	6/22/22 1230

U50 7552

<u>Tracking Numbers</u>		<u>Temperature</u>
		MMAG 25.6 #0 225,6
		MMAG 26.2 #0 226,2
		MMAG 28.2 #0 223,2
		MMAG 29.2 #0 224,2

October 26, 2022

Matt Halley
ERM
68 Villa Grove
Springfield, IL 62712
TEL: (217) 529-0914
FAX:



Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: GTEC

WorkOrder: 22091073

Dear Matt Halley:

TEKLAB, INC received 15 samples on 9/16/2022 1:45:00 PM for the analysis presented in the following report.

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

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

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

Sincerely,



Elizabeth A. Hurley
Director of Customer Service
(618)344-1004 ex 33
ehurley@teklabinc.com



Report Contents

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Sample Summary	37
Dates Report	38
Quality Control Results	45
Receiving Check List	63
Chain of Custody	Appended

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

Abbr Definition

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.

CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.

DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.

DNI Did not ignite

DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

IDPH IL Dept. of Public Health

LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.

MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."

MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).

MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.

RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.

RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).

SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.

Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"

TNTC Too numerous to count (> 200 CFU)

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

Qualifiers

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

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

Cooler Receipt Temp: 2.2 °C

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
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Collinsville Air

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Springfield

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Springfield, IL 62711-9415
Phone (217) 698-1004
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Chicago

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

Kansas City

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Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
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Accreditations

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2023	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2023	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2023	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2023	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2023	Collinsville
Arkansas	ADEQ	88-0966		3/14/2023	Collinsville
Illinois	IDPH	17584		5/31/2023	Collinsville
Iowa	IDNR	430		6/1/2024	Collinsville
Kentucky	UST	0073		1/31/2023	Collinsville
Missouri	MDNR	00930		5/31/2023	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22091073-001
 Matrix: GROUNDWATER

Work Order: 22091073
 Report Date: 26-Oct-22
 Client Sample ID: APW-1R-WG-20220915
 Collection Date: 09/15/2022 8:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20	H	420	mg/L	1	09/27/2022 11:00	R318696
<i>Sample analysis did not meet hold time requirements.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20	S	73	mg/L	2	09/28/2022 9:07	R318683
<i>Matrix spike did not recover within control limits. Results verified by dilution.</i>								
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		6.91		1	09/23/2022 12:58	R318433
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.15	mg/L	1	09/23/2022 9:35	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		7	mg/L	1	09/26/2022 13:47	R318607
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2022 21:57	197756
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2022 10:00	197756
Barium	NELAP	0.0010		0.153	mg/L	5	09/23/2022 10:00	197756
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2022 10:00	197756
Boron	NELAP	0.0250		0.244	mg/L	5	09/26/2022 16:23	197756
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2022 10:00	197756
Calcium	NELAP	0.125	S	83.8	mg/L	5	09/28/2022 14:12	197756
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/23/2022 21:57	197756
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2022 10:00	197756
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/23/2022 10:00	197756
Lithium	*	0.0030		0.0156	mg/L	5	09/28/2022 14:12	197756
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	09/28/2022 14:12	197756
Selenium	NELAP	0.0010		0.0032	mg/L	5	09/23/2022 10:00	197756
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/23/2022 10:00	197756
<i>Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 13:17	197762
Arsenic	NELAP	0.0010		0.0019	mg/L	5	09/22/2022 13:17	197762
Barium	NELAP	0.0010		0.185	mg/L	5	09/22/2022 13:17	197762
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 13:17	197762
Boron	NELAP	0.0250		0.242	mg/L	5	09/22/2022 13:17	197762
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 13:17	197762
Calcium	NELAP	0.125		91.4	mg/L	5	09/22/2022 13:17	197762
Chromium	NELAP	0.0015		0.0034	mg/L	5	09/22/2022 13:17	197762
Cobalt	NELAP	0.0010		0.0017	mg/L	5	09/22/2022 13:17	197762
Lead	NELAP	0.0010		0.0062	mg/L	5	09/22/2022 13:17	197762
Lithium	*	0.0030		0.0169	mg/L	5	09/22/2022 13:17	197762
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 13:17	197762
Selenium	NELAP	0.0010		0.0038	mg/L	5	09/22/2022 13:17	197762
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 13:17	197762
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 14:38	197769
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 14:36	197769



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22091073-001
Matrix: GROUNDWATER

Work Order: 22091073
Report Date: 26-Oct-22
Client Sample ID: APW-1R-WG-20220915
Collection Date: 09/15/2022 8:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015
Radium-228	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22091073-002
 Matrix: GROUNDWATER

Work Order: 22091073
 Report Date: 26-Oct-22
 Client Sample ID: APW-2-WG-20220914
 Collection Date: 09/14/2022 10:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	50	H	890	mg/L	2.5	09/27/2022 11:00	R318696
<i>Sample analysis did not meet hold time requirements.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		491	mg/L	10	09/26/2022 14:27	R318590
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.32		1	09/23/2022 13:00	R318433
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.22	mg/L	1	09/23/2022 9:37	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		11	mg/L	1	09/26/2022 14:21	R318607
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:28	197795
Arsenic	NELAP	0.0010		0.0048	mg/L	5	09/22/2022 16:28	197795
Barium	NELAP	0.0010		0.123	mg/L	5	09/22/2022 16:28	197795
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:28	197795
Boron	NELAP	0.0250	S	7.49	mg/L	5	09/26/2022 11:13	197795
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:28	197795
Calcium	NELAP	0.125	S	136	mg/L	5	09/22/2022 16:28	197795
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 16:28	197795
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:28	197795
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:28	197795
Lithium	*	0.0030		0.0374	mg/L	5	09/22/2022 16:28	197795
Molybdenum	NELAP	0.0015		0.139	mg/L	5	09/22/2022 16:28	197795
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:28	197795
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 16:28	197795
<i>Matrix spike control limits for B are not applicable due to high sample/spike ratio.</i>								
<i>Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 13:23	197762
Arsenic	NELAP	0.0010		0.0260	mg/L	5	09/22/2022 13:23	197762
Barium	NELAP	0.0010		0.408	mg/L	5	09/22/2022 13:23	197762
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 13:23	197762
Boron	NELAP	0.0250		9.43	mg/L	5	09/22/2022 13:23	197762
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 13:23	197762
Calcium	NELAP	0.125		198	mg/L	5	09/22/2022 13:23	197762
Chromium	NELAP	0.0015		0.0148	mg/L	5	09/22/2022 13:23	197762
Cobalt	NELAP	0.0010		0.0044	mg/L	5	09/22/2022 13:23	197762
Lead	NELAP	0.0010		0.0119	mg/L	5	09/22/2022 13:23	197762
Lithium	*	0.0030		0.0559	mg/L	5	09/22/2022 13:23	197762
Molybdenum	NELAP	0.0015		0.174	mg/L	5	09/22/2022 13:23	197762
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 13:23	197762
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 13:23	197762
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 14:42	197769
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		0.00043	mg/L	1	09/20/2022 14:40	197769



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22091073-002
Matrix: GROUNDWATER

Work Order: 22091073
Report Date: 26-Oct-22
Client Sample ID: APW-2-WG-20220914
Collection Date: 09/14/2022 10:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015
Radium-228	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22091073-003
 Matrix: GROUNDWATER

Work Order: 22091073
 Report Date: 26-Oct-22
 Client Sample ID: APW-3-WG-2022915
 Collection Date: 09/15/2022 12:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20	H	602	mg/L	1	09/27/2022 11:01	R318696
<i>Sample analysis did not meet hold time requirements.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		150	mg/L	10	09/26/2022 14:35	R318590
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.46		1	09/23/2022 13:02	R318433
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.20	mg/L	1	09/23/2022 9:39	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		16	mg/L	1	09/26/2022 14:29	R318607
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:52	197795
Arsenic	NELAP	0.0010		0.0014	mg/L	5	09/22/2022 14:52	197795
Barium	NELAP	0.0010		0.124	mg/L	5	09/22/2022 14:52	197795
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:52	197795
Boron	NELAP	0.0250		1.49	mg/L	5	09/22/2022 14:52	197795
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:52	197795
Calcium	NELAP	0.125		125	mg/L	5	09/22/2022 14:52	197795
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 14:52	197795
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:52	197795
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:52	197795
Lithium	*	0.0030		0.0288	mg/L	5	09/22/2022 14:52	197795
Molybdenum	NELAP	0.0015		0.0342	mg/L	5	09/22/2022 14:52	197795
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:52	197795
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 14:52	197795
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 13:29	197762
Arsenic	NELAP	0.0010		0.0046	mg/L	5	09/22/2022 13:29	197762
Barium	NELAP	0.0010		0.181	mg/L	5	09/22/2022 13:29	197762
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 13:29	197762
Boron	NELAP	0.0250		1.84	mg/L	5	09/22/2022 13:29	197762
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 13:29	197762
Calcium	NELAP	0.125		143	mg/L	5	09/22/2022 13:29	197762
Chromium	NELAP	0.0015		0.0083	mg/L	5	09/22/2022 13:29	197762
Cobalt	NELAP	0.0010		0.0014	mg/L	5	09/22/2022 13:29	197762
Lead	NELAP	0.0010		0.0023	mg/L	5	09/22/2022 13:29	197762
Lithium	*	0.0030		0.0329	mg/L	5	09/22/2022 13:29	197762
Molybdenum	NELAP	0.0015		0.0413	mg/L	5	09/22/2022 13:29	197762
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 13:29	197762
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 13:29	197762
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 14:47	197769
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 14:45	197769
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22091073-003
Matrix: GROUNDWATER

Work Order: 22091073
Report Date: 26-Oct-22
Client Sample ID: APW-3-WG-2022915
Collection Date: 09/15/2022 12:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-228	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015

Client: ERM
 Client Project: GTEC
 Lab ID: 22091073-004
 Matrix: GROUNDWATER

Work Order: 22091073
 Report Date: 26-Oct-22
 Client Sample ID: APW-4-WG-2022915
 Collection Date: 09/15/2022 10:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20	H	436	mg/L	1	09/27/2022 11:01	R318696
<i>Sample analysis did not meet hold time requirements.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		83	mg/L	2	09/28/2022 9:17	R318683
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.51		1	09/23/2022 13:04	R318433
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.17	mg/L	1	09/23/2022 9:40	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		10	mg/L	1	09/26/2022 14:37	R318607
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:44	197795
Arsenic	NELAP	0.0010		0.0013	mg/L	5	09/22/2022 15:44	197795
Barium	NELAP	0.0010		0.132	mg/L	5	09/22/2022 15:44	197795
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:44	197795
Boron	NELAP	0.0250		0.875	mg/L	5	09/22/2022 15:44	197795
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:44	197795
Calcium	NELAP	0.125		93.7	mg/L	5	09/22/2022 15:44	197795
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 15:44	197795
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:44	197795
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:44	197795
Lithium	*	0.0030		0.0283	mg/L	5	09/22/2022 15:44	197795
Molybdenum	NELAP	0.0015		0.0445	mg/L	5	09/22/2022 15:44	197795
Selenium	NELAP	0.0010		0.0101	mg/L	5	09/22/2022 15:44	197795
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 15:44	197795
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:59	197762
Arsenic	NELAP	0.0010		0.0029	mg/L	5	09/22/2022 14:59	197762
Barium	NELAP	0.0010		0.165	mg/L	5	09/22/2022 14:59	197762
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:59	197762
Boron	NELAP	0.0250		0.973	mg/L	5	09/22/2022 14:59	197762
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:59	197762
Calcium	NELAP	0.125	S	108	mg/L	5	09/22/2022 14:59	197762
Chromium	NELAP	0.0015		0.0251	mg/L	5	09/22/2022 14:59	197762
Cobalt	NELAP	0.0010		0.0025	mg/L	5	09/22/2022 14:59	197762
Lead	NELAP	0.0010		0.0016	mg/L	5	09/22/2022 14:59	197762
Lithium	*	0.0030		0.0322	mg/L	5	09/22/2022 14:59	197762
Molybdenum	NELAP	0.0015		0.0494	mg/L	5	09/22/2022 14:59	197762
Selenium	NELAP	0.0010		0.0111	mg/L	5	09/22/2022 14:59	197762
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 14:59	197762
<i>Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.</i>								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 14:56	197769
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 14:49	197769



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22091073-004
Matrix: GROUNDWATER

Work Order: 22091073
Report Date: 26-Oct-22
Client Sample ID: APW-4-WG-2022915
Collection Date: 09/15/2022 10:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015
Radium-228	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22091073-005
 Matrix: GROUNDWATER

Work Order: 22091073
 Report Date: 26-Oct-22
 Client Sample ID: APW-5-WG-20220914
 Collection Date: 09/14/2022 8:55

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20	H	750	mg/L	1	09/27/2022 11:01	R318696
<i>Sample analysis did not meet hold time requirements.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		379	mg/L	10	09/26/2022 14:51	R318590
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.55		1	09/23/2022 13:06	R318433
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.33	mg/L	1	09/23/2022 9:42	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		15	mg/L	1	09/26/2022 14:45	R318607
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:50	197795
Arsenic	NELAP	0.0010		0.0010	mg/L	5	09/22/2022 15:50	197795
Barium	NELAP	0.0010		0.130	mg/L	5	09/22/2022 15:50	197795
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:50	197795
Boron	NELAP	0.0250		7.42	mg/L	5	09/22/2022 15:50	197795
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:50	197795
Calcium	NELAP	0.125		119	mg/L	5	09/22/2022 15:50	197795
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 15:50	197795
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:50	197795
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:50	197795
Lithium	*	0.0030		0.0381	mg/L	5	09/22/2022 15:50	197795
Molybdenum	NELAP	0.0015		0.213	mg/L	5	09/22/2022 15:50	197795
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:50	197795
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 15:50	197795
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		0.0011	mg/L	5	09/22/2022 14:21	197762
Arsenic	NELAP	0.0010		0.0025	mg/L	5	09/22/2022 14:21	197762
Barium	NELAP	0.0010		0.154	mg/L	5	09/22/2022 14:21	197762
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:21	197762
Boron	NELAP	0.0250		7.76	mg/L	5	09/22/2022 14:21	197762
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:21	197762
Calcium	NELAP	0.125		127	mg/L	5	09/22/2022 14:21	197762
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 14:21	197762
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:21	197762
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:21	197762
Lithium	*	0.0030		0.0408	mg/L	5	09/22/2022 14:21	197762
Molybdenum	NELAP	0.0015		0.235	mg/L	5	09/22/2022 14:21	197762
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:21	197762
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 14:21	197762
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 15:01	197769
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 14:58	197769
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22091073-005
Matrix: GROUNDWATER

Work Order: 22091073
Report Date: 26-Oct-22
Client Sample ID: APW-5-WG-20220914
Collection Date: 09/14/2022 8:55

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-228	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22091073-006
 Matrix: GROUNDWATER

Work Order: 22091073
 Report Date: 26-Oct-22
 Client Sample ID: APW-6S-WG-20220913
 Collection Date: 09/13/2022 12:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	50	H	630	mg/L	2.5	09/27/2022 11:01	R318696
<i>Sample analysis did not meet hold time requirements.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		227	mg/L	10	09/26/2022 14:59	R318590
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.38		1	09/23/2022 13:07	R318433
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.28	mg/L	1	09/23/2022 9:44	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		25	mg/L	1	09/26/2022 14:53	R318607
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:56	197795
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:56	197795
Barium	NELAP	0.0010		0.146	mg/L	5	09/22/2022 15:56	197795
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:56	197795
Boron	NELAP	0.0250		5.95	mg/L	5	09/22/2022 15:56	197795
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:56	197795
Calcium	NELAP	0.125		93.7	mg/L	5	09/22/2022 15:56	197795
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 15:56	197795
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:56	197795
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:56	197795
Lithium	*	0.0030		0.0384	mg/L	5	09/22/2022 15:56	197795
Molybdenum	NELAP	0.0015		0.235	mg/L	5	09/22/2022 15:56	197795
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 15:56	197795
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 15:56	197795
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:27	197762
Arsenic	NELAP	0.0010		0.0012	mg/L	5	09/22/2022 14:27	197762
Barium	NELAP	0.0010		0.221	mg/L	5	09/22/2022 14:27	197762
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:27	197762
Boron	NELAP	0.0250		6.61	mg/L	5	09/22/2022 14:27	197762
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:27	197762
Calcium	NELAP	0.125		105	mg/L	5	09/22/2022 14:27	197762
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 14:27	197762
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:27	197762
Lead	NELAP	0.0010		0.0028	mg/L	5	09/22/2022 14:27	197762
Lithium	*	0.0030		0.0410	mg/L	5	09/22/2022 14:27	197762
Molybdenum	NELAP	0.0015		0.271	mg/L	5	09/22/2022 14:27	197762
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:27	197762
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 14:27	197762
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 15:05	197769
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 15:03	197769
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22091073-006
Matrix: GROUNDWATER

Work Order: 22091073
Report Date: 26-Oct-22
Client Sample ID: APW-6S-WG-20220913
Collection Date: 09/13/2022 12:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-228	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22091073-007
 Matrix: GROUNDWATER

Work Order: 22091073
 Report Date: 26-Oct-22
 Client Sample ID: APW-6D-WG-20220913
 Collection Date: 09/13/2022 10:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20	H	670	mg/L	1	09/29/2022 9:34	R318833
<i>Sample analysis did not meet hold time requirements.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		272	mg/L	10	09/26/2022 15:23	R318590
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.42		1	09/23/2022 13:10	R318433
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.20	mg/L	1	09/23/2022 9:46	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		14	mg/L	1	09/26/2022 15:17	R318607
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:03	197795
Arsenic	NELAP	0.0010		0.0040	mg/L	5	09/22/2022 16:03	197795
Barium	NELAP	0.0010		0.129	mg/L	5	09/22/2022 16:03	197795
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:03	197795
Boron	NELAP	0.0250		5.32	mg/L	5	09/22/2022 16:03	197795
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:03	197795
Calcium	NELAP	0.125		118	mg/L	5	09/22/2022 16:03	197795
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 16:03	197795
Cobalt	NELAP	0.0010		0.0013	mg/L	5	09/22/2022 16:03	197795
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:03	197795
Lithium	*	0.0030		0.0179	mg/L	5	09/22/2022 16:03	197795
Molybdenum	NELAP	0.0015		0.0669	mg/L	5	09/22/2022 16:03	197795
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:03	197795
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 16:03	197795
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:33	197762
Arsenic	NELAP	0.0010		0.0104	mg/L	5	09/22/2022 14:33	197762
Barium	NELAP	0.0010		0.143	mg/L	5	09/22/2022 14:33	197762
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:33	197762
Boron	NELAP	0.0250		5.51	mg/L	5	09/22/2022 14:33	197762
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:33	197762
Calcium	NELAP	0.125		123	mg/L	5	09/22/2022 14:33	197762
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 14:33	197762
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:33	197762
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:33	197762
Lithium	*	0.0030		0.0185	mg/L	5	09/22/2022 14:33	197762
Molybdenum	NELAP	0.0015		0.0719	mg/L	5	09/22/2022 14:33	197762
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:33	197762
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 14:33	197762
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 15:15	197769
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 15:12	197769
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22091073-007
Matrix: GROUNDWATER

Work Order: 22091073
Report Date: 26-Oct-22
Client Sample ID: APW-6D-WG-20220913
Collection Date: 09/13/2022 10:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-228	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22091073-008
 Matrix: GROUNDWATER

Work Order: 22091073
 Report Date: 26-Oct-22
 Client Sample ID: APW-7-WG-20220914
 Collection Date: 09/14/2022 15:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	50	H	815	mg/L	2.5	09/29/2022 9:35	R318833
<i>Sample analysis did not meet hold time requirements.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		78	mg/L	2	09/28/2022 9:28	R318683
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.02		1	09/23/2022 13:11	R318433
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.17	mg/L	1	09/23/2022 9:47	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		12	mg/L	1	09/26/2022 15:25	R318607
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:09	197795
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:09	197795
Barium	NELAP	0.0010		0.255	mg/L	5	09/22/2022 16:09	197795
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:09	197795
Boron	NELAP	0.0250		0.193	mg/L	5	09/22/2022 16:09	197795
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:09	197795
Calcium	NELAP	0.125		199	mg/L	5	09/22/2022 16:09	197795
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 16:09	197795
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:09	197795
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:09	197795
Lithium	*	0.0030		0.0148	mg/L	5	09/22/2022 16:09	197795
Molybdenum	NELAP	0.0015		0.0026	mg/L	5	09/22/2022 16:09	197795
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:09	197795
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 16:09	197795
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:40	197762
Arsenic	NELAP	0.0010		0.0016	mg/L	5	09/22/2022 14:40	197762
Barium	NELAP	0.0010		0.382	mg/L	5	09/22/2022 14:40	197762
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:40	197762
Boron	NELAP	0.0250		0.208	mg/L	5	09/22/2022 14:40	197762
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:40	197762
Calcium	NELAP	0.125		210	mg/L	5	09/22/2022 14:40	197762
Chromium	NELAP	0.0015		0.0021	mg/L	5	09/22/2022 14:40	197762
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:40	197762
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:40	197762
Lithium	*	0.0030		0.0161	mg/L	5	09/22/2022 14:40	197762
Molybdenum	NELAP	0.0015		0.0030	mg/L	5	09/22/2022 14:40	197762
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:40	197762
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 14:40	197762
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 15:24	197769
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 15:17	197769
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM Work Order: 22091073
Client Project: GTEC Report Date: 26-Oct-22
Lab ID: 22091073-008 Client Sample ID: APW-7-WG-20220914
Matrix: GROUNDWATER Collection Date: 09/14/2022 15:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-228	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22091073-009
 Matrix: GROUNDWATER

Work Order: 22091073
 Report Date: 26-Oct-22
 Client Sample ID: APW-8-WG-20220915
 Collection Date: 09/15/2022 14:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20	H	372	mg/L	1	09/29/2022 9:35	R318833
<i>Sample analysis did not meet hold time requirements.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		39	mg/L	1	09/26/2022 15:33	R318590
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.47		1	09/23/2022 13:14	R318433
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.26	mg/L	1	09/23/2022 9:57	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		11	mg/L	1	09/26/2022 15:33	R318607
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:15	197795
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:15	197795
Barium	NELAP	0.0010		0.163	mg/L	5	09/22/2022 16:15	197795
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:15	197795
Boron	NELAP	0.0250		0.0993	mg/L	5	09/22/2022 16:15	197795
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:15	197795
Calcium	NELAP	0.125		79.7	mg/L	5	09/22/2022 16:15	197795
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 16:15	197795
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:15	197795
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:15	197795
Lithium	*	0.0030		0.0142	mg/L	5	09/22/2022 16:15	197795
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 16:15	197795
Selenium	NELAP	0.0010		0.0068	mg/L	5	09/22/2022 16:15	197795
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 16:15	197795
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:46	197762
Arsenic	NELAP	0.0010		0.0015	mg/L	5	09/22/2022 14:46	197762
Barium	NELAP	0.0010		0.190	mg/L	5	09/22/2022 14:46	197762
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:46	197762
Boron	NELAP	0.0250		0.110	mg/L	5	09/22/2022 14:46	197762
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:46	197762
Calcium	NELAP	0.125		85.1	mg/L	5	09/22/2022 14:46	197762
Chromium	NELAP	0.0015		0.0016	mg/L	5	09/22/2022 14:46	197762
Cobalt	NELAP	0.0010		0.0013	mg/L	5	09/22/2022 14:46	197762
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 14:46	197762
Lithium	*	0.0030		0.0160	mg/L	5	09/22/2022 14:46	197762
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 14:46	197762
Selenium	NELAP	0.0010		0.0077	mg/L	5	09/22/2022 14:46	197762
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 14:46	197762
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 15:33	197776
<i>LCS recovered outside upper control limits Hg. Sample results are below the reporting limit. Data is reportable per the TNI Standard.</i>								
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 15:31	197776
<i>LCS recovered outside upper control limits Hg. Sample results are below the reporting limit. Data is reportable per the TNI Standard.</i>								



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22091073-009
Matrix: GROUNDWATER

Work Order: 22091073
Report Date: 26-Oct-22
Client Sample ID: APW-8-WG-20220915
Collection Date: 09/15/2022 14:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015
Radium-228	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015

Client: ERM
 Client Project: GTEC
 Lab ID: 22091073-010
 Matrix: GROUNDWATER

Work Order: 22091073
 Report Date: 26-Oct-22
 Client Sample ID: APW-9-WG-20220913
 Collection Date: 09/13/2022 15:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20	H	380	mg/L	1	09/29/2022 9:35	R318833
<i>Sample analysis did not meet hold time requirements.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		39	mg/L	1	09/26/2022 15:41	R318590
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.59		1	09/23/2022 13:16	R318433
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.19	mg/L	1	09/23/2022 9:59	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		12	mg/L	1	09/26/2022 15:41	R318607
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:22	197795
Arsenic	NELAP	0.0010		0.0021	mg/L	5	09/22/2022 16:22	197795
Barium	NELAP	0.0010		0.111	mg/L	5	09/22/2022 16:22	197795
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:22	197795
Boron	NELAP	0.0250		0.327	mg/L	5	09/22/2022 16:22	197795
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:22	197795
Calcium	NELAP	0.125		76.5	mg/L	5	09/22/2022 16:22	197795
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 16:22	197795
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:22	197795
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 16:22	197795
Lithium	*	0.0030		0.0137	mg/L	5	09/22/2022 16:22	197795
Molybdenum	NELAP	0.0015		0.0182	mg/L	5	09/22/2022 16:22	197795
Selenium	NELAP	0.0010		0.0142	mg/L	5	09/22/2022 16:22	197795
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 16:22	197795
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 19:08	197763
Arsenic	NELAP	0.0010		0.0025	mg/L	5	09/22/2022 19:08	197763
Barium	NELAP	0.0010		0.134	mg/L	5	09/22/2022 19:08	197763
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 19:08	197763
Boron	NELAP	0.0250		0.329	mg/L	5	09/22/2022 19:08	197763
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 19:08	197763
Calcium	NELAP	0.125		89.5	mg/L	5	09/23/2022 13:14	197763
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 19:08	197763
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 19:08	197763
Lead	NELAP	0.0010		0.0039	mg/L	5	09/22/2022 19:08	197763
Lithium	*	0.0030		0.0143	mg/L	5	09/22/2022 19:08	197763
Molybdenum	NELAP	0.0015		0.0194	mg/L	5	09/22/2022 19:08	197763
Selenium	NELAP	0.0010		0.0151	mg/L	5	09/22/2022 19:08	197763
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 19:08	197763
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 15:42	197776
<i>LCS recovered outside upper control limits Hg. Sample results are below the reporting limit. Data is reportable per the TNI Standard.</i>								
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 15:35	197776
<i>LCS recovered outside upper control limits Hg. Sample results are below the reporting limit. Data is reportable per the TNI Standard.</i>								



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22091073-010
Matrix: GROUNDWATER

Work Order: 22091073
Report Date: 26-Oct-22
Client Sample ID: APW-9-WG-20220913
Collection Date: 09/13/2022 15:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015
Radium-228	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22091073-011
 Matrix: GROUNDWATER

Work Order: 22091073
 Report Date: 26-Oct-22
 Client Sample ID: APW-10S-WG-20220915
 Collection Date: 09/15/2022 15:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	50	H	770	mg/L	2.5	09/29/2022 9:36	R318833
<i>Sample analysis did not meet hold time requirements.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20	S	21	mg/L	2	09/28/2022 9:47	R318683
<i>Matrix spike did not recover within control limits due to matrix interference.</i>								
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.20		1	09/23/2022 13:32	R318433
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.15	mg/L	1	09/23/2022 10:00	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		15	mg/L	1	09/26/2022 15:52	R318607
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:32	197795
Arsenic	NELAP	0.0010		0.0612	mg/L	5	09/22/2022 17:32	197795
Barium	NELAP	0.0010		0.292	mg/L	5	09/22/2022 17:32	197795
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:32	197795
Boron	NELAP	0.0250		0.541	mg/L	5	09/22/2022 17:32	197795
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:32	197795
Calcium	NELAP	0.125		156	mg/L	5	09/23/2022 12:14	197795
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 17:32	197795
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:32	197795
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:32	197795
Lithium	*	0.0030		0.0286	mg/L	5	09/22/2022 17:32	197795
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 17:32	197795
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:32	197795
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 17:32	197795
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 19:40	197763
Arsenic	NELAP	0.0010		0.187	mg/L	5	09/22/2022 19:40	197763
Barium	NELAP	0.0010		0.612	mg/L	5	09/22/2022 19:40	197763
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 19:40	197763
Boron	NELAP	0.0250		0.565	mg/L	5	09/22/2022 19:40	197763
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 19:40	197763
Calcium	NELAP	0.125	S	171	mg/L	5	09/23/2022 13:39	197763
Chromium	NELAP	0.0015		0.0150	mg/L	5	09/22/2022 19:40	197763
Cobalt	NELAP	0.0010		0.0021	mg/L	5	09/22/2022 19:40	197763
Lead	NELAP	0.0010		0.0043	mg/L	5	09/22/2022 19:40	197763
Lithium	*	0.0030		0.0330	mg/L	5	09/22/2022 19:40	197763
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 19:40	197763
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 19:40	197763
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 19:40	197763
<i>Matrix spike control limits for for Ca are not applicable due to high sample/spike ratio.</i>								
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 15:51	197776
<i>LCS recovered outside upper control limits Hg. Sample results are below the reporting limit. Data is reportable per the TNI Standard.</i>								



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM Client Project: GTEC Lab ID: 22091073-011 Matrix: GROUNDWATER	Work Order: 22091073 Report Date: 26-Oct-22 Client Sample ID: APW-10S-WG-20220915 Collection Date: 09/15/2022 15:40
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Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 15:45	197776
<i>LCS recovered outside upper control limits Hg. Sample results are below the reporting limit. Data is reportable per the TNI Standard.</i>								
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015
Radium-228	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015

Client: ERM
 Client Project: GTEC
 Lab ID: 22091073-012
 Matrix: GROUNDWATER

Work Order: 22091073
 Report Date: 26-Oct-22
 Client Sample ID: APW-10D-WG-20220916
 Collection Date: 09/16/2022 10:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20	H	460	mg/L	1	09/29/2022 9:36	R318833
<i>Sample analysis did not meet hold time requirements.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		43	mg/L	1	09/26/2022 16:29	R318590
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.29		1	09/23/2022 13:36	R318433
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.10	mg/L	1	09/23/2022 10:02	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		18	mg/L	1	09/26/2022 16:29	R318607
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:39	197795
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:39	197795
Barium	NELAP	0.0010		0.321	mg/L	5	09/22/2022 17:39	197795
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:39	197795
Boron	NELAP	0.0250		0.0711	mg/L	5	09/22/2022 17:39	197795
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:39	197795
Calcium	NELAP	0.125		124	mg/L	5	09/23/2022 12:19	197795
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 17:39	197795
Cobalt	NELAP	0.0010		0.0021	mg/L	5	09/22/2022 17:39	197795
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:39	197795
Lithium	*	0.0030		0.0135	mg/L	5	09/22/2022 17:39	197795
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 17:39	197795
Selenium	NELAP	0.0010		0.0016	mg/L	5	09/22/2022 17:39	197795
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 17:39	197795
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:44	197763
Arsenic	NELAP	0.0010		0.0057	mg/L	5	09/22/2022 20:44	197763
Barium	NELAP	0.0010		0.418	mg/L	5	09/22/2022 20:44	197763
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:44	197763
Boron	NELAP	0.0250		0.0731	mg/L	5	09/22/2022 20:44	197763
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:44	197763
Calcium	NELAP	0.125		374	mg/L	5	09/23/2022 13:19	197763
Chromium	NELAP	0.0015		0.0148	mg/L	5	09/22/2022 20:44	197763
Cobalt	NELAP	0.0010		0.0049	mg/L	5	09/22/2022 20:44	197763
Lead	NELAP	0.0010		0.0020	mg/L	5	09/22/2022 20:44	197763
Lithium	*	0.0030		0.0156	mg/L	5	09/22/2022 20:44	197763
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 20:44	197763
Selenium	NELAP	0.0010		0.0021	mg/L	5	09/22/2022 20:44	197763
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 20:44	197763
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 15:56	197776
<i>LCS recovered outside upper control limits Hg. Sample results are below the reporting limit. Data is reportable per the TNI Standard.</i>								
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 15:54	197776
<i>LCS recovered outside upper control limits Hg. Sample results are below the reporting limit. Data is reportable per the TNI Standard.</i>								



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22091073-012
Matrix: GROUNDWATER

Work Order: 22091073
Report Date: 26-Oct-22
Client Sample ID: APW-10D-WG-20220916
Collection Date: 09/16/2022 10:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015
Radium-228	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22091073-013
 Matrix: GROUNDWATER

Work Order: 22091073
 Report Date: 26-Oct-22
 Client Sample ID: EB-01-WG-20220913
 Collection Date: 09/13/2022 6:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20	H	< 20	mg/L	1	09/29/2022 9:36	R318833
<i>Sample analysis did not meet hold time requirements.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		< 10	mg/L	1	09/26/2022 16:37	R318590
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		6.42		1	09/23/2022 13:39	R318433
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		< 0.10	mg/L	1	09/23/2022 10:03	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		< 4	mg/L	1	09/26/2022 16:37	R318607
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:45	197795
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:45	197795
Barium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:45	197795
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:45	197795
Boron	NELAP	0.0250		< 0.0250	mg/L	5	09/22/2022 17:45	197795
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:45	197795
Calcium	NELAP	0.125		0.264	mg/L	5	09/23/2022 12:24	197795
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 17:45	197795
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:45	197795
Lead	NELAP	0.0010		0.0026	mg/L	5	09/22/2022 17:45	197795
Lithium	*	0.0030		< 0.0030	mg/L	5	09/22/2022 17:45	197795
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 17:45	197795
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:45	197795
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 17:45	197795
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:50	197763
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:50	197763
Barium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:50	197763
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:50	197763
Boron	NELAP	0.0250		< 0.0250	mg/L	5	09/22/2022 20:50	197763
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:50	197763
Calcium	NELAP	0.125		< 0.125	mg/L	5	09/28/2022 13:36	197763
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 20:50	197763
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:50	197763
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:50	197763
Lithium	*	0.0030		< 0.0030	mg/L	5	09/22/2022 20:50	197763
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 20:50	197763
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:50	197763
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 20:50	197763
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 16:01	197776
<i>LCS recovered outside upper control limits Hg. Sample results are below the reporting limit. Data is reportable per the TNI Standard.</i>								
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 15:58	197776
<i>LCS recovered outside upper control limits Hg. Sample results are below the reporting limit. Data is reportable per the TNI Standard.</i>								



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22091073-013
Matrix: GROUNDWATER

Work Order: 22091073
Report Date: 26-Oct-22
Client Sample ID: EB-01-WG-20220913
Collection Date: 09/13/2022 6:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015
Radium-228	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22091073-014
 Matrix: GROUNDWATER

Work Order: 22091073
 Report Date: 26-Oct-22
 Client Sample ID: DUP-001-WG-20220914
 Collection Date: 09/14/2022 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20	H	774	mg/L	1	09/29/2022 9:37	R318833
<i>Sample analysis did not meet hold time requirements.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		403	mg/L	10	09/26/2022 16:51	R318590
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.57		1	09/23/2022 13:41	R318433
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.31	mg/L	1	09/23/2022 10:07	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		15	mg/L	1	09/26/2022 16:45	R318607
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:51	197795
Arsenic	NELAP	0.0010		0.0010	mg/L	5	09/22/2022 17:51	197795
Barium	NELAP	0.0010		0.128	mg/L	5	09/22/2022 17:51	197795
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:51	197795
Boron	NELAP	0.0250		7.09	mg/L	5	09/22/2022 17:51	197795
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:51	197795
Calcium	NELAP	0.125		131	mg/L	5	09/23/2022 12:29	197795
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 17:51	197795
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:51	197795
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:51	197795
Lithium	*	0.0030		0.0373	mg/L	5	09/22/2022 17:51	197795
Molybdenum	NELAP	0.0015		0.206	mg/L	5	09/22/2022 17:51	197795
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:51	197795
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 17:51	197795
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:57	197763
Arsenic	NELAP	0.0010		0.0023	mg/L	5	09/22/2022 20:57	197763
Barium	NELAP	0.0010		0.152	mg/L	5	09/22/2022 20:57	197763
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:57	197763
Boron	NELAP	0.0250		7.62	mg/L	5	09/22/2022 20:57	197763
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:57	197763
Calcium	NELAP	0.125		137	mg/L	5	09/28/2022 13:42	197763
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 20:57	197763
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:57	197763
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:57	197763
Lithium	*	0.0030		0.0397	mg/L	5	09/22/2022 20:57	197763
Molybdenum	NELAP	0.0015		0.224	mg/L	5	09/22/2022 20:57	197763
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 20:57	197763
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 20:57	197763
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 16:05	197776
<i>LCS recovered outside upper control limits Hg. Sample results are below the reporting limit. Data is reportable per the TNI Standard.</i>								
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 16:03	197776
<i>LCS recovered outside upper control limits Hg. Sample results are below the reporting limit. Data is reportable per the TNI Standard.</i>								



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22091073-014
Matrix: GROUNDWATER

Work Order: 22091073
Report Date: 26-Oct-22
Client Sample ID: DUP-001-WG-20220914
Collection Date: 09/14/2022 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015
Radium-228	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22091073-015
 Matrix: GROUNDWATER

Work Order: 22091073
 Report Date: 26-Oct-22
 Client Sample ID: DUP-002-WG-20220914
 Collection Date: 09/14/2022 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	50	H	905	mg/L	2.5	09/29/2022 9:37	R318833
<i>Sample analysis did not meet hold time requirements.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		490	mg/L	10	09/26/2022 17:15	R318590
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.25		1	09/23/2022 13:43	R318433
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.22	mg/L	1	09/23/2022 10:08	R318437
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		10	mg/L	1	09/26/2022 17:09	R318607
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:58	197795
Arsenic	NELAP	0.0010		0.0049	mg/L	5	09/22/2022 17:58	197795
Barium	NELAP	0.0010		0.135	mg/L	5	09/22/2022 17:58	197795
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:58	197795
Boron	NELAP	0.0250		7.90	mg/L	5	09/22/2022 17:58	197795
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:58	197795
Calcium	NELAP	0.125		165	mg/L	5	09/23/2022 12:34	197795
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	09/22/2022 17:58	197795
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:58	197795
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:58	197795
Lithium	*	0.0030		0.0404	mg/L	5	09/22/2022 17:58	197795
Molybdenum	NELAP	0.0015		0.156	mg/L	5	09/22/2022 17:58	197795
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 17:58	197795
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 17:58	197795
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 21:03	197763
Arsenic	NELAP	0.0010		0.0176	mg/L	5	09/22/2022 21:03	197763
Barium	NELAP	0.0010		0.238	mg/L	5	09/22/2022 21:03	197763
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 21:03	197763
Boron	NELAP	0.0250		8.72	mg/L	5	09/22/2022 21:03	197763
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 21:03	197763
Calcium	NELAP	0.125		178	mg/L	5	09/28/2022 15:21	197763
Chromium	NELAP	0.0015		0.0066	mg/L	5	09/22/2022 21:03	197763
Cobalt	NELAP	0.0010		0.0011	mg/L	5	09/22/2022 21:03	197763
Lead	NELAP	0.0010		0.0033	mg/L	5	09/22/2022 21:03	197763
Lithium	*	0.0030		0.0456	mg/L	5	09/22/2022 21:03	197763
Molybdenum	NELAP	0.0015		0.174	mg/L	5	09/22/2022 21:03	197763
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/22/2022 21:03	197763
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/22/2022 21:03	197763
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 16:19	197776
<i>LCS recovered outside upper control limits Hg. Sample results are below the reporting limit. Data is reportable per the TNI Standard.</i>								
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	09/20/2022 16:07	197776
<i>LCS recovered outside upper control limits Hg. Sample results are below the reporting limit. Data is reportable per the TNI Standard.</i>								



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22091073-015
Matrix: GROUNDWATER

Work Order: 22091073
Report Date: 26-Oct-22
Client Sample ID: DUP-002-WG-20220914
Collection Date: 09/14/2022 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015
Radium-228	*	0		See Attached	pci/L	1	10/17/2022 0:00	R320015

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
22091073-001	APW-1R-WG-20220915	Groundwater	4	09/15/2022 8:45
22091073-002	APW-2-WG-20220914	Groundwater	4	09/14/2022 10:40
22091073-003	APW-3-WG-2022915	Groundwater	4	09/15/2022 12:50
22091073-004	APW-4-WG-2022915	Groundwater	4	09/15/2022 10:25
22091073-005	APW-5-WG-20220914	Groundwater	4	09/14/2022 8:55
22091073-006	APW-6S-WG-20220913	Groundwater	4	09/13/2022 12:30
22091073-007	APW-6D-WG-20220913	Groundwater	4	09/13/2022 10:30
22091073-008	APW-7-WG-20220914	Groundwater	4	09/14/2022 15:20
22091073-009	APW-8-WG-20220915	Groundwater	4	09/15/2022 14:10
22091073-010	APW-9-WG-20220913	Groundwater	4	09/13/2022 15:10
22091073-011	APW-10S-WG-20220915	Groundwater	4	09/15/2022 15:40
22091073-012	APW-10D-WG-20220916	Groundwater	4	09/16/2022 10:50
22091073-013	EB-01-WG-20220913	Groundwater	4	09/13/2022 6:45
22091073-014	DUP-001-WG-20220914	Groundwater	4	09/14/2022 0:00
22091073-015	DUP-002-WG-20220914	Groundwater	4	09/14/2022 0:00



Dates Report

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
22091073-001A	APW-1R-WG-20220915	09/15/2022 8:45	09/16/2022 13:45		
	Standard Methods 2540 C (Total) 1997, 2011				09/27/2022 11:00
	SW-846 9036 (Total)				09/28/2022 9:07
	SW-846 9040B, Laboratory Analyzed				09/23/2022 12:58
	SW-846 9214 (Total)				09/23/2022 9:35
	SW-846 9251 (Total)				09/26/2022 13:47
22091073-001B	APW-1R-WG-20220915	09/15/2022 8:45	09/16/2022 13:45		
	EPA 903.0/904.0, Radium 226/228				10/17/2022 0:00
22091073-001C	APW-1R-WG-20220915	09/15/2022 8:45	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:50	09/22/2022 13:17
	SW-846 7470A (Total)			09/19/2022 15:28	09/20/2022 14:36
22091073-001D	APW-1R-WG-20220915	09/15/2022 8:45	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:16	09/23/2022 10:00
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:16	09/23/2022 21:57
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:16	09/26/2022 16:23
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/19/2022 12:16	09/28/2022 14:12
	SW-846 7470A (Dissolved)			09/19/2022 15:28	09/20/2022 14:38
22091073-002A	APW-2-WG-20220914	09/14/2022 10:40	09/16/2022 13:45		
	Standard Methods 2540 C (Total) 1997, 2011				09/27/2022 11:00
	SW-846 9036 (Total)				09/26/2022 14:27
	SW-846 9040B, Laboratory Analyzed				09/23/2022 13:00
	SW-846 9214 (Total)				09/23/2022 9:37
	SW-846 9251 (Total)				09/26/2022 14:21
22091073-002B	APW-2-WG-20220914	09/14/2022 10:40	09/16/2022 13:45		
	EPA 903.0/904.0, Radium 226/228				10/17/2022 0:00
22091073-002C	APW-2-WG-20220914	09/14/2022 10:40	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:50	09/22/2022 13:23
	SW-846 7470A (Total)			09/19/2022 15:28	09/20/2022 14:40
22091073-002D	APW-2-WG-20220914	09/14/2022 10:40	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/22/2022 16:28
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/26/2022 11:13
	SW-846 7470A (Dissolved)			09/19/2022 15:28	09/20/2022 14:42
22091073-003A	APW-3-WG-2022915	09/15/2022 12:50	09/16/2022 13:45		
	Standard Methods 2540 C (Total) 1997, 2011				09/27/2022 11:01
	SW-846 9036 (Total)				09/26/2022 14:35
	SW-846 9040B, Laboratory Analyzed				09/23/2022 13:02



Dates Report

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	SW-846 9214 (Total)				09/23/2022 9:39
	SW-846 9251 (Total)				09/26/2022 14:29
22091073-003B	APW-3-WG-2022915	09/15/2022 12:50	09/16/2022 13:45		
	EPA 903.0/904.0, Radium 226/228				10/17/2022 0:00
22091073-003C	APW-3-WG-2022915	09/15/2022 12:50	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:50	09/22/2022 13:29
	SW-846 7470A (Total)			09/19/2022 15:28	09/20/2022 14:45
22091073-003D	APW-3-WG-2022915	09/15/2022 12:50	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/22/2022 14:52
	SW-846 7470A (Dissolved)			09/19/2022 15:28	09/20/2022 14:47
22091073-004A	APW-4-WG-2022915	09/15/2022 10:25	09/16/2022 13:45		
	Standard Methods 2540 C (Total) 1997, 2011				09/27/2022 11:01
	SW-846 9036 (Total)				09/28/2022 9:17
	SW-846 9040B, Laboratory Analyzed				09/23/2022 13:04
	SW-846 9214 (Total)				09/23/2022 9:40
	SW-846 9251 (Total)				09/26/2022 14:37
22091073-004B	APW-4-WG-2022915	09/15/2022 10:25	09/16/2022 13:45		
	EPA 903.0/904.0, Radium 226/228				10/17/2022 0:00
22091073-004C	APW-4-WG-2022915	09/15/2022 10:25	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:50	09/22/2022 14:59
	SW-846 7470A (Total)			09/19/2022 15:28	09/20/2022 14:49
22091073-004D	APW-4-WG-2022915	09/15/2022 10:25	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/22/2022 15:44
	SW-846 7470A (Dissolved)			09/19/2022 15:28	09/20/2022 14:56
22091073-005A	APW-5-WG-20220914	09/14/2022 8:55	09/16/2022 13:45		
	Standard Methods 2540 C (Total) 1997, 2011				09/27/2022 11:01
	SW-846 9036 (Total)				09/26/2022 14:51
	SW-846 9040B, Laboratory Analyzed				09/23/2022 13:06
	SW-846 9214 (Total)				09/23/2022 9:42
	SW-846 9251 (Total)				09/26/2022 14:45
22091073-005B	APW-5-WG-20220914	09/14/2022 8:55	09/16/2022 13:45		
	EPA 903.0/904.0, Radium 226/228				10/17/2022 0:00
22091073-005C	APW-5-WG-20220914	09/14/2022 8:55	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:50	09/22/2022 14:21
	SW-846 7470A (Total)			09/19/2022 15:28	09/20/2022 14:58
22091073-005D	APW-5-WG-20220914	09/14/2022 8:55	09/16/2022 13:45		



Dates Report

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/22/2022 15:50
	SW-846 7470A (Dissolved)			09/19/2022 15:28	09/20/2022 15:01
22091073-006A	APW-6S-WG-20220913	09/13/2022 12:30	09/16/2022 13:45		
	Standard Methods 2540 C (Total) 1997, 2011				09/27/2022 11:01
	SW-846 9036 (Total)				09/26/2022 14:59
	SW-846 9040B, Laboratory Analyzed				09/23/2022 13:07
	SW-846 9214 (Total)				09/23/2022 9:44
	SW-846 9251 (Total)				09/26/2022 14:53
22091073-006B	APW-6S-WG-20220913	09/13/2022 12:30	09/16/2022 13:45		
	EPA 903.0/904.0, Radium 226/228				10/17/2022 0:00
22091073-006C	APW-6S-WG-20220913	09/13/2022 12:30	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:50	09/22/2022 14:27
	SW-846 7470A (Total)			09/19/2022 15:28	09/20/2022 15:03
22091073-006D	APW-6S-WG-20220913	09/13/2022 12:30	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/22/2022 15:56
	SW-846 7470A (Dissolved)			09/19/2022 15:28	09/20/2022 15:05
22091073-007A	APW-6D-WG-20220913	09/13/2022 10:30	09/16/2022 13:45		
	Standard Methods 2540 C (Total) 1997, 2011				09/29/2022 9:34
	SW-846 9036 (Total)				09/26/2022 15:23
	SW-846 9040B, Laboratory Analyzed				09/23/2022 13:10
	SW-846 9214 (Total)				09/23/2022 9:46
	SW-846 9251 (Total)				09/26/2022 15:17
22091073-007B	APW-6D-WG-20220913	09/13/2022 10:30	09/16/2022 13:45		
	EPA 903.0/904.0, Radium 226/228				10/17/2022 0:00
22091073-007C	APW-6D-WG-20220913	09/13/2022 10:30	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:50	09/22/2022 14:33
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:50	10/13/2022 5:17
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:50	10/13/2022 6:20
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/13/2022 12:28	10/14/2022 13:14
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/13/2022 12:28	10/17/2022 15:33
	SW-846 7470A (Total)			09/19/2022 15:28	09/20/2022 15:12
22091073-007D	APW-6D-WG-20220913	09/13/2022 10:30	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/22/2022 16:03
	SW-846 7470A (Dissolved)			09/19/2022 15:28	09/20/2022 15:15
22091073-008A	APW-7-WG-20220914	09/14/2022 15:20	09/16/2022 13:45		
	Standard Methods 2540 C (Total) 1997, 2011				09/29/2022 9:35



Dates Report

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Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	SW-846 9036 (Total)				09/28/2022 9:28
	SW-846 9040B, Laboratory Analyzed				09/23/2022 13:11
	SW-846 9214 (Total)				09/23/2022 9:47
	SW-846 9251 (Total)				09/26/2022 15:25
22091073-008B	APW-7-WG-20220914	09/14/2022 15:20	09/16/2022 13:45		
	EPA 903.0/904.0, Radium 226/228				10/17/2022 0:00
22091073-008C	APW-7-WG-20220914	09/14/2022 15:20	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:50	09/22/2022 14:40
	SW-846 7470A (Total)			09/19/2022 15:28	09/20/2022 15:17
22091073-008D	APW-7-WG-20220914	09/14/2022 15:20	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/22/2022 16:09
	SW-846 7470A (Dissolved)			09/19/2022 15:28	09/20/2022 15:24
22091073-009A	APW-8-WG-20220915	09/15/2022 14:10	09/16/2022 13:45		
	Standard Methods 2540 C (Total) 1997, 2011				09/29/2022 9:35
	SW-846 9036 (Total)				09/26/2022 15:33
	SW-846 9040B, Laboratory Analyzed				09/23/2022 13:14
	SW-846 9214 (Total)				09/23/2022 9:57
	SW-846 9251 (Total)				09/26/2022 15:33
22091073-009B	APW-8-WG-20220915	09/15/2022 14:10	09/16/2022 13:45		
	EPA 903.0/904.0, Radium 226/228				10/17/2022 0:00
22091073-009C	APW-8-WG-20220915	09/15/2022 14:10	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:50	09/22/2022 14:46
	SW-846 7470A (Total)			09/19/2022 18:11	09/20/2022 15:31
22091073-009D	APW-8-WG-20220915	09/15/2022 14:10	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/22/2022 16:15
	SW-846 7470A (Dissolved)			09/19/2022 18:11	09/20/2022 15:33
22091073-010A	APW-9-WG-20220913	09/13/2022 15:10	09/16/2022 13:45		
	Standard Methods 2540 C (Total) 1997, 2011				09/29/2022 9:35
	SW-846 9036 (Total)				09/26/2022 15:41
	SW-846 9040B, Laboratory Analyzed				09/23/2022 13:16
	SW-846 9214 (Total)				09/23/2022 9:59
	SW-846 9251 (Total)				09/26/2022 15:41
22091073-010B	APW-9-WG-20220913	09/13/2022 15:10	09/16/2022 13:45		
	EPA 903.0/904.0, Radium 226/228				10/17/2022 0:00
22091073-010C	APW-9-WG-20220913	09/13/2022 15:10	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	09/22/2022 19:08



Dates Report

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Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	09/23/2022 13:14
	SW-846 7470A (Total)			09/19/2022 18:11	09/20/2022 15:35
22091073-010D	APW-9-WG-20220913	09/13/2022 15:10	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/22/2022 16:22
	SW-846 7470A (Dissolved)			09/19/2022 18:11	09/20/2022 15:42
22091073-011A	APW-10S-WG-20220915	09/15/2022 15:40	09/16/2022 13:45		
	Standard Methods 2540 C (Total) 1997, 2011				09/29/2022 9:36
	SW-846 9036 (Total)				09/28/2022 9:47
	SW-846 9040B, Laboratory Analyzed				09/23/2022 13:32
	SW-846 9214 (Total)				09/23/2022 10:00
	SW-846 9251 (Total)				09/26/2022 15:52
22091073-011B	APW-10S-WG-20220915	09/15/2022 15:40	09/16/2022 13:45		
	EPA 903.0/904.0, Radium 226/228				10/17/2022 0:00
22091073-011C	APW-10S-WG-20220915	09/15/2022 15:40	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	09/22/2022 19:40
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	09/23/2022 13:39
	SW-846 7470A (Total)			09/19/2022 18:11	09/20/2022 15:45
22091073-011D	APW-10S-WG-20220915	09/15/2022 15:40	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/22/2022 17:32
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/23/2022 12:14
	SW-846 7470A (Dissolved)			09/19/2022 18:11	09/20/2022 15:51
22091073-012A	APW-10D-WG-20220916	09/16/2022 10:50	09/16/2022 13:45		
	Standard Methods 2540 C (Total) 1997, 2011				09/29/2022 9:36
	SW-846 9036 (Total)				09/26/2022 16:29
	SW-846 9040B, Laboratory Analyzed				09/23/2022 13:36
	SW-846 9214 (Total)				09/23/2022 10:02
	SW-846 9251 (Total)				09/26/2022 16:29
22091073-012B	APW-10D-WG-20220916	09/16/2022 10:50	09/16/2022 13:45		
	EPA 903.0/904.0, Radium 226/228				10/17/2022 0:00
22091073-012C	APW-10D-WG-20220916	09/16/2022 10:50	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	09/22/2022 20:44
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	09/23/2022 13:19
	SW-846 7470A (Total)			09/19/2022 18:11	09/20/2022 15:54
22091073-012D	APW-10D-WG-20220916	09/16/2022 10:50	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/22/2022 17:39
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/23/2022 12:19



Dates Report

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Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	SW-846 7470A (Dissolved)			09/19/2022 18:11	09/20/2022 15:56
22091073-013A	EB-01-WG-20220913	09/13/2022 6:45	09/16/2022 13:45		
	Standard Methods 2540 C (Total) 1997, 2011				09/29/2022 9:36
	SW-846 9036 (Total)				09/26/2022 16:37
	SW-846 9040B, Laboratory Analyzed				09/23/2022 13:39
	SW-846 9214 (Total)				09/23/2022 10:03
	SW-846 9251 (Total)				09/26/2022 16:37
22091073-013B	EB-01-WG-20220913	09/13/2022 6:45	09/16/2022 13:45		
	EPA 903.0/904.0, Radium 226/228				10/17/2022 0:00
22091073-013C	EB-01-WG-20220913	09/13/2022 6:45	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	09/22/2022 20:50
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	09/26/2022 16:11
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	09/28/2022 13:36
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	10/13/2022 5:23
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	10/13/2022 6:26
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/13/2022 12:28	10/14/2022 13:18
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			10/13/2022 12:28	10/17/2022 15:40
	SW-846 7470A (Total)			09/19/2022 18:11	09/20/2022 15:58
22091073-013D	EB-01-WG-20220913	09/13/2022 6:45	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/22/2022 17:45
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/23/2022 12:24
	SW-846 7470A (Dissolved)			09/19/2022 18:11	09/20/2022 16:01
22091073-014A	DUP-001-WG-20220914	09/14/2022 0:00	09/16/2022 13:45		
	Standard Methods 2540 C (Total) 1997, 2011				09/29/2022 9:37
	SW-846 9036 (Total)				09/26/2022 16:51
	SW-846 9040B, Laboratory Analyzed				09/23/2022 13:41
	SW-846 9214 (Total)				09/23/2022 10:07
	SW-846 9251 (Total)				09/26/2022 16:45
22091073-014B	DUP-001-WG-20220914	09/14/2022 0:00	09/16/2022 13:45		
	EPA 903.0/904.0, Radium 226/228				10/17/2022 0:00
22091073-014C	DUP-001-WG-20220914	09/14/2022 0:00	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	09/22/2022 20:57
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	09/26/2022 16:17
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	09/28/2022 13:42
	SW-846 7470A (Total)			09/19/2022 18:11	09/20/2022 16:03
22091073-014D	DUP-001-WG-20220914	09/14/2022 0:00	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/22/2022 17:51



Dates Report

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Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/23/2022 12:29
	SW-846 7470A (Dissolved)			09/19/2022 18:11	09/20/2022 16:05
22091073-015A	DUP-002-WG-20220914	09/14/2022 0:00	09/16/2022 13:45		
	Standard Methods 2540 C (Total) 1997, 2011				09/29/2022 9:37
	SW-846 9036 (Total)				09/26/2022 17:15
	SW-846 9040B, Laboratory Analyzed				09/23/2022 13:43
	SW-846 9214 (Total)				09/23/2022 10:08
	SW-846 9251 (Total)				09/26/2022 17:09
22091073-015B	DUP-002-WG-20220914	09/14/2022 0:00	09/16/2022 13:45		
	EPA 903.0/904.0, Radium 226/228				10/17/2022 0:00
22091073-015C	DUP-002-WG-20220914	09/14/2022 0:00	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	09/22/2022 21:03
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	09/26/2022 16:24
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			09/19/2022 13:54	09/28/2022 15:21
	SW-846 7470A (Total)			09/19/2022 18:11	09/20/2022 16:07
22091073-015D	DUP-002-WG-20220914	09/14/2022 0:00	09/16/2022 13:45		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/22/2022 17:58
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			09/20/2022 9:03	09/23/2022 12:34
	SW-846 7470A (Dissolved)			09/19/2022 18:11	09/20/2022 16:19



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

STANDARD METHODS 2540 C (TOTAL) 1997, 2011

Batch R318696		SampType: MBLK		Units mg/L							Date Analyzed
SampID: MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/27/2022	
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/27/2022	

Batch R318696		SampType: LCS		Units mg/L							Date Analyzed
SampID: LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Total Dissolved Solids		20		948	1000	0	94.8	90	110	09/27/2022	
Total Dissolved Solids		20		956	1000	0	95.6	90	110	09/27/2022	

Batch R318696		SampType: DUP		Units mg/L							RPD Limit: 5	Date Analyzed
SampID: 22091073-001ADUP												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed		
Total Dissolved Solids		20	H	418				420.0	0.48	09/27/2022		

Batch R318833		SampType: MBLK		Units mg/L							Date Analyzed
SampID: MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/29/2022	
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	09/29/2022	

Batch R318833		SampType: LCS		Units mg/L							Date Analyzed
SampID: LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Total Dissolved Solids		20		984	1000	0	98.4	90	110	09/29/2022	
Total Dissolved Solids		20		982	1000	0	98.2	90	110	09/29/2022	

Batch R318833		SampType: DUP		Units mg/L							RPD Limit: 5	Date Analyzed
SampID: 22091073-010ADUP												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed		
Total Dissolved Solids		20	H	378				380.0	0.53	09/29/2022		

SW-846 9036 (TOTAL)

Batch R318590		SampType: MBLK		Units mg/L							Date Analyzed
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		< 10	6.140	0	0	-100	100	09/26/2022	



Quality Control Results

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Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 9036 (TOTAL)

Batch R318590		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		18	20.00	0	92.1	90	110	09/26/2022	

Batch R318683		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		< 10	6.140	0	0	-100	100	09/28/2022	

Batch R318683		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		20	20.00	0	98.4	90	110	09/28/2022	

Batch R318683		SampType: MS		Units mg/L							
SampID: 22091073-001AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		20	SE	106	40.00	72.84	82.6	85	115	09/28/2022	

Batch R318683		SampType: MSD		Units mg/L							
SampID: 22091073-001AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Sulfate		20	E	112	40.00	72.84	97.7	105.9	5.53	09/28/2022	

Batch R318683		SampType: MS		Units mg/L							
SampID: 22091073-011AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		20	S	54	40.00	21.33	82.9	85	115	09/28/2022	

Batch R318683		SampType: MSD		Units mg/L							
SampID: 22091073-011AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Sulfate		20	S	52	40.00	21.33	77.9	54.48	3.70	09/28/2022	



Quality Control Results

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Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 9040B, LABORATORY ANALYZED

Batch R318433		SampType: LCS		Units							Date Analyzed
SampID: LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Lab pH		1.00		6.96	7.000	0	99.4	99.1	100.8	09/22/2022	

Batch R318433		SampType: DUP		Units		RPD Limit: 10					Date Analyzed
SampID: 22091073-001ADUP											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Lab pH		1.00		6.93				6.910	0.29	09/23/2022	

Batch R318433		SampType: DUP		Units		RPD Limit: 10					Date Analyzed
SampID: 22091073-002ADUP											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Lab pH		1.00		7.32				7.320	0.00	09/23/2022	

Batch R318433		SampType: DUP		Units		RPD Limit: 10					Date Analyzed
SampID: 22091073-003ADUP											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Lab pH		1.00		7.46				7.460	0.00	09/23/2022	

Batch R318433		SampType: DUP		Units		RPD Limit: 10					Date Analyzed
SampID: 22091073-004ADUP											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Lab pH		1.00		7.53				7.510	0.27	09/23/2022	

Batch R318433		SampType: DUP		Units		RPD Limit: 10					Date Analyzed
SampID: 22091073-005ADUP											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Lab pH		1.00		7.56				7.550	0.13	09/23/2022	

Batch R318433		SampType: DUP		Units		RPD Limit: 10					Date Analyzed
SampID: 22091073-006ADUP											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Lab pH		1.00		7.38				7.380	0.00	09/23/2022	

Batch R318433		SampType: DUP		Units		RPD Limit: 10					Date Analyzed
SampID: 22091073-007ADUP											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Lab pH		1.00		7.41				7.420	0.13	09/23/2022	



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 9040B, LABORATORY ANALYZED

Batch R318433		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22091073-008ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.02				7.020	0.00	09/23/2022

Batch R318433		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22091073-009ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.45				7.470	0.27	09/23/2022

Batch R318433		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22091073-010ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.65				7.590	0.79	09/23/2022

Batch R318433		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22091073-011ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.22				7.200	0.28	09/23/2022

Batch R318433		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22091073-012ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.28				7.290	0.14	09/23/2022

Batch R318433		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22091073-013ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		6.43				6.420	0.16	09/23/2022

Batch R318433		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22091073-014ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.57				7.570	0.00	09/23/2022

Batch R318433		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22091073-015ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.27				7.250	0.28	09/23/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 9214 (TOTAL)

Batch R318437		SampType: MBLK		Units mg/L							
SampID: MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		< 0.10	0.0370	0	0	-100	100	09/22/2022	

Batch R318437		SampType: LCS		Units mg/L							
SampID: LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		0.93	1.000	0	93.3	90	110	09/22/2022	

Batch R318437		SampType: MS		Units mg/L							
SampID: 22091073-008AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.29	2.000	0.1680	106.0	75	125	09/23/2022	

Batch R318437		SampType: MSD		Units mg/L							
SampID: 22091073-008AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Fluoride		0.10		2.27	2.000	0.1680	105.3	2.287	0.57	09/23/2022	

Batch R318437		SampType: MS		Units mg/L							
SampID: 22091073-015AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.30	2.000	0.2170	104.1	75	125	09/23/2022	

Batch R318437		SampType: MSD		Units mg/L							
SampID: 22091073-015AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Fluoride		0.10		2.24	2.000	0.2170	101.4	2.299	2.42	09/23/2022	

SW-846 9251 (TOTAL)

Batch R318607		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		< 4	0.5000	0	0	-100	100	09/26/2022	



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 9251 (TOTAL)

Batch R318607		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		19	20.00	0	97.0	90	110	09/26/2022	

Batch R318607		SampType: MS		Units mg/L							
SampID: 22091073-001AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		26	20.00	6.570	96.9	85	115	09/26/2022	

Batch R318607		SampType: MSD		Units mg/L							
SampID: 22091073-001AMSD											
										RPD Limit: 15	
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Chloride		4		26	20.00	6.570	96.8	25.95	0.08	09/26/2022	

Batch R318607		SampType: MS		Units mg/L							
SampID: 22091073-011AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		34	20.00	15.33	95.5	85	115	09/26/2022	

Batch R318607		SampType: MSD		Units mg/L							
SampID: 22091073-011AMSD											
										RPD Limit: 15	
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Chloride		4		34	20.00	15.33	93.8	34.43	1.02	09/26/2022	

Batch R318718		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		< 4	0.5000	0	0	-100	100	09/28/2022	

Batch R318718		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		20	20.00	0	97.6	90	110	09/28/2022	



Quality Control Results

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Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 197756 SampType: MBLK Units mg/L

SampID: MBLK-197756

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	09/23/2022
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	09/21/2022
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	09/21/2022
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	09/21/2022
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	09/21/2022
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	09/23/2022
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	09/23/2022
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	09/21/2022
Calcium		0.125		< 0.125	0.0700	0	0	-100	100	09/28/2022
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	09/23/2022
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	09/21/2022
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	09/21/2022
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	09/23/2022
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	09/23/2022
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	09/21/2022
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	09/21/2022
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	09/21/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 197756 SampType: LCS Units mg/L

SampID: LCS-197756

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.499	0.5000	0	99.7	80	120	09/21/2022
Antimony		0.0010		0.502	0.5000	0	100.4	80	120	09/23/2022
Arsenic		0.0010		0.472	0.5000	0	94.4	80	120	09/21/2022
Barium		0.0010		1.86	2.000	0	93.0	80	120	09/21/2022
Beryllium		0.0010		0.0484	0.0500	0	96.8	80	120	09/23/2022
Beryllium		0.0010		0.0474	0.0500	0	94.8	80	120	09/23/2022
Boron		0.0250		0.516	0.5000	0	103.2	80	120	09/23/2022
Cadmium		0.0010		0.0440	0.0500	0	88.0	80	120	09/21/2022
Calcium		0.125		2.35	2.500	0	94.0	80	120	09/28/2022
Chromium		0.0015		0.189	0.2000	0	94.4	80	120	09/23/2022
Cobalt		0.0010		0.458	0.5000	0	91.6	80	120	09/21/2022
Lead		0.0010		0.469	0.5000	0	93.8	80	120	09/21/2022
Lithium	*	0.0030		0.480	0.5000	0	95.9	80	120	09/28/2022
Molybdenum		0.0015		0.443	0.5000	0	88.5	80	120	09/21/2022
Selenium		0.0010		0.438	0.5000	0	87.6	80	120	09/21/2022
Thallium		0.0020		0.226	0.2500	0	90.3	80	120	09/21/2022

Batch 197756 SampType: MS Units mg/L

SampID: 22091073-001DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.504	0.5000	0	100.8	75	125	09/23/2022
Arsenic		0.0010		0.514	0.5000	0.0008307	102.7	75	125	09/23/2022
Barium		0.0010		2.18	2.000	0.1526	101.5	75	125	09/23/2022
Beryllium		0.0010		0.0501	0.0500	0	100.2	75	125	09/23/2022
Boron		0.0250		0.701	0.5000	0.2441	91.3	75	125	09/26/2022
Cadmium		0.0010		0.0498	0.0500	0	99.7	75	125	09/23/2022
Calcium		0.125		86.6	2.500	83.76	113.1	75	125	09/28/2022
Chromium		0.0015		0.192	0.2000	0	95.8	75	125	09/23/2022
Cobalt		0.0010		0.499	0.5000	0.0003479	99.7	75	125	09/23/2022
Lead		0.0010		0.514	0.5000	0	102.7	75	125	09/23/2022
Lithium	*	0.0030		0.536	0.5000	0.01562	104.1	75	125	09/28/2022
Molybdenum		0.0015		0.486	0.5000	0	97.2	75	125	09/28/2022
Selenium		0.0010		0.473	0.5000	0.003247	94.0	75	125	09/23/2022
Thallium		0.0020		0.258	0.2500	0	103.2	75	125	09/23/2022



Quality Control Results

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Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 197756		SampType: MSD		Units mg/L				RPD Limit: 20		
SampID: 22091073-001DMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		0.510	0.5000	0	102.0	0.5042	1.14	09/23/2022
Arsenic		0.0010		0.520	0.5000	0.0008307	103.7	0.5142	1.05	09/23/2022
Barium		0.0010		2.19	2.000	0.1526	101.7	2.183	0.14	09/23/2022
Beryllium		0.0010		0.0506	0.0500	0	101.3	0.05011	1.04	09/23/2022
Boron		0.0250		0.726	0.5000	0.2441	96.4	0.7006	3.61	09/26/2022
Cadmium		0.0010		0.0500	0.0500	0	100.0	0.04983	0.34	09/23/2022
Calcium		0.125	S	91.9	2.500	83.76	324.0	86.58	5.91	09/28/2022
Chromium		0.0015		0.193	0.2000	0	96.7	0.1916	0.99	09/23/2022
Cobalt		0.0010		0.480	0.5000	0.0003479	96.0	0.4990	3.84	09/23/2022
Lead		0.0010		0.512	0.5000	0	102.3	0.5135	0.39	09/23/2022
Lithium	*	0.0030		0.571	0.5000	0.01562	111.0	0.5361	6.24	09/28/2022
Molybdenum		0.0015		0.549	0.5000	0	109.9	0.4861	12.21	09/28/2022
Selenium		0.0010		0.476	0.5000	0.003247	94.6	0.4734	0.60	09/23/2022
Thallium		0.0020		0.256	0.2500	0	102.3	0.2581	0.96	09/23/2022

Batch 197795		SampType: MBLK		Units mg/L						
SampID: MBLK-197795										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	09/22/2022
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	09/22/2022
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	09/22/2022
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	09/22/2022
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	09/22/2022
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	09/22/2022
Calcium		0.125		< 0.125	0.0700	0	0	-100	100	09/22/2022
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	09/22/2022
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	09/22/2022
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	09/22/2022
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	09/22/2022
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	09/22/2022
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	09/22/2022
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	09/22/2022



Quality Control Results

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Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 197795 SampType: LCS Units mg/L

SampID: LCS-197795

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.496	0.5000	0	99.2	80	120	09/22/2022
Arsenic		0.0010		0.506	0.5000	0	101.3	80	120	09/22/2022
Barium		0.0010		2.02	2.000	0	100.8	80	120	09/22/2022
Beryllium		0.0010		0.0460	0.0500	0	91.9	80	120	09/22/2022
Boron		0.0250		0.473	0.5000	0	94.7	80	120	09/22/2022
Cadmium		0.0010		0.0474	0.0500	0	94.7	80	120	09/22/2022
Calcium		0.125		2.40	2.500	0	96.0	80	120	09/22/2022
Chromium		0.0015		0.193	0.2000	0	96.4	80	120	09/22/2022
Cobalt		0.0010		0.481	0.5000	0	96.2	80	120	09/22/2022
Lead		0.0010		0.484	0.5000	0	96.8	80	120	09/22/2022
Lithium	*	0.0030		0.478	0.5000	0	95.6	80	120	09/22/2022
Molybdenum		0.0015		0.478	0.5000	0	95.5	80	120	09/22/2022
Selenium		0.0010		0.474	0.5000	0	94.8	80	120	09/22/2022
Thallium		0.0020		0.235	0.2500	0	94.1	80	120	09/22/2022

Batch 197795 SampType: MS Units mg/L

SampID: 22091073-002DMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		1.00	1.000	0.0006649	100.2	75	125	09/22/2022
Arsenic		0.0010		0.915	1.000	0.004827	91.0	75	125	09/22/2022
Barium		0.0010		4.09	4.000	0.1231	99.2	75	125	09/22/2022
Beryllium		0.0010		0.0885	0.1000	0	88.5	75	125	09/22/2022
Boron		0.0250	S	7.63	1.000	7.494	13.6	75	125	09/26/2022
Cadmium		0.0010		0.0917	0.1000	0	91.7	75	125	09/22/2022
Calcium		0.125	S	139	5.000	135.8	57.5	75	125	09/22/2022
Chromium		0.0015		0.356	0.4000	0	89.0	75	125	09/22/2022
Cobalt		0.0010		0.928	1.000	0.0001239	92.8	75	125	09/22/2022
Lead		0.0010		0.905	1.000	0	90.5	75	125	09/22/2022
Lithium	*	0.0030		0.951	1.000	0.03736	91.4	75	125	09/22/2022
Molybdenum		0.0015		1.08	1.000	0.1389	94.4	75	125	09/22/2022
Selenium		0.0010		0.839	1.000	0	83.9	75	125	09/22/2022
Thallium		0.0020		0.435	0.5000	0	87.0	75	125	09/22/2022



Quality Control Results

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Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 197795		SampType: MSD		Units mg/L				RPD Limit: 20			Date Analyzed
SampID: 22091073-002DMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Antimony		0.0010		0.970	1.000	0.0006649	96.9	1.003	3.31	09/22/2022	
Arsenic		0.0010		0.899	1.000	0.004827	89.4	0.9152	1.78	09/22/2022	
Barium		0.0010		4.03	4.000	0.1231	97.7	4.090	1.45	09/22/2022	
Beryllium		0.0010		0.0858	0.1000	0	85.8	0.08852	3.07	09/22/2022	
Boron		0.0250	S	7.79	1.000	7.494	29.6	7.630	2.07	09/26/2022	
Cadmium		0.0010		0.0885	0.1000	0	88.5	0.09169	3.52	09/22/2022	
Calcium		0.125	S	126	5.000	135.8	-195.9	138.7	9.57	09/22/2022	
Chromium		0.0015		0.344	0.4000	0	86.0	0.3560	3.43	09/22/2022	
Cobalt		0.0010		0.880	1.000	0.0001239	88.0	0.9280	5.35	09/22/2022	
Lead		0.0010		0.875	1.000	0	87.5	0.9052	3.45	09/22/2022	
Lithium	*	0.0030		0.910	1.000	0.03736	87.3	0.9511	4.42	09/22/2022	
Molybdenum		0.0015		0.925	1.000	0.1389	78.6	1.082	15.69	09/22/2022	
Selenium		0.0010		0.822	1.000	0	82.2	0.8389	2.01	09/22/2022	
Thallium		0.0020		0.422	0.5000	0	84.5	0.4352	2.97	09/22/2022	

Batch 198747		SampType: MBLK		Units mg/L							Date Analyzed
SampID: MBLK-198747											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	10/14/2022	

Batch 198747		SampType: LCS		Units mg/L							Date Analyzed
SampID: LCS-198747											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Cobalt		0.0010		0.459	0.5000	0	91.8	80	120	10/17/2022	



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 197762 SampType: MBLK Units mg/L
 SampID: MBLK-197762

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	09/22/2022
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	09/22/2022
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	09/22/2022
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	09/22/2022
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	09/22/2022
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	09/22/2022
Calcium		0.125		< 0.125	0.0700	0	0	-100	100	09/22/2022
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	09/22/2022
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	09/22/2022
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	09/22/2022
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	09/22/2022
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	09/22/2022
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	09/22/2022
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	09/22/2022

Batch 197762 SampType: LCS Units mg/L
 SampID: LCS-197762

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.538	0.5000	0	107.5	80	120	09/22/2022
Arsenic		0.0010		0.551	0.5000	0	110.1	80	120	09/22/2022
Barium		0.0010		2.19	2.000	0	109.6	80	120	09/22/2022
Beryllium		0.0010		0.0506	0.0500	0	101.2	80	120	09/22/2022
Boron		0.0250		0.507	0.5000	0	101.5	80	120	09/22/2022
Cadmium		0.0010		0.0502	0.0500	0	100.4	80	120	09/22/2022
Calcium		0.125		2.55	2.500	0	102.0	80	120	09/22/2022
Chromium		0.0015		0.211	0.2000	0	105.4	80	120	09/22/2022
Cobalt		0.0010		0.525	0.5000	0	105.0	80	120	09/22/2022
Lead		0.0010		0.527	0.5000	0	105.4	80	120	09/22/2022
Lithium	*	0.0030		0.510	0.5000	0	102.0	80	120	09/22/2022
Molybdenum		0.0015		0.513	0.5000	0	102.7	80	120	09/22/2022
Selenium		0.0010		0.510	0.5000	0	102.1	80	120	09/22/2022
Thallium		0.0020		0.249	0.2500	0	99.6	80	120	09/22/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 197762 SampType: MS Units mg/L
 SampID: 22091073-004CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.547	0.5000	0	109.4	75	125	09/22/2022
Arsenic		0.0010		0.547	0.5000	0.002855	108.8	75	125	09/22/2022
Barium		0.0010		2.35	2.000	0.1645	109.4	75	125	09/22/2022
Beryllium		0.0010		0.0529	0.0500	0	105.9	75	125	09/22/2022
Boron		0.0250		1.50	0.5000	0.9734	105.1	75	125	09/22/2022
Cadmium		0.0010		0.0511	0.0500	0.0001741	101.9	75	125	09/22/2022
Calcium		0.125	S	114	2.500	108.5	209.2	75	125	09/22/2022
Chromium		0.0015		0.233	0.2000	0.02512	104.1	75	125	09/22/2022
Cobalt		0.0010		0.508	0.5000	0.002470	101.1	75	125	09/22/2022
Lead		0.0010		0.525	0.5000	0.001592	104.6	75	125	09/22/2022
Lithium	*	0.0030		0.558	0.5000	0.03224	105.2	75	125	09/22/2022
Molybdenum		0.0015		0.568	0.5000	0.04938	103.6	75	125	09/22/2022
Selenium		0.0010		0.520	0.5000	0.01112	101.8	75	125	09/22/2022
Thallium		0.0020		0.250	0.2500	0	100.0	75	125	09/22/2022

Batch 197762 SampType: MSD Units mg/L
 SampID: 22091073-004CMSD

RPD Limit: 20

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		0.521	0.5000	0	104.2	0.5470	4.89	09/22/2022
Arsenic		0.0010		0.529	0.5000	0.002855	105.2	0.5468	3.36	09/22/2022
Barium		0.0010		2.24	2.000	0.1645	103.8	2.352	4.83	09/22/2022
Beryllium		0.0010		0.0502	0.0500	0	100.3	0.05293	5.39	09/22/2022
Boron		0.0250		1.46	0.5000	0.9734	96.5	1.499	2.90	09/22/2022
Cadmium		0.0010		0.0486	0.0500	0.0001741	96.9	0.05110	5.01	09/22/2022
Calcium		0.125	S	110	2.500	108.5	69.8	113.7	3.11	09/22/2022
Chromium		0.0015		0.226	0.2000	0.02512	100.5	0.2334	3.14	09/22/2022
Cobalt		0.0010		0.488	0.5000	0.002470	97.2	0.5077	3.90	09/22/2022
Lead		0.0010		0.510	0.5000	0.001592	101.6	0.5247	2.87	09/22/2022
Lithium	*	0.0030		0.536	0.5000	0.03224	100.8	0.5584	4.01	09/22/2022
Molybdenum		0.0015		0.551	0.5000	0.04938	100.3	0.5676	2.97	09/22/2022
Selenium		0.0010		0.505	0.5000	0.01112	98.8	0.5200	2.94	09/22/2022
Thallium		0.0020		0.245	0.2500	0	97.8	0.2500	2.18	09/22/2022



Quality Control Results

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Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 197763 SampType: MBLK Units mg/L
 SampID: MBLK-197763

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	09/22/2022
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	09/22/2022
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	09/22/2022
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	09/22/2022
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	09/22/2022
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	09/22/2022
Calcium		0.125		< 0.125	0.0700	0	0	-100	100	09/23/2022
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	09/22/2022
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	09/22/2022
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	09/22/2022
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	09/22/2022
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	09/22/2022
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	09/22/2022
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	09/22/2022

Batch 197763 SampType: LCS Units mg/L
 SampID: LCS-197763

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.534	0.5000	0	106.8	80	120	09/22/2022
Arsenic		0.0010		0.534	0.5000	0	106.7	80	120	09/22/2022
Barium		0.0010		2.14	2.000	0	106.9	80	120	09/22/2022
Beryllium		0.0010		0.0519	0.0500	0	103.9	80	120	09/22/2022
Boron		0.0250		0.525	0.5000	0	105.1	80	120	09/22/2022
Cadmium		0.0010		0.0494	0.0500	0	98.8	80	120	09/22/2022
Calcium		0.125		2.78	2.500	0	111.2	80	120	09/23/2022
Chromium		0.0015		0.212	0.2000	0	106.1	80	120	09/22/2022
Cobalt		0.0010		0.504	0.5000	0	100.9	80	120	09/22/2022
Lead		0.0010		0.518	0.5000	0	103.5	80	120	09/22/2022
Lithium	*	0.0030		0.536	0.5000	0	107.2	80	120	09/22/2022
Molybdenum		0.0015		0.500	0.5000	0	99.9	80	120	09/22/2022
Selenium		0.0010		0.508	0.5000	0	101.7	80	120	09/22/2022
Thallium		0.0020		0.245	0.2500	0	97.9	80	120	09/22/2022



Quality Control Results

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Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 197763 SampType: MS Units mg/L

SampID: 22091073-011CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.514	0.5000	0	102.8	75	125	09/22/2022
Arsenic		0.0010		0.739	0.5000	0.1870	110.4	75	125	09/22/2022
Barium		0.0010		2.93	2.000	0.6119	116.1	75	125	09/22/2022
Beryllium		0.0010		0.0499	0.0500	0	99.8	75	125	09/22/2022
Boron		0.0250		1.07	0.5000	0.5648	100.7	75	125	09/22/2022
Cadmium		0.0010		0.0508	0.0500	0	101.6	75	125	09/22/2022
Calcium		0.125	S	171	2.500	171.1	-9.1	75	125	09/23/2022
Chromium		0.0015		0.222	0.2000	0.01498	103.6	75	125	09/22/2022
Cobalt		0.0010		0.501	0.5000	0.002107	99.8	75	125	09/22/2022
Lead		0.0010		0.527	0.5000	0.004258	104.6	75	125	09/22/2022
Lithium	*	0.0030		0.532	0.5000	0.03304	99.9	75	125	09/22/2022
Molybdenum		0.0015		0.520	0.5000	0.001319	103.8	75	125	09/22/2022
Selenium		0.0010		0.515	0.5000	0	103.0	75	125	09/22/2022
Thallium		0.0020		0.250	0.2500	0	100.1	75	125	09/22/2022

Batch 197763 SampType: MSD Units mg/L

RPD Limit: 20

SampID: 22091073-011CMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		0.506	0.5000	0	101.2	0.5139	1.57	09/22/2022
Arsenic		0.0010		0.736	0.5000	0.1870	109.8	0.7393	0.44	09/22/2022
Barium		0.0010		2.88	2.000	0.6119	113.4	2.935	1.89	09/22/2022
Beryllium		0.0010		0.0502	0.0500	0	100.4	0.04992	0.52	09/22/2022
Boron		0.0250		1.04	0.5000	0.5648	95.7	1.068	2.34	09/22/2022
Cadmium		0.0010		0.0495	0.0500	0	98.9	0.05080	2.67	09/22/2022
Calcium		0.125	S	168	2.500	171.1	-129.0	170.9	1.77	09/23/2022
Chromium		0.0015		0.218	0.2000	0.01498	101.7	0.2221	1.75	09/22/2022
Cobalt		0.0010		0.495	0.5000	0.002107	98.5	0.5013	1.32	09/22/2022
Lead		0.0010		0.523	0.5000	0.004258	103.7	0.5274	0.93	09/22/2022
Lithium	*	0.0030		0.524	0.5000	0.03304	98.2	0.5324	1.60	09/22/2022
Molybdenum		0.0015		0.511	0.5000	0.001319	101.9	0.5201	1.76	09/22/2022
Selenium		0.0010		0.513	0.5000	0	102.6	0.5152	0.47	09/22/2022
Thallium		0.0020		0.252	0.2500	0	100.9	0.2503	0.75	09/22/2022



Quality Control Results

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Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 198728 SampType: MBLK Units mg/L
 SampID: MBLK-198728

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	10/17/2022
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	10/17/2022
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	10/14/2022
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	10/17/2022
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	10/14/2022
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	10/17/2022
Calcium		0.125		< 0.125	0.0700	0	0	-100	100	10/14/2022
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	10/14/2022
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	10/14/2022
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	10/17/2022
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	10/17/2022
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	10/17/2022
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	10/17/2022

Batch 198728 SampType: LCS Units mg/L
 SampID: LCS-198728

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.515	0.5000	0	103.1	85	115	10/17/2022
Arsenic		0.0010		0.524	0.5000	0	104.8	85	115	10/17/2022
Barium		0.0010		2.01	2.000	0	100.5	85	115	10/17/2022
Beryllium		0.0010		0.0465	0.0500	0	93.0	85	115	10/17/2022
Boron		0.0250		0.456	0.5000	0	91.2	85	115	10/14/2022
Cadmium		0.0010		0.0496	0.0500	0	99.2	85	115	10/17/2022
Cobalt		0.0010		0.525	0.5000	0	104.9	85	115	10/17/2022
Lead		0.0010		0.509	0.5000	0	101.9	85	115	10/17/2022
Lithium	*	0.0030		0.490	0.5000	0	98.0	85	115	10/17/2022
Molybdenum		0.0015		0.492	0.5000	0	98.4	85	115	10/17/2022
Selenium		0.0010		0.480	0.5000	0	96.0	85	115	10/17/2022
Thallium		0.0020		0.244	0.2500	0	97.7	85	115	10/17/2022

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 198728		SampType: LCSD		Units mg/L			RPD Limit: 20			
SampID: LCSD-198728										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		0.511	0.5000	0	102.1	0.5155	0.93	10/17/2022
Arsenic		0.0010		0.535	0.5000	0	106.9	0.5242	1.95	10/17/2022
Barium		0.0010		2.03	2.000	0	101.6	2.009	1.10	10/17/2022
Beryllium		0.0010		0.0487	0.0500	0	97.3	0.04648	4.61	10/17/2022
Boron		0.0250		0.493	0.5000	0	98.5	0.4558	7.77	10/14/2022
Cadmium		0.0010		0.0499	0.0500	0	99.8	0.04959	0.65	10/17/2022
Cobalt		0.0010		0.520	0.5000	0	104.0	0.5246	0.84	10/17/2022
Lead		0.0010		0.511	0.5000	0	102.1	0.5093	0.27	10/17/2022
Lithium	*	0.0030		0.514	0.5000	0	102.7	0.4901	4.69	10/17/2022
Molybdenum		0.0015		0.478	0.5000	0	95.6	0.4921	2.87	10/17/2022
Selenium		0.0010		0.490	0.5000	0	98.0	0.4798	2.10	10/17/2022
Thallium		0.0020		0.253	0.2500	0	101.3	0.2444	3.57	10/17/2022

SW-846 7470A (DISSOLVED)

Batch 197769		SampType: MS		Units mg/L			RPD Limit: 20			
SampID: 22091073-006DMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		0.00549	0.0050	0	109.7	75	125	09/20/2022

Batch 197769 SampType: MSD

Batch 197769		SampType: MSD		Units mg/L			RPD Limit: 15			
SampID: 22091073-006DMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		0.00548	0.0050	0	109.5	0.005486	0.20	09/20/2022

SW-846 7470A (TOTAL)

Batch 197769		SampType: MBLK		Units mg/L			RPD Limit: 15			
SampID: MBLK-197769										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		< 0.00020	0.0001	0	0	-100	100	09/20/2022

Batch 197769 SampType: LCS

Batch 197769		SampType: LCS		Units mg/L			RPD Limit: 15			
SampID: LCS-197769										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		0.00554	0.0050	0	110.9	85	115	09/20/2022



Quality Control Results

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Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

SW-846 7470A (TOTAL)

Batch 197776		SampType: MBLK		Units mg/L							
SampID: MBLK-197776											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020		< 0.00020	0.0001	0	0	-100	100	09/20/2022	

Batch 197776		SampType: LCS		Units mg/L							
SampID: LCS-197776											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020	S	0.00594	0.0050	0	118.8	85	115	09/20/2022	

Batch 197776		SampType: MS		Units mg/L							
SampID: 22091073-010CMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020		0.00523	0.0050	0	104.6	75	125	09/20/2022	

Batch 197776		SampType: MSD		Units mg/L							
SampID: 22091073-010CMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Mercury		0.00020		0.00542	0.0050	0	108.3	0.005230	3.50	09/20/2022	

Batch 197776		SampType: MS		Units mg/L							
SampID: 22091073-015CMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury		0.00020		0.00549	0.0050	0	109.9	75	125	09/20/2022	

Batch 197776		SampType: MSD		Units mg/L							
SampID: 22091073-015CMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Mercury		0.00020		0.00559	0.0050	0	111.8	0.005493	1.72	09/20/2022	



Receiving Check List

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22091073

Client Project: GTEC

Report Date: 26-Oct-22

Carrier: Marshall Arendell

Received By: CET

Completed by:

Reviewed by:

On:

16-Sep-22

Timothy W. Mathis

On:

19-Sep-22

Elizabeth A. Hurley

Pages to follow: Chain of custody

Extra pages included

- Shipping container/cooler in good condition? Yes No Not Present Temp °C **2.2**
- Type of thermal preservation? None Ice Blue Ice Dry Ice
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Reported field parameters measured: Field Lab NA

Sample analyses to be measured in the field and/or within 15 minutes of collection were analyzed in the lab as soon as practicable. These analyses include Chlorine (demand, free and/or residual), Carbon Dioxide, Dissolved Oxygen, Ferrous Iron, pH, and Sulfite.

Container/Temp Blank temperature in compliance? Yes No

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

- Water – at least one vial per sample has zero headspace? Yes No No VOA vials
- Water - TOX containers have zero headspace? Yes No No TOX containers
- Water - pH acceptable upon receipt? Yes No NA
- NPDES/CWA TCN interferences checked/treated in the field? Yes No NA

Any No responses must be detailed below or on the COC.

Samples were split, filtered and preserved with nitric acid (84325) for the dissolved parameters upon arrival at the laboratory. - TMathis - 9/16/2022 3:52:35 PM - ehurley - 9/19/2022 8:00:12 AM

pH strip #83484. - CET/ehurley - 9/19/2022 8:10:46 AM

CHAIN OF CUSTODY

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

Client: ERM
Address: 68 Villa Grove
City / State / Zip: Springfield, IL 62712
Contact: Brett Carney **Phone:** (217) 529-0914
E-Mail: brett.carney@erm.com **Fax:**

Samples on: ICE BLUE ICE NO ICE 2.2 °C LTG# 3
Preserved in: LAB FIELD **FOR LAB USE ONLY**
Lab Notes: *Phw 834811, CET/cxn 9/16/22*

Are these samples known to be involved in litigation? If yes, a surcharge will apply Yes No
 Are these samples known to be hazardous? Yes No
 Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. Yes No

Client Comments:
 Total Metals: Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Molybdenum, Selenium, Thallium, and Mercury

Project Name/Number		Sample Collector's Name		MATRIX											INDICATE ANALYSIS REQUESTED																						
GTEC		L. Sansouire M. Arendell		Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	Chloride	Fluoride	pH	Radium 226/228	Sulfate	TDS	Total Metals	Other Metals																				
Results Requested		Billing Instructions		# and Type of Containers																																	
<input checked="" type="checkbox"/> Standard <input type="checkbox"/> 1-2 Day (100% Surcharge) <input type="checkbox"/> Other <input type="checkbox"/> 3 Day (50% Surcharge)				UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER																										
Lab Use Only	Sample Identification	Date/Time Sampled																																			
22091013 001	APW-12-W6-20220915	9/15/22; 0845	1	3																																	
002	APW-2-W6-20220914	9/14/22; 1040	1	3																																	
003	APW-3-W6-20220915	9/15/22; 1250	1	3																																	
004	APW-4-W6-20220915	9/15/22; 1025	1	3																																	
005	APW-5-W6-20220914	9/14/22; 0855	1	3																																	
006	APW-6S-W6-20220913	9/13/22; 1230	1	3																																	
007	APW-60-W6-20220913	9/13/22; 1030	1	3																																	
008	APW-7-W6-20220914	9/14/22; 1520	1	3																																	
009	APW-8-W6-20220915	9/15/22; 1410	1	3																																	
010	APW-9-W6-20220913	9/13/22; 1510	1	3																																	

Relinquished By	Date/Time	Received By	Date/Time
<i>Wendy Cole</i>	9/16/22 1345	<i>John Green</i>	9-16-22 1345



Summit Environmental Technologies, Inc.
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October 24, 2022

Elizabeth Hurley
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:

RE: 22091073 - REVISED

Dear Elizabeth Hurley:

Order No.: 22091365

Summit Environmental Technologies, Inc. received 15 sample(s) on 9/21/2022 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

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

Sincerely,

Jennifer Woolf

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 011, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C



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Case Narrative

WO#: 22091365
Date: 10/24/2022

CLIENT: TEKLAB Inc,
Project: 22091073 - REVISED

WorkOrder Narrative:

22091365: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Sequence Sample Notes:

22091365-001A Radium-228_NPW(904.0): Corresponding MS exhibited low recovery for Radium-228, indicating matrix interference. LCS-60168 demonstrates control.

22091365-002A Radium-228_NPW(904.0): Sample and Sample Duplicate exhibited high RPD for Radium-228. Both samples exhibit detections < PQL.

22091365-002A Radium-226_NPW(903.0): Sample and Sample Duplicate exhibited high RPD for Radium-226. Both samples exhibit detections < PQL.

22091365-003A Radium-228_NPW(904.0): Sample and Sample Duplicate exhibited high RPD due to suspected sample matrix.

Revision v1



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Case Narrative

WO#: 22091365
Date: 10/24/2022

CLIENT: TEKLAB Inc,
Project: 22091073 - REVISED

Analytical Sequence QC Notes:

22091365-001AMS Radium-228_NPW(904.0): Spike recovery indicates matrix interference. The method is in control as indicated by the laboratory control sample (LCS).

22091365-002ADUP Radium-228_NPW(904.0): Sample and Sample Duplicate exhibited high RPD for Radium-228. Both samples exhibit detections < PQL.

22091365-003ADUP Radium-228_NPW(904.0): Sample and Sample Duplicate exhibited high RPD due to suspected sample matrix.

22091365-002ADUP Radium-226_NPW(903.0): Sample and Sample Duplicate exhibited high RPD for Radium-226. Both samples exhibit detections < PQL.

REVISED REPORT 10/24/22: Corrected Matrix

Revision v1

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected above the MDL.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
d	Manual integration in which peak was deleted
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B	The analyte was detected in the Method Blank at a concentration greater than the RL.
MB+	The analyte was detected in the Method Blank at a concentration greater than the MDL.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
W	Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	RL	Reporting Limit
QC	Quality Control	MDL	Method Detection Limit
MB	Method Blank	LOD	Level of Detection
LCS	Laboratory Control Sample	LOQ	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	PQL	Practical Quantitation Limit
QCS	Quality Control Sample	CRQL	Contract Required Quantitation Limit
DUP	Duplicate	PL	Permit Limit
MS	Matrix Spike	RegLvl	Regulatory Limit
MSD	Matrix Spike Duplicate	MCL	Maximum Contamination Limit
RPD	Relative Percent Different	MinCL	Minimum Compound Limit
ICV	Initial Calibration Verification	RA	Reanalysis
ICB	Initial Calibration Blank	RE	Reextraction
CCV	Continuing Calibration Verification	TIC	Tentatively Identified Compound
CCB	Continuing Calibration Blank	RT	Retention Time
RLC	Reporting Limit Check	CF	Calibration Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.



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Workorder
Sample Summary
 WO#: **22091365**
24-Oct-22

CLIENT: TEKLAB Inc,
Project: 22091073 - REVISED

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
22091365-001	22091073-001		9/15/2022 8:45:00 AM	9/21/2022 12:00:00 PM	Non-Potable Water
22091365-002	22091073-002		9/14/2022 10:40:00 AM	9/21/2022 12:00:00 PM	Non-Potable Water
22091365-003	22091073-003		9/15/2022 12:50:00 PM	9/21/2022 12:00:00 PM	Non-Potable Water
22091365-004	22091073-004		9/15/2022 10:25:00 AM	9/21/2022 12:00:00 PM	Non-Potable Water
22091365-005	22091073-005		9/14/2022 8:55:00 AM	9/21/2022 12:00:00 PM	Non-Potable Water
22091365-006	22091073-006		9/13/2022 12:30:00 PM	9/21/2022 12:00:00 PM	Non-Potable Water
22091365-007	22091073-007		9/13/2022 10:30:00 AM	9/21/2022 12:00:00 PM	Non-Potable Water
22091365-008	22091073-008		9/14/2022 3:20:00 PM	9/21/2022 12:00:00 PM	Non-Potable Water
22091365-009	22091073-009		9/15/2022 2:10:00 PM	9/21/2022 12:00:00 PM	Non-Potable Water
22091365-010	22091073-010		9/13/2022 3:10:00 PM	9/21/2022 12:00:00 PM	Non-Potable Water
22091365-011	22091073-011		9/15/2022 3:40:00 PM	9/21/2022 12:00:00 PM	Non-Potable Water
22091365-012	22091073-012		9/16/2022 10:50:00 AM	9/21/2022 12:00:00 PM	Non-Potable Water
22091365-013	22091073-013		9/13/2022 6:45:00 AM	9/21/2022 12:00:00 PM	Non-Potable Water
22091365-014	22091073-014		9/14/2022	9/21/2022 12:00:00 PM	Non-Potable Water
22091365-015	22091073-015		9/14/2022	9/21/2022 12:00:00 PM	Non-Potable Water



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DATES REPORT

WO#: **22091365**
24-Oct-22

Client: TEKLAB Inc,
Project: 22091073 - REVISED

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
22091365-001A	22091073-001	9/15/2022 8:45:00 AM	Non-Potable Water	Combined Radium (EPA903+904)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-226 (EPA 903.0)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-228 (EPA 904.0)		10/11/2022 10:43:00 A	10/17/2022 3:44:00 PM
22091365-002A	22091073-002	9/14/2022 10:40:00 AM		Combined Radium (EPA903+904)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-226 (EPA 903.0)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-228 (EPA 904.0)		10/11/2022 10:43:00 A	10/17/2022 3:44:00 PM
22091365-003A	22091073-003	9/15/2022 12:50:00 PM		Combined Radium (EPA903+904)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-226 (EPA 903.0)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-228 (EPA 904.0)		10/11/2022 10:43:00 A	10/17/2022 3:44:00 PM
22091365-004A	22091073-004	9/15/2022 10:25:00 AM		Combined Radium (EPA903+904)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-226 (EPA 903.0)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-228 (EPA 904.0)		10/11/2022 10:43:00 A	10/17/2022 3:44:00 PM
22091365-005A	22091073-005	9/14/2022 8:55:00 AM		Combined Radium (EPA903+904)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-226 (EPA 903.0)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-228 (EPA 904.0)		10/11/2022 10:43:00 A	10/17/2022 3:44:00 PM
22091365-006A	22091073-006	9/13/2022 12:30:00 PM		Combined Radium (EPA903+904)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-226 (EPA 903.0)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-228 (EPA 904.0)		10/11/2022 10:43:00 A	10/17/2022 3:44:00 PM
22091365-007A	22091073-007	9/13/2022 10:30:00 AM		Combined Radium (EPA903+904)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-226 (EPA 903.0)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-228 (EPA 904.0)		10/11/2022 10:43:00 A	10/17/2022 3:44:00 PM
22091365-008A	22091073-008	9/14/2022 3:20:00 PM		Combined Radium (EPA903+904)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-226 (EPA 903.0)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM

Revision v1



Summit Environmental Technologies, Inc.
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Website: <http://www.settek.com>

DATES REPORT

WO#: **22091365**
24-Oct-22

Client: TEKLAB Inc,
Project: 22091073 - REVISED

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
22091365-008A	22091073-008	9/14/2022 3:20:00 PM	Non-Potable Water	Radium-228 (EPA 904.0)		10/11/2022 10:43:00 A	10/17/2022 3:44:00 PM
22091365-009A	22091073-009	9/15/2022 2:10:00 PM		Combined Radium (EPA903+904)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-226 (EPA 903.0)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-228 (EPA 904.0)		10/11/2022 10:43:00 A	10/17/2022 3:44:00 PM
22091365-010A	22091073-010	9/13/2022 3:10:00 PM		Combined Radium (EPA903+904)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-226 (EPA 903.0)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-228 (EPA 904.0)		10/11/2022 10:43:00 A	10/17/2022 3:44:00 PM
22091365-011A	22091073-011	9/15/2022 3:40:00 PM		Combined Radium (EPA903+904)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-226 (EPA 903.0)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-228 (EPA 904.0)		10/11/2022 10:43:00 A	10/17/2022 3:44:00 PM
22091365-012A	22091073-012	9/16/2022 10:50:00 AM		Combined Radium (EPA903+904)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-226 (EPA 903.0)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-228 (EPA 904.0)		10/11/2022 10:43:00 A	10/17/2022 3:44:00 PM
22091365-013A	22091073-013	9/13/2022 6:45:00 AM		Combined Radium (EPA903+904)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-226 (EPA 903.0)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-228 (EPA 904.0)		10/11/2022 10:43:00 A	10/17/2022 3:44:00 PM
22091365-014A	22091073-014	9/14/2022		Combined Radium (EPA903+904)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-226 (EPA 903.0)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-228 (EPA 904.0)		10/11/2022 10:43:00 A	10/17/2022 3:44:00 PM
22091365-015A	22091073-015			Combined Radium (EPA903+904)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-226 (EPA 903.0)		10/11/2022 10:43:00 A	10/19/2022 3:17:00 PM
				Radium-228 (EPA 904.0)		10/11/2022 10:43:00 A	10/17/2022 3:44:00 PM

Revision v1



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Analytical Report

(consolidated)

WO#: 22091365

Date Reported: 10/24/2022

CLIENT: TEKLAB Inc,
Project: 22091073 - REVISED
Lab ID: 22091365-001
Client Sample ID: 22091073-001

Collection Date: 9/15/2022 8:45:00 AM

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)				CALCULATION E903-904		Analyst: HDJ	
Radium-226/Radium-228	0.67	2.00	U	pCi/L	± 0.59	1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-226 (EPA 903.0)				E903.0 E903-904		Analyst: HDJ	
Radium-226	0.24	1.00	U	pCi/L	± 0.1	1	10/19/2022 3:17:00 PM
Yield	0.99					1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-228 (EPA 904.0)				E904.0 E903-904		Analyst: HDJ	
Radium-228	0.43	1.00	UQM-	pCi/L	± 0.49	1	10/17/2022 3:44:00 PM
Yield	1					1	10/17/2022 3:44:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



Summit Environmental Technologies, Inc.
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Analytical Report

(consolidated)

WO#: 22091365

Date Reported: 10/24/2022

CLIENT: TEKLAB Inc,
Project: 22091073 - REVISED
Lab ID: 22091365-002
Client Sample ID: 22091073-002

Collection Date: 9/14/2022 10:40:00 AM

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)				CALCULATION E903-904		Analyst: HDJ	
Radium-226/Radium-228	0.67	2.00	U	pCi/L	± 0.58	1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-226 (EPA 903.0)				E903.0 E903-904		Analyst: HDJ	
Radium-226	0.27	1.00	UQDR	pCi/L	± 0.1	1	10/19/2022 3:17:00 PM
Yield	1					1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-228 (EPA 904.0)				E904.0 E903-904		Analyst: HDJ	
Radium-228	0.4	1.00	UQDR	pCi/L	± 0.48	1	10/17/2022 3:44:00 PM
Yield	1					1	10/17/2022 3:44:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22091365

Date Reported: 10/24/2022

CLIENT: TEKLAB Inc,
Project: 22091073 - REVISED
Lab ID: 22091365-003
Client Sample ID: 22091073-003

Collection Date: 9/15/2022 12:50:00 PM

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)				CALCULATION E903-904		Analyst: HDJ	
Radium-226/Radium-228	0.96	2.00	U	pCi/L	± 0.63	1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-226 (EPA 903.0)				E903.0 E903-904		Analyst: HDJ	
Radium-226	0.56	1.00	U	pCi/L	± 0.13	1	10/19/2022 3:17:00 PM
Yield	1					1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-228 (EPA 904.0)				E904.0 E903-904		Analyst: HDJ	
Radium-228	0.4	1.00	UQDR	pCi/L	± 0.5	1	10/17/2022 3:44:00 PM
Yield	1					1	10/17/2022 3:44:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22091365

Date Reported: 10/24/2022

CLIENT: TEKLAB Inc,
Project: 22091073 - REVISED
Lab ID: 22091365-004
Client Sample ID: 22091073-004

Collection Date: 9/15/2022 10:25:00 AM

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)				CALCULATION E903-904		Analyst: HDJ	
Radium-226/Radium-228	2.65	2.00		pCi/L	± 0.91	1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-226 (EPA 903.0)				E903.0 E903-904		Analyst: HDJ	
Radium-226	0.5	1.00	U	pCi/L	± 0.13	1	10/19/2022 3:17:00 PM
Yield	1					1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-228 (EPA 904.0)				E904.0 E903-904		Analyst: HDJ	
Radium-228	2.15	1.00		pCi/L	± 0.78	1	10/17/2022 3:44:00 PM
Yield	1					1	10/17/2022 3:44:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22091365

Date Reported: 10/24/2022

CLIENT: TEKLAB Inc,
Project: 22091073 - REVISED
Lab ID: 22091365-005
Client Sample ID: 22091073-005

Collection Date: 9/14/2022 8:55:00 AM

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)				CALCULATION E903-904		Analyst: HDJ	
Radium-226/Radium-228	0.99	2.00	U	pCi/L	± 0.96	1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-226 (EPA 903.0)				E903.0 E903-904		Analyst: HDJ	
Radium-226	0.17	1.00	U	pCi/L	± 0.08	1	10/19/2022 3:17:00 PM
Yield	1					1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-228 (EPA 904.0)				E904.0 E903-904		Analyst: HDJ	
Radium-228	0.82	1.00	J	pCi/L	± 0.88	1	10/17/2022 3:44:00 PM
Yield	0.72					1	10/17/2022 3:44:00 PM

Qualifiers:	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	M Manual Integration used to determine area response
	MC Value is below Minimum Compound Limit.	N Tentatively identified compounds
	ND Not Detected	OG1
	P Second column confirmation exceeds	PL Permit Limit



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Analytical Report

(consolidated)

WO#: 22091365

Date Reported: 10/24/2022

CLIENT: TEKLAB Inc,
Project: 22091073 - REVISED
Lab ID: 22091365-006
Client Sample ID: 22091073-006

Collection Date: 9/13/2022 12:30:00 PM

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)				CALCULATION E903-904		Analyst: HDJ	
Radium-226/Radium-228	2.93	2.00		pCi/L	± 0.98	1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-226 (EPA 903.0)				E903.0 E903-904		Analyst: HDJ	
Radium-226	0.2	1.00	U	pCi/L	± 0.08	1	10/19/2022 3:17:00 PM
Yield	0.97					1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-228 (EPA 904.0)				E904.0 E903-904		Analyst: HDJ	
Radium-228	2.73	1.00		pCi/L	± 0.9	1	10/17/2022 3:44:00 PM
Yield	1					1	10/17/2022 3:44:00 PM

Qualifiers:	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	M Manual Integration used to determine area response
	MC Value is below Minimum Compound Limit.	N Tentatively identified compounds
	ND Not Detected	OG1
	P Second column confirmation exceeds	PL Permit Limit



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Analytical Report

(consolidated)

WO#: 22091365

Date Reported: 10/24/2022

CLIENT: TEKLAB Inc,
Project: 22091073 - REVISED
Lab ID: 22091365-007
Client Sample ID: 22091073-007

Collection Date: 9/13/2022 10:30:00 AM

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)				CALCULATION E903-904		Analyst: HDJ	
Radium-226/Radium-228	1.77	2.00	U	pCi/L	± 0.81	1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-226 (EPA 903.0)				E903.0 E903-904		Analyst: HDJ	
Radium-226	0.31	1.00	U	pCi/L	± 0.1	1	10/19/2022 3:17:00 PM
Yield	1					1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-228 (EPA 904.0)				E904.0 E903-904		Analyst: HDJ	
Radium-228	1.46	1.00		pCi/L	± 0.71	1	10/17/2022 3:44:00 PM
Yield	1					1	10/17/2022 3:44:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



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WO#: 22091365

Date Reported: 10/24/2022

CLIENT: TEKLAB Inc,
Project: 22091073 - REVISED
Lab ID: 22091365-008
Client Sample ID: 22091073-008

Collection Date: 9/14/2022 3:20:00 PM

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)				CALCULATION E903-904		Analyst: HDJ	
Radium-226/Radium-228	1.63	2.00	U	pCi/L	± 0.81	1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-226 (EPA 903.0)				E903.0 E903-904		Analyst: HDJ	
Radium-226	0.18	1.00	U	pCi/L	± 0.09	1	10/19/2022 3:17:00 PM
Yield	1					1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-228 (EPA 904.0)				E904.0 E903-904		Analyst: HDJ	
Radium-228	1.45	1.00		pCi/L	± 0.72	1	10/17/2022 3:44:00 PM
Yield	1					1	10/17/2022 3:44:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)
 WO#: 22091365
 Date Reported: 10/24/2022

CLIENT: TEKLAB Inc, **Collection Date:** 9/15/2022 2:10:00 PM
Project: 22091073 - REVISED
Lab ID: 22091365-009 **Matrix:** NON-POTABLE WATER
Client Sample ID: 22091073-009

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)				CALCULATION E903-904		Analyst: HDJ	
Radium-226/Radium-228	1.13	2.00	U	pCi/L	± 0.72	1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-226 (EPA 903.0)				E903.0 E903-904		Analyst: HDJ	
Radium-226	0.27	1.00	U	pCi/L	± 0.1	1	10/19/2022 3:17:00 PM
Yield	1					1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-228 (EPA 904.0)				E904.0 E903-904		Analyst: HDJ	
Radium-228	0.86	1.00	J	pCi/L	± 0.62	1	10/17/2022 3:44:00 PM
Yield	1					1	10/17/2022 3:44:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	OG1	
P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22091365

Date Reported: 10/24/2022

CLIENT: TEKLAB Inc,
Project: 22091073 - REVISED
Lab ID: 22091365-010
Client Sample ID: 22091073-010

Collection Date: 9/13/2022 3:10:00 PM

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)				CALCULATION E903-904		Analyst: HDJ	
Radium-226/Radium-228	0.46	2.00	U	pCi/L	± 0.58	1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-226 (EPA 903.0)				E903.0 E903-904		Analyst: HDJ	
Radium-226	0.24	1.00	U	pCi/L	± 0.09	1	10/19/2022 3:17:00 PM
Yield	1					1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-228 (EPA 904.0)				E904.0 E903-904		Analyst: HDJ	
Radium-228	0.22	1.00	U	pCi/L	± 0.49	1	10/17/2022 3:44:00 PM
Yield	1					1	10/17/2022 3:44:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	OG1	
P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)
 WO#: 22091365
 Date Reported: 10/24/2022

CLIENT: TEKLAB Inc, **Collection Date:** 9/15/2022 3:40:00 PM
Project: 22091073 - REVISED
Lab ID: 22091365-011 **Matrix:** NON-POTABLE WATER
Client Sample ID: 22091073-011

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)				CALCULATION E903-904		Analyst: HDJ	
Radium-226/Radium-228	2.82	2.00		pCi/L	± 1.01	1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-226 (EPA 903.0)				E903.0 E903-904		Analyst: HDJ	
Radium-226	0.3	1.00	U	pCi/L	± 0.1	1	10/19/2022 3:17:00 PM
Yield	1					1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-228 (EPA 904.0)				E904.0 E903-904		Analyst: HDJ	
Radium-228	2.52	1.00		pCi/L	± 0.91	1	10/17/2022 3:44:00 PM
Yield	1					1	10/17/2022 3:44:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	OG1	
P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22091365

Date Reported: 10/24/2022

CLIENT: TEKLAB Inc,
Project: 22091073 - REVISED
Lab ID: 22091365-012
Client Sample ID: 22091073-012

Collection Date: 9/16/2022 10:50:00 AM

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)				CALCULATION E903-904		Analyst: HDJ	
Radium-226/Radium-228	0.78	2.00	U	pCi/L	± 0.67	1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-226 (EPA 903.0)				E903.0 E903-904		Analyst: HDJ	
Radium-226	0.22	1.00	U	pCi/L	± 0.09	1	10/19/2022 3:17:00 PM
Yield	1					1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-228 (EPA 904.0)				E904.0 E903-904		Analyst: HDJ	
Radium-228	0.56	1.00	U	pCi/L	± 0.58	1	10/17/2022 3:44:00 PM
Yield	1					1	10/17/2022 3:44:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22091365

Date Reported: 10/24/2022

CLIENT: TEKLAB Inc,
Project: 22091073 - REVISED
Lab ID: 22091365-013
Client Sample ID: 22091073-013

Collection Date: 9/13/2022 6:45:00 AM

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)				CALCULATION E903-904		Analyst: HDJ	
Radium-226/Radium-228	0.13	2.00	U	pCi/L	± 0.62	1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-226 (EPA 903.0)				E903.0 E903-904		Analyst: HDJ	
Radium-226	0.08	1.00	U	pCi/L	± 0.08	1	10/19/2022 3:17:00 PM
Yield	1					1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-228 (EPA 904.0)				E904.0 E903-904		Analyst: HDJ	
Radium-228	0.05	1.00	U	pCi/L	± 0.54	1	10/17/2022 3:44:00 PM
Yield	1					1	10/17/2022 3:44:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



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WO#: 22091365

Date Reported: 10/24/2022

CLIENT: TEKLAB Inc,
Project: 22091073 - REVISED
Lab ID: 22091365-014
Client Sample ID: 22091073-014

Collection Date: 9/14/2022

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)				CALCULATION E903-904		Analyst: HDJ	
Radium-226/Radium-228	0.38	2.00	U	pCi/L	± 0.62	1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-226 (EPA 903.0)				E903.0 E903-904		Analyst: HDJ	
Radium-226	0.11	1.00	U	pCi/L	± 0.07	1	10/19/2022 3:17:00 PM
Yield	0.96					1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-228 (EPA 904.0)				E904.0 E903-904		Analyst: HDJ	
Radium-228	0.27	1.00	U	pCi/L	± 0.55	1	10/17/2022 3:44:00 PM
Yield	1					1	10/17/2022 3:44:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

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WO#: 22091365

Date Reported: 10/24/2022

CLIENT: TEKLAB Inc,
Project: 22091073 - REVISED
Lab ID: 22091365-015
Client Sample ID: 22091073-015

Collection Date: 9/14/2022
Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RAD226/228 COMBINED RADIUM (EPA903+904)				CALCULATION E903-904		Analyst: HDJ	
Radium-226/Radium-228	2.95	2.00		pCi/L	± 1.1	1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-226 (EPA 903.0)				E903.0 E903-904		Analyst: HDJ	
Radium-226	0.14	1.00	U	pCi/L	± 0.07	1	10/19/2022 3:17:00 PM
Yield	1					1	10/19/2022 3:17:00 PM
RAD226/228 RADIUM-228 (EPA 904.0)				E904.0 E903-904		Analyst: HDJ	
Radium-228	2.81	1.00		pCi/L	± 1.03	1	10/17/2022 3:44:00 PM
Yield	0.92					1	10/17/2022 3:44:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	OG1	
P	Second column confirmation exceeds	PL	Permit Limit



Summit Environmental Technologies, Inc.
 3310 Win St.
 Cuyahoga Falls, Ohio 44223
 TEL: (330) 253-8211 FAX: (330) 253-4489
 Website: <http://www.settek.com>

QC SUMMARY REPORT

WO#: **22091365**
 24-Oct-22

Client: TEKLAB Inc,
Project: 22091073 - REVISED

BatchID: 60186

Sample ID: 22091365-001AMS	SampType: MS	TestCode: Radium-228_	Units: pCi/L	Prep Date: 10/11/2022	RunNo: 152155						
Client ID: 22091073-001	Batch ID: 60186	TestNo: E904.0	E903-904	Analysis Date: 10/17/2022	SeqNo: 4050824						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	1.96	1.00	5.000	0	39.2	70	130				S
Yield	1			1.000	0						

Sample ID: 22091365-002ADUP	SampType: DUP	TestCode: Radium-228_	Units: pCi/L	Prep Date: 10/11/2022	RunNo: 152155						
Client ID: 22091073-002	Batch ID: 60186	TestNo: E904.0	E903-904	Analysis Date: 10/17/2022	SeqNo: 4050827						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	0.87	1.00		0	0			0	200	30	JR
Yield	1			0	0			1.000	0		

Sample ID: 22091365-003ADUP	SampType: DUP	TestCode: Radium-228_	Units: pCi/L	Prep Date: 10/11/2022	RunNo: 152155						
Client ID: 22091073-003	Batch ID: 60186	TestNo: E904.0	E903-904	Analysis Date: 10/17/2022	SeqNo: 4050829						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	1.2	1.00		0	0			0	200	30	R
Yield	1			0	0			1.000	0		

Qualifiers:	B Analyte detected in the associated Method Blank	E Value above quantitation range	H Holding times for preparation or analy
	J Analyte detected below quantitation limits	M Manual Integration used to determine area response	MC Value is below Minimum Compound
	ND Not Detected	OG1	P Second column confirmation exceeds
	PL Permit Limit	R RPD outside accepted recovery limits	RL Reporting Detection Limit

Revision v1



Summit Environmental Technologies, Inc.
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QC SUMMARY REPORT

WO#: 22091365
 24-Oct-22

Client: TEKLAB Inc,
Project: 22091073 - REVISED

BatchID: 60186

Sample ID: MB-60186	SampType: MBLK	TestCode: Radium-228_	Units: pCi/L	Prep Date: 10/11/2022	RunNo: 152155						
Client ID: PBW	Batch ID: 60186	TestNo: E904.0	E903-904	Analysis Date: 10/17/2022	SeqNo: 4050818						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	0.840	1.00		0	0						J
Yield	0.790			0	0						

Sample ID: LCS-60186	SampType: LCS	TestCode: Radium-228_	Units: pCi/L	Prep Date: 10/11/2022	RunNo: 152155						
Client ID: LCSW	Batch ID: 60186	TestNo: E904.0	E903-904	Analysis Date: 10/17/2022	SeqNo: 4050819						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	4.73	1.00	5.000	0	94.6	70	130				
Yield	0.960			0	0						

Sample ID: RLC-60186	SampType: RLC	TestCode: Radium-228_	Units: pCi/L	Prep Date: 10/11/2022	RunNo: 152155						
Client ID: BatchQC	Batch ID: 60186	TestNo: E904.0	E903-904	Analysis Date: 10/17/2022	SeqNo: 4050822						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	0.870	1.00	1.000	0	87.0	50	150				J
Yield	1.00			0	0						

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
ND	Not Detected	OG1		P	Second column confirmation exceeds
PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Revision v1



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QC SUMMARY REPORT

WO#: **22091365**
 24-Oct-22

Client: TEKLAB Inc,
Project: 22091073 - REVISED

BatchID: 60186

Sample ID: 22091365-001AMS	SampType: MS	TestCode: Radium-226_	Units: pCi/L	Prep Date: 10/11/2022	RunNo: 152171						
Client ID: 22091073-001	Batch ID: 60186	TestNo: E903.0	E903-904	Analysis Date: 10/19/2022	SeqNo: 4051071						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	5.63	1.00	5.000	0	113	70	130				

Sample ID: 22091365-002ADUP	SampType: DUP	TestCode: Radium-226_	Units: pCi/L	Prep Date: 10/11/2022	RunNo: 152171						
Client ID: 22091073-002	Batch ID: 60186	TestNo: E903.0	E903-904	Analysis Date: 10/19/2022	SeqNo: 4051074						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	0.67	1.00						0	200	30	JR
Yield	1							1.000	0	0	

Sample ID: 22091365-003ADUP	SampType: DUP	TestCode: Radium-226_	Units: pCi/L	Prep Date: 10/11/2022	RunNo: 152171						
Client ID: 22091073-003	Batch ID: 60186	TestNo: E903.0	E903-904	Analysis Date: 10/19/2022	SeqNo: 4051076						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	0.31	1.00						0	0	30	U
Yield	1							1.000	0	0	

Qualifiers:	B Analyte detected in the associated Method Blank	E Value above quantitation range	H Holding times for preparation or analy
	J Analyte detected below quantitation limits	M Manual Integration used to determine area response	MC Value is below Minimum Compound
	ND Not Detected	OG1	P Second column confirmation exceeds
	PL Permit Limit	R RPD outside accepted recovery limits	RL Reporting Detection Limit

Revision v1



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QC SUMMARY REPORT

WO#: 22091365
 24-Oct-22

Client: TEKLAB Inc,
Project: 22091073 - REVISED

BatchID: 60186

Sample ID: MB-60186	SampType: MBLK	TestCode: Radium-226_	Units: pCi/L	Prep Date: 10/11/2022	RunNo: 152171
Client ID: PBW	Batch ID: 60186	TestNo: E903.0	E903-904	Analysis Date: 10/19/2022	SeqNo: 4051065
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Radium-226	ND	1.00			
Yield	1.00				U

Sample ID: LCS-60186	SampType: LCS	TestCode: Radium-226_	Units: pCi/L	Prep Date: 10/11/2022	RunNo: 152171
Client ID: LCSW	Batch ID: 60186	TestNo: E903.0	E903-904	Analysis Date: 10/19/2022	SeqNo: 4051066
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Radium-226	4.65	1.00	5.000	0	93.0 70 130

Sample ID: LCSD-60186	SampType: LCSD	TestCode: Radium-226_	Units: pCi/L	Prep Date: 10/11/2022	RunNo: 152171
Client ID: LCSS02	Batch ID: 60186	TestNo: E903.0	E903-904	Analysis Date: 10/19/2022	SeqNo: 4051067
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Radium-226	4.60	1.00	5.000	0	92.0 70 130 4.650 1.08 20

Sample ID: RLC-60186	SampType: RLC	TestCode: Radium-226_	Units: pCi/L	Prep Date: 10/11/2022	RunNo: 152171
Client ID: BatchQC	Batch ID: 60186	TestNo: E903.0	E903-904	Analysis Date: 10/19/2022	SeqNo: 4051069
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Qualifiers:

B Analyte detected in the associated Method Blank	E Value above quantitation range	H Holding times for preparation or analy
J Analyte detected below quantitation limits	M Manual Integration used to determine area response	MC Value is below Minimum Compound
ND Not Detected	OG1	P Second column confirmation exceeds
PL Permit Limit	R RPD outside accepted recovery limits	RL Reporting Detection Limit

Revision v1



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QC SUMMARY REPORT

WO#: 22091365
 24-Oct-22

Client: TEKLAB Inc,
Project: 22091073 - REVISED

BatchID: 60186

Sample ID: RLC-60186	SampType: RLC	TestCode: Radium-226_	Units: pCi/L	Prep Date: 10/11/2022	RunNo: 152171						
Client ID: BatchQC	Batch ID: 60186	TestNo: E903.0	E903-904	Analysis Date: 10/19/2022	SeqNo: 4051069						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	1.00	1.00	1.000	0	100	50	150				

Sample ID: RLCD-60186	SampType: RLC	TestCode: Radium-226_	Units: pCi/L	Prep Date: 10/11/2022	RunNo: 152171						
Client ID: BatchQC	Batch ID: 60186	TestNo: E903.0	E903-904	Analysis Date: 10/19/2022	SeqNo: 4051070						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	1.18	1.00	1.000	0	118	50	150				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
ND	Not Detected	OG1		P	Second column confirmation exceeds
PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Revision v1

22091365

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

With: Ice Blue Ice Lab Field

Project# WO #22091073

Sampler: Client QC Level: 3

Cooler Temp:

Contact: Liz Hurley Email: lhurley@teklabinc.com

Requested Due Date: NTAT Billing/PO: 33356

Phone: (618)344-1004

Comments: Please issue reports and invoices via email only

Please analyze Radium (226, 228) by method EPA901.1 on your standard TAT.

Batch/QC is required for all analyses requested. Sample collected in (state):

PLEASE NOTE:
 NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately. Any changes to analysis/methods must be approved by Teklab, Inc.

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix
	22091073-001	9/15/22 0845	HNO3	Aqueous
	22091073-002	9/14/22 1040	HNO3	Aqueous
	22091073-003	9/15/22 1250	HNO3	Aqueous
	22091073-004	9/15/22 1025	HNO3	Aqueous
	22091073-005	9/14/22 0855	HNO3	Aqueous
	22091073-006	9/13/22 1230	HNO3	Aqueous
	22091073-007	9/13/22 1030	HNO3	Aqueous
	22091073-008	9/14/22 1520	HNO3	Aqueous
	22091073-009	9/15/22 1410	HNO3	Aqueous
	22091073-010	9/13/22 1510	HNO3	Aqueous
	22091073-011	9/15/22 1540	HNO3	Aqueous

Isotopic Radium	CPM	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count
<input checked="" type="checkbox"/>	3537																
<input checked="" type="checkbox"/>	5442																
<input checked="" type="checkbox"/>	2027																
<input checked="" type="checkbox"/>	1623																
<input checked="" type="checkbox"/>	3229																
<input checked="" type="checkbox"/>	3331																
<input checked="" type="checkbox"/>	2725																
<input checked="" type="checkbox"/>	3023																
<input checked="" type="checkbox"/>	3092																
<input checked="" type="checkbox"/>	2723																
<input checked="" type="checkbox"/>	2329																

*Relinquished By: [Signature] Date/Time: 9/22

Received By: [Signature] Date/Time: 09/21/22 1200

Pedex cooler 21.3 + 1.0 = 22.3

SubCofRevA
3/2/2016

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization, and proprietary rights. Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab OAM Section 9.1, TNI V1 M2 Section 4.1.5 c)



Sample Log-In Check List

Client Name: **TEK-IL-62234-A**

Work Order Number: **22091365**

RcptNo: **1**

Logged by:	Anthony W. Britton	9/21/2022 12:00:00 PM	<i>Anthony Britton</i>
Completed By:	Anthony W. Britton	9/21/2022 5:16:44 PM	<i>Anthony Britton</i>
Reviewed By:	Jennifer Woolf	9/22/2022 6:23:30 PM	<i>Jennifer Woolf</i>

Chain of Custody

- Were seals intact? Yes No Not Present
- Is Chain of Custody complete? Yes No Not Present
- How was the sample delivered? FedEx

Log In

- Coolers are present? Yes No NA
- Was an attempt made to cool the samples? Yes No NA
- Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
- Sample(s) in proper container(s)? Yes No
- Sufficient sample volume for indicated test(s)? Yes No
- Are samples (except VOA and ONG) properly preserved? Yes No
- Was preservative added to bottles? Yes No NA
- Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes No No VOA Vials
- Were any sample containers received broken? Yes No
- Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes No
- Are matrices correctly identified on Chain of Custody? Yes No
- Is it clear what analyses were requested? Yes No
- Were all holding times able to be met?
(If no, notify customer for authorization.) Yes No

Special Handling (if applicable)

- Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

- Additional remarks:
 IL per email
 yes per email
 state not included
 226, 228 +combined?

Cooler Information



Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: <http://www.settek.com>

Sample Log-In Check List

Client Name: **TEK-IL-62234-A**

Work Order Number: **22091365**

RcptNo: 1

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
box	22.3	Good	Not Present			

January 10, 2023

Matt Halley
ERM
1968 Craig Road
Suite 100
St. Louis, MO 63146
TEL: (314) 952-2760
FAX:



Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: GTEC

WorkOrder: 22120033

Dear Matt Halley:

TEKLAB, INC received 14 samples on 12/1/2022 11:10:00 AM for the analysis presented in the following report.

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

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

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

Sincerely,



Elizabeth A. Hurley
Director of Customer Service
(618)344-1004 ex 33
ehurley@teklabinc.com



Report Contents

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

This reporting package includes the following:

Cover Letter	1
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Case Narrative	5
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Dates Report	36
Quality Control Results	43
Receiving Check List	57
Chain of Custody	Appended

Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

Abbr Definition

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.

CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.

DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.

DNI Did not ignite

DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

IDPH IL Dept. of Public Health

LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.

MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."

MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).

MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.

RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.

RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).

SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.

Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"

TNTC Too numerous to count (> 200 CFU)

Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

Qualifiers

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

Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

Cooler Receipt Temp: 1.6 °C

Radium-226 and Radium-228 analysis was performed by Summit Environmental Technologies, Inc. See attached report for results.

Locations

Collinsville

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

Collinsville Air

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

Springfield

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

Chicago

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

Kansas City

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



Accreditations

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2023	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2023	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2023	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2023	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2023	Collinsville
Arkansas	ADEQ	88-0966		3/14/2023	Collinsville
Illinois	IDPH	17584		5/31/2023	Collinsville
Iowa	IDNR	430		6/1/2024	Collinsville
Kentucky	UST	0073		1/31/2023	Collinsville
Missouri	MDNR	00930		5/31/2023	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22120033-001
 Matrix: GROUNDWATER

Work Order: 22120033
 Report Date: 10-Jan-23
 Client Sample ID: APW-06D-WG-20221128
 Collection Date: 11/28/2022 10:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	50		580	mg/L	2.5	12/05/2022 9:10	R322022
SW-846 9036 (TOTAL)								
Sulfate	NELAP	200		254	mg/L	20	12/08/2022 10:49	R322146
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.21		1	12/02/2022 11:07	R321809
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.24	mg/L	1	12/02/2022 8:41	R321834
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		17	mg/L	1	12/07/2022 11:01	R322091
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 16:44	200649
Arsenic	NELAP	0.0010		0.0116	mg/L	5	12/05/2022 18:39	200649
Barium	NELAP	0.0010	B	0.118	mg/L	5	12/07/2022 16:44	200649
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 16:44	200649
Boron	NELAP	0.0250		4.14	mg/L	5	12/07/2022 16:44	200649
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 18:39	200649
Calcium	NELAP	0.125		105	mg/L	5	12/07/2022 16:44	200649
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 18:39	200649
Cobalt	NELAP	0.0010		0.0012	mg/L	5	12/05/2022 18:39	200649
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 16:44	200649
Lithium	*	0.0030		0.0155	mg/L	5	12/06/2022 16:29	200649
Molybdenum	NELAP	0.0015		0.0796	mg/L	5	12/05/2022 18:39	200649
Nickel	NELAP	0.0010		0.0020	mg/L	5	12/07/2022 16:44	200649
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 18:39	200649
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 16:44	200649
<i>Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/02/2022 19:20	200623
Arsenic	NELAP	0.0010		0.0111	mg/L	5	12/02/2022 19:20	200623
Barium	NELAP	0.0010		0.142	mg/L	5	12/02/2022 19:20	200623
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/02/2022 19:20	200623
Boron	NELAP	0.0250		4.29	mg/L	5	12/02/2022 19:20	200623
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/02/2022 19:20	200623
Calcium	NELAP	0.125		110	mg/L	5	12/02/2022 19:20	200623
Chromium	NELAP	0.0015		0.0063	mg/L	5	12/02/2022 19:20	200623
Cobalt	NELAP	0.0010		0.0035	mg/L	5	12/02/2022 19:20	200623
Lead	NELAP	0.0010		0.0012	mg/L	5	12/02/2022 19:20	200623
Lithium	*	0.0030		0.0175	mg/L	5	12/02/2022 19:20	200623
Molybdenum	NELAP	0.0015		0.0696	mg/L	5	12/02/2022 19:20	200623
Nickel	NELAP	0.0010		0.0093	mg/L	5	12/02/2022 19:20	200623
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/02/2022 19:20	200623
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/02/2022 19:20	200623
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	12/05/2022 14:30	200646
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22120033-001
Matrix: GROUNDWATER

Work Order: 22120033
Report Date: 10-Jan-23
Client Sample ID: APW-06D-WG-20221128
Collection Date: 11/28/2022 10:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-228	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22120033-002
 Matrix: GROUNDWATER

Work Order: 22120033
 Report Date: 10-Jan-23
 Client Sample ID: APW-06S-WG-20221128
 Collection Date: 11/28/2022 11:55

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	50		605	mg/L	2.5	12/05/2022 9:10	R322022
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		243	mg/L	10	12/07/2022 11:28	R322090
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.04		1	12/02/2022 11:08	R321809
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.32	mg/L	1	12/02/2022 8:43	R321834
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		24	mg/L	1	12/07/2022 11:22	R322091
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 16:51	200649
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 18:45	200649
Barium	NELAP	0.0010	B	0.190	mg/L	5	12/07/2022 16:51	200649
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 16:51	200649
Boron	NELAP	0.0250		6.88	mg/L	5	12/07/2022 16:51	200649
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 18:45	200649
Calcium	NELAP	0.125		98.0	mg/L	5	12/07/2022 16:51	200649
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 18:45	200649
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 18:45	200649
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 16:51	200649
Lithium	*	0.0030		0.0386	mg/L	5	12/06/2022 16:36	200649
Molybdenum	NELAP	0.0015		0.240	mg/L	5	12/05/2022 18:45	200649
Nickel	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 16:51	200649
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 18:45	200649
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 16:51	200649
<i>Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 13:58	200654
Arsenic	NELAP	0.0010		0.0010	mg/L	5	12/05/2022 12:07	200654
Barium	NELAP	0.0010		0.190	mg/L	5	12/05/2022 12:07	200654
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:07	200654
Boron	NELAP	0.0250		6.31	mg/L	5	12/05/2022 12:07	200654
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:07	200654
Calcium	NELAP	0.125		103	mg/L	5	12/07/2022 13:58	200654
Chromium	NELAP	0.0015		0.0022	mg/L	5	12/05/2022 12:07	200654
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:07	200654
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 13:58	200654
Lithium	*	0.0030		0.0393	mg/L	5	12/06/2022 13:43	200654
Molybdenum	NELAP	0.0015		0.259	mg/L	5	12/05/2022 12:07	200654
Nickel	NELAP	0.0010		0.0023	mg/L	5	12/07/2022 13:58	200654
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:07	200654
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 13:58	200654
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	12/05/2022 14:32	200646
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM Work Order: 22120033
Client Project: GTEC Report Date: 10-Jan-23
Lab ID: 22120033-002 Client Sample ID: APW-06S-WG-20221128
Matrix: GROUNDWATER Collection Date: 11/28/2022 11:55

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-228	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22120033-003
 Matrix: GROUNDWATER

Work Order: 22120033
 Report Date: 10-Jan-23
 Client Sample ID: APW-05-WG-20221128
 Collection Date: 11/28/2022 13:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		714	mg/L	1	12/05/2022 9:10	R322022
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		324	mg/L	10	12/07/2022 11:49	R322090
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.24		1	12/02/2022 11:10	R321809
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.37	mg/L	1	12/02/2022 8:45	R321834
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		19	mg/L	1	12/07/2022 11:30	R322091
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 16:57	200649
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 18:52	200649
Barium	NELAP	0.0010	B	0.172	mg/L	5	12/07/2022 16:57	200649
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 16:57	200649
Boron	NELAP	0.0250		6.12	mg/L	5	12/07/2022 16:57	200649
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 18:52	200649
Calcium	NELAP	0.125		87.4	mg/L	5	12/07/2022 16:57	200649
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 18:52	200649
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 18:52	200649
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 16:57	200649
Lithium	*	0.0030		0.0338	mg/L	5	12/06/2022 16:42	200649
Molybdenum	NELAP	0.0015		0.293	mg/L	5	12/05/2022 18:52	200649
Nickel	NELAP	0.0010		0.0011	mg/L	5	12/07/2022 16:57	200649
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 18:52	200649
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 16:57	200649
<i>Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 14:04	200654
Arsenic	NELAP	0.0010		0.0022	mg/L	5	12/05/2022 12:13	200654
Barium	NELAP	0.0010		0.140	mg/L	5	12/05/2022 12:13	200654
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:13	200654
Boron	NELAP	0.0250		7.48	mg/L	5	12/05/2022 12:13	200654
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:13	200654
Calcium	NELAP	0.125		117	mg/L	5	12/07/2022 14:04	200654
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 12:13	200654
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:13	200654
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 14:04	200654
Lithium	*	0.0030		0.0373	mg/L	5	12/06/2022 13:49	200654
Molybdenum	NELAP	0.0015		0.223	mg/L	5	12/05/2022 12:13	200654
Nickel	NELAP	0.0010		0.0020	mg/L	5	12/07/2022 14:04	200654
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:13	200654
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 14:04	200654
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	12/05/2022 14:35	200646
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22120033-003
Matrix: GROUNDWATER

Work Order: 22120033
Report Date: 10-Jan-23
Client Sample ID: APW-05-WG-20221128
Collection Date: 11/28/2022 13:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-228	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22120033-004
 Matrix: GROUNDWATER

Work Order: 22120033
 Report Date: 10-Jan-23
 Client Sample ID: APW-04-WG-20221128
 Collection Date: 11/28/2022 15:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		446	mg/L	1	12/05/2022 9:11	R322022
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		68	mg/L	2	12/08/2022 11:01	R322146
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.34		1	12/02/2022 11:12	R321809
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.17	mg/L	1	12/02/2022 8:47	R321834
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		11	mg/L	1	12/07/2022 11:52	R322091
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:03	200649
Arsenic	NELAP	0.0010		0.0021	mg/L	5	12/05/2022 18:58	200649
Barium	NELAP	0.0010	B	0.130	mg/L	5	12/07/2022 17:03	200649
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:03	200649
Boron	NELAP	0.0250		7.33	mg/L	5	12/07/2022 17:03	200649
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 18:58	200649
Calcium	NELAP	0.125		108	mg/L	5	12/07/2022 17:03	200649
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 18:58	200649
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 18:58	200649
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:03	200649
Lithium	*	0.0030		0.0355	mg/L	5	12/06/2022 16:48	200649
Molybdenum	NELAP	0.0015		0.227	mg/L	5	12/05/2022 18:58	200649
Nickel	NELAP	0.0010		0.0017	mg/L	5	12/07/2022 17:03	200649
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 18:58	200649
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 17:03	200649
<i>Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 14:11	200654
Arsenic	NELAP	0.0010		0.0016	mg/L	5	12/05/2022 12:19	200654
Barium	NELAP	0.0010		0.133	mg/L	5	12/05/2022 12:19	200654
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:19	200654
Boron	NELAP	0.0250		0.653	mg/L	5	12/05/2022 12:19	200654
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:19	200654
Calcium	NELAP	0.125		102	mg/L	5	12/07/2022 14:11	200654
Chromium	NELAP	0.0015		0.0043	mg/L	5	12/05/2022 12:19	200654
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:19	200654
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 14:11	200654
Lithium	*	0.0030		0.0293	mg/L	5	12/06/2022 13:55	200654
Molybdenum	NELAP	0.0015		0.0406	mg/L	5	12/05/2022 12:19	200654
Nickel	NELAP	0.0010		0.0051	mg/L	5	12/07/2022 14:11	200654
Selenium	NELAP	0.0010		0.0085	mg/L	5	12/05/2022 12:19	200654
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 14:11	200654
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	12/05/2022 14:46	200646
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM Work Order: 22120033
Client Project: GTEC Report Date: 10-Jan-23
Lab ID: 22120033-004 Client Sample ID: APW-04-WG-20221128
Matrix: GROUNDWATER Collection Date: 11/28/2022 15:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-228	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269

Client: ERM
 Client Project: GTEC
 Lab ID: 22120033-005
 Matrix: GROUNDWATER

Work Order: 22120033
 Report Date: 10-Jan-23
 Client Sample ID: APW-02-WG-20221129
 Collection Date: 11/29/2022 9:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	50		885	mg/L	2.5	12/05/2022 9:33	R322022
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		418	mg/L	10	12/07/2022 12:05	R322090
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.01		1	12/02/2022 11:14	R321809
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.25	mg/L	1	12/02/2022 8:57	R321834
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		9	mg/L	1	12/07/2022 12:00	R322091
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:10	200649
Arsenic	NELAP	0.0010		0.0012	mg/L	5	12/05/2022 19:04	200649
Barium	NELAP	0.0010	B	0.125	mg/L	5	12/07/2022 17:10	200649
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:10	200649
Boron	NELAP	0.0250		0.656	mg/L	5	12/07/2022 17:10	200649
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 19:04	200649
Calcium	NELAP	0.125		96.1	mg/L	5	12/07/2022 17:10	200649
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 19:04	200649
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 19:04	200649
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:10	200649
Lithium	*	0.0030		0.0280	mg/L	5	12/06/2022 16:55	200649
Molybdenum	NELAP	0.0015		0.0337	mg/L	5	12/05/2022 19:04	200649
Nickel	NELAP	0.0010		0.0022	mg/L	5	12/07/2022 17:10	200649
Selenium	NELAP	0.0010		0.0071	mg/L	5	12/05/2022 19:04	200649
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 17:10	200649

Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 14:17	200654
Arsenic	NELAP	0.0010		0.0220	mg/L	5	12/05/2022 12:50	200654
Barium	NELAP	0.0010		0.254	mg/L	5	12/05/2022 12:50	200654
Beryllium	NELAP	0.0010	S	< 0.0010	mg/L	5	12/05/2022 12:50	200654
Boron	NELAP	0.0250	S	8.97	mg/L	5	12/05/2022 12:50	200654
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:50	200654
Calcium	NELAP	0.125	S	145	mg/L	5	12/07/2022 14:17	200654
Chromium	NELAP	0.0015		0.0064	mg/L	5	12/05/2022 12:50	200654
Cobalt	NELAP	0.0010		0.0015	mg/L	5	12/05/2022 12:50	200654
Lead	NELAP	0.0010		0.0033	mg/L	5	12/07/2022 14:17	200654
Lithium	*	0.0030		0.0386	mg/L	5	12/06/2022 14:02	200654
Molybdenum	NELAP	0.0015		0.128	mg/L	5	12/06/2022 14:02	200654
Nickel	NELAP	0.0010		0.0045	mg/L	5	12/07/2022 14:17	200654
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:50	200654
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 14:17	200654

Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.

Matrix spike recovered outside upper control limits for Be. Sample results are below the reporting limit. Data is reportable.

Matrix spike control limits for B are not applicable due to high sample/spike ratio.



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM	Work Order: 22120033
Client Project: GTEC	Report Date: 10-Jan-23
Lab ID: 22120033-005	Client Sample ID: APW-02-WG-20221129
Matrix: GROUNDWATER	Collection Date: 11/29/2022 9:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	12/05/2022 14:48	200646
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269
Radium-228	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22120033-006
 Matrix: GROUNDWATER

Work Order: 22120033
 Report Date: 10-Jan-23
 Client Sample ID: APW-10S-WG-20221129
 Collection Date: 11/29/2022 13:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	50		750	mg/L	2.5	12/05/2022 9:33	R322022
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		< 10	mg/L	1	12/07/2022 12:08	R322090
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		6.95		1	12/02/2022 11:15	R321809
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.17	mg/L	1	12/02/2022 8:59	R321834
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		18	mg/L	1	12/07/2022 12:08	R322091
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:16	200649
Arsenic	NELAP	0.0010		0.0138	mg/L	5	12/05/2022 19:36	200649
Barium	NELAP	0.0010	B	0.162	mg/L	5	12/07/2022 17:16	200649
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:16	200649
Boron	NELAP	0.0250		7.48	mg/L	5	12/07/2022 17:16	200649
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 19:36	200649
Calcium	NELAP	0.125		142	mg/L	5	12/07/2022 17:16	200649
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 19:36	200649
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 19:36	200649
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:16	200649
Lithium	*	0.0030		0.0387	mg/L	5	12/06/2022 17:01	200649
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	12/15/2022 23:28	201045
Nickel	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:16	200649
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 19:36	200649
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 17:16	200649
<i>Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 15:21	200654
Arsenic	NELAP	0.0010		0.182	mg/L	5	12/05/2022 12:25	200654
Barium	NELAP	0.0010		0.536	mg/L	5	12/05/2022 12:25	200654
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:25	200654
Boron	NELAP	0.0250		0.569	mg/L	5	12/05/2022 12:25	200654
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:25	200654
Calcium	NELAP	0.125		154	mg/L	5	12/07/2022 15:21	200654
Chromium	NELAP	0.0015		0.0032	mg/L	5	12/05/2022 12:25	200654
Cobalt	NELAP	0.0010		0.0013	mg/L	5	12/05/2022 12:25	200654
Lead	NELAP	0.0010		0.0014	mg/L	5	12/07/2022 15:21	200654
Lithium	*	0.0030		0.0307	mg/L	5	12/06/2022 15:06	200654
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 12:25	200654
Nickel	NELAP	0.0010		0.0031	mg/L	5	12/07/2022 15:21	200654
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:25	200654
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 15:21	200654
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	12/05/2022 14:51	200646
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22120033-006
Matrix: GROUNDWATER

Work Order: 22120033
Report Date: 10-Jan-23
Client Sample ID: APW-10S-WG-20221129
Collection Date: 11/29/2022 13:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-228	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22120033-007
 Matrix: GROUNDWATER

Work Order: 22120033
 Report Date: 10-Jan-23
 Client Sample ID: APW-10D-WG-20221129
 Collection Date: 11/29/2022 15:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		460	mg/L	1	12/05/2022 9:33	R322022
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		42	mg/L	1	12/07/2022 12:16	R322090
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.04		1	12/02/2022 11:17	R321809
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.12	mg/L	1	12/02/2022 9:02	R321834
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		14	mg/L	1	12/07/2022 12:16	R322091
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:23	200649
Arsenic	NELAP	0.0010		0.0012	mg/L	5	12/05/2022 19:42	200649
Barium	NELAP	0.0010	B	0.300	mg/L	5	12/07/2022 17:23	200649
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:23	200649
Boron	NELAP	0.0250		0.0841	mg/L	5	12/07/2022 17:23	200649
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 19:42	200649
Calcium	NELAP	0.125		113	mg/L	5	12/07/2022 17:23	200649
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 19:42	200649
Cobalt	NELAP	0.0010		0.0032	mg/L	5	12/05/2022 19:42	200649
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:23	200649
Lithium	*	0.0030		0.0133	mg/L	5	12/06/2022 17:08	200649
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 19:42	200649
Nickel	NELAP	0.0010		0.0054	mg/L	5	12/07/2022 17:23	200649
Selenium	NELAP	0.0010		0.0015	mg/L	5	12/05/2022 19:42	200649
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 17:23	200649
<i>Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 15:27	200654
Arsenic	NELAP	0.0010		0.0014	mg/L	5	12/05/2022 12:32	200654
Barium	NELAP	0.0010		0.276	mg/L	5	12/05/2022 12:32	200654
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:32	200654
Boron	NELAP	0.0250		0.0522	mg/L	5	12/05/2022 12:32	200654
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:32	200654
Calcium	NELAP	0.125		115	mg/L	5	12/07/2022 15:27	200654
Chromium	NELAP	0.0015		0.0024	mg/L	5	12/05/2022 12:32	200654
Cobalt	NELAP	0.0010		0.0030	mg/L	5	12/05/2022 12:32	200654
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 15:27	200654
Lithium	*	0.0030		0.0126	mg/L	5	12/06/2022 15:12	200654
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 12:32	200654
Nickel	NELAP	0.0010		0.0063	mg/L	5	12/07/2022 15:27	200654
Selenium	NELAP	0.0010		0.0013	mg/L	5	12/05/2022 12:32	200654
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 15:27	200654
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	12/05/2022 14:53	200646
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22120033-007
Matrix: GROUNDWATER

Work Order: 22120033
Report Date: 10-Jan-23
Client Sample ID: APW-10D-WG-20221129
Collection Date: 11/29/2022 15:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-228	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22120033-008
 Matrix: GROUNDWATER

Work Order: 22120033
 Report Date: 10-Jan-23
 Client Sample ID: APW-01R-WG-20221130
 Collection Date: 11/30/2022 9:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	50		385	mg/L	2.5	12/05/2022 9:34	R322022
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		69	mg/L	2	12/08/2022 11:05	R322146
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		6.43		1	12/02/2022 11:24	R321809
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.18	mg/L	1	12/02/2022 9:04	R321834
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		7	mg/L	1	12/07/2022 12:23	R322091
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:29	200649
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 19:48	200649
Barium	NELAP	0.0010	B	0.162	mg/L	5	12/07/2022 17:29	200649
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:29	200649
Boron	NELAP	0.0250		0.219	mg/L	5	12/07/2022 17:29	200649
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 19:48	200649
Calcium	NELAP	0.125		73.9	mg/L	5	12/07/2022 17:29	200649
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 19:48	200649
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 19:48	200649
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:29	200649
Lithium	*	0.0030		0.0139	mg/L	5	12/06/2022 17:14	200649
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 19:48	200649
Nickel	NELAP	0.0010		0.0061	mg/L	5	12/07/2022 17:29	200649
Selenium	NELAP	0.0010		0.0033	mg/L	5	12/05/2022 19:48	200649
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 17:29	200649
<i>Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 15:34	200654
Arsenic	NELAP	0.0010		0.0021	mg/L	5	12/05/2022 12:38	200654
Barium	NELAP	0.0010		0.199	mg/L	5	12/05/2022 12:38	200654
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:38	200654
Boron	NELAP	0.0250		0.222	mg/L	5	12/05/2022 12:38	200654
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:38	200654
Calcium	NELAP	0.125		79.7	mg/L	5	12/07/2022 15:34	200654
Chromium	NELAP	0.0015		0.0041	mg/L	5	12/05/2022 12:38	200654
Cobalt	NELAP	0.0010		0.0031	mg/L	5	12/05/2022 12:38	200654
Lead	NELAP	0.0010		0.0014	mg/L	5	12/07/2022 15:34	200654
Lithium	*	0.0030		0.0155	mg/L	5	12/06/2022 15:19	200654
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 12:38	200654
Nickel	NELAP	0.0010		0.0120	mg/L	5	12/07/2022 15:34	200654
Selenium	NELAP	0.0010		0.0035	mg/L	5	12/05/2022 12:38	200654
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 15:34	200654
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	12/05/2022 15:00	200646
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22120033-008
Matrix: GROUNDWATER

Work Order: 22120033
Report Date: 10-Jan-23
Client Sample ID: APW-01R-WG-20221130
Collection Date: 11/30/2022 9:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-228	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22120033-009
 Matrix: GROUNDWATER

Work Order: 22120033
 Report Date: 10-Jan-23
 Client Sample ID: APW-09-WG-20221130
 Collection Date: 11/30/2022 11:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20		372	mg/L	1	12/05/2022 9:34	R322022
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		36	mg/L	1	12/07/2022 12:45	R322090
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.32		1	12/02/2022 11:26	R321809
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.20	mg/L	1	12/02/2022 9:06	R321834
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		12	mg/L	1	12/07/2022 12:45	R322091
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:35	200649
Arsenic	NELAP	0.0010		0.0019	mg/L	5	12/05/2022 19:55	200649
Barium	NELAP	0.0010	B	0.109	mg/L	5	12/07/2022 17:35	200649
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:35	200649
Boron	NELAP	0.0250		0.240	mg/L	5	12/07/2022 17:35	200649
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 19:55	200649
Calcium	NELAP	0.125		78.3	mg/L	5	12/07/2022 17:35	200649
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 19:55	200649
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 19:55	200649
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:35	200649
Lithium	*	0.0030		0.0131	mg/L	5	12/06/2022 17:20	200649
Molybdenum	NELAP	0.0015		0.0139	mg/L	5	12/05/2022 19:55	200649
Nickel	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 17:35	200649
Selenium	NELAP	0.0010		0.0147	mg/L	5	12/05/2022 19:55	200649
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 17:35	200649
<i>Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 15:40	200654
Arsenic	NELAP	0.0010		0.0021	mg/L	5	12/05/2022 12:44	200654
Barium	NELAP	0.0010		0.124	mg/L	5	12/05/2022 12:44	200654
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:44	200654
Boron	NELAP	0.0250		0.243	mg/L	5	12/05/2022 12:44	200654
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:44	200654
Calcium	NELAP	0.125		80.5	mg/L	5	12/07/2022 15:40	200654
Chromium	NELAP	0.0015		0.0015	mg/L	5	12/05/2022 12:44	200654
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 12:44	200654
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 15:40	200654
Lithium	*	0.0030		0.0131	mg/L	5	12/06/2022 15:25	200654
Molybdenum	NELAP	0.0015		0.0150	mg/L	5	12/05/2022 12:44	200654
Nickel	NELAP	0.0010		0.0019	mg/L	5	12/07/2022 15:40	200654
Selenium	NELAP	0.0010		0.0138	mg/L	5	12/05/2022 12:44	200654
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 15:40	200654
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	12/05/2022 15:02	200646
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22120033-009
Matrix: GROUNDWATER

Work Order: 22120033
Report Date: 10-Jan-23
Client Sample ID: APW-09-WG-20221130
Collection Date: 11/30/2022 11:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-228	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269

Client: ERM
 Client Project: GTEC
 Lab ID: 22120033-010
 Matrix: GROUNDWATER

Work Order: 22120033
 Report Date: 10-Jan-23
 Client Sample ID: APW-07-WG-20221130
 Collection Date: 11/30/2022 13:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	50		800	mg/L	2.5	12/05/2022 9:34	R322022
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		48	mg/L	1	12/07/2022 12:53	R322090
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		6.78		1	12/02/2022 11:28	R321809
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.18	mg/L	1	12/02/2022 9:07	R321834
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		12	mg/L	1	12/07/2022 12:53	R322091
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:08	200649
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 20:01	200649
Barium	NELAP	0.0010	B	0.354	mg/L	5	12/07/2022 18:08	200649
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:08	200649
Boron	NELAP	0.0250		0.199	mg/L	5	12/06/2022 17:53	200649
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 20:01	200649
Calcium	NELAP	0.125		204	mg/L	5	12/07/2022 18:08	200649
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 20:01	200649
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 20:01	200649
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:08	200649
Lithium	*	0.0030		0.0158	mg/L	5	12/06/2022 17:53	200649
Molybdenum	NELAP	0.0015		0.0021	mg/L	5	12/05/2022 20:01	200649
Nickel	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:08	200649
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 20:01	200649
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 18:08	200649
<i>Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
<i>Sample result for Ca exceeds 10 times the CCB. Data is reportable per the TNI Standard.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 15:47	200654
Arsenic	NELAP	0.0010		0.0011	mg/L	5	12/05/2022 13:52	200654
Barium	NELAP	0.0010		0.381	mg/L	5	12/05/2022 13:52	200654
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 13:52	200654
Boron	NELAP	0.0250		0.217	mg/L	5	12/07/2022 15:47	200654
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 13:52	200654
Calcium	NELAP	0.125		209	mg/L	5	12/07/2022 15:47	200654
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 13:52	200654
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 13:52	200654
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 15:47	200654
Lithium	*	0.0030		0.0166	mg/L	5	12/06/2022 15:32	200654
Molybdenum	NELAP	0.0015		0.0029	mg/L	5	12/05/2022 13:52	200654
Nickel	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 15:47	200654
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 13:52	200654
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 15:47	200654
<i>CCV recovered outside the upper control limits for Be. Sample results are below the reporting limit. Data is reportable per the TNI standard.</i>								
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	12/05/2022 15:09	200646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22120033-010
Matrix: GROUNDWATER

Work Order: 22120033
Report Date: 10-Jan-23
Client Sample ID: APW-07-WG-20221130
Collection Date: 11/30/2022 13:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269
Radium-228	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22120033-011
 Matrix: GROUNDWATER

Work Order: 22120033
 Report Date: 10-Jan-23
 Client Sample ID: APW-03-WG-20221130
 Collection Date: 11/30/2022 15:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	50		610	mg/L	2.5	12/05/2022 9:34	R322022
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		226	mg/L	10	12/07/2022 13:14	R322090
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.21		1	12/02/2022 11:30	R321809
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.26	mg/L	1	12/02/2022 9:09	R321834
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		20	mg/L	1	12/07/2022 13:04	R322091
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:14	200649
Arsenic	NELAP	0.0010		0.0024	mg/L	5	12/05/2022 20:07	200649
Barium	NELAP	0.0010	B	0.108	mg/L	5	12/07/2022 18:14	200649
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:14	200649
Boron	NELAP	0.0250		2.99	mg/L	5	12/06/2022 17:59	200649
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 20:07	200649
Calcium	NELAP	0.125		101	mg/L	5	12/07/2022 18:14	200649
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 20:07	200649
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 20:07	200649
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:14	200649
Lithium	*	0.0030		0.0266	mg/L	5	12/06/2022 17:59	200649
Molybdenum	NELAP	0.0015		0.0648	mg/L	5	12/05/2022 20:07	200649
Nickel	NELAP	0.0010		0.0011	mg/L	5	12/07/2022 18:14	200649
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 20:07	200649
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 18:14	200649
<i>Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
<i>Sample result for Ca exceeds 10 times the CCB. Data is reportable per the TNI Standard.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 15:53	200654
Arsenic	NELAP	0.0010		0.0059	mg/L	5	12/05/2022 13:58	200654
Barium	NELAP	0.0010		0.190	mg/L	5	12/05/2022 13:58	200654
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 13:58	200654
Boron	NELAP	0.0250		3.59	mg/L	5	12/07/2022 15:53	200654
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 13:58	200654
Calcium	NELAP	0.125		115	mg/L	5	12/07/2022 15:53	200654
Chromium	NELAP	0.0015		0.0118	mg/L	5	12/05/2022 13:58	200654
Cobalt	NELAP	0.0010		0.0021	mg/L	5	12/06/2022 15:38	200654
Lead	NELAP	0.0010		0.0029	mg/L	5	12/07/2022 15:53	200654
Lithium	*	0.0030		0.0290	mg/L	5	12/06/2022 15:38	200654
Molybdenum	NELAP	0.0015		0.0621	mg/L	5	12/05/2022 13:58	200654
Nickel	NELAP	0.0010		0.0100	mg/L	5	12/07/2022 15:53	200654
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 13:58	200654
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 15:53	200654
<i>CCV recovered outside the upper control limits for Be. Sample results are below the reporting limit. Data is reportable per the TNI standard.</i>								
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	12/05/2022 15:11	200646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22120033-011
Matrix: GROUNDWATER

Work Order: 22120033
Report Date: 10-Jan-23
Client Sample ID: APW-03-WG-20221130
Collection Date: 11/30/2022 15:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269
Radium-228	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22120033-012
 Matrix: GROUNDWATER

Work Order: 22120033
 Report Date: 10-Jan-23
 Client Sample ID: APW-08-WG-20221130
 Collection Date: 11/30/2022 16:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	50		370	mg/L	2.5	12/05/2022 10:49	R322022
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		34	mg/L	1	12/07/2022 13:41	R322090
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.25		1	12/02/2022 11:32	R321809
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.28	mg/L	1	12/02/2022 9:11	R321834
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		12	mg/L	1	12/07/2022 13:41	R322091
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:20	200649
Arsenic	NELAP	0.0010		0.0012	mg/L	5	12/05/2022 20:13	200649
Barium	NELAP	0.0010	B	0.146	mg/L	5	12/07/2022 18:20	200649
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:20	200649
Boron	NELAP	0.0250		0.0844	mg/L	5	12/06/2022 18:05	200649
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 20:13	200649
Calcium	NELAP	0.125		75.4	mg/L	5	12/07/2022 18:20	200649
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 20:13	200649
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 20:13	200649
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:20	200649
Lithium	*	0.0030		0.0132	mg/L	5	12/06/2022 18:05	200649
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 20:13	200649
Nickel	NELAP	0.0010		0.0012	mg/L	5	12/07/2022 18:20	200649
Selenium	NELAP	0.0010		0.0126	mg/L	5	12/05/2022 20:13	200649
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 18:20	200649
<i>Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
<i>Sample result for Ca exceeds 10 times the CCB. Data is reportable per the TNI Standard.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 15:59	200654
Arsenic	NELAP	0.0010		0.0017	mg/L	5	12/05/2022 14:04	200654
Barium	NELAP	0.0010		0.179	mg/L	5	12/05/2022 14:04	200654
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 14:04	200654
Boron	NELAP	0.0250		0.103	mg/L	5	12/07/2022 15:59	200654
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 14:04	200654
Calcium	NELAP	0.125		82.8	mg/L	5	12/07/2022 15:59	200654
Chromium	NELAP	0.0015		0.0036	mg/L	5	12/05/2022 14:04	200654
Cobalt	NELAP	0.0010		0.0016	mg/L	5	12/05/2022 14:04	200654
Lead	NELAP	0.0010		0.0012	mg/L	5	12/07/2022 15:59	200654
Lithium	*	0.0030		0.0147	mg/L	5	12/06/2022 15:44	200654
Molybdenum	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 14:04	200654
Nickel	NELAP	0.0010		0.0077	mg/L	5	12/07/2022 15:59	200654
Selenium	NELAP	0.0010		0.0110	mg/L	5	12/05/2022 14:04	200654
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 15:59	200654
<i>CCV recovered outside the upper control limits for Be. Sample results are below the reporting limit. Data is reportable per the TNI standard.</i>								
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	12/05/2022 15:13	200646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
Client Project: GTEC
Lab ID: 22120033-012
Matrix: GROUNDWATER

Work Order: 22120033
Report Date: 10-Jan-23
Client Sample ID: APW-08-WG-20221130
Collection Date: 11/30/2022 16:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269
Radium-228	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269

Client: ERM
 Client Project: GTEC
 Lab ID: 22120033-013
 Matrix: GROUNDWATER

Work Order: 22120033
 Report Date: 10-Jan-23
 Client Sample ID: DUP-01-WG-20221128
 Collection Date: 11/28/2022 0:01

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	20	H	728	mg/L	1	12/05/2022 10:49	R322022
<i>Sample analysis did not meet hold time requirements.</i>								
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		338	mg/L	10	12/07/2022 13:55	R322090
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.27		1	12/02/2022 11:34	R321809
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.38	mg/L	1	12/02/2022 9:20	R321834
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		19	mg/L	1	12/07/2022 13:49	R322091
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:52	200649
Arsenic	NELAP	0.0010		0.0019	mg/L	5	12/06/2022 18:37	200649
Barium	NELAP	0.0010	B	0.130	mg/L	5	12/07/2022 18:52	200649
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:52	200649
Boron	NELAP	0.0250	S	7.03	mg/L	5	12/06/2022 18:37	200649
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 20:51	200649
Calcium	NELAP	0.125	S	110	mg/L	5	12/07/2022 18:52	200649
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 20:51	200649
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 20:51	200649
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:52	200649
Lithium	*	0.0030		0.0365	mg/L	5	12/06/2022 18:37	200649
Molybdenum	NELAP	0.0015	S	0.211	mg/L	5	12/06/2022 18:37	200649
Nickel	NELAP	0.0010		0.0024	mg/L	5	12/07/2022 18:52	200649
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 20:51	200649
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 18:52	200649
<i>Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
<i>Sample result for Ca exceeds 10 times the CCB. Data is reportable per the TNI Standard.</i>								
<i>Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.</i>								
<i>Matrix spike did not recover within control limits for Mo and B due to matrix interference.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 16:06	200654
Arsenic	NELAP	0.0010		0.0023	mg/L	5	12/05/2022 14:11	200654
Barium	NELAP	0.0010		0.136	mg/L	5	12/05/2022 14:11	200654
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 14:11	200654
Boron	NELAP	0.0250		7.97	mg/L	5	12/07/2022 16:06	200654
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 14:11	200654
Calcium	NELAP	0.125		118	mg/L	5	12/07/2022 16:06	200654
Chromium	NELAP	0.0015		0.0016	mg/L	5	12/05/2022 14:11	200654
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 14:11	200654
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 16:06	200654
Lithium	*	0.0030		0.0371	mg/L	5	12/06/2022 15:51	200654
Molybdenum	NELAP	0.0015		0.226	mg/L	5	12/05/2022 14:11	200654
Nickel	NELAP	0.0010		0.0029	mg/L	5	12/07/2022 16:06	200654
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 14:11	200654
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 16:06	200654



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM	Work Order: 22120033
Client Project: GTEC	Report Date: 10-Jan-23
Lab ID: 22120033-013	Client Sample ID: DUP-01-WG-20221128
Matrix: GROUNDWATER	Collection Date: 11/28/2022 0:01

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
<i>CCV recovered outside the upper control limits for Be. Sample results are below the reporting limit. Data is reportable per the TNI standard.</i>								
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	12/05/2022 15:15	200646
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269
Radium-228	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM
 Client Project: GTEC
 Lab ID: 22120033-014
 Matrix: GROUNDWATER

Work Order: 22120033
 Report Date: 10-Jan-23
 Client Sample ID: DUP-02-WG-20221129
 Collection Date: 11/29/2022 0:02

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011								
Total Dissolved Solids	NELAP	50		855	mg/L	2.5	12/05/2022 10:49	R322022
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		438	mg/L	10	12/07/2022 14:02	R322090
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.02		1	12/02/2022 11:36	R321809
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		0.26	mg/L	1	12/02/2022 9:21	R321834
SW-846 9251 (TOTAL)								
Chloride	NELAP	4		9	mg/L	1	12/07/2022 13:57	R322091
SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:27	200649
Arsenic	NELAP	0.0010		0.0187	mg/L	5	12/05/2022 20:20	200649
Barium	NELAP	0.0010	B	0.148	mg/L	5	12/07/2022 18:27	200649
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:27	200649
Boron	NELAP	0.0250		6.63	mg/L	5	12/06/2022 18:12	200649
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 20:20	200649
Calcium	NELAP	0.125		129	mg/L	5	12/07/2022 18:27	200649
Chromium	NELAP	0.0015		< 0.0015	mg/L	5	12/05/2022 20:20	200649
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 20:20	200649
Lead	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:27	200649
Lithium	*	0.0030		0.0356	mg/L	5	12/06/2022 18:12	200649
Molybdenum	NELAP	0.0015		0.145	mg/L	5	12/05/2022 20:20	200649
Nickel	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 18:27	200649
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 20:20	200649
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 18:27	200649
<i>Sample result(s) for Ba exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
<i>Sample result for Ca exceeds 10 times the CCB. Data is reportable per the TNI Standard.</i>								
SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	12/07/2022 16:38	200654
Arsenic	NELAP	0.0010		0.0173	mg/L	5	12/05/2022 14:17	200654
Barium	NELAP	0.0010		0.218	mg/L	5	12/05/2022 14:17	200654
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 14:17	200654
Boron	NELAP	0.0250		7.69	mg/L	5	12/07/2022 16:38	200654
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 14:17	200654
Calcium	NELAP	0.125		149	mg/L	5	12/07/2022 16:38	200654
Chromium	NELAP	0.0015		0.0054	mg/L	5	12/05/2022 14:17	200654
Cobalt	NELAP	0.0010		0.0011	mg/L	5	12/06/2022 16:23	200654
Lead	NELAP	0.0010		0.0034	mg/L	5	12/07/2022 16:38	200654
Lithium	*	0.0030		0.0411	mg/L	5	12/06/2022 16:23	200654
Molybdenum	NELAP	0.0015		0.119	mg/L	5	12/05/2022 14:17	200654
Nickel	NELAP	0.0010		0.0047	mg/L	5	12/07/2022 16:38	200654
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	12/05/2022 14:17	200654
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	12/07/2022 16:38	200654
<i>CCV recovered outside the upper control limits for Be. Sample results are below the reporting limit. Data is reportable per the TNI standard.</i>								
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	12/05/2022 15:18	200646



Laboratory Results

<http://www.teklabinc.com/>

Client: ERM Work Order: 22120033
Client Project: GTEC Report Date: 10-Jan-23
Lab ID: 22120033-014 Client Sample ID: DUP-02-WG-20221129
Matrix: GROUNDWATER Collection Date: 11/29/2022 0:02

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 903.0/904.0, RADIUM 226/228								
Radium-226	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269
Radium-228	*	0		See Attached	pci/L	1	12/28/2022 0:00	R323269

Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
22120033-001	APW-06D-WG-20221128	Groundwater	4	11/28/2022 10:30
22120033-002	APW-06S-WG-20221128	Groundwater	4	11/28/2022 11:55
22120033-003	APW-05-WG-20221128	Groundwater	4	11/28/2022 13:25
22120033-004	APW-04-WG-20221128	Groundwater	4	11/28/2022 15:10
22120033-005	APW-02-WG-20221129	Groundwater	4	11/29/2022 9:15
22120033-006	APW-10S-WG-20221129	Groundwater	4	11/29/2022 13:30
22120033-007	APW-10D-WG-20221129	Groundwater	4	11/29/2022 15:10
22120033-008	APW-01R-WG-20221130	Groundwater	4	11/30/2022 9:35
22120033-009	APW-09-WG-20221130	Groundwater	4	11/30/2022 11:10
22120033-010	APW-07-WG-20221130	Groundwater	4	11/30/2022 13:10
22120033-011	APW-03-WG-20221130	Groundwater	4	11/30/2022 15:10
22120033-012	APW-08-WG-20221130	Groundwater	4	11/30/2022 16:30
22120033-013	DUP-01-WG-20221128	Groundwater	4	11/28/2022 0:01
22120033-014	DUP-02-WG-20221129	Groundwater	4	11/29/2022 0:02



Dates Report

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
22120033-001A	APW-06D-WG-20221128	11/28/2022 10:30	12/01/2022 11:10		
	Standard Methods 2540 C (Total) 1997, 2011				12/05/2022 9:10
	SW-846 9036 (Total)				12/08/2022 10:49
	SW-846 9040B, Laboratory Analyzed				12/02/2022 11:07
	SW-846 9214 (Total)				12/02/2022 8:41
	SW-846 9251 (Total)				12/07/2022 11:01
22120033-001B	APW-06D-WG-20221128	11/28/2022 10:30	12/01/2022 11:10		
	EPA 903.0/904.0, Radium 226/228				12/28/2022 0:00
22120033-001C	APW-06D-WG-20221128	11/28/2022 10:30	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/01/2022 15:52	12/02/2022 19:20
	SW-846 7470A (Total)			12/02/2022 11:49	12/05/2022 14:30
22120033-001D	APW-06D-WG-20221128	11/28/2022 10:30	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/05/2022 18:39
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/06/2022 16:29
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/07/2022 16:44
22120033-002A	APW-06S-WG-20221128	11/28/2022 11:55	12/01/2022 11:10		
	Standard Methods 2540 C (Total) 1997, 2011				12/05/2022 9:10
	SW-846 9036 (Total)				12/07/2022 11:28
	SW-846 9040B, Laboratory Analyzed				12/02/2022 11:08
	SW-846 9214 (Total)				12/02/2022 8:43
	SW-846 9251 (Total)				12/07/2022 11:22
22120033-002B	APW-06S-WG-20221128	11/28/2022 11:55	12/01/2022 11:10		
	EPA 903.0/904.0, Radium 226/228				12/28/2022 0:00
22120033-002C	APW-06S-WG-20221128	11/28/2022 11:55	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/05/2022 12:07
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/06/2022 13:43
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/07/2022 13:58
	SW-846 7470A (Total)			12/02/2022 11:49	12/05/2022 14:32
22120033-002D	APW-06S-WG-20221128	11/28/2022 11:55	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/05/2022 18:45
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/06/2022 16:36
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/07/2022 16:51
22120033-003A	APW-05-WG-20221128	11/28/2022 13:25	12/01/2022 11:10		
	Standard Methods 2540 C (Total) 1997, 2011				12/05/2022 9:10
	SW-846 9036 (Total)				12/07/2022 11:49
	SW-846 9040B, Laboratory Analyzed				12/02/2022 11:10



Dates Report

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
Test Name					
	SW-846 9214 (Total)				12/02/2022 8:45
	SW-846 9251 (Total)				12/07/2022 11:30
22120033-003B	APW-05-WG-20221128	11/28/2022 13:25	12/01/2022 11:10		
	EPA 903.0/904.0, Radium 226/228				12/28/2022 0:00
22120033-003C	APW-05-WG-20221128	11/28/2022 13:25	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/05/2022 12:13
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/06/2022 13:49
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/07/2022 14:04
	SW-846 7470A (Total)			12/02/2022 11:49	12/05/2022 14:35
22120033-003D	APW-05-WG-20221128	11/28/2022 13:25	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/05/2022 18:52
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/06/2022 16:42
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/07/2022 16:57
22120033-004A	APW-04-WG-20221128	11/28/2022 15:10	12/01/2022 11:10		
	Standard Methods 2540 C (Total) 1997, 2011				12/05/2022 9:11
	SW-846 9036 (Total)				12/08/2022 11:01
	SW-846 9040B, Laboratory Analyzed				12/02/2022 11:12
	SW-846 9214 (Total)				12/02/2022 8:47
	SW-846 9251 (Total)				12/07/2022 11:52
22120033-004B	APW-04-WG-20221128	11/28/2022 15:10	12/01/2022 11:10		
	EPA 903.0/904.0, Radium 226/228				12/28/2022 0:00
22120033-004C	APW-04-WG-20221128	11/28/2022 15:10	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/05/2022 12:19
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/06/2022 13:55
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/07/2022 14:11
	SW-846 7470A (Total)			12/02/2022 11:49	12/05/2022 14:46
22120033-004D	APW-04-WG-20221128	11/28/2022 15:10	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/05/2022 18:58
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/06/2022 16:48
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/07/2022 17:03
22120033-005A	APW-02-WG-20221129	11/29/2022 9:15	12/01/2022 11:10		
	Standard Methods 2540 C (Total) 1997, 2011				12/05/2022 9:33
	SW-846 9036 (Total)				12/07/2022 12:05
	SW-846 9040B, Laboratory Analyzed				12/02/2022 11:14
	SW-846 9214 (Total)				12/02/2022 8:57
	SW-846 9251 (Total)				12/07/2022 12:00



Dates Report

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
22120033-005B	APW-02-WG-20221129	11/29/2022 9:15	12/01/2022 11:10		
	EPA 903.0/904.0, Radium 226/228				12/28/2022 0:00
22120033-005C	APW-02-WG-20221129	11/29/2022 9:15	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/05/2022 12:50
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/06/2022 14:02
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/07/2022 14:17
	SW-846 7470A (Total)			12/02/2022 11:49	12/05/2022 14:48
22120033-005D	APW-02-WG-20221129	11/29/2022 9:15	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/05/2022 19:04
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/06/2022 16:55
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/07/2022 17:10
22120033-006A	APW-10S-WG-20221129	11/29/2022 13:30	12/01/2022 11:10		
	Standard Methods 2540 C (Total) 1997, 2011				12/05/2022 9:33
	SW-846 9036 (Total)				12/07/2022 12:08
	SW-846 9040B, Laboratory Analyzed				12/02/2022 11:15
	SW-846 9214 (Total)				12/02/2022 8:59
	SW-846 9251 (Total)				12/07/2022 12:08
22120033-006B	APW-10S-WG-20221129	11/29/2022 13:30	12/01/2022 11:10		
	EPA 903.0/904.0, Radium 226/228				12/28/2022 0:00
22120033-006C	APW-10S-WG-20221129	11/29/2022 13:30	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/05/2022 12:25
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/06/2022 15:06
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/07/2022 15:21
	SW-846 7470A (Total)			12/02/2022 11:49	12/05/2022 14:51
22120033-006D	APW-10S-WG-20221129	11/29/2022 13:30	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/05/2022 19:36
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/06/2022 17:01
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/07/2022 17:16
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/14/2022 17:55	12/15/2022 23:28
22120033-007A	APW-10D-WG-20221129	11/29/2022 15:10	12/01/2022 11:10		
	Standard Methods 2540 C (Total) 1997, 2011				12/05/2022 9:33
	SW-846 9036 (Total)				12/07/2022 12:16
	SW-846 9040B, Laboratory Analyzed				12/02/2022 11:17
	SW-846 9214 (Total)				12/02/2022 9:02
	SW-846 9251 (Total)				12/07/2022 12:16
22120033-007B	APW-10D-WG-20221129	11/29/2022 15:10	12/01/2022 11:10		



Dates Report

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	EPA 903.0/904.0, Radium 226/228				12/28/2022 0:00
22120033-007C	APW-10D-WG-20221129	11/29/2022 15:10	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/05/2022 12:32
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/06/2022 15:12
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/07/2022 15:27
	SW-846 7470A (Total)			12/02/2022 11:49	12/05/2022 14:53
22120033-007D	APW-10D-WG-20221129	11/29/2022 15:10	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/05/2022 19:42
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/06/2022 17:08
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/07/2022 17:23
22120033-008A	APW-01R-WG-20221130	11/30/2022 9:35	12/01/2022 11:10		
	Standard Methods 2540 C (Total) 1997, 2011				12/05/2022 9:34
	SW-846 9036 (Total)				12/08/2022 11:05
	SW-846 9040B, Laboratory Analyzed				12/02/2022 11:24
	SW-846 9214 (Total)				12/02/2022 9:04
	SW-846 9251 (Total)				12/07/2022 12:23
22120033-008B	APW-01R-WG-20221130	11/30/2022 9:35	12/01/2022 11:10		
	EPA 903.0/904.0, Radium 226/228				12/28/2022 0:00
22120033-008C	APW-01R-WG-20221130	11/30/2022 9:35	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/05/2022 12:38
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/06/2022 15:19
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/07/2022 15:34
	SW-846 7470A (Total)			12/02/2022 11:49	12/05/2022 15:00
22120033-008D	APW-01R-WG-20221130	11/30/2022 9:35	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/05/2022 19:48
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/06/2022 17:14
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/07/2022 17:29
22120033-009A	APW-09-WG-20221130	11/30/2022 11:10	12/01/2022 11:10		
	Standard Methods 2540 C (Total) 1997, 2011				12/05/2022 9:34
	SW-846 9036 (Total)				12/07/2022 12:45
	SW-846 9040B, Laboratory Analyzed				12/02/2022 11:26
	SW-846 9214 (Total)				12/02/2022 9:06
	SW-846 9251 (Total)				12/07/2022 12:45
22120033-009B	APW-09-WG-20221130	11/30/2022 11:10	12/01/2022 11:10		
	EPA 903.0/904.0, Radium 226/228				12/28/2022 0:00
22120033-009C	APW-09-WG-20221130	11/30/2022 11:10	12/01/2022 11:10		



Dates Report

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/05/2022 12:44
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/06/2022 15:25
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/07/2022 15:40
	SW-846 7470A (Total)			12/02/2022 11:49	12/05/2022 15:02
22120033-009D	APW-09-WG-20221130	11/30/2022 11:10	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/05/2022 19:55
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/06/2022 17:20
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/07/2022 17:35
22120033-010A	APW-07-WG-20221130	11/30/2022 13:10	12/01/2022 11:10		
	Standard Methods 2540 C (Total) 1997, 2011				12/05/2022 9:34
	SW-846 9036 (Total)				12/07/2022 12:53
	SW-846 9040B, Laboratory Analyzed				12/02/2022 11:28
	SW-846 9214 (Total)				12/02/2022 9:07
	SW-846 9251 (Total)				12/07/2022 12:53
22120033-010B	APW-07-WG-20221130	11/30/2022 13:10	12/01/2022 11:10		
	EPA 903.0/904.0, Radium 226/228				12/28/2022 0:00
22120033-010C	APW-07-WG-20221130	11/30/2022 13:10	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/05/2022 13:52
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/06/2022 15:32
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/07/2022 15:47
	SW-846 7470A (Total)			12/02/2022 11:49	12/05/2022 15:09
22120033-010D	APW-07-WG-20221130	11/30/2022 13:10	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/05/2022 20:01
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/06/2022 17:53
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/07/2022 18:08
22120033-011A	APW-03-WG-20221130	11/30/2022 15:10	12/01/2022 11:10		
	Standard Methods 2540 C (Total) 1997, 2011				12/05/2022 9:34
	SW-846 9036 (Total)				12/07/2022 13:14
	SW-846 9040B, Laboratory Analyzed				12/02/2022 11:30
	SW-846 9214 (Total)				12/02/2022 9:09
	SW-846 9251 (Total)				12/07/2022 13:04
22120033-011B	APW-03-WG-20221130	11/30/2022 15:10	12/01/2022 11:10		
	EPA 903.0/904.0, Radium 226/228				12/28/2022 0:00
22120033-011C	APW-03-WG-20221130	11/30/2022 15:10	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/05/2022 13:58
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/06/2022 15:38
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/07/2022 15:53



Dates Report

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Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	SW-846 7470A (Total)			12/02/2022 11:49	12/05/2022 15:11
22120033-011D	APW-03-WG-20221130	11/30/2022 15:10	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/05/2022 20:07
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/06/2022 17:59
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/07/2022 18:14
22120033-012A	APW-08-WG-20221130	11/30/2022 16:30	12/01/2022 11:10		
	Standard Methods 2540 C (Total) 1997, 2011				12/05/2022 10:49
	SW-846 9036 (Total)				12/07/2022 13:41
	SW-846 9040B, Laboratory Analyzed				12/02/2022 11:32
	SW-846 9214 (Total)				12/02/2022 9:11
	SW-846 9251 (Total)				12/07/2022 13:41
22120033-012B	APW-08-WG-20221130	11/30/2022 16:30	12/01/2022 11:10		
	EPA 903.0/904.0, Radium 226/228				12/28/2022 0:00
22120033-012C	APW-08-WG-20221130	11/30/2022 16:30	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/05/2022 14:04
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/06/2022 15:44
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/07/2022 15:59
	SW-846 7470A (Total)			12/02/2022 11:49	12/05/2022 15:13
22120033-012D	APW-08-WG-20221130	11/30/2022 16:30	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/05/2022 20:13
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/06/2022 18:05
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/07/2022 18:20
22120033-013A	DUP-01-WG-20221128	11/28/2022 0:01	12/01/2022 11:10		
	Standard Methods 2540 C (Total) 1997, 2011				12/05/2022 10:49
	SW-846 9036 (Total)				12/07/2022 13:55
	SW-846 9040B, Laboratory Analyzed				12/02/2022 11:34
	SW-846 9214 (Total)				12/02/2022 9:20
	SW-846 9251 (Total)				12/07/2022 13:49
22120033-013B	DUP-01-WG-20221128	11/28/2022 0:01	12/01/2022 11:10		
	EPA 903.0/904.0, Radium 226/228				12/28/2022 0:00
22120033-013C	DUP-01-WG-20221128	11/28/2022 0:01	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/05/2022 14:11
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/06/2022 15:51
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/07/2022 16:06
	SW-846 7470A (Total)			12/02/2022 11:49	12/05/2022 15:15
22120033-013D	DUP-01-WG-20221128	11/28/2022 0:01	12/01/2022 11:10		



Dates Report

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Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/05/2022 20:51
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/06/2022 18:37
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/07/2022 18:52
22120033-014A	DUP-02-WG-20221129	11/29/2022 0:02	12/01/2022 11:10		
	Standard Methods 2540 C (Total) 1997, 2011				12/05/2022 10:49
	SW-846 9036 (Total)				12/07/2022 14:02
	SW-846 9040B, Laboratory Analyzed				12/02/2022 11:36
	SW-846 9214 (Total)				12/02/2022 9:21
	SW-846 9251 (Total)				12/07/2022 13:57
22120033-014B	DUP-02-WG-20221129	11/29/2022 0:02	12/01/2022 11:10		
	EPA 903.0/904.0, Radium 226/228				12/28/2022 0:00
22120033-014C	DUP-02-WG-20221129	11/29/2022 0:02	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/05/2022 14:17
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/06/2022 16:23
	SW-846 3005A, 6020A, Metals by ICPMS (Total)			12/02/2022 13:14	12/07/2022 16:38
	SW-846 7470A (Total)			12/02/2022 11:49	12/05/2022 15:18
22120033-014D	DUP-02-WG-20221129	11/29/2022 0:02	12/01/2022 11:10		
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/05/2022 20:20
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/06/2022 18:12
	SW-846 3005A, 6020A, Metals by ICPMS (Dissolved)			12/02/2022 12:05	12/07/2022 18:27



Quality Control Results

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Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

STANDARD METHODS 2540 C (TOTAL) 1997, 2011

Batch R322022		SampType: MBLK		Units mg/L						
SampID: MBLK										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	12/05/2022
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	12/05/2022
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	12/05/2022

Batch R322022		SampType: LCS		Units mg/L						
SampID: LCS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		980	1000	0	98.0	90	110	12/05/2022
Total Dissolved Solids		20		966	1000	0	96.6	90	110	12/05/2022
Total Dissolved Solids		20		974	1000	0	97.4	90	110	12/05/2022

Batch R322022		SampType: DUP		Units mg/L						
SampID: 22120033-004ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		436				446.0	2.27	12/05/2022

Batch R322022		SampType: DUP		Units mg/L						
SampID: 22120033-007ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		462				460.0	0.43	12/05/2022

SW-846 9036 (TOTAL)

Batch R322090		SampType: MBLK		Units mg/L						
SampID: ICB/MBLK										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		< 10	6.140	0	0	-100	100	12/07/2022

Batch R322090		SampType: LCS		Units mg/L						
SampID: ICV/LCS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		20	20.00	0	99.0	90	110	12/07/2022

Batch R322090		SampType: MS		Units mg/L						
SampID: 22120033-011AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		100		401	200.0	225.5	87.8	85	115	12/07/2022



Quality Control Results

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Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

SW-846 9036 (TOTAL)

Batch R322090		SampType: MSD		Units mg/L			RPD Limit: 10			
SampID: 22120033-011AMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate		100		397	200.0	225.5	85.6	401.1	1.09	12/07/2022

Batch R322146		SampType: MBLK		Units mg/L						
SampID: ICB/MBLK										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		< 10	6.140	0	0	-100	100	12/08/2022

Batch R322146		SampType: LCS		Units mg/L						
SampID: ICV/LCS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		19	20.00	0	93.6	90	110	12/08/2022

Batch R322146		SampType: MS		Units mg/L						
SampID: 22120033-001AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		200		603	400.0	253.7	87.2	85	115	12/08/2022

Batch R322146		SampType: MSD		Units mg/L			RPD Limit: 10			
SampID: 22120033-001AMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate		200		623	400.0	253.7	92.4	602.6	3.35	12/08/2022

SW-846 9040B, LABORATORY ANALYZED

Batch R321809		SampType: LCS		Units						
SampID: LCS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab pH		1.00		7.00	7.000	0	100.0	99.1	100.8	12/01/2022

Batch R321809		SampType: DUP		Units			RPD Limit: 10			
SampID: 22120033-001ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lab pH		1.00		7.20				7.210	0.14	12/02/2022



Quality Control Results

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Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

SW-846 9040B, LABORATORY ANALYZED

Batch R321809		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22120033-002ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.04				7.040	0.00	12/02/2022

Batch R321809		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22120033-003ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.25				7.240	0.14	12/02/2022

Batch R321809		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22120033-004ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.35				7.340	0.14	12/02/2022

Batch R321809		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22120033-005ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.01				7.010	0.00	12/02/2022

Batch R321809		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22120033-006ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		6.97				6.950	0.29	12/02/2022

Batch R321809		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22120033-007ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.04				7.040	0.00	12/02/2022

Batch R321809		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22120033-008ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		6.38				6.430	0.78	12/02/2022

Batch R321809		SampType: DUP		Units		RPD Limit: 10				Date Analyzed
SampID: 22120033-009ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.34				7.320	0.27	12/02/2022



Quality Control Results

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Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

SW-846 9040B, LABORATORY ANALYZED

Batch R321809		SampType: DUP		Units		RPD Limit: 10				
SampID: 22120033-010ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lab pH		1.00		6.79				6.780	0.15	12/02/2022

Batch R321809		SampType: DUP		Units		RPD Limit: 10				
SampID: 22120033-011ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lab pH		1.00		7.21				7.210	0.00	12/02/2022

Batch R321809		SampType: DUP		Units		RPD Limit: 10				
SampID: 22120033-012ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lab pH		1.00		7.28				7.250	0.41	12/02/2022

Batch R321809		SampType: DUP		Units		RPD Limit: 10				
SampID: 22120033-013ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lab pH		1.00		7.29				7.270	0.27	12/02/2022

Batch R321809		SampType: DUP		Units		RPD Limit: 10				
SampID: 22120033-014ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lab pH		1.00		7.03				7.020	0.14	12/02/2022

SW-846 9214 (TOTAL)

Batch R321834		SampType: MBLK		Units mg/L						
SampID: MBLK										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		< 0.10	0.0370	0	0	-100	100	12/02/2022

Batch R321834		SampType: LCS		Units mg/L						
SampID: LCS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		1.02	1.000	0	102.4	90	110	12/02/2022



Quality Control Results

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Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

SW-846 9214 (TOTAL)

Batch R321834		SampType: MS		Units mg/L						
SampID: 22120033-004AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		2.33	2.000	0.1660	108.4	75	125	12/02/2022

Batch R321834		SampType: MSD		Units mg/L		RPD Limit: 15				
SampID: 22120033-004AMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		2.37	2.000	0.1660	110.1	2.334	1.45	12/02/2022

Batch R321834		SampType: MS		Units mg/L						
SampID: 22120033-012AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		2.41	2.000	0.2840	106.3	75	125	12/02/2022

Batch R321834		SampType: MSD		Units mg/L		RPD Limit: 15				
SampID: 22120033-012AMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		2.45	2.000	0.2840	108.4	2.410	1.69	12/02/2022

Batch R321834		SampType: MS		Units mg/L						
SampID: 22120033-014AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride		0.10		2.47	2.000	0.2560	110.9	75	125	12/02/2022

Batch R321834		SampType: MSD		Units mg/L		RPD Limit: 15				
SampID: 22120033-014AMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride		0.10		2.43	2.000	0.2560	108.5	2.474	1.96	12/02/2022

SW-846 9251 (TOTAL)

Batch R322091		SampType: MBLK		Units mg/L						
SampID: ICB/MBLK										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		4		< 4	0.5000	0	0	-100	100	12/07/2022



Quality Control Results

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Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

SW-846 9251 (TOTAL)

Batch R322091		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		20	20.00	0	100.6	90	110	12/07/2022	

Batch R322091		SampType: MS		Units mg/L							
SampID: 22120033-001AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		36	20.00	17.10	92.0	85	115	12/07/2022	

Batch R322091		SampType: MSD		Units mg/L							
SampID: 22120033-001AMSD											
										RPD Limit: 15	
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Chloride		4		35	20.00	17.10	91.2	35.50	0.48	12/07/2022	

Batch R322091		SampType: MS		Units mg/L							
SampID: 22120033-011AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		38	20.00	20.49	89.8	85	115	12/07/2022	

Batch R322091		SampType: MSD		Units mg/L							
SampID: 22120033-011AMSD											
										RPD Limit: 15	
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Chloride		4		39	20.00	20.49	93.8	38.45	2.08	12/07/2022	

Batch R322148		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		< 4	0.5000	0	0	-100	100	12/08/2022	

Batch R322148		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		19	20.00	0	96.7	90	110	12/08/2022	



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 200649 SampType: MBLK Units mg/L

SampID: MBLK-200649

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	12/07/2022
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	12/05/2022
Barium		0.0010	S	0.0016	0.0007	0	226.5	-100	100	12/07/2022
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	12/05/2022
Boron		0.0250		< 0.0250	0.0170	0	0	-100	100	12/05/2022
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	12/05/2022
Calcium		0.125		< 0.125	0.0700	0	0	-100	100	12/08/2022
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	12/05/2022
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	12/05/2022
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	12/07/2022
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	12/06/2022
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	12/05/2022
Nickel		0.0010		< 0.0010	0.0004	0	0	-100	100	12/07/2022
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	12/05/2022
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	12/07/2022

Batch 200649 SampType: LCS Units mg/L

SampID: LCS-200649

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.459	0.5000	0	91.9	80	120	12/07/2022
Arsenic		0.0010		0.463	0.5000	0	92.6	80	120	12/05/2022
Barium		0.0010	B	1.90	2.000	0	94.8	80	120	12/07/2022
Beryllium		0.0010		0.0453	0.0500	0	90.6	80	120	12/07/2022
Boron		0.0250		0.478	0.5000	0	95.7	80	120	12/07/2022
Cadmium		0.0010		0.0441	0.0500	0	88.3	80	120	12/05/2022
Calcium		0.125		2.89	2.500	0	115.6	80	120	12/07/2022
Chromium		0.0015		0.185	0.2000	0	92.7	80	120	12/05/2022
Cobalt		0.0010		0.469	0.5000	0	93.9	80	120	12/05/2022
Lead		0.0010		0.441	0.5000	0	88.3	80	120	12/07/2022
Lithium	*	0.0030		0.473	0.5000	0	94.5	80	120	12/06/2022
Molybdenum		0.0015		0.438	0.5000	0	87.6	80	120	12/05/2022
Nickel		0.0010		0.472	0.5000	0	94.3	80	120	12/07/2022
Selenium		0.0010		0.414	0.5000	0	82.7	80	120	12/05/2022
Thallium		0.0020		0.222	0.2500	0	88.8	80	120	12/07/2022



Quality Control Results

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Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 200649		SampType: MS		Units mg/L							Date Analyzed
SampID: 22120033-013DMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Antimony		0.0010		0.423	0.5000	0	84.6	75	125	12/07/2022	
Arsenic		0.0010		0.450	0.5000	0.001852	89.5	75	125	12/06/2022	
Barium		0.0010	B	1.89	2.000	0.1303	87.8	75	125	12/07/2022	
Beryllium		0.0010		0.0430	0.0500	0	86.1	75	125	12/07/2022	
Boron		0.0250	S	7.26	0.5000	7.030	45.1	75	125	12/06/2022	
Cadmium		0.0010		0.0578	0.0500	0	115.6	75	125	12/05/2022	
Calcium		0.125	S	105	2.500	110.3	-197.5	75	125	12/07/2022	
Chromium		0.0015		0.234	0.2000	0	117.1	75	125	12/05/2022	
Cobalt		0.0010		0.582	0.5000	0.0006793	116.3	75	125	12/05/2022	
Lead		0.0010		0.452	0.5000	0	90.5	75	125	12/07/2022	
Lithium	*	0.0030		0.504	0.5000	0.03648	93.4	75	125	12/06/2022	
Molybdenum		0.0015		0.586	0.5000	0.2107	75.0	75	125	12/06/2022	
Nickel		0.0010		0.431	0.5000	0.002386	85.7	75	125	12/07/2022	
Selenium		0.0010		0.554	0.5000	0	110.9	75	125	12/05/2022	
Thallium		0.0020		0.224	0.2500	0	89.5	75	125	12/07/2022	

Batch 200649		SampType: MSD		Units mg/L							RPD Limit: 20	Date Analyzed
SampID: 22120033-013DMSD												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed		
Antimony		0.0010		0.412	0.5000	0	82.4	0.4230	2.59	12/07/2022		
Arsenic		0.0010		0.426	0.5000	0.001852	84.8	0.4496	5.46	12/06/2022		
Barium		0.0010	B	1.82	2.000	0.1303	84.5	1.885	3.52	12/07/2022		
Beryllium		0.0010		0.0423	0.0500	0	84.6	0.04303	1.78	12/07/2022		
Boron		0.0250	S	6.83	0.5000	7.030	-40.4	7.255	6.07	12/06/2022		
Cadmium		0.0010		0.0619	0.0500	0	123.8	0.05782	6.84	12/05/2022		
Calcium		0.125	S	99.9	2.500	110.3	-414.6	105.4	5.29	12/07/2022		
Chromium		0.0015		0.247	0.2000	0	123.4	0.2341	5.30	12/05/2022		
Cobalt		0.0010		0.625	0.5000	0.0006793	124.9	0.5820	7.18	12/05/2022		
Lead		0.0010		0.428	0.5000	0	85.5	0.4524	5.64	12/07/2022		
Lithium	*	0.0030		0.475	0.5000	0.03648	87.7	0.5035	5.85	12/06/2022		
Molybdenum		0.0015	S	0.555	0.5000	0.2107	68.9	0.5859	5.37	12/06/2022		
Nickel		0.0010		0.425	0.5000	0.002386	84.4	0.4307	1.46	12/07/2022		
Selenium		0.0010		0.604	0.5000	0	120.7	0.5544	8.52	12/05/2022		
Thallium		0.0020		0.211	0.2500	0	84.6	0.2238	5.69	12/07/2022		



Quality Control Results

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Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 201045 **SampType: MBLK** Units mg/L

SampID: MBLK-201045

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	12/19/2022
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	12/19/2022
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	12/15/2022
Nickel		0.0010		< 0.0010	0.0004	0	0	-100	100	12/15/2022

Batch 201045 **SampType: LCS** Units mg/L

SampID: LCS-201045

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Boron		0.0250		0.474	0.5000	0	94.9	85	115	12/19/2022
Lead		0.0010		0.467	0.5000	0	93.3	85	115	12/19/2022
Molybdenum		0.0015		0.550	0.5000	0	109.9	85	115	12/15/2022
Nickel		0.0010		0.515	0.5000	0	103.1	85	115	12/19/2022

Batch 201045 **SampType: MS** Units mg/L

SampID: 22120033-007DMSDUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Boron		0.0250		0.964	1.000	0.06992	89.4	75	125	12/16/2022

Batch 201045 **SampType: DUP** Units mg/L RPD Limit: 20

SampID: 22120033-001DDUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Molybdenum		0.0015		0.0673				0.07362	9.00	12/15/2022

Batch 201045 **SampType: DUP** Units mg/L RPD Limit: 20

SampID: 22120033-004DDUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Boron		0.0250		0.668				0.6461	3.37	12/16/2022

Batch 201045 **SampType: DUP** Units mg/L RPD Limit: 20

SampID: 22120033-006DDUP

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Boron		0.0250		0.531				0.6016	12.42	12/16/2022



Quality Control Results

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Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

SW-846 3005A, 6020A, METALS BY ICPMS (DISSOLVED)

Batch 201045		SampType: DUP		Units mg/L			RPD Limit: 20			
SampID: 22120033-007DDUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Boron		0.0250		0.0699				0.08467	19.09	12/16/2022

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 200623		SampType: MBLK		Units mg/L						
SampID: MBLK-200623										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	12/02/2022
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	12/02/2022
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	12/02/2022
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	12/02/2022
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	12/02/2022
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	12/02/2022
Calcium		0.125		< 0.125	0.0700	0	0	-100	100	12/02/2022
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	12/02/2022
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	12/02/2022
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	12/02/2022
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	12/02/2022
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	12/02/2022
Nickel		0.0010		< 0.0010	0.0004	0	0	-100	100	12/02/2022
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	12/02/2022
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	12/02/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 200623 **SampType: LCS** Units mg/L

SampID: LCS-200623

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.506	0.5000	0	101.1	80	120	12/02/2022
Arsenic		0.0010		0.514	0.5000	0	102.8	80	120	12/02/2022
Barium		0.0010		1.98	2.000	0	99.1	80	120	12/02/2022
Beryllium		0.0010		0.0476	0.0500	0	95.2	80	120	12/02/2022
Boron		0.0250		0.480	0.5000	0	96.0	80	120	12/02/2022
Cadmium		0.0010		0.0495	0.0500	0	99.0	80	120	12/02/2022
Calcium		0.125		2.23	2.500	0	89.1	80	120	12/02/2022
Chromium		0.0015		0.201	0.2000	0	100.3	80	120	12/02/2022
Cobalt		0.0010		0.494	0.5000	0	98.8	80	120	12/02/2022
Lead		0.0010		0.493	0.5000	0	98.5	80	120	12/02/2022
Lithium	*	0.0030		0.501	0.5000	0	100.2	80	120	12/02/2022
Molybdenum		0.0015		0.494	0.5000	0	98.7	80	120	12/02/2022
Nickel		0.0010		0.503	0.5000	0	100.5	80	120	12/02/2022
Selenium		0.0010		0.461	0.5000	0	92.3	80	120	12/02/2022
Thallium		0.0020		0.242	0.2500	0	97.0	80	120	12/02/2022

Batch 200654 **SampType: MBLK** Units mg/L

SampID: MBLK-200654

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		< 0.0010	0.0004	0	0	-100	100	12/07/2022
Arsenic		0.0010		< 0.0010	0.0004	0	0	-100	100	12/05/2022
Barium		0.0010		< 0.0010	0.0007	0	0	-100	100	12/05/2022
Beryllium		0.0010		< 0.0010	0.0002	0	0	-100	100	12/05/2022
Boron		0.0250		< 0.0250	0.0093	0	0	-100	100	12/05/2022
Cadmium		0.0010		< 0.0010	0.0001	0	0	-100	100	12/05/2022
Calcium		0.125		< 0.125	0.0700	0	0	-100	100	12/07/2022
Calcium		0.125		< 0.125	0.0700	0	0	-100	100	12/05/2022
Chromium		0.0015		< 0.0015	0.0007	0	0	-100	100	12/05/2022
Cobalt		0.0010		< 0.0010	0.0001	0	0	-100	100	12/05/2022
Lead		0.0010		< 0.0010	0.0006	0	0	-100	100	12/07/2022
Lithium	*	0.0030		< 0.0030	0.0015	0	0	-100	100	12/05/2022
Molybdenum		0.0015		< 0.0015	0.0006	0	0	-100	100	12/05/2022
Nickel		0.0010		< 0.0010	0.0004	0	0	-100	100	12/07/2022
Selenium		0.0010		< 0.0010	0.0006	0	0	-100	100	12/05/2022
Thallium		0.0020		< 0.0020	0.0010	0	0	-100	100	12/07/2022



Quality Control Results

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Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 200654 SampType: LCS Units mg/L

SampID: LCS-200654

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.568	0.5000	0	113.6	80	120	12/07/2022
Arsenic		0.0010		0.522	0.5000	0	104.3	80	120	12/05/2022
Barium		0.0010		1.98	2.000	0	99.1	80	120	12/05/2022
Beryllium		0.0010		0.0484	0.0500	0	96.8	80	120	12/05/2022
Boron		0.0250		0.493	0.5000	0	98.5	80	120	12/05/2022
Cadmium		0.0010		0.0494	0.0500	0	98.7	80	120	12/05/2022
Calcium		0.125		2.59	2.500	0	103.7	80	120	12/07/2022
Chromium		0.0015		0.203	0.2000	0	101.3	80	120	12/05/2022
Cobalt		0.0010		0.510	0.5000	0	101.9	80	120	12/05/2022
Lead		0.0010		0.540	0.5000	0	108.0	80	120	12/07/2022
Lithium	*	0.0030		0.539	0.5000	0	107.8	80	120	12/05/2022
Molybdenum		0.0015		0.497	0.5000	0	99.5	80	120	12/05/2022
Nickel		0.0010		0.548	0.5000	0	109.5	80	120	12/07/2022
Selenium		0.0010		0.477	0.5000	0	95.5	80	120	12/05/2022
Thallium		0.0020		0.261	0.2500	0	104.6	80	120	12/07/2022

Batch 200654 SampType: MS Units mg/L

SampID: 22120033-005CMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony		0.0010		0.514	0.5000	0	102.7	75	125	12/07/2022
Arsenic		0.0010		0.642	0.5000	0.02202	124.1	75	125	12/05/2022
Barium		0.0010		2.52	2.000	0.2543	113.2	75	125	12/05/2022
Beryllium		0.0010	S	0.0631	0.0500	0	126.3	75	125	12/05/2022
Boron		0.0250	S	9.91	0.5000	8.968	189.0	75	125	12/05/2022
Cadmium		0.0010		0.0602	0.0500	0.0003140	119.7	75	125	12/05/2022
Calcium		0.125	S	152	2.500	145.0	264.6	75	125	12/07/2022
Chromium		0.0015		0.243	0.2000	0.006431	118.5	75	125	12/05/2022
Cobalt		0.0010		0.597	0.5000	0.001496	119.1	75	125	12/05/2022
Lead		0.0010		0.513	0.5000	0.003286	102.0	75	125	12/07/2022
Lithium	*	0.0030		0.540	0.5000	0.03860	100.2	75	125	12/06/2022
Molybdenum		0.0015		0.566	0.5000	0.1280	87.7	75	125	12/06/2022
Nickel		0.0010		0.497	0.5000	0.004533	98.5	75	125	12/07/2022
Selenium		0.0010		0.527	0.5000	0	105.4	75	125	12/05/2022
Thallium		0.0020		0.249	0.2500	0	99.7	75	125	12/07/2022



Quality Control Results

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Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

SW-846 3005A, 6020A, METALS BY ICPMS (TOTAL)

Batch 200654		SampType: MSD		Units mg/L			RPD Limit: 20			
SampID: 22120033-005CMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony		0.0010		0.519	0.5000	0	103.8	0.5136	1.03	12/07/2022
Arsenic		0.0010		0.595	0.5000	0.02202	114.6	0.6424	7.64	12/05/2022
Barium		0.0010		2.30	2.000	0.2543	102.2	2.518	9.07	12/05/2022
Beryllium		0.0010		0.0585	0.0500	0	116.9	0.06314	7.70	12/05/2022
Boron		0.0250	S	9.05	0.5000	8.968	16.8	9.913	9.08	12/05/2022
Cadmium		0.0010		0.0544	0.0500	0.0003140	108.1	0.06018	10.12	12/05/2022
Calcium		0.125	S	155	2.500	145.0	390.8	151.7	2.06	12/07/2022
Chromium		0.0015		0.223	0.2000	0.006431	108.4	0.2435	8.65	12/05/2022
Cobalt		0.0010		0.565	0.5000	0.001496	112.6	0.5968	5.54	12/05/2022
Lead		0.0010		0.516	0.5000	0.003286	102.6	0.5131	0.66	12/07/2022
Lithium	*	0.0030		0.539	0.5000	0.03860	100.2	0.5398	0.07	12/06/2022
Molybdenum		0.0015		0.577	0.5000	0.1280	89.9	0.5664	1.91	12/06/2022
Nickel		0.0010		0.498	0.5000	0.004533	98.7	0.4968	0.28	12/07/2022
Selenium		0.0010		0.488	0.5000	0	97.6	0.5270	7.65	12/05/2022
Thallium		0.0020		0.253	0.2500	0	101.2	0.2492	1.50	12/07/2022

SW-846 7470A (TOTAL)

Batch 200646		SampType: MBLK		Units mg/L						
SampID: MBLK-200646										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		< 0.00020	0.0001	0	0	-100	100	12/05/2022

Batch 200646		SampType: LCS		Units mg/L						
SampID: LCS-200646										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		0.00539	0.0050	0	107.7	85	115	12/05/2022

Batch 200646		SampType: MS		Units mg/L						
SampID: 22120033-003CMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		0.00518	0.0050	0	103.6	75	125	12/05/2022

Batch 200646		SampType: MSD		Units mg/L			RPD Limit: 15			
SampID: 22120033-003CMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury		0.00020		0.00516	0.0050	0	103.3	0.005182	0.34	12/05/2022



Quality Control Results

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

SW-846 7470A (TOTAL)

Batch 200646		SampType: MS		Units mg/L						
SampID: 22120033-007CMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury		0.00020		0.00516	0.0050	0	103.1	75	125	12/05/2022

Batch 200646		SampType: MSD		Units mg/L							RPD Limit: 15
SampID: 22120033-007CMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Mercury		0.00020		0.00510	0.0050	0	101.9	0.005157	1.21	12/05/2022	



Receiving Check List

<http://www.teklabinc.com/>

Client: ERM

Work Order: 22120033

Client Project: GTEC

Report Date: 10-Jan-23

Carrier: Marshall Arendell

Received By: ANC

Completed by:

Reviewed by:

On:

On:

01-Dec-22

01-Dec-22

Lindsey Maddox

Elizabeth A. Hurley

Pages to follow: Chain of custody

Extra pages included

- Shipping container/cooler in good condition? Yes No Not Present Temp °C **1.6**
- Type of thermal preservation? None Ice Blue Ice Dry Ice
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Reported field parameters measured: Field Lab NA

Sample analyses to be measured in the field and/or within 15 minutes of collection were analyzed in the lab as soon as practicable. These analyses include Chlorine (demand, free and/or residual), Carbon Dioxide, Dissolved Oxygen, Ferrous Iron, pH, and Sulfite.

- Container/Temp Blank temperature in compliance? Yes No

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

- Water – at least one vial per sample has zero headspace? Yes No No VOA vials
- Water - TOX containers have zero headspace? Yes No No TOX containers
- Water - pH acceptable upon receipt? Yes No NA
- NPDES/CWA TCN interferences checked/treated in the field? Yes No NA

Any No responses must be detailed below or on the COC.

pH strip #83856. - lmaddox - 12/1/2022 4:11:53 PM

Additional preservative HNO3 (86511) was needed in APW-10S-WG-20221129 and APW-10D-WG-20221129 upon arrival at the laboratory. - lmaddox - 12/1/2022 4:12:06 PM

CHAIN OF CUSTODY

pg. 2 of 2 Work order # 22120033

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

Client: ERM
Address: 68 Villa Grove
City / State / Zip: Springfield, IL 62712
Contact: Matt Halley **Phone:** (217) 529-0914
E-Mail: matt.halley@erm.com **Fax:** _____

Samples on: ICE BLUE ICE NO ICE 1.6 °C LTG# 3
Preserved In: LAB FIELD **FOR LAB USE ONLY**
Lab Notes

Are these samples known to be involved in litigation? If yes, a surcharge will apply Yes No
 Are these samples known to be hazardous? Yes No
 Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. Yes No

Client Comments:
 Total and Dissolved: Sb As Ba Be B Cd Ca Cr Co Pb Li Mo Ni Se Ti
 Field filtered for dissolved metals.

Project Name/Number: GTEC
Sample Collector's Name: Clay Gansowic
Marshall Arendell
Results Requested: Standard 1-2 Day (100% Surcharge)
 Other 3 Day (50% Surcharge)
Billing Instructions

MATRIX **INDICATE ANALYSIS REQUESTED**

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers								Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	Chloride	Dissolved Metals	Fluoride	pH	Radium 226/228	Sulfate	TDS	Total Hg	Total Metals	
			UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER																
-011	APW-03-W6-20221130	11/30/22, 19:10	1	2		2									X	X	X	X	X	X	X	X	X	X	X	X
-012	APW-08-W6-20221130	11/30/22, 16:30	1	2		2									X	X	X	X	X	X	X	X	X	X	X	X
-013	DWP-01-W6-20221128	11/28/22, 00:01	1	2		2									X	X	X	X	X	X	X	X	X	X	X	X
-014	DWP-02-W6-20221128	11/29/22, 00:02	1	2		2									X	X	X	X	X	X	X	X	X	X	X	X

Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	Chloride	Dissolved Metals	Fluoride	pH	Radium 226/228	Sulfate	TDS	Total Hg	Total Metals
X					X	X	X	X	X	X	X	X	X	X
X					X	X	X	X	X	X	X	X	X	X
X					X	X	X	X	X	X	X	X	X	X
X					X	X	X	X	X	X	X	X	X	X

Relinquished By: Marshall Arendell **Date/Time:** 12/1/22 1110

Received By: Allison Cole **Date/Time:** 12/1/22 1110

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder: 76547





Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: <http://www.settek.com>

January 09, 2023

Elizabeth Hurley
TEKLAB Inc,
5445 Horseshoe lake Road
Collinsville, IL 62234
TEL:
FAX:
RE: 221200033

Order No.: 22120743

Dear Elizabeth Hurley:

Summit Environmental Technologies, Inc. received 14 sample(s) on 12/9/2022 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

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

Sincerely,

Jennifer Woolf
Project Manager
3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 011, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C



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Case Narrative

WO#: 22120743
Date: 1/9/2023

CLIENT: TEKLAB Inc,
Project: 221200033

WorkOrder Narrative:

22120743: This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Sequence QC Notes:

LCS/LCSD-61828 Radium-228_DW(904.0): LCS-61828 and LCSD-61828 exhibited high RPD for Radium-228. Individually each LCS/LCSD meets the required criteria.

LCS/LCSD-61828 Radium-226_NPW(903.0): LCS-61828/LCSD-61828 exhibited high RPD for Radium-226. Individual percent recoveries are within acceptable criteria.

Original

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected above the MDL.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
d	Manual integration in which peak was deleted
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B	The analyte was detected in the Method Blank at a concentration greater than the RL.
MB+	The analyte was detected in the Method Blank at a concentration greater than the MDL.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
W	Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	RL	Reporting Limit
QC	Quality Control	MDL	Method Detection Limit
MB	Method Blank	LOD	Level of Detection
LCS	Laboratory Control Sample	LOQ	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	PQL	Practical Quantitation Limit
QCS	Quality Control Sample	CRQL	Contract Required Quantitation Limit
DUP	Duplicate	PL	Permit Limit
MS	Matrix Spike	RegLvl	Regulatory Limit
MSD	Matrix Spike Duplicate	MCL	Maximum Contamination Limit
RPD	Relative Percent Different	MinCL	Minimum Compound Limit
ICV	Initial Calibration Verification	RA	Reanalysis
ICB	Initial Calibration Blank	RE	Reextraction
CCV	Continuing Calibration Verification	TIC	Tentatively Identified Compound
CCB	Continuing Calibration Blank	RT	Retention Time
RLC	Reporting Limit Check	CF	Calibration Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.



Summit Environmental Technologies, Inc.
 3310 Win St.
 Cuyahoga Falls, Ohio 44223
 TEL: (330) 253-8211 FAX: (330) 253-4489
 Website: <http://www.settek.com>

Workorder
Sample Summary
 WO#: **22120743**
09-Jan-23

CLIENT: TEKLAB Inc,
Project: 221200033

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
22120743-001	221200033-001		11/28/2022 10:30:00 AM	12/9/2022 12:00:00 PM	Non-Potable Water
22120743-002	221200033-002		11/28/2022 11:55:00 AM	12/9/2022 12:00:00 PM	Non-Potable Water
22120743-003	221200033-003		11/28/2022 1:25:00 PM	12/9/2022 12:00:00 PM	Non-Potable Water
22120743-004	221200033-004		11/28/2022 3:10:00 PM	12/9/2022 12:00:00 PM	Non-Potable Water
22120743-005	221200033-005		11/29/2022 9:15:00 AM	12/9/2022 12:00:00 PM	Non-Potable Water
22120743-006	221200033-006		11/29/2022 1:30:00 PM	12/9/2022 12:00:00 PM	Non-Potable Water
22120743-007	221200033-007		11/30/2022 3:10:00 PM	12/9/2022 12:00:00 PM	Non-Potable Water
22120743-008	221200033-008		11/30/2022 9:35:00 AM	12/9/2022 12:00:00 PM	Non-Potable Water
22120743-009	221200033-009		11/30/2022 11:10:00 AM	12/9/2022 12:00:00 PM	Non-Potable Water
22120743-010	221200033-0010		11/30/2022 1:10:00 PM	12/9/2022 12:00:00 PM	Non-Potable Water
22120743-011	221200033-0011		11/30/2022 3:10:00 PM	12/9/2022 12:00:00 PM	Non-Potable Water
22120743-012	221200033-0012		11/30/2022 4:30:00 PM	12/9/2022 12:00:00 PM	Non-Potable Water
22120743-013	221200033-0013		11/28/2022 12:01:00 AM	12/9/2022 12:00:00 PM	Non-Potable Water
22120743-014	221200033-0014		11/29/2022 12:02:00 AM	12/9/2022 12:00:00 PM	Non-Potable Water



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DATES REPORT

WO#: **22120743**
09-Jan-23

Client: TEKLAB Inc,
Project: 221200033

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
22120743-001A	221200033-001	11/28/2022 10:30:00 AM	Non-Potable Water	Radium-226 (EPA 903.0)		12/22/2022 3:57:00 PM	12/29/2022 11:48:00 AM
				Radium-228 (EPA 904.0)		12/22/2022 3:57:00 PM	12/28/2022 2:36:00 PM
22120743-002A	221200033-002	11/28/2022 11:55:00 AM		Radium-226 (EPA 903.0)		12/22/2022 3:57:00 PM	12/29/2022 11:48:00 AM
				Radium-228 (EPA 904.0)		12/22/2022 3:57:00 PM	12/28/2022 2:36:00 PM
22120743-003A	221200033-003	11/28/2022 1:25:00 PM		Radium-226 (EPA 903.0)		12/22/2022 3:57:00 PM	12/29/2022 11:48:00 AM
				Radium-228 (EPA 904.0)		12/22/2022 3:57:00 PM	12/28/2022 2:36:00 PM
22120743-004A	221200033-004	11/28/2022 3:10:00 PM		Radium-226 (EPA 903.0)		12/22/2022 3:57:00 PM	12/29/2022 11:48:00 AM
				Radium-228 (EPA 904.0)		12/22/2022 3:57:00 PM	12/28/2022 2:36:00 PM
22120743-005A	221200033-005	11/29/2022 9:15:00 AM		Radium-226 (EPA 903.0)		12/22/2022 3:57:00 PM	12/29/2022 11:48:00 AM
				Radium-228 (EPA 904.0)		12/22/2022 3:57:00 PM	12/28/2022 2:36:00 PM
22120743-006A	221200033-006	11/29/2022 1:30:00 PM		Radium-226 (EPA 903.0)		12/22/2022 3:57:00 PM	12/29/2022 11:48:00 AM
				Radium-228 (EPA 904.0)		12/22/2022 3:57:00 PM	12/28/2022 2:36:00 PM
22120743-007A	221200033-007	11/30/2022 3:10:00 PM		Radium-226 (EPA 903.0)		12/22/2022 3:57:00 PM	12/29/2022 11:48:00 AM
				Radium-228 (EPA 904.0)		12/22/2022 3:57:00 PM	12/28/2022 2:36:00 PM
22120743-008A	221200033-008	11/30/2022 9:35:00 AM		Radium-226 (EPA 903.0)		12/22/2022 3:57:00 PM	12/29/2022 11:48:00 AM
				Radium-228 (EPA 904.0)		12/22/2022 3:57:00 PM	12/28/2022 2:36:00 PM
22120743-009A	221200033-009	11/30/2022 11:10:00 AM		Radium-226 (EPA 903.0)		12/22/2022 3:57:00 PM	12/29/2022 11:48:00 AM
				Radium-228 (EPA 904.0)		12/22/2022 3:57:00 PM	12/28/2022 2:36:00 PM
22120743-010A	221200033-0010	11/30/2022 1:10:00 PM		Radium-226 (EPA 903.0)		12/22/2022 3:57:00 PM	12/29/2022 11:48:00 AM
				Radium-228 (EPA 904.0)		12/22/2022 3:57:00 PM	12/28/2022 2:36:00 PM
22120743-011A	221200033-0011	11/30/2022 3:10:00 PM		Radium-226 (EPA 903.0)		12/22/2022 3:57:00 PM	12/29/2022 11:48:00 AM
				Radium-228 (EPA 904.0)		12/22/2022 3:57:00 PM	12/28/2022 2:36:00 PM
22120743-012A	221200033-0012	11/30/2022 4:30:00 PM		Radium-226 (EPA 903.0)		12/22/2022 3:57:00 PM	12/29/2022 11:48:00 AM

Original



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DATES REPORT

WO#: 22120743
 09-Jan-23

Client: TEKLAB Inc,
Project: 221200033

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
22120743-012A	221200033-0012	11/30/2022 4:30:00 PM	Non-Potable Water	Radium-228 (EPA 904.0)		12/22/2022 3:57:00 PM	12/28/2022 2:36:00 PM
22120743-013A	221200033-0013	11/28/2022 12:01:00 AM		Radium-226 (EPA 903.0)		12/22/2022 3:57:00 PM	12/29/2022 11:48:00 AM
				Radium-228 (EPA 904.0)		12/22/2022 3:57:00 PM	12/28/2022 2:36:00 PM
22120743-014A	221200033-0014	11/29/2022 12:02:00 AM		Radium-226 (EPA 903.0)		12/22/2022 3:57:00 PM	12/29/2022 11:48:00 AM
				Radium-228 (EPA 904.0)		12/22/2022 3:57:00 PM	12/28/2022 2:36:00 PM

Original



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Analytical Report

(consolidated)

WO#: 22120743

Date Reported: 1/9/2023

CLIENT: TEKLAB Inc,

Collection Date: 11/28/2022 10:30:00 AM

Project: 221200033

Lab ID: 22120743-001

Matrix: NON-POTABLE WATER

Client Sample ID: 221200033-001

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					E903.0	E903-904	Analyst: HDJ
Radium-226	ND	1.00		pCi/L	± 0.15	1	12/29/2022 11:48:00 A
Yield	0.970					1	12/29/2022 11:48:00 A
RADIUM-228 (EPA 904.0)					E904.0	E903-904	Analyst: HDJ
Radium-228	ND	1.00		pCi/L	± 0.43	1	12/28/2022 2:36:00 PM
Yield	0.940					1	12/28/2022 2:36:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	OG1	
P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22120743

Date Reported: 1/9/2023

CLIENT: TEKLAB Inc, **Collection Date:** 11/28/2022 11:55:00 AM
Project: 221200033
Lab ID: 22120743-002 **Matrix:** NON-POTABLE WATER
Client Sample ID: 221200033-002

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)				E903.0	E903-904	Analyst: HDJ	
Radium-226	ND	1.00		pCi/L	± 0.09	1	12/29/2022 11:48:00 A
Yield	0.980					1	12/29/2022 11:48:00 A
RADIUM-228 (EPA 904.0)				E904.0	E903-904	Analyst: HDJ	
Radium-228	ND	1.00		pCi/L	± 0.5	1	12/28/2022 2:36:00 PM
Yield	0.930					1	12/28/2022 2:36:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	OG1	
P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22120743

Date Reported: 1/9/2023

CLIENT: TEKLAB Inc,

Collection Date: 11/28/2022 1:25:00 PM

Project: 221200033

Lab ID: 22120743-003

Matrix: NON-POTABLE WATER

Client Sample ID: 221200033-003

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					E903.0	E903-904	Analyst: HDJ
Radium-226	ND	1.00		pCi/L	± 0.11	1	12/29/2022 11:48:00 A
Yield	0.960					1	12/29/2022 11:48:00 A
RADIUM-228 (EPA 904.0)					E904.0	E903-904	Analyst: HDJ
Radium-228	ND	1.00		pCi/L	± 0.49	1	12/28/2022 2:36:00 PM
Yield	0.920					1	12/28/2022 2:36:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: <http://www.settek.com>

Analytical Report

(consolidated)

WO#: 22120743

Date Reported: 1/9/2023

CLIENT: TEKLAB Inc,
Project: 221200033
Lab ID: 22120743-004
Client Sample ID: 221200033-004

Collection Date: 11/28/2022 3:10:00 PM

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					E903.0	E903-904	Analyst: HDJ
Radium-226	ND	1.00		pCi/L	± 0.08	1	12/29/2022 11:48:00 A
Yield	0.920					1	12/29/2022 11:48:00 A
RADIUM-228 (EPA 904.0)					E904.0	E903-904	Analyst: HDJ
Radium-228	1.47	1.00		pCi/L	± 0.67	1	12/28/2022 2:36:00 PM
Yield	0.840					1	12/28/2022 2:36:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	OG1	
P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22120743

Date Reported: 1/9/2023

CLIENT: TEKLAB Inc, **Collection Date:** 11/29/2022 9:15:00 AM
Project: 221200033
Lab ID: 22120743-005 **Matrix:** NON-POTABLE WATER
Client Sample ID: 221200033-005

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)				E903.0	E903-904	Analyst: HDJ	
Radium-226	ND	1.00		pCi/L	± 0.14	1	12/29/2022 11:48:00 A
Yield	0.980					1	12/29/2022 11:48:00 A
RADIUM-228 (EPA 904.0)				E904.0	E903-904	Analyst: HDJ	
Radium-228	ND	1.00		pCi/L	± 0.44	1	12/28/2022 2:36:00 PM
Yield	0.920					1	12/28/2022 2:36:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	OG1	
P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22120743

Date Reported: 1/9/2023

CLIENT: TEKLAB Inc,

Collection Date: 11/29/2022 1:30:00 PM

Project: 221200033

Lab ID: 22120743-006

Matrix: NON-POTABLE WATER

Client Sample ID: 221200033-006

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					E903.0	E903-904	Analyst: HDJ
Radium-226	ND	1.00		pCi/L	± 0.11	1	12/29/2022 11:48:00 A
Yield	1.00					1	12/29/2022 11:48:00 A
RADIUM-228 (EPA 904.0)					E904.0	E903-904	Analyst: HDJ
Radium-228	1.64	1.00		pCi/L	± 0.68	1	12/28/2022 2:36:00 PM
Yield	0.900					1	12/28/2022 2:36:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	OG1	
P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22120743

Date Reported: 1/9/2023

CLIENT: TEKLAB Inc,

Collection Date: 11/30/2022 3:10:00 PM

Project: 221200033

Lab ID: 22120743-007

Matrix: NON-POTABLE WATER

Client Sample ID: 221200033-007

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					E903.0	E903-904	Analyst: HDJ
Radium-226	ND	1.00		pCi/L	± 0.11	1	12/29/2022 11:48:00 A
Yield	1.00					1	12/29/2022 11:48:00 A
RADIUM-228 (EPA 904.0)					E904.0	E903-904	Analyst: HDJ
Radium-228	ND	1.00		pCi/L	± 0.43	1	12/28/2022 2:36:00 PM
Yield	0.950					1	12/28/2022 2:36:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	OG1	
P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22120743

Date Reported: 1/9/2023

CLIENT: TEKLAB Inc,
Project: 221200033
Lab ID: 22120743-008
Client Sample ID: 221200033-008

Collection Date: 11/30/2022 9:35:00 AM

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					E903.0	E903-904	Analyst: HDJ
Radium-226	ND	1.00		pCi/L	± 0.12	1	12/29/2022 11:48:00 A
Yield	0.940					1	12/29/2022 11:48:00 A
RADIUM-228 (EPA 904.0)					E904.0	E903-904	Analyst: HDJ
Radium-228	ND	1.00		pCi/L	± 0.56	1	12/28/2022 2:36:00 PM
Yield	0.890					1	12/28/2022 2:36:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	OG1	
P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22120743

Date Reported: 1/9/2023

CLIENT: TEKLAB Inc,

Collection Date: 11/30/2022 11:10:00 AM

Project: 221200033

Lab ID: 22120743-009

Matrix: NON-POTABLE WATER

Client Sample ID: 221200033-009

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					E903.0	E903-904	Analyst: HDJ
Radium-226	ND	1.00		pCi/L	± 0.06	1	12/29/2022 11:48:00 A
Yield	0.960					1	12/29/2022 11:48:00 A
RADIUM-228 (EPA 904.0)					E904.0	E903-904	Analyst: HDJ
Radium-228	ND	1.00		pCi/L	± 0.55	1	12/28/2022 2:36:00 PM
Yield	0.910					1	12/28/2022 2:36:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	OG1	
P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22120743

Date Reported: 1/9/2023

CLIENT: TEKLAB Inc,

Collection Date: 11/30/2022 1:10:00 PM

Project: 221200033

Lab ID: 22120743-010

Matrix: NON-POTABLE WATER

Client Sample ID: 221200033-0010

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					E903.0	E903-904	Analyst: HDJ
Radium-226	ND	1.00		pCi/L	± 0.11	1	12/29/2022 11:48:00 A
Yield	0.940					1	12/29/2022 11:48:00 A
RADIUM-228 (EPA 904.0)					E904.0	E903-904	Analyst: HDJ
Radium-228	1.13	1.00		pCi/L	± 0.66	1	12/28/2022 2:36:00 PM
Yield	0.900					1	12/28/2022 2:36:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	OG1	
P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22120743

Date Reported: 1/9/2023

CLIENT: TEKLAB Inc,

Collection Date: 11/30/2022 3:10:00 PM

Project: 221200033

Lab ID: 22120743-011

Matrix: NON-POTABLE WATER

Client Sample ID: 221200033-0011

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					E903.0	E903-904	Analyst: HDJ
Radium-226	ND	1.00		pCi/L	± 0.1	1	12/29/2022 11:48:00 A
Yield	0.950					1	12/29/2022 11:48:00 A
RADIUM-228 (EPA 904.0)					E904.0	E903-904	Analyst: HDJ
Radium-228	ND	1.00		pCi/L	± 0.59	1	12/28/2022 2:36:00 PM
Yield	0.840					1	12/28/2022 2:36:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	OG1	
P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22120743

Date Reported: 1/9/2023

CLIENT: TEKLAB Inc,
Project: 221200033
Lab ID: 22120743-012
Client Sample ID: 221200033-0012

Collection Date: 11/30/2022 4:30:00 PM

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					E903.0	E903-904	Analyst: HDJ
Radium-226	ND	1.00		pCi/L	± 0.13	1	12/29/2022 11:48:00 A
Yield	0.960					1	12/29/2022 11:48:00 A
RADIUM-228 (EPA 904.0)					E904.0	E903-904	Analyst: HDJ
Radium-228	1.68	1.00		pCi/L	± 0.77	1	12/28/2022 2:36:00 PM
Yield	0.880					1	12/28/2022 2:36:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)
 WO#: 22120743
 Date Reported: 1/9/2023

CLIENT: TEKLAB Inc, **Collection Date:** 11/28/2022 12:01:00 AM
Project: 221200033
Lab ID: 22120743-013 **Matrix:** NON-POTABLE WATER
Client Sample ID: 221200033-0013

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)				E903.0	E903-904	Analyst: HDJ	
Radium-226	ND	1.00		pCi/L	± 0.08	1	12/29/2022 11:48:00 A
Yield	0.940					1	12/29/2022 11:48:00 A
RADIUM-228 (EPA 904.0)				E904.0	E903-904	Analyst: HDJ	
Radium-228	1.24	1.00		pCi/L	± 0.71	1	12/28/2022 2:36:00 PM
Yield	0.900					1	12/28/2022 2:36:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	OG1	
P	Second column confirmation exceeds	PL	Permit Limit



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Analytical Report

(consolidated)

WO#: 22120743

Date Reported: 1/9/2023

CLIENT: TEKLAB Inc,

Collection Date: 11/29/2022 12:02:00 AM

Project: 221200033

Lab ID: 22120743-014

Matrix: NON-POTABLE WATER

Client Sample ID: 221200033-0014

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					E903.0	E903-904	Analyst: HDJ
Radium-226	ND	1.00		pCi/L	± 0.12	1	12/29/2022 11:48:00 A
Yield	0.940					1	12/29/2022 11:48:00 A
RADIUM-228 (EPA 904.0)					E904.0	E903-904	Analyst: HDJ
Radium-228	ND	1.00		pCi/L	± 0.55	1	12/28/2022 2:36:00 PM
Yield	0.820					1	12/28/2022 2:36:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	OG1	
P	Second column confirmation exceeds	PL	Permit Limit



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QC SUMMARY REPORT

WO#: **22120743**
09-Jan-23

Client: TEKLAB Inc,
Project: 221200033

BatchID: 61828

Sample ID: 22120743-001AMS	SampType: MS	TestCode: Radium-228_	Units: pCi/L	Prep Date: 12/22/2022	RunNo: 155815						
Client ID: 221200033-001	Batch ID: 61828	TestNo: E904.0	E903-904	Analysis Date: 12/28/2022	SeqNo: 4148612						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	4.91	1.00	5.000	0	98.2	70	130				
Yield	0.940			0.9400	0						

Sample ID: 22120743-002ADUP	SampType: DUP	TestCode: Radium-228_	Units: pCi/L	Prep Date: 12/22/2022	RunNo: 155815						
Client ID: 221200033-002	Batch ID: 61828	TestNo: E904.0	E903-904	Analysis Date: 12/28/2022	SeqNo: 4148615						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0			0	0	30	
Yield	0.880			0	0			0.9300	5.52		

Sample ID: 22120690-001ADUP	SampType: DUP	TestCode: Radium-228_	Units: pCi/L	Prep Date: 12/22/2022	RunNo: 155815						
Client ID: BatchQC	Batch ID: 61828	TestNo: E904.0	E903-904	Analysis Date: 12/28/2022	SeqNo: 4148617						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0			0	0	30	R
Yield	0.880			0	0			0.9200	4.44		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
ND	Not Detected	OG1		P	Second column confirmation exceeds
PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Original



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QC SUMMARY REPORT

WO#: 22120743
 09-Jan-23

Client: TEKLAB Inc,
Project: 221200033

BatchID: 61828

Sample ID: MB-61828	SampType: MBLK	TestCode: Radium-228_	Units: pCi/L	Prep Date: 12/22/2022	RunNo: 155815						
Client ID: PBW	Batch ID: 61828	TestNo: E904.0	E903-904	Analysis Date: 12/28/2022	SeqNo: 4148606						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0						
Yield	0.940			0	0						

Sample ID: LCS-61828	SampType: LCS	TestCode: Radium-228_	Units: pCi/L	Prep Date: 12/22/2022	RunNo: 155815						
Client ID: LCSW	Batch ID: 61828	TestNo: E904.0	E903-904	Analysis Date: 12/28/2022	SeqNo: 4148607						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	4.54	1.00	5.000	0	90.8	70	130				QLR
Yield	1.00			0	0						

Sample ID: LCSD-61828	SampType: LCSD	TestCode: Radium-228_	Units: pCi/L	Prep Date: 12/22/2022	RunNo: 155815						
Client ID: LCSS02	Batch ID: 61828	TestNo: E904.0	E903-904	Analysis Date: 12/28/2022	SeqNo: 4148608						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	5.73	1.00	5.000	0	115	70	130	4.540	23.2	20	R
Yield	0.960			0	0			1.000	4.08		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
ND	Not Detected	OG1		P	Second column confirmation exceeds
PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Original



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QC SUMMARY REPORT

WO#: 22120743
 09-Jan-23

Client: TEKLAB Inc,
Project: 221200033

BatchID: 61828

Sample ID: RLC-61828	SampType: RLC	TestCode: Radium-228_ Units: pCi/L				Prep Date: 12/22/2022	RunNo: 155815				
Client ID: BatchQC	Batch ID: 61828	TestNo: E904.0		E903-904	Analysis Date: 12/28/2022	SeqNo: 4148610					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	1.34	1.00	1.000	0	134	50	150				
Yield	0.970			0	0						

Sample ID: RLCD-61828	SampType: RLC	TestCode: Radium-228_ Units: pCi/L				Prep Date: 12/22/2022	RunNo: 155815				
Client ID: BatchQC	Batch ID: 61828	TestNo: E904.0		E903-904	Analysis Date: 12/28/2022	SeqNo: 4148611					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00	1.000	0	92.0	50	150				
Yield	0.870			0	0						

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
ND	Not Detected	OG1		P	Second column confirmation exceeds
PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Original



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QC SUMMARY REPORT

WO#: 22120743
 09-Jan-23

Client: TEKLAB Inc,
Project: 221200033

BatchID: 61828

Sample ID: MB-61828	SampType: MBLK	TestCode: Radium-226_	Units: pCi/L	Prep Date: 12/22/2022	RunNo: 155884						
Client ID: PBW	Batch ID: 61828	TestNo: E903.0	E903-904	Analysis Date: 12/29/2022	SeqNo: 4150341						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00									
Yield	0.940										

Sample ID: LCS-61828	SampType: LCS	TestCode: Radium-226_	Units: pCi/L	Prep Date: 12/22/2022	RunNo: 155884						
Client ID: LCSW	Batch ID: 61828	TestNo: E903.0	E903-904	Analysis Date: 12/29/2022	SeqNo: 4150342						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	4.70	1.00	5.000	0	94.0	70	130				QLR

Sample ID: LCSD-61828	SampType: LCSD	TestCode: Radium-226_	Units: pCi/L	Prep Date: 12/22/2022	RunNo: 155884						
Client ID: LCSS02	Batch ID: 61828	TestNo: E903.0	E903-904	Analysis Date: 12/29/2022	SeqNo: 4150343						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	6.02	1.00	5.000	0	120	70	130	4.700	24.6	20	R

Sample ID: RLC-61828	SampType: RLC	TestCode: Radium-226_	Units: pCi/L	Prep Date: 12/22/2022	RunNo: 155884						
Client ID: BatchQC	Batch ID: 61828	TestNo: E903.0	E903-904	Analysis Date: 12/29/2022	SeqNo: 4150345						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
ND	Not Detected	OG1		P	Second column confirmation exceeds
PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Original



Summit Environmental Technologies, Inc.
 3310 Win St.
 Cuyahoga Falls, Ohio 44223
 TEL: (330) 253-8211 FAX: (330) 253-4489
 Website: <http://www.settek.com>

QC SUMMARY REPORT

WO#: 22120743
 09-Jan-23

Client: TEKLAB Inc,
Project: 221200033

BatchID: 61828

Sample ID: RLC-61828	SampType: RLC	TestCode: Radium-226_	Units: pCi/L	Prep Date: 12/22/2022	RunNo: 155884						
Client ID: BatchQC	Batch ID: 61828	TestNo: E903.0	E903-904	Analysis Date: 12/29/2022	SeqNo: 4150345						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00	1.000	0	97.0	50	150				

Sample ID: RLCD-61828	SampType: RLC	TestCode: Radium-226_	Units: pCi/L	Prep Date: 12/22/2022	RunNo: 155884						
Client ID: BatchQC	Batch ID: 61828	TestNo: E903.0	E903-904	Analysis Date: 12/29/2022	SeqNo: 4150346						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00	1.000	0	92.0	50	150				

Sample ID: 22120743-001AMS	SampType: MS	TestCode: Radium-226_	Units: pCi/L	Prep Date: 12/22/2022	RunNo: 155884						
Client ID: 221200033-001	Batch ID: 61828	TestNo: E903.0	E903-904	Analysis Date: 12/29/2022	SeqNo: 4150347						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	6.32	1.00	5.000	0	126	70	130				

Sample ID: 22120743-002ADUP	SampType: DUP	TestCode: Radium-226_	Units: pCi/L	Prep Date: 12/22/2022	RunNo: 155884						
Client ID: 221200033-002	Batch ID: 61828	TestNo: E903.0	E903-904	Analysis Date: 12/29/2022	SeqNo: 4150350						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
ND	Not Detected	OG1		P	Second column confirmation exceeds
PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Original



Summit Environmental Technologies, Inc.
 3310 Win St.
 Cuyahoga Falls, Ohio 44223
 TEL: (330) 253-8211 FAX: (330) 253-4489
 Website: <http://www.settek.com>

QC SUMMARY REPORT

WO#: 22120743
 09-Jan-23

Client: TEKLAB Inc,
Project: 221200033

BatchID: 61828

Sample ID: 22120743-002ADUP	SampType: DUP	TestCode: Radium-226_	Units: pCi/L	Prep Date: 12/22/2022	RunNo: 155884						
Client ID: 221200033-002	Batch ID: 61828	TestNo: E903.0	E903-904	Analysis Date: 12/29/2022	SeqNo: 4150350						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Yield	1.00							0.9800	2.02	0	

Sample ID: 22120690-001ADUP	SampType: DUP	TestCode: Radium-226_	Units: pCi/L	Prep Date: 12/22/2022	RunNo: 155884						
Client ID: BatchQC	Batch ID: 61828	TestNo: E903.0	E903-904	Analysis Date: 12/29/2022	SeqNo: 4150352						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00						0	0	30	
Yield	0.990							0.9800	1.02	0	

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected below quantitation limits
 - ND Not Detected
 - PL Permit Limit
 - E Value above quantitation range
 - M Manual Integration used to determine area response
 - OG1
 - R RPD outside accepted recovery limits
 - H Holding times for preparation or analy
 - MC Value is below Minimum Compound
 - P Second column confirmation exceeds
 - RL Reporting Detection Limit

Original

Pg of
TEKLAB, INC. Chain of Custody
 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005
 22120743

Are the samples collected: YES NO
 Blue Bag Ice
 Preserved In: Lab Field

Teklab Inc
 5445 Horseshoe Lake Road
 Collinsville, IL 62234

Project# 221200033

Contact: Elizabeth Hurley Email: ehurley@teklabinc.com
 Requested Due Date: 20 business days or less Billing/PO: 33690

QC Level: 2

State of Origin:

Phone: (618) 344-1004 ext.

Comments: **Please issue reports and invoices via email only**
 Please analyze for Radium (226 and 228) by method EPA903.0/904.0 on your standard turnaround time.
 Batch QC is required with the report. Receipt summary requested.

PLEASE NOTE
 NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately.
 Any changes to analysis/methods must be approved by Teklab, Inc.

Lab Use	Sample ID	Sample Date/Time	Matrix	Radium 226	Radium 228	CPM/F	pH												
	22120033-001	11/28/22 10:30	HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	19	11												
	22120033-002	11/28/22 11:55	HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	23	11												
	22120033-003	11/28/22 13:25	HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	25	11												
	22120033-004	11/28/22 15:10	HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	19	11												
	22120033-005	11/29/22 09:15	HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	23	11												
	22120033-006	11/29/22 13:30	HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	23	11												
	22120033-007	11/28/22 15:10	HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	21	11												
	22120033-008	11/30/22 09:35	HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	21	11												
	22120033-009	11/30/22 11:10	HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	23	11												
	22120033-010	11/30/22 13:10	HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	23	11												
	22120033-011	11/30/22 15:10	HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	21	11												

*Relinquished By: Date/Time: 12/2/22 4:24 pm Received By: Date/Time: 12/9/22 1000

Teklab maintains a strict policy of client confidentiality and as such does not provide client/sampler information without proper authorization, and proprietary rights. Teklab, Inc. protects clients' confidential information as directed by local, state or federal laws. (Teklab QAM Section 9.1, TNI V1 M2 Section 4.1.5 c) SubCocRevA 17-9+0.3=18.2

TEKLAB, INC. Chain of Custody

5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Are the samples cleaned? YES NO Blot Lab Field

Teklab Inc
5445 Horseshoe Lake Road
Collinsville, IL 62234

Project# 221200033

Contact: Elizabeth Hurley
Requested Due Date: 20 business days or less

Sampler: Client
Cooler Temp. QC Level: 2

Comments: **Please issue reports and invoices via email only**

Please analyze for Radium (226 and 228) by method EPA903.0/904.0 on your standard turnaround time.

Batch QC is required with the report. Receipt summary requested.

Email: ehurley@TeklabInc.com

State of Origin:

Phone: (618) 344-1004 ext.

PLEASE NOTE:

NELAP accreditation is required on the requested analytes and must be documented as such on the final report. If your laboratory does not currently hold a NELAP accreditation for the requested method and/or analytes, please contact Teklab immediately. If your laboratory loses accreditation or is suspended for any analyte/method during the life of the contract, you must contact Teklab immediately. Any changes to analysis/methods must be approved by Teklab, Inc.

Lab Use	Sample ID	Sample Date/Time	Matrix	Radium 226	Radium 228															
	22120033-012	11/30/22 16:30	HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
	22120033-013	11/28/22 00:01	HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
	22120033-014	11/29/22 00:02	HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
			HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
			HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
			HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
			HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
			HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
			HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
			HNO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															

Relinquished By	Date/Time	Received By	Date/Time
<i>[Signature]</i>	12/2/22	<i>[Signature]</i>	1-24-22

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Sample Log-In Check List

Client Name: **TEK-IL-62234-A**

Work Order Number: **22120743**

RcptNo: **1**

Logged by:	Christina N. Gemma	12/9/2022 12:00:00 PM	
Completed By:	Tegan A. Richards	12/12/2022 4:19:25 PM	
Reviewed By:	Jennifer Woolf	12/13/2022 1:09:40 PM	

Chain of Custody

- Were seals intact? Yes No Not Present
- Is Chain of Custody complete? Yes No Not Present
- How was the sample delivered? FedEx

Log In

- Coolers are present? Yes No NA
- Was an attempt made to cool the samples? Yes No NA
- Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
- Sample(s) in proper container(s)? Yes No
- Sufficient sample volume for indicated test(s)? Yes No
- Are samples (except VOA and ONG) properly preserved? Yes No
- Was preservative added to bottles? Yes No NA
- Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes No No VOA Vials
- Were any sample containers received broken? Yes No
- Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes No
- Are matrices correctly identified on Chain of Custody? Yes No
- Is it clear what analyses were requested? Yes No
- Were all holding times able to be met? (If no, notify customer for authorization.) Yes No

Special Handling (if applicable)

- Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

- Additional remarks:
 IL per email
 state not included

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
cooler	18.2	Good	Not Present			

**ERM has over 160 offices across more 40
countries and territories worldwide**

ERM St. Louis

1968 Craig Rd. Suite 100
St. Louis, MO 63146

T: 314.733.4490

www.erm.com



Rockland Capital, LLC

2022 Grand Tower Energy Center Annual Inspection Report

26 July 2023

Project No.: 0599247

Signature Page

26 July 2023

2022 Annual Inspection Report



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



Matt Halley, CHMM
Senior Consultant

ERM
1968 Craig Road | Suite 100 | St. Louis, MO 63146

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 3.2 Second Quarter 2022 Inspection Summary 1

 3.3 Third Quarter 2022 Inspection Summary 1

 3.4 Fourth Quarter 2022 Inspection Summary 2

APPENDIX A 2022 QUARTERLY CCR IMPOUNDMENT INSPECTION REPORTS

1. INTRODUCTION

Environmental Resources Management (ERM) Inc. is submitting the 2022 Annual Inspection Report in accordance with 35 Illinois Administrative Code (IAC) §845.550(a)(2) for the Grand Tower Energy Center (GTEC) facility located at 1820 Power Plant Rd, Grand Tower, Illinois (the "Site"). This report summarizes the results and findings of the GTEC quarterly post-closure coal combustion residuals (CCR) Impoundment inspection events during 2022. Copies of each CCR Impoundment inspection event, each of which contains an inspection form, a figure markup, and a photolog, for all four quarters of 2022, are attached as Appendix A.

2. BACKGROUND

GTEC historically operated as a merchant facility which sold energy into the Midcontinent Independent System Operator (MISO) distribution system and has been idled since late 2020. The immediate project site, south of the idled power generation facility, consists of an approximately 21-acre area consisting of an impoundment and associated drainage basin. The GTEC CCR Impoundment was capped and closed in 2020, and is subject to USEPA 40 CFR 257 and IEPA 35 IAC 845, as applicable. Approximately 235,000 cubic yards of CCR materials are present in the closed impoundment. These materials have been excavated, consolidated, and covered by a 40-mil LLDPE liner, cover soil, and geotextile liner which covers a 14-acre footprint within the site.

3. KEY ACTIONS COMPLETED DURING 2022

3.1 First Quarter 2022 Inspection Summary

Ponding was noted along the fence line on the northeast side of the impoundment, as well as within the drainage basin southwest of the impoundment. Minor erosion, under 6-inch deep, was noted across the north, west, and southern CCR impoundment cap faces. Erosion and fence undermining was observed on the east side of the Site along the perimeter fence. A slumped area was discovered on the western face of the United States Army Corps of Engineers (USACE) levee on the eastern side of the Site. No significant degradation or other issues were noted associated with the closed CCR impoundment cover system. The ERM CCR Impoundment Inspector recommended addressing erosion and fence undermining along the perimeter fence and repairing the slumped area of the USACE levee.

3.2 Second Quarter 2022 Inspection Summary

Erosion and fence undermining similar to first quarter 2022 was again noted along the eastern perimeter fence, and the USACE levee was found to be in the same condition as first quarter 2022, with a slumped area on the western face. Minor erosion up to 6-inches deep was again noted across the north, west, and southern CCR impoundment cap faces. Backwater of the Mississippi River was noted to be present within the southwest corner of the drainage basin. The overall condition of the impoundment was generally similar to that observed during the first quarter 2022, within no significant degradation or issues with the closed CCR impoundment cover system noted. As was the case during the first quarter 2022, the ERM CCR Impoundment Inspector recommended addressing erosion and fence undermining along the perimeter fence and repairing the slumped area of the USACE levee.

3.3 Third Quarter 2022 Inspection Summary

Repairs to the USACE levee, as well as the erosion and undermining along the eastern perimeter fence were found to be underway during the third quarter 2022 CCR impoundment inspection. Minor erosion up to 6-inches deep continued to be noted along the north, west, and southern CCR impoundment cap faces. Growth of a limited amount of woody vegetation under 1-inch in diameter was noted to be growing within the riprap that surrounds the CCR impoundment on three sides.

Ponding was noted within the southwest corner of the drainage basin. The impoundment cap was mowed during the third quarter of 2022. No significant degradation or issues with the closed CCR impoundment cover system were otherwise noted. The ERM CCR Impoundment Inspector recommended the removal of the woody vegetation growth.

3.4 Fourth Quarter 2022 Inspection Summary

During the fourth quarter 2022 CCR impoundment inspection, the USACE levee was found to be repaired and in good condition. The erosion and fence undermining along the eastern perimeter fence noted since the first quarter of 2022 was also found to be repaired. Minor erosion up to 9-inches deep was noted on the eastern and northern CCR impoundment cap faces. Growth of a limited but increasing amount of woody vegetation (up to 1-inch in diameter) within the riprap on the north, west, and southern impoundment cap faces was observed. Ponding was noted within the southwest corner of the drainage basin. No significant degradation or issues with the closed CCR impoundment cover system were otherwise noted. As during the fourth quarter of 2022, the ERM CCR Impoundment Inspector recommended the removal of the woody vegetation growth, as well as the repair of erosional channels on the north and western faces of the CCR impoundment cap.

APPENDIX A

**2022 QUARTERLY CCR IMPOUNDMENT INSPECTION
REPORTS**



Grand Tower Energy Center
Closed CCR Landfill
Quarterly Inspection Form

Date 3/22/22
Time 1100
Name Matt Halley
(Inspector)

Weather:

Temperature:

45 deg. F

Sunny

Cloudy

Raining

Other

Observations:

Erosion / Gullies

Cracking / Sloughing

Seeps / Damp Areas

No Problems Identified

Woody Vegetation Growth

Other

Undermining of Landfill Fencing

Conditions Limiting Visibility:

Snow Cover

Vegetation

None

Other

Light Rainfall/Mist

Observations in Detail Below:

- Onsite for the inspection of US Army Corps of Engineers (COE) Levee and quarterly inspection.

Slumping on the COE levee near the SE side of the site was documented (see figure).

- Erosion and fence undermining noted on east side of CCR impoundment cap (see figure). Ponding noted in

NE area along GTEC levee. Limited area of erosion noted on NE side of CCR impoundment cap. No woody

growth noted at this time. Minor erosion noted across north, west, and southern CCR impoundment cap faces

up to 6" deep. Ponding noted in basin at the SW corner of site. CCR impoundment cap liner remains intact.

- Inspector recommends addressing erosion and fence undermining on east side of the site by adding soil

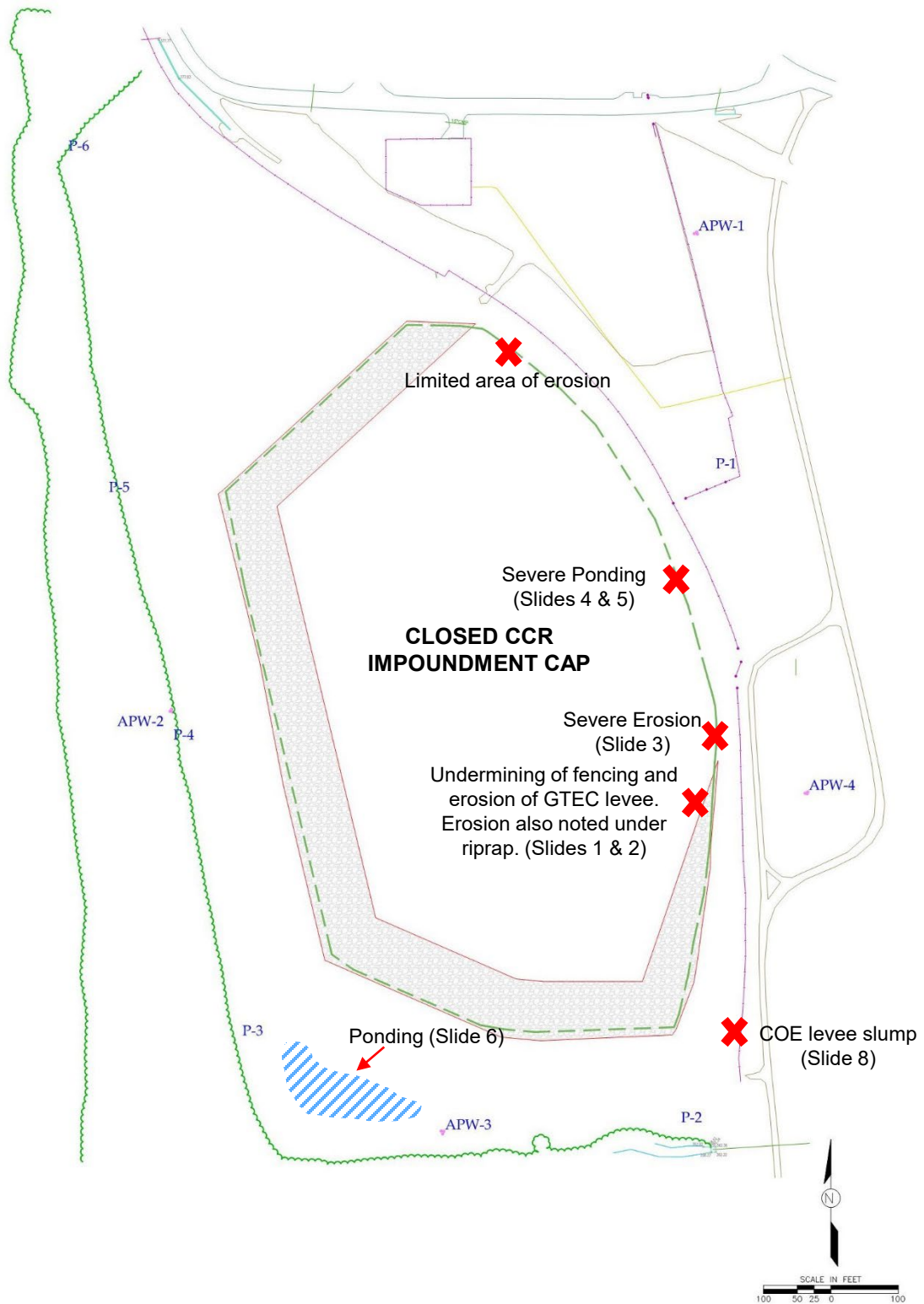
and riprap around undermined fencing and on the eroded face of GTEC levee as determined by qualified

personnel. Inspector also recommends repair of the slumped area of the Army Corps of Engineers levee in

accordance with applicable regulations, and backfill or grading to address ponding on NE side of site.

Please see observation locations on
figure on the following page.

Observation Locations Map



Grand Tower Energy Center Q1 2022 Closed CCR Impoundment Cap Inspection

Fence undermining and GTEC levee erosion on SE side of closed CCR impoundment cap.



Fence undermining and GTEC levee erosion on SE side of closed CCR impoundment cap.



GTEC levee erosion and riprap undermining on SE side of closed CCR impoundment cap.



Ponding on NE side of closed CCR impoundment cap along GTEC levee (looking north).



Ponding on NE side of closed CCR impoundment cap along GTEC levee (looking south).



Ponding in SW corner of site at drainage.

Mar 22, 2022 at 10:33:46 AM



Closed CCR impoundment cap condition looking north from top center and the western face of cap.

Mar 22, 2022 at 10:32:07 AM



Mar 22, 2022 at 10:29:58 AM

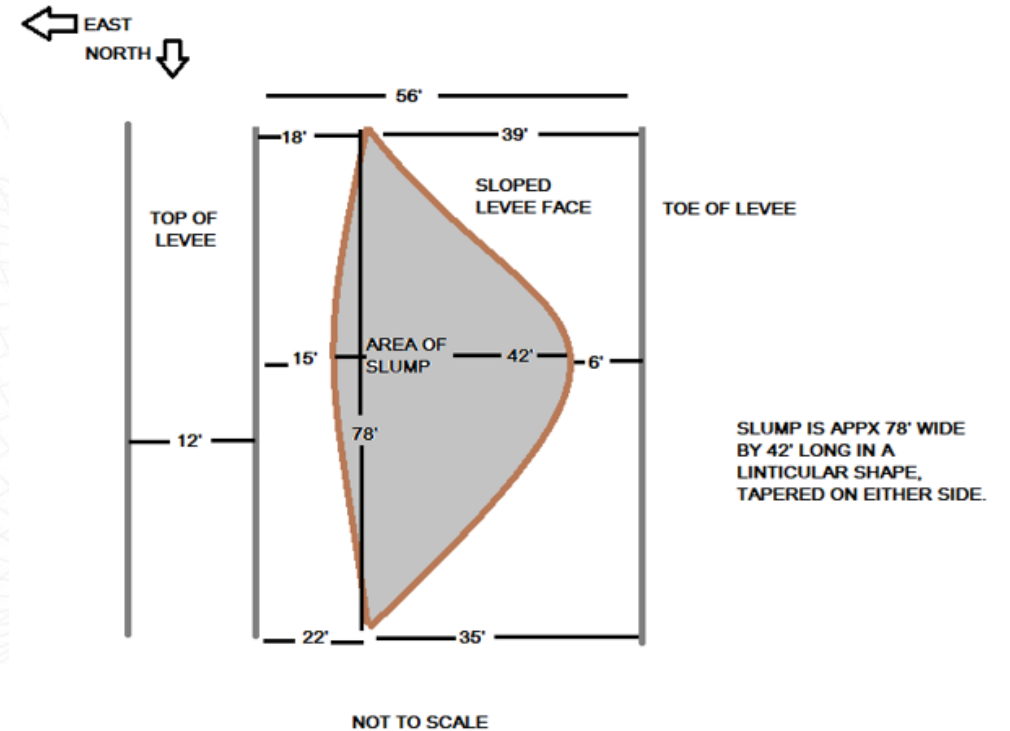


Army Corps of Engineers Levee Slump

Facing east toward COE levee.



General dimensions of slumped area





Grand Tower Energy Center Closed CCR Impoundment Quarterly Inspection Form

Date	<u>6/14/22</u>
Time	<u>1100-1400</u>
Name	<u>Matt Halley</u> (Inspector)

Weather:

Temperature:

95 deg. F

- Sunny
- Cloudy
- Raining
- Other

Observations:

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

Conditions Limiting Visibility:

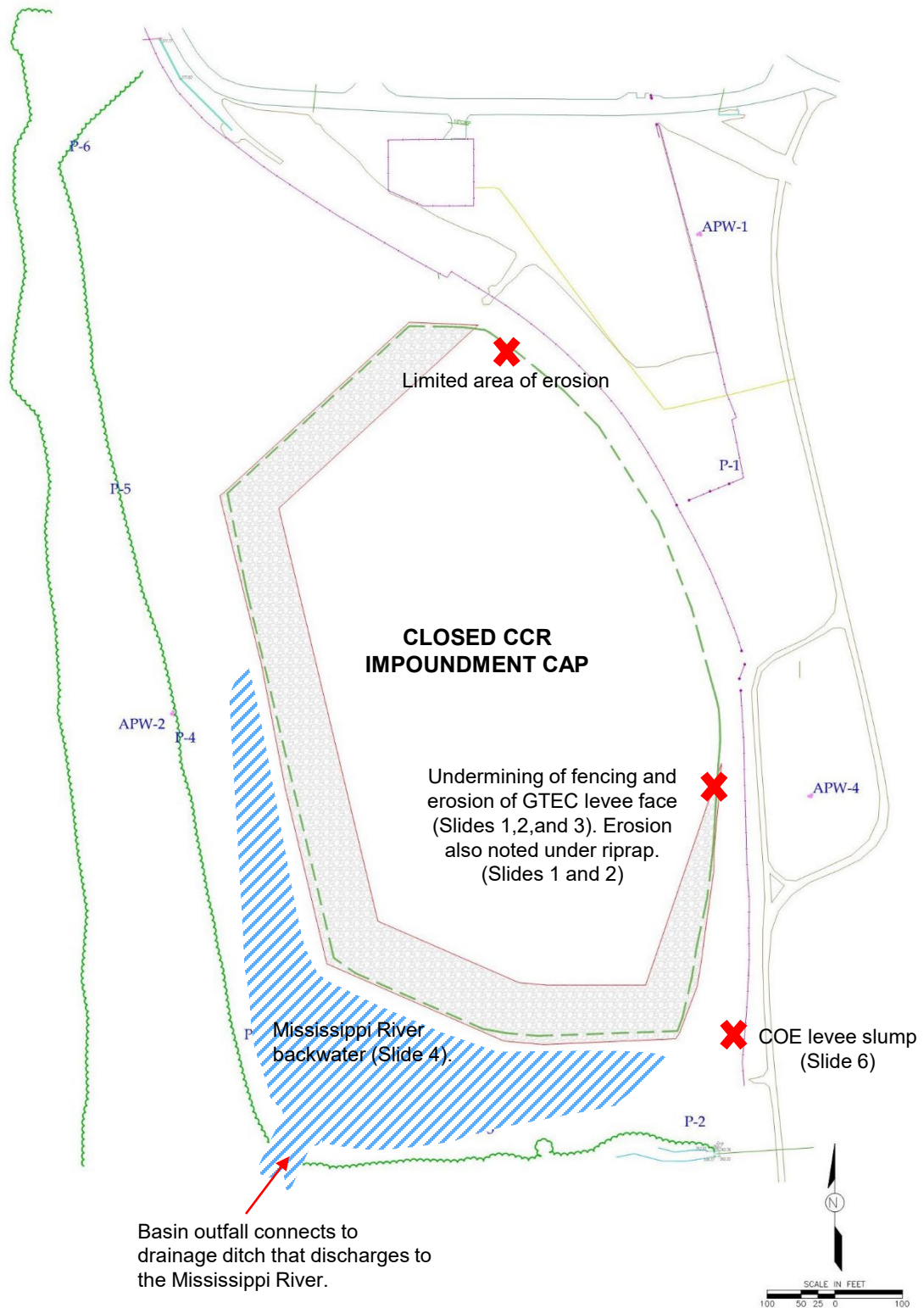
- Snow Cover
- Vegetation
- None
- Other

Undermining of Impoundment Perimeter Fencing**Observations in Detail Below:**

- ERM onsite for the Q2 impoundment inspection and ground water sampling event.
- The U.S. Army Corps of Engineers (USACE) Levee was found to be in the same condition as Q1 (see Q1 GTEC Impoundment Inspection Report). Slumping on west face of levee noted.
- Erosion and fence undermining continues to be noted on east/SE side of site (see figure). Limited area of erosion noted on NE side of CCR impoundment adjacent to basin access ramp. No woody growth noted at this time. Minor erosion noted across north, west, and southern CCR impoundment cap faces up to 6" deep.
- Backwater of the Mississippi River noted in SW corner of the basin.
- Overall impoundment condition was found to be similar to Q1 2022.
- Inspector recommends addressing erosion and fence undermining on east side of the site by adding soil and riprap around undermined fencing and on the eroded face of GTEC levee. Inspector also recommends repair of the slumped area of the USACE levee in accordance with applicable regulations.

Please see observation locations on figure on the following page.

Observation Locations Map



Grand Tower Energy Center Q2 2022 Closed CCR Impoundment Cap Inspection

Fence Undermining, Riprap Undermining, and GTEC Levee Erosion on the SE Side of Closed CCR Impoundment Cap.



Fence Undermining, Riprap Undermining, and GTEC Levee Erosion on the SE Side of Closed CCR Impoundment Cap.



Close-up of exposed GTEC levee material.



Undermined fenceline and riprap.

Fence Undermining on the SE Side of Closed CCR Impoundment Cap.



Facing north along fenceline.



Facing south along fenceline.

Mississippi River Backwater in the SW Corner of Site.



Mississippi River backwater in CCR impoundment drainage basin.



Mississippi River backwater connected to basin through drainage channel.

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

Closed CCR Impoundment Cap.



Looking west from Army Corps of Engineers Levee.



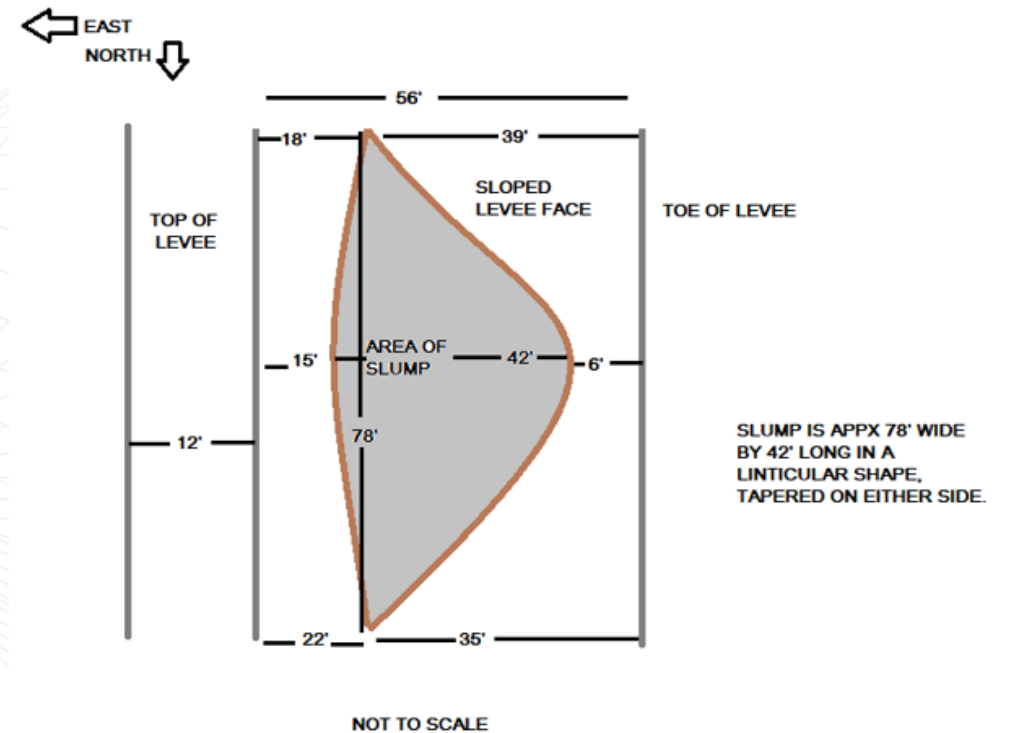
Impoundment cap top surface.

Army Corps of Engineers Levee Slump



Close-up of slumped area.

General dimensions of slumped area





Grand Tower Energy Center Closed CCR Impoundment Quarterly Inspection Form

Date	<u>9/13/22</u>
Time	<u>1100-1400</u>
Name	<u>Matt Halley</u> (Inspector)

Weather:

Temperature:

80 deg. F

- Sunny
- Cloudy
- Raining
- Other

Observations:

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

Conditions Limiting Visibility:

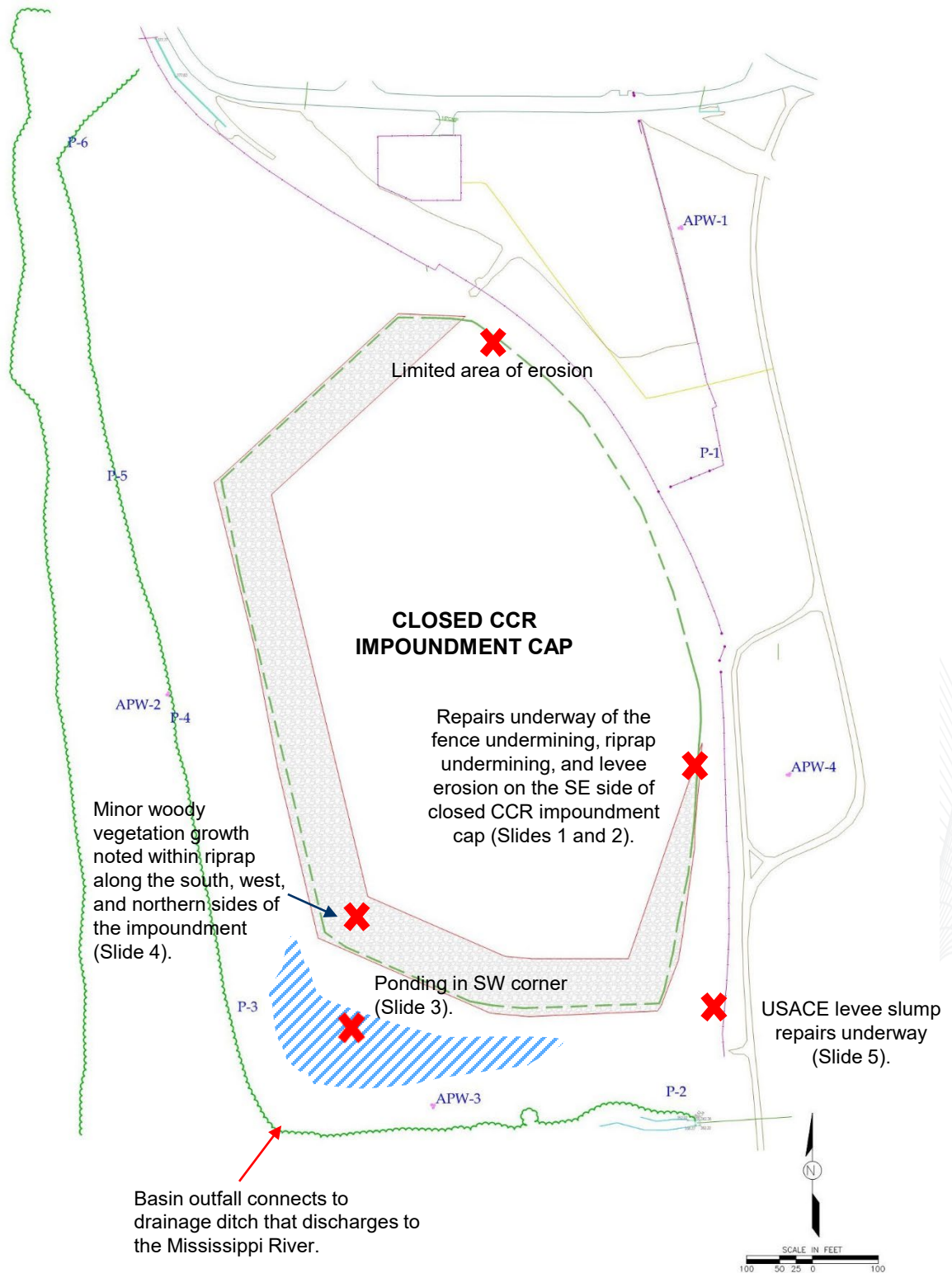
- Snow Cover
- Vegetation
- None
- Other

Observations in Detail Below:

- ERM onsite for the Q3 impoundment inspection and ground water sampling event.
- Repair of the U.S. Army Corps of Engineers (USACE) Levee to address slumping of the levee face noted in the Q1 and Q2 2022 inspection reports was underway as of 9/13/22 (see figure and photos).
- Repairs of the erosion and fence undermining on the east/SE side of site noted in the Q1 and Q2 2022 inspection reports was underway as of 9/13/22 (see figure and photos).
- Minor erosion noted across north, west, and southern CCR impoundment cap faces up to 6" deep.
- Growth of a limited amount of woody vegetation (under 1" diameter) within the riprap on the north, west, and southern impoundment cap faces was observed.
- Ponding noted in SW corner of the basin. Limited area of erosion at northern end of impoundment.
- Impoundment cap was mowed during Q3 of 2022 and found to be in generally good condition.
- Inspector recommends removal of woody vegetation growth and followup monitoring of repaired areas.

Please see observation locations on figure on the following page.

Observation Locations Map



Grand Tower Energy Center Q3 2022 Closed CCR Impoundment Cap Inspection

Repairs underway of the Fence Undermining, Riprap Undermining, and Levee Erosion on the SE Side of Closed CCR Impoundment Cap



Facing south along recently repaired fenceline area.

Repairs underway of the Fence Undermining, Riprap Undermining, and Levee Erosion on the SE Side of Closed CCR Impoundment Cap



Facing north towards impoundment cap – repairs of fence undermining and riprap visible.



Facing southwest towards impoundment cap – repairs of fence undermining, levee, and riprap visible.

Ponding in the SW Corner of Site



Facing east from southwest corner of site across ponded area.

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

Closed CCR Impoundment Cap



Southwest corner of the impoundment cap with limited woody growth (under 1" diameter) within riprap. Minor woody growth found within riprap along south, west, and northern sides of the impoundment.



Recently mowed impoundment cap top surface facing south.

U.S. Army Corps of Engineers (USACE) Levee Slump Repair



Repair of levee (both USACE and GTEC sections) underway as of 9/13/22 (facing east).



Facing north along levee.



Grand Tower Energy Center Closed CCR Impoundment Quarterly Inspection Form

Date	<u>11/28/22</u>
Time	<u>1100-1300</u>
Name	<u>Matt Halley</u> (Inspector)

Weather:

Temperature:

50 deg. F

- Sunny
- Cloudy
- Raining
- Other

Observations:

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

Conditions Limiting Visibility:

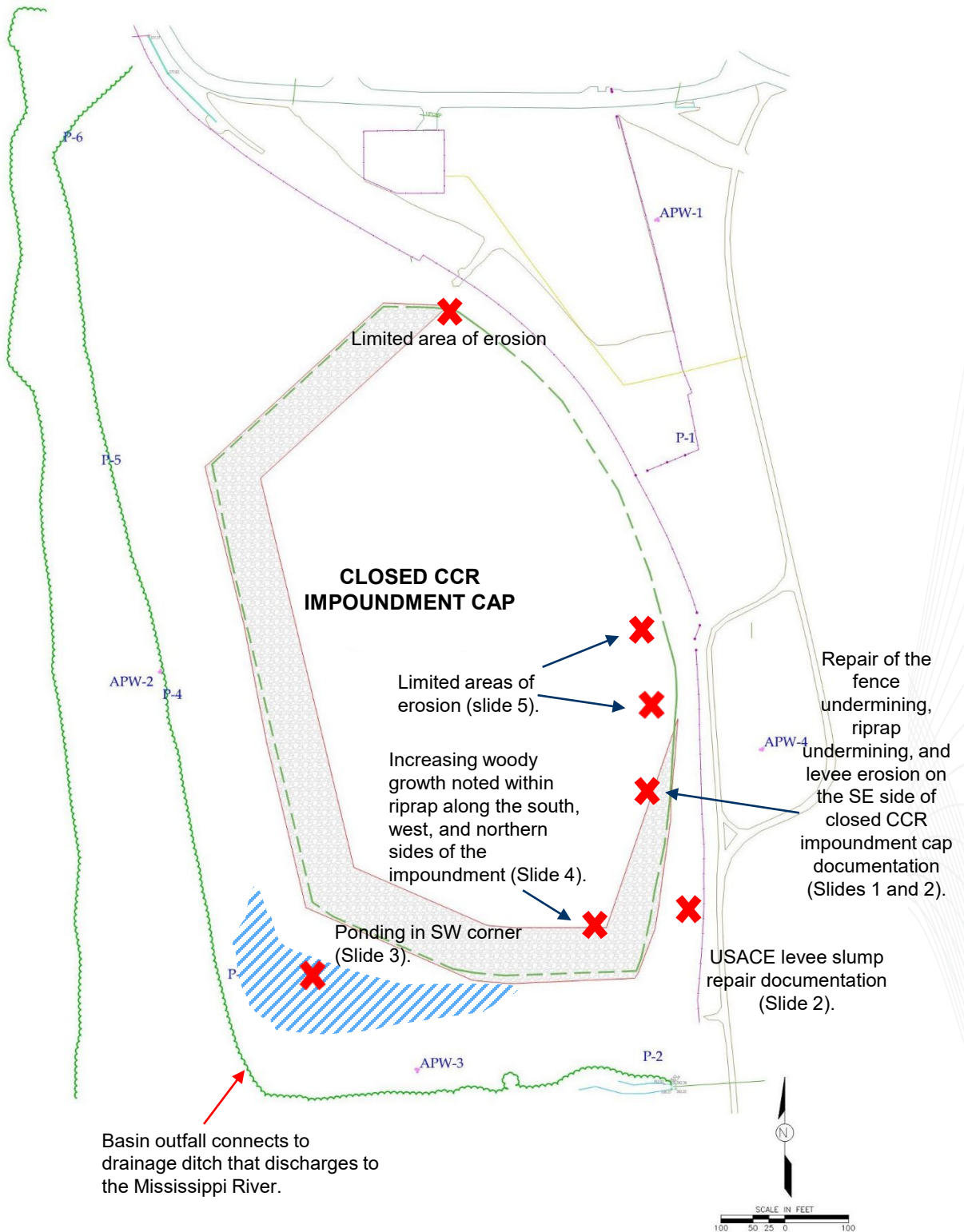
- Snow Cover
- Vegetation
- None
- Other

Observations in Detail Below:

- ERM onsite for the Q4 impoundment inspection and groundwater sampling event.
- Repair of the U.S. Army Corps of Engineers (USACE) Levee to address slumping of the levee face was documented (see figure and photos).
- Repairs of the erosion and fence undermining on the east/SE side was documented (see figure and photos).
- Post-repair erosion control measures (straw matting) on USACE levee has partially become detached.
- Limited erosion noted on eastern and northern CCR impoundment cap faces up to 9" deep.
- Growth of a limited but increasing amount of woody vegetation (up to 1" diameter) within the riprap on the north, west, and southern impoundment cap faces was observed.
- Ponding noted in SW corner of the basin.
- Impoundment cap was mowed during Q3 of 2022 and found to be in generally good condition.
- Inspector recommends removal of woody growth, repair of erosional channels, and re-installing straw matting.

Please see observation locations on figure on the following page.

Observation Locations Map



Grand Tower Energy Center Q4 2022 Closed CCR Impoundment Cap Inspection

Repairs to the Fence Undermining, Riprap Undermining, and Levee Erosion on the SE Side of Closed CCR Impoundment Cap



Facing south along the repaired fenceline and levee area.
Note: straw matting from repaired levee face has become partially detached and deposited at the bottom of the slope.

Repairs to the Fence Undermining, Riprap Undermining, and Levee Erosion on the SE Side of Closed CCR Impoundment Cap



Facing north towards impoundment cap – repairs of fence undermining, riprap undermining, and United States Army Corps of Engineers (USACE) levee section are visible.



Facing northeast towards repaired section of USACE levee.

Ponding in the SW Corner of Site



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

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

Woody Growth Observations

Southern face of impoundment cap with woody growth (up to 1" diameter) within riprap. Increasing woody growth found within riprap along south, west, and northern sides of the impoundment.



Erosional Channel Observations



Erosional channel up to 9" deep. Facing east from center-east side of impoundment cap.



Erosional channel up to 9" deep. Facing east on southeast side of impoundment cap.

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