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2023 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

BYPRODUCT STORAGE AREA, C.D. MCINTOSH POWER PLANT

Prepared for

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Project FR3715F

January 10, 2024

Geosyntec consultants

2023 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

Byproduct Storage Area, C.D. Mcintosh Power Plant

This 2023 Annual Groundwater Monitoring and Corrective Action Report for the Byproduct Storage Area at C.D. McIntosh Power Plant has been prepared to meet the requirements of 40 Code of Federal Regulations §257.90(e)

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Project Number: FR3715F

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EXECUTIVE SUMMARY

In accordance with the United States Environmental Protection Agency ("USEPA") coal combustion residuals ("CCR") rule (40 Code of Federal Regulations ("CFR") Part 257, Subpart D: Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments) ("CCR Rule"), this *2023 Annual Groundwater Monitoring and Corrective Action Report* documents CCR unit groundwater monitoring and corrective action activities completed in 2023 at the Lakeland Electric ("LE") C.D. McIntosh Power Plant ("MPP") Byproduct Storage Area ("BSA").

LE established a CCR unit groundwater monitoring well network to monitor groundwater quality within the uppermost aquifer in the vicinity of the BSA. Monitoring wells currently in the CCR unit groundwater monitoring well network are listed below:

- background wells (2): CCR-1 and CCR-2;
- downgradient wells (9): CCR-4, CCR-5, CCR-6, CCR-7, CCR-8, CCR-9, CCR-11, CCR-12, and CCR-13.

Statistical evaluation of CCR unit groundwater monitoring data collected through October 2017 identified statistically significant increases ("SSIs") of certain CCR Rule Appendix III groundwater monitoring constituents above background concentrations – boron, calcium, fluoride, pH, sulfate, and total dissolved solids ("TDS"). In accordance with the CCR Rule, LE initiated an assessment monitoring program for the BSA in April 2018 and continued assessment monitoring activities through 2023. LE completed an alternate source demonstration ("ASD") for total radium in June 2019 documenting that total radium statistically significant levels ("SSLs") are not associated with a release from the BSA. As a result of the ASD, groundwater samples have not been analyzed for total radium thereafter.

LE initiated an assessment of corrective measures ("ACM") in January 2019 which was completed in June 2019. In 2021, LE continued to evaluate groundwater corrective measures to support remedy selection for groundwater downgradient of the BSA. LE conducted the public meeting required in 40 CFR §257.96(e) on February 3, 2021. Following receipt of public input, LE finalized the remedy selection report for the BSA on March 31, 2021, which documented a remedy consisting of source control, including beneficial off-site use of CCR, and capping and closing the BSA in place following shutdown of Unit No. 3. Until the remedy is in place, LE will continue cleaning and maintaining the perimeter stormwater ditch to remove residual CCR.

Sampled collected during the first 2023 semi-annual assessment monitoring event (conducted in February) and the second 2023 semi-annual monitoring event (conducted in August) were analyzed for CCR Rule Appendix III and Appendix IV constituents. Appendix IV analytical data from the first and second semi-annual 2023 sampling events were evaluated in accordance with the *Statistical Analysis Plan* (Golder, 2017b).

The analyses indicated SSLs above applicable groundwater protection standards of the following Appendix IV constituents:

SSL Constituent	Semi-annual assessment monitoring events			
	1st Semi-annual 2023		2nd Semi-annual 2023	
Arsenic	CCR-11	CCR-12	CCR-11	CCR-12
Lithium	CCR-4 CCR-6	CCR-5 CCR-13	CCR-4 CCR-6	CCR-5 CCR-13

SSLs observed in 2023 were generally consistent with those observed in 2022 except that lithium is no longer an SSL at CCR-9.

LE continued evaluating the nature and extent (N&E) of arsenic and lithium SSLs in groundwater downgradient of the BSA. Delineation activities completed in 2023 included the first and second semi-annual sampling of N&E monitoring wells CCR-15 through CCR-23, property boundary well SW-106, and sampling surface water from Fish Lake and Lake D to evaluate the nature and extent of SSL constituents.

In September 2022, LE applied to the Florida Department of Environmental Protection ("FDEP") to close the BSA pursuant to Rule 62-701.805(11) and 62-701.805(8), Florida Administrative Code. The FDEP issued Permit Number 0425997-001-CP-01 to close the BSA on August 18, 2023.

On August 18, 2023, FDEP issued Permit Number 0425997-001-CP-01 to close the BSA pursuant to Rule 62-701.805(11) and 62-701.805(8), Florida Administrative Code. Following receipt of the closure permit, LE completed an engineering design for closure of the BSA and issued a request for proposal to qualified subcontractors for closure construction. LE anticipates initiating closure of the BSA in 2024. In the interim, LE maintains the BSA and perimeter ditch as needed.

Groundwater assessment monitoring will continue in 2024.

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1. INTRODUCTION

1.1 Overview

On behalf of Lakeland Electric ("LE"), Geosyntec Consultants, Inc. ("Geosyntec") prepared this *2023 Annual Groundwater Monitoring and Corrective Action Report* for the Byproduct Storage Area ("BSA") at the C.D. McIntosh Jr. Power Plant ("MPP" or "Site"). The purpose of this report is to present a summary of coal combustion residuals ("CCR") unit groundwater monitoring activities conducted in 2023 in accordance with the annual reporting requirements of the United States Environmental Protection Agency ("USEPA") CCR rule (40 Code of Federal Regulations Part 257 ("CFR"), Subpart D: Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments) ("CCR Rule"), Section 257.90(e). In addition, this report describes the status of corrective actions being undertaken at the CCR unit to address statistically significant levels ("SSLs") of CCR Rule Appendix IV constituents.

The Site is located at 3030 East Lake Parker Drive in Lakeland, Florida and is bordered by undeveloped lakes and marsh land to the north and east and Lake Parker to the south and west (**Figure 1**). The undeveloped lakes and marsh land were created from phosphate mining in the late 1960s to early 1970s. The BSA is in the eastern portion of the Site and encompasses approximately 44 acres.

1.2 Regional Geology & Hydrogeologic Setting

The regional geology and hydrogeology were presented in the *2019 Assessment of Corrective Measures Report* and *2019 Annual Groundwater Monitoring and Corrective Action Report* (Golder, 2019a and b, respectively). A brief summary is included here. Geologic units present near the MPP include (in descending order; youngest to oldest):

- Holocene to Pliocene-age sands and clays up to 25 feet thick occur in the Lakeland area (Florida Geological Survey, 1991).
- The clayey-sand soils of the Miocene to Oligocene-age Hawthorn Group underly the Holocene to Pliocene sands with an approximate thickness of 40 to 60 ft in the vicinity of the MPP (Cathcart, 1964).
- Older units, comprised primarily of limestone and/or dolostone, underlying the Hawthorn group in the region include the Suwannee Limestone, Ocala Limestone, Avon Park Formation, and Oldsmar Formation.

The regional and Site-specific hydrogeology is comprised of three major hydrostratigraphic units: the unconfined surficial aquifer, the intermediate aquifer/confining unit, and the Floridan aquifer. The surficial aquifer represents the "uppermost aquifer" as defined in the CCR Rule. Groundwater flow in the surficial aquifer at the Site generally flows from topographic highs to topographic lows discharging to the numerous lakes surrounding the Site (Golder, 2005). Groundwater in the vicinity of the BSA has been observed to flow semi-radially away from the BSA, with flow to the west toward Fish Lake, and to the east toward Lakes C and D. There is a lesser component of groundwater flow in the surficial aquifer that is vertically downgradient

toward the intermediate confining unit and Floridan aquifer. This vertical flow component is restricted by the clayey materials of the intermediate confining unit.

1.3 CCR Unit and Groundwater Monitoring System Descriptions

The BSA CCR unit encompasses approximately 44 acres, but no longer receives CCR. Pursuant to the CCR Rule, LE installed a CCR unit groundwater monitoring system around the BSA to monitor groundwater within the uppermost aquifer at the Site (Golder, 2017a). Background monitoring wells were installed upgradient of the Site to establish Site-wide background water quality. The downgradient monitoring well network was installed at the waste boundary. The BSA groundwater monitoring network is comprised of the following wells:

- background wells (2): CCR-1 and CCR-2;
- downgradient wells (9): CCR-4, CCR-5, CCR-6, CCR-7, CCR-8, CCR-9, CCR-11, CCR-12, and CCR-13.

CCR-3, CCR-10, and CCR-14 were removed from the CCR unit monitoring well network in 2021 following five or more semi-annual groundwater monitoring events prior to January 2021 with no CCR constituent concentrations above CCR Rule groundwater protection standards ("GWPS"). These wells are not needed to evaluate the nature and extent of CCR constituents at other wells and are utilized as piezometers to supplement groundwater flow interpretations.

In February 2019, LE installed delineation wells (CCR-15 through CCR-23) to evaluate the nature and extent (N&E) of SSL constituents (Golder, 2019b). In June 2019, LE completed an alternate source demonstration ("ASD") for total radium documenting that total radium SSLs are not associated with a release from the BSA (see Section 5.0 for additional details regarding the total radium ASD). As a result of the total radium ASD, groundwater samples have not been analyzed for total radium. In 2023, LE sampled the delineation wells around the BSA, the downgradient property boundary well (SW-106), Fish Lake, and Lake D. These samples were analyzed for CCR Rule Appendix IV constituents (except for radium since an ASD established that radium is from a source other than the CCR unit).

Monitoring well details, including installation dates, coordinates, elevations, screen intervals, and designations are summarized in **Table 1**. The CCR unit groundwater monitoring network and delineation wells for the BSA are depicted on **Figure 2.**

2. WATER MONITORING ACTIVITIES

The following section describes the methods used to conduct CCR unit groundwater monitoring at the BSA, including groundwater level gauging and sampling of monitoring wells and surface water bodies. Groundwater and surface water monitoring activities were conducted in general accordance with FDEP Standard Operating Procedures (SOPs) for Field Activities dated January 2017 (effective April 2018).

2.1 Monitoring Well Installation, Maintenance, and Abandonment

Monitoring wells installed at the BSA are routinely maintained to confirm the wells can accurately monitor groundwater conditions at the BSA.

2.2 Groundwater Elevation Measurement

Prior to each semi-annual sampling event, the depth to groundwater was recorded at CCR unit groundwater monitoring wells, delineation wells, and piezometers within a 24-hour period.

2.3 Groundwater and Surface Water Sampling

Groundwater and surface water at the BSA was monitored on a semi-annual basis in 2023. The first semi-annual assessment monitoring event was conducted in February 2023, and the second semi-annual monitoring event was conducted during August 2023.

During the 2023 semi-annual assessment monitoring events, groundwater samples were collected from CCR unit monitoring wells, select nature and extent ("N&E") monitoring wells (CCR-15 through CCR-23 and SW-106), and select surface water bodies (Fish Lake and Lake D) to assess the N&E of lithium and arsenic (i.e., constituents with SSLs). Monitoring well locations and surface water bodies are shown on **Figure 2**.

Water quality parameters (pH, conductivity, dissolved oxygen, temperature, and turbidity) were documented during well purging to evaluate stabilization prior to sample collection. Following sample collection, samples were placed in ice-packed coolers and submitted for laboratory analysis following chain-of-custody protocol.

Samples were analyzed for Appendix III and Appendix IV constituents (except for radium since an ASD established that radium is from a source other than the CCR unit).

2.4 Statistical Methods

Statistical analysis of Appendix IV constituents was performed on CCR unit groundwater monitoring data collected during the 2023 semi-annual assessment monitoring events in accordance with the *Statistical Analysis Plan* (Golder, 2017b). The *Statistical Analysis Plan* (SAP) describes Site-specific statistical methods that were used to evaluate CCR unit groundwater data. In accordance with the CCR Rule, GWPS for Appendix IV constituents were established. In 2023, Site-specific GWPS were updated in accordance with the timeline outlined in the SAP and are presented in **Table 6**.

To evaluate SSLs of Appendix IV constituents, a confidence interval approach was used to evaluate if downgradient groundwater concentrations were above the GWPS at statistically

significant levels. As recommended in the *Statistical Analysis of Groundwater Data at RCRA Facilities, Unified Guidance*, a confidence interval around the mean was employed for normal or normalized data (USEPA, 2009). If the downgradient well data is not normally distributed and cannot be transformed to a normal distribution, the non-parametric confidence interval around the median was employed. There is evidence of an SSL if the lower confidence limit ("LCL") exceeds the GWPS at the 95% confidence level.

2.5 Quality Assurance & Quality Control

During each sampling event, quality assurance/quality control ("QA/QC") samples including field equipment blanks were collected. Data from these QA/QC samples were evaluated during data validation.

Groundwater quality data in this report were independently validated in accordance with USEPA guidance (USEPA, 2011) and the analytical methods. Data validation generally consisted of reviewing sample integrity, holding times, laboratory method blanks, laboratory control samples, matrix spikes/matrix spike duplicate recoveries and relative percent differences ("RPDs"), laboratory duplicate RPDs, equipment blanks, and reporting limits. Where appropriate, validation qualifiers and flags are applied to the data using USEPA procedures as guidance (USEPA, 2017).

3. RESULTS

The following sections describe the results of water monitoring activities performed in 2023. Field sampling data sheets and analytical laboratory reports are provided in **Appendix A**.

3.1 Monitoring Well Installation, Maintenance, and Abandonment

No additional monitoring wells or piezometers were installed at the BSA in 2023.

Monitoring well maintenance activities in 2023 included the redevelopment of the following monitoring wells in July 2023: CCR-9, CCR-11, CCR-13, CCR-15, and CCR-20. Well development activities are summarized in **Appendix B**.

No monitoring well abandonment activities were completed at the BSA in 2023.

3.2 Groundwater Elevation Measurement

Groundwater depth to water measurements were converted to elevations and are summarized in **Table 4**. Site-wide groundwater elevation contour maps developed for the first and second semi-annual assessment monitoring events in February and August 2023 are presented on **Figure 3** and **Figure 4**, respectively. Shallow groundwater beneath the BSA generally flows in a semi-radial pattern towards the surrounding lakes. Shallow groundwater flow patterns observed during 2023 assessment monitoring events were generally consistent with historical observations.

3.2.1 Groundwater Gradient and Flow Velocity

Groundwater flow rates were calculated based on hydraulic gradients from the 2023 groundwater sampling events and hydraulic conductivity measured via slug tests. The maximum Site-specific surficial aquifer horizontal hydraulic conductivity was calculated to be 52 feet (ft)/day (Golder, 2005). Horizontal flow velocity was calculated using a form of Darcy's Law:

$$V=(K*i)/n_e$$

Where:

V=groundwater velocity (ft/day);

K=measured hydraulic conductivity (ft/day);

i=horizontal hydraulic gradient (ft/ft);

n_e=effective porosity (unitless), which was assumed to be 0.15 (Golder, 2005).

Table 5 provides a summary of horizontal hydraulic gradients and groundwater flow velocities associated with well pairs CCR-8/CCR-3, CCR-5/CCR-16, and CCR-11/CCR-20 and were calculated based on groundwater measurements from the February and August 2023 sampling events. These velocities are consistent with historical groundwater velocities documented at the BSA.

3.3 Appendix IV Constituents Statistical Analysis Results

Analytical data from the first and second semi-annual assessment monitoring events are summarized in **Table 3**. These data were analyzed in accordance with the SAP. The results from the Appendix IV constituent data collected during the first and second semi-annual monitoring events were evaluated statistically to evaluate exceedances of the established GWPS. Statistical results associated with the first and second semi-annual monitoring data are included in **Appendix C** and **Appendix D**, respectively.

Based on the statistical analysis of Appendix IV constituents, the following CCR unit monitoring wells exhibited SSLs for arsenic or lithium:

SSL Constituent	**Semi-annual assessment monitoring events**	
	1st Semi-annual 2023	**2nd Semi-annual 2023**
Arsenic	CCR-11 CCR-12	CCR-11 CCR-12
Lithium	CCR-4 CCR-5 CCR-6 CCR-13	CCR-4 CCR-5 CCR-6 CCR-13

3.4 Quality Assurance and Quality Control

Data validation reports for the first and second semi-annual assessment monitoring events are included in **Appendix A**. In general, data validation reports indicate that most of the data are usable to support project objectives.

4. ALTERNATE SOURCE DEMONSTRATION

In accordance with the CCR Rule, LE prepared an ASD for total radium (**Appendix E**). The key conclusions of the ASD are briefly summarized below:

- Radionuclides including radium-226 and radium-228 (total radium) are naturally occurring in the study area and are associated with minerals in the phosphate matrix that was mined by the phosphate mining industry during the 1970s at the BSA prior to its construction.
- Uranium concentrations in phosphate-bearing rocks exhibit typical uranium concentrations of up to 300 parts per million, which is approximately 1 to 2 orders of magnitude higher than U.S. coals and fly ash, respectively (USGS, 1997).
- Detailed mineralogical assessment of the underlying soils conducted by Petrologic Solutions, Inc. revealed significant uranium and other accessory constituents associated with the phosphate ore mined at and near the BSA.

Due to the abundance of naturally occurring uranium in sediments underlying the MPP, LE ceased analysis of total radium in CCR unit groundwater samples collected following 2019.

5. CORRECTIVE MEASURES

This section describes the corrective measures that are being implemented at the BSA.

5.1 Remedy Design and Implementation

LE completed an assessment of corrective measures ("ACM") in June 2019 in accordance with 40 CFR §257.96(a). LE evaluated groundwater corrective measures to support remedy selection for groundwater downgradient of the BSA in 2020 and 2021 and conducted the public meeting required by 40 CFR §257.96(e) on February 3, 2021. Following receipt of public input, LE completed the *Remedy Selection Report - Byproduct Storage Area* to document a remedy consisting of source control, including beneficial off-site use of CCR material, and capping and closing the BSA in place following the shutdown of Unit No. 3 (Geosyntec, 2021).

On August 18, 2023, FDEP issued Permit Number 0425997-001-CP-01 to close the BSA pursuant to Rule 62-701.805(11) and 62-701.805(8), Florida Administrative Code. Following receipt of the closure permit, LE completed an engineering design for closure of the BSA and issued a request for proposal to qualified subcontractors for closure construction. LE anticipates initiating closure of the BSA in 2024. In the interim, LE maintains the BSA and perimeter ditch as needed.

6. SUMMARY AND FUTURE ACTIONS

In accordance with the CCR Rule, LE continued assessment monitoring in 2023 and advancing to corrective action at the BSA. Statistical analysis identified SSLs of arsenic and lithium downgradient of the BSA. Monitoring well data collected in 2023 indicated SSLs remain in groundwater for arsenic (CCR-11 and CCR-12) and lithium (CCR-4, CCR-5, CCR-6, and CCR-13); however, lithium at CCR-9 is no longer detected at a SSL. LE collected surface water samples from Fish Lake and Lake D, which are downgradient from monitoring wells with SSLs to evaluate downgradient N&E of SSL constituents. Arsenic and lithium concentrations in these water bodies were observed below GWPS providing delineation for upgradient monitoring wells with SSLs.

Following subcontractor procurement, LE intends to close the BSA in accordance with FDEP Permit Number 0425997-001-CP-01. LE anticipates initiating closure activities in 2024.

Groundwater assessment monitoring will continue in 2024.

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TABLES

TABLE 1: GROUNDWATER MONITORING LOCATION DETAILS
Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Monitoring Location	Installation Date	Northing	Easting	Ground Elevation	Top of Casing Elevation	Top of Screen Elevation	Bottom of Screen Elevation	Designation
CCR Groundwater Monitoring Network								
CCR-1	6/24/2016	1362405.2	681287.2	138.3	141.3	122.6	113.1	Background
CCR-2	6/23/2016	1362203.9	681787.6	137.6	140.6	121.9	112.4	Background
CCR-4	6/24/2016	1362450.0	683042.7	140.3	143.1	124.7	115.2	Monitoring
CCR-5	6/22/2016	1362716.0	683376.9	138.6	141.1	122.4	112.9	Monitoring
CCR-6	6/22/2016	1363168.4	683578.6	138.5	141.3	122.8	113.3	Monitoring
CCR-7	6/22/2016	1363631.9	683772.2	139.1	142.1	123.4	113.9	Monitoring
CCR-8	6/22/2016	1363917.6	683411.6	139.4	142.1	123.5	114.0	Monitoring
CCR-9	6/21/2016	1364085.2	683045.3	138.6	141.7	123.1	113.6	Monitoring
CCR-11	6/20/2016	1363835.5	682577.2	134.3	137.1	118.7	109.2	Monitoring
CCR-12	6/20/2016	1363353.1	682430.5	134.1	137.0	118.4	108.9	Monitoring
CCR-13	6/21/2016	1362936.6	682164.1	135.0	138.0	119.4	109.9	Monitoring
Groundwater Monitoring Locations for Nature and Extent								
CCR-15	2/18/2019	1362341.3	683123.5	141.8	144.7	126.4	116.8	Delineation
CCR-16	2/18/2019	1362533.2	683385.6	141.2	144.1	125.9	116.3	Delineation
CCR-17	2/19/2019	1363019.9	683712.7	142.9	145.8	127.5	117.9	Delineation
CCR-18	2/18/2019	1363631.1	683869.7	138.2	140.8	122.6	113.0	Delineation
CCR-19	2/15/2019	1364205.4	683064.5	133.8	136.5	118.3	108.7	Delineation
CCR-20	2/14/2019	1363855.5	682474.9	133.1	136.1	118.2	108.6	Delineation
CCR-21	2/13/2019	1363454.0	682331.4	134.5	137.1	118.9	109.3	Delineation
CCR-22	2/13/2019	1363017.4	682078.7	134.0	137.5	119.2	109.6	Delineation
CCR-23	2/12/2019	1362812.1	681744.7	136.2	135.8	121.1	111.5	Delineation
SW-106	--	1359404.2*	685656.2*	--	--	--	--	Delineation
Groundwater Piezometers								
CCR-3	6/23/2016	1362334.6	682451.3	137.5	137.0	121.6	112.2	Piezometer
CCR-10R	3/13/2018	1364262.1	682706.3	133.8	133.6	119.2	109.7	Piezometer
CCR-14	6/21/2016	1362771.1	681761.2	135.8	138.7	120.4	110.9	Piezometer
MW-24S	--	1363278.5	683727.0	--	143.9	--	--	Delineation
MW-25S	--	1362906.6	683555.1	--	144.4	--	--	Delineation

Notes:

1. Northing and easting are in feet relative to the State Plane Florida North Datum of 1983, Florida West.
2. Elevations are in feet relative to the North American Vertical Datum of 1988.
3. "--" indicates not available.
4. "*" measurements are estimated.

TABLE 2: SUMMARY OF 2023 GROUNDWATER SAMPLING EVENTS
Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Monitoring Location	2023 Semi-Annual Assessment Monitoring Event 1	2023 Semi-Annual Assessment Monitoring Event 2
CCR Groundwater Monitoring Network		
CCR-1	2/15/2023	8/21/2023
CCR-2	2/15/2023	8/16/2023
CCR-4	2/15/2023	8/21/2023
CCR-5	2/16/2023	8/22/2023
CCR-6	2/15/2023	8/17/2023
CCR-7	2/20/2023	8/22/2023
CCR-8	2/22/2023	8/17/2023
CCR-9	2/22/2023	8/17/2023
CCR-11	2/16/2023	8/18/2023
CCR-12	2/16/2023	8/18/2023
CCR-13	2/16/2023	8/18/2023
Groundwater Monitoring Locations for Nature and Extent		
CCR-15	2/20/2023	8/21/2023
CCR-16	2/20/2023	8/16/2023
CCR-17	2/20/2023	8/16/2023
CCR-18	2/16/2023	8/21/2023
CCR-19	2/16/2023	8/21/2023
CCR-20	2/16/2023	8/18/2023
CCR-21	2/16/2023	8/18/2023
CCR-22	2/16/2023	8/18/2023
CCR-23	2/16/2023	8/18/2023
SW-106	2/22/2023	8/18/2023
Fish Lake	2/17/2023	8/21/2023
Lake D	2/17/2023	8/21/2023

Notes:

TABLE 3: SUMMARY OF 2023 GROUNDWATER LABORATORY ANALYTICAL DATA
Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Monitoring Location	Well Designation	Sample Date	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Combined Radium (pCi/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	pH (SU)	Selenium (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Thallium (mg/L)
Site-Specific GWPS (mg/L)			**0.006**	**0.01**	**2**	**0.004**	**--**	**0.005**	**--**	**--**	**0.1**	**0.006**	**--**	**4**	**0.015**	**0.04**	**0.002**	**0.1**	**--**	**0.05**	**--**	**--**	**0.002**
Semi-Annual Assessment Monitoring Event 1																							
CCR-1	Background	2/15/2023	0.00620 U	0.00396 U	**0.0121**	0.000107 U	**0.0472**	0.000217 U	**38.1**	**5.64**	**0.00130 I**	**0.000400 I**	N/A	**0.0640**	0.00193 U	0.00474 U	0.000120 U	0.00143 U	5.64	0.00439 U	**69.8**	**224**	0.000925 U
CCR-2	Background	2/15/2023	0.00620 U	0.00396 U	**0.00590**	0.000107 U	**0.0312**	0.000217 U	**30.8**	**8.36**	**0.00130 I**	**0.000500 I**	N/A	**0.107**	0.00193 U	0.00474 U	0.000120 U	0.00143 U	5.61	0.00439 U	**34.0**	**176**	0.000925 U
CCR-4	Monitoring	2/15/2023	0.00620 U	0.00396 U	**0.220**	**0.000200 I**	**0.602**	**0.00110**	**1480**	**3500**	**0.00190 I**	**0.00320**	N/A	**0.521**	0.00193 U	**0.192**	0.000120 U	0.00143 U	4.12	0.00439 U	**1040**	**8600**	0.000925 U
CCR-5	Monitoring	2/16/2023	0.00620 U	0.00396 U	**0.0840**	0.000107 U	**0.501**	**0.00100**	**1890**	**5420**	**0.000800 I**	**0.00340**	N/A	0.0260 U	0.00193 U	**2.83**	0.000120 U	0.00143 U	5.32	0.00439 U	**613**	**10600**	0.000925 U
CCR-6	Monitoring	2/15/2023	0.00620 U	0.00396 U	**0.0150**	0.000107 U	**0.409**	**0.000300 I**	**303**	**458**	**0.00100 I**	**0.000500 I**	N/A	**0.374**	0.00193 U	**0.427**	0.000120 U	**0.00760**	6.16	0.00439 U	**447**	**1740**	0.000925 U
CCR-7	Monitoring	2/20/2023	0.00620 U	0.00396 U	**0.00760**	0.000107 U	**0.256**	0.000217 U	**51.8**	**29.8**	**0.00210 I**	0.000354 U	N/A	**0.122**	0.00193 U	**0.0401**	0.000120 U	0.00143 U	5.01	0.00439 U	**174**	**412**	0.000925 U
CCR-8	Monitoring	2/22/2023	0.00620 U	0.00396 U	**0.0247**	0.000107 U	**0.0673**	0.000217 U	**82**	**2.45**	**0.000700 I**	0.000354 U	N/A	**0.354**	0.00193 U	0.00474 U	0.000120 U	**0.0122**	6.55	0.00439 U	**67.7**	**268**	0.000925 U
CCR-9	Monitoring	2/22/2023	0.00620 U	0.00396 U	**0.0435**	0.000107 U	**0.514**	0.000217 U	**564**	**370**	**0.00140 I**	0.000354 U	N/A	**0.215**	0.00193 U	**0.0457**	0.000120 U	0.00143 U	5.20	0.00439 U	**1380**	**2830**	0.000925 U
CCR-11	Monitoring	2/16/2023	0.00620 U	**0.0513**	**0.0470**	0.000107 U	**0.360**	**0.00100**	**564**	**530**	**0.00160 I**	**0.000900 I**	N/A	**1.31**	0.00193 U	**0.0136 I**	0.000120 U	0.00143 U	4.52	0.00439 U	**1720**	**3670**	0.000925 U
CCR-12	Monitoring	2/16/2023	0.00620 U	**0.0615**	**0.0178**	0.000107 U	**0.367**	**0.000900 I**	**525**	**16.0**	**0.000600 I**	**0.000800 I**	N/A	**0.794**	0.00193 U	**0.0177 I**	0.000120 U	**0.0129**	6.62	0.00439 U	**1190**	**2080**	0.000925 U
CCR-13	Monitoring	2/16/2023	0.00620 U	0.00396 U	**0.0318**	**0.000200 I**	**0.412**	**0.000300 I**	**497**	**123**	**0.00190 I**	**0.00290**	N/A	**1.34**	0.00193 U	**0.135**	0.000120 U	0.00143 U	4.20	0.00439 U	**1460**	**2490**	0.000925 U
CCR-15	Delineation	2/20/2023	0.00620 U	0.00396 U	**0.0340**	0.000107 U	**0.0428**	0.000217 U	**43.8**	**13.8**	**0.00160 I**	0.000354 U	N/A	**0.111**	0.00193 U	0.00474 U	0.000120 U	0.00143 U	4.00	0.00439 U	**130**	**262**	0.000925 U
CCR-16	Delineation	2/20/2023	0.00620 U	0.00396 U	**0.114**	0.000107 U	**0.557**	0.000217 U	**1180**	**2740**	**0.00130 I**	0.000354 U	N/A	0.0260 U	0.00193 U	**0.0557**	0.000120 U	0.00143 U	3.95	0.00439 U	**1140**	**7620**	0.000925 U
CCR-17	Delineation	2/20/2023	0.00620 U	0.00396 U	**0.00350**	0.000107 U	**0.131**	0.000217 U	**161**	**137**	**0.00110 I**	0.000354 U	N/A	0.0260 U	0.00193 U	0.00474 U	0.000120 U	0.00143 U	6.35	0.00439 U	**181**	**900**	0.000925 U
CCR-18	Delineation	2/16/2023	0.00620 U	0.00396 U	**0.00100**	0.000107 U	**0.0422**	0.000217 U	**64**	**1.66**	**0.00110 I**	0.000354 U	N/A	**0.264**	0.00193 U	0.00474 U	0.000120 U	**0.00420 I**	6.69	0.00439 U	**16.7**	**552**	0.000925 U
CCR-19	Delineation	2/16/2023	0.00620 U	0.00396 U	**0.0318**	0.000107 U	**0.294**	**0.000500 I**	**239**	**346**	**0.00170 I**	**0.000400 I**	N/A	**0.658**	0.00193 U	0.00474 U	0.000120 U	0.00143 U	4.72	0.00439 U	**458**	**1620**	0.000925 U
CCR-20	Delineation	2/16/2023	0.00620 U	**0.0497**	**0.0402**	0.000107 U	**0.390**	**0.000800 I**	**531**	**429**	**0.00150 I**	0.000354 U	N/A	**0.213**	0.00193 U	0.00474 U	0.000120 U	0.00143 U	5.05	0.00439 U	**1770**	**3530**	0.000925 U
CCR-21	Delineation	2/16/2023	0.00620 U	**0.00540 I**	**0.0425**	0.000107 U	**0.364**	**0.000400 I**	**490**	**20.5**	**0.000600 I**	**0.00140**	N/A	**0.695**	0.00193 U	**0.0313**	0.000120 U	**0.0259**	6.49	0.00439 U	**966**	**1880**	0.000925 U
CCR-22	Delineation	2/16/2023	0.00620 U	0.00396 U	**0.0330**	0.000107 U	**0.486**	0.000217 U	**329**	**135**	**0.00170 I**	**0.00190**	N/A	**1.42**	0.00193 U	**0.0654**	0.000120 U	0.00143 U	4.51	0.00439 U	**1020**	**1850**	0.000925 U
CCR-23	Delineation	2/16/2023	0.00620 U	0.00396 U	**0.00830**	0.000107 U	**0.725**	0.000217 U	**238**	**131**	**0.00190 I**	**0.00040 I**	N/A	**0.421**	0.00193 U	0.00474 U	0.000120 U	0.00143 U	5.26	0.00439 U	**660**	**1380**	**0.00180 I**
SW-106	Delineation	2/22/2023	0.00620 U	0.00396 U	**0.00870**	0.000107 U	**0.0421**	0.000217 U	**8.41**	**1.94**	**0.000600 I**	0.000354 U	N/A	**0.0330**	0.00193 U	0.00474 U	0.000120 U	**0.00170 I**	5.39	0.00439 U	**25.7**	**70.0**	0.000925 U
Fish Lake	Delineation	2/17/2023	0.00620 U	0.00396 U	**0.00490**	0.000107 U	**0.152**	0.000217 U	**103**	**64.9**	0.000513 U	0.000354 U	N/A	**0.566**	0.00193 U	**0.00526 I**	0.000120 U	**0.00210 I**	8.94	0.00439 U	**200**	**550**	0.000925 U
Lake D	Delineation	2/17/2023	0.00620 U	0.00396 U	**0.00680**	0.000107 U	**0.0349**	0.000217 U	**61**	**168**	**0.00100 I**	**0.000500 I**	N/A	**0.256**	0.00193 U	**0.00919 I**	0.000120 U	0.00143 U	6.44	0.00439 U	**18.6**	**692**	0.000925 U
Semi-Annual Assessment Monitoring Event 2																							
CCR-1	Background	8/21/2023	0.0010 U	**0.00097 I**	**0.012**	0.0020 U	0.1 U	0.00025 U	**29**	**3.3 I**	0.0050 U	0.00025 U	N/A	0.40 U	0.00050 U	0.06 U*	0.000011 U	0.00050 U	5.29	0.0012 U	**60**	**180**	0.00025 U
CCR-2	Background	8/16/2023	0.0010 U	**0.00033 I**	**0.0070 I**	0.0020 U	0.1 U	0.00025 U	**21**	**3.9 I**	0.0050 U	0.00025 U	N/A	0.40 U	0.00050 U	0.06 U*	0.000011 U	**0.00074 I**	5.51	0.0012 U	**15**	**140**	0.00025 U
CCR-4	Monitoring	8/21/2023	0.0010 U	**0.00051 I**	**0.22**	0.0020 U	**0.6**	0.00025 U	**1,600**	**4,100**	0.0050 U	**0.0011**	N/A	20 U**	0.00050 U	**0.22 I**	**0.000034 I**	0.00050 U	3.98	0.0012 U	**1,400**	**8,600**	0.00025 U
CCR-5	Monitoring	8/22/2023	0.0010 U	**0.00042 I**	**0.085**	0.0020 U	**0.43**	0.00025 U**	**2,200**	**5,700**	0.0050 U	0.00025 U**	N/A	20 U**	0.00050 U**	**4.1**	**0.00011**	0.00050 U	5.39	0.0012 U**	**630**	**11,000**	0.00025 U**
CCR-6	Monitoring	8/17/2023	0.0010 U	0.00025 U	0.0030 U	0.0020 U	**0.26 I**	0.00025 U	**97**	**10**	0.0050 U	0.00025 U	N/A	0.40 U	0.00050 U	0.06 U*	0.000011 U	**0.0090**	6.47	0.0012 U	**90**	**320**	0.00025 U
CCR-7	Monitoring	8/22/2023	0.0010 U	0.00025 U	**0.0077 I**	0.0020 U	**0.13 I**	0.00025 U	**19**	**4.9 I**	0.0050 U	0.00025 U	N/A	0.40 U	0.00050 U	0.06 U*	0.000011 U	**0.00053 I**	4.99	0.0012 U	**45**	**160**	0.00025 U
CCR-8	Monitoring	8/17/2023	0.0010 U	**0.0013**	**0.021**	0.0020 U	0.1 U	0.00025 U	**72**	2.0 U	0.0050 U	0.00025 U	N/A	0.40 U	0.00050 U	0.06 U*	0.000011 U	**0.011**	6.67	0.0012 U	**39**	**260**	0.00025 U
CCR-9	Monitoring	8/17/2023	0.0010 U	**0.0019**	**0.039**	0.0020 U	**0.46**	0.00025 U	**510**	**550**	0.0050 U	0.00025 U	N/A	2.0 U	0.00050 U	0.06 U*	0.000011 U	0.00050 U	5.29	0.0012 U	**1,600**	**2,300**	0.00025 U
CCR-11	Monitoring	8/18/2023	0.0010 U	**0.058**	**0.048**	0.0020 U	**0.36 I**	0.00025 U	**580**	**780**	0.0050 U	0.00025 U	N/A	2.0 U	0.00050 U	0.06 U*	0.000011 U	0.00050 U	4.77	0.0012 U	**2,000**	**4,200**	0.00025 U
CCR-12	Monitoring	8/18/2023	0.0010 U	**0.061**	**0.017**	0.0020 U	**0.36 I**	0.00025 U	**370**	**9.3 I**	0.0050 U	0.00025 U	N/A	1.0 U	0.00050 U	0.06 U*	0.000011 U	**0.013**	6.58	0.0012 U	**910**	**1,500**	0.00025 U
CCR-13	Monitoring	8/18/2023	0.0010 U	**0.00032 I**	**0.023**	0.0020 U	**0.64**	0.00025 U	**450**	**100**	0.0050 U	**0.00077 I**	N/A	1.0 U	0.00050 U	**0.12 I**	0.000011 U	0.00050 U	4.36	0.0012 U	**1,700**	**2,500**	0.00025 U
CCR-15	Delineation	8/21/2023	0.0010 U	0.0025 U	**0.019**	0.0020 U	0.1 U	0.00025 U	**9.9**	**4.0 I**	0.0050 U	0.00025 U	N/A	0.40 U	0.00050 U	0.06 U*	0.000011 U	**0.00070 I**	3.97	0.0012 U	**32**	**110**	0.00025 U
CCR-16	Delineation	8/16/2023	0.0010 U	**0.00052 I**	**0.092**	0.0020 U	**0.57**	0.00025 U	**1,000**	**2,500**	0.0050 U	**0.00070 I**	N/A	5.0 U**	0.00050 U	**0.15 I**	0.000011 U	0.00050 U	4.13	0.0012 U	**1,400**	**8,200**	0.00025 U
CCR-17	Delineation	8/16/2023	0.0010 U	**0.0084**	**0.0034 I**	0.0020 U	**0.15 I**	0.00025 U	**150**	**100**	0.0050 U	0.00025 U	N/A	0.40 U	0.00050 U	0.06 U*	0.000011 U	**0.0042**	6.53	0.0012 U	**210**	**940**	0.00025 U
CCR-18	Delineation	8/21/2023	0.0010 U	0.00025 U	0.0030 U	0.0020 U	0.1 U	0.00025 U	**70**	**2.2 I**	0.0050 U	0.00025 U	N/A	0.40 U	0.00050 U	0.06 U*	0.000011 U	**0.0039**	6.45	0.0025 U	**35**	**280**	0.00025 U
CCR-19	Delineation	8/21/2023	0.0010 U	**0.0042**	**0.072**	0.0020 U	**0.32 I**	0.00025 U	**700**	**1,200**	0.0050 U	0.00050 U	N/A	2.0 U	0.00050 U	0.06 U*	0.000011 U	0.00050 U	4.60	0.0012 U	**780**	**4,200**	0.00025 U
CCR-20	Delineation	8/18/2023	0.0010 U	**0.064**	**0.052**	0.0020 U	**0.36 I**	0.00025 U	**520**	**450**	0.0050 U	0.00025 U	N/A	2.0 U	0.00050 U	0.06 U*	0.000011 U	0.00050 U	5.00	0.0012 U	**2,100**	**3,500**	0.00025 U
CCR-21	Delineation	8/18/2023	0.0010 U	**0.0089**	**0.044**	0.0020 U	**0.32 I**	0.00025 U	**480**	**20 I**	0.0050 U	**0.00042 I**	N/A	1.0 U	0.00050 U	0.06 U*	0.000011 U	**0.035**	6.27	0.0012 U	**1,200**	**1,800**	0.00025 U
CCR-22	Delineation	8/18/2023	0.0010 U	0.00025 U	**0.037**	0.0020 U	**0.39 I**	0.00025 U	**390**	**190**	0.0050 U	**0.00033 I**	N/A	1.0 U	0.00050 U	**0.089 I**	0.000011 U	0.00050 U	4.53	0.0012 U	**1,500**	**2,400**	0.00025 U
CCR-23	Delineation	8/18/2023	0.0010 U	0.00025 U	**0.0092 I**	0.0020 U	**0.71**	0.00025 U	**260**	**160**	0.0050 U	0.00025 U	N/A	1.0 U	0.00050 U	0.06 U*	0.000011 U	0.00050 U	4.95	0.0012 U	**770**	**1,500**	0.00025 U
SW-106	Delineation	8/18/2023	0.0010 U	0.00025 U	**0.015**	0.0020 U	0.1 U	0.00025 U	**8.7**	**2.1 I**	0.0050 U	0.00025 U	N/A	0.40 U	**0.00082 I**	0.06 U*	0.000011 U	**0.0019 I**	5.44	0.0012 U	**28**	**100**	0.00025 U
Fish Lake	Delineation	8/21/2023	0.0010 U	**0.0020**	**0.036**	0.0020 U	**0.18 I**	0.00025 U	**97**	**68**	0.0050 U	0.00025 U	N/A	**0.43 I**	0.00050 U	0.06 U*	0.000011 U	**0.0018 I**	7.91	0.0012 U	**230**	**600**	0.00025 U
Lake D	Delineation	8/21/2023	0.0010 U	0.00025 U	**0.0059 I**	0.0020 U	0.1 U	0.00025 U	**44**	**100**	0.0050 U	0.00025 U	N/A	0.40 U	0.00050 U	0.06 U*	0.000011 U	0.00050 U	6.34	0.0012 U	**18**	**470**	0.00025 U

Notes:

1. "mg/L" indicates milligrams per liter, "pCi/L" indicates picocuries per liter, "SU" indicates standard units.
2. "TDS" indicates Total Dissolved Solids.
3. "U" indicates analyte was analyzed but not detected.
4. "GWPS" indicates Groundwater Protection Standard.
5. "J" indicates an estimated value; Quality control does not meet criteria.
6. "J+" indicates an estimated value with a high bias; Quality control does not meet criteria.
7. "J-" indicates an estimated value with a low bias; Quality control does not meet criteria
8. "NA" indicates not analyzed or not available.
9. "NS" indicates not sampled.
10. "I" indicates the reported value is between the laboratory method detection limit (MDL) and the laboratory practical quantitation limit
11. "*" indicates non detected MDL concentration reported over the GWPS. Assumed GWPS compliant based on historical analytical results.
12. "**" indicates matrix spike recoveries less than 30%; therefore, not useable. Assumed GWPS compliant based on historical analytical results.
12. Bold text indicates concentrations detected above the MDL.

bold, highlighted text indicates concentrations above the Groundwater Protection Standard.

TABLE 4: SUMMARY OF 2023 GROUNDWATER ELEVATIONS
Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Monitoring Location	Northing	Easting	Top of Casing Elevation	Date	Depth to Water	Groundwater Elevation
CCR-1	1362405.2	681287.1	141.3	2/13/2023	11.29	130.01
CCR-2	1362203.9	681787.6	140.6	2/13/2023	10.70	129.87
CCR-3	1362334.6	682451.3	137.0	2/13/2023	7.67	129.37
CCR-4	1362450.0	683042.7	143.1	2/13/2023	15.10	128.03
CCR-5	1362716.0	683376.9	141.1	2/13/2023	11.44	129.63
CCR-6	1363168.4	683578.6	141.3	2/13/2023	10.10	131.24
CCR-7	1363631.9	683772.2	142.1	2/13/2023	10.41	131.69
CCR-8	1363917.6	683411.6	142.1	2/13/2023	10.07	132.05
CCR-9	1364085.2	683045.3	141.7	2/13/2023	10.35	131.32
CCR-10R	1364262.1	682706.3	133.6	2/13/2023	3.56	130.00
CCR-11	1363835.4	682577.2	137.1	2/13/2023	7.31	129.81
CCR-12	1363353.1	682430.5	137.0	2/13/2023	7.35	129.64
CCR-13	1362936.6	682164.1	138.0	2/13/2023	8.05	129.90
CCR-14	1362771.1	681761.2	138.7	2/13/2023	8.71	129.99
CCR-15	1362341.3	683123.5	144.7	2/13/2023	17.29	127.36
CCR-16	1362533.2	683385.6	144.1	2/13/2023	15.99	128.11
CCR-17	1363019.9	683712.7	145.8	2/13/2023	15.02	130.78
CCR-18	1363631.1	683869.7	140.8	2/13/2023	9.32	131.49
CCR-19	1364205.4	683064.5	136.5	2/13/2023	5.36	131.11
CCR-20	1363855.5	687474.9	136.1	2/13/2023	6.55	129.50
CCR-21	1363454.0	682331.4	137.1	2/13/2023	7.83	129.29
CCR-22	1363017.4	682078.7	137.5	2/13/2023	8.03	129.48
CCR-23	1362812.1	681744.7	135.8	2/13/2023	5.81	129.97
MW-24S	1363278.5	683727.0	143.9	2/13/2023	12.10	131.81
MW-25S	1362906.6	683555.1	144.4	2/13/2023	15.41	128.99
SW-106	1359404.2*	685656.2*	--	2/13/2023	12.95	--

Notes:

1. Northing and easting are in feet relative to the State Plane Florida North Datum of 1983, Florida West.
2. Elevations are in feet relative to the North American Vertical Datum of 1988.
3. Depth to water measurements are in feet below top of casing.
4. "*" measurements are estimated.
5. "--" indicates not available.

TABLE 4: SUMMARY OF 2023 GROUNDWATER ELEVATIONS
Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Monitoring Location	Northing	Easting	Top of Casing Elevation	Date	Depth to Water	Groundwater Elevation
CCR-1	1362405.2	681287.1	141.3	8/14/2023	9.05	132.25
CCR-2	1362203.9	681787.6	140.6	8/14/2023	9.10	131.47
CCR-3	1362334.6	682451.3	137.0	8/14/2023	5.76	131.28
CCR-4	1362450.0	683042.7	143.1	8/14/2023	14.41	128.72
CCR-5	1362716.0	683376.9	141.1	8/14/2023	10.67	130.40
CCR-6	1363168.4	683578.6	141.3	8/14/2023	9.07	132.27
CCR-7	1363631.9	683772.2	142.1	8/14/2023	9.30	132.80
CCR-8	1363917.6	683411.6	142.1	8/14/2023	9.23	132.89
CCR-9	1364085.2	683045.3	141.7	8/14/2023	10.07	131.60
CCR-10R	1364262.1	682706.3	133.6	8/14/2023	3.17	130.39
CCR-11	1363835.4	682577.2	137.1	8/14/2023	7.09	130.03
CCR-12	1363353.1	682430.5	137.0	8/14/2023	6.61	130.38
CCR-13	1362936.6	682164.1	138.0	8/14/2023	7.41	130.54
CCR-14	1362771.1	681761.2	138.7	8/14/2023	7.35	131.35
CCR-15	1362341.3	683123.5	144.7	8/14/2023	16.99	127.66
CCR-16	1362533.2	683385.6	144.1	8/14/2023	15.41	128.69
CCR-17	1363019.9	683712.7	145.8	8/14/2023	14.04	131.76
CCR-18	1363631.1	683869.7	140.8	8/14/2023	8.21	132.60
CCR-19	1364205.4	683064.5	136.5	8/14/2023	5.27	131.20
CCR-20	1363855.5	687474.9	136.1	8/14/2023	6.27	129.78
CCR-21	1363454.0	682331.4	137.1	8/14/2023	7.56	129.56
CCR-22	1363017.4	682078.7	137.5	8/14/2023	7.72	129.79
CCR-23	1362812.1	681744.7	135.8	8/14/2023	4.53	131.25
MW-24S	1363278.5	683727.0	143.9	8/14/2023	11.08	132.83
MW-25S	1362906.6	683555.1	144.4	8/14/2023	14.79	129.61
SW-106	1359404.2*	685656.2*	--	8/14/2023	11.16	--

Notes:

1. Northing and easting are in feet relative to the State Plane Florida North Datum of 1983, Florida West.
2. Elevations are in feet relative to the North American Vertical Datum of 1988.
3. Depth to water measurements are in feet below top of casing.
4. "*" measurements are estimated.
5. "--" indicates not available.

TABLE 5: SUMMARY OF 2023 HYDRAULIC GRADIENTS AND GROUNDWATER VELOCITIES

Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Well Pairs	Date	Water Elevation	Horizontal Distance Between Wells	Head Difference (Δ h)	Horizontal Hydraulic Gradient	n_e	K	V	V
		(ft NGVD29)	(ft)	(ft)	(ft/ft)		(ft/day)	(ft/day)	(ft/yr)
CCR-8	2/13/2023	132.05	1,851	2.68	0.001	0.15	52	0.50	183
CCR-3		129.37							
CCR-5		129.63	955	1.52	0.002			0.55	201
CCR-16		128.11							
CCR-11		129.81	104	0.31	0.003			1.03	376
CCR-20		129.50							
CCR-8	8/14/2023	132.89	1,851	1.61	0.001			0.30	110
CCR-3		131.28							
CCR-5		130.40	955	1.71	0.002			0.62	227
CCR-16		128.69							
CCR-11		130.03	104	0.25	0.002			0.83	303
CCR-20		129.78							

Notes: $V = (K*i)/n_e$ where;

V = groundwater velocity

K = measured hydraulic conductivity

i = horizontal hydraulic gradient

n_e = effective porosity, which was assumed to be 0.15 (Golder, 2015)

TABLE 6: SUMMARY OF GROUNDWATER PROTECTION STANDARDS

Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

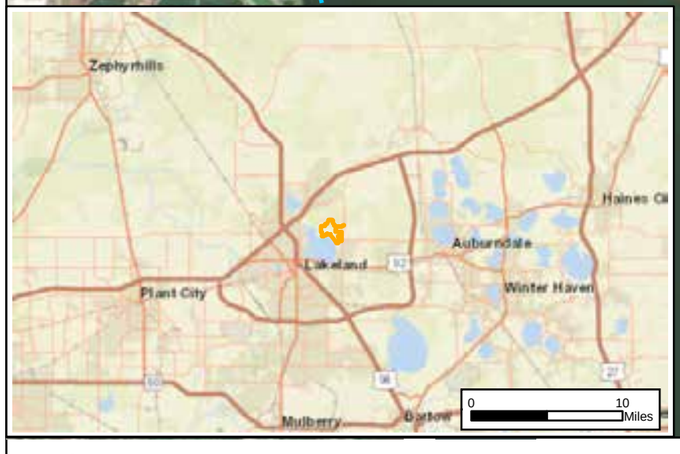
Analyte	Units	Site-Specific GWPS[4]
Antimony	mg/L	0.006
Arsenic	mg/L	0.01
Barium	mg/L	2
Beryllium	mg/L	0.004
Cadmium	mg/L	0.005
Chromium	mg/L	0.1
Cobalt[2]	mg/L	0.006
Fluoride	mg/L	4
Lead[2]	mg/L	0.015
Lithium[2]	mg/L	0.04
Mercury	mg/L	0.002
Molybdenum[2]	mg/L	0.1
Selenium	mg/L	0.05
Thallium	mg/L	0.002
Combined Radium - 226+228	pCi/L	7.94

Notes:

1. "USEPA" indicates United States Environmental Protection Agency;
   "GWPS" indicates Groundwater Protection Standard; "mg/L" indicates milligrams per liter;
   "pCi/L" indicates picocuries per liter; "NA" indicates not applicable;
   "CCR" indicates Coal Combustion Residuals; "NC" indicates not calculated.
2. USEPA CCR Rule Specified Limit established in the USEPA CCR Rule Amendment dated July 30, 2018.
3. Background indicates the statistically derived upper tolerance limit.
4. Site-Specific GWPS derivation is available in the *Statistical Evaluation for Assessment Monitoring* for the Byproduct Storage Area by Geosyntec dated June 29, 2023.

FIGURES

Lake A
Lake B
Fish Lake
Former Coal Storage Area
South Sedimentation Pond
Former Temporary Byproduct Staging Area
Centurion Drive
Lake C
Lake D
North Combee Road
Lake Parker
Lake Parker Drive



Legend

- BSA Boundary
- Approximate BSA Perimeter Ditch
- City of Lakeland Property
- C.D. McIntosh Power Plant Boundary
- Approximate Lake Boundary

Note:
1. BSA indicates byproduct storage area.
2. 2022 ESRI World Imagery Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.
3. ESRI Street Map Source (inset image): Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community.

N

0 1,250 Feet

Site Location - Byproduct Storage Area

C.D. McIntosh Power Plant
Lakeland, Polk County, Florida

Geosyntec consultants

Tampa, FL | December 2023

Figure 1

Path: (Titusville-01\DATA) \\Titusville-01\Data\0GIS\FR3715_Lakeland_Electric\MXDs\202309\CCR_SiteLocation_BSA.mxd 01 December 2023. Last Edited by: Janelle.Roach

Legend

- Piezometer
- CCR Monitoring Well
- Nature and Extent Monitoring Well
- BSA Boundary
- Approximate BSA Perimeter Ditch
- City of Lakeland Property
- C.D. McIntosh Power Plant Boundary
- Approximate Lake Boundary

Note:
1. CCR indicates Coal Combustion Residual.
2. BSA indicates byproduct storage area.
3. The location of SW-106 is approximate.
4. 2022 ESRI World Imagery Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

N

0 1,000 Feet

Well Locations - Byproduct Storage Area

C.D. McIntosh Power Plant
Lakeland, Polk County, Florida

Geosyntec consultants

Tampa, FL | December 2023

Figure 2

Path: (Titusville-01\DATA) \\Titusville-01\Data\0GIS\FR3715_Lakeland_Electric\MXDs\202310\CCR_Well_locs.mxd 01 December 2023. Last Edited by: Janelle.Roach

Legend

- Piezometer
- CCR Monitoring Well
- Nature and Extent Monitoring Well
- BSA Boundary
- Approximate BSA Perimeter Ditch
- City of Lakeland Property
- C.D. McIntosh Power Plant Boundary
- Approximate Lake Boundary
- Groundwater Elevation Contour
- Inferred Groundwater Elevation Contour
- Groundwater Flow Direction
- [131.30] Groundwater Elevation (ft NAVD 88)

Notes:
1. * indicates measurement not used for contouring purposes.
2. BSA indicates byproduct storage area.
3. ft NAVD88 indicates an elevation in feet relative to the North American Vertical Datum of 1988.
4. CCR indicates Coal Combustion Residual.
5. Well locations were obtained from the Golder 2019 Assessment of Corrective Measures Report.
6. 2022 ESRI World Imagery Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

N

0 300 Feet

Surficial Aquifer Water Table Map
February 2023

C.D. McIntosh Power Plant
Lakeland, Polk County, Florida

Geosyntec consultants

Tampa, FL | December 2023

Figure 3

Path: (Titusville-01\DATA) \\Titusville-01\Data\0GIS\FR3715_Lakeland_Electric\MXDs\202310\GW_CCRelev_Feb2023.mxd 11 December 2023. Last Edited by: janelle.roach

Legend

- Piezometer
- CCR Monitoring Well
- Nature and Extent Monitoring Well
- Groundwater Elevation Contour
- Inferred Groundwater Elevation Contour
- Groundwater Flow Direction
- BSA Boundary
- Approximate BSA Perimeter Ditch
- City of Lakeland Property
- C.D. McIntosh Power Plant Boundary
- Approximate Lake Boundary
- [132.80] Groundwater Elevation (ft NAVD 88)

Notes:
1. * indicates measurement not used for contouring purposes.
2. BSA indicates byproduct storage area.
3. ft NAVD88 indicates an elevation in feet relative to the North American Vertical Datum of 1988.
4. CCR indicates Coal Combustion Residual.
5. Well locations were obtained from the Golder 2019 Assessment of Corrective Measures Report.
6. 2022 ESRI World Imagery Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

N

0 300 Feet

Surficial Aquifer Water Table Map August 2023

C.D. McIntosh Power Plant
Lakeland, Polk County, Florida

Geosyntec consultants

Tampa, FL | December 2023

Figure 4

Path: (Titusville-01\DATA) \\Titusville-01\Data\0GIS\FR3715_Lakeland_Electric\MXDs\202310\GW_CCRelev_Aug2023.mxd 11 December 2023. Last Edited by: janelle.roach

APPENDIX A
Laboratory Analytical Reports, Field Sampling Logs, and Data Validation

1460 West McNab Road
Fort Lauderdale, FL 33309
1-800-ANALYTE Phone
(954) 978-6400 Phone
(954) 978-2233 Fax

NELAP Certificate No. E86006

08 March 2023
Lab Work Order (COC): 23B0865

Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland, FL 33805

RE: **2023 CCR Monitoring Program**

Project Location: **McIntosh Plant**

Dear Thomas Johnston:

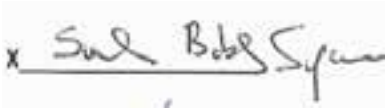
This report details the analytical results of samples collected at the above-referenced project location. These samples were received by Florida Spectrum Environmental Services at **02/21/2023 17:05**.

All Analyses were performed according to the TNI/NELAP standard unless indicated by a "~" on the report.

Your samples will be retained by Florida Spectrum Environmental for a period of at least 30 days following sample receipt or until the longest of the preparation and/or analytical hold times expires, whichever is shorter. After that time, they will be properly disposed without further notice, unless there exists an explicit contractual agreement to the contrary. We reserve the right to return any unused samples, extracts, or related materials or solutions to you if we consider it necessary. Examples might include those samples identified as hazardous wastes, submissions where the sample sizes significantly exceed those required for analysis, samples containing controlled substances, etc.

We thank you for selecting Florida Spectrum Environmental to serve your analytical needs. Should you have any questions or require additional information regarding any of the information in this report, please feel free to contact us at any time. We appreciate the opportunity to be of service.

Florida Spectrum Environmental Inc.



Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023

Work Order # 23B0865

Project: 2023 CCR Monitoring Program
McIntosh Plant

DETECTED ANALYTE SUMMARY

Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
CCR-1A	23B0865-01	Water	Barium	12.1	ug/L	2/15/2023	15:00
CCR-1A	23B0865-01	Water	Cobalt	0.400	ug/L	2/15/2023	15:00
CCR-1A	23B0865-01	Water	Chromium	1.30	ug/L	2/15/2023	15:00
CCR-1A	23B0865-01	Water	Calcium	38100	ug/L	2/15/2023	15:00
CCR-1A	23B0865-01	Water	Boron	47.2	ug/L	2/15/2023	15:00
CCR-1B	23B0865-02	Water	Chloride	5.64	mg/L	2/15/2023	15:00
CCR-1B	23B0865-02	Water	Total Dissolved Solids	224	mg/L	2/15/2023	15:00
CCR-1B	23B0865-02	Water	Fluoride	0.0640	mg/L	2/15/2023	15:00
CCR-1B	23B0865-02	Water	Sulfate	69.8	mg/L	2/15/2023	15:00
CCR-2A	23B0865-03	Water	Chromium	1.30	ug/L	2/15/2023	14:41
CCR-2A	23B0865-03	Water	Cobalt	0.500	ug/L	2/15/2023	14:41
CCR-2A	23B0865-03	Water	Calcium	30800	ug/L	2/15/2023	14:41
CCR-2A	23B0865-03	Water	Boron	31.2	ug/L	2/15/2023	14:41
CCR-2A	23B0865-03	Water	Barium	5.90	ug/L	2/15/2023	14:41
CCR-2B	23B0865-04	Water	Sulfate	34.0	mg/L	2/15/2023	14:41
CCR-2B	23B0865-04	Water	Chloride	8.36	mg/L	2/15/2023	14:41
CCR-2B	23B0865-04	Water	Fluoride	0.107	mg/L	2/15/2023	14:41
CCR-2B	23B0865-04	Water	Total Dissolved Solids	176	mg/L	2/15/2023	14:41
CCR-4A	23B0865-05	Water	Lithium	192	ug/L	2/15/2023	17:53
CCR-4A	23B0865-05	Water	Calcium	1480000	ug/L	2/15/2023	17:53
CCR-4A	23B0865-05	Water	Cadmium	1.10	ug/L	2/15/2023	17:53
CCR-4A	23B0865-05	Water	Barium	220	ug/L	2/15/2023	17:53
CCR-4A	23B0865-05	Water	Chromium	1.90	ug/L	2/15/2023	17:53
CCR-4A	23B0865-05	Water	Beryllium	0.200	ug/L	2/15/2023	17:53

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

DETECTED ANALYTE SUMMARY

Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
CCR-4A	23B0865-05	Water	Boron	602	ug/L	2/15/2023	17:53
CCR-4A	23B0865-05	Water	Cobalt	3.20	ug/L	2/15/2023	17:53
CCR-4B	23B0865-06	Water	Chloride	3500	mg/L	2/15/2023	17:53
CCR-4B	23B0865-06	Water	Sulfate	1040	mg/L	2/15/2023	17:53
CCR-4B	23B0865-06	Water	Fluoride	0.521	mg/L	2/15/2023	17:53
CCR-4B	23B0865-06	Water	Total Dissolved Solids	8600	mg/L	2/15/2023	17:53
CCR-6A	23B0865-07	Water	Calcium	303000	ug/L	2/15/2023	18:06
CCR-6A	23B0865-07	Water	Chromium	1.00	ug/L	2/15/2023	18:06
CCR-6A	23B0865-07	Water	Boron	409	ug/L	2/15/2023	18:06
CCR-6A	23B0865-07	Water	Cobalt	0.500	ug/L	2/15/2023	18:06
CCR-6A	23B0865-07	Water	Magnesium	4660	ug/L	2/15/2023	18:06
CCR-6A	23B0865-07	Water	Cadmium	0.300	ug/L	2/15/2023	18:06
CCR-6A	23B0865-07	Water	Molybdenum	7.60	ug/L	2/15/2023	18:06
CCR-6A	23B0865-07	Water	Potassium	99900	ug/L	2/15/2023	18:06
CCR-6A	23B0865-07	Water	Sodium	96200	ug/L	2/15/2023	18:06
CCR-6A	23B0865-07	Water	Lithium	427	ug/L	2/15/2023	18:06
CCR-6A	23B0865-07	Water	Barium	15.0	ug/L	2/15/2023	18:06
CCR-6B	23B0865-08	Water	Total Alkalinity	124	mg/L	2/15/2023	18:06
CCR-6B	23B0865-08	Water	Bicarbonate	124	mg/L	2/15/2023	18:06
CCR-6B	23B0865-08	Water	Total Dissolved Solids	1740	mg/L	2/15/2023	18:06
CCR-6B	23B0865-08	Water	Sulfate	447	mg/L	2/15/2023	18:06
CCR-6B	23B0865-08	Water	Chloride	458	mg/L	2/15/2023	18:06
CCR-6B	23B0865-08	Water	Fluoride	0.374	mg/L	2/15/2023	18:06
CCR-13A	23B0865-09	Water	Chromium	1.90	ug/L	2/16/2023	10:36

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023

Work Order # 23B0865

Project: 2023 CCR Monitoring Program
McIntosh Plant

DETECTED ANALYTE SUMMARY

Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
CCR-13A	23B0865-09	Water	Lithium	135	ug/L	2/16/2023	10:36
CCR-13A	23B0865-09	Water	Beryllium	0.200	ug/L	2/16/2023	10:36
CCR-13A	23B0865-09	Water	Barium	31.8	ug/L	2/16/2023	10:36
CCR-13A	23B0865-09	Water	Boron	412	ug/L	2/16/2023	10:36
CCR-13A	23B0865-09	Water	Cobalt	2.90	ug/L	2/16/2023	10:36
CCR-13A	23B0865-09	Water	Cadmium	0.300	ug/L	2/16/2023	10:36
CCR-13A	23B0865-09	Water	Calcium	497000	ug/L	2/16/2023	10:36
CCR-13B	23B0865-10	Water	Total Dissolved Solids	2490	mg/L	2/16/2023	10:36
CCR-13B	23B0865-10	Water	Fluoride	1.34	mg/L	2/16/2023	10:36
CCR-13B	23B0865-10	Water	Sulfate	1460	mg/L	2/16/2023	10:36
CCR-13B	23B0865-10	Water	Chloride	123	mg/L	2/16/2023	10:36
CCR-12A	23B0865-11	Water	Cadmium	0.900	ug/L	2/16/2023	12:03
CCR-12A	23B0865-11	Water	Calcium	525000	ug/L	2/16/2023	12:03
CCR-12A	23B0865-11	Water	Sodium	23200	ug/L	2/16/2023	12:03
CCR-12A	23B0865-11	Water	Boron	367	ug/L	2/16/2023	12:03
CCR-12A	23B0865-11	Water	Molybdenum	12.9	ug/L	2/16/2023	12:03
CCR-12A	23B0865-11	Water	Barium	17.8	ug/L	2/16/2023	12:03
CCR-12A	23B0865-11	Water	Cobalt	0.800	ug/L	2/16/2023	12:03
CCR-12A	23B0865-11	Water	Arsenic	61.5	ug/L	2/16/2023	12:03
CCR-12A	23B0865-11	Water	Potassium	81900	ug/L	2/16/2023	12:03
CCR-12A	23B0865-11	Water	Magnesium	5370	ug/L	2/16/2023	12:03
CCR-12A	23B0865-11	Water	Chromium	0.600	ug/L	2/16/2023	12:03
CCR-12A	23B0865-11	Water	Lithium	17.7	ug/L	2/16/2023	12:03
CCR-12B	23B0865-12	Water	Total Dissolved Solids	2080	mg/L	2/16/2023	12:03

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

DETECTED ANALYTE SUMMARY

Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
CCR-12B	23B0865-12	Water	Chloride	16.0	mg/L	2/16/2023	12:03
CCR-12B	23B0865-12	Water	Sulfate	1190	mg/L	2/16/2023	12:03
CCR-12B	23B0865-12	Water	Fluoride	0.794	mg/L	2/16/2023	12:03
CCR-12B	23B0865-12	Water	Bicarbonate	223	mg/L	2/16/2023	12:03
CCR-12B	23B0865-12	Water	Total Alkalinity	223	mg/L	2/16/2023	12:03
CCR-23A	23B0865-13	Water	Potassium	17800	ug/L	2/16/2023	8:33
CCR-23A	23B0865-13	Water	Thallium	1.80	ug/L	2/16/2023	8:33
CCR-23A	23B0865-13	Water	Calcium	238000	ug/L	2/16/2023	8:33
CCR-23A	23B0865-13	Water	Barium	8.30	ug/L	2/16/2023	8:33
CCR-23A	23B0865-13	Water	Boron	725	ug/L	2/16/2023	8:33
CCR-23A	23B0865-13	Water	Chromium	1.90	ug/L	2/16/2023	8:33
CCR-23A	23B0865-13	Water	Sodium	49400	ug/L	2/16/2023	8:33
CCR-23A	23B0865-13	Water	Magnesium	26400	ug/L	2/16/2023	8:33
CCR-23A	23B0865-13	Water	Cobalt	0.400	ug/L	2/16/2023	8:33
CCR-23B	23B0865-14	Water	Bicarbonate	37.9	mg/L	2/16/2023	8:33
CCR-23B	23B0865-14	Water	Fluoride	0.421	mg/L	2/16/2023	8:33
CCR-23B	23B0865-14	Water	Sulfate	660	mg/L	2/16/2023	8:33
CCR-23B	23B0865-14	Water	Chloride	131	mg/L	2/16/2023	8:33
CCR-23B	23B0865-14	Water	Total Alkalinity	37.9	mg/L	2/16/2023	8:33
CCR-23B	23B0865-14	Water	Total Dissolved Solids	1380	mg/L	2/16/2023	8:33
CCR-22A	23B0865-15	Water	Cobalt	1.90	ug/L	2/16/2023	8:59
CCR-22A	23B0865-15	Water	Chromium	1.70	ug/L	2/16/2023	8:59
CCR-22A	23B0865-15	Water	Magnesium	16800	ug/L	2/16/2023	8:59
CCR-22A	23B0865-15	Water	Barium	33.0	ug/L	2/16/2023	8:59

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

DETECTED ANALYTE SUMMARY

Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
CCR-22A	23B0865-15	Water	Boron	486	ug/L	2/16/2023	8:59
CCR-22A	23B0865-15	Water	Lithium	65.4	ug/L	2/16/2023	8:59
CCR-22A	23B0865-15	Water	Calcium	329000	ug/L	2/16/2023	8:59
CCR-22A	23B0865-15	Water	Sodium	40800	ug/L	2/16/2023	8:59
CCR-22A	23B0865-15	Water	Potassium	113000	ug/L	2/16/2023	8:59
CCR-22B	23B0865-16	Water	Total Dissolved Solids	1850	mg/L	2/16/2023	8:59
CCR-22B	23B0865-16	Water	Total Alkalinity	11.6	mg/L	2/16/2023	8:59
CCR-22B	23B0865-16	Water	Chloride	135	mg/L	2/16/2023	8:59
CCR-22B	23B0865-16	Water	Sulfate	1020	mg/L	2/16/2023	8:59
CCR-22B	23B0865-16	Water	Bicarbonate	11.6	mg/L	2/16/2023	8:59
CCR-22B	23B0865-16	Water	Fluoride	1.42	mg/L	2/16/2023	8:59
CCR-21A	23B0865-17	Water	Cadmium	0.400	ug/L	2/16/2023	9:48
CCR-21A	23B0865-17	Water	Potassium	22200	ug/L	2/16/2023	9:48
CCR-21A	23B0865-17	Water	Barium	42.5	ug/L	2/16/2023	9:48
CCR-21A	23B0865-17	Water	Calcium	490000	ug/L	2/16/2023	9:48
CCR-21A	23B0865-17	Water	Lithium	31.3	ug/L	2/16/2023	9:48
CCR-21A	23B0865-17	Water	Molybdenum	25.9	ug/L	2/16/2023	9:48
CCR-21A	23B0865-17	Water	Arsenic	5.40	ug/L	2/16/2023	9:48
CCR-21A	23B0865-17	Water	Sodium	24000	ug/L	2/16/2023	9:48
CCR-21A	23B0865-17	Water	Boron	364	ug/L	2/16/2023	9:48
CCR-21A	23B0865-17	Water	Magnesium	15800	ug/L	2/16/2023	9:48
CCR-21A	23B0865-17	Water	Chromium	0.600	ug/L	2/16/2023	9:48
CCR-21A	23B0865-17	Water	Cobalt	1.40	ug/L	2/16/2023	9:48
CCR-21B	23B0865-18	Water	Total Dissolved Solids	1880	mg/L	2/16/2023	9:48

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DETECTED ANALYTE SUMMARY

Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
CCR-21B	23B0865-18	Water	Sulfate	966	mg/L	2/16/2023	9:48
CCR-21B	23B0865-18	Water	Bicarbonate	255	mg/L	2/16/2023	9:48
CCR-21B	23B0865-18	Water	Total Alkalinity	255	mg/L	2/16/2023	9:48
CCR-21B	23B0865-18	Water	Fluoride	0.695	mg/L	2/16/2023	9:48
CCR-21B	23B0865-18	Water	Chloride	20.5	mg/L	2/16/2023	9:48
CCR-20A	23B0865-19	Water	Barium	40.2	ug/L	2/16/2023	14:30
CCR-20A	23B0865-19	Water	Magnesium	11700	ug/L	2/16/2023	14:30
CCR-20A	23B0865-19	Water	Chromium	1.50	ug/L	2/16/2023	14:30
CCR-20A	23B0865-19	Water	Cadmium	0.800	ug/L	2/16/2023	14:30
CCR-20A	23B0865-19	Water	Boron	390	ug/L	2/16/2023	14:30
CCR-20A	23B0865-19	Water	Arsenic	49.7	ug/L	2/16/2023	14:30
CCR-20A	23B0865-19	Water	Calcium	531000	ug/L	2/16/2023	14:30
CCR-20A	23B0865-19	Water	Potassium	315000	ug/L	2/16/2023	14:30
CCR-20A	23B0865-19	Water	Sodium	196000	ug/L	2/16/2023	14:30
CCR-20B	23B0865-20	Water	Fluoride	0.213	mg/L	2/16/2023	14:30
CCR-20B	23B0865-20	Water	Sulfate	1770	mg/L	2/16/2023	14:30
CCR-20B	23B0865-20	Water	Chloride	429	mg/L	2/16/2023	14:30
CCR-20B	23B0865-20	Water	Bicarbonate	22.6	mg/L	2/16/2023	14:30
CCR-20B	23B0865-20	Water	Total Dissolved Solids	3530	mg/L	2/16/2023	14:30
CCR-20B	23B0865-20	Water	Total Alkalinity	22.6	mg/L	2/16/2023	14:30
CCR-19A	23B0865-21	Water	Sodium	65100	ug/L	2/16/2023	15:04
CCR-19A	23B0865-21	Water	Potassium	64600	ug/L	2/16/2023	15:04
CCR-19A	23B0865-21	Water	Calcium	239000	ug/L	2/16/2023	15:04
CCR-19A	23B0865-21	Water	Cadmium	0.500	ug/L	2/16/2023	15:04

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Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
CCR-19A	23B0865-21	Water	Chromium	1.70	ug/L	2/16/2023	15:04
CCR-19A	23B0865-21	Water	Barium	31.8	ug/L	2/16/2023	15:04
CCR-19A	23B0865-21	Water	Cobalt	0.400	ug/L	2/16/2023	15:04
CCR-19A	23B0865-21	Water	Boron	294	ug/L	2/16/2023	15:04
CCR-19A	23B0865-21	Water	Magnesium	16900	ug/L	2/16/2023	15:04
CCR-19B	23B0865-22	Water	Fluoride	0.658	mg/L	2/16/2023	15:04
CCR-19B	23B0865-22	Water	Chloride	346	mg/L	2/16/2023	15:04
CCR-19B	23B0865-22	Water	Total Dissolved Solids	1620	mg/L	2/16/2023	15:04
CCR-19B	23B0865-22	Water	Bicarbonate	9.22	mg/L	2/16/2023	15:04
CCR-19B	23B0865-22	Water	Total Alkalinity	9.22	mg/L	2/16/2023	15:04
CCR-19B	23B0865-22	Water	Sulfate	458	mg/L	2/16/2023	15:04
CCR-5A	23B0865-23	Water	Magnesium	31900	ug/L	2/16/2023	16:27
CCR-5A	23B0865-23	Water	Lithium	2830	ug/L	2/16/2023	16:27
CCR-5A	23B0865-23	Water	Potassium	563000	ug/L	2/16/2023	16:27
CCR-5A	23B0865-23	Water	Barium	84.0	ug/L	2/16/2023	16:27
CCR-5A	23B0865-23	Water	Calcium	1890000	ug/L	2/16/2023	16:27
CCR-5A	23B0865-23	Water	Sodium	872000	ug/L	2/16/2023	16:27
CCR-5A	23B0865-23	Water	Cadmium	1.00	ug/L	2/16/2023	16:27
CCR-5A	23B0865-23	Water	Chromium	0.800	ug/L	2/16/2023	16:27
CCR-5A	23B0865-23	Water	Cobalt	3.40	ug/L	2/16/2023	16:27
CCR-5A	23B0865-23	Water	Boron	501	ug/L	2/16/2023	16:27
CCR-5B	23B0865-24	Water	Sulfate	613	mg/L	2/16/2023	16:27
CCR-5B	23B0865-24	Water	Chloride	5420	mg/L	2/16/2023	16:27
CCR-5B	23B0865-24	Water	Total Dissolved Solids	10600	mg/L	2/16/2023	16:27

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CCR-5B	23B0865-24	Water	Total Alkalinity	19.8	mg/L	2/16/2023	16:27
CCR-5B	23B0865-24	Water	Bicarbonate	19.8	mg/L	2/16/2023	16:27
CCR-18A	23B0865-25	Water	Calcium	64000	ug/L	2/16/2023	15:53
CCR-18A	23B0865-25	Water	Boron	42.2	ug/L	2/16/2023	15:53
CCR-18A	23B0865-25	Water	Molybdenum	4.20	ug/L	2/16/2023	15:53
CCR-18A	23B0865-25	Water	Potassium	2560	ug/L	2/16/2023	15:53
CCR-18A	23B0865-25	Water	Chromium	1.10	ug/L	2/16/2023	15:53
CCR-18A	23B0865-25	Water	Sodium	1650	ug/L	2/16/2023	15:53
CCR-18A	23B0865-25	Water	Magnesium	3180	ug/L	2/16/2023	15:53
CCR-18A	23B0865-25	Water	Barium	1.00	ug/L	2/16/2023	15:53
CCR-18B	23B0865-26	Water	Chloride	1.66	mg/L	2/16/2023	15:53
CCR-18B	23B0865-26	Water	Sulfate	16.7	mg/L	2/16/2023	15:53
CCR-18B	23B0865-26	Water	Fluoride	0.264	mg/L	2/16/2023	15:53
CCR-18B	23B0865-26	Water	Total Dissolved Solids	552	mg/L	2/16/2023	15:53
CCR-18B	23B0865-26	Water	Total Alkalinity	171	mg/L	2/16/2023	15:53
CCR-18B	23B0865-26	Water	Bicarbonate	171	mg/L	2/16/2023	15:53
CCR-11A	23B0865-27	Water	Sodium	191000	ug/L	2/16/2023	18:01
CCR-11A	23B0865-27	Water	Chromium	1.60	ug/L	2/16/2023	18:01
CCR-11A	23B0865-27	Water	Lithium	13.6	ug/L	2/16/2023	18:01
CCR-11A	23B0865-27	Water	Calcium	564000	ug/L	2/16/2023	18:01
CCR-11A	23B0865-27	Water	Arsenic	51.3	ug/L	2/16/2023	18:01
CCR-11A	23B0865-27	Water	Boron	360	ug/L	2/16/2023	18:01
CCR-11A	23B0865-27	Water	Magnesium	10300	ug/L	2/16/2023	18:01
CCR-11A	23B0865-27	Water	Potassium	322000	ug/L	2/16/2023	18:01

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DETECTED ANALYTE SUMMARY

Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
CCR-11A	23B0865-27	Water	Cadmium	1.00	ug/L	2/16/2023	18:01
CCR-11A	23B0865-27	Water	Cobalt	0.900	ug/L	2/16/2023	18:01
CCR-11A	23B0865-27	Water	Barium	47.0	ug/L	2/16/2023	18:01
CCR-11B	23B0865-28	Water	Bicarbonate	11.6	mg/L	2/16/2023	18:01
CCR-11B	23B0865-28	Water	Chloride	530	mg/L	2/16/2023	18:01
CCR-11B	23B0865-28	Water	Sulfate	1720	mg/L	2/16/2023	18:01
CCR-11B	23B0865-28	Water	Total Alkalinity	11.7	mg/L	2/16/2023	18:01
CCR-11B	23B0865-28	Water	Fluoride	1.31	mg/L	2/16/2023	18:01
CCR-11B	23B0865-28	Water	Total Dissolved Solids	3670	mg/L	2/16/2023	18:01
LAKE-D-A	23B0865-29	Water	Barium	6.80	ug/L	2/17/2023	8:50
LAKE-D-A	23B0865-29	Water	Calcium	61000	ug/L	2/17/2023	8:50
LAKE-D-A	23B0865-29	Water	Lithium	9.19	ug/L	2/17/2023	8:50
LAKE-D-A	23B0865-29	Water	Sodium	31900	ug/L	2/17/2023	8:50
LAKE-D-A	23B0865-29	Water	Chromium	1.00	ug/L	2/17/2023	8:50
LAKE-D-A	23B0865-29	Water	Magnesium	14100	ug/L	2/17/2023	8:50
LAKE-D-A	23B0865-29	Water	Potassium	18000	ug/L	2/17/2023	8:50
LAKE-D-A	23B0865-29	Water	Cobalt	0.500	ug/L	2/17/2023	8:50
LAKE-D-A	23B0865-29	Water	Boron	34.9	ug/L	2/17/2023	8:50
LAKE-D-B	23B0865-30	Water	Total Alkalinity	42.6	mg/L	2/17/2023	8:50
LAKE-D-B	23B0865-30	Water	Sulfate	18.6	mg/L	2/17/2023	8:50
LAKE-D-B	23B0865-30	Water	Bicarbonate	42.6	mg/L	2/17/2023	8:50
LAKE-D-B	23B0865-30	Water	Fluoride	0.256	mg/L	2/17/2023	8:50
LAKE-D-B	23B0865-30	Water	Total Dissolved Solids	692	mg/L	2/17/2023	8:50
LAKE-D-B	23B0865-30	Water	Chloride	168	mg/L	2/17/2023	8:50

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Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
FISH LAKE A	23B0865-31	Water	Magnesium	5560	ug/L	2/17/2023	12:29
FISH LAKE A	23B0865-31	Water	Calcium	103000	ug/L	2/17/2023	12:29
FISH LAKE A	23B0865-31	Water	Molybdenum	2.10	ug/L	2/17/2023	12:29
FISH LAKE A	23B0865-31	Water	Sodium	25200	ug/L	2/17/2023	12:29
FISH LAKE A	23B0865-31	Water	Barium	4.90	ug/L	2/17/2023	12:29
FISH LAKE A	23B0865-31	Water	Potassium	34400	ug/L	2/17/2023	12:29
FISH LAKE A	23B0865-31	Water	Boron	152	ug/L	2/17/2023	12:29
FISH LAKE A	23B0865-31	Water	Lithium	5.26	ug/L	2/17/2023	12:29
FISH LAKE B	23B0865-32	Water	Bicarbonate	78.9	mg/L	2/17/2023	12:29
FISH LAKE B	23B0865-32	Water	Fluoride	0.566	mg/L	2/17/2023	12:29
FISH LAKE B	23B0865-32	Water	Total Alkalinity	85.8	mg/L	2/17/2023	12:29
FISH LAKE B	23B0865-32	Water	Total Dissolved Solids	550	mg/L	2/17/2023	12:29
FISH LAKE B	23B0865-32	Water	Sulfate	200	mg/L	2/17/2023	12:29
FISH LAKE B	23B0865-32	Water	Chloride	64.9	mg/L	2/17/2023	12:29

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Work Order # 23B0865
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McIntosh Plant

Lab ID: 23B0865-01
Client Sample ID: CCR-1A
Matrix: Water

Collection Date: 02/15/23 15:00
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/22 11:00	02/22 13:54	JD
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/22 11:00	02/22 13:54	JD
Barium	12.1		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/22 11:00	02/22 13:54	JD
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/22 11:00	02/22 13:54	JD
Boron	47.2		ug/L	1	0.616	10.0	EPA 200.7/3010	02/22 11:00	02/22 13:54	JD
Cadmium	ND	U	ug/L	1	0.217	1.00	EPA 200.7/3010	02/22 11:00	02/22 13:54	JD
Calcium	38100		ug/L	1	5.96	50.0	EPA 200.7/3010	02/22 11:00	02/22 13:54	JD
Chromium	1.30	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/22 11:00	02/22 13:54	JD
Cobalt	0.400	I	ug/L	1	0.354	1.00	EPA 200.7/3010	02/22 11:00	02/22 13:54	JD
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/22 11:00	02/22 13:54	JD
Lithium	ND	U	ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 11:00	02/23 10:21	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/23 11:00	02/24 09:53	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/22 11:00	02/22 13:54	JD
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/22 11:00	02/22 13:54	JD
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/22 11:00	02/22 13:54	JD

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McIntosh Plant

Lab ID: 23B0865-02
Client Sample ID: CCR-1B
Matrix: Water

Collection Date: 02/15/23 15:00
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Chloride	5.64		mg/L	1	0.126	0.500	EPA 300.0	02/22 17:00	02/23 00:22	PK
Fluoride	0.0640		mg/L	1	0.00520	0.0250	EPA 300.0	02/22 17:00	02/23 00:22	PK
Sulfate	69.8		mg/L	1	0.0953	0.500	EPA 300.0	02/22 17:00	02/23 00:22	PK
Total Dissolved Solids	224		mg/L	2	20.0	60.0	SM 2540C	02/22 12:30	02/23 21:01	LE

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Lab ID: 23B0865-03
Client Sample ID: CCR-2A
Matrix: Water

Collection Date: 02/15/23 14:41
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/22 11:00	02/22 13:56	JD
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/22 11:00	02/22 13:56	JD
Barium	5.90		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/22 11:00	02/22 13:56	JD
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/22 11:00	02/22 13:56	JD
Boron	31.2		ug/L	1	0.616	10.0	EPA 200.7/3010	02/22 11:00	02/22 13:56	JD
Cadmium	ND	U	ug/L	1	0.217	1.00	EPA 200.7/3010	02/22 11:00	02/22 13:56	JD
Calcium	30800		ug/L	1	5.96	50.0	EPA 200.7/3010	02/22 11:00	02/22 13:56	JD
Chromium	1.30	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/22 11:00	02/22 13:56	JD
Cobalt	0.500	I	ug/L	1	0.354	1.00	EPA 200.7/3010	02/22 11:00	02/22 13:56	JD
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/22 11:00	02/22 13:56	JD
Lithium	ND	U	ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 11:00	02/23 10:23	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/23 11:00	02/24 09:56	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/22 11:00	02/22 13:56	JD
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/22 11:00	02/22 13:56	JD
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/22 11:00	02/22 13:56	JD

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Lab ID: 23B0865-04
Client Sample ID: CCR-2B
Matrix: Water

Collection Date: 02/15/23 14:41
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Chloride	8.36		mg/L	1	0.126	0.500	EPA 300.0	02/22 17:00	02/23 00:38	PK
Fluoride	0.107		mg/L	1	0.00520	0.0250	EPA 300.0	02/22 17:00	02/23 00:38	PK
Sulfate	34.0		mg/L	1	0.0953	0.500	EPA 300.0	02/22 17:00	02/23 00:38	PK
Total Dissolved Solids	176		mg/L	2	20.0	60.0	SM 2540C	02/22 12:30	02/23 21:01	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-05
Client Sample ID: CCR-4A
Matrix: Water

Collection Date: 02/15/23 17:53
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/22 11:00	02/22 13:58	JD
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/22 11:00	02/22 13:58	JD
Barium	220		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/22 11:00	02/22 13:58	JD
Beryllium	0.200	I	ug/L	1	0.107	1.00	EPA 200.7/3010	02/22 11:00	02/22 13:58	JD
Boron	602		ug/L	1	0.616	10.0	EPA 200.7/3010	02/22 11:00	02/22 13:58	JD
Cadmium	1.10		ug/L	1	0.217	1.00	EPA 200.7/3010	02/22 11:00	02/22 13:58	JD
Calcium	1480000		ug/L	100	596	5000	EPA 200.7/3010	02/22 11:00	02/22 15:08	JD
Chromium	1.90	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/22 11:00	02/22 13:58	JD
Cobalt	3.20		ug/L	1	0.354	1.00	EPA 200.7/3010	02/22 11:00	02/22 13:58	JD
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/22 11:00	02/22 13:58	JD
Lithium	192		ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 11:00	02/23 10:26	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/23 11:00	02/24 09:59	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/22 11:00	02/22 13:58	JD
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/22 11:00	02/22 13:58	JD
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/22 11:00	02/22 13:58	JD

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-06
Client Sample ID: CCR-4B
Matrix: Water

Collection Date: 02/15/23 17:53
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Chloride	3500		mg/L	50	6.30	25.0	EPA 300.0	02/22 17:00	02/23 00:54	PK
Fluoride	0.521		mg/L	10	0.0520	0.250	EPA 300.0	02/23 17:00	02/24 06:49	OC
Sulfate	1040		mg/L	50	4.76	25.0	EPA 300.0	02/22 17:00	02/23 00:54	PK
Total Dissolved Solids	8600		mg/L	4	40.0	120	SM 2540C	02/22 12:30	02/23 21:01	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-07
Client Sample ID: CCR-6A
Matrix: Water

Collection Date: 02/15/23 18:06
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/22 11:00	02/22 13:59	JD
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/22 11:00	02/22 13:59	JD
Barium	15.0		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/22 11:00	02/22 13:59	JD
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/22 11:00	02/22 13:59	JD
Boron	409		ug/L	1	0.616	10.0	EPA 200.7/3010	02/22 11:00	02/22 13:59	JD
Cadmium	0.300	I	ug/L	1	0.217	1.00	EPA 200.7/3010	02/22 11:00	02/22 13:59	JD
Calcium	303000		ug/L	10	59.6	500	EPA 200.7/3010	02/22 11:00	02/22 16:33	JD
Chromium	1.00	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/22 11:00	02/22 13:59	JD
Cobalt	0.500	I	ug/L	1	0.354	1.00	EPA 200.7/3010	02/22 11:00	02/22 13:59	JD
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/22 11:00	02/22 13:59	JD
Lithium	427		ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 11:00	02/23 10:29	JD
Magnesium	4660		ug/L	1	2.48	20.0	EPA 200.7/3010	02/22 11:00	02/22 13:59	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/23 11:00	02/24 10:02	JD
Molybdenum	7.60	I	ug/L	1	1.43	10.0	EPA 200.7/3010	02/22 11:00	02/22 13:59	JD
Potassium	99900		ug/L	10	109	500	EPA 200.7/3010	02/22 11:00	02/22 16:33	JD
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/22 11:00	02/22 13:59	JD
Sodium	96200		ug/L	10	5210	20000	EPA 200.7/3010	02/22 11:00	02/22 16:33	JD
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/22 11:00	02/22 13:59	JD

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-08
Client Sample ID: CCR-6B
Matrix: Water

Collection Date: 02/15/23 18:06
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	124		mg/L	1	3.74	10.0	EPA 310.2	02/22 17:29	02/22 17:29	OC
Bicarbonate	124		mg/L	1	3.74	10.0	EPA 310.2	02/22 17:29	02/22 17:29	OC
Chloride	458		mg/L	20	2.52	10.0	EPA 300.0	02/22 17:00	02/23 01:11	PK
Fluoride	0.374		mg/L	2	0.0104	0.0500	EPA 300.0	02/23 17:00	02/24 07:06	OC
Sulfate	447		mg/L	20	1.91	10.0	EPA 300.0	02/22 17:00	02/23 01:11	PK
Total Dissolved Solids	1740		mg/L	4	40.0	120	SM 2540C	02/22 12:30	02/23 21:01	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-09
Client Sample ID: CCR-13A
Matrix: Water

Collection Date: 02/16/23 10:36
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:01	JD
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:01	JD
Barium	31.8		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:01	JD
Beryllium	0.200	I	ug/L	1	0.107	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:01	JD
Boron	412		ug/L	1	0.616	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:01	JD
Cadmium	0.300	I	ug/L	1	0.217	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:01	JD
Calcium	497000		ug/L	100	596	5000	EPA 200.7/3010	02/22 11:00	02/22 15:18	JD
Chromium	1.90	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/22 11:00	02/22 14:01	JD
Cobalt	2.90		ug/L	1	0.354	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:01	JD
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:01	JD
Lithium	135		ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 11:00	02/23 10:31	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/23 11:00	02/24 10:06	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:01	JD
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:01	JD
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/22 11:00	02/22 14:01	JD

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-10
Client Sample ID: CCR-13B
Matrix: Water

Collection Date: 02/16/23 10:36
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Wet Chemistry

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Chloride	123		mg/L	20	2.52	10.0	EPA 300.0	02/22 17:00	02/23 01:27	PK
Fluoride	1.34		mg/L	2	0.0104	0.0500	EPA 300.0	02/23 17:00	02/24 07:22	OC
Sulfate	1460		mg/L	20	1.91	10.0	EPA 300.0	02/22 17:00	02/23 01:27	PK
Total Dissolved Solids	2490		mg/L	4	40.0	120	SM 2540C	02/22 12:30	02/23 21:01	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-11
Client Sample ID: CCR-12A
Matrix: Water

Collection Date: 02/16/23 12:03
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:03	JD
Arsenic	61.5		ug/L	1	3.96	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:03	JD
Barium	17.8		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:03	JD
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:03	JD
Boron	367		ug/L	1	0.616	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:03	JD
Cadmium	0.900	I	ug/L	1	0.217	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:03	JD
Calcium	525000		ug/L	100	596	5000	EPA 200.7/3010	02/22 11:00	02/22 15:20	JD
Chromium	0.600	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/22 11:00	02/22 14:03	JD
Cobalt	0.800	I	ug/L	1	0.354	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:03	JD
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:03	JD
Lithium	17.7	I	ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 11:00	02/23 10:34	JD
Magnesium	5370		ug/L	1	2.48	20.0	EPA 200.7/3010	02/22 11:00	02/22 14:03	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/23 11:00	02/24 10:09	JD
Molybdenum	12.9		ug/L	1	1.43	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:03	JD
Potassium	81900		ug/L	1	10.9	50.0	EPA 200.7/3010	02/22 11:00	02/22 14:03	JD
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:03	JD
Sodium	23200		ug/L	1	521	2000	EPA 200.7/3010	02/22 11:00	02/22 14:03	JD
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/22 11:00	02/22 14:03	JD

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-12
Client Sample ID: CCR-12B
Matrix: Water

Collection Date: 02/16/23 12:03
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	223		mg/L	1	3.74	10.0	EPA 310.2	02/22 17:29	02/22 17:29	OC
Bicarbonate	223		mg/L	1	3.74	10.0	EPA 310.2	02/22 17:29	02/22 17:29	OC
Chloride	16.0		mg/L	20	2.52	10.0	EPA 300.0	02/22 17:30	02/23 06:07	PK
Fluoride	0.794		mg/L	2	0.0104	0.0500	EPA 300.0	02/23 17:00	02/24 07:39	OC
Sulfate	1190		mg/L	20	1.91	10.0	EPA 300.0	02/22 17:30	02/23 06:07	PK
Total Dissolved Solids	2080		mg/L	4	40.0	120	SM 2540C	02/22 12:30	02/23 21:01	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-13
Client Sample ID: CCR-23A
Matrix: Water

Collection Date: 02/16/23 08:33
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:05	JD
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:05	JD
Barium	8.30		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:05	JD
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:05	JD
Boron	725		ug/L	1	0.616	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:05	JD
Cadmium	ND	U	ug/L	1	0.217	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:05	JD
Calcium	238000		ug/L	1	5.96	50.0	EPA 200.7/3010	02/22 11:00	02/22 14:05	JD
Chromium	1.90	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/22 11:00	02/22 14:05	JD
Cobalt	0.400	I	ug/L	1	0.354	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:05	JD
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:05	JD
Lithium	ND	U	ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 11:00	02/23 10:36	JD
Magnesium	26400		ug/L	10	24.8	200	EPA 200.7/3010	02/22 11:00	02/22 15:57	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/23 11:00	02/24 10:12	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:05	JD
Potassium	17800		ug/L	1	10.9	50.0	EPA 200.7/3010	02/22 11:00	02/22 14:05	JD
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:05	JD
Sodium	49400		ug/L	1	521	2000	EPA 200.7/3010	02/22 11:00	02/22 14:05	JD
Thallium	1.80	I	ug/L	1	0.925	4.00	EPA 200.7/3010	02/22 11:00	02/22 14:05	JD

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-14
Client Sample ID: CCR-23B
Matrix: Water

Collection Date: 02/16/23 08:33
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	37.9	J3	mg/L	1	3.74	10.0	EPA 310.2	02/22 17:29	02/22 17:29	OC
Bicarbonate	37.9		mg/L	1	3.74	10.0	EPA 310.2	02/22 17:29	02/22 17:29	OC
Chloride	131		mg/L	10	1.26	5.00	EPA 300.0	02/22 17:30	02/23 06:24	PK
Fluoride	0.421		mg/L	1	0.00520	0.0250	EPA 300.0	02/23 17:00	02/24 07:55	OC
Sulfate	660		mg/L	10	0.953	5.00	EPA 300.0	02/22 17:30	02/23 06:24	PK
Total Dissolved Solids	1380		mg/L	4	40.0	120	SM 2540C	02/22 12:30	02/23 21:01	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-15
Client Sample ID: CCR-22A
Matrix: Water

Collection Date: 02/16/23 08:59
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:07	JD
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:07	JD
Barium	33.0		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:07	JD
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:07	JD
Boron	486		ug/L	1	0.616	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:07	JD
Cadmium	ND	U	ug/L	1	0.217	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:07	JD
Calcium	329000		ug/L	10	59.6	500	EPA 200.7/3010	02/22 11:00	02/22 16:35	JD
Chromium	1.70	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/22 11:00	02/22 14:07	JD
Cobalt	1.90		ug/L	1	0.354	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:07	JD
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:07	JD
Lithium	65.4		ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 11:00	02/23 10:39	JD
Magnesium	16800		ug/L	1	2.48	20.0	EPA 200.7/3010	02/22 11:00	02/22 14:07	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/23 11:00	02/24 10:15	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:07	JD
Potassium	113000		ug/L	10	109	500	EPA 200.7/3010	02/22 11:00	02/22 16:35	JD
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:07	JD
Sodium	40800		ug/L	10	5210	20000	EPA 200.7/3010	02/22 11:00	02/22 16:35	JD
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/22 11:00	02/22 14:07	JD

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-16
Client Sample ID: CCR-22B
Matrix: Water

Collection Date: 02/16/23 08:59
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	11.6		mg/L	1	3.74	10.0	EPA 310.2	02/22 17:29	02/22 17:29	OC
Bicarbonate	11.6		mg/L	1	3.74	10.0	EPA 310.2	02/22 17:29	02/22 17:29	OC
Chloride	135		mg/L	20	2.52	10.0	EPA 300.0	02/22 17:30	02/23 06:40	PK
Fluoride	1.42		mg/L	2	0.0104	0.0500	EPA 300.0	02/23 17:00	02/24 08:12	OC
Sulfate	1020		mg/L	20	1.91	10.0	EPA 300.0	02/22 17:30	02/23 06:40	PK
Total Dissolved Solids	1850		mg/L	4	40.0	120	SM 2540C	02/22 12:30	02/23 21:01	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-17
Client Sample ID: CCR-21A
Matrix: Water

Collection Date: 02/16/23 09:48
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:09	JD
Arsenic	5.40	I	ug/L	1	3.96	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:09	JD
Barium	42.5		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:09	JD
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:09	JD
Boron	364		ug/L	1	0.616	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:09	JD
Cadmium	0.400	I	ug/L	1	0.217	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:09	JD
Calcium	490000		ug/L	100	596	5000	EPA 200.7/3010	02/22 11:00	02/22 15:25	JD
Chromium	0.600	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/22 11:00	02/22 14:09	JD
Cobalt	1.40		ug/L	1	0.354	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:09	JD
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:09	JD
Lithium	31.3		ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 11:00	02/23 10:42	JD
Magnesium	15800		ug/L	1	2.48	20.0	EPA 200.7/3010	02/22 11:00	02/22 14:09	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/23 11:00	02/24 10:18	JD
Molybdenum	25.9		ug/L	1	1.43	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:09	JD
Potassium	22200		ug/L	1	10.9	50.0	EPA 200.7/3010	02/22 11:00	02/22 14:09	JD
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:09	JD
Sodium	24000		ug/L	1	521	2000	EPA 200.7/3010	02/22 11:00	02/22 14:09	JD
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/22 11:00	02/22 14:09	JD

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-18
Client Sample ID: CCR-21B
Matrix: Water

Collection Date: 02/16/23 09:48
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Wet Chemistry

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Total Alkalinity	255		mg/L	1	3.74	10.0	EPA 310.2	02/22 17:29	02/22 17:29	OC
Bicarbonate	255		mg/L	1	3.74	10.0	EPA 310.2	02/22 17:29	02/22 17:29	OC
Chloride	20.5		mg/L	10	1.26	5.00	EPA 300.0	02/22 17:30	02/23 06:57	PK
Fluoride	0.695		mg/L	2	0.0104	0.0500	EPA 300.0	02/23 17:00	02/24 08:28	OC
Sulfate	966		mg/L	10	0.953	5.00	EPA 300.0	02/22 17:30	02/23 06:57	PK
Total Dissolved Solids	1880		mg/L	4	40.0	120	SM 2540C	02/22 12:30	02/23 21:01	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-19
Client Sample ID: CCR-20A
Matrix: Water

Collection Date: 02/16/23 14:30
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:37	JD
Arsenic	49.7		ug/L	1	3.96	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:37	JD
Barium	40.2		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:37	JD
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:37	JD
Boron	390		ug/L	1	0.616	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:37	JD
Cadmium	0.800	I	ug/L	1	0.217	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:37	JD
Calcium	531000		ug/L	10	59.6	500	EPA 200.7/3010	02/22 11:00	02/22 16:37	JD
Chromium	1.50	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/22 11:00	02/22 14:37	JD
Cobalt	ND	U	ug/L	1	0.354	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:37	JD
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:37	JD
Lithium	ND	U	ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 11:00	02/23 10:44	JD
Magnesium	11700		ug/L	1	2.48	20.0	EPA 200.7/3010	02/22 11:00	02/22 14:37	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/23 11:00	02/24 10:20	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:37	JD
Potassium	315000		ug/L	10	109	500	EPA 200.7/3010	02/22 11:00	02/22 16:37	JD
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:37	JD
Sodium	196000		ug/L	10	5210	20000	EPA 200.7/3010	02/22 11:00	02/22 16:37	JD
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/22 11:00	02/22 14:37	JD

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-20
Client Sample ID: CCR-20B
Matrix: Water

Collection Date: 02/16/23 14:30
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	22.6		mg/L	1	3.74	10.0	EPA 310.2	02/22 17:29	02/22 17:29	OC
Bicarbonate	22.6		mg/L	1	3.74	10.0	EPA 310.2	02/22 17:29	02/22 17:29	OC
Chloride	429		mg/L	20	2.52	10.0	EPA 300.0	02/22 17:30	02/23 07:13	PK
Fluoride	0.213		mg/L	2	0.0104	0.0500	EPA 300.0	02/23 17:00	02/24 08:45	OC
Sulfate	1770		mg/L	20	1.91	10.0	EPA 300.0	02/22 17:30	02/23 07:13	PK
Total Dissolved Solids	3530		mg/L	4	40.0	120	SM 2540C	02/22 12:30	02/23 21:01	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-21
Client Sample ID: CCR-19A
Matrix: Water

Collection Date: 02/16/23 15:04
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:51	JD
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:51	JD
Barium	31.8		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:51	JD
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:51	JD
Boron	294		ug/L	1	0.616	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:51	JD
Cadmium	0.500	I	ug/L	1	0.217	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:51	JD
Calcium	239000		ug/L	10	59.6	500	EPA 200.7/3010	02/22 11:00	02/22 16:39	JD
Chromium	1.70	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/22 11:00	02/22 14:51	JD
Cobalt	0.400	I	ug/L	1	0.354	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:51	JD
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:51	JD
Lithium	ND	U	ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 11:00	02/23 10:58	JD
Magnesium	16900		ug/L	1	2.48	20.0	EPA 200.7/3010	02/22 11:00	02/22 14:51	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/23 11:00	02/24 10:36	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:51	JD
Potassium	64600		ug/L	10	109	500	EPA 200.7/3010	02/22 11:00	02/22 16:39	JD
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:51	JD
Sodium	65100		ug/L	10	5210	20000	EPA 200.7/3010	02/22 11:00	02/22 16:39	JD
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/22 11:00	02/22 14:51	JD

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-22
Client Sample ID: CCR-19B
Matrix: Water

Collection Date: 02/16/23 15:04
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Wet Chemistry

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Total Alkalinity	9.22	I	mg/L	1	3.74	10.0	EPA 310.2	02/22 17:29	02/22 17:29	OC
Bicarbonate	9.22	I	mg/L	1	3.74	10.0	EPA 310.2	02/22 17:29	02/22 17:29	OC
Chloride	346		mg/L	10	1.26	5.00	EPA 300.0	02/22 17:30	02/23 07:30	PK
Fluoride	0.658		mg/L	2	0.0104	0.0500	EPA 300.0	02/23 17:00	02/24 10:56	OC
Sulfate	458		mg/L	10	0.953	5.00	EPA 300.0	02/22 17:30	02/23 07:30	PK
Total Dissolved Solids	1620		mg/L	4	40.0	120	SM 2540C	02/22 12:30	02/23 21:01	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-23
Client Sample ID: CCR-5A
Matrix: Water

Collection Date: 02/16/23 16:27
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:53	JD
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:53	JD
Barium	84.0		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:53	JD
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:53	JD
Boron	501		ug/L	1	0.616	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:53	JD
Cadmium	1.00		ug/L	1	0.217	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:53	JD
Calcium	1890000		ug/L	100	596	5000	EPA 200.7/3010	02/22 11:00	02/22 15:35	JD
Chromium	0.800	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/22 11:00	02/22 14:53	JD
Cobalt	3.40		ug/L	1	0.354	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:53	JD
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:53	JD
Lithium	2830		ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 11:00	02/23 11:00	JD
Magnesium	31900		ug/L	10	24.8	200	EPA 200.7/3010	02/22 11:00	02/22 15:59	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/23 11:00	02/24 10:39	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:53	JD
Potassium	563000		ug/L	100	1090	5000	EPA 200.7/3010	02/22 11:00	02/22 15:35	JD
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:53	JD
Sodium	872000		ug/L	100	52100	200000	EPA 200.7/3010	02/22 11:00	02/22 15:35	JD
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/22 11:00	02/22 14:53	JD

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-24
Client Sample ID: CCR-5B
Matrix: Water

Collection Date: 02/16/23 16:27
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	19.8		mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Bicarbonate	19.8		mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Chloride	5420		mg/L	100	12.6	50.0	EPA 300.0	02/23 17:00	02/24 14:31	OC
Fluoride	ND	U	mg/L	5	0.0260	0.125	EPA 300.0	02/22 17:30	02/23 07:46	PK
Sulfate	613		mg/L	40	3.81	20.0	EPA 300.0	02/23 17:00	02/24 09:01	OC
Total Dissolved Solids	10600		mg/L	4	40.0	120	SM 2540C	02/22 12:30	02/23 21:01	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-25
Client Sample ID: CCR-18A
Matrix: Water

Collection Date: 02/16/23 15:53
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:55	JD
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:55	JD
Barium	1.00		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:55	JD
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:55	JD
Boron	42.2		ug/L	1	0.616	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:55	JD
Cadmium	ND	U	ug/L	1	0.217	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:55	JD
Calcium	64000		ug/L	1	5.96	50.0	EPA 200.7/3010	02/22 11:00	02/22 14:55	JD
Chromium	1.10	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/22 11:00	02/22 14:55	JD
Cobalt	ND	U	ug/L	1	0.354	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:55	JD
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:55	JD
Lithium	ND	U	ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 11:00	02/23 11:04	JD
Magnesium	3180		ug/L	1	2.48	20.0	EPA 200.7/3010	02/22 11:00	02/22 14:55	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/23 11:00	02/24 10:42	JD
Molybdenum	4.20	I	ug/L	1	1.43	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:55	JD
Potassium	2560		ug/L	1	10.9	50.0	EPA 200.7/3010	02/22 11:00	02/22 14:55	JD
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:55	JD
Sodium	1650	I	ug/L	1	521	2000	EPA 200.7/3010	02/22 11:00	02/22 14:55	JD
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/22 11:00	02/22 14:55	JD

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-26
Client Sample ID: CCR-18B
Matrix: Water

Collection Date: 02/16/23 15:53
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	171		mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Bicarbonate	171		mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Chloride	1.66		mg/L	1	0.126	0.500	EPA 300.0	02/22 17:00	02/23 04:45	PK
Fluoride	0.264		mg/L	1	0.00520	0.0250	EPA 300.0	02/22 17:00	02/23 04:45	PK
Sulfate	16.7		mg/L	1	0.0953	0.500	EPA 300.0	02/22 17:00	02/23 04:45	PK
Total Dissolved Solids	552		mg/L	2	20.0	60.0	SM 2540C	02/22 12:30	02/23 21:01	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-27
Client Sample ID: CCR-11A
Matrix: Water

Collection Date: 02/16/23 18:01
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:57	JD
Arsenic	51.3		ug/L	1	3.96	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:57	JD
Barium	47.0		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:57	JD
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:57	JD
Boron	360		ug/L	1	0.616	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:57	JD
Cadmium	1.00		ug/L	1	0.217	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:57	JD
Calcium	564000		ug/L	10	59.6	500	EPA 200.7/3010	02/22 11:00	02/22 16:40	JD
Chromium	1.60	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/22 11:00	02/22 14:57	JD
Cobalt	0.900	I	ug/L	1	0.354	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:57	JD
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:57	JD
Lithium	13.6	I	ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 11:00	02/23 11:07	JD
Magnesium	10300		ug/L	1	2.48	20.0	EPA 200.7/3010	02/22 11:00	02/22 14:57	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/23 11:00	02/24 10:45	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:57	JD
Potassium	322000		ug/L	10	109	500	EPA 200.7/3010	02/22 11:00	02/22 16:40	JD
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:57	JD
Sodium	191000		ug/L	10	5210	20000	EPA 200.7/3010	02/22 11:00	02/22 16:40	JD
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/22 11:00	02/22 14:57	JD

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-28
Client Sample ID: CCR-11B
Matrix: Water

Collection Date: 02/16/23 18:01
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	11.7		mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Bicarbonate	11.6		mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Chloride	530		mg/L	20	2.52	10.0	EPA 300.0	02/22 17:30	02/23 08:03	PK
Fluoride	1.31		mg/L	2	0.0104	0.0500	EPA 300.0	02/23 17:00	02/24 11:13	OC
Sulfate	1720		mg/L	20	1.91	10.0	EPA 300.0	02/22 17:30	02/23 08:03	PK
Total Dissolved Solids	3670		mg/L	4	40.0	120	SM 2540C	02/22 12:30	02/23 21:01	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-29
Client Sample ID: LAKE-D-A
Matrix: Water

Collection Date: 02/17/23 08:50
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:59	JD
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:59	JD
Barium	6.80		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:59	JD
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:59	JD
Boron	34.9		ug/L	1	0.616	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:59	JD
Cadmium	ND	U	ug/L	1	0.217	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:59	JD
Calcium	61000		ug/L	1	5.96	50.0	EPA 200.7/3010	02/22 11:00	02/22 14:59	JD
Chromium	1.00	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/22 11:00	02/22 14:59	JD
Cobalt	0.500	I	ug/L	1	0.354	1.00	EPA 200.7/3010	02/22 11:00	02/22 14:59	JD
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:59	JD
Lithium	9.19	I	ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 11:00	02/23 11:09	JD
Magnesium	14100		ug/L	1	2.48	20.0	EPA 200.7/3010	02/22 11:00	02/22 14:59	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/23 11:00	02/24 10:48	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/22 11:00	02/22 14:59	JD
Potassium	18000		ug/L	1	10.9	50.0	EPA 200.7/3010	02/22 11:00	02/22 14:59	JD
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/22 11:00	02/22 14:59	JD
Sodium	31900		ug/L	1	521	2000	EPA 200.7/3010	02/22 11:00	02/22 14:59	JD
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/22 11:00	02/22 14:59	JD

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-30
Client Sample ID: LAKE-D-B
Matrix: Water

Collection Date: 02/17/23 08:50
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	42.6		mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Bicarbonate	42.6		mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Chloride	168		mg/L	2	0.252	1.00	EPA 300.0	02/23 17:00	02/24 11:29	OC
Fluoride	0.256		mg/L	1	0.00520	0.0250	EPA 300.0	02/22 17:30	02/23 08:19	PK
Sulfate	18.6		mg/L	1	0.0953	0.500	EPA 300.0	02/22 17:30	02/23 08:19	PK
Total Dissolved Solids	692		mg/L	2	20.0	60.0	SM 2540C	02/22 12:30	02/23 21:01	LE

Report To:
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Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-31
Client Sample ID: FISH LAKE A
Matrix: Water

Collection Date: 02/17/23 12:29
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/22 11:00	02/22 15:00	JD
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/22 11:00	02/22 15:00	JD
Barium	4.90		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/22 11:00	02/22 15:00	JD
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/22 11:00	02/22 15:00	JD
Boron	152		ug/L	1	0.616	10.0	EPA 200.7/3010	02/22 11:00	02/22 15:00	JD
Cadmium	ND	U	ug/L	1	0.217	1.00	EPA 200.7/3010	02/22 11:00	02/22 15:00	JD
Calcium	103000		ug/L	1	5.96	50.0	EPA 200.7/3010	02/22 11:00	02/22 15:00	JD
Chromium	ND	U	ug/L	1	0.513	5.00	EPA 200.7/3010	02/22 11:00	02/22 15:00	JD
Cobalt	ND	U	ug/L	1	0.354	1.00	EPA 200.7/3010	02/22 11:00	02/22 15:00	JD
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/22 11:00	02/22 15:00	JD
Lithium	5.26	I	ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 11:00	02/23 11:12	JD
Magnesium	5560		ug/L	1	2.48	20.0	EPA 200.7/3010	02/22 11:00	02/22 15:00	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/23 11:00	02/24 10:51	JD
Molybdenum	2.10	I	ug/L	1	1.43	10.0	EPA 200.7/3010	02/22 11:00	02/22 15:00	JD
Potassium	34400		ug/L	1	10.9	50.0	EPA 200.7/3010	02/22 11:00	02/22 15:00	JD
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/22 11:00	02/22 15:00	JD
Sodium	25200		ug/L	1	521	2000	EPA 200.7/3010	02/22 11:00	02/22 15:00	JD
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/22 11:00	02/22 15:00	JD

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0865-32
Client Sample ID: FISH LAKE B
Matrix: Water

Collection Date: 02/17/23 12:29
Received Date: 02/21/23 17:05
Collected By: Client

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	85.8		mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Bicarbonate	78.9		mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Chloride	64.9		mg/L	2	0.252	1.00	EPA 300.0	02/22 17:30	02/23 09:58	PK
Fluoride	0.566		mg/L	2	0.0104	0.0500	EPA 300.0	02/22 17:30	02/23 09:58	PK
Sulfate	200		mg/L	2	0.191	1.00	EPA 300.0	02/22 17:30	02/23 09:58	PK
Total Dissolved Solids	550		mg/L	2	20.0	60.0	SM 2540C	02/22 12:30	02/23 21:01	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023

Work Order # 23B0865

Project: 2023 CCR Monitoring Program
McIntosh Plant

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0798 - Default Preparation GenChem										
Blank (23B0798-BLK1)				Prepared & Analyzed: 02/22/2023						
Total Alkalinity	ND	10.0	mg/L							U
LCS (23B0798-BS1)				Prepared & Analyzed: 02/22/2023						
Total Alkalinity	246	10.0	mg/L	250.0		98	90-110			
Duplicate (23B0798-DUP1)		**Source: 23B0847-04**		Prepared & Analyzed: 02/22/2023						
Total Alkalinity	61.0	10.0	mg/L		60.6			0.7	20	
Matrix Spike (23B0798-MS1)		**Source: 23B0847-04**		Prepared & Analyzed: 02/22/2023						
Total Alkalinity	277	10.0	mg/L	250.0	60.6	87	90-110			J3
Matrix Spike (23B0798-MS2)		**Source: 23B0865-14**		Prepared & Analyzed: 02/22/2023						
Total Alkalinity	260	10.0	mg/L	250.0	37.9	89	90-110			J3
Batch 23B0805 - Default Prep GenChem										
Blank (23B0805-BLK1)				Prepared & Analyzed: 02/22/2023						
Fluoride	ND	0.0250	mg/L							U
Sulfate	ND	0.500	"							U
Chloride	ND	0.500	"							U
LCS (23B0805-BS1)				Prepared & Analyzed: 02/22/2023						
Fluoride	2.46	0.0250	mg/L	2.500		99	90-110			
Sulfate	50.5	0.500	"	50.00		101	90-110			
Chloride	50.3	0.500	"	50.00		101	90-110			
Duplicate (23B0805-DUP1)		**Source: 23B0902-01**		Prepared & Analyzed: 02/22/2023						
Fluoride	0.405	0.0250	mg/L		0.420			4	20	
Chloride	1.34	0.500	"		1.34			0.1	20	
Sulfate	4.20	0.500	"		4.25			1	20	

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Report Printed: 3/8/2023

Work Order # 23B0865

Project: 2023 CCR Monitoring Program
McIntosh Plant

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0805 - Default Prep GenChem										
Matrix Spike (23B0805-MS1)	**Source: 23B0902-01**			Prepared & Analyzed: 02/22/2023						
Fluoride	2.58	0.0250	mg/L	2.500	0.420	86	90-110			J3
Chloride	49.6	0.500	"	50.00	1.34	97	90-110			
Sulfate	53.2	0.500	"	50.00	4.25	98	90-110			
Matrix Spike (23B0805-MS2)	**Source: 23B0865-26**			Prepared: 02/22/2023 Analyzed: 02/23/2023						
Fluoride	2.51	0.0250	mg/L	2.500	0.264	90	90-110			
Chloride	50.4	0.500	"	50.00	1.66	97	90-110			
Sulfate	64.3	0.500	"	50.00	16.7	95	90-110			
Batch 23B0806 - Default Prep GenChem										
Blank (23B0806-BLK1)				Prepared: 02/22/2023 Analyzed: 02/23/2023						
Fluoride	ND	0.0250	mg/L							U
Sulfate	ND	0.500	"							U
Chloride	ND	0.500	"							U
LCS (23B0806-BS1)				Prepared: 02/22/2023 Analyzed: 02/23/2023						
Fluoride	2.47	0.0250	mg/L	2.500		99	90-110			
Sulfate	50.7	0.500	"	50.00		101	90-110			
Chloride	50.5	0.500	"	50.00		101	90-110			
Duplicate (23B0806-DUP1)	**Source: 23C0243-03**			Prepared: 02/22/2023 Analyzed: 02/23/2023						
Fluoride	0.0980	0.0250	mg/L		0.111			12	20	
Sulfate	132	0.500	"		130			2	20	
Chloride	13.8	0.500	"		13.8			0.08	20	
Matrix Spike (23B0806-MS1)	**Source: 23C0243-03**			Prepared: 02/22/2023 Analyzed: 02/23/2023						
Fluoride	3.58	0.0250	mg/L	2.500	0.111	139	90-110			J3
Sulfate	156	0.500	"	50.00	130	53	90-110			J3
Chloride	61.7	0.500	"	50.00	13.8	96	90-110			

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Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0806 - Default Prep GenChem										
Matrix Spike (23B0806-MS2)	**Source: 23B0878-01**			Prepared: 02/22/2023 Analyzed: 02/23/2023						
Fluoride	2.82	0.0250	mg/L	2.500	0.577	90	90-110			
Sulfate	63.0	0.500	"	50.00	15.0	96	90-110			
Chloride	77.6	0.500	"	50.00	31.0	93	90-110			
Batch 23B0839 - Default Prep GenChem										
Blank (23B0839-BLK1)				Prepared: 02/22/2023 Analyzed: 02/23/2023						
Total Dissolved Solids	ND	30.0	mg/L							U
LCS (23B0839-BS1)				Prepared: 02/22/2023 Analyzed: 02/23/2023						
Total Dissolved Solids	516	120	mg/L	500.0		103	80-120			
Duplicate (23B0839-DUP1)	**Source: 23B0865-10**			Prepared: 02/22/2023 Analyzed: 02/23/2023						
Total Dissolved Solids	2470	120	mg/L		2490			0.806	20	
Duplicate (23B0839-DUP2)	**Source: 23B0878-01**			Prepared: 02/22/2023 Analyzed: 02/23/2023						
Total Dissolved Solids	160	60.0	mg/L		166			3.68	20	
Batch 23B0853 - Default Prep GenChem										
Blank (23B0853-BLK1)				Prepared: 02/23/2023 Analyzed: 02/24/2023						
Fluoride	ND	0.0250	mg/L							U
Chloride	ND	0.500	"							U
Sulfate	ND	0.500	"							U
LCS (23B0853-BS1)				Prepared: 02/23/2023 Analyzed: 02/24/2023						
Fluoride	2.53	0.0250	mg/L	2.500		101	90-110			
Chloride	50.5	0.500	"	50.00		101	90-110			
Sulfate	50.6	0.500	"	50.00		101	90-110			

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Report Printed: 3/8/2023

Work Order # 23B0865

Project: 2023 CCR Monitoring Program
McIntosh Plant

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0853 - Default Prep GenChem										
Duplicate (23B0853-DUP1)		**Source: 23B0928-01**		Prepared: 02/23/2023 Analyzed: 02/24/2023						
Fluoride	0.343	0.0250	mg/L		0.354			3	20	
Sulfate	4.70	0.500	"		4.77			1	20	
Chloride	7.17	0.500	"		7.64			6	20	
Matrix Spike (23B0853-MS1)		**Source: 23B0928-01**		Prepared: 02/23/2023 Analyzed: 02/24/2023						
Fluoride	2.52	0.0250	mg/L	2.500	0.354	87	90-110			J3
Chloride	55.8	0.500	"	50.00	7.64	96	90-110			
Sulfate	54.6	0.500	"	50.00	4.77	100	90-110			
Matrix Spike (23B0853-MS2)		**Source: 23B0939-02**		Prepared: 02/23/2023 Analyzed: 02/24/2023						
Fluoride	2.44	0.0250	mg/L	2.500	0.221	89	90-110			J3
Chloride	64.2	0.500	"	50.00	16.6	95	90-110			
Sulfate	50.0	0.500	"	50.00	0.780	99	90-110			
Batch 23C0147 - Default Preparation GenChem										
Blank (23C0147-BLK1)				Prepared & Analyzed: 02/28/2023						
Total Alkalinity	ND	10.0	mg/L							U
LCS (23C0147-BS1)				Prepared & Analyzed: 02/28/2023						
Total Alkalinity	248	10.0	mg/L	250.0		99	90-110			
Duplicate (23C0147-DUP1)		**Source: 23B0865-28**		Prepared & Analyzed: 02/28/2023						
Total Alkalinity	11.6	10.0	mg/L		11.7			0.9	20	
Matrix Spike (23C0147-MS1)		**Source: 23B0865-28**		Prepared & Analyzed: 02/28/2023						
Total Alkalinity	244	10.0	mg/L	250.0	11.7	93	90-110			

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McIntosh Plant

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23C0147 - Default Preparation GenChem										
Matrix Spike (23C0147-MS2)	**Source: 23B0928-01**			Prepared & Analyzed: 02/28/2023						
Total Alkalinity	309	10.0	mg/L	250.0	134	70	90-110			J3

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Report Printed: 3/8/2023

Work Order # 23B0865

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McIntosh Plant

Total Recoverable Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0117 - EPA 3010A										
Blank (23B0117-BLK1)				Prepared & Analyzed: 02/22/2023						
Barium	ND	1.00	ug/L							U
Boron	ND	10.0	"							U
Cadmium	ND	1.00	"							U
Magnesium	ND	20.0	"							U
Calcium	ND	50.0	"							U
Arsenic	ND	10.0	"							U
Antimony	ND	15.0	"							U
Thallium	ND	4.00	"							U
Sodium	ND	2000	"							U
Selenium	ND	15.0	"							U
Molybdenum	ND	10.0	"							U
Chromium	ND	5.00	"							U
Potassium	ND	50.0	"							U
Lead	ND	10.0	"							U
Cobalt	ND	1.00	"							U
Beryllium	ND	1.00	"							U
LCS (23B0117-BS1)				Prepared & Analyzed: 02/22/2023						
Boron	532.8	10.0	ug/L	500.0		107	85-115			
Arsenic	519	10.0	"	500.0		104	85-115			
Cadmium	504.8	1.00	"	500.0		101	85-115			
Antimony	479.8	15.0	"	500.0		96.0	85-115			
Calcium	27200	50.0	"	25500		107	85-115			
Selenium	523.0	15.0	"	500.0		105	85-115			
Lead	487	10.0	"	500.0		97.5	85-115			
Potassium	24600	50.0	"	25500		96.6	85-115			
Thallium	473.7	4.00	"	500.0		94.7	85-115			
Molybdenum	515.2	10.0	"	500.0		103	85-115			
Barium	484.7	1.00	"	500.0		96.9	85-115			
Sodium	25800	2000	"	25500		101	85-115			
Chromium	496.0	5.00	"	500.0		99.2	85-115			
Cobalt	497.3	1.00	"	500.0		99.5	85-115			

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023

Work Order # 23B0865

Project: 2023 CCR Monitoring Program
McIntosh Plant

Total Recoverable Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0117 - EPA 3010A										
LCS (23B0117-BS1)				Prepared & Analyzed: 02/22/2023						
Beryllium	512.0	1.00	ug/L	500.0		102	85-115			
Magnesium	483	20.0	"	500.0		96.6	85-115			
Matrix Spike (23B0117-MS1)	**Source: 23B0865-19**			Prepared & Analyzed: 02/22/2023						
Cadmium	49420	100	ug/L	50000	ND	98.8	70-130			
Magnesium	59600	2000	"	50000	11700	95.6	70-130			
Antimony	48450	1500	"	50000	ND	96.9	70-130			
Arsenic	52100	1000	"	50000	ND	104	70-130			
Barium	47600	100	"	50000	40.20	95.1	70-130			
Beryllium	48600	100	"	50000	ND	97.2	70-130			
Boron	51290	1000	"	50000	389.5	102	70-130			
Calcium	3110000	5000	"	2550000	531000	101	70-130			
Chromium	48600	500	"	50000	ND	97.2	70-130			
Lead	47200	1000	"	50000	ND	94.4	70-130			
Molybdenum	50880	1000	"	50000	ND	102	70-130			
Potassium	2730000	5000	"	2550000	315000	94.9	70-130			
Selenium	50930	1500	"	50000	ND	102	70-130			
Sodium	2690000	200000	"	2550000	196000	97.8	70-130			
Thallium	46130	400	"	50000	ND	92.3	70-130			
Cobalt	48950	100	"	50000	ND	97.9	70-130			
Matrix Spike Dup (23B0117-MSD1)	**Source: 23B0865-19**			Prepared & Analyzed: 02/22/2023						
Arsenic	51000	1000	ug/L	50000	ND	102	70-130	2.12	20	
Boron	50450	1000	"	50000	389.5	100	70-130	1.66	20	
Cadmium	48710	100	"	50000	ND	97.4	70-130	1.45	20	
Beryllium	47980	100	"	50000	ND	96.0	70-130	1.28	20	
Antimony	49280	1500	"	50000	ND	98.6	70-130	1.70	20	
Potassium	2690000	5000	"	2550000	315000	93.1	70-130	1.96	20	
Sodium	2650000	200000	"	2550000	196000	96.1	70-130	1.71	20	
Thallium	45500	400	"	50000	ND	91.0	70-130	1.38	20	
Magnesium	58500	2000	"	50000	11700	93.5	70-130	2.26	20	
Barium	46960	100	"	50000	40.20	93.8	70-130	1.35	20	

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Total Recoverable Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0117 - EPA 3010A										
Matrix Spike Dup (23B0117-MSD1)	**Source: 23B0865-19**			Prepared & Analyzed: 02/22/2023						
Selenium	50230	1500	ug/L	50000	ND	100	70-130	1.38	20	
Chromium	47650	500	"	50000	ND	95.3	70-130	1.97	20	
Calcium	3070000	5000	"	2550000	531000	99.6	70-130	1.58	20	
Lead	46700	1000	"	50000	ND	93.4	70-130	1.04	20	
Molybdenum	50290	1000	"	50000	ND	101	70-130	1.17	20	
Cobalt	48080	100	"	50000	ND	96.2	70-130	1.79	20	
Batch 23B0118 - EPA 3010A										
Blank (23B0118-BLK1)				Prepared: 02/22/2023 Analyzed: 02/23/2023						
Lithium	ND	25.0	ug/L							U
LCS (23B0118-BS1)				Prepared: 02/22/2023 Analyzed: 02/23/2023						
Lithium	2400	25.0	ug/L	2500		96	85-115			
Matrix Spike (23B0118-MS1)	**Source: 23B0865-01**			Prepared: 02/22/2023 Analyzed: 02/23/2023						
Lithium	2280	25.0	ug/L	2500	ND	91	75-125			
Matrix Spike Dup (23B0118-MSD1)	**Source: 23B0865-01**			Prepared: 02/22/2023 Analyzed: 02/23/2023						
Lithium	2300	25.0	ug/L	2500	ND	92	75-125	1	20	
Batch 23B0121 - EPA 245.1/245.2 Prep										
Blank (23B0121-BLK1)				Prepared: 02/23/2023 Analyzed: 02/24/2023						
Mercury	ND	1.00	ug/L							U

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Total Recoverable Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0121 - EPA 245.1/245.2 Prep										
LCS (23B0121-BS1)				Prepared: 02/23/2023 Analyzed: 02/24/2023						
Mercury	10.2	1.00	ug/L	10.00		102	85-115			
Matrix Spike (23B0121-MS1)	**Source: 23B0865-17**			Prepared: 02/23/2023 Analyzed: 02/24/2023						
Mercury	8.48	1.00	ug/L	10.00	ND	85	70-130			
Matrix Spike Dup (23B0121-MSD1)	**Source: 23B0865-17**			Prepared: 02/23/2023 Analyzed: 02/24/2023						
Mercury	8.60	1.00	ug/L	10.00	ND	86	70-130	1	20	

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0865
Project: 2023 CCR Monitoring Program
McIntosh Plant

Notes and Definitions

U	Indicated that the compound was analyzed for but not detected. This shall be used to indicate that the specific component was not detected. The value associated with the qualifier shall be the laboratory method detection limit.
J3	The matrix spike recovery outside method acceptance limits indicating matrix interference.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
N.O.O.	No Odor Observed
REP	Field parameter measured by client
V	Indicated that the analyte was detected in both the sample and the associated method blank.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
Z	Too many colonies were present for accurate counting.
SUB	Work performed by outside (subcontracted) labs denoted by SUB in analyst field.

QC=Qualifier Codes as defined by DEP 62-160
Unless indicated, soil results are reported on actual (wet) weight basis.
The Color SM2120B method is reported as (Color / pH)
Legionella analyzed under CDC acreditation program
Dilution factors >= 1000 are abreviated using k=1000 and M=1000000
Field parameters are not NELAP acredited.
Results relate only to this sample.

Suresh (Bobby) Supan - CSM

Authorized CSM Signature (954) 978-6400
Florida-Spectrum Environmental Services,Inc.
Certification# E86006

All NELAP certified analysis are performed in accordance with Chapter 64E-1 Florida Administrative code, which has been determined to be equivalent to NELAC standards. Analysis certified by programs other than NELAP are designated with a "~".

CHAIN OF CUSTODY RECORD

WORK ORDER # 23B0865
Logged in LIMS by: RDL
Meets Acceptance Criteria: (Y) N

Florida Spectrum
Doc Ctrl 0401122-001
Rev. 1 Date: 04/11/22

☐ 1460 W McNab Road, Ft Lauderdale FL 33309 — Tel (954) 978-6400 — Fax (954) 978-2233
☐ 108 Airport Park Dr., Garden City, GA 31408 — Tel (912) 238-5050 — Fax (912) 234-4815
☐ 528 Gooch Road Fort Meade FL 33841 — Tel (863) 285-8145 — Fax (863) 285-7030
☐ 610 Parrot Ave. N. Okeechobee, FL 34972 — Tel (863) 763-3336 — Fax (863) 763-1544
☐ 111 E Easton Dr., Lakeland, FL 33803 — Tel (863) 686-4271

Original- Return w/report | Yellow-Lab File Copy | Pink-Sampler Copy

DUE DATE Requested
RUSH RESERVATION #
Rush Surcharges apply

Report to: (company name) Lakeland Electric
Report to Address: 3030 East Lake Parker Drive Lakeland, FL 33805
Invoice to: (company name) Lakeland Electric
Purchase Order # 292466
Invoice to Address: 501 East Lemon Street Lakeland, FL 33801
Project Name and/or Number: 2023 CCR Monitoring Program
Site Location: McIntosh Plant
Project Contact: Thomas Johnston
Phone: (863) 834-6623
Fax: E
Email: Thomas.Johnston@lakelandelectric...
Sampler Name (printed): Olivia Hollingsworth & Rik Mandis
Affiliation: Geosyntec
Sampler Signature: [signatures]

ORDER # Lab Control Number	Sample ID	Date Sampled	Time Sampled	Matrix (DW SW GW WW S SED HW BIO SEA OIL X AIR)	Bottle & Pres. Combo Codes	Number of Containers Received & NELAC Letter Suffixes	Appendix III metals	Appendix IV metals	GC Suite metals	Appendix III Cl, F, SO4 (TDS)	GC Suite Bi-carb & T-Alk			TEMP °C	PH	COND	CHLOR
01	CCR-1A	2-15-2023	1500	GW	TH	1	☑	☑	☐	☐	☐	☐	☐				
02	CCR-1B	2-15-2023	1500	GW	TU	1	☐	☐	☐	☑	☐	☐	☐				
03	CCR-2A	2-15-2023	1441	GW	TH	1	☑	☑	☐	☐	☐	☐	☐				
04	CCR-2B	2-15-2023	1441	GW	TU	1	☐	☐	☐	☑	☐	☐	☐				
05	CCR-4A	2-15-2023	1753	GW	TH	1	☑	☑	☐	☐	☐	☐	☐				
06	CCR-4B	2-15-2023	1753	GW	TU	1	☐	☐	☐	☑	☐	☐	☐				
07	CCR-6A	2-15-2023	1806	GW	TH	1	☑	☑	☑	☐	☐	☐	☐				
08	CCR-6B	2-15-2023	1806	GW	TU	1	☐	☐	☐	☑	☑	☐	☐				
09	CCR-13A	2-16-2023	1036	GW	TH	1	☑	☑	☐	☐	☐	☐	☐				
10	CCR-13B	2-16-2023	1036	GW	TU	1	☐	☐	☐	☑	☐	☐	☐				

Shaded Areas For Laboratory Use Only

Special Comments:
"I waive NELAC protocol" (emergency) (sign here)
Thermometer TD360 EG
Deliverables

Please Rt for Lakeland Electric on project name the highlighted sample ID per COC

Sample Custody & Field Comments
Received on Ice: (Y) N
Temp as received: 3.2
Custody Seals? Y N
RAD-# ____ GUN-1 [illegible]
FIELD TIME
Sampling ___ hrs Pick Up ___ hrs
Misc. Charges

SIGNATURE	AFFILIATION	DATE / TIME
Relinquished by: Olivia Hollingsworth	Geosyntec	2-17-2023 1424
Received by: Omar Cueva	FSE	2-17-23 1535
Relinquished by: [signature]		
Received by: [signature]		2/21/23 @ 1038
Relinquished by:		
Received by: [signature]	FSE	02-21-23 15:28

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COC Page 1 of 1

[signature] FSE 02-21-23 17:35
[signature] FSD 2/21/23 1705

4.0°C GUN-1

CHAIN OF CUSTODY RECORD

WORK ORDER # 2330865

Logged in "LIMS by: ZOC

Meets Acceptance Criteria (Y) N

Florida Spectrum Environmental Services, Inc.

Doc Ctrl: 0401122-001 Rev. 1 Date: 04/11/22

☐ 1460 W McNab Road, Ft Lauderdale FL 33309 Tel: (954) 978-6400 Fax: (954) 978-2233
☐ 108 Airport Park Dr., Garden City, GA 31408 Tel: (912) 216-5050 Fax: (912) 234-4815
☐ 528 Gooch Road Fort Meade FL 33841 Tel: (863) 285-8145 Fax: (863) 285-7030
☐ 610 Parrot Ave. N, Okeechobee, FL 34972 Tel: (863) 763-3336 Fax: (863) 763-1544
☐ 111 E Easton Dr., Lakeland, FL 33803 Tel: (863) 686-4271

Original-Return w/report · Yellow-Lab File Copy · Pink-Sampler Copy

DUE DATE Requested

RUSH RESERVATION #

Rush Surcharges apply

Report to: (company name) Lakeland Electric	Report to Address: 3030 East Lake Parker Dr Lakeland, FL 33805
Invoice to: (company name) Lakeland Electric · Purchase Order # 2924606	Invoice to Address: 501 East Lemon Street Lakeland, FL 33801
Project Name and/or Number: 2023 CCR Monitoring Program	Site Location: McIntosh Plant
Project Contact: Thomas Johnson · Phone: (863) 834-6623	Fax: · TDS · Email: Thomas.Johnson@lakelandelectric.com
Sampler Name (printed): Olivia Hollingsworth, Kirk Martin · Affiliation: Geosyntec	Sampler Signature: [signature] Kirk Martin

ORDER # Lab Control Number	Sample ID	Date Sampled	Time Sampled	Matrix	Bottle & Pres. Combo Codes	Number of Containers Received & NELAC Letter Suffixes	Appendix III metals	Appendix IV metals	GC Suite metals	Appendix III Cl, F, SO4	GC Suite Bi-carb, T-Alk			TEMP °C	PH	COND	CHLOR
11	CCR-12A	2-16-2023	1203	GW	TH	1	☑	☑	☑	☐	☐	☐	☐				
12	CCR-12B	2-16-2023	1203	GW	TU	1	☐	☐	☐	☑	☑	☐	☐				
13	CCR-23A	2-16-2023	0853	GW	TH	1	☑	☑	☑	☐	☐	☐	☐				
14	CCR-23B	2-16-2023	0833	GW	TU	1	☐	☐	☐	☑	☑	☐	☐				
15	CCR-22A	2-16-2023	0859	GW	TH	1	☑	☑	☑	☐	☐	☐	☐				
16	CCR-22B	2-16-2023	0859	GW	TU	1	☐	☐	☐	☑	☑	☐	☐				
17	CCR-21A	2-16-2023	0948	GW	TH	1	☑	☑	☑	☐	☐	☐	☐				
18	CCR-21B	2-16-2023	0948	GW	TU	1	☐	☐	☐	☑	☑	☐	☐				
19	CCR-20A	2-16-2023	1430	GW	TH	1	☑	☑	☑	☐	☐	☐	☐				
20	CCR-20B	2-16-2023	1430	GW	TU	1	☐	☐	☐	☑	☑	☐	☐				

Total

Special Comments: Thermometer TD360 8.6C

"I waive NELAC protocol" (emergency) (sign here)

Deliverables · QA/QC Report Needed? No (•) Yes ○ (additional charge)

	SIGNATURE	AFFILIATION	DATE / TIME
1 Relinquished by:	[signature]	Geosyntec	2-17-2023 1424
1 Received by:	[signature]	FSE	2-17-23 1515
2 Relinquished by:	[signature]		
2 Received by:	[signature]		2/21/23 1038
3 Relinquished by:	[signature]		
3 Received by:	[signature]	FSES	02/21/23 15:25

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Sample Custody & Field Comments: Received on Ice: (Y) N · Temp at received: 2.8 · Custody Seals? Y · RAD-S ____ GUN-1 · FIELD TIME Sampling ___ hrs Pick Up ___ hrs · Misc. Charges ____

Bottle Type: A-Liter amber; B-Bacteria bag/bottle; F-500 ml; O-125 ml; H-Plastic Amber liter; L-liter bottle; S2-2 oz soil jar; S4-4 oz soil jar / S8-8 oz soil jar; T-250 ml; V-40 ml vial; W-wide mouth; X-other; TED-Tedlar Air Bag

Preservatives: A-ascorbic acid; C-HCL Cu; CuSO4; DI-DI water; H-HNO3; M-MCAB; MeOH-Methanol; Z-zinc acetate; P-H3PO4; S-H2SO4; T-Na2S2O3; I-Unpreserved; N-NaOH; NH4-NH4CL; Y-Sterile; Additional Preservatives: Headspace Cr Buffer; EDA-Ethylene Diamine

FSES 02-21-23 17:05

FSS 2/21/23 17:05

4.0°C GUN-1

CHAIN OF CUSTODY RECORD

WORK ORDER # 23B0865

Logged in LIMS by: DCL

Meets Acceptance Criteria (Y) N

Florida Spectrum

Doc. Ctrl: 0401122-001 Rev. 1 Date: 04/11/22

☐ 1460 W McNab Road, Ft Lauderdale FL 33309	Tel: (954) 978-6400	Fax: (954) 978-2233
☐ 108 Airport Park Dr., Garden City, GA 31408	Tel: (912) 238-5050	Fax: (912) 234-4815
☐ 528 Gooch Road Fort Meade FL 33841	Tel: (863) 285-8145	Fax: (863) 285-7030
☐ 610 Parrot Ave. N. Okeechobee, FL 34972	Tel: (863) 763-3336	Fax: (863) 763-1544
☐ 111 E. Easton Dr., Lakeland, FL 33803	Tel: (863) 686-4271	

Original- Return w/report | Yellow-Lab File Copy | Pink-Sampler Copy

DUE DATE Requested:

RUSH RESERVATION #:

Rush Surcharges apply

Report to (company name): Lakeland Electric

Report to Address: 3030 East Lake Parker Drive Lakeland, FL 33805

Invoice to (company name): Lakeland Electric

Purchase Order #: 292466

Invoice to Address: 501 East Lemon Street Lakeland, FL 33801

Project Name and/or Number: 2023 CCR monitoring Program

Site Location: McIntosh Plant

Project Contact: Thomas Johnston

Phone: (863) 834-6623

Fax:

Email: Thomas.Johnston@lakelandelectric.com

Sampler Name (printed): Olivia Hollingsworth; R.K. Mathias

Affiliation: Geosyntec

Sampler Signature: [signature] [signature]

ORDER # Lab Control Number (Shaded Areas For Laboratory Use Only)	Sample ID	Date Sampled	Time Sampled	Matrix (DW SW GW WW S SED HW BIO SEA OIL X AIR)	Bottle & Pres. Combo Codes	Number of Containers Received & NELAC Letter Suffixes	Appendix III metals	Appendix IV metals	GC Suite metals	Appendix III Cl, F-, SO4, TDS	GC Suite Bi-carb + T-Alk			TEMP °C	PH	COND	CHLOR
21	CCR-19A	2-16-2023	1504	GW	TH	1	☑	☑	☑	☐	☐	☐	☐				
22	CCR-19B	2-16-2023	1504	GW	TU	1	☐	☐	☐	☑	☑	☐	☐				
23	CCR-5A	2-16-2023	1627	GW	TH	1	☑	☑	☑	☐	☐	☐	☐				
24	CCR-5B	2-16-2023	1627	GW	TU	1	☐	☐	☐	☑	☑	☐	☐				
25	CCR-18A	2-16-2023	1553	GW	TH	1	☑	☑	☑	☐	☐	☐	☐				
26	CCR-18B	2-16-2023	1553	GW	TU	1	☐	☐	☐	☑	☑	☐	☐				
27	CCR-11A	2-16-2023	1801	GW	TH	1	☑	☑	☑	☐	☐	☐	☐				
28	CCR-11B	2-16-2023	1801	GW	TU	1	☐	☐	☐	☑	☑	☐	☐				
29	LAKE-D-A	2-17-2023	0850	SW	TH	1	☑	☑	☑	☐	☐	☐	☐				
30	LAKE-D-B	2-17-2023	0850	SW	TU	1	☐	☐	☐	☑	☑	☐	☐				

Special Comments:

I waive NELAC protocol (emergency) (sign here) >

Thermometer TD3 ELC

Deliverables: QA/QC Report Needed? No (•) Yes ○ (additional charge)

Total

	SIGNATURE	AFFILIATION	DATE / TIME
1	Relinquished by: [signature]	Geosyntec	2-17-2023 1424
1	Received by: [signature]	FSE	2.17.23 1515
2	Relinquished by:		
2	Received by: [signature]		2/21/23 ~~1035~~
3	Relinquished by: Sevan Tomas		2/21/23 1705
3	Received by: [signature]	FSO	2/21/23 1705

Sample Custody & Field Comments:
Received on Ice: (Y) N
Temp as received: 2°C
Custody Seals? Y N
RAD-9 ____ GUN-1 ETLXD
FIELD TIME
Sampling ____ hrs Pick Up ____ hrs
Misc. Charges

Bottle Type:
A-liter amber
B-Bacteria bag/bottle
F-500 ml
D-125 ml
H-Plastic Amber liter
L-liter bottle
S2-2 oz soil jar
S4-4 oz soil jar / S8-8 oz soil jar
T-250 ml
V-40 ml vial
W-wide mouth
X-other
TED-Tedlar Air Bag

Preservatives:
A-ascorbic acid
C-HCL Cu-CuSO4
DI-DI water
H-HNO3
M-MCAB
MeOH-Methanol
Z-zinc acetate
P-H3PO4
S-H2SO4
T-Na2S2O3-H2O
U-Unpreserved
N-NaOH
NH4-NH4CL
V-Vitavile

Additional Preservatives:
Hex-Hex Cr Buffer
EDA-Ethylene Diamine

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COC Page 3 of 4

40°C GUN-1

CHAIN OF CUSTODY RECORD

WORK ORDER # 2330865

Logged in LIMS by: RDL

Meets Acceptance Criteria (Y) N

Florida Spectrum Environmental Services, Inc.

Doc. Ctrl: 0401122-001 Rev. 1 Date: 04/11/22

	Address	Tel	Fax
☐	1460 W McNab Road, Ft Lauderdale FL 33309	Tel: (954) 978-6400	Fax: (954) 978-2233
☐	106 Airport Park Dr., Garden City, GA 31408	Tel: (912) 238-5050	Fax: (912) 234-4815
☐	528 Gooch Road Fort Meade FL 33841	Tel: (863) 285-8145	Fax: (863) 285-7030
☐	610 Parrott Ave. N, Okeechobee, FL 34972	Tel: (863) 763-3336	Fax: (863) 763-1544
☐	111 E Easton Dr., Lakeland, FL 33803	Tel: (863) 686-4271	

Original- Return w/report | Yellow-Lab File Copy | Pink-Sampler Copy

DUE DATE Requested:

RUSH RESERVATION #:

Rush Surcharges apply

Report to: (company name) Lakeland Electric — Report to Address: 3030 East Lake Parker Drive Lakeland, FL 33805

Invoice to: (company name) Lakeland Electric — Purchase Order #: 292406 — Invoice to Address: 501 East Lemon Street Lakeland, FL 33801

Project Name and/or Number: 2023 CCR Monitoring Program — Site Location: McIntosh Plant

Project Contact: Thomas Johnson — Phone: (863) 834-6623 — Fax: — Email: Thomas.Johnson@lakelandelectric.com

Sampler Name (printed): Olivia Hollingsworth + Rik Mistriz — Affiliation: Geosyntec — Sampler Signature: Olivia A. Hollingsworth, Rik Mistriz

Matrix codes: DW SW GW WW S SED HW BIO SEA OIL X AIR

Shaded Areas For Laboratory Use Only

ORDER # Lab Control Number	Sample ID	Date Sampled	Time Sampled	Matrix	Bottle & Pres. Combo Codes	Number of Containers Received & NELAC Letter Suffixes	Appendix III metals	Appendix IV metals	GC Site metals	Appendix III Cl, F, SO4, TDS	GC Site Bi-carbonate T-Alk			TEMP °C	PH	COND	CHLOR
1 31	FishLakeA	2-17-2023	1229	*SW	7H	1	☐	☑	☑	☐	☐	☐	☐				
2 32	FishLakeB	2-17-2023	1229	*SW	7L	1	☐	☐	☐	☑	☑	☐	☐				
3				X			☐	☐	☐	☐	☐	☐	☐				
4				X			☐	☐	☐	☐	☐	☐	☐				
5				X			☐	☐	☐	☐	☐	☐	☐				
6				X			☐	☐	☐	☐	☐	☐	☐				
7				X			☐	☐	☐	☐	☐	☐	☐				
8				X			☐	☐	☐	☐	☐	☐	☐				
9				X			☐	☐	☐	☐	☐	☐	☐				
10				X			☐	☐	☐	☐	☐	☐	☐				
					Total												

Special Comments:

"I waive NELAC protocol" (client) (sign here) > 8.4C Thermometer TD360

Deliverables — QA/QC Report Needed? No (●) Yes ○ *(additional charge)*

	SIGNATURE	AFFILIATION	DATE / TIME
1	Relinquished by: Olivia A. Hollingsworth	Geosyntec	2/17/23 1424
1	Received by:		
2	Relinquished by: [signature]		
2	Received by: [signature]	FSI	2/21/23 @ 1038
3	Relinquished by: [signature]		
3	Received by: [signature]	FSG	02-21-23 1635

Sample Custody & Field Comments

Received on Ice: (Y) N

Temp as received: 4.0°C

Custody Seals? Y N

RAD-9 ____ GUN-1 ✓

FIELD TIME

Sampling ____ hrs Pick Up ____ hrs

Misc. Charges ____

Bottle Type

A-liter amber
B-Bacteria bag/bottle
F-500 ml
O-125 ml
H-Plastic Amber liter
L-liter bottle
S2-2 oz soil jar
S4-4 oz soil jar / S8-8 oz soil jar
T-250 ml
V-40 ml vial
W-wide mouth
X-other
TED-Tedlar Air Bag

Preservation

A-ascorbic acid
C-HCL Cu-CuSO4
H-H2SO4
I-Ice
H-HNO3
M-MCAB
MeOH-Methanol
Z-zinc acetate
P-H3PO4
S-H2SO4
T-Na2S2O3-H2O
U-Unpreserved
N-NaOH
NH4-NH4Cl
V-Sterile

Additional Preservatives

Bis-Bis Cy Buffer
EDA-Ethylene Diamine

www.flenviro.com

COC Page 4 of 4

[signature] FSG 02-21-23 17:05

[signature] FSG 2/21/23 1705

1460 West McNab Road
Fort Lauderdale, FL 33309
1-800-ANALYTE Phone
(954) 978-6400 Phone
(954) 978-2233 Fax

NELAP Certificate No. E86006

10 March 2023
Lab Work Order (COC): 23B0983

Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland, FL 33805

RE: **2023 CCR Monitoring Program**

Project Location: **McIntosh Plant**

Dear Thomas Johnston:

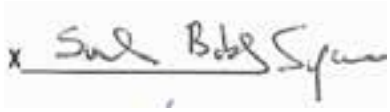
This report details the analytical results of samples collected at the above-referenced project location. These samples were received by Florida Spectrum Environmental Services at **02/23/2023 16:30**.

All Analyses were performed according to the TNI/NELAP standard unless indicated by a "~" on the report.

Your samples will be retained by Florida Spectrum Environmental for a period of at least 30 days following sample receipt or until the longest of the preparation and/or analytical hold times expires, whichever is shorter. After that time, they will be properly disposed without further notice, unless there exists an explicit contractual agreement to the contrary. We reserve the right to return any unused samples, extracts, or related materials or solutions to you if we consider it necessary. Examples might include those samples identified as hazardous wastes, submissions where the sample sizes significantly exceed those required for analysis, samples containing controlled substances, etc.

We thank you for selecting Florida Spectrum Environmental to serve your analytical needs. Should you have any questions or require additional information regarding any of the information in this report, please feel free to contact us at any time. We appreciate the opportunity to be of service.

Florida Spectrum Environmental Inc.



Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/10/2023

Work Order # 23B0983

Project: 2023 CCR Monitoring Program
McIntosh Plant

DETECTED ANALYTE SUMMARY

Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
CCR-9A	23B0983-01	Water	Magnesium	32500	ug/L	2/22/2023	11:31
CCR-9A	23B0983-01	Water	Sodium	135000	ug/L	2/22/2023	11:31
CCR-9A	23B0983-01	Water	Boron	514	ug/L	2/22/2023	11:31
CCR-9A	23B0983-01	Water	Lithium	45.7	ug/L	2/22/2023	11:31
CCR-9A	23B0983-01	Water	Potassium	124000	ug/L	2/22/2023	11:31
CCR-9A	23B0983-01	Water	Calcium	564000	ug/L	2/22/2023	11:31
CCR-9A	23B0983-01	Water	Barium	43.5	ug/L	2/22/2023	11:31
CCR-9A	23B0983-01	Water	Chromium	1.40	ug/L	2/22/2023	11:31
CCR-9B	23B0983-02	Water	Sulfate	1380	mg/L	2/22/2023	11:31
CCR-9B	23B0983-02	Water	Fluoride	0.215	mg/L	2/22/2023	11:31
CCR-9B	23B0983-02	Water	Bicarbonate	30.2	mg/L	2/22/2023	11:31
CCR-9B	23B0983-02	Water	Total Alkalinity	30.2	mg/L	2/22/2023	11:31
CCR-9B	23B0983-02	Water	Total Dissolved Solids	2830	mg/L	2/22/2023	11:31
CCR-9B	23B0983-02	Water	Chloride	370	mg/L	2/22/2023	11:31
CCR-8A	23B0983-03	Water	Calcium	82000	ug/L	2/22/2023	12:23
CCR-8A	23B0983-03	Water	Barium	24.7	ug/L	2/22/2023	12:23
CCR-8A	23B0983-03	Water	Molybdenum	12.2	ug/L	2/22/2023	12:23
CCR-8A	23B0983-03	Water	Boron	67.3	ug/L	2/22/2023	12:23
CCR-8A	23B0983-03	Water	Chromium	0.700	ug/L	2/22/2023	12:23
CCR-8B	23B0983-04	Water	Fluoride	0.354	mg/L	2/22/2023	12:23
CCR-8B	23B0983-04	Water	Total Dissolved Solids	268	mg/L	2/22/2023	12:23
CCR-8B	23B0983-04	Water	Chloride	2.45	mg/L	2/22/2023	12:23
CCR-8B	23B0983-04	Water	Sulfate	67.7	mg/L	2/22/2023	12:23
SW-106A	23B0983-05	Water	Molybdenum	1.70	ug/L	2/22/2023	17:24

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/10/2023

Work Order # 23B0983

Project: 2023 CCR Monitoring Program
McIntosh Plant

DETECTED ANALYTE SUMMARY

Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
SW-106A	23B0983-05	Water	Boron	42.1	ug/L	2/22/2023	17:24
SW-106A	23B0983-05	Water	Potassium	5220	ug/L	2/22/2023	17:24
SW-106A	23B0983-05	Water	Chromium	0.600	ug/L	2/22/2023	17:24
SW-106A	23B0983-05	Water	Barium	8.70	ug/L	2/22/2023	17:24
SW-106A	23B0983-05	Water	Calcium	8410	ug/L	2/22/2023	17:24
SW-106A	23B0983-05	Water	Sodium	2250	ug/L	2/22/2023	17:24
SW-106B	23B0983-06	Water	Total Dissolved Solids	70.0	mg/L	2/22/2023	17:24
SW-106B	23B0983-06	Water	Fluoride	0.0330	mg/L	2/22/2023	17:24
SW-106B	23B0983-06	Water	Sulfate	25.7	mg/L	2/22/2023	17:24
SW-106B	23B0983-06	Water	Chloride	1.94	mg/L	2/22/2023	17:24
SW-106B	23B0983-06	Water	Total Alkalinity	9.81	mg/L	2/22/2023	17:24
SW-106B	23B0983-06	Water	Bicarbonate	9.81	mg/L	2/22/2023	17:24

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/10/2023
Work Order # 23B0983
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0983-01
Client Sample ID: CCR-9A
Matrix: Water

Collection Date: 02/22/23 11:31
Received Date: 02/23/23 16:30
Collected By: Rik Matnius

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/24 12:00	02/24 17:09	JF
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/24 12:00	02/24 17:09	JF
Barium	43.5		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/24 12:00	02/24 17:09	JF
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/24 12:00	02/24 17:09	JF
Boron	514		ug/L	1	0.616	10.0	EPA 200.7/3010	02/24 12:00	02/24 17:09	JF
Cadmium	ND	U	ug/L	1	0.217	1.00	EPA 200.7/3010	02/24 12:00	02/24 17:09	JF
Calcium	564000		ug/L	10	59.6	500	EPA 200.7/3010	02/24 12:00	02/24 17:18	JF
Chromium	1.40	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/24 12:00	02/24 17:09	JF
Cobalt	ND	U	ug/L	1	0.354	1.00	EPA 200.7/3010	02/24 12:00	02/24 17:09	JF
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/24 12:00	02/24 17:09	JF
Lithium	45.7		ug/L	1	4.74	25.0	EPA 200.7/3010	02/24 12:00	03/02 15:20	JD
Magnesium	32500		ug/L	10	24.8	200	EPA 200.7/3010	02/24 12:00	02/24 17:18	JF
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/24 08:00	02/24 12:34	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/24 12:00	02/24 17:09	JF
Potassium	124000		ug/L	10	109	500	EPA 200.7/3010	02/24 12:00	02/24 17:18	JF
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/24 12:00	02/24 17:09	JF
Sodium	135000		ug/L	1	521	2000	EPA 200.7/3010	02/24 12:00	02/24 17:09	JF
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/24 12:00	02/24 17:09	JF

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/10/2023
Work Order # 23B0983
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0983-02
Client Sample ID: CCR-9B
Matrix: Water

Collection Date: 02/22/23 11:31
Received Date: 02/23/23 16:30
Collected By: Rik Matnius

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	30.2		mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Bicarbonate	30.2		mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Chloride	370		mg/L	20	2.52	10.0	EPA 300.0	02/24 18:28	02/25 01:53	OC
Fluoride	0.215		mg/L	2	0.0104	0.0500	EPA 300.0	02/24 19:00	02/25 09:17	OC
Sulfate	1380		mg/L	20	1.91	10.0	EPA 300.0	02/24 18:28	02/25 01:53	OC
Total Dissolved Solids	2830		mg/L	4	40.0	120	SM 2540C	02/28 20:00	03/02 18:59	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/10/2023
Work Order # 23B0983
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0983-03
Client Sample ID: CCR-8A
Matrix: Water

Collection Date: 02/22/23 12:23
Received Date: 02/23/23 16:30
Collected By: Rik Matnius

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/24 12:00	02/24 17:11	JF
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/24 12:00	02/24 17:11	JF
Barium	24.7		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/24 12:00	02/24 17:11	JF
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/24 12:00	02/24 17:11	JF
Boron	67.3		ug/L	1	0.616	10.0	EPA 200.7/3010	02/24 12:00	02/24 17:11	JF
Cadmium	ND	U	ug/L	1	0.217	1.00	EPA 200.7/3010	02/24 12:00	02/24 17:11	JF
Calcium	82000		ug/L	1	5.96	50.0	EPA 200.7/3010	02/24 12:00	02/24 17:11	JF
Chromium	0.700	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/24 12:00	02/24 17:11	JF
Cobalt	ND	U	ug/L	1	0.354	1.00	EPA 200.7/3010	02/24 12:00	02/24 17:11	JF
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/24 12:00	02/24 17:11	JF
Lithium	ND	U	ug/L	1	4.74	25.0	EPA 200.7/3010	02/24 12:00	03/02 15:23	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/24 08:00	02/24 12:37	JD
Molybdenum	12.2		ug/L	1	1.43	10.0	EPA 200.7/3010	02/24 12:00	02/24 17:11	JF
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/24 12:00	02/24 17:11	JF
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/24 12:00	02/24 17:11	JF

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/10/2023
Work Order # 23B0983
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0983-04
Client Sample ID: CCR-8B
Matrix: Water

Collection Date: 02/22/23 12:23
Received Date: 02/23/23 16:30
Collected By: Rik Matnius

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Chloride	2.45		mg/L	1	0.126	0.500	EPA 300.0	02/24 18:28	02/25 01:36	OC
Fluoride	0.354		mg/L	1	0.00520	0.0250	EPA 300.0	02/24 18:28	02/25 01:36	OC
Sulfate	67.7		mg/L	1	0.0953	0.500	EPA 300.0	02/24 18:28	02/25 01:36	OC
Total Dissolved Solids	268		mg/L	2	20.0	60.0	SM 2540C	02/28 20:00	03/02 18:59	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/10/2023
Work Order # 23B0983
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0983-05
Client Sample ID: SW-106A
Matrix: Water

Collection Date: 02/22/23 17:24
Received Date: 02/23/23 16:30
Collected By: Rik Matnius

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/24 12:00	02/24 17:13	JF
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/24 12:00	02/24 17:13	JF
Barium	8.70		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/24 12:00	02/24 17:13	JF
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/24 12:00	02/24 17:13	JF
Boron	42.1		ug/L	1	0.616	10.0	EPA 200.7/3010	02/24 12:00	02/24 17:13	JF
Cadmium	ND	U	ug/L	1	0.217	1.00	EPA 200.7/3010	02/24 12:00	02/24 17:13	JF
Calcium	8410		ug/L	1	5.96	50.0	EPA 200.7/3010	02/24 12:00	02/24 17:13	JF
Chromium	0.600	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/24 12:00	02/24 17:13	JF
Cobalt	ND	U	ug/L	1	0.354	1.00	EPA 200.7/3010	02/24 12:00	02/24 17:13	JF
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/24 12:00	02/24 17:13	JF
Lithium	ND	U	ug/L	1	4.74	25.0	EPA 200.7/3010	02/24 12:00	03/02 15:25	JD
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/24 08:00	02/24 12:40	JD
Molybdenum	1.70	I	ug/L	1	1.43	10.0	EPA 200.7/3010	02/24 12:00	02/24 17:13	JF
Potassium	5220		ug/L	1	10.9	50.0	EPA 200.7/3010	02/24 12:00	02/24 17:13	JF
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/24 12:00	02/24 17:13	JF
Sodium	2250		ug/L	1	521	2000	EPA 200.7/3010	02/24 12:00	02/24 17:13	JF
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/24 12:00	02/24 17:13	JF

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/10/2023
Work Order # 23B0983
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0983-06
Client Sample ID: SW-106B
Matrix: Water

Collection Date: 02/22/23 17:24
Received Date: 02/23/23 16:30
Collected By: Rik Matnius

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	9.81	I	mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Bicarbonate	9.81	I	mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Chloride	1.94		mg/L	1	0.126	0.500	EPA 300.0	02/24 18:28	02/24 21:13	OC
Fluoride	0.0330		mg/L	1	0.00520	0.0250	EPA 300.0	02/24 18:28	02/24 21:13	OC
Sulfate	25.7		mg/L	1	0.0953	0.500	EPA 300.0	02/24 18:28	02/24 21:13	OC
Total Dissolved Solids	70.0		mg/L	2	20.0	60.0	SM 2540C	02/28 20:00	03/02 18:59	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/10/2023
Work Order # 23B0983
Project: 2023 CCR Monitoring Program
McIntosh Plant

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0879 - Default Prep GenChem										
Blank (23B0879-BLK1)				Prepared & Analyzed: 02/24/2023						
Fluoride	ND	0.0250	mg/L							U
Sulfate	ND	0.500	"							U
Chloride	ND	0.500	"							U
LCS (23B0879-BS1)				Prepared & Analyzed: 02/24/2023						
Fluoride	2.49	0.0250	mg/L	2.500		100	90-110			
Sulfate	50.3	0.500	"	50.00		101	90-110			
Chloride	49.8	0.500	"	50.00		100	90-110			
Duplicate (23B0879-DUP1)		**Source: 23B0983-06**		Prepared & Analyzed: 02/24/2023						
Fluoride	0.0280	0.0250	mg/L		0.0330			16	20	
Sulfate	27.0	0.500	"		25.7			5	20	
Chloride	2.01	0.500	"		1.94			4	20	
Matrix Spike (23B0879-MS1)		**Source: 23B0983-06**		Prepared & Analyzed: 02/24/2023						
Fluoride	2.71	0.0250	mg/L	2.500	0.0330	107	90-110			
Sulfate	74.1	0.500	"	50.00	25.7	97	90-110			
Chloride	50.8	0.500	"	50.00	1.94	98	90-110			
Matrix Spike (23B0879-MS2)		**Source: 23B0988-02**		Prepared: 02/24/2023 Analyzed: 02/25/2023						
Fluoride	2.39	0.0250	mg/L	2.500	0.0960	92	90-110			
Sulfate	62.5	0.500	"	50.00	14.2	97	90-110			
Chloride	62.4	0.500	"	50.00	14.6	96	90-110			
Batch 23B0880 - Default Prep GenChem										
Blank (23B0880-BLK1)				Prepared: 02/24/2023 Analyzed: 02/25/2023						
Fluoride	ND	0.0250	mg/L							U

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/10/2023
Work Order # 23B0983
Project: 2023 CCR Monitoring Program
McIntosh Plant

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0880 - Default Prep GenChem										
LCS (23B0880-BS1)				Prepared: 02/24/2023 Analyzed: 02/25/2023						
Fluoride	2.52	0.0250	mg/L	2.500		101	90-110			
Duplicate (23B0880-DUP1)		**Source: 23B0988-03**		Prepared: 02/24/2023 Analyzed: 02/25/2023						
Fluoride	0.107	0.0250	mg/L		0.108			0.9	20	
Matrix Spike (23B0880-MS1)		**Source: 23B0988-03**		Prepared: 02/24/2023 Analyzed: 02/25/2023						
Fluoride	2.36	0.0250	mg/L	2.500	0.108	90	90-110			
Matrix Spike (23B0880-MS2)		**Source: 23B1023-05**		Prepared: 02/24/2023 Analyzed: 02/25/2023						
Fluoride	2.44	0.0250	mg/L	2.500	0.115	93	90-110			
Batch 23C0151 - Default Preparation GenChem										
Blank (23C0151-BLK1)				Prepared & Analyzed: 02/28/2023						
Total Alkalinity	ND	10.0	mg/L							U
LCS (23C0151-BS1)				Prepared & Analyzed: 02/28/2023						
Total Alkalinity	247	10.0	mg/L	250.0		99	90-110			
Duplicate (23C0151-DUP1)		**Source: 23B0983-06**		Prepared & Analyzed: 02/28/2023						
Total Alkalinity	10.1	10.0	mg/L		9.81			3	20	
Matrix Spike (23C0151-MS1)		**Source: 23B0983-06**		Prepared & Analyzed: 02/28/2023						
Total Alkalinity	254	10.0	mg/L	250.0	9.81	98	90-110			
Matrix Spike (23C0151-MS2)		**Source: 23B1023-05**		Prepared & Analyzed: 02/28/2023						
Total Alkalinity	261	10.0	mg/L	250.0	27.6	93	90-110			

Report To:
Thomas Johnston
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McIntosh Plant

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23C0168 - Default Prep GenChem										
Blank (23C0168-BLK1)				Prepared: 02/28/2023 Analyzed: 03/02/2023						
Total Dissolved Solids	ND	30.0	mg/L							U
LCS (23C0168-BS1)				Prepared: 02/28/2023 Analyzed: 03/02/2023						
Total Dissolved Solids	472	120	mg/L	500.0		94.4	80-120			
Duplicate (23C0168-DUP1)		**Source: 23B1007-01**		Prepared: 02/28/2023 Analyzed: 03/02/2023						
Total Dissolved Solids	1350	120	mg/L		1310			3.31	20	
Duplicate (23C0168-DUP2)		**Source: 23B1059-02**		Prepared: 02/28/2023 Analyzed: 03/02/2023						
Total Dissolved Solids	6280	120	mg/L		6150			2.12	20	

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Project: 2023 CCR Monitoring Program
McIntosh Plant

Total Recoverable Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0122 - EPA 245.1/245.2 Prep										
Blank (23B0122-BLK1)				Prepared & Analyzed: 02/24/2023						
Mercury	ND	1.00	ug/L							U
LCS (23B0122-BS1)				Prepared & Analyzed: 02/24/2023						
Mercury	10.2	1.00	ug/L	10.00		102	85-115			
Matrix Spike (23B0122-MS1)	**Source: 23B0878-01**			Prepared & Analyzed: 02/24/2023						
Mercury	9.18	1.00	ug/L	10.00	ND	92	70-130			
Matrix Spike Dup (23B0122-MSD1)	**Source: 23B0878-01**			Prepared & Analyzed: 02/24/2023						
Mercury	9.12	1.00	ug/L	10.00	ND	91	70-130	0.6	20	
Batch 23B0131 - EPA 3010A										
Blank (23B0131-BLK1)				Prepared & Analyzed: 02/24/2023						
Boron	ND	10.0	ug/L							U
Cadmium	ND	1.00	"							U
Calcium	ND	50.0	"							U
Chromium	ND	5.00	"							U
Antimony	ND	15.0	"							U
Barium	ND	1.00	"							U
Beryllium	ND	1.00	"							U
Arsenic	ND	10.0	"							U
Selenium	ND	15.0	"							U
Sodium	ND	2000	"							U
Potassium	ND	50.0	"							U
Thallium	ND	4.00	"							U
Cobalt	ND	1.00	"							U
Lead	ND	10.0	"							U
Magnesium	ND	20.0	"							U
Molybdenum	ND	10.0	"							U

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Project: 2023 CCR Monitoring Program
McIntosh Plant

Total Recoverable Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0131 - EPA 3010A										
LCS (23B0131-BS1)				Prepared & Analyzed: 02/24/2023						
Cadmium	489.1	1.00	ug/L	500.0		97.8	85-115			
Boron	493.9	10.0	"	500.0		98.8	85-115			
Beryllium	493.8	1.00	"	500.0		98.8	85-115			
Calcium	27000	50.0	"	25500		106	85-115			
Antimony	476.9	15.0	"	500.0		95.4	85-115			
Arsenic	485	10.0	"	500.0		97.1	85-115			
Barium	473.8	1.00	"	500.0		94.8	85-115			
Sodium	24600	2000	"	25500		96.4	85-115			
Potassium	24000	50.0	"	25500		94.3	85-115			
Magnesium	480	20.0	"	500.0		96.0	85-115			
Selenium	487.0	15.0	"	500.0		97.4	85-115			
Chromium	477.6	5.00	"	500.0		95.5	85-115			
Thallium	465.9	4.00	"	500.0		93.2	85-115			
Lead	484	10.0	"	500.0		96.7	85-115			
Cobalt	484.1	1.00	"	500.0		96.8	85-115			
Molybdenum	494.5	10.0	"	500.0		98.9	85-115			
Matrix Spike (23B0131-MS1)	**Source: 23B0967-05**			Prepared & Analyzed: 02/24/2023						
Boron	474.9	10.0	ug/L	500.0	4.100	94.2	70-130			
Beryllium	483.7	1.00	"	500.0	ND	96.7	70-130			
Cadmium	480.3	1.00	"	500.0	ND	96.1	70-130			
Calcium	26400	50.0	"	25500	8.50	103	70-130			
Arsenic	479	10.0	"	500.0	ND	95.7	70-130			
Antimony	409.2	15.0	"	500.0	ND	81.8	70-130			
Barium	455.7	1.00	"	500.0	ND	91.1	70-130			
Selenium	505.4	15.0	"	500.0	ND	101	70-130			
Sodium	24000	2000	"	25500	ND	94.2	70-130			
Thallium	451.3	4.00	"	500.0	ND	90.3	70-130			
Chromium	460.4	5.00	"	500.0	ND	92.1	70-130			
Cobalt	464.6	1.00	"	500.0	ND	92.9	70-130			
Potassium	23300	50.0	"	25500	ND	91.2	70-130			
Lead	466	10.0	"	500.0	ND	93.1	70-130			

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Report Printed: 3/10/2023
Work Order # 23B0983
Project: 2023 CCR Monitoring Program
McIntosh Plant

Total Recoverable Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0131 - EPA 3010A										
Matrix Spike (23B0131-MS1)	**Source: 23B0967-05**			Prepared & Analyzed: 02/24/2023						
Magnesium	468	20.0	ug/L	500.0	ND	93.7	70-130			
Molybdenum	455.9	10.0	"	500.0	ND	91.2	70-130			
Matrix Spike Dup (23B0131-MSD1)	**Source: 23B0967-05**			Prepared & Analyzed: 02/24/2023						
Cadmium	474.7	1.00	ug/L	500.0	ND	94.9	70-130	1.17	20	
Calcium	26100	50.0	"	25500	8.50	102	70-130	1.07	20	
Boron	470.0	10.0	"	500.0	4.100	93.2	70-130	1.05	20	
Antimony	422.7	15.0	"	500.0	ND	84.5	70-130	3.25	20	
Beryllium	478.7	1.00	"	500.0	ND	95.7	70-130	1.04	20	
Magnesium	463	20.0	"	500.0	ND	92.6	70-130	1.14	20	
Arsenic	471	10.0	"	500.0	ND	94.3	70-130	1.54	20	
Barium	450.8	1.00	"	500.0	ND	90.2	70-130	1.08	20	
Potassium	23000	50.0	"	25500	ND	90.3	70-130	0.926	20	
Sodium	23800	2000	"	25500	ND	93.4	70-130	0.849	20	
Thallium	445.9	4.00	"	500.0	ND	89.2	70-130	1.20	20	
Selenium	499.6	15.0	"	500.0	ND	99.9	70-130	1.15	20	
Chromium	454.5	5.00	"	500.0	ND	90.9	70-130	1.29	20	
Molybdenum	455.1	10.0	"	500.0	ND	91.0	70-130	0.176	20	
Lead	460	10.0	"	500.0	ND	91.9	70-130	1.30	20	
Cobalt	461.0	1.00	"	500.0	ND	92.2	70-130	0.778	20	
Batch 23C0016 - EPA 3010A										
Blank (23C0016-BLK1)				Prepared: 02/24/2023 Analyzed: 03/02/2023						
Lithium	ND	25.0	ug/L							U
LCS (23C0016-BS1)				Prepared: 02/24/2023 Analyzed: 03/02/2023						
Lithium	2420	25.0	ug/L	2500		97	85-115			

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Report Printed: 3/10/2023
Work Order # 23B0983
Project: 2023 CCR Monitoring Program
McIntosh Plant

Total Recoverable Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23C0016 - EPA 3010A										
Matrix Spike (23C0016-MS1)	**Source: 23B0983-05**			Prepared: 02/24/2023 Analyzed: 03/02/2023						
Lithium	2380	25.0	ug/L	2500	ND	95	75-125			
Matrix Spike Dup (23C0016-MSD1)	**Source: 23B0983-05**			Prepared: 02/24/2023 Analyzed: 03/02/2023						
Lithium	2360	25.0	ug/L	2500	ND	94	75-125	1	20	

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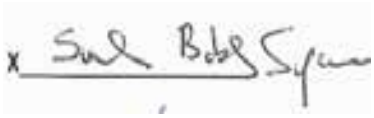
McIntosh Plant

Notes and Definitions

U	Indicated that the compound was analyzed for but not detected. This shall be used to indicate that the specific component was not detected. The value associated with the qualifier shall be the laboratory method detection limit.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
N.O.O.	No Odor Observed
REP	Field parameter measured by client
V	Indicated that the analyte was detected in both the sample and the associated method blank.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
Z	Too many colonies were present for accurate counting.
SUB	Work performed by outside (subcontracted) labs denoted by SUB in analyst field.

QC=Qualifier Codes as defined by DEP 62-160
Unless indicated, soil results are reported on actual (wet) weight basis.
The Color SM2120B method is reported as (Color / pH)
Legionella analyzed under CDC acreditation program
Dilution factors >= 1000 are abreviated using k=1000 and M=1000000
Field parameters are not NELAP acredited.
Results relate only to this sample.

Suresh (Bobby) Supan - CSM



Authorized CSM Signature (954) 978-6400
Florida-Spectrum Environmental Services,Inc.
Certification# E86006

All NELAP certified analysis are performed in accordance with Chapter 64E-1 Florida Administrative code, which has been determined to be equivalent to NELAC standards. Analysis certified by programs other than NELAP are designated with a "~".

WORK ORDER # 23150485

Logged in LIMS by: [signature]
Meets Acceptance Criteria: Y N

Florida Spectrum Environmental Services

Doc. Ctrl: 0401120 (v)
Date: 10.19.2020 Rev. 5

CHAIN OF CUSTODY RECORD

☐ 1460 W. McNab Road, Ft Laud, FL 33309 — Tel. (954) 978-6400 — Fax (954) 978-2233
☐ 108 Airport Park Dr., Garden City, GA 31408 — Tel: (912) 233-5050 — Fax (912) 234-4815
☐ 528 Gooch Rd., Fort Meade, FL 33841 — Tel: (863) 285-8145 — Fax (863) 285-7030
☐ 610 Parrot Ave. N. Okeechobee, FL 34972 — Tel: (863) 763-3736 — Fax (863) 763-1564
☐ 111 E. Easton Drive, Lakeland, FL 33803 — Tel: (863) 686-4271

Original-Return w/report — Yellow-Lab File Copy — Pink - Sampler Copy

COC# A 15998

DUE DATE Requested:
RUSH RESERVATION #:
Rush Surcharges apply

Report to (company name): Lakeland Electric
Report to Address: 3030 East Lake Parker Drive Lakeland, FL 33805
Invoice to (company name): Lakeland Electric
Purchase Order #: 292466
Invoice to Address: 501 East Lemon Street Lakeland, FL 33801
Project Name and/or Number: 2023 CCR Monitoring Program
Site Location: McIntosh Plant
Project Contact: Thomas Johnston
Phone: (863) 834-6623
Fax:
Email: Thomas.Johnston@lakelandelectric.com
Sampler Name (printed): Ric Mattos
Affiliation: Geosyntec
Sampler Signature: [signature]

ORDER # Lab Control Number (Shaded Areas For Laboratory Use Only)	Sample ID	Date Sampled	Time Sampled	Matrix (DW SW GW WW S SED HW BIO SEA OIL X AIR)	Bottle & Pres. Combo Codes	Number of Containers Received & NELAC Letter Suffixes A-Z	Appendix III metals	Appendix IV metals	CC Suite metals	Appendix III Cl, F, SO4, TDS	CC Suite Ra-226 T-Ra	TEMP °C	PH	COND	CHLOR
1	CCR-9A	2-22-23	1131	GW	TH										
2	CCR-9B		1131		TU										
3	CCR-8A		1223		TH										
4	CCR-8B		1223		TU										
5	SW-106A		1724		TH										
6	SW-106B		1724		TU										

Special Comments: thermometer TD369
*I waive FNI protocol (emergency/rejection) ×
Deliverables: HYC
QA/QC Report Needed? Yes No (additional charges)
Total

	Signature	Affiliation	Date/Time
1	Relinquished by: [signature]		2/23/23 0840
1	Received by: Omar Chavez	FSE	2 23 23 0915
2	Relinquished by: [signature]		
2	Received by: [signature]		2/23/23 1054
3	Relinquished by: [signature]	FSE	2/23/23 1630
3	Received by: [signature]		2-23-23 1630

Sample Custody & Field Comments
Received on Ice: (Y) N
Temp as received: 0.7°
Custody seals? Good N
RAD-9 ______ GUN-1 ETL000

FIELD TIME
Sampling ____ hrs Pick Up ____ hrs
Misc. Charges ______

Bottle Type
A-liter amber
B-Bacteria bag/bottle
F-500 ml
G-125 ml
H-Plastic Amber Liter
L-liter bottle
S2-2 oz soil jar
S4-4 oz soil jar / S8-8 oz soil jar
T-250 ml
V-40 ml vial
W-wide mouth
X-other
TED-Tedlar Air Bag

Preservative
A-ascorbic acid
C-HCL
Cu-CuSO4
DI-DI water
H-HNO3
M-MCAD
MeOH-Methanol
Z-zinc acetate
P-H3PO4
S-H2SO4
T-Na2S2O3
U-Unpreserved
N-NaOH
NH4-NH4CL
Y-Sterile

Additional Preservatives
Hex-Hex Cr Buffer
EDA-Ethylene Diamine

www.flenviro.com
COC Page ____ of ____

1460 West McNab Road
Fort Lauderdale, FL 33309
1-800-ANALYTE Phone
(954) 978-6400 Phone
(954) 978-2233 Fax

NELAP Certificate No. E86006

08 March 2023
Lab Work Order (COC): 23B0874

Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland, FL 33805

RE: **2023 CCR Monitoring Program**

Project Location: **McIntosh Plant**

Dear Thomas Johnston:

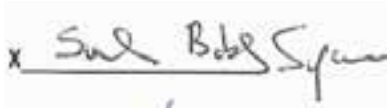
This report details the analytical results of samples collected at the above-referenced project location. These samples were received by Florida Spectrum Environmental Services at **02/21/2023 17:05**.

All Analyses were performed according to the TNI/NELAP standard unless indicated by a "~" on the report.

Your samples will be retained by Florida Spectrum Environmental for a period of at least 30 days following sample receipt or until the longest of the preparation and/or analytical hold times expires, whichever is shorter. After that time, they will be properly disposed without further notice, unless there exists an explicit contractual agreement to the contrary. We reserve the right to return any unused samples, extracts, or related materials or solutions to you if we consider it necessary. Examples might include those samples identified as hazardous wastes, submissions where the sample sizes significantly exceed those required for analysis, samples containing controlled substances, etc.

We thank you for selecting Florida Spectrum Environmental to serve your analytical needs. Should you have any questions or require additional information regarding any of the information in this report, please feel free to contact us at any time. We appreciate the opportunity to be of service.

Florida Spectrum Environmental Inc.



Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023

Work Order # 23B0874

Project: 2023 CCR Monitoring Program
McIntosh Plant

DETECTED ANALYTE SUMMARY

CCR-15A	23B0874-01	Water	Calcium	43800	ug/L	2/20/2023	10:05
CCR-15A	23B0874-01	Water	Sodium	3660	ug/L	2/20/2023	10:05
CCR-15A	23B0874-01	Water	Boron	42.8	ug/L	2/20/2023	10:05
CCR-15A	23B0874-01	Water	Potassium	4640	ug/L	2/20/2023	10:05
CCR-15A	23B0874-01	Water	Chromium	1.60	ug/L	2/20/2023	10:05
CCR-15A	23B0874-01	Water	Magnesium	981	ug/L	2/20/2023	10:05
CCR-15A	23B0874-01	Water	Barium	34.0	ug/L	2/20/2023	10:05
CCR-15B	23B0874-02	Water	Fluoride	0.111	mg/L	2/20/2023	10:05
CCR-15B	23B0874-02	Water	Sulfate	130	mg/L	2/20/2023	10:05
CCR-15B	23B0874-02	Water	Chloride	13.8	mg/L	2/20/2023	10:05
CCR-15B	23B0874-02	Water	Total Dissolved Solids	262	mg/L	2/20/2023	10:05
CCR-16A	23B0874-03	Water	Potassium	578000	ug/L	2/20/2023	10:34
CCR-16A	23B0874-03	Water	Sodium	513000	ug/L	2/20/2023	10:34
CCR-16A	23B0874-03	Water	Calcium	1180000	ug/L	2/20/2023	10:34
CCR-16A	23B0874-03	Water	Lithium	55.7	ug/L	2/20/2023	10:34
CCR-16A	23B0874-03	Water	Magnesium	14300	ug/L	2/20/2023	10:34
CCR-16A	23B0874-03	Water	Barium	114	ug/L	2/20/2023	10:34
CCR-16A	23B0874-03	Water	Chromium	1.30	ug/L	2/20/2023	10:34
CCR-16A	23B0874-03	Water	Boron	557	ug/L	2/20/2023	10:34
CCR-16B	23B0874-04	Water	Chloride	2740	mg/L	2/20/2023	10:34
CCR-16B	23B0874-04	Water	Total Dissolved Solids	7620	mg/L	2/20/2023	10:34
CCR-16B	23B0874-04	Water	Sulfate	1140	mg/L	2/20/2023	10:34
CCR-17A	23B0874-07	Water	Barium	3.50	ug/L	2/20/2023	11:59
CCR-17A	23B0874-07	Water	Magnesium	20200	ug/L	2/20/2023	11:59

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023

Work Order # 23B0874

Project: 2023 CCR Monitoring Program
McIntosh Plant

DETECTED ANALYTE SUMMARY

Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
CCR-17A	23B0874-07	Water	Calcium	161000	ug/L	2/20/2023	11:59
CCR-17A	23B0874-07	Water	Sodium	37000	ug/L	2/20/2023	11:59
CCR-17A	23B0874-07	Water	Chromium	1.10	ug/L	2/20/2023	11:59
CCR-17A	23B0874-07	Water	Boron	131	ug/L	2/20/2023	11:59
CCR-17A	23B0874-07	Water	Potassium	26700	ug/L	2/20/2023	11:59
CCR-17B	23B0874-08	Water	Sulfate	181	mg/L	2/20/2023	11:59
CCR-17B	23B0874-08	Water	Chloride	137	mg/L	2/20/2023	11:59
CCR-17B	23B0874-08	Water	Bicarbonate	219	mg/L	2/20/2023	11:59
CCR-17B	23B0874-08	Water	Total Alkalinity	219	mg/L	2/20/2023	11:59
CCR-17B	23B0874-08	Water	Total Dissolved Solids	900	mg/L	2/20/2023	11:59
CCR-7A	23B0874-09	Water	Potassium	36900	ug/L	2/20/2023	14:09
CCR-7A	23B0874-09	Water	Chromium	2.10	ug/L	2/20/2023	14:09
CCR-7A	23B0874-09	Water	Calcium	51800	ug/L	2/20/2023	14:09
CCR-7A	23B0874-09	Water	Barium	7.60	ug/L	2/20/2023	14:09
CCR-7A	23B0874-09	Water	Lithium	40.1	ug/L	2/20/2023	14:09
CCR-7A	23B0874-09	Water	Sodium	19400	ug/L	2/20/2023	14:09
CCR-7A	23B0874-09	Water	Boron	256	ug/L	2/20/2023	14:09
CCR-7A	23B0874-09	Water	Magnesium	2390	ug/L	2/20/2023	14:09
CCR-7B	23B0874-10	Water	Chloride	29.8	mg/L	2/20/2023	14:09
CCR-7B	23B0874-10	Water	Fluoride	0.122	mg/L	2/20/2023	14:09
CCR-7B	23B0874-10	Water	Sulfate	174	mg/L	2/20/2023	14:09
CCR-7B	23B0874-10	Water	Bicarbonate	8.45	mg/L	2/20/2023	14:09
CCR-7B	23B0874-10	Water	Total Alkalinity	8.45	mg/L	2/20/2023	14:09
CCR-7B	23B0874-10	Water	Total Dissolved Solids	412	mg/L	2/20/2023	14:09

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0874
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0874-01
Client Sample ID: CCR-15A
Matrix: Water

Collection Date: 02/20/23 10:05
Received Date: 02/21/23 17:05
Collected By: CLIENT

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/23 09:00	02/23 14:48	MAZ
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/23 09:00	02/23 14:48	MAZ
Barium	34.0		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/23 09:00	02/23 14:48	MAZ
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/23 09:00	02/23 14:48	MAZ
Boron	42.8		ug/L	1	0.616	10.0	EPA 200.7/3010	02/23 09:00	02/23 14:48	MAZ
Cadmium	ND	U	ug/L	1	0.217	1.00	EPA 200.7/3010	02/23 09:00	02/23 14:48	MAZ
Calcium	43800		ug/L	1	5.96	50.0	EPA 200.7/3010	02/23 09:00	02/23 14:48	MAZ
Chromium	1.60	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/23 09:00	02/23 14:48	MAZ
Cobalt	ND	U	ug/L	1	0.354	1.00	EPA 200.7/3010	02/23 09:00	02/23 14:48	MAZ
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/23 09:00	02/23 14:48	MAZ
Lithium	ND	U	ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 01:00	02/23 11:25	JD
Magnesium	981		ug/L	1	2.48	20.0	EPA 200.7/3010	02/23 09:00	02/23 14:48	MAZ
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/24 08:00	02/24 11:27	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/23 09:00	02/23 14:48	MAZ
Potassium	4640		ug/L	1	10.9	50.0	EPA 200.7/3010	02/23 09:00	02/23 14:48	MAZ
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/23 09:00	02/23 14:48	MAZ
Sodium	3660		ug/L	1	521	2000	EPA 200.7/3010	02/23 09:00	02/23 14:48	MAZ
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/23 09:00	02/23 14:48	MAZ

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0874
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0874-02
Client Sample ID: CCR-15B
Matrix: Water

Collection Date: 02/20/23 10:05
Received Date: 02/21/23 17:05
Collected By: CLIENT

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	ND	U	mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Bicarbonate	ND	U	mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Chloride	13.8		mg/L	1	0.126	0.500	EPA 300.0	02/22 17:30	02/23 08:35	PK
Fluoride	0.111		mg/L	1	0.00520	0.0250	EPA 300.0	02/22 17:30	02/23 08:35	PK
Sulfate	130		mg/L	2	0.191	1.00	EPA 300.0	02/23 17:00	02/24 11:46	OC
Total Dissolved Solids	262		mg/L	2	20.0	60.0	SM 2540C	02/23 23:01	02/24 23:45	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0874
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0874-03
Client Sample ID: CCR-16A
Matrix: Water

Collection Date: 02/20/23 10:34
Received Date: 02/21/23 17:05
Collected By: CLIENT

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/23 09:00	02/23 14:50	MAZ
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/23 09:00	02/23 14:50	MAZ
Barium	114		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/23 09:00	02/23 14:50	MAZ
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/23 09:00	02/23 14:50	MAZ
Boron	557		ug/L	1	0.616	10.0	EPA 200.7/3010	02/23 09:00	02/23 14:50	MAZ
Cadmium	ND	U	ug/L	1	0.217	1.00	EPA 200.7/3010	02/23 09:00	02/23 14:50	MAZ
Calcium	1180000		ug/L	50	298	2500	EPA 200.7/3010	02/23 09:00	02/23 14:29	MAZ
Chromium	1.30	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/23 09:00	02/23 14:50	MAZ
Cobalt	ND	U	ug/L	1	0.354	1.00	EPA 200.7/3010	02/23 09:00	02/23 14:50	MAZ
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/23 09:00	02/23 14:50	MAZ
Lithium	55.7		ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 01:00	02/23 11:28	JD
Magnesium	14300		ug/L	50	124	1000	EPA 200.7/3010	02/23 09:00	02/23 14:29	MAZ
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/24 08:00	02/24 11:30	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/23 09:00	02/23 14:50	MAZ
Potassium	578000		ug/L	10	109	500	EPA 200.7/3010	02/23 09:00	02/23 14:43	MAZ
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/23 09:00	02/23 14:50	MAZ
Sodium	513000		ug/L	50	26000	100000	EPA 200.7/3010	02/23 09:00	02/23 14:29	MAZ
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/23 09:00	02/23 14:50	MAZ

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0874
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0874-04
Client Sample ID: CCR-16B
Matrix: Water

Collection Date: 02/20/23 10:34
Received Date: 02/21/23 17:05
Collected By: CLIENT

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	ND	U	mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Bicarbonate	ND	U	mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Chloride	2740		mg/L	40	5.04	20.0	EPA 300.0	02/22 17:30	02/23 10:14	PK
Fluoride	ND	U	mg/L	5	0.0260	0.125	EPA 300.0	02/23 17:00	02/24 12:02	OC
Sulfate	1140		mg/L	40	3.81	20.0	EPA 300.0	02/22 17:30	02/23 10:14	PK
Total Dissolved Solids	7620		mg/L	4	40.0	120	SM 2540C	02/23 23:01	02/24 23:45	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0874
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0874-05
Client Sample ID: EQBCCRA
Matrix: Water

Collection Date: 02/20/23 10:41
Received Date: 02/21/23 17:05
Collected By: CLIENT

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/23 09:00	02/23 14:52	MAZ
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/23 09:00	02/23 14:52	MAZ
Barium	ND	U	ug/L	1	0.0962	1.00	EPA 200.7/3010	02/23 09:00	02/23 14:52	MAZ
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/23 09:00	02/23 14:52	MAZ
Boron	ND	U	ug/L	1	0.616	10.0	EPA 200.7/3010	02/23 09:00	02/23 14:52	MAZ
Cadmium	ND	U	ug/L	1	0.217	1.00	EPA 200.7/3010	02/23 09:00	02/23 14:52	MAZ
Calcium	ND	U	ug/L	1	5.96	50.0	EPA 200.7/3010	02/23 09:00	02/23 14:52	MAZ
Chromium	ND	U	ug/L	1	0.513	5.00	EPA 200.7/3010	02/23 09:00	02/23 14:52	MAZ
Cobalt	ND	U	ug/L	1	0.354	1.00	EPA 200.7/3010	02/23 09:00	02/23 14:52	MAZ
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/23 09:00	02/23 14:52	MAZ
Lithium	ND	U	ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 01:00	02/23 11:30	JD
Magnesium	ND	U	ug/L	1	2.48	20.0	EPA 200.7/3010	02/23 09:00	02/23 14:52	MAZ
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/24 08:00	02/24 11:33	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/23 09:00	02/23 14:52	MAZ
Potassium	ND	U	ug/L	1	10.9	50.0	EPA 200.7/3010	02/23 09:00	02/23 14:52	MAZ
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/23 09:00	02/23 14:52	MAZ
Sodium	ND	U	ug/L	1	521	2000	EPA 200.7/3010	02/23 09:00	02/23 14:52	MAZ
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/23 09:00	02/23 14:52	MAZ

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0874
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0874-06
Client Sample ID: EQBCCRB
Matrix: Water

Collection Date: 02/20/23 10:41
Received Date: 02/21/23 17:05
Collected By: CLIENT

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	ND	U	mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Bicarbonate	ND	U	mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Chloride	ND	U	mg/L	1	0.126	0.500	EPA 300.0	02/22 17:30	02/23 10:47	PK
Fluoride	ND	U	mg/L	1	0.00520	0.0250	EPA 300.0	02/22 17:30	02/23 10:47	PK
Sulfate	ND	U	mg/L	1	0.0953	0.500	EPA 300.0	02/22 17:30	02/23 14:05	PK
Total Dissolved Solids	ND	U	mg/L	1	10.0	30.0	SM 2540C	02/23 23:01	02/24 23:45	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0874
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0874-07
Client Sample ID: CCR-17A
Matrix: Water

Collection Date: 02/20/23 11:59
Received Date: 02/21/23 17:05
Collected By: CLIENT

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/23 09:00	02/23 15:02	MAZ
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/23 09:00	02/23 15:02	MAZ
Barium	3.50		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/23 09:00	02/23 15:02	MAZ
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/23 09:00	02/23 15:02	MAZ
Boron	131		ug/L	1	0.616	10.0	EPA 200.7/3010	02/23 09:00	02/23 15:02	MAZ
Cadmium	ND	U	ug/L	1	0.217	1.00	EPA 200.7/3010	02/23 09:00	02/23 15:02	MAZ
Calcium	161000		ug/L	10	59.6	500	EPA 200.7/3010	02/23 09:00	02/23 14:45	MAZ
Chromium	1.10	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/23 09:00	02/23 15:02	MAZ
Cobalt	ND	U	ug/L	1	0.354	1.00	EPA 200.7/3010	02/23 09:00	02/23 15:02	MAZ
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/23 09:00	02/23 15:02	MAZ
Lithium	ND	U	ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 01:00	02/23 11:33	JD
Magnesium	20200		ug/L	50	124	1000	EPA 200.7/3010	02/23 09:00	02/23 14:31	MAZ
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/24 08:00	02/24 11:36	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/23 09:00	02/23 15:02	MAZ
Potassium	26700		ug/L	1	10.9	50.0	EPA 200.7/3010	02/23 09:00	02/23 15:02	MAZ
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/23 09:00	02/23 15:02	MAZ
Sodium	37000		ug/L	1	521	2000	EPA 200.7/3010	02/23 09:00	02/23 15:02	MAZ
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/23 09:00	02/23 15:02	MAZ

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0874
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0874-08
Client Sample ID: CCR-17B
Matrix: Water

Collection Date: 02/20/23 11:59
Received Date: 02/21/23 17:05
Collected By: CLIENT

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	219		mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Bicarbonate	219		mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Chloride	137		mg/L	5	0.630	2.50	EPA 300.0	02/22 17:30	02/23 10:31	PK
Fluoride	ND	U	mg/L	5	0.0260	0.125	EPA 300.0	02/22 17:30	02/23 10:31	PK
Sulfate	181		mg/L	5	0.476	2.50	EPA 300.0	02/22 17:30	02/23 10:31	PK
Total Dissolved Solids	900		mg/L	4	40.0	120	SM 2540C	02/23 23:01	02/24 23:45	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0874
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0874-09
Client Sample ID: CCR-7A
Matrix: Water

Collection Date: 02/20/23 14:09
Received Date: 02/21/23 17:05
Collected By: CLIENT

Laboratory Analysis Report

Total Recoverable Metals by EPA 200 Series Methods

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Antimony	ND	U	ug/L	1	6.20	15.0	EPA 200.7/3010	02/23 09:00	02/23 15:04	MAZ
Arsenic	ND	U	ug/L	1	3.96	10.0	EPA 200.7/3010	02/23 09:00	02/23 15:04	MAZ
Barium	7.60		ug/L	1	0.0962	1.00	EPA 200.7/3010	02/23 09:00	02/23 15:04	MAZ
Beryllium	ND	U	ug/L	1	0.107	1.00	EPA 200.7/3010	02/23 09:00	02/23 15:04	MAZ
Boron	256		ug/L	1	0.616	10.0	EPA 200.7/3010	02/23 09:00	02/23 15:04	MAZ
Cadmium	ND	U	ug/L	1	0.217	1.00	EPA 200.7/3010	02/23 09:00	02/23 15:04	MAZ
Calcium	51800		ug/L	1	5.96	50.0	EPA 200.7/3010	02/23 09:00	02/23 15:04	MAZ
Chromium	2.10	I	ug/L	1	0.513	5.00	EPA 200.7/3010	02/23 09:00	02/23 15:04	MAZ
Cobalt	ND	U	ug/L	1	0.354	1.00	EPA 200.7/3010	02/23 09:00	02/23 15:04	MAZ
Lead	ND	U	ug/L	1	1.93	10.0	EPA 200.7/3010	02/23 09:00	02/23 15:04	MAZ
Lithium	40.1		ug/L	1	4.74	25.0	EPA 200.7/3010	02/22 01:00	02/23 11:41	JD
Magnesium	2390		ug/L	10	24.8	200	EPA 200.7/3010	02/23 09:00	02/23 14:47	MAZ
Mercury	ND	U	ug/L	1	0.120	1.00	EPA 245.1	02/24 08:00	02/24 11:39	JD
Molybdenum	ND	U	ug/L	1	1.43	10.0	EPA 200.7/3010	02/23 09:00	02/23 15:04	MAZ
Potassium	36900		ug/L	1	10.9	50.0	EPA 200.7/3010	02/23 09:00	02/23 15:04	MAZ
Selenium	ND	U	ug/L	1	4.39	15.0	EPA 200.7/3010	02/23 09:00	02/23 15:04	MAZ
Sodium	19400		ug/L	1	521	2000	EPA 200.7/3010	02/23 09:00	02/23 15:04	MAZ
Thallium	ND	U	ug/L	1	0.925	4.00	EPA 200.7/3010	02/23 09:00	02/23 15:04	MAZ

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023
Work Order # 23B0874
Project: 2023 CCR Monitoring Program
McIntosh Plant

Lab ID: 23B0874-10
Client Sample ID: CCR-7B
Matrix: Water

Collection Date: 02/20/23 14:09
Received Date: 02/21/23 17:05
Collected By: CLIENT

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Total Alkalinity	8.45	I	mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Bicarbonate	8.45	I	mg/L	1	3.74	10.0	EPA 310.2	02/28 18:13	02/28 18:13	OC
Chloride	29.8		mg/L	1	0.126	0.500	EPA 300.0	02/22 17:30	02/23 11:04	PK
Fluoride	0.122		mg/L	1	0.00520	0.0250	EPA 300.0	02/22 17:30	02/23 11:04	PK
Sulfate	174		mg/L	2	0.191	1.00	EPA 300.0	02/23 17:00	02/24 12:19	OC
Total Dissolved Solids	412		mg/L	2	20.0	60.0	SM 2540C	02/23 23:01	02/24 23:45	LE

Report To:
Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023

Work Order # 23B0874

Project: 2023 CCR Monitoring Program
McIntosh Plant

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0806 - Default Prep GenChem										
Blank (23B0806-BLK1)				Prepared: 02/22/2023 Analyzed: 02/23/2023						
Fluoride	ND	0.0250	mg/L							U
Chloride	ND	0.500	"							U
Sulfate	ND	0.500	"							U
LCS (23B0806-BS1)				Prepared: 02/22/2023 Analyzed: 02/23/2023						
Fluoride	2.47	0.0250	mg/L	2.500		99	90-110			
Chloride	50.5	0.500	"	50.00		101	90-110			
Sulfate	50.7	0.500	"	50.00		101	90-110			
Duplicate (23B0806-DUP1)	**Source: 23C0243-03**			Prepared: 02/22/2023 Analyzed: 02/23/2023						
Fluoride	0.0980	0.0250	mg/L		0.111			12	20	
Chloride	13.8	0.500	"		13.8			0.08	20	
Sulfate	132	0.500	"		130			2	20	
Matrix Spike (23B0806-MS1)	**Source: 23C0243-03**			Prepared: 02/22/2023 Analyzed: 02/23/2023						
Fluoride	3.58	0.0250	mg/L	2.500	0.111	139	90-110			J3
Sulfate	156	0.500	"	50.00	130	53	90-110			J3
Chloride	61.7	0.500	"	50.00	13.8	96	90-110			
Matrix Spike (23B0806-MS2)	**Source: 23B0878-01**			Prepared: 02/22/2023 Analyzed: 02/23/2023						
Fluoride	2.82	0.0250	mg/L	2.500	0.577	90	90-110			
Chloride	77.6	0.500	"	50.00	31.0	93	90-110			
Sulfate	63.0	0.500	"	50.00	15.0	96	90-110			
Batch 23B0853 - Default Prep GenChem										
Blank (23B0853-BLK1)				Prepared: 02/23/2023 Analyzed: 02/24/2023						
Fluoride	ND	0.0250	mg/L							U
Sulfate	ND	0.500	"							U

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Thomas Johnston
Lakeland Electric - McIntosh
3030 East Lake Parker Drive
Lakeland FL, 33805

Report Printed: 3/8/2023

Work Order # 23B0874

Project: 2023 CCR Monitoring Program
McIntosh Plant

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0853 - Default Prep GenChem										
LCS (23B0853-BS1)				Prepared: 02/23/2023 Analyzed: 02/24/2023						
Fluoride	2.53	0.0250	mg/L	2.500		101	90-110			
Sulfate	50.6	0.500	"	50.00		101	90-110			
Duplicate (23B0853-DUP1)		**Source: 23B0928-01**		Prepared: 02/23/2023 Analyzed: 02/24/2023						
Fluoride	0.343	0.0250	mg/L		0.354			3	20	
Sulfate	4.70	0.500	"		4.77			1	20	
Matrix Spike (23B0853-MS1)		**Source: 23B0928-01**		Prepared: 02/23/2023 Analyzed: 02/24/2023						
Fluoride	2.52	0.0250	mg/L	2.500	0.354	87	90-110			J3
Sulfate	54.6	0.500	"	50.00	4.77	100	90-110			
Matrix Spike (23B0853-MS2)		**Source: 23B0939-02**		Prepared: 02/23/2023 Analyzed: 02/24/2023						
Fluoride	2.44	0.0250	mg/L	2.500	0.221	89	90-110			J3
Sulfate	50.0	0.500	"	50.00	0.780	99	90-110			
Batch 23B0876 - Default Prep GenChem										
Blank (23B0876-BLK1)				Prepared: 02/23/2023 Analyzed: 02/24/2023						
Total Dissolved Solids	ND	30.0	mg/L							U
LCS (23B0876-BS1)				Prepared: 02/23/2023 Analyzed: 02/24/2023						
Total Dissolved Solids	516	120	mg/L	500.0		103	80-120			
Duplicate (23B0876-DUP1)		**Source: 23B0887-02**		Prepared: 02/23/2023 Analyzed: 02/24/2023						
Total Dissolved Solids	414	60.0	mg/L		414			0.00	20	
Duplicate (23B0876-DUP2)		**Source: 23B0973-01**		Prepared: 02/23/2023 Analyzed: 02/24/2023						
Total Dissolved Solids	2700	120	mg/L		2660			1.19	20	

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McIntosh Plant

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23C0147 - Default Preparation GenChem										
Blank (23C0147-BLK1)				Prepared & Analyzed: 02/28/2023						
Total Alkalinity	ND	10.0	mg/L							U
LCS (23C0147-BS1)				Prepared & Analyzed: 02/28/2023						
Total Alkalinity	248	10.0	mg/L	250.0		99	90-110			
Duplicate (23C0147-DUP1)	**Source: 23B0865-28**			Prepared & Analyzed: 02/28/2023						
Total Alkalinity	11.6	10.0	mg/L		11.7			0.9	20	
Matrix Spike (23C0147-MS1)	**Source: 23B0865-28**			Prepared & Analyzed: 02/28/2023						
Total Alkalinity	244	10.0	mg/L	250.0	11.7	93	90-110			
Matrix Spike (23C0147-MS2)	**Source: 23B0928-01**			Prepared & Analyzed: 02/28/2023						
Total Alkalinity	309	10.0	mg/L	250.0	134	70	90-110			J3

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McIntosh Plant

Total Recoverable Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0119 - EPA 3010A										
Blank (23B0119-BLK1)				Prepared: 02/22/2023 Analyzed: 02/23/2023						
Lithium	ND	25.0	ug/L							U
LCS (23B0119-BS1)				Prepared: 02/22/2023 Analyzed: 02/23/2023						
Lithium	2440	25.0	ug/L	2500		98	85-115			
Matrix Spike (23B0119-MS1)		**Source: 23B0874-05**		Prepared: 02/22/2023 Analyzed: 02/23/2023						
Lithium	2410	25.0	ug/L	2500	ND	97	75-125			
Matrix Spike Dup (23B0119-MSD1)		**Source: 23B0874-05**		Prepared: 02/22/2023 Analyzed: 02/23/2023						
Lithium	2360	25.0	ug/L	2500	ND	94	75-125	2	20	
Batch 23B0120 - EPA 3010A										
Blank (23B0120-BLK1)				Prepared & Analyzed: 02/23/2023						
Beryllium	ND	1.00	ug/L							U
Cadmium	ND	1.00	"							U
Boron	ND	10.0	"							U
Barium	ND	1.00	"							U
Arsenic	ND	10.0	"							U
Antimony	ND	15.0	"							U
Thallium	ND	4.00	"							U
Potassium	ND	50.0	"							U
Selenium	ND	15.0	"							U
Sodium	ND	2000	"							U
Calcium	ND	50.0	"							U
Chromium	ND	5.00	"							U
Molybdenum	ND	10.0	"							U
Cobalt	ND	1.00	"							U
Lead	ND	10.0	"							U
Magnesium	ND	20.0	"							U

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McIntosh Plant

Total Recoverable Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0120 - EPA 3010A										
LCS (23B0120-BS1)				Prepared & Analyzed: 02/23/2023						
Boron	511.6	10.0	ug/L	500.0		102	85-115			
Arsenic	495	10.0	"	500.0		99.0	85-115			
Barium	484.3	1.00	"	500.0		96.9	85-115			
Beryllium	506.5	1.00	"	500.0		101	85-115			
Cadmium	503.3	1.00	"	500.0		101	85-115			
Antimony	498.4	15.0	"	500.0		99.7	85-115			
Thallium	476.8	4.00	"	500.0		95.4	85-115			
Lead	492	10.0	"	500.0		98.5	85-115			
Molybdenum	508.4	10.0	"	500.0		102	85-115			
Potassium	24800	50.0	"	25500		97.4	85-115			
Sodium	25300	2000	"	25500		99.1	85-115			
Selenium	499.6	15.0	"	500.0		99.9	85-115			
Calcium	27400	50.0	"	25500		107	85-115			
Chromium	491.5	5.00	"	500.0		98.3	85-115			
Magnesium	497	20.0	"	500.0		99.4	85-115			
Cobalt	495.7	1.00	"	500.0		99.1	85-115			
Matrix Spike (23B0120-MS1)	**Source: 23B0891-04**			Prepared & Analyzed: 02/23/2023						
Boron	522.8	10.0	ug/L	500.0	44.60	95.6	70-130			
Beryllium	474.5	1.00	"	500.0	ND	94.9	70-130			
Barium	477.0	1.00	"	500.0	17.00	92.0	70-130			
Arsenic	464	10.0	"	500.0	ND	92.9	70-130			
Antimony	474.1	15.0	"	500.0	ND	94.8	70-130			
Thallium	443.6	4.00	"	500.0	ND	88.7	70-130			
Cadmium	470.2	1.00	"	500.0	ND	94.0	70-130			
Molybdenum	488.8	10.0	"	500.0	ND	97.8	70-130			
Selenium	451.9	15.0	"	500.0	ND	90.4	70-130			
Magnesium	5390	20.0	"	500.0	4890	100	70-130			
Potassium	29300	50.0	"	25500	1890	107	70-130			
Chromium	467.4	5.00	"	500.0	ND	93.5	70-130			
Calcium	83700	50.0	"	25500	57500	103	70-130			
Cobalt	468.3	1.00	"	500.0	ND	93.7	70-130			

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McIntosh Plant

Total Recoverable Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0120 - EPA 3010A										
Matrix Spike (23B0120-MS1)	**Source: 23B0891-04**			Prepared & Analyzed: 02/23/2023						
Sodium	49000	2000	ug/L	25500	21700	107	70-130			
Lead	466	10.0	"	500.0	ND	93.3	70-130			
Matrix Spike Dup (23B0120-MSD1)	**Source: 23B0891-04**			Prepared & Analyzed: 02/23/2023						
Boron	514.8	10.0	ug/L	500.0	44.60	94.0	70-130	1.69	20	
Beryllium	467.8	1.00	"	500.0	ND	93.6	70-130	1.42	20	
Barium	471.0	1.00	"	500.0	17.00	90.8	70-130	1.31	20	
Sodium	48400	2000	"	25500	21700	104	70-130	2.47	20	
Antimony	475.8	15.0	"	500.0	ND	95.2	70-130	0.358	20	
Thallium	438.8	4.00	"	500.0	ND	87.8	70-130	1.09	20	
Arsenic	459	10.0	"	500.0	ND	91.8	70-130	1.15	20	
Magnesium	5310	20.0	"	500.0	4890	83.6	70-130	18.2	20	
Cobalt	464.4	1.00	"	500.0	ND	92.9	70-130	0.836	20	
Molybdenum	482.8	10.0	"	500.0	ND	96.6	70-130	1.24	20	
Cadmium	463.9	1.00	"	500.0	ND	92.8	70-130	1.35	20	
Potassium	28800	50.0	"	25500	1890	105	70-130	1.86	20	
Selenium	448.6	15.0	"	500.0	ND	89.7	70-130	0.733	20	
Calcium	82600	50.0	"	25500	57500	98.4	70-130	4.36	20	
Chromium	463.4	5.00	"	500.0	ND	92.7	70-130	0.859	20	
Lead	460	10.0	"	500.0	ND	92.1	70-130	1.29	20	
Batch 23B0122 - EPA 245.1/245.2 Prep										
Blank (23B0122-BLK1)				Prepared & Analyzed: 02/24/2023						
Mercury	ND	1.00	ug/L							U
LCS (23B0122-BS1)				Prepared & Analyzed: 02/24/2023						
Mercury	10.2	1.00	ug/L	10.00		102	85-115			

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McIntosh Plant

Total Recoverable Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 23B0122 - EPA 245.1/245.2 Prep										
Matrix Spike (23B0122-MS1)	**Source: 23B0878-01**			Prepared & Analyzed: 02/24/2023						
Mercury	9.18	1.00	ug/L	10.00	ND	92	70-130			
Matrix Spike Dup (23B0122-MSD1)	**Source: 23B0878-01**			Prepared & Analyzed: 02/24/2023						
Mercury	9.12	1.00	ug/L	10.00	ND	91	70-130	0.6	20	

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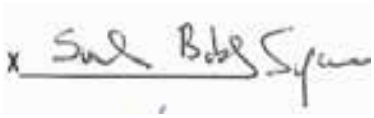
Notes and Definitions

U	Indicated that the compound was analyzed for but not detected. This shall be used to indicate that the specific component was not detected. The value associated with the qualifier shall be the laboratory method detection limit.
J3	The matrix spike recovery outside method acceptance limits indicating matrix interference.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
N.O.O.	No Odor Observed
REP	Field parameter measured by client
V	Indicated that the analyte was detected in both the sample and the associated method blank.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
Z	Too many colonies were present for accurate counting.
SUB	Work performed by outside (subcontracted) labs denoted by SUB in analyst field.

QC=Qualifier Codes as defined by DEP 62-160
Unless indicated, soil results are reported on actual (wet) weight basis.
The Color SM2120B method is reported as (Color / pH)
Legionella analyzed under CDC acreditation program
Dilution factors >= 1000 are abreviated using k=1000 and M=1000000
Field parameters are not NELAP acredited.
Results relate only to this sample.

Suresh (Bobby) Supan - CSM



Authorized CSM Signature (954) 978-6400
Florida-Spectrum Environmental Services,Inc.
Certification# E86006

All NELAP certified analysis are performed in accordance with Chapter 64E-1 Florida Administrative code, which has been determined to be equivalent to NELAC standards. Analysis certified by programs other than NELAP are designated with a "~".

CHAIN OF CUSTODY RECORD

Florida Spectrum

WORK ORDER # 23B0874

Project Name: Lakeland Electric

Customer: Lakeland Electric

Purchase Order: 292460

Project Name: 2023 CCR Monitoring Program

Contact: Thomas Johnston

Phone: (863) 834-6023

Sampler Name: Olivia Hollingsworth

Affiliation: Geosyntec

Report to Address: 3030 East Lake Parker Drive, Lakeland, FL 33805

Invoice to Address: 501 East Lemon Street, Lakeland, FL 33801

Site Location: McIntosh Plant

Email: Thomas.Johnston@lakelandelectric.com

Sampler Signature: [signature]

ORDER # Lab Control Number	Sample ID	Date Sampled	Time Sampled	Matrix	Bottle & Pres. Code	Number of Containers	Appendix III metals	Appendix IV metals	QC Suite	Metals Appendix III Cl, F, SO4, TDS	Sol Sum / Bi-carbonate T ALK
01	CCR-15A	2-20-2023	1005	GW	TH	1	✓	✓	✓		
02	CCR-15B	2-20-2023	1005	GW	TU	1				✓	✓
03	CCR-16A	2-20-2023	1034	GW	TH	1	✓	✓	✓		
04	CCR-16B	2-20-2023	1094	GW	TU	1				✓	✓
05	EQBCCRA	2-20-2023	1041	GW	TH	1	✓	✓	✓		
06	EQBCCRB	2-20-2023	1041	GW	TU	1				✓	✓
07	CCR-17A	2-20-2023	1159	GW	TH	1	✓	✓	✓		
08	CCR-17B	2-20-2023	1159	GW	TU	1				✓	
09	CCR-7A	2-20-2023	1409	GW	TH	1	✓	✓			
10	CCR-7B	2-20-2023	1409	GW	TU	1				✓	✓

Relinquished by: [signature] Date/Time: 2-21-23

[signature] FSEO 02-21-23 1528

[signature] FSEO 02-21-23 1405

4.0°C GW-1

Well ID	Well Type	Historical GWPS exceedances	SSL?	January & July Monitoring?	Rationale	Parameters
CCR-1	Background	None - background	NO	YES	Ongoing Assessment Monitoring	Appendix III, IV
CCR-2	Background	None - background	NO	YES	Ongoing Assessment Monitoring	Appendix III, IV
CCR-3	CCR Compliance	arsenic	NO	NO	No Further Monitoring Warranted	
CCR-4	CCR Compliance	lithium	NO	YES	Ongoing Assessment Monitoring	Appendix III, IV
		thallium	NO			
CCR-5	CCR Compliance	arsenic	NO	YES	Ongoing Assessment Monitoring	Appendix III, IV, GC Suite
		lithium	YES			
		thallium	NO			
CCR-6	CCR Compliance	lithium	YES	YES	Ongoing Assessment Monitoring	Appendix III, IV, GC Suite
CCR-7	CCR Compliance	arsenic	NO	YES	Ongoing Assessment Monitoring	Appendix III, IV, GC Suite
		lithium	NO			
CCR-8	CCR Compliance	arsenic	NO	YES	Ongoing Assessment Monitoring	Appendix III, IV
CCR-9	CCR Compliance	arsenic	NO	YES	Ongoing Assessment Monitoring	Appendix III, IV, GC Suite
		lithium	YES			
		thallium	NO			
CCR-10A	CCR Compliance	No GWPS exceedances	NO	NO	No Further Monitoring Warranted	-
CCR-11	CCR Compliance	arsenic	YES	YES	Ongoing Assessment Monitoring	Appendix III, IV, GC Suite
CCR-12	CCR Compliance	arsenic	YES	YES	Ongoing Assessment Monitoring	Appendix III, IV, GC Suite
		lithium	NO			
		thallium	NO			
CCR-13	CCR Compliance	lithium	YES	YES	Ongoing Assessment Monitoring	Appendix III, IV
CCR-14	CCR Compliance	No GWPS exceedances	NO	NO	No Further Monitoring Warranted	
CCR-15	Nature & Extent	NA	NA	YES	Evaluate lithium mobility downgradient CCR-4	Appendix III, IV, GC Suite
CCR-16	Nature & Extent	NA	NA	YES	Evaluate lithium mobility downgradient CCR-5	Appendix III, IV, GC Suite
CCR-17	Nature & Extent	NA	NA	YES	Evaluate lithium mobility downgradient CCR-6	Appendix III, IV, GC Suite
CCR-18	Nature & Extent	NA	NA	YES	Evaluate lithium mobility downgradient CCR-7	Appendix III, IV, GC Suite
CCR-19	Nature & Extent	NA	NA	YES	Evaluate lithium mobility downgradient CCR-9	Appendix III, IV, GC Suite
CCR-20	Nature & Extent	NA	NA	YES	Evaluate arsenic mobility downgradient CCR-11	Appendix III, IV, GC Suite
CCR-21	Nature & Extent	NA	NA	YES	Evaluate arsenic mobility downgradient CCR-12	Appendix III, IV, GC Suite
CCR-22	Nature & Extent	NA	NA	YES	Evaluate lithium mobility downgradient CCR-13	Appendix III, IV, GC Suite
CCR-23	Nature & Extent	NA	NA	YES	Evaluate lithium mobility downgradient CCR-13	Appendix III, IV, GC Suite
SW-10S	Nature & Extent	NA	NA	YES	Evaluate GWPS compliance at downgradient property boundary	Appendix III, IV, GC Suite

Notes:
1. NA = not applicable
2. GWPS = groundwater protection standards
3. SSL = statistically significant level
4. Appendix III = boron, calcium, chloride, fluoride, sulfate, total dissolved solids
5. Appendix IV = antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, selenium, thallium, [illegible]
6. GC Suite = Geochemical Suite: magnesium, sodium, bicarbonate, potassium, alkalinity

Geosyntec consultants

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Knoxville, TN 37922
PH 865.330.0037
www.geosyntec.com

Memorandum

Date:	1 May 2023
To:	Todd Kafka
From:	Ashley Wilson
CC:	J. Caprio
Subject:	**Stage 2A Data Validation - Level II Data Deliverables – Florida Spectrum Environmental Services Lab Work Orders 23B0865, 23B0874 and 23B0983**

SITE: McIntosh Power Plant – Lakeland Electric

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of forty-six water samples and two equipment blanks, collected 15-17, 20 and 22 February 2023, as part of the McIntosh Power Plant project. The samples were analyzed at Florida Spectrum Environmental Services, Inc., Fort Lauderdale, Florida, for the following tests:

- Metals by United States (US) Environmental Protection Agency (EPA) Methods 3010A/200.7
- Mercury by US EPA Method 245.1
- Anions (Chloride, Fluoride and Sulfate) by US EPA Method 300.0
- Bicarbonate and Total Alkalinity by US EPA Method 310.2
- Total Dissolved Solids (TDS) by US EPA Method 160.1 and Standard Methods (SM) 18 2540C

EXECUTIVE SUMMARY

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data as qualified are usable for supporting project objectives. The qualified data should be used within the limitations of the qualifications.

The data were reviewed based on professional and technical judgment and the following documents:

- US EPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Superfund Data Review, November 2020 (EPA 540-R-20-006);

- Florida Department of Environmental Protection (DEP) Standard Operating Procedures (SOPs), January 2017 (DEP QA Rule, Chapter-62-160, F.A.C.); and
- The pertinent methods referenced by the laboratory reports.

The following samples were analyzed and validated at a Stage 2A level:

Laboratory IDs	Client IDs
23B0865-01	CCR-1A
23B0865-02	CCR-1B
23B0865-03	CCR-2A
23B0865-04	CCR-2B
23B0865-05	CCR-4A
23B0865-06	CCR-4B
23B0865-07	CCR-6A
23B0865-08	CCR-6B
23B0865-09	CCR-13A
23B0865-10	CCR-13B
23B0865-11	CCR-12A
23B0865-12	CCR-12B
23B0865-13	CCR-23A
23B0865-14	CCR-23B
23B0865-15	CCR-22A
23B0865-16	CCR-22B
23B0865-17	CCR-21A
23B0865-18	CCR-21B
23B0865-19	CCR-20A
23B0865-20	CCR-20B
23B0865-21	CCR-19A
23B0865-22	CCR-19B
23B0865-23	CCR-5A
23B0865-24	CCR-5B

Laboratory IDs	Client IDs
23B0865-25	CCR-18A
23B0865-26	CCR-18B
23B0865-27	CCR-11A
23B0865-28	CCR-11B
23B0865-29	LAKE-D-A
23B0865-30	LAKE-D-B
23B0865-31	FISH LAKE A
23B0865-32	FISH LAKE B
23B0874-01	CCR-15A
23B0874-02	CCR-15B
23B0874-03	CCR-16A
23B0874-04	CCR-16B
23B0874-05	EQBCCRA
23B0874-06	EQBCCRB
23B0874-07	CCR-17A
23B0874-08	CCR-17B
23B0874-09	CCR-7A
23B0874-10	CCR-7B
23B0983-01	CCR-9A
23B0983-02	CCR-9B
23B0983-03	CCR-8A
23B0983-04	CCR-8B
23B0983-05	SW-106A
23B0983-06	SW-106B


Brookfield Stantor 570-133085-1.doc


qryHLE_Basic_Data_uery_for_Validators

The samples were received at the laboratory at 3.2 degrees Celsius (ºC), 2.8°C, 4.0°C, 0.8°C and 0.7 °C, within the criteria of 0-6°C. No sample preservation issues were noted by the laboratory.

Incorrect error corrections were observed on the 23B0865 and 23B0874 chain of custody (COC) forms, instead of the proper procedure of a single strike through, correction, and initials and date of person making the corrections.

The "ND" results were changed to the method detection limits (MDLs) in the Validation Result column of the electronic data deliverable (EDD).

The results that were flagged I to indicate the concentration was estimated greater than the MDL and less than the reporting limit (RL) were J qualified as estimated in the Validation Qualifier column of the EDD.

1.0 METALS

The samples were analyzed for metals by US EPA methods 3010A/200.7 (Mercury evaluated separately in Section 2.0, below).

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time
✓ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Equipment Blank
✓ Field Duplicate
✓ Sensitivity
⊗ Electronic Data Deliverable Review

1.1 Overall Assessment

The metals data reported in the laboratory report are considered usable for supporting project objectives. The results are considered valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

1.2 Holding Time

The holding time for the metals analysis of a preserved water sample is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

It was noted that the dates of digestion and analysis did not include the year in the level II laboratory report; the dates were complete in the EDD.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Six method blanks were reported (batches 23B0117, 23B0118, 23B0119, 23B0120, 23B0131 and 23C0016). Metals were not detected in the method blanks above the MDLs.

1.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD pairs were analyzed at the proper frequency for the number and types of samples analyzed (one pair per batch of 20 samples). Four sample set specific MS/MSD pairs were reported, using samples CCR-1A, CCR-20A, EQBCCRA and SW-106A. The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance criteria.

Two batch MS/MSD pairs were also reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

1.5 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Six LCS/LCS duplicates (LCSD) pairs were reported. The recovery and RPD results were within the laboratory specified acceptance criteria.

1.6 Equipment Blank

One equipment blank was collected with the sample set and reported for metals, EQBCCRA. Metals were not detected in the equipment blank above the MDLs.

1.7 Field Duplicate

Field duplicate samples were not collected with the sample set.

1.8 Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were not reported.

1.9 Electronic Data Deliverable Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. The following issues were noted in the EDD review:

- Level II report noted an "I" qualifier (the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit). The validation qualifiers for these results were changed to J as estimated.
- The method blank data were reported to the RLs in the level II reports and the MDLs were listed in the EDDs. Upon review of the EDDs, it was verified that the method blanks were assessed to the MDLs.

No other discrepancies were identified between the level II reports and the EDDs.

2.0 MERCURY

The samples were analyzed for mercury by US EPA Method 245.1.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
✓ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Equipment Blank
✓ Field Duplicate
✓ Sensitivity
⊗ Electronic Data Deliverable Review

2.1 Overall Assessment

The mercury data reported in the laboratory report are considered usable for supporting project objectives. The results are considered valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

2.2 Holding Times

The holding time for the mercury analysis of a preserved water sample is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported (batches 23B0121 and 23B0122). Mercury was not detected in the method blanks above the MDL.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD was reported for mercury using sample CCR-21A. The recovery and RPD results were within the laboratory specified acceptance criteria.

One batch MS/MSD pairs were reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

2.6 Equipment Blank

One equipment blank was collected with the sample set and reported for mercury, EQBCCRA. Mercury was not detected in the equipment blank above the MDL.

2.7 Field Duplicate

A field duplicate sample was not collected with the sample set.

2.8 Sensitivity

The samples were reported to the MDL. Elevated non-detect results were not reported.

2.9 Electronic Data Deliverable Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. The method blank data were reported to the RL in the level II reports. Upon review of the EDDs, it was verified that the method blanks were assessed to the MDL. No other discrepancies were identified between the level II reports and the EDDs.

3.0 WET CHEMISTRY

The samples were analyzed for anions (chloride, fluoride and sulfate) by US EPA method 300.0, bicarbonate and total alkalinity by US EPA method 310.2, TDS by US EPA method 160.1 and SM 18 2540C.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time
✓ Method Blank
⊗ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Equipment Blank
✓ Laboratory Duplicate
✓ Field Duplicate
✓ Sensitivity
⊗ Electronic Data Deliverable Review

3.1 Overall Assessment

The wet chemistry data reported in this data set are considered usable for supporting project objectives. The results are considered valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

3.2 Holding Time

The holding times for the wet chemistry parameters are listed in the table below. The holding times were met for the sample analyses.

Analysis	Holding Time
Anions (Chloride, Fluoride and Sulfate) by US EPA Method 300.0	28 days from collection to analysis

Total Dissolved Solids by US EPA Method 160.1 and SM 2540C	7 days from collection to analysis
Alkalinity by US EPA Method 310.2	14 days from collection to analysis

3.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Method blanks were reported for each analysis batch (anions batches 23B0805, 23B0806, 23B0853, 23B0879 and 23B0880; TDS batches 23B0839, 23B0876 and 23C0168; and total alkalinity batches 23B0798, 23C0147 and 23C0151). The wet chemistry parameters were not detected in the method blanks above the MDLs.

3.4 Matrix Spike/Matrix Spike Duplicate

Two sample set specific MSs were reported for fluoride, chloride and sulfate, using samples CCR-18B and SW-106B. Three sample set specific MSs were reported for alkalinity, using samples CCR-23B, CCR-11B and SW-106B. The recovery results were within the laboratory specified acceptance criteria, with the following exception.

23B0865: The recovery of alkalinity in the MS using sample CCR-23B was low and outside the laboratory specified acceptance criteria. Therefore, the alkalinity concentration in sample CCR-23B was J- qualified as estimated with a low bias.

Batch MSs were reported for fluoride, chloride, sulfate and total alkalinity. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

Sample ID	Compound	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier*	Reason Code**
CCR-23B	Total Alkalinity	37.9	J3	37.9	J-	4
CCR-23B	Bicarbonate	37.9	NA	37.9	J-	4

mg/L-milligram per liter
J3-the matrix spike recovery outside method acceptance limits indicating matrix interference
NA-not applicable
* Validation qualifiers are defined in Attachment 1 at the end of this report
**Reason codes are defined in Attachment 2 at the end of this report

3.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). LCSs were reported for each analytical batch per analysis. The recovery and RPD results were within the laboratory specified acceptance criteria.

3.6 Equipment Blank

One equipment blank was collected with the sample set and reported for wet chemistry parameters, EQBCCRA. The wet chemistry parameters were not detected in the equipment blank above the MDLs.

3.7 Laboratory Duplicate

Two sample set specific laboratory duplicates were reported for total alkalinity, using samples CCR-11B and SW-106B. Two sample set specific laboratory duplicates were reported for fluoride, chloride and sulfate, using samples CCR-18B and SW-106B. One sample set specific laboratory duplicate was reported for TDS, using sample CCR-13B. The RPD results were within the laboratory specified acceptance criteria.

Batch laboratory duplicates were reported for fluoride, chloride, sulfate, TDS and total alkalinity. Since these were batch QC, the result does not affect the samples in this data set and qualifications were not applied to the data.

3.8 Field Duplicate

A field duplicate sample was not collected with the sample set.

3.9 Sensitivity

The samples were reported to the MDL. Elevated non-detect results were not reported.

3.10 Electronic Data Deliverable Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports for fluoride and total alkalinity at a minimum of 20% as part of the data validation process. The following issues were noted in the EDD review:

- The I flag that was used in the level II reports for alkalinity were not used in the EDDs. The report noted an “I” qualifier (the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit). The validation qualifiers for these results were changed to J as estimated.
- The method blank data were reported to the RLs in the level II report. Upon review of the EDDs, it was verified that the method blanks were assessed to the MDLs.

No other discrepancies were identified between the level II reports and the EDDs.

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ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to "not detected at or above the reported result".

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; however, the associated numerical value is likely to be higher that the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.

J- The analyte was positively identified; however, the associated numerical value is likely to be lower that the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other
14	Laboratory flag was removed or modified: no validation qualification required
NV	Data were not validated

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC

3901 Coconut Palm Dr Ste 107
Tampa, FL 33619
Direct: 813-620-1001

Pine Environmental Services, Inc.

Instrument ID 30424
Description HACH 2100Q Turbidimeter
Calibrated 2/9/2023 4:21:05PM

Manufacturer HACH
Model Number 2100Q
Serial Number/ Lot Number 140800C034459
Location Florida
Department

State Certified
Status Pass
Temp °C 23.0
Humidity % 56

Calibration Specifications

Group # 1
Group Name Turbidity
Stated Accy Per of Reading

Range Acc % 0.0000
Reading Acc % 10.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
10.00 / 10.00	NTU	10.00	NTU	8.84	10.00	0.00%	Pass
20.00 / 20.00	NTU	20.00	NTU	18.00	20.00	0.00%	Pass
100.00 / 100.00	NTU	100.00	NTU	99.20	99.90	-0.10%	Pass
800.00 / 800.00	NTU	800.00	NTU	786.40	783.00	-2.15%	Pass

Test Instruments Used During the Calibration

(As Of Cal Entry Date)

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date / Opened Date	Next Cal Date / Expiration Date
FL HACH 100NTU	100 NTU Turbidity Standard	HACH	2684901	A2034		5/31/2023
FL HACH 10NTU	10 NTU Turbidity Standard	HACH	2963801	A2040		7/31/2023
FL HACH 20NTU	20 NTU Turbidity Standard	HACH	2684801	A2085		6/30/2023
FL HACH 800NTU	800 NTU Turbidity Standard	HACH	2660501	A2091		7/31/2023

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Evan McClenthan

Geosyntec Consultants
Water Quality Instrument Calibration Form

Project/Site: Lakeland Electric Project #: FZ3715E Field Personnel: Olivia Hollingshead + Rik Martinez

Water Quality Meter - Model/Serial #: YSI ProDSS 21E103680 Turbidimeter - Model/Serial #: Hach 2100Q/14080C034439

Dissolved Oxygen	DEP SOP FT 1500 Date	Time	Temp (°C)	Saturation (mg/L)[1]	Reading (mg/L)	Reading (%)	Pass or Fail
					Acceptance Criteria ±0.3mg/L		
CAL (ICV) CCV	2-13-2023	1755	21.6	8.88	8.83	100.2	(P) F
CAL (ICV) CCV	2-14-2023	0738	16.1	9.85	9.84	100.1	(P) F
CAL (ICV) CCV	2-15-2023	0742	16.3	9.81	9.82	100.1	(P) F
CAL ICV CCV							P F

Specific Conductance	DEP SOP FT 1200 Date	Time	Standard (mS/cm)	Standard Lot #	Standard Exp. Date	Reading (mS/cm)	Pass or Fail
					Acceptance Criteria ±5%		
CAL (ICV) CCV	2-13-2023	1831	1.408	2112882	12/23	1408	(P) F
CAL (ICV) CCV	2-14-2023	0758	1.408	2112882	12/23	1409	(P) F
CAL (ICV) CCV	2-15-2023	0752	1.408	2112882	12/23	1410	(P) F
CAL ICV CCV							P F

pH	DEP SOP FT 1100 Date	Time	Standard (SU)	Standard Lot #	Standard Exp. Date	Reading (SU)	Pass or Fail
					Acceptance Criteria ±0.2 SU		
CAL (ICV) CCV	2-13-2023	1801	4.00	210001	2/24	4.00	(P) F
CAL (ICV) CCV	2-13-2023	1809	7.00	213754	6/23	7.00	(P) F
CAL (ICV) CCV	2-13-2023	1816	10.00	220003	1/24	10.04	(P) F
CAL (ICV) CCV	2-14-2023	0801	4.00	220001	2/24	3.99	(P) F
CAL (ICV) CCV	2-14-2023	0805	7.00	213754	6/23	7.00	(P) F
CAL (ICV) CCV	2-14-2023	0810	10.00	220003	1/24	10.00	(P) F
CAL (ICV) CCV	2-15-2023	0756	4.00	220001	2/24	4.01	(P) F
CAL (ICV) CCV	2-15-2023	0800	7.00	213754	6/23	7.00	(P) F
CAL (ICV) CCV	2-15-2023	0804	10.00	220003	1/24	10.00	(P) F

ORP (crossed out)	SOP N/A Date	Time	Std. mV @ Temp °C	Standard Lot #	Standard Exp. Date	Reading (mV)	Pass or Fail
					Geosyntec Acceptance Criteria ±5%		
CAL ICV CCV	~~2-14-2023~~		~~240~~	~~[illegible]~~	~~6/23~~		P F
CAL ICV CCV							P F
CAL ICV CCV							P F

Specific Conductance Probe Cleaned? Yes No   Dissolved Oxygen membrane Changed? Yes No

0.1 - 10 NTU Std ___ NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria ±10%		
CAL (ICV) CCV	2-13-2023	10.3	(P) F
CAL (ICV) CCV	2-14-2023	10.0	(P) F
CAL (ICV) CCV	2-15-2023	10.4	(P) F
CAL ICV CCV			P F

11 - 40 NTU Std ___ NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria ±8%		
CAL (ICV) CCV	2-13-2023	21.3	(P) F
CAL (ICV) CCV	2-14-2023	21.6	(P) F
CAL (ICV) CCV	2-15-2023	21.3	(P) F
CAL ICV CCV			P F

41 - 100 NTU Std ___ NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria ±6.5%		
CAL (ICV) CCV	2-13-2023	99.6	(P) F
CAL (ICV) CCV	2-14-2023	109	(P) F
CAL (ICV) CCV	2-15-2023	101	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

>100 NTU Std ___ NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria ±5%		
CAL (ICV) CCV	2-13-2023	777	(P) F
CAL (ICV) CCV	2-14-2023	781	(P) F
CAL (ICV) CCV	2-15-2023	775	(P) F

Comments:

1. See Table FS 2200-2 on the back of this form
CAL - Initial Calibration
ICV - Initial Calibration Verification
CCV - Continuing Calibration Verification
[illegible]
[illegible]
[illegible]
[illegible]

Geosyntec consultants

Geosyntec Consultants
Water Quality Instrument Calibration Form

Project/Site: Loveland Electric Project # FR3715E Field Personnel: Olivia Hollingsworth + Rik Martinez

Water Quality Meter - Model/Serial #: YSI ProDSS 21E103080 Turbidity meter - Model/Serial #: Hach 2100Q / 14080C034439

Dissolved Oxygen (DEP SOP FT 1500) — Acceptance Limits: +/-0.3 mg/L

	Date	Time	Temp (°C)	Saturation (mg/L)[1]	Reading (mg/L)	Reading (%)	Pass or Fail
CAL (ICV) CCV	2-16-2023	0740	22.4	8.68	8.70	100.2	(P) F
CAL (ICV) CCV	2-17-2023	0730	22.3	8.69	8.69	99.9	(P) F
CAL ICV (CCV)	2-17-2023	1312	28.6	7.74	7.94	102.7	(P) F
CAL ICV CCV							P F

Specific Conductance (DEP SOP FT 1200) — Acceptance Criteria +/- 5%

	Date	Time	Standard (mS/cm)	Standard Lot #	Standard Exp. Date	Reading (mS/cm)	Pass or Fail
CAL (ICV) CCV	2-16-2023	0754	1.408	2112882	11/22	1.408	(P) F
CAL (ICV) CCV	2-17-2023	0739	1.408	2112882	11/23	1.409	(P) F
CAL ICV (CCV)	2-17-2023	1316	1.408	2112882	11/23	1.403	(P) F
CAL ICV CCV							P F

pH (DEP SOP FT 1100) — Acceptance Criteria +/- 0.2 SU

	Date	Time	Standard (SU)	Standard Lot #	Standard Exp. Date	Reading (SU)	Pass or Fail
CAL (ICV) CCV	2-16-2023	0801	4.00	220001	2/24	4.00	(P) F
CAL (ICV) CCV	2-16-2023	0806	7.00	213754	6/23	7.00	(P) F
CAL (ICV) CCV	2-16-2023	0810	10.00	220003	1/24	9.99	(P) F
CAL (ICV) CCV	2-17-2023	0745	4.00	220001	2/24	4.00	(P) F
CAL (ICV) CCV	2-17-2023	0751	7.00	213754	6/23	7.00	(P) F
CAL (ICV) CCV	2-17-2023	0756	10.00	220003	1/24	9.99	(P) F
CAL ICV (CCV)	2-17-2023	1310	4.00	220001	2/24	4.18	(P) F
CAL ICV (CCV)	2-17-2023	1324	7.00	213754	6/23	7.02	(P) F
CAL ICV (CCV)	2-17-2023	1328	10.00	220003	1/24	10.02	(P) F

ORP (SOP N/A) — Geosyntec Acceptance Criteria +/- 5% (section crossed out)

	Date	Time	Std mV @ Temp °C	Standard Lot #	Standard Exp. Date	Reading (mV)	Pass or Fail
CAL ICV CCV							P F
CAL ICV CCV							P F
CAL ICV CCV							P F

Specific Conductance Probe Cleaned? Yes No Dissolved Oxygen membrane Changed? Yes No

Turbidity 0.1 - 10 NTU (Std 10 NTU) — Acceptance Criteria +/- 10%

	Date	Reading (NTU)	Pass or Fail
CAL (ICV) CCV	2-16-2023	9.60	(P) F
CAL (ICV) CCV	2-17-2023	10.3	(P) F
CAL ICV (CCV)	2-17-2023	10.4	(P) F
CAL ICV CCV			P F

Turbidity 11 - 40 NTU (Std 20 NTU) — Acceptance Criteria +/- 8%

	Date	Reading (NTU)	Pass or Fail
CAL (ICV) CCV	2-16-2023	20.0	(P) F
CAL (ICV) CCV	2-17-2023	20.0	(P) F
CAL ICV (CCV)	2-17-2023	21.3	(P) F
CAL ICV CCV			P F

Turbidity 41 - 100 NTU (Std 100 NTU) — Acceptance Criteria +/- 6.5%

	Date	Reading (NTU)	Pass or Fail
CAL (ICV) CCV	2-16-2023	97.6	(P) F
CAL (ICV) CCV	2-17-2023	97.8	(P) F
CAL ICV (CCV)	2-17-2023	101	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

Turbidity >100 NTU (Std 800 NTU) — Acceptance Criteria +/- 5%

	Date	Reading (NTU)	Pass or Fail
CAL (ICV) CCV	2-16-2023	782	(P) F
CAL (ICV) CCV	2-17-2023	789	(P) F
CAL ICV (CCV)	2-17-2023	801	(P) F

1 See Table FS 2200-2 on the back of this form

CAL - Initial Calibration

ICV - Initial Calibration Verification

CCV - Continuing Calibration Verification

Allow adequate time for the dissolved oxygen sensor to equilibrate during air calibration

Calibrate spec. conductance using at least two standards that bracket the range of expected sample readings (unless readings < 0.1 mS/cm then one standard of 0.1 mS/cm is acceptable)

Calibrate pH using at least two standards (pH 4 and 7) that bracket the range of expected sample readings, always start with pH 7, add a third calibration point if needed (e.g. pH = 10)

If parameter fails to calibrate within SOP acceptance criteria then append sample results with a J qualifier

Comments:

Geosyntec consultants

Geosyntec Consultants
Water Quality Instrument Calibration Form

Project/Site: Lakeland Electric Project: FL3715E Field Personnel: Olivia Hollingsworth

Water Quality Meter - Model/Serial #: YSI DSS 21E103680 Turbidimeter - Model/Serial #: Hach 2100Q 72070D00015

Dissolved Oxygen	DEP SOP FT 1500	Date	Time	Temp (°C)	Saturation (mg/L)[1]	Reading (mg/L)	Reading (%)	Pass or Fail
						Acceptance Criteria ± 0.3 mg/L		
CAL (ICV) CCV		2-10-2023	0952	21.9	8.76	8.77	100.1	(P) F
CAL ICV (CCV)		2-10-2023	1414	27.5	7.89	7.68	97.3	(P) F
CAL ICV CCV								P F
CAL ICV CCV								P F

0.1 - 10 NTU Std 10 NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria ± 10%		
CAL (ICV) CCV	2-10-2023	10.7	(P) F
CAL ICV (CCV)	2-10-2023	10.5	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F

Specific Conductance	DEP SOP FT 1200	Date	Time	Standard (mS/cm)	Standard Lot #	Standard Exp. Date	Reading (mS/cm)	Pass or Fail
						Acceptance Criteria ± 5%		
CAL (ICV) CCV		2-10-2023	0758	1.408	2112882	12/23	1.409	(P) F
CAL ICV CCV		2-10-2023	1429	1.408	2112882	12/23	1.370	(P) F
CAL ICV CCV								P F
CAL ICV CCV								P F

11 - 40 NTU Std 20 NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria ± 8%		
CAL (ICV) CCV	2-10-2023	21.0	(P) F
CAL ICV (CCV)	2-10-2023	20.8	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F

pH	DEP SOP FT 1100	Date	Time	Standard (SU)	Standard Lot #	Standard Exp. Date	Reading (SU)	Pass or Fail
						Acceptance Criteria ± 0.2 SU		
CAL (ICV) CCV		2-10-2023	0803	4.00	220001	2/24	4.00	(P) F
CAL (ICV) CCV		2-10-2023	0808	7.00	213754	6/23	7.00	(P) F
CAL (ICV) CCV		2-10-2023	0813	10.00	220003	1/24	10.00	(P) F
CAL ICV (CCV)		2-10-2023	1433	4.00	220001	1/24	4.19	(P) F
CAL ICV (CCV)		2-10-2023	1437	7.00	213754	6/23	6.99	(P) F
CAL ICV (CCV)		2-10-2023	1442	10.00	220003	1/24	9.99	(P) F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

41 - 100 NTU Std 100 NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria ± 6.5%		
CAL (ICV) CCV	2-10-2023	102	(P) F
CAL ICV (CCV)	2-10-2023	104	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

ORP	SOP N/A	Date	Time	Std. mV @ Temp °C	Standard Lot #	Standard Exp. Date	Reading (mV)	Pass or Fail
						Geosyntec Acceptance Criteria ± 5%		
CAL (ICV) CCV		~~2-10-2023~~						P F
CAL ICV CCV								P F
CAL ICV CCV								P F

>100 NTU Std 800 NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria ± 5%		
CAL (ICV) CCV	2-10-2023	806	(P) F
CAL ICV (CCV)	2-10-2023	819	(P) F
CAL ICV CCV			P F

~~Specific Conductance~~ Probe Cleaned? Yes No Disolved Oxygen membrane Changed? Yes No

1. See Table FS 2200 2 on the back of this form

CAL - Initial Calibration

ICV - Initial Calibration Verification

CCV - Continuing Calibration Verification

Allow adequate time for the dissolved oxygen sensor to equilibrate during air calibration.

Calibrate specific conductance using at least two standards that bracket the range of expected sample readings (unless readings < 0.1 mS/cm then one standard of 0.1 mS/cm is acceptable).

Calibrate pH using at least two standards (typically 4 and 10) that bracket the range of expected sample readings, always start with pH 7 and a third calibration point if needed (e.g. pH 4).

If parameter fails to calibrate within SOP acceptance criteria then sample results with a "J" qualifier.

Comments:

Geosyntec consultants

Form FD9000-8 CALIBRATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Geosyntec Consultants

Water Quality Instrument Calibration Form

Project/Site: LAKELAND ELECTRIC Project #: FR37156/1237 Field Personnel: R. MATHIAS

Water Quality Meter - Model/Serial#: YSI Pro Quatro 22D 104352 Turbidimeter - Model/Serial#: HACH 2100Q 22070D 600115

Dissolved Oxygen	DEP SOP FT 3500	Date	Time	Temp (°C)	Saturation (mg/L)*	Reading (mg/L)	Reading (%)	Pass or Fail
						Acceptance Criteria: +/- 0.3 mg/L		
CAL (ICV) CCV		2-13-23	1753	22.10	8.727	8.75	100.1	(P) F
CAL ICV (CCV)		2-14-23	0710	16.0	9.870	9.81	100.1	(P) F
CAL ICV (CCV)		2-15-23	0715	16.9	9.685	9.60	99.5	(P) F
CAL ICV (CCV)		2-16-23	0702	16.7	9.726	9.77	100.1	(P) F

Specific Conductance	DEP SOP FT 3200	Date	Time	Standard (mS/cm)	Standard Lot #	Standard Exp. Date	Reading (mS/cm)	Pass or Fail
						Acceptance Criteria: +/- 5%		
CAL (ICV) CCV		2-13-23	1758	1.413	26J674	10/23	1413	(P) F
CAL ICV (CCV)		2-14-23	1715	"	"	"	1409	(P) F
CAL ICV (CCV)		2-15-23	0720	"	"	"	1416	(P) F
CAL ICV (CCV)		2-16-23	0706	"	"	"	1418	(P) F
CAL ICV CCV								P F
CAL ICV CCV								P F

pH	DEP SOP FT 3100	Date	Time	Standard (SU)	Standard Lot #	Standard Exp. Date	Reading (SU)	Pass or Fail
						Acceptance Criteria: +/- 0.2 SU		
CAL (ICV) CCV		2-13-23	1804	7.00	26F083	06/24	7.03	(P) F
CAL ICV CCV			1809	4.00	26I592	09/24	4.02	(P) F
CAL ICV CCV			1814	10.00	26F143	06/24	10.10	(P) F
CAL ICV (CCV)		2-14-23	1719	7.00	26F083	06/24	7.01	(P) F
CAL ICV (CCV)		2-15-23	0725	7.00	"	"	7.02	(P) F
CAL ICV (CCV)		2-16-23	0709	7.00	"	"	7.03	(P) F

ORP	SOP N/A	Date	Time	Std. mV @ Temp °C	Standard Lot #	Standard Exp. Date	Reading (mV)	Pass or Fail
						Geosyntec Acceptance Criteria: +/- 5%		
CAL (ICV) CCV		2-13-23	1816	240.0	26I755	06/23	243.1	(P) F
CAL ICV (CCV)		2-14-23	1725	"	"	"	239.9	(P) F
CAL ICV (CCV)		2-15-23	0730	"	"	"	240.0	(P) F
CAL ICV (CCV)		2-16-23	0713	"	"	"	239.0	(P) F

Specific Conductance Probe Cleaned? Yes No Dissolved Oxygen Membrane Changed? Yes No

0.2 - 10 NTU Std 10 NTU	Date	Reading (NTU)	Pass or Fail
		Acceptance Criteria: +/- 10%	
CAL (ICV) CCV	2-13-23	10.3	(P) F
CAL ICV (CCV)	2-14-23	10.1	(P) F
CAL ICV (CCV)	2-15-23	10.2	(P) F
CAL ICV (CCV)	2-16-23	10.5	(P) F

11 - 40 NTU Std 20 NTU	Date	Reading (NTU)	Pass or Fail
		Acceptance Criteria: +/- 5%	
CAL (ICV) CCV	2-13-23	20	(P) F
CAL ICV (CCV)	2-14-23	20.2	(P) F
CAL ICV (CCV)	2-15-23	20.1	(P) F
CAL ICV (CCV)	2-16-23	20.3	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F

41 - 100 NTU Std 100 NTU	Date	Reading (NTU)	Pass or Fail
		Acceptance Criteria: +/- 6.5%	
CAL (ICV) CCV	2-13-23	99.6	(P) F
CAL ICV (CCV)	2-14-23	101	(P) F
CAL ICV (CCV)	2-15-23	102	(P) F
CAL ICV (CCV)	2-16-23	101	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F

>100 NTU Std 800 NTU	Date	Reading (NTU)	Pass or Fail
		Acceptance Criteria: +/- 5%	
CAL (ICV) CCV	2-13-23	796	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

1. See Table FS 2200-2 on the back of this form

CAL - Initial Calibration

ICV - Initial Calibration Verification

CCV - Continuing Calibration Verification

Allow adequate time for the dissolved oxygen sensor to equilibrate during calibration

Calibrate specific conductance using at least two standards that bracket the range of expected sample readings (unless readings <0.1 mS/cm is acceptable)

Calibrate pH using at least two standards (typ. pH 4 and 7) that bracket the range of expected sample readings. always start with pH 7 and add a third calibration point if needed (i.e. pH > 7)

* parameter fails to calibrate within SOP acceptance criteria then append sample results with a "J" qualifier

Comments:

Geosyntec consultants

Form FD9000-8 CALIBRATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Geosyntec Consultants

Water Quality Instrument Calibration Form

Project/Site: LAKELAND ELECTRIC Project #: FR3715J/1237 Field Personnel: R. MATHIAS

Water Quality Meter - Model/Serial#: YSI ProQuatro 22D104352 Turbidimeter - Model/Serial#: HACH 2100Q 22070D000115

Dissolved Oxygen	DEP SOP FT 1500	Date	Time	Temp (°C)	Saturation (mg/L)	Reading (mg/L)	Reading (%)	Pass or Fail
						Acceptance Criteria: +/-0.3 mg/L		
CAL ICV (CCV)		2.17.23	0700	19.5	9.184	9.19	100.2	P F
CAL ICV (CCV)		2.17.23	1315	27.6	7.884	7.90	100.4	P F
CAL ICV CCV								P F
CAL ICV CCV								P F

Specific Conductance	DEP SOP FT 1200	Date	Time	Standard (mS/cm)	Standard Lot #	Standard Exp. Date	Reading (mS/cm)	Pass or Fail
						Acceptance Criteria: +/- 5%		
CAL ICV (CCV)		2.17.23	0705	1.413	26E675	10/23	1413	P F
CAL ICV (CCV)		2.17.23	1319	"	"	"	1404	P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

pH	DEP SOP FT 1100	Date	Time	Standard (SU)	Standard Lot #	Standard Exp. Date	Reading (SU)	Pass or Fail
						Acceptance Criteria: +/- 0.2 SU		
CAL ICV (CCV)		2.17.23	0710	7.00	26F083	06/24	7.02	P F
CAL ICV (CCV)		2.17.23	1324	"	"	"	6.98	P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

ORP	SOP N/A	Date	Time	Std. mV @ Temp °C	Standard Lot #	Standard Exp. Date	Reading (mV)	Pass or Fail
						Geosyntec Acceptance Criteria: +/- 5%		
CAL ICV (CCV)		2.17.23	0715	240.0	26I755	06/23	238.9	P F
CAL ICV (CCV)		2.17.23	1328	"	"	"	240.3	P F
CAL ICV CCV								P F
CAL ICV CCV								P F

Specific Conductance Probe Cleaned? Yes No Dissolved Oxygen Membrane Changed? Yes No

0.1 - 10 NTU Std 10 NTU	Date	Reading (NTU)	Pass or Fail
		Acceptance Criteria: +/- 10%	
CAL ICV (CCV)	2.17.23	10.2	P F
CAL ICV (CCV)	"	10.1	P F
CAL ICV CCV			P F
CAL ICV CCV			P F

11 - 40 NTU Std 20 NTU	Date	Reading (NTU)	Pass or Fail
		Acceptance Criteria: +/- 8%	
CAL ICV (CCV)	2.17.23	20.4	P F
CAL ICV (CCV)	"	20.2	P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

41 - 100 NTU Std 100 NTU	Date	Reading (NTU)	Pass or Fail
		Acceptance Criteria: +/- 6.5%	
CAL ICV (CCV)	2.17.23	103	P F
CAL ICV (CCV)	"	102	P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

>100 NTU Std ___ NTU	Date	Reading (NTU)	Pass or Fail
		Acceptance Criteria +/- 5%	
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

1. See Table FS 2200-2 on the back of this form

CAL - Initial Calibration

ICV - Initial Calibration Verification

CCV - Continuing Calibration Verification

Allow adequate time for the dissolved oxygen sensor to equilibrate during calibration

Calibrate specific conductance using at least two standards that bracket the range of expected sample readings (within reason, readings +0.1 mS/cm is acceptable)

Calibrate pH using at least two standards (typ. pH 4 and 7) that bracket the range of expected sample readings, always start with pH 7; add a third calibration point if needed (i.e. pH 4, 7, 10)

If parameter fails to calibrate within SOP acceptance criteria then append sample results with a "J" qualifier

Comments: _____

Geosyntec consultants

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-1	SAMPLE ID: CCR-1	DATE: 2-15-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 18 feet – 28.7 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 11.28	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)

(feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME x3=.43 (only fill out if applicable)

= 0 gallons + 0.0014 gallons/foot X 30 feet + 0.1 gallons = .14 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: 23.7	FINAL PUMP OR TUBING DEPTH (feet) BTOC: 23.7	PURGING INITIATED AT: 1446	PURGING ENDED AT: 1500	TOTAL VOLUME PURGED (gallons): .12

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (Feet)	pH (Standard units)	TEMP (°C)	COND (circle unit(s) µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1456	0.8	0.8	0.08	11.33	5.64	25.1	228.2	0.18	2.07	clear	
1458	0.16	0.96	0.08	11.32	5.64	25.1	228.1	0.17	1.73	"	
1500	0.16	1.12	0.08	11.33	5.64	25.1	228.9	0.16	1.84	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B (Bailer), BP Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Olivia Hollingsworth/Geosyntec	SAMPLER(S) SIGNATURE(S): Olivia Hollingsworth	SAMPLING INITIATED AT: 1500	SAMPLING ENDED AT: 1504
PUMP OR TUBING DEPTH (feet) BTOC: 23.7	TUBING MATERIAL CODE: HDPE	FIELD FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: _ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N replaced)	DUPLICATE: Y (N)	

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	SAMPLE PRESERVATION: PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-1A	1	PP	250mL	1:1 HNO3	None	NA	Metals	APP	400
CCR-1B	1	PP	250ml	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	APP	400

REMARKS: Sampled at 1500

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = ANet Peristaltic Pump; B Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200.2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric McPP CCR	Lakeland, FL	
WELL NO. CCR-2	SAMPLE ID CCR-2	DATE 2-15-2023

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH (feet)	STATIC DEPTH TO WATER (feet) BTOC	PURGE PUMP TYPE OR BAILER
2	3/16	13.3 feet to 23.3 feet BTOC	10.71	PP

WELL VOLUME PURGE 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(Only fill out if applicable)
= (feet - feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME x 2 = .43
(only fill out if applicable)
= 0 gallons + (0.0014 gallons/foot X 30 feet) + 0.1 gallons = .14 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC	FINAL PUMP OR TUBING DEPTH (feet) BTOC	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
23.75	23.75	1350	1441	4.08

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1402	0.96	0.96	0.08	10.87	5.62	25.5	178.1	0.21	6.43	clear	
1404	0.16	1.12	0.08	10.87	5.59	25.5	172.3	0.18	6.43	"	
1406	0.16	1.28	0.08	10.87	5.58	25.5	170.9	0.18	6.84	"	
1423	1.36	2.64	0.08						6.55	"	
1441	1.44	4.08	0.05	10.81	5.61	25.5	178.2	0.14	4.73	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
Olivia Hollingsworth /Geosyntec	Olivia Hollingsworth	1441	1446

PUMP OR TUBING DEPTH (feet) BTOC	TUBING MATERIAL CODE: HDPE	FIELD FILTERED Y (N)	FILTER SIZE ___ µm
23.75		Filtration Equipment Type: N/A	

FIELD DECONTAMINATION PUMP Y (N) TUBING Y (N replaced) DUPLICATE Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID	# CONTAINERS	TYPE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-249	1	PP	250mL	1:1 HNO3	None	NA	Metals	APP	400
CCR-213	1	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	APP	400

REMARKS:
*Sampled at 1441 *Paused reading + stored flow rates at 1423 to allow turbidity to drop below 5

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/l or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-4A ⊕	SAMPLE ID: CCR-4	DATE: 2-15-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 8.5 feet to 28.5 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 15.11	PURGE PUMP TYPE OR BAILER: P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet - feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (.0014 gallons/foot X 40 feet) + .1 gallons = .156 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~24	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~24	PURGING INITIATED AT: 1706	PURGING ENDED AT: 1752	TOTAL VOLUME PURGED (gallons): 4.60

Time	VOLUME PURGED (Gallons)	CUMULATIVE VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (Standard units)	TEMP (°C)	COND (circle units: umhos/cm or µS/cm)	DISSOLVED OXYGEN (circle units: mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (Describe)	ORP (mV)
1711	.50	.50	.10	15.21	4.15	25.1	12474	0.32	20.0	clear	-33.1
								(purged extra to clear turb.)			
1728									10.2		
1748	4.20	4.20	.10	15.21	4.12	24.6	11879	0.18	3.73	clear	-84.1
1750	.20	4.40	1	15.21	4.12	24.6	11873	0.18	3.57	"	-85.0
1752	.20	4.60	1	15.21	4.12	24.6	11869	0.18	4.12	"	-85.7

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Rik Mathias /Geosyntec	SAMPLER(S) SIGNATURE(S): Rik Mathias	SAMPLING INITIATED AT: 1753	SAMPLING ENDED AT: 1757

PUMP OR TUBING DEPTH (feet) BTOC: ~24	TUBING MATERIAL CODE: HDPE, S	FIELD FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm

FIELD DUPLICATION: PUMP Y (N) TUBING Y (N (replaced)) DUPLICATE Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-4A	1	PP	250ml	1:1 HNO3	None	NA	Metals	APP	~380
CCR-4B	1	PP	250ml	Ice	None	NA	B, Ca, Cl, F-, SO4, TDS, Bicarbonate, alkalinity	APP	1

REMARKS:
SAMPLE TIME: 1753

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; NFPP = Non-peristaltic Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200.2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-5	SAMPLE ID: CCR-5	DATE: 2-16-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 8.7 feet to 28.7 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 11.25	PURGE PUMP TYPE OR BAILER: P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH: STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

= gallons + (.0014 gallons/foot x 35 feet) + .1 gallons = .149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~24	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~24	PURGING INITIATED AT: 1617	PURGING ENDED AT: 1626	TOTAL VOLUME PURGED (gallons): .90

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1622	.80	.80	.10	11.47	5.33	25.3	15702	0.68	2.37	clear	-62.8
1624	.70	.70	1	11.47	5.33	25.2	15709	0.59	2.51	"	-63.4
1626	.20	.90	1	11.47	5.32	25.2	15713	0.53	2.74	"	-64.5

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 6" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Rik MATHIAS /Geosyntec	SAMPLER(S) SIGNATURE(S): Rik Mathias	SAMPLING INITIATED AT: 1627	SAMPLING ENDED AT: 1629
PUMP OR TUBING DEPTH (feet) BTOC: ~24	TUBING MATERIAL CODE: HDPE, S	FIELD FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: -- µm
FIELD DUPLICATE: PUMP Y (N)	TUBING Y (N replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml per minute)
CCR-5 A	1	PP	250mL	1:1 HNO3	None	NA	Metals	APP	~380
CCR-5 B	1	PP	250mL	Ice	None	NA	F, Cl, Cl, SO4, TDS, bicarbonate, alkalinity	1	1

REMARKS: SAMPLE TIME: 1627

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = Alex Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (DEP-SOP-001/01 FS 2212, REGION 3):

pH: ± 0.2 units; Temperature: ± 0.2 °C; Specific Conductance: ± 5%; Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally ± 0.2 mg/L or ± 10% (whichever is greater); Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-6	SAMPLE ID: CCR-6	DATE: 2-15-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: [illegible] feet/BTOC	STATIC DEPTH TO WATER (feet) BTOC: 10.14	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet - feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME x3 = .45
(only fill out if applicable)
= 0 gallons + (0.014 gallons/foot X 35 feet) + 0.1 gallons .15 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: 23.6	FINAL PUMP OR TUBING DEPTH (feet) BTOC: 23.6	PURGING INITIATED AT: 1710	PURGING ENDED AT: 1806	TOTAL VOLUME PURGED (gallons): 2.35

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1728	2.45	0.45	0.05	10.19	6.33	24.5	333.1	0.21	4.70	clear	
1730	2.4	0.65	0.05	10.19	6.30	24.6	545	0.20	4.57	"	
1730	0.5	1.85	0.05	10.19	6.18	24.5	1544	2.14	2.14		
1802	0.5	2.15	0.05	10.17	6.17	24.3	2182	0.11	1.65	"	
1804	0.1	2.25	0.05	10.17	6.17	24.2	2155	0.12	2.02	"	
1806	0.1	2.35	0.05	10.17	6.16	24.2	2149	0.12	2.17	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0016, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLER(S) BY (PRINT) / AFFILIATION: Olivia Holloway/Geosyntec	SAMPLER(S) SIGNATURE(S): Olivia Holloway	SAMPLING INITIATED AT: 1806	SAMPLING ENDED AT: 1812
PUMP OR TUBING DEPTH (feet) BTOC: 23.6	TUBING MATERIAL CODE: HDPE	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	CONTAINER MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-6A	1	PP	250mL	1:1 HNO3	None	NA	Metals	APP	400
CCR-6B	1	PP	250ml	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	APP	400

REMARKS:

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = Alter Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, NPPP = Newton Pitney Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units. Temperature: ± 0.2 °C. Specific Conductance: ± 5%. Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200.2) optionally, ± 0.2 mg/L or ± 10% (whichever is greater). Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-7	SAMPLE ID: CCR-7	DATE: 2-20-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 18.7 feet to 23.7 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 10.62	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
~~(only fill out if applicable)~~

= (feet - feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) = FLOW CELL VOLUME
(only fill out if applicable)

= 0 gallons + (0.0014 gallons/foot X 35 feet) + 0.1 gallons x3 = 0.45 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: 23.75	FINAL PUMP OR TUBING DEPTH (feet) BTOC: 23.75	PURGING INITIATED AT: 1251	PURGING ENDED AT: 1409	TOTAL VOLUME PURGED (gallons): 6.24

TIME	VOLUME PURGED (gallons)	CUMULATIVE VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1403	5.76	5.76	0.08	10.64	5.12	25.2	521	0.07	10.3	Light Brown	
1406	0.24	6.00	0.08	10.64	5.02	25.2	518	0.07	7.53	"	
1409	0.24	6.24	0.08	10.64	5.01	25.2	531	0.07	4.98	✓	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Olivier Hollingsworth/Geosyntec	SAMPLER(S) SIGNATURE(S): Olivier C. Hollingsworth	SAMPLING INITIATED AT: 1409	SAMPLING ENDED AT: 1415

PUMP OR TUBING DEPTH (feet) BTOC: 23.75	TUBING MATERIAL CODE: HDPE S	FIELD FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-7A	1	PP	250mL	1:1 HNO3	None	NA	Metals	APP	400
CCR-7B	1	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	APP	400

REMARKS: Sampled at 1409

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL
WELL NO: CCR-8	SAMPLE ID: CCR-8
DATE: 2-22-2023	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16
WELL SCREEN INTERVAL DEPTH: [illegible] feet to [illegible] feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 10.19
PURGE PUMP TYPE OR BAILER: P.P.	

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet − feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (.0014 gallons/foot X 35 feet) + .1 gallons = .149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~24	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~24
PURGING INITIATED AT: 1148	PURGING ENDED AT: 1222
TOTAL VOLUME PURGED (gallons): 3.40	

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1153	.50	.50	.10	10.27	6.58	24.6	454	0.08	43.9	clear	
									(purged extra to clear turb.)		
										(RW)	
1218	3.00	3.00	.10	10.27	6.56	24.7	459	0.07	7.73	clear	
1220	.20	3.20	.10	10.27	6.55	24.7	459	0.07	5.77	"	
1222	.20	3.40	.10	10.27	6.55	24.7	460	0.07	4.39	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Rik Mathias /Geosyntec	SAMPLER(S) SIGNATURE(S): Rik Mathias
SAMPLING INITIATED AT: 1223	SAMPLING ENDED AT: 1226
PUMP OR TUBING DEPTH (feet) BTOC: ~24	TUBING MATERIAL CODE: HDPE, S
FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: --- μm
FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N (replaced))	DUPLICATE: Y (N)

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-8A	1	PP	250ml	1:1 HNO3	None	NA	Metals	APP	~380
CCR-8B	1	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	|	|

REMARKS:
SAMPLE TIME: 1223

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-9	SAMPLE ID: CCR-9	DATE: 2-22-2023

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 8.9 feet to 38.9 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 5.75	PURGE PUMP TYPE OR BAILER: P.P.

WELL VOLUME PURGE: 1 WELL VOLUME (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
(feet - feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
- gallons + (.0014 gallons/foot X 35 feet) + .1 gallons = .149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~24	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~24	PURGING INITIATED AT: 0859	PURGING ENDED AT: 1130	TOTAL VOLUME PURGED (gallons): 15.1

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0904	.50	.50	.10	6.90	5.19	24.4	3421	0.13	46.5	clear	
								(purged extra to clear turbidity)			
0931	3.20	3.20	.10	6.90	5.21	24.6	3492	0.10	31.1	"	(end)
0959	6.00	6.00	.10	6.90	5.22	24.9	3510	0.13	20.0	"	
1126	14.7	14.7	.10	6.90	5.21	25.3	3527	0.21	3.32	"	
1128	.20	14.9	1	6.90	5.20	26.4	3529	0.21	3.51	"	
1130	.20	15.1	1	6.90	5.20	26.4	3530	0.21	3.78	"	

WELL CAPACITY (Gallons Per Foot): 0.75" - 0.02, 1" - 0.04, 1.25" - 0.06, 2" - 0.17, 3" - 0.37, 4" - 0.65, 5" - 1.02, 6" - 1.47, 12" - 5.88
TUBING INSIDE DIA. CAPACITY (Gal./ft.): 1/8" - 0.0006, 3/16" - 0.0014, 1/4" - 0.0026, 5/16" - 0.004, 3/8" - 0.006, 1/2" - 0.010, 5/8" - 0.016

PURGING EQUIPMENT CODES: B - Bailer, BP - Bladder Pump, ESP - Electric Submersible Pump, PP = Peristaltic Pump, O - Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: R.W. Watkins /Geosyntec	SAMPLE(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 1131	SAMPLING ENDED AT: 1133
PUMP OR TUBING DEPTH (feet) BTOC: ~24	TUBING MATERIAL CODE: HDPE, S	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION: # CONTAINERS	MATERIAL CODE	VOLUME	SAMPLE PRESERVATION: PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml. per minute)
CCR-9A	1	PP	250mL	1:1 HNO3	None	NA	Metals	APP	~380
CCR-9B	1	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	APP	"

REMARKS: SAMPLE TIME: 1131

MATERIAL CODES: AG - Amber Glass, CG - Clear Glass, PE - Polyethylene, PP - Polypropylene, S - Silicone, T - Teflon, O - Other (Specify)

SAMPLING EQUIPMENT CODES: APP - After Peristaltic Pump, B - Bailer, BP - Bladder Pump, ESP - Electric Submersible Pump, FPP - Reverse Flow Peristaltic Pump, SM - Straw Method (Tubing Gravity Drain), O - Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ± 20% saturation (see Table FS 2200.2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-11	SAMPLE ID: CCR-11	DATE: 7-16-2023

PURGING DATA

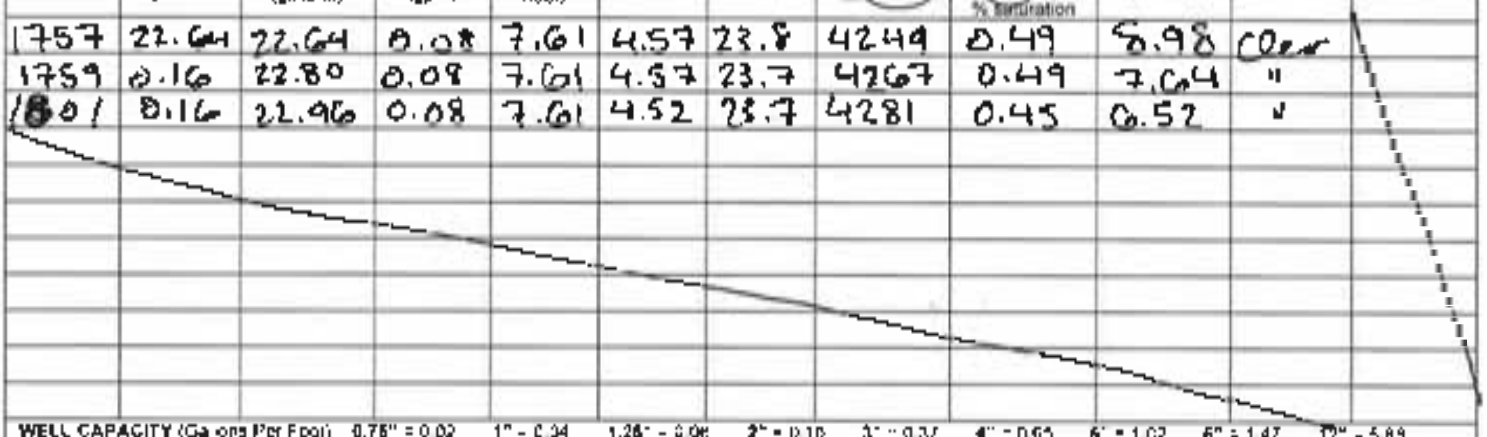
WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 8.5 feet to 23.5 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 7.48	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet - feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME x3 = 0.42
(only fill out if applicable)
0 gallons + (0.0014 gallons/foot X 80 feet) + 0.1 gallons = 0.14 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: 23.5	FINAL PUMP OR TUBING DEPTH (feet) BTOC: 23.5	PURGING INITIATED AT: 1514	PURGING ENDED AT: 1801	TOTAL VOLUME PURGED (gallons): 22.96

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (GPM)	DEPTH TO WATER (feet)	pH (Standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1757	22.64	22.64	0.08	7.61	4.57	23.8	4249	0.49	6.98	Clear	
1759	0.16	22.80	0.08	7.61	4.57	23.7	4267	0.49	7.64	"	
1801	0.16	22.96	0.08	7.61	4.52	23.7	4281	0.45	6.52	"	



WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Olivia Hollingsworth/Geosyntec	SAMPLER(S) SIGNATURE(S): Olivia A. Hollingsworth	SAMPLING INITIATED AT: 1801	SAMPLING ENDED AT: 1806
PUMP OR TUBING DEPTH (feet) BTOC: 23.5	TUBING MATERIAL CODE: HDPE	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
			VOLUME	PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-11A	1	PP	250ml	1:1 HNO3	None	NA	Metals	APP	400
CCR-11B	1	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, Alkalinity	APP	400

REMARKS:
*Sampled at 1801

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = Alternative Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/l or ± 10% (whichever is greater) Turbidity: all readings < 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-12	SAMPLE ID: CCR-12	DATE: 2-16-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 18 feet to 28.0 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 7.73	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

= (final – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME = 3.43
(only fill out if applicable)

= 0 gallons + (0.0014 gallons/foot X 30 feet) + .1 gallons = .14 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: 23.6	FINAL PUMP OR TUBING DEPTH (feet) BTOC: 23.6	PURGING INITIATED AT: 1100	PURGING ENDED AT: 1203	TOTAL VOLUME PURGED (gallons): 5.04

TIME	VOLUME PURGED (gallons)	CUMULATIVE VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (circle units) umhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (Y/N)
1153	4.24	4.24	0.08	8.22	6.60	24.1	2091	0.08	3.52	Clear	
1155	0.16	4.4	0.08	8.22	6.62	24.1	2097	0.08	6.84	"	
1157	0.16	4.56	0.08	8.22	6.62	24.1	2099	0.08	6.25	"	
1201	0.32	4.88	0.08	8.22	6.62	24.1	2102	0.08	4.65	"	
1203	0.16	5.04	0.08	8.22	6.62	24.1	2102	0.08	4.65	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Olivia Hollingsworth /Geosyntec	SAMPLER(S) SIGNATURE(S): Olivia A. Hollingsworth	SAMPLING INITIATED AT: 1203	SAMPLING ENDED AT: 1207
PUMP OR TUBING DEPTH (feet) BTOC: 23.6	TUBING MATERIAL CODE: HDPE, S	FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-12A	1	PP	250mL	1:1 HNO3	None	NA	Metals	APP	400
CCR-12B	1	PP	250ml	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	APP	400

REMARKS

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1 The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2) optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings < 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO: CCR-13	SAMPLE ID: CCR-13	DATE: 2-16-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 18ft to 28ft BTOC	STATIC DEPTH TO WATER (feet) BTOC: 8.40	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)

= (ft/m – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME 22 + .43 (only fill out if applicable)

= 0 gallons + (0.0014 gallons/foot X 30 feet) + 0.1 gallons .14 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: 28.00	FINAL PUMP OR TUBING DEPTH (feet) BTOC: 28.00	PURGING INITIATED AT: 0829	PURGING ENDED AT: 1030	TOTAL VOLUME PURGED (gallons): 10.16

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1032	9.84	9.84	0.09	8.39	4.20	23.6	2582	0.10	4.19	Clear	
1034	0.16	10.0	0.08	8.39	4.20	23.7	2585	0.10	3.89	"	
1036	0.16	10.16	0.08	8.39	4.20	23.7	2592	0.11	3.29	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1030	SAMPLING ENDED AT: 1040
Olivia Hollingsworth/Geosyntec	Olivia A. Hollingsworth		

PUMP OR TUBING DEPTH (feet) BTOC: 28.00 | TUBING MATERIAL CODE: HDPE, S | FIELD FILTERED: Y (N) Filtration Equipment Type: N/A | FILTER SIZE: ___ µm

FIELD DECONTAMINATION: PUMP Y (N) | TUBING Y (N) (replaced) | DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
			VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-13A	1	PP	250mL	1:1 HNO3	None	NA	Metals	APP	400
CCR-13B	1	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	APP	400

REMARKS: Sampled at 1036

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ± 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO CCR-15	SAMPLE ID CCR-15	DATE 2-20-2023

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH (feet) BTOC	STATIC DEPTH TO WATER (feet) BTOC	PURGE PUMP TYPE OR BAILER
2	3/16	18.5 - 28.5		PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH (feet) - STATIC DEPTH TO WATER (feet)) X WELL CAPACITY (gallons/foot) = gallons
(only fill out if applicable)

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME* + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME .43
(only fill out if applicable)
= 0 gallons + (0.0014 gallons/foot X 30 feet) + 0.1 gallons = .14 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC	FINAL PUMP OR TUBING DEPTH (feet) BTOC	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
23.5	23.5	0825	1005	8.00

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (+/-)
0953	7.04	7.04	0.08	17.34	4.15	24.6	317.8	0.16	5.52	clear yellow	
0956	0.24	7.28	0.08	17.37	3.98	24.6	324.0	0.16	6.50	"	
0959	0.24	7.52	0.08	17.37	3.99	24.6	318.4	0.18	5.36	"	
1002	0.24	7.76	0.08	17.37	3.99	24.5	327.3	0.19	5.08	"	
1005	0.24	8.00	0.08	17.37	4.00	24.7	324.8	0.17	4.70	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.10, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
Olivia Hollingsworth/Geosyntec	Olivia A. Hollingsworth	1005	1010

PUMP OR TUBING DEPTH (feet) BTOC	TUBING MATERIAL CODE (HDPE, S)	FIELD-FILTERED Y (N) Filtration Equipment Type: N/A	FILTER SIZE µm
23.5			

FIELD DI CONTAMINATION PUMP	TUBING	DUPLICATE
Y (N)	Y (N replaced)	Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-15A	1	PP	250ml	1:1 HNO_3	None	NA	Metals	APP	400
CCR-15B	1	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	APP	400

REMARKS: Sampled at 1005

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (ULL FS 2212, SECTION 3)

pH: ± 0.2 units. Temperature: ± 0.2 °C. Specific Conductance: ± 5%. Dissolved Oxygen: all readings ± 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/l or ± 10% (whichever is greater). Turbidity: all readings ± 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2008

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-16	SAMPLE ID: CCR-16	DATE: 2-20-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 8.5 feet to 28.5 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 16.00	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME x3 = 0.43
(only fill out if applicable)
= 0 gallons + (0.0014 gallons/foot X 80 feet) + 0.1 gallons = 0.14 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: 23.5	FINAL PUMP OR TUBING DEPTH (feet) BTOC: 23.5	PURGING INITIATED AT: 1025	PURGING ENDED AT: 1034	TOTAL VOLUME PURGED (gallons): 0.81

TIME	VOLUME PURGED (gallons)	CUMULATIVE VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1030	0.45	0.45	0.09	16.04	3.93	24.8	9719	0.24	2.07	clear	
1032	0.18	0.63	0.09	16.04	3.94	24.8	9782	0.20	2.59	"	
1034	0.18	0.81	0.09	16.04	3.95	24.9	9820	0.19	2.78	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.66; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Olivia Hollingsworth /Geosyntec	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1034	SAMPLING ENDED AT: 1308
PUMP OR TUBING DEPTH (feet) BTOC: 23.5	TUBING MATERIAL CODE: HDPE, S	FIELD FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y N (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# OF CONTAINERS	CONTAINER MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-16M	1	PP	250mL	1:1 HNO3	None	NA	Metals	APP	400
CCR-16S	1	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate alkalinity	APP	400

REMARKS:
sampled at 1034

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (ULL F.S.2212 SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 C Specific Conductance: ± 5% Dissolved Oxygen: all readings < 20% saturation (see Table F.S.2200.2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings < 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-17	SAMPLE ID: CCR-17	DATE: 2-20-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 15.6 feet to 25.6 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 15.06	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) x WELL CAPACITY
(only fill out if applicable)

(feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME = .42
(only fill out if appl cable)

= 0 gallons + (.0014 gallons/foot X 30 feet) + 1 gallons + .14 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: 23.6	FINAL PUMP OR TUBING DEPTH (feet) BTOC: 23.6	PURGING INITIATED AT: 1101	PURGING ENDED AT: 1159	TOTAL VOLUME PURGED (gallons): 4.64

TIME	VOLUME PURGED (gallons)	CUMULATIVE VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1153	4.16	4.16	0.08	15.08	6.35	25.5	1135	0.12	5.85	Clear	
1156	0.24	4.40	0.08	15.08	6.35	25.5	1118	0.11	4.44	"	
1159	0.24	4.64	0.08	15.08	6.35	25.6	1123	0.11	4.58	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Olivia Hollingsworth /Geosyntec	SAMPLER(S) SIGNATURE(S): Olivia A. Hollingsworth	SAMPLING INITIATED AT: 1159	SAMPLING ENDED AT: 1205
PUMP OR TUBING DEPTH (feet) BTOC: 23.6	TUBING MATERIAL CODE: HDPE	FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-17A	1	PP	250mL	1:1 HNO3	None	NA	Metals	APP	400
CCR-17B	1	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate alkalinity	APP	400

REMARKS: Sampled at 1159

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units. Temperature: ± 0.2 °C. Specific Conductance: ± 5%. Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater). Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater).

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO: CCR-1B	SAMPLE ID: CCR-1B	DATE: 2-16-2023

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH (feet) BTOC	STATIC DEPTH TO WATER (feet) BTOC	PURGE PUMP TYPE OR BAILER
2	3/16	18.5 feet to 28.5 feet BTOC	9.36	P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH (feet) − STATIC DEPTH TO WATER (feet)) X WELL CAPACITY (gallons/foot) = gallons
(only fill out if applicable)

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

= gallons + (.0014 gallon/foot X 35 feet) + .1 gallons = ~.149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC	FINAL PUMP OR TUBING DEPTH (feet) BTOC	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
~23	~23	1513	1552	.90

TIME	VOLUME PURGED (gallons)	CUMULATIVE VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle one) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1548	.50	.50	.10	9.40	6.69	26.2	366.2	0.39	2.64	clear	-217.8
1550	.20	.70	.1	9.40	6.69	25.1	365.1	0.39	2.29	"	-219.1
1552	.20	.90	.1	9.40	6.69	25.1	363.7	0.38	2.08	"	-220.2

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
RIK MATHIAS /Geosyntec		1553	1555

PUMP OR TUBING DEPTH (feet) BTOC	TUBING MATERIAL CODE (HDPE, S	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE ____ µm
~23			

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N replaced) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml per minute)
CCR-1B A	1	PP	250ml	1:1 HNO3	None	NA	Metals	APP	~380
CCR-1B B	1	PP	250ml	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	"	"

REMARKS: SAMPLE TIME: 1553

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3):

pH: ± 0.2 units. Temperature: ± 0.2 °C. Specific Conductance: ± 5%. Dissolved Oxygen: all readings ± 20% saturation (see Table FS 2200.2), optionally, ± 0.2 mg/l or ± 10% (whichever is greater). Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater).

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-19	SAMPLE ID: CCR-19	DATE: 2-16-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 9.5 feet to 29.5 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 5.45	PURGE PUMP TYPE OR BAILER: P.P.

WELL VOLUME PURGE: 1 WELL VOLUME (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
([illegible] feet) X [illegible] gal/linear foot = [illegible] gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
- gallons + (.0014 gallons/foot X 35 feet) + .1 gallons = .149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	PURGING INITIATED AT: 1454	PURGING ENDED AT: 1503	TOTAL VOLUME PURGED (gallons): .90

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units: µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle units: mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1459	.50	.50	.10	5.49	4.31	24.7	1717	0.00	4.32	clear	-197.9
1501	.20	.70	1	5.49	4.72	24.7	1720	0.71	3.68	"	-198.2
1503	.20	.90	1	5.49	4.72	24.6	1722	0.60	2.26	"	-198.6

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: R.K. Mathias /Geosyntec	SAMPLER(S) SIGNATURE(S): R.K. Mathias	SAMPLING INITIATED AT: 1504	SAMPLING ENDED AT: 1506
PUMP OR TUBING DEPTH (feet) BTOC: ~23	TUBING MATERIAL CODE: HDPE, S	FIELD FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH			
CCR-19 A	1	PP	250mL	1:1 HNO3	None	NA	Metals	APP	~380
CCR-19 B	1	PP	250mL	Ice	None	NA	Ca, Cl, F, SO4 TDS, bicarbonate alkalinity	APP	1

REMARKS: SAMPLE TIME: 1504

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = Alter Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE LS 2212 SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/l or ± 10% (whichever is greater) Turbidity: all readings < 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO CCR-20	SAMPLE ID CCR-20	DATE 2-16-2023

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL (ft bTOC)	STATIC DEPTH TO WATER (feet) BTOC	PURGE PUMP TYPE OR BAILER
2	3/16	18.2 to 28	6.62	P.P.

WELL VOLUME PURGE: 1 WELL VOLUME (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only Fill out if applicable)
(feet - feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only Fill out if applicable)
= gallons + (.0014 gallons/foot X 35 feet) + .149 gallons = gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC	FINAL PUMP OR TUBING DEPTH (final) BTOC	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
~23	~23	1052	1429	21.70

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PUMP RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % Saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1057	.50	.50	.10	6.68					45.1		
										purging extra to try & clear turbidity.	
1125									19.9		
1145									18.4		
1209				6.67					12.4		
1332									6.15		
							4161				
1426	21.70	21.30	.10	6.67	5.06	24.5	[illegible]	0.25	6.61	clear	-274.4
1427	.20	21.50	"	6.67	5.06	24.5	4164	0.24	6.37	"	-273.9
1429	.20	21.70	"	6.67	5.05	24.5	4163	0.23	6.42	"	-275.9

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
Rick Mathews /Geosyntec		1430	1432

PUMP OR TUBING DEPTH (feet) BTOC	TUBING MATERIAL CODE	FIELD-FILTERED	FILTER SIZE
~23	HDPE, S	Y (N) Filtration Equipment Type: N/A	

FIELD DI CONTAMINATION: PUMP Y (N) TUBING Y (N (replaced)) DUPLICATE Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml per minute)
CCR-20 A	1	PP	250ml	1:1 HNO3	None	NA	Metals	APP	~380
CCR-20 B	1	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	1	1

REMARKS: Sample Time: 1430

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE, F.S 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 6% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200.2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-21	SAMPLE ID: CCR-21	DATE: 2-16-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 8.5 feet to 28.5 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 7.92	PURGE PUMP TYPE OR BAILER: P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

– (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

gallons + (.0014 gallons/foot X 35 feet) + 1 gallons = .149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	PURGING INITIATED AT: 0938	PURGING ENDED AT: 0947	TOTAL VOLUME PURGED (gallons): .90

TIME	VOLUME PURGED (gallons)	CUMULATIVE VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (mmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0943	.50	.50	.10	7.99	6.48	23.1	1991	0.48	4.21	Clear	-26.0
0945	.20	.70	1	7.99	6.49	23.1	1991	0.47	4.85	11	-26.3
0947	.20	.90	1	7.99	6.49	23.1	1991	0.46	4.91	11	-26.7
									Turbidity after sampling was 3.96 ntu		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: R.K. Mathias /Geosyntec	SAMPLER(S) SIGNATURE(S): R.K. Mathias	SAMPLING INITIATED AT: 0948	SAMPLING ENDED AT: 0950
PUMP OR TUBING DEPTH (feet) BTOC: ~23	TUBING MATERIAL CODE: HDPE	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y N (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-21 A	1	PP	250ml	1:1 HNO3	None	NA	Metals	APP	~380
CCR-21 B	1	PP	250mL	Ice	None	NA	B, Ca, Cl, F-, SO4, TDS, bicarbonate, alkalinity	APP	1

REMARKS: SAMPLE TIME: 0948

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units. Temperature: ± 0.2 °C. Specific Conductance: ± 5%. Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200.2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater). Turbidity: all readings < 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-22	SAMPLE ID: CCR-22	DATE: 2-16-2013

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 8 feet to 23 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 8.12	PURGE PUMP TYPE OR BAILER: P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(feet - feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

gallons + (.0014 gallons/foot X 35 feet) + .1 gallons = .149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	PURGING INITIATED AT: 0849	PURGING ENDED AT: 0858	TOTAL VOLUME PURGED (gallons): .90

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) umhos/cm or (uS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0854	.50	.50	.10	8.16	4.46	22.8	1653	0.61	1.48	clear	-42.2
0856	.20	.70	1	8.16	4.48	22.9	1689	0.53	1.43	"	-49.8
0858	.26	.90	1	8.16	4.51	22.9	1731	0.51	1.40		-56.2

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Rik Mathias /Geosyntec	SAMPLER(S) SIGNATURE(S): Rik Mathias	SAMPLING INITIATED AT: 0859	SAMPLING ENDED AT: 0901
PUMP OR TUBING DEPTH (feet) BTOC: ~23	TUBING MATERIAL CODE: HDPE	FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N (replaced))	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml per minute)
CCR-22 A	1	PP	250ml	1:1 HNO3	None	NA	Metals	APP	~ 300
CCR-22 B	1	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	\	\

REMARKS: SAMPLE TIME: 0859

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ± 20% saturation (see Table FS 2200.7), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings < 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-23	SAMPLE ID: CCR-23	DATE: 2-16-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 15 feet to 25 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 5.91	PURGE PUMP TYPE OR BAILER: B.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) feet X gallon/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

- gallons + (.0014 gallons/foot X 35 feet) + 1 gallons = ~WT gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~20	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~20	PURGING INITIATED AT: 0823	PURGING ENDED AT: 0832	TOTAL VOLUME PURGED (gallons): .90

TIME	VOLUME PURGED (gallons)	CUMULATIVE VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0826	.50	.50	.10	6.15	5.29	23.1	1635	0.93	2.09	Clear	-138.0
0830	.20	.70	1	6.15	5.26	23.2	1630	0.86	1.71	"	-140.4
0832	.20	.90	1	6.15	5.26	23.3	1624	0.81	1.43	"	-142.2

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Rik Mathias /Geosyntec	SAMPLER(S) SIGNATURE(S): Rik Mathias	SAMPLING INITIATED AT: 0833	SAMPLING ENDED AT: 0835
PUMP OR TUBING DEPTH (feet) BTOC: ~20	TUBING MATERIAL CODE: HDPE	FIELD FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
FIELD DI CONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION: # CONTAINERS	MATERIAL CODE	VOLUME	SAMPLE PRESERVATION: PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml per minute)
CCR-23 A	1	PP	250mL	1:1 HNO3	None	NA	Metals	APP	~380
CCR-23 B	1	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	APP	1

REMARKS: SAMPLE TIME: 0833

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200 2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings < 20 NTU optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: GW-10C	SAMPLE ID: SW-10C	DATE: 2-22-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: feet to 25 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 13.11	PURGE PUMP TYPE OR BAILER: P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(28.12 feet - 13.11 feet) x .16 gallons/foot = 2.4016 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~15	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~15	PURGING INITIATED AT: 1353	PURGING ENDED AT: 1723	TOTAL VOLUME PURGED (gallons): 23.0

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1357	2.40	2.40	.10	13.25					173	(pumped extra to try & clear turbs.)	
1410	4.30	4.30	.16	13.25					214		
			(periodic bubbling readings: 130, 104, 217, 200, 130, 162 RMS								
				145, 181, 113 ... 65, 41, 23, 16, 9.40, 8.75							
1711	21.8	21.8	.10	13.25	5.40	23.3	115.0	0.17	6.84	clear	
1717	.60	22.4		13.25	5.39	23.3	114.0	0.16	6.33	"	
1723	.60	23.0		13.25	5.39	23.4	115.5	0.16	7.43	"	
							(END of sampling, Turbidity: 7.78 ntu) RMS				

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gallons Per Foot): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Rik Mathias / Geosyntec	SAMPLER(S) SIGNATURE(S): Rik Mathias	SAMPLING INITIATED AT: 1724	SAMPLING ENDED AT: 1727

PUMP OR TUBING DEPTH (feet) BTOC: ~15	TUBING MATERIAL CODE: HDPE, S	FIELD FILTERED: Y (N) Filter Equipment Type: N/A	FILTER SIZE: ___ µm

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y N (replaced) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SW-106A	1	PP	250ml	1:1 HNO3	None	NA	Metals	APP	~350
SW-106B	1	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity		

REMARKS:
SAMPLE TIME: 1724

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3):
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200.2); optionally ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

~~GROUNDWATER~~ SAMPLING LOG

surface water

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: Fish Lake	SAMPLE ID: Fish Lake	DATE: 2-17-2023

PURGING DATA

water level elevation (MSL)

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: ~~feet~~ feet:	~~STATIC DEPTH TO WATER~~ (feet) ~~MSL~~: 129.25	PURGE PUMP TYPE OR BAILER: Surface water sampler

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet - feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC:	FINAL PUMP OR TUBING DEPTH (feet) BTOC:	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	~~WELL~~ water elev. (MSL) (feet)	pH (standard units)	TEMP (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1229	—	—	—	129.25	8.94	22.5	401	12.94	2.73	Clear	—

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1229	SAMPLING ENDED AT:
Olivia Hollingsworth/Geosyntec	Olivia C. Hollingsworth		

PUMP OR TUBING DEPTH (feet) BTOC:	TUBING MATERIAL CODE: HDPE, S	FIELD FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: µm

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N replaced) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
Fish Lake A	1	PP	250mL	1:1 HNO3	None	NA	Metals	Grab	<400
Fish Lake B	1	PP	250ml	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	Grab	<400

REMARKS
Sampled at 1229

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR MANUAL OR VARIABLE FLOW THREE CONSECUTIVE READINGS [SEE FS 2212 SECTION 3]

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings < 20 NTU optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

surface water Form FD 9000-24

~~GROUNDWATER~~ SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
~~WELL NO~~ Lake D	SAMPLE ID: Lake D	DATE: 2-17-2023

PURGING DATA

water elevation (ASL)

WELL DIAMETER (inches): N/A	TUBING DIAMETER (inches): N/A	WELL SCREEN INTERVAL DEPTH: NA feet N/A feet/TOC	~~STATIC DEPTH TO WATER~~ (feet): 12.90	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= ___ feet – ___ feet X ___ gallons/foot = ___ gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= ___ gallons + (___ gallons/foot X ___ feet) = ___ gallons = ___ gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: N/A	FINAL PUMP OR TUBING DEPTH (feet) BTOC: N/A	PURGING INITIATED AT: N/A	PURGING ENDED AT: N/A	TOTAL VOLUME PURGED (gallons): N/A

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0848	——	——	——	12.90	6.44	17.9	707	4.30	3.12	clear	-11.4

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Olivia Hollingsworth /Geosyntec	SAMPLER(S) SIGNATURE(S): Olivia C. Hollingsworth	SAMPLING INITIATED AT: 0853	SAMPLING ENDED AT: N/A
PUMP OR TUBING DEPTH (feet) BTOC: N/A	TUBING MATERIAL CODE: HDPE, S	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING: Y (N replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
Lake DA	1	PP	250mL	1:1 HNO3	None	NA	Metals	APP	400
Lake DB	1	PP	250ml	Ice	None	NA	U, Ca, Cl, F, SO4 TDS, bicarbonate, alkalinity	APP	400

REMARKS: Sampled at 0850

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units. Temperature: ± 0.2 °C. Specific Conductance: ± 5%. Dissolved Oxygen: all readings ± 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/l or ± 10% (whichever is greater). Turbidity: all readings ± 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Geosyntec consultants

Water Level Measurement Field Form

Site: Lakeland Electric CCR Wells

Project No.: FR3715C

Date: 2-13-2023

Weather: clear, windy

Initials: GHS + RM

Page:

Well ID	Status Comments	Control Point	Measurement	
			Time of Measurement	Depth to Water (ft TOC)
CCR-1	good	N	1048	11.29
CCR-2	good	SW	1034	10.70
CCR-3	good	N	1450	7.67
CCR-4	good	N	1441	15.10
CCR-5	good	N	1436	11.44
CCR-6	good	N	1432	10.10
CCR-7	good	N	1427	10.41
CCR-8	good	N	1424	10.07
CCR-9	good	N	1422	10.35
CCR 10R	good	N	1405	3.56
CCR-11	good	N	1357	7.31
CCR-12	good	N	1349	7.25
CCR-13	good DTB-21.93	N	1340	8.05
CCR-14	good	N	1331	8.71
CCR-15	good	N	1019	17.29
CCR-16	good	N	1024	15.99
CCR-17	good	N	1005	15.02
CCR-18	good	N	1429	9.32
CCR-19	good	N	1416	5.86
CCR-20	good	N	1400	6.55
CCR-21	good	N	1352	7.83
CCR 22	good	N	1344	8.03
CCR-23	good	N	1333	5.81
SW-106	good	N	1000	12.95

Notes

Advanced Environmental Laboratories, Inc
9610 Princess Palm Ave Tampa, FL 33619
Payments: P.O. Box 551580 Jacksonville, FL 32255-1580
Phone: (813) 630-9616
Fax: (813) 630-4327

FINAL - REVISION

Workorder: 2023 CCR Event (T2316486)

October 03, 2023

Thomas Johnston
Lakeland Electric
501 E Lemon St
Lakeland, FL 33801

RE: Workorder: T2316486 2023 CCR Event

Dear Thomas Johnston:

Enclosed are the analytical results for sample(s) received by the laboratory between Friday August 18, 2023 and Tuesday August 22, 2023. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Heidi Parker

Heidi Parker, Project Manager
HParker@aellab.com

Certificate of Analysis

NELAP Accredited E84589

Advanced Environmental Laboratories, Inc
9610 Princess Palm Ave Tampa, FL 33619
Payments: P.O. Box 551580 Jacksonville, FL 32255-1580
Phone: (813) 630-9616
Fax: (813) 630-4327

FINAL - REVISION

Workorder: 2023 CCR Event (T2316486)

Sample Summary

Lab ID	Sample ID	Matrix	Method	Date Collected	Date Received	Analytes Reported	Basis
T2316486001	CCR-2	WA	EPA 300.0	08/16/2023 14:53	08/18/2023 16:31	3	NA
T2316486001	CCR-2	WA	SM 2540 C	08/16/2023 14:53	08/18/2023 16:31	1	NA
T2316486001	CCR-2	WA	SW-846 6010	08/16/2023 14:53	08/18/2023 16:31	6	NA
T2316486001	CCR-2	WA	SW-846 6020	08/16/2023 14:53	08/18/2023 16:31	8	NA
T2316486001	CCR-2	WA	SW-846 7470A	08/16/2023 14:53	08/18/2023 16:31	1	NA
T2316486002	CCR-17	WA	EPA 300.0	08/16/2023 14:56	08/18/2023 16:31	3	NA
T2316486002	CCR-17	WA	SM 2320B	08/16/2023 14:56	08/18/2023 16:31	2	NA
T2316486002	CCR-17	WA	SM 2540 C	08/16/2023 14:56	08/18/2023 16:31	1	NA
T2316486002	CCR-17	WA	SW-846 6010	08/16/2023 14:56	08/18/2023 16:31	9	NA
T2316486002	CCR-17	WA	SW-846 6020	08/16/2023 14:56	08/18/2023 16:31	8	NA
T2316486002	CCR-17	WA	SW-846 7470A	08/16/2023 14:56	08/18/2023 16:31	1	NA
T2316486003	CCR-16	WA	EPA 300.0	08/16/2023 15:30	08/18/2023 16:31	3	NA
T2316486003	CCR-16	WA	SM 2320B	08/16/2023 15:30	08/18/2023 16:31	2	NA
T2316486003	CCR-16	WA	SM 2540 C	08/16/2023 15:30	08/18/2023 16:31	1	NA
T2316486003	CCR-16	WA	SW-846 6010	08/16/2023 15:30	08/18/2023 16:31	9	NA
T2316486003	CCR-16	WA	SW-846 6020	08/16/2023 15:30	08/18/2023 16:31	8	NA
T2316486003	CCR-16	WA	SW-846 7470A	08/16/2023 15:30	08/18/2023 16:31	1	NA
T2316486004	CCR-6	WA	EPA 300.0	08/17/2023 10:17	08/18/2023 16:31	3	NA
T2316486004	CCR-6	WA	SM 2320B	08/17/2023 10:17	08/18/2023 16:31	2	NA
T2316486004	CCR-6	WA	SM 2540 C	08/17/2023 10:17	08/18/2023 16:31	1	NA
T2316486004	CCR-6	WA	SW-846 6010	08/17/2023 10:17	08/18/2023 16:31	9	NA
T2316486004	CCR-6	WA	SW-846 6020	08/17/2023 10:17	08/18/2023 16:31	8	NA
T2316486004	CCR-6	WA	SW-846 7470A	08/17/2023 10:17	08/18/2023 16:31	1	NA
T2316486005	CCR-8	WA	EPA 300.0	08/17/2023 11:16	08/18/2023 16:31	3	NA
T2316486005	CCR-8	WA	SM 2540 C	08/17/2023 11:16	08/18/2023 16:31	1	NA
T2316486005	CCR-8	WA	SW-846 6010	08/17/2023 11:16	08/18/2023 16:31	6	NA
T2316486005	CCR-8	WA	SW-846 6020	08/17/2023 11:16	08/18/2023 16:31	8	NA
T2316486005	CCR-8	WA	SW-846 7470A	08/17/2023 11:16	08/18/2023 16:31	1	NA
T2316486006	CCR-9	WA	EPA 300.0	08/17/2023 11:45	08/18/2023 16:31	3	NA
T2316486006	CCR-9	WA	SM 2320B	08/17/2023 11:45	08/18/2023 16:31	2	NA
T2316486006	CCR-9	WA	SM 2540 C	08/17/2023 11:45	08/18/2023 16:31	1	NA
T2316486006	CCR-9	WA	SW-846 6010	08/17/2023 11:45	08/18/2023 16:31	9	NA
T2316486006	CCR-9	WA	SW-846 6020	08/17/2023 11:45	08/18/2023 16:31	8	NA
T2316486006	CCR-9	WA	SW-846 7470A	08/17/2023 11:45	08/18/2023 16:31	1	NA
T2316486007	CCR-20	WA	EPA 300.0	08/18/2023 07:39	08/18/2023 16:31	3	NA

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Workorder: 2023 CCR Event (T2316486)

Sample Summary

Lab ID	Sample ID	Matrix	Method	Date Collected	Date Received	Analytes Reported	Basis
T2316486007	CCR-20	WA	SM 2320B	08/18/2023 07:39	08/18/2023 16:31	2	NA
T2316486007	CCR-20	WA	SM 2540 C	08/18/2023 07:39	08/18/2023 16:31	1	NA
T2316486007	CCR-20	WA	SW-846 6010	08/18/2023 07:39	08/18/2023 16:31	9	NA
T2316486007	CCR-20	WA	SW-846 6020	08/18/2023 07:39	08/18/2023 16:31	8	NA
T2316486007	CCR-20	WA	SW-846 7470A	08/18/2023 07:39	08/18/2023 16:31	1	NA
T2316486008	CCR-11	WA	EPA 300.0	08/18/2023 08:46	08/18/2023 16:31	3	NA
T2316486008	CCR-11	WA	SM 2320B	08/18/2023 08:46	08/18/2023 16:31	2	NA
T2316486008	CCR-11	WA	SM 2540 C	08/18/2023 08:46	08/18/2023 16:31	1	NA
T2316486008	CCR-11	WA	SW-846 6010	08/18/2023 08:46	08/18/2023 16:31	9	NA
T2316486008	CCR-11	WA	SW-846 6020	08/18/2023 08:46	08/18/2023 16:31	8	NA
T2316486008	CCR-11	WA	SW-846 7470A	08/18/2023 08:46	08/18/2023 16:31	1	NA
T2316486009	CCR-23	WA	EPA 300.0	08/18/2023 09:26	08/18/2023 16:31	3	NA
T2316486009	CCR-23	WA	SM 2320B	08/18/2023 09:26	08/18/2023 16:31	2	NA
T2316486009	CCR-23	WA	SM 2540 C	08/18/2023 09:26	08/18/2023 16:31	1	NA
T2316486009	CCR-23	WA	SW-846 6010	08/18/2023 09:26	08/18/2023 16:31	9	NA
T2316486009	CCR-23	WA	SW-846 6020	08/18/2023 09:26	08/18/2023 16:31	8	NA
T2316486009	CCR-23	WA	SW-846 7470A	08/18/2023 09:26	08/18/2023 16:31	1	NA
T2316486010	CCR-13	WA	EPA 300.0	08/18/2023 09:33	08/18/2023 16:31	3	NA
T2316486010	CCR-13	WA	SM 2540 C	08/18/2023 09:33	08/18/2023 16:31	1	NA
T2316486010	CCR-13	WA	SW-846 6010	08/18/2023 09:33	08/18/2023 16:31	6	NA
T2316486010	CCR-13	WA	SW-846 6020	08/18/2023 09:33	08/18/2023 16:31	8	NA
T2316486010	CCR-13	WA	SW-846 7470A	08/18/2023 09:33	08/18/2023 16:31	1	NA
T2316486011	CCR-22	WA	EPA 300.0	08/18/2023 10:18	08/18/2023 16:31	3	NA
T2316486011	CCR-22	WA	SM 2320B	08/18/2023 10:18	08/18/2023 16:31	2	NA
T2316486011	CCR-22	WA	SM 2540 C	08/18/2023 10:18	08/18/2023 16:31	1	NA
T2316486011	CCR-22	WA	SW-846 6010	08/18/2023 10:18	08/18/2023 16:31	9	NA
T2316486011	CCR-22	WA	SW-846 6020	08/18/2023 10:18	08/18/2023 16:31	8	NA
T2316486011	CCR-22	WA	SW-846 7470A	08/18/2023 10:18	08/18/2023 16:31	1	NA
T2316486012	SW-106	WA	EPA 300.0	08/18/2023 14:25	08/18/2023 16:31	3	NA
T2316486012	SW-106	WA	SM 2320B	08/18/2023 14:25	08/18/2023 16:31	2	NA
T2316486012	SW-106	WA	SM 2540 C	08/18/2023 14:25	08/18/2023 16:31	1	NA
T2316486012	SW-106	WA	SW-846 6010	08/18/2023 14:25	08/18/2023 16:31	9	NA
T2316486012	SW-106	WA	SW-846 6020	08/18/2023 14:25	08/18/2023 16:31	8	NA
T2316486012	SW-106	WA	SW-846 7470A	08/18/2023 14:25	08/18/2023 16:31	1	NA
T2316486013	EQ BLANK	WA	EPA 300.0	08/18/2023 10:36	08/18/2023 16:31	3	NA

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Workorder: 2023 CCR Event (T2316486)

Sample Summary

Lab ID	Sample ID	Matrix	Method	Date Collected	Date Received	Analytes Reported	Basis
T2316486013	EQ BLANK	WA	SM 2320B	08/18/2023 10:36	08/18/2023 16:31	2	NA
T2316486013	EQ BLANK	WA	SM 2540 C	08/18/2023 10:36	08/18/2023 16:31	1	NA
T2316486013	EQ BLANK	WA	SW-846 6010	08/18/2023 10:36	08/18/2023 16:31	9	NA
T2316486013	EQ BLANK	WA	SW-846 6020	08/18/2023 10:36	08/18/2023 16:31	8	NA
T2316486013	EQ BLANK	WA	SW-846 7470A	08/18/2023 10:36	08/18/2023 16:31	1	NA
T2316486014	CCR-21	WA	EPA 300.0	08/18/2023 12:01	08/18/2023 16:31	3	NA
T2316486014	CCR-21	WA	SM 2320B	08/18/2023 12:01	08/18/2023 16:31	2	NA
T2316486014	CCR-21	WA	SM 2540 C	08/18/2023 12:01	08/18/2023 16:31	1	NA
T2316486014	CCR-21	WA	SW-846 6010	08/18/2023 12:01	08/18/2023 16:31	9	NA
T2316486014	CCR-21	WA	SW-846 6020	08/18/2023 12:01	08/18/2023 16:31	8	NA
T2316486014	CCR-21	WA	SW-846 7470A	08/18/2023 12:01	08/18/2023 16:31	1	NA
T2316486015	CCR-12	WA	EPA 300.0	08/18/2023 14:14	08/18/2023 16:31	3	NA
T2316486015	CCR-12	WA	SM 2320B	08/18/2023 14:14	08/18/2023 16:31	2	NA
T2316486015	CCR-12	WA	SM 2540 C	08/18/2023 14:14	08/18/2023 16:31	1	NA
T2316486015	CCR-12	WA	SW-846 6010	08/18/2023 14:14	08/18/2023 16:31	9	NA
T2316486015	CCR-12	WA	SW-846 6020	08/18/2023 14:14	08/18/2023 16:31	8	NA
T2316486015	CCR-12	WA	SW-846 7470A	08/18/2023 14:14	08/18/2023 16:31	1	NA
T2316486016	Fishlake	WA	EPA 300.0	08/21/2023 09:57	08/22/2023 16:03	3	NA
T2316486016	Fishlake	WA	SM 2540 C	08/21/2023 09:57	08/22/2023 16:03	1	NA
T2316486016	Fishlake	WA	SW-846 6010	08/21/2023 09:57	08/22/2023 16:03	6	NA
T2316486016	Fishlake	WA	SW-846 6020	08/21/2023 09:57	08/22/2023 16:03	8	NA
T2316486016	Fishlake	WA	SW-846 7470A	08/21/2023 09:57	08/22/2023 16:03	1	NA
T2316486017	CCR-15	WA	EPA 300.0	08/21/2023 11:27	08/22/2023 16:03	3	NA
T2316486017	CCR-15	WA	SM 2320B	08/21/2023 11:27	08/22/2023 16:03	2	NA
T2316486017	CCR-15	WA	SM 2540 C	08/21/2023 11:27	08/22/2023 16:03	1	NA
T2316486017	CCR-15	WA	SW-846 6010	08/21/2023 11:27	08/22/2023 16:03	9	NA
T2316486017	CCR-15	WA	SW-846 6020	08/21/2023 11:27	08/22/2023 16:03	8	NA
T2316486017	CCR-15	WA	SW-846 7470A	08/21/2023 11:27	08/22/2023 16:03	1	NA
T2316486018	CCR-1	WA	EPA 300.0	08/21/2023 13:43	08/22/2023 16:03	3	NA
T2316486018	CCR-1	WA	SM 2540 C	08/21/2023 13:43	08/22/2023 16:03	1	NA
T2316486018	CCR-1	WA	SW-846 6010	08/21/2023 13:43	08/22/2023 16:03	6	NA
T2316486018	CCR-1	WA	SW-846 6020	08/21/2023 13:43	08/22/2023 16:03	8	NA
T2316486018	CCR-1	WA	SW-846 7470A	08/21/2023 13:43	08/22/2023 16:03	1	NA
T2316486019	CCR-19	WA	EPA 300.0	08/21/2023 14:06	08/22/2023 16:03	3	NA
T2316486019	CCR-19	WA	SM 2320B	08/21/2023 14:06	08/22/2023 16:03	2	NA

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Workorder: 2023 CCR Event (T2316486)

Sample Summary

Lab ID	Sample ID	Matrix	Method	Date Collected	Date Received	Analytes Reported	Basis
T2316486019	CCR-19	WA	SM 2540 C	08/21/2023 14:06	08/22/2023 16:03	1	NA
T2316486019	CCR-19	WA	SW-846 6010	08/21/2023 14:06	08/22/2023 16:03	9	NA
T2316486019	CCR-19	WA	SW-846 6020	08/21/2023 14:06	08/22/2023 16:03	8	NA
T2316486019	CCR-19	WA	SW-846 7470A	08/21/2023 14:06	08/22/2023 16:03	1	NA
T2316486020	CCR-4	WA	EPA 300.0	08/21/2023 14:41	08/22/2023 16:03	3	NA
T2316486020	CCR-4	WA	SM 2540 C	08/21/2023 14:41	08/22/2023 16:03	1	NA
T2316486020	CCR-4	WA	SW-846 6010	08/21/2023 14:41	08/22/2023 16:03	6	NA
T2316486020	CCR-4	WA	SW-846 6020	08/21/2023 14:41	08/22/2023 16:03	8	NA
T2316486020	CCR-4	WA	SW-846 7470A	08/21/2023 14:41	08/22/2023 16:03	1	NA
T2316486021	CCR-7	WA	EPA 300.0	08/22/2023 13:41	08/22/2023 16:03	3	NA
T2316486021	CCR-7	WA	SM 2320B	08/22/2023 13:41	08/22/2023 16:03	2	NA
T2316486021	CCR-7	WA	SM 2540 C	08/22/2023 13:41	08/22/2023 16:03	1	NA
T2316486021	CCR-7	WA	SW-846 6010	08/22/2023 13:41	08/22/2023 16:03	9	NA
T2316486021	CCR-7	WA	SW-846 6020	08/22/2023 13:41	08/22/2023 16:03	8	NA
T2316486021	CCR-7	WA	SW-846 7470A	08/22/2023 13:41	08/22/2023 16:03	1	NA
T2316486022	Lake D	WA	EPA 300.0	08/21/2023 10:30	08/22/2023 16:03	3	NA
T2316486022	Lake D	WA	SM 2540 C	08/21/2023 10:30	08/22/2023 16:03	1	NA
T2316486022	Lake D	WA	SW-846 6010	08/21/2023 10:30	08/22/2023 16:03	6	NA
T2316486022	Lake D	WA	SW-846 6020	08/21/2023 10:30	08/22/2023 16:03	8	NA
T2316486022	Lake D	WA	SW-846 7470A	08/21/2023 10:30	08/22/2023 16:03	1	NA
T2316486023	CCR-18	WA	EPA 300.0	08/21/2023 14:47	08/22/2023 16:03	3	NA
T2316486023	CCR-18	WA	SM 2320B	08/21/2023 14:47	08/22/2023 16:03	2	NA
T2316486023	CCR-18	WA	SM 2540 C	08/21/2023 14:47	08/22/2023 16:03	1	NA
T2316486023	CCR-18	WA	SW-846 6010	08/21/2023 14:47	08/22/2023 16:03	9	NA
T2316486023	CCR-18	WA	SW-846 6020	08/21/2023 14:47	08/22/2023 16:03	8	NA
T2316486023	CCR-18	WA	SW-846 7470A	08/21/2023 14:47	08/22/2023 16:03	1	NA
T2316486024	CCR-5	WA	EPA 300.0	08/22/2023 12:32	08/22/2023 16:03	3	NA
T2316486024	CCR-5	WA	SM 2320B	08/22/2023 12:32	08/22/2023 16:03	2	NA
T2316486024	CCR-5	WA	SM 2540 C	08/22/2023 12:32	08/22/2023 16:03	1	NA
T2316486024	CCR-5	WA	SW-846 6010	08/22/2023 12:32	08/22/2023 16:03	9	NA
T2316486024	CCR-5	WA	SW-846 6020	08/22/2023 12:32	08/22/2023 16:03	8	NA
T2316486024	CCR-5	WA	SW-846 7470A	08/22/2023 12:32	08/22/2023 16:03	1	NA

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Workorder: 2023 CCR Event (T2316486)

Workorder Summary

Batch Comments

ICMj/3417 - ICPMS 6020 Analysis

The upper control criterion was exceeded for the following analytes in the closing Continuing Calibration Verification (CCV): Silver and Cadmium. The client samples analyzed in this batch did not contain the analytes in question. Since the apparent problem equates to a potential high bias, the data quality is not affected. No further corrective action was required.

WCAt/23158 - Alkalinity,SM2320B,Water

The initial pH of T2316486003 fell below the endpoint causing the value for alkalinity to be undetcted.

WCAt/23160 - Alkalinity,SM2320B,Water

The initial pH of T2316641003 fell below the endpoint causing the value for alkalinity to be undetected.

WCAt/23555 - IC,E300.0,Water

The matrix spike recovery of Chloride and Sulfate for T2316510003 was outside control criteria, and sulfate for T2316620001. Recoveries in the Laboratory Control Sample (LCS), and %RPD were acceptable, which indicates the analytical batch was in control. No further corrective action was required.

Analysis Results Comments

T2316486019 (CCR-19) - Cobalt

Due to non-target background analytes, the proper quantitation of the internal standard in T2316641005 was obstructed. In order to return the internal standard to within acceptance limits, this sample was analyzed at a dilution.

T2316486024 (CCR-5) - Cobalt

The matrix spike (MS) recoveries of multiple analytes for T2316641008 were outside control criteria. Recoveries in the Laboratory Control Sample (LCS) and Matrix Spike Duplicate (MSD) were acceptable, which indicates the analytical batch was in control. The data are qualified accordingly.

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Workorder: 2023 CCR Event (T2316486)

Analytical Results Qualifiers

Parameter Qualifiers

U	The compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

Lab Qualifiers

J	DOH Certification #E82574 (FL NELAC) AEL-Jacksonville DOD-ELAP Certification #L23-514 (ISO/IEC 17025:2017) AEL-Jacksonville
J^	Not Certified
T	DOH Certification #E84589 (FL NELAC) AEL-Tampa

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486001 **Date Collected:** 08/16/2023 14:53 **Matrix:** Water
Sample ID: CCR-2 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**7.0 I**	ug/L	12	3.0	1	08/24/2023 04:20	08/24/2023 19:30	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/24/2023 04:20	08/24/2023 19:30	J
Boron	100 U	ug/L	400	100	1	08/24/2023 04:20	08/24/2023 19:30	J
Calcium	**21**	mg/L	0.80	0.20	1	08/24/2023 04:20	08/24/2023 19:30	J
Chromium	5.0 U	ug/L	20	5.0	1	08/24/2023 04:20	08/24/2023 19:30	J
Lithium	60 U	ug/L	240	60	1	08/24/2023 04:20	08/24/2023 19:30	J^
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/28/2023 07:12	08/28/2023 22:05	J
Arsenic	**0.33 I**	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:05	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:05	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:05	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 22:05	J
Molybdenum	**0.74 I**	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 22:05	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/28/2023 07:12	08/28/2023 22:05	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:05	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 12:33	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**3.9 I**	mg/L	10	2.0	2	08/30/2023 20:22	08/30/2023 20:22	T
Fluoride	0.40 U	mg/L	1.0	0.40	2	08/30/2023 20:22	08/30/2023 20:22	T
Sulfate	**15**	mg/L	10	2.0	2	08/30/2023 20:22	08/30/2023 20:22	T
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**140**	mg/L	10	10	1	08/20/2023 12:00	08/20/2023 12:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486002 **Date Collected:** 08/16/2023 14:56 **Matrix:** Water
Sample ID: CCR-17 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**3.4 I**	ug/L	12	3.0	1	08/24/2023 04:20	08/24/2023 19:35	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/24/2023 04:20	08/24/2023 19:35	J
Boron	**150 I**	ug/L	400	100	1	08/24/2023 04:20	08/24/2023 19:35	J
Calcium	**150**	mg/L	1.6	0.40	2	08/24/2023 04:20	08/28/2023 14:29	J
Chromium	5.0 U	ug/L	20	5.0	1	08/24/2023 04:20	08/24/2023 19:35	J
Lithium	60 U	ug/L	240	60	1	08/24/2023 04:20	08/24/2023 19:35	J^
Magnesium	**12**	mg/L	0.40	0.10	1	08/24/2023 04:20	08/24/2023 19:35	J
Potassium	**21**	mg/L	2.0	0.50	1	08/24/2023 04:20	08/24/2023 19:35	J
Sodium	**22**	mg/L	3.2	0.80	1	08/24/2023 04:20	08/24/2023 19:35	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/28/2023 07:12	08/28/2023 22:22	J
Arsenic	**8.4**	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:22	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:22	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:22	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 22:22	J
Molybdenum	**4.2**	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 22:22	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/28/2023 07:12	08/28/2023 22:22	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:22	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 12:42	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**100**	mg/L	10	2.0	2	08/30/2023 21:10	08/30/2023 21:10	T
Fluoride	0.40 U	mg/L	1.0	0.40	2	08/30/2023 21:10	08/30/2023 21:10	T
Sulfate	**210**	mg/L	10	2.0	2	08/30/2023 21:10	08/30/2023 21:10	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	**220**	mg/L	20	5.0	1	08/24/2023 21:30	08/24/2023 21:30	T
Alkalinity, Total	**230**	mg/L	20	5.0	1	08/24/2023 21:30	08/24/2023 21:30	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486002 **Date Collected:** 08/16/2023 14:56 **Matrix:** Water
Sample ID: CCR-17 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**940**	mg/L	10	10	1	08/20/2023 12:00	08/20/2023 12:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486003 **Date Collected:** 08/16/2023 15:30 **Matrix:** Water
Sample ID: CCR-16 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**92**	ug/L	12	3.0	1	08/24/2023 04:20	08/24/2023 19:39	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/24/2023 04:20	08/24/2023 19:39	J
Boron	**570**	ug/L	400	100	1	08/24/2023 04:20	08/24/2023 19:39	J
Calcium	**1000**	mg/L	8.0	2.0	10	08/24/2023 04:20	08/28/2023 14:34	J
Chromium	5.0 U	ug/L	20	5.0	1	08/24/2023 04:20	08/24/2023 19:39	J
Lithium	**150 I**	ug/L	240	60	1	08/24/2023 04:20	08/24/2023 19:39	J^
Magnesium	**13**	mg/L	0.40	0.10	1	08/24/2023 04:20	08/24/2023 19:39	J
Potassium	**530**	mg/L	100	25	50	08/24/2023 04:20	08/29/2023 11:47	J
Sodium	**430**	mg/L	32	8.0	10	08/24/2023 04:20	08/28/2023 14:34	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/28/2023 07:12	08/28/2023 22:28	J
Arsenic	**0.52 I**	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:28	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:28	J
Cobalt	**0.70 I**	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:28	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 22:28	J
Molybdenum	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 22:28	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/28/2023 07:12	08/28/2023 22:28	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:28	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 12:44	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**2500**	mg/L	120	25	25	08/30/2023 21:26	08/30/2023 21:26	T
Fluoride	5.0 U	mg/L	12	5.0	25	08/30/2023 21:26	08/30/2023 21:26	T
Sulfate	**1400**	mg/L	120	25	25	08/30/2023 21:26	08/30/2023 21:26	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	5.0 U	mg/L	20	5.0	1	08/24/2023 21:37	08/24/2023 21:37	T
Alkalinity, Total	5.0 U	mg/L	20	5.0	1	08/24/2023 21:37	08/24/2023 21:37	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486003 **Date Collected:** 08/16/2023 15:30 **Matrix:** Water
Sample ID: CCR-16 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**8200**	mg/L	10	10	1	08/20/2023 12:00	08/20/2023 12:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486004 **Date Collected:** 08/17/2023 10:17 **Matrix:** Water
Sample ID: CCR-6 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	3.0 U	ug/L	12	3.0	1	08/24/2023 04:20	08/24/2023 19:44	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/24/2023 04:20	08/24/2023 19:44	J
Boron	**260 I**	ug/L	400	100	1	08/24/2023 04:20	08/24/2023 19:44	J
Calcium	**97**	mg/L	0.80	0.20	1	08/24/2023 04:20	08/24/2023 19:44	J
Chromium	5.0 U	ug/L	20	5.0	1	08/24/2023 04:20	08/24/2023 19:44	J
Lithium	60 U	ug/L	240	60	1	08/24/2023 04:20	08/24/2023 19:44	J^
Magnesium	**2.6**	mg/L	0.40	0.10	1	08/24/2023 04:20	08/24/2023 19:44	J
Potassium	**17**	mg/L	2.0	0.50	1	08/24/2023 04:20	08/24/2023 19:44	J
Sodium	**7.7**	mg/L	3.2	0.80	1	08/24/2023 04:20	08/24/2023 19:44	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/28/2023 07:12	08/28/2023 22:34	J
Arsenic	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:34	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:34	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:34	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 22:34	J
Molybdenum	**9.0**	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 22:34	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/28/2023 07:12	08/28/2023 22:34	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:34	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 12:47	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**10**	mg/L	10	2.0	2	08/30/2023 21:42	08/30/2023 21:42	T
Fluoride	0.40 U	mg/L	1.0	0.40	2	08/30/2023 21:42	08/30/2023 21:42	T
Sulfate	**90**	mg/L	10	2.0	2	08/30/2023 21:42	08/30/2023 21:42	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	**140**	mg/L	20	5.0	1	08/24/2023 21:41	08/24/2023 21:41	T
Alkalinity, Total	**140**	mg/L	20	5.0	1	08/24/2023 21:41	08/24/2023 21:41	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486004 **Date Collected:** 08/17/2023 10:17 **Matrix:** Water
Sample ID: CCR-6 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**320**	mg/L	10	10	1	08/20/2023 12:00	08/20/2023 12:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486005 **Date Collected:** 08/17/2023 11:16 **Matrix:** Water
Sample ID: CCR-8 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**21**	ug/L	12	3.0	1	08/24/2023 04:20	08/24/2023 19:48	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/24/2023 04:20	08/24/2023 19:48	J
Boron	100 U	ug/L	400	100	1	08/24/2023 04:20	08/24/2023 19:48	J
Calcium	**72**	mg/L	0.80	0.20	1	08/24/2023 04:20	08/24/2023 19:48	J
Chromium	5.0 U	ug/L	20	5.0	1	08/24/2023 04:20	08/24/2023 19:48	J
Lithium	60 U	ug/L	240	60	1	08/24/2023 04:20	08/24/2023 19:48	J^
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/28/2023 07:12	08/28/2023 22:40	J
Arsenic	**1.3**	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:40	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:40	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:40	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 22:40	J
Molybdenum	**11**	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 22:40	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/28/2023 07:12	08/28/2023 22:40	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:40	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 12:50	T
WET CHEMISTRY (EPA 300.0)								
Chloride	2.0 U	mg/L	10	2.0	2	08/30/2023 22:30	08/30/2023 22:30	T
Fluoride	0.40 U	mg/L	1.0	0.40	2	08/30/2023 22:30	08/30/2023 22:30	T
Sulfate	**39**	mg/L	10	2.0	2	08/30/2023 22:30	08/30/2023 22:30	T
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**260**	mg/L	10	10	1	08/20/2023 12:00	08/20/2023 12:00	T

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Workorder: 2023 CCR Event (T2316486)

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486006 **Date Collected:** 08/17/2023 11:45 **Matrix:** Water
Sample ID: CCR-9 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**39**	ug/L	12	3.0	1	08/24/2023 04:20	08/24/2023 20:01	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/24/2023 04:20	08/24/2023 20:01	J
Boron	**460**	ug/L	400	100	1	08/24/2023 04:20	08/24/2023 20:01	J
Calcium	**510**	mg/L	8.0	2.0	10	08/24/2023 04:20	08/28/2023 14:38	J
Chromium	5.0 U	ug/L	20	5.0	1	08/24/2023 04:20	08/24/2023 20:01	J
Lithium	60 U	ug/L	240	60	1	08/24/2023 04:20	08/24/2023 20:01	J^
Magnesium	**35**	mg/L	0.40	0.10	1	08/24/2023 04:20	08/24/2023 20:01	J
Potassium	**97**	mg/L	20	5.0	10	08/24/2023 04:20	08/28/2023 14:38	J
Sodium	**120**	mg/L	3.2	0.80	1	08/24/2023 04:20	08/24/2023 20:01	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/28/2023 07:12	08/28/2023 22:45	J
Arsenic	**1.9**	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:45	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:45	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:45	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 22:45	J
Molybdenum	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 22:45	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/28/2023 07:12	08/28/2023 22:45	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:45	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 12:53	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**550**	mg/L	50	10	10	08/30/2023 22:46	08/30/2023 22:46	T
Fluoride	2.0 U	mg/L	5.0	2.0	10	08/30/2023 22:46	08/30/2023 22:46	T
Sulfate	**1600**	mg/L	50	10	10	08/30/2023 22:46	08/30/2023 22:46	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	**29**	mg/L	20	5.0	1	08/24/2023 21:45	08/24/2023 21:45	T
Alkalinity, Total	**29**	mg/L	20	5.0	1	08/24/2023 21:45	08/24/2023 21:45	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486006 **Date Collected:** 08/17/2023 11:45 **Matrix:** Water
Sample ID: CCR-9 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**2300**	mg/L	10	10	1	08/20/2023 12:00	08/20/2023 12:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486007 **Date Collected:** 08/18/2023 07:39 **Matrix:** Water
Sample ID: CCR-20 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**52**	ug/L	12	3.0	1	08/24/2023 04:20	08/24/2023 20:06	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/24/2023 04:20	08/24/2023 20:06	J
Boron	**360 I**	ug/L	400	100	1	08/24/2023 04:20	08/24/2023 20:06	J
Calcium	**520**	mg/L	8.0	2.0	10	08/24/2023 04:20	08/28/2023 14:43	J
Chromium	5.0 U	ug/L	20	5.0	1	08/24/2023 04:20	08/24/2023 20:06	J
Lithium	60 U	ug/L	240	60	1	08/24/2023 04:20	08/24/2023 20:06	J^
Magnesium	**12**	mg/L	0.40	0.10	1	08/24/2023 04:20	08/24/2023 20:06	J
Potassium	**310**	mg/L	20	5.0	10	08/24/2023 04:20	08/28/2023 14:43	J
Sodium	**180**	mg/L	3.2	0.80	1	08/24/2023 04:20	08/24/2023 20:06	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/28/2023 07:12	08/28/2023 22:51	J
Arsenic	**64**	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:51	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:51	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:51	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 22:51	J
Molybdenum	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 22:51	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/28/2023 07:12	08/28/2023 22:51	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 22:51	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 12:56	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**450**	mg/L	50	10	10	08/30/2023 23:02	08/30/2023 23:02	T
Fluoride	2.0 U	mg/L	5.0	2.0	10	08/30/2023 23:02	08/30/2023 23:02	T
Sulfate	**2100**	mg/L	50	10	10	08/30/2023 23:02	08/30/2023 23:02	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	**7.3 I**	mg/L	20	5.0	1	08/24/2023 21:49	08/24/2023 21:49	T
Alkalinity, Total	**7.3 I**	mg/L	20	5.0	1	08/24/2023 21:49	08/24/2023 21:49	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486007 **Date Collected:** 08/18/2023 07:39 **Matrix:** Water
Sample ID: CCR-20 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**3500**	mg/L	10	10	1	08/20/2023 12:00	08/20/2023 12:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486008 **Date Collected:** 08/18/2023 08:46 **Matrix:** Water
Sample ID: CCR-11 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**48**	ug/L	12	3.0	1	08/24/2023 04:20	08/24/2023 20:11	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/24/2023 04:20	08/24/2023 20:11	J
Boron	**360 I**	ug/L	400	100	1	08/24/2023 04:20	08/24/2023 20:11	J
Calcium	**580**	mg/L	8.0	2.0	10	08/24/2023 04:20	08/28/2023 14:47	J
Chromium	5.0 U	ug/L	20	5.0	1	08/24/2023 04:20	08/24/2023 20:11	J
Lithium	60 U	ug/L	240	60	1	08/24/2023 04:20	08/24/2023 20:11	J^
Magnesium	**15**	mg/L	0.40	0.10	1	08/24/2023 04:20	08/24/2023 20:11	J
Potassium	**340**	mg/L	20	5.0	10	08/24/2023 04:20	08/28/2023 14:47	J
Sodium	**230**	mg/L	3.2	0.80	1	08/24/2023 04:20	08/24/2023 20:11	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/28/2023 07:12	08/28/2023 23:08	J
Arsenic	**58**	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:08	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:08	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:08	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 23:08	J
Molybdenum	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 23:08	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/28/2023 07:12	08/28/2023 23:08	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:08	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 12:58	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**780**	mg/L	50	10	10	08/30/2023 23:18	08/30/2023 23:18	T
Fluoride	2.0 U	mg/L	5.0	2.0	10	08/30/2023 23:18	08/30/2023 23:18	T
Sulfate	**2000**	mg/L	50	10	10	08/30/2023 23:18	08/30/2023 23:18	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	5.0 U	mg/L	20	5.0	1	08/24/2023 21:52	08/24/2023 21:52	T
Alkalinity, Total	5.0 U	mg/L	20	5.0	1	08/24/2023 21:52	08/24/2023 21:52	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486008 **Date Collected:** 08/18/2023 08:46 **Matrix:** Water
Sample ID: CCR-11 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**4200**	mg/L	10	10	1	08/20/2023 12:00	08/20/2023 12:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486009 **Date Collected:** 08/18/2023 09:26 **Matrix:** Water
Sample ID: CCR-23 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**9.2 I**	ug/L	12	3.0	1	08/24/2023 04:20	08/24/2023 20:15	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/24/2023 04:20	08/24/2023 20:15	J
Boron	**710**	ug/L	400	100	1	08/24/2023 04:20	08/24/2023 20:15	J
Calcium	**260**	mg/L	8.0	2.0	10	08/24/2023 04:20	08/28/2023 14:52	J
Chromium	5.0 U	ug/L	20	5.0	1	08/24/2023 04:20	08/24/2023 20:15	J
Lithium	60 U	ug/L	240	60	1	08/24/2023 04:20	08/24/2023 20:15	J^
Magnesium	**28**	mg/L	0.40	0.10	1	08/24/2023 04:20	08/24/2023 20:15	J
Potassium	**16**	mg/L	2.0	0.50	1	08/24/2023 04:20	08/24/2023 20:15	J
Sodium	**48**	mg/L	3.2	0.80	1	08/24/2023 04:20	08/24/2023 20:15	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/28/2023 07:12	08/28/2023 23:14	J
Arsenic	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:14	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:14	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:14	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 23:14	J
Molybdenum	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 23:14	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/28/2023 07:12	08/28/2023 23:14	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:14	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 13:01	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**160**	mg/L	25	5.0	5	08/30/2023 23:34	08/30/2023 23:34	T
Fluoride	1.0 U	mg/L	2.5	1.0	5	08/30/2023 23:34	08/30/2023 23:34	T
Sulfate	**770**	mg/L	25	5.0	5	08/30/2023 23:34	08/30/2023 23:34	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	**41**	mg/L	20	5.0	1	08/24/2023 21:56	08/24/2023 21:56	T
Alkalinity, Total	**41**	mg/L	20	5.0	1	08/24/2023 21:56	08/24/2023 21:56	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486009 **Date Collected:** 08/18/2023 09:26 **Matrix:** Water
Sample ID: CCR-23 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**1500**	mg/L	10	10	1	08/20/2023 12:00	08/20/2023 12:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486010 **Date Collected:** 08/18/2023 09:33 **Matrix:** Water
Sample ID: CCR-13 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**23**	ug/L	12	3.0	1	08/24/2023 04:20	08/24/2023 20:19	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/24/2023 04:20	08/24/2023 20:19	J
Boron	**640**	ug/L	400	100	1	08/24/2023 04:20	08/24/2023 20:19	J
Calcium	**450**	mg/L	8.0	2.0	10	08/24/2023 04:20	08/28/2023 15:00	J
Chromium	5.0 U	ug/L	20	5.0	1	08/24/2023 04:20	08/24/2023 20:19	J
Lithium	**120 I**	ug/L	240	60	1	08/24/2023 04:20	08/24/2023 20:19	J^
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/28/2023 07:12	08/28/2023 23:20	J
Arsenic	**0.32 I**	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:20	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:20	J
Cobalt	**0.77 I**	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:20	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 23:20	J
Molybdenum	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 23:20	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/28/2023 07:12	08/28/2023 23:20	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:20	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 13:04	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**100**	mg/L	25	5.0	5	08/30/2023 23:50	08/30/2023 23:50	T
Fluoride	1.0 U	mg/L	2.5	1.0	5	08/30/2023 23:50	08/30/2023 23:50	T
Sulfate	**1700**	mg/L	100	20	20	09/12/2023 12:16	09/12/2023 12:16	T
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**2500**	mg/L	10	10	1	08/24/2023 14:00	08/24/2023 14:00	T

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Workorder: 2023 CCR Event (T2316486)

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486011 **Date Collected:** 08/18/2023 10:18 **Matrix:** Water
Sample ID: CCR-22 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**37**	ug/L	12	3.0	1	08/24/2023 04:20	08/24/2023 20:24	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/24/2023 04:20	08/24/2023 20:24	J
Boron	**390 I**	ug/L	400	100	1	08/24/2023 04:20	08/24/2023 20:24	J
Calcium	**390**	mg/L	8.0	2.0	10	08/24/2023 04:20	08/28/2023 15:18	J
Chromium	5.0 U	ug/L	20	5.0	1	08/24/2023 04:20	08/24/2023 20:24	J
Lithium	**89 I**	ug/L	240	60	1	08/24/2023 04:20	08/24/2023 20:24	J^
Magnesium	**23**	mg/L	0.40	0.10	1	08/24/2023 04:20	08/24/2023 20:24	J
Potassium	**180**	mg/L	20	5.0	10	08/24/2023 04:20	08/28/2023 15:18	J
Sodium	**60**	mg/L	3.2	0.80	1	08/24/2023 04:20	08/24/2023 20:24	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/28/2023 07:12	08/28/2023 23:25	J
Arsenic	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:25	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:25	J
Cobalt	**0.33 I**	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:25	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 23:25	J
Molybdenum	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 23:25	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/28/2023 07:12	08/28/2023 23:25	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:25	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 13:07	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**190**	mg/L	25	5.0	5	08/31/2023 00:06	08/31/2023 00:06	T
Fluoride	1.0 U	mg/L	2.5	1.0	5	08/31/2023 00:06	08/31/2023 00:06	T
Sulfate	**1500**	mg/L	100	20	20	09/12/2023 12:32	09/12/2023 12:32	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	5.0 U	mg/L	20	5.0	1	08/24/2023 21:59	08/24/2023 21:59	T
Alkalinity, Total	5.0 U	mg/L	20	5.0	1	08/24/2023 21:59	08/24/2023 21:59	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486011 **Date Collected:** 08/18/2023 10:18 **Matrix:** Water
Sample ID: CCR-22 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**2400**	mg/L	10	10	1	08/24/2023 14:00	08/24/2023 14:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486012 **Date Collected:** 08/18/2023 14:25 **Matrix:** Water
Sample ID: SW-106 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**15**	ug/L	12	3.0	1	08/24/2023 04:20	08/24/2023 20:29	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/24/2023 04:20	08/24/2023 20:29	J
Boron	100 U	ug/L	400	100	1	08/24/2023 04:20	08/24/2023 20:29	J
Calcium	**8.7**	mg/L	0.80	0.20	1	08/24/2023 04:20	08/28/2023 15:23	J
Chromium	5.0 U	ug/L	20	5.0	1	08/24/2023 04:20	08/24/2023 20:29	J
Lithium	60 U	ug/L	240	60	1	08/24/2023 04:20	08/24/2023 20:29	J^
Magnesium	**2.6**	mg/L	0.40	0.10	1	08/24/2023 04:20	08/24/2023 20:29	J
Potassium	**7.4**	mg/L	2.0	0.50	1	08/24/2023 04:20	08/24/2023 20:29	J
Sodium	**3.3**	mg/L	3.2	0.80	1	08/24/2023 04:20	08/24/2023 20:29	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/28/2023 07:12	08/28/2023 23:31	J
Arsenic	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:31	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:31	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:31	J
Lead	**0.82 I**	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 23:31	J
Molybdenum	**1.9 I**	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 23:31	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/28/2023 07:12	08/28/2023 23:31	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:31	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 13:15	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**2.1 I**	mg/L	10	2.0	2	08/31/2023 00:22	08/31/2023 00:22	T
Fluoride	0.40 U	mg/L	1.0	0.40	2	08/31/2023 00:22	08/31/2023 00:22	T
Sulfate	**28**	mg/L	10	2.0	2	08/31/2023 00:22	08/31/2023 00:22	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	**16 I**	mg/L	20	5.0	1	08/24/2023 22:03	08/24/2023 22:03	T
Alkalinity, Total	**16 I**	mg/L	20	5.0	1	08/24/2023 22:03	08/24/2023 22:03	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486012 **Date Collected:** 08/18/2023 14:25 **Matrix:** Water
Sample ID: SW-106 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**100**	mg/L	10	10	1	08/24/2023 14:00	08/24/2023 14:00	T

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FINAL - REVISION

Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486013 **Date Collected:** 08/18/2023 10:36 **Matrix:** Water
Sample ID: EQ BLANK **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	3.0 U	ug/L	12	3.0	1	08/24/2023 04:20	08/24/2023 20:33	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/24/2023 04:20	08/24/2023 20:33	J
Boron	100 U	ug/L	400	100	1	08/24/2023 04:20	08/24/2023 20:33	J
Calcium	0.20 U	mg/L	0.80	0.20	1	08/24/2023 04:20	08/28/2023 15:27	J
Chromium	5.0 U	ug/L	20	5.0	1	08/24/2023 04:20	08/24/2023 20:33	J
Lithium	60 U	ug/L	240	60	1	08/24/2023 04:20	08/24/2023 20:33	J^
Magnesium	0.10 U	mg/L	0.40	0.10	1	08/24/2023 04:20	08/24/2023 20:33	J
Potassium	0.50 U	mg/L	2.0	0.50	1	08/24/2023 04:20	08/24/2023 20:33	J
Sodium	0.80 U	mg/L	3.2	0.80	1	08/24/2023 04:20	08/24/2023 20:33	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/28/2023 07:12	08/28/2023 23:37	J
Arsenic	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:37	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:37	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:37	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 23:37	J
Molybdenum	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 23:37	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/28/2023 07:12	08/28/2023 23:37	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:37	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 13:18	T
WET CHEMISTRY (EPA 300.0)								
Chloride	1.0 U	mg/L	5.0	1.0	1	08/31/2023 01:10	08/31/2023 01:10	T
Fluoride	0.20 U	mg/L	0.50	0.20	1	08/31/2023 01:10	08/31/2023 01:10	T
Sulfate	1.0 U	mg/L	5.0	1.0	1	08/31/2023 01:10	08/31/2023 01:10	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	5.0 U	mg/L	20	5.0	1	08/24/2023 22:07	08/24/2023 22:07	T
Alkalinity, Total	5.0 U	mg/L	20	5.0	1	08/24/2023 22:07	08/24/2023 22:07	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486013 **Date Collected:** 08/18/2023 10:36 **Matrix:** Water
Sample ID: EQ BLANK **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	10 U	mg/L	10	10	1	08/24/2023 14:00	08/24/2023 14:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486014 **Date Collected:** 08/18/2023 12:01 **Matrix:** Water
Sample ID: CCR-21 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**44**	ug/L	12	3.0	1	08/24/2023 04:20	08/24/2023 20:37	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/24/2023 04:20	08/24/2023 20:37	J
Boron	**320 I**	ug/L	400	100	1	08/24/2023 04:20	08/24/2023 20:37	J
Calcium	**480**	mg/L	8.0	2.0	10	08/24/2023 04:20	08/28/2023 15:32	J
Chromium	5.0 U	ug/L	20	5.0	1	08/24/2023 04:20	08/24/2023 20:37	J
Lithium	60 U	ug/L	240	60	1	08/24/2023 04:20	08/24/2023 20:37	J^
Magnesium	**16**	mg/L	0.40	0.10	1	08/24/2023 04:20	08/24/2023 20:37	J
Potassium	**20**	mg/L	2.0	0.50	1	08/24/2023 04:20	08/24/2023 20:37	J
Sodium	**23**	mg/L	3.2	0.80	1	08/24/2023 04:20	08/24/2023 20:37	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/28/2023 07:12	08/28/2023 23:43	J
Arsenic	**8.9**	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:43	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:43	J
Cobalt	**0.42 I**	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:43	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 23:43	J
Molybdenum	**35**	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 23:43	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/28/2023 07:12	08/28/2023 23:43	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:43	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 13:21	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**20 I**	mg/L	25	5.0	5	08/31/2023 01:26	08/31/2023 01:26	T
Fluoride	1.0 U	mg/L	2.5	1.0	5	08/31/2023 01:26	08/31/2023 01:26	T
Sulfate	**1200**	mg/L	25	5.0	5	08/31/2023 01:26	08/31/2023 01:26	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	**280**	mg/L	20	5.0	1	08/24/2023 22:26	08/24/2023 22:26	T
Alkalinity, Total	**280**	mg/L	20	5.0	1	08/24/2023 22:26	08/24/2023 22:26	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486014 **Date Collected:** 08/18/2023 12:01 **Matrix:** Water
Sample ID: CCR-21 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**1800**	mg/L	10	10	1	08/24/2023 14:00	08/24/2023 14:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486015 **Date Collected:** 08/18/2023 14:14 **Matrix:** Water
Sample ID: CCR-12 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**17**	ug/L	12	3.0	1	08/24/2023 04:20	08/24/2023 20:42	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/24/2023 04:20	08/24/2023 20:42	J
Boron	**360 I**	ug/L	400	100	1	08/24/2023 04:20	08/24/2023 20:42	J
Calcium	**370**	mg/L	8.0	2.0	10	08/24/2023 04:20	08/28/2023 15:36	J
Chromium	5.0 U	ug/L	20	5.0	1	08/24/2023 04:20	08/24/2023 20:42	J
Lithium	60 U	ug/L	240	60	1	08/24/2023 04:20	08/24/2023 20:42	J^
Magnesium	**5.3**	mg/L	0.40	0.10	1	08/24/2023 04:20	08/24/2023 20:42	J
Potassium	**46**	mg/L	20	5.0	10	08/24/2023 04:20	08/28/2023 15:36	J
Sodium	**8.3**	mg/L	3.2	0.80	1	08/24/2023 04:20	08/24/2023 20:42	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/28/2023 07:12	08/28/2023 23:48	J
Arsenic	**61**	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:48	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:48	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:48	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 23:48	J
Molybdenum	**13**	ug/L	2.0	0.50	1	08/28/2023 07:12	08/28/2023 23:48	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/28/2023 07:12	08/28/2023 23:48	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/28/2023 07:12	08/28/2023 23:48	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 13:54	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**9.3 I**	mg/L	25	5.0	5	08/31/2023 02:30	08/31/2023 02:30	T
Fluoride	1.0 U	mg/L	2.5	1.0	5	08/31/2023 02:30	08/31/2023 02:30	T
Sulfate	**910**	mg/L	25	5.0	5	08/31/2023 02:30	08/31/2023 02:30	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	**270**	mg/L	20	5.0	1	08/24/2023 22:35	08/24/2023 22:35	T
Alkalinity, Total	**280**	mg/L	20	5.0	1	08/24/2023 22:35	08/24/2023 22:35	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486015 **Date Collected:** 08/18/2023 14:14 **Matrix:** Water
Sample ID: CCR-12 **Date Received:** 08/18/2023 16:31

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**1500**	mg/L	10	10	1	08/24/2023 14:00	08/24/2023 14:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486016 **Date Collected:** 08/21/2023 09:57 **Matrix:** Water
Sample ID: Fishlake **Date Received:** 08/22/2023 16:03

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**36**	ug/L	12	3.0	1	08/31/2023 10:00	08/31/2023 22:13	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/31/2023 10:00	08/31/2023 22:13	J
Boron	**180 I**	ug/L	400	100	1	08/31/2023 10:00	08/31/2023 22:13	J
Calcium	**97**	mg/L	0.80	0.20	1	08/31/2023 10:00	08/31/2023 22:13	J
Chromium	5.0 U	ug/L	20	5.0	1	08/31/2023 10:00	08/31/2023 22:13	J
Lithium	60 U	ug/L	240	60	1	08/31/2023 10:00	08/31/2023 22:13	J^
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/29/2023 07:45	08/29/2023 18:14	J
Arsenic	**2.0**	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:14	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:14	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:14	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/29/2023 07:45	08/29/2023 18:14	J
Molybdenum	**1.8 I**	ug/L	2.0	0.50	1	08/29/2023 07:45	08/29/2023 18:14	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/29/2023 07:45	08/29/2023 18:14	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:14	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 14:30	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**68**	mg/L	10	2.0	2	08/31/2023 15:35	08/31/2023 15:35	T
Fluoride	**0.43 I**	mg/L	1.0	0.40	2	08/31/2023 15:35	08/31/2023 15:35	T
Sulfate	**230**	mg/L	10	2.0	2	08/31/2023 15:35	08/31/2023 15:35	T
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**600**	mg/L	10	10	1	08/26/2023 14:00	08/26/2023 14:00	T

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Workorder: 2023 CCR Event (T2316486)

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486017 **Date Collected:** 08/21/2023 11:27 **Matrix:** Water
Sample ID: CCR-15 **Date Received:** 08/22/2023 16:03

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**19**	ug/L	12	3.0	1	08/31/2023 10:00	08/31/2023 22:22	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/31/2023 10:00	08/31/2023 22:22	J
Boron	100 U	ug/L	400	100	1	08/31/2023 10:00	08/31/2023 22:22	J
Calcium	**9.9**	mg/L	0.80	0.20	1	08/31/2023 10:00	08/31/2023 22:22	J
Chromium	5.0 U	ug/L	20	5.0	1	08/31/2023 10:00	08/31/2023 22:22	J
Lithium	60 U	ug/L	240	60	1	08/31/2023 10:00	08/31/2023 22:22	J^
Magnesium	**0.45**	mg/L	0.40	0.10	1	08/31/2023 10:00	08/31/2023 22:22	J
Potassium	**0.96 I**	mg/L	2.0	0.50	1	08/31/2023 10:00	08/31/2023 22:22	J
Sodium	**1.1 I**	mg/L	3.2	0.80	1	08/31/2023 10:00	08/31/2023 22:22	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/29/2023 07:45	08/29/2023 18:26	J
Arsenic	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:26	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:26	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:26	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/29/2023 07:45	08/29/2023 18:26	J
Molybdenum	**0.70 I**	ug/L	2.0	0.50	1	08/29/2023 07:45	08/29/2023 18:26	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/29/2023 07:45	08/29/2023 18:26	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:26	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 14:36	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**4.0 I**	mg/L	10	2.0	2	08/31/2023 16:06	08/31/2023 16:06	T
Fluoride	0.40 U	mg/L	1.0	0.40	2	08/31/2023 16:06	08/31/2023 16:06	T
Sulfate	**32**	mg/L	10	2.0	2	08/31/2023 16:06	08/31/2023 16:06	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	5.0 U	mg/L	20	5.0	1	08/24/2023 22:51	08/24/2023 22:51	T
Alkalinity, Total	5.0 U	mg/L	20	5.0	1	08/24/2023 22:51	08/24/2023 22:51	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486017 **Date Collected:** 08/21/2023 11:27 **Matrix:** Water
Sample ID: CCR-15 **Date Received:** 08/22/2023 16:03

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**110**	mg/L	10	10	1	08/26/2023 14:00	08/26/2023 14:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486018 **Date Collected:** 08/21/2023 13:43 **Matrix:** Water
Sample ID: CCR-1 **Date Received:** 08/22/2023 16:03

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**12**	ug/L	12	3.0	1	08/31/2023 10:00	08/31/2023 22:35	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/31/2023 10:00	08/31/2023 22:35	J
Boron	100 U	ug/L	400	100	1	08/31/2023 10:00	08/31/2023 22:35	J
Calcium	**29**	mg/L	0.80	0.20	1	08/31/2023 10:00	08/31/2023 22:35	J
Chromium	5.0 U	ug/L	20	5.0	1	08/31/2023 10:00	08/31/2023 22:35	J
Lithium	60 U	ug/L	240	60	1	08/31/2023 10:00	08/31/2023 22:35	J^
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/29/2023 07:45	08/29/2023 18:31	J
Arsenic	**0.97 I**	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:31	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:31	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:31	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/29/2023 07:45	08/29/2023 18:31	J
Molybdenum	0.50 U	ug/L	2.0	0.50	1	08/29/2023 07:45	08/29/2023 18:31	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/29/2023 07:45	08/29/2023 18:31	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:31	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 14:39	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**3.3 I**	mg/L	10	2.0	2	08/31/2023 16:54	08/31/2023 16:54	T
Fluoride	0.40 U	mg/L	1.0	0.40	2	08/31/2023 16:54	08/31/2023 16:54	T
Sulfate	**60**	mg/L	10	2.0	2	08/31/2023 16:54	08/31/2023 16:54	T
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**180**	mg/L	10	10	1	08/26/2023 14:00	08/26/2023 14:00	T

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Workorder: 2023 CCR Event (T2316486)

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486019 **Date Collected:** 08/21/2023 14:06 **Matrix:** Water
Sample ID: CCR-19 **Date Received:** 08/22/2023 16:03

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**72**	ug/L	12	3.0	1	08/31/2023 10:00	08/31/2023 22:39	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/31/2023 10:00	08/31/2023 22:39	J
Boron	**320 I**	ug/L	400	100	1	08/31/2023 10:00	08/31/2023 22:39	J
Calcium	**700**	mg/L	8.0	2.0	10	08/31/2023 10:00	09/05/2023 16:18	J
Chromium	5.0 U	ug/L	20	5.0	1	08/31/2023 10:00	08/31/2023 22:39	J
Lithium	60 U	ug/L	240	60	1	08/31/2023 10:00	08/31/2023 22:39	J^
Magnesium	**46**	mg/L	0.40	0.10	1	08/31/2023 10:00	08/31/2023 22:39	J
Potassium	**210**	mg/L	20	5.0	10	08/31/2023 10:00	09/05/2023 16:18	J
Sodium	**160**	mg/L	3.2	0.80	1	08/31/2023 10:00	08/31/2023 22:39	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/29/2023 07:45	08/29/2023 18:37	J
Arsenic	**4.2**	ug/L	2.0	0.50	2	08/29/2023 07:45	08/31/2023 19:26	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:37	J
Cobalt	0.50 U	ug/L	2.0	0.50	2	08/29/2023 07:45	08/31/2023 19:26	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/29/2023 07:45	08/29/2023 18:37	J
Molybdenum	0.50 U	ug/L	2.0	0.50	1	08/29/2023 07:45	08/29/2023 18:37	J
Selenium	2.5 U	ug/L	10	2.5	2	08/29/2023 07:45	08/31/2023 19:26	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:37	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 14:41	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**1200**	mg/L	50	10	10	08/31/2023 17:10	08/31/2023 17:10	T
Fluoride	2.0 U	mg/L	5.0	2.0	10	08/31/2023 17:10	08/31/2023 17:10	T
Sulfate	**780**	mg/L	50	10	10	08/31/2023 17:10	08/31/2023 17:10	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	5.0 U	mg/L	20	5.0	1	08/24/2023 22:54	08/24/2023 22:54	T
Alkalinity, Total	5.0 U	mg/L	20	5.0	1	08/24/2023 22:54	08/24/2023 22:54	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486019 **Date Collected:** 08/21/2023 14:06 **Matrix:** Water
Sample ID: CCR-19 **Date Received:** 08/22/2023 16:03

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**4200**	mg/L	10	10	1	08/26/2023 14:00	08/26/2023 14:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486020 **Date Collected:** 08/21/2023 14:41 **Matrix:** Water
Sample ID: CCR-4 **Date Received:** 08/22/2023 16:03

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**220**	ug/L	12	3.0	1	08/31/2023 10:00	08/31/2023 22:43	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/31/2023 10:00	08/31/2023 22:43	J
Boron	**600**	ug/L	400	100	1	08/31/2023 10:00	08/31/2023 22:43	J
Calcium	**1600**	mg/L	40	10	50	08/31/2023 10:00	09/05/2023 16:23	J
Chromium	5.0 U	ug/L	20	5.0	1	08/31/2023 10:00	08/31/2023 22:43	J
Lithium	**220 I**	ug/L	240	60	1	08/31/2023 10:00	08/31/2023 22:43	J^
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/29/2023 07:45	08/29/2023 18:43	J
Arsenic	**0.51 I**	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:43	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:43	J
Cobalt	**1.1**	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:43	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/29/2023 07:45	08/29/2023 18:43	J
Molybdenum	0.50 U	ug/L	2.0	0.50	1	08/29/2023 07:45	08/29/2023 18:43	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/29/2023 07:45	08/29/2023 18:43	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:43	J
METALS (SW-846 7470A)								
Mercury	**0.034 I**	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 14:44	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**4100**	mg/L	500	100	100	08/31/2023 17:26	08/31/2023 17:26	T
Fluoride	20 U	mg/L	50	20	100	08/31/2023 17:26	08/31/2023 17:26	T
Sulfate	**1400**	mg/L	500	100	100	08/31/2023 17:26	08/31/2023 17:26	T
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**8600**	mg/L	10	10	1	08/26/2023 14:00	08/26/2023 14:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486021 **Date Collected:** 08/22/2023 13:41 **Matrix:** Water
Sample ID: CCR-7 **Date Received:** 08/22/2023 16:03

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**7.7 I**	ug/L	12	3.0	1	08/31/2023 10:00	08/31/2023 22:57	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/31/2023 10:00	08/31/2023 22:57	J
Boron	**130 I**	ug/L	400	100	1	08/31/2023 10:00	08/31/2023 22:57	J
Calcium	**19**	mg/L	0.80	0.20	1	08/31/2023 10:00	08/31/2023 22:57	J
Chromium	5.0 U	ug/L	20	5.0	1	08/31/2023 10:00	08/31/2023 22:57	J
Lithium	60 U	ug/L	240	60	1	08/31/2023 10:00	08/31/2023 22:57	J^
Magnesium	**1.8**	mg/L	0.40	0.10	1	08/31/2023 10:00	08/31/2023 22:57	J
Potassium	**10**	mg/L	2.0	0.50	1	08/31/2023 10:00	08/31/2023 22:57	J
Sodium	**4.7**	mg/L	3.2	0.80	1	08/31/2023 10:00	08/31/2023 22:57	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	09/02/2023 12:14	09/05/2023 17:35	J
Arsenic	0.25 U	ug/L	1.0	0.25	1	09/02/2023 12:14	09/05/2023 17:35	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	09/02/2023 12:14	09/05/2023 17:35	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	09/02/2023 12:14	09/05/2023 17:35	J
Lead	0.50 U	ug/L	2.0	0.50	1	09/02/2023 12:14	09/05/2023 17:35	J
Molybdenum	**0.53 I**	ug/L	2.0	0.50	1	09/02/2023 12:14	09/05/2023 17:35	J
Selenium	1.2 U	ug/L	5.0	1.2	1	09/02/2023 12:14	09/05/2023 17:35	J
Thallium	0.25 U	ug/L	1.0	0.25	1	09/02/2023 12:14	09/05/2023 17:35	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 14:53	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**4.9 I**	mg/L	10	2.0	2	08/31/2023 18:47	08/31/2023 18:47	T
Fluoride	0.40 U	mg/L	1.0	0.40	2	08/31/2023 18:47	08/31/2023 18:47	T
Sulfate	**45**	mg/L	10	2.0	2	08/31/2023 18:47	08/31/2023 18:47	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	**11 I**	mg/L	20	5.0	1	08/24/2023 23:07	08/24/2023 23:07	T
Alkalinity, Total	**11 I**	mg/L	20	5.0	1	08/24/2023 23:07	08/24/2023 23:07	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486021 **Date Collected:** 08/22/2023 13:41 **Matrix:** Water
Sample ID: CCR-7 **Date Received:** 08/22/2023 16:03

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**160**	mg/L	10	10	1	08/26/2023 14:00	08/26/2023 14:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486022 **Date Collected:** 08/21/2023 10:30 **Matrix:** Water
Sample ID: Lake D **Date Received:** 08/22/2023 16:03

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**5.9 I**	ug/L	12	3.0	1	08/31/2023 10:00	08/31/2023 22:17	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/31/2023 10:00	08/31/2023 22:17	J
Boron	100 U	ug/L	400	100	1	08/31/2023 10:00	08/31/2023 22:17	J
Calcium	**44**	mg/L	0.80	0.20	1	08/31/2023 10:00	08/31/2023 22:17	J
Chromium	5.0 U	ug/L	20	5.0	1	08/31/2023 10:00	08/31/2023 22:17	J
Lithium	60 U	ug/L	240	60	1	08/31/2023 10:00	08/31/2023 22:17	J^
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/29/2023 07:45	08/29/2023 18:20	J
Arsenic	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:20	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:20	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:20	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/29/2023 07:45	08/29/2023 18:20	J
Molybdenum	0.50 U	ug/L	2.0	0.50	1	08/29/2023 07:45	08/29/2023 18:20	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/29/2023 07:45	08/29/2023 18:20	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:20	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 14:33	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**100**	mg/L	10	2.0	2	08/31/2023 15:51	08/31/2023 15:51	T
Fluoride	0.40 U	mg/L	1.0	0.40	2	08/31/2023 15:51	08/31/2023 15:51	T
Sulfate	**18**	mg/L	10	2.0	2	08/31/2023 15:51	08/31/2023 15:51	T
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**470**	mg/L	10	10	1	08/26/2023 14:00	08/26/2023 14:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486023 **Date Collected:** 08/21/2023 14:47 **Matrix:** Water
Sample ID: CCR-18 **Date Received:** 08/22/2023 16:03

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	3.0 U	ug/L	12	3.0	1	08/31/2023 10:00	08/31/2023 22:48	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/31/2023 10:00	08/31/2023 22:48	J
Boron	100 U	ug/L	400	100	1	08/31/2023 10:00	08/31/2023 22:48	J
Calcium	**70**	mg/L	0.80	0.20	1	08/31/2023 10:00	08/31/2023 22:48	J
Chromium	5.0 U	ug/L	20	5.0	1	08/31/2023 10:00	08/31/2023 22:48	J
Lithium	60 U	ug/L	240	60	1	08/31/2023 10:00	08/31/2023 22:48	J^
Magnesium	**4.1**	mg/L	0.40	0.10	1	08/31/2023 10:00	08/31/2023 22:48	J
Potassium	**4.0**	mg/L	2.0	0.50	1	08/31/2023 10:00	08/31/2023 22:48	J
Sodium	**1.8 I**	mg/L	3.2	0.80	1	08/31/2023 10:00	08/31/2023 22:48	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	08/29/2023 07:45	08/29/2023 18:49	J
Arsenic	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:49	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:49	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:49	J
Lead	0.50 U	ug/L	2.0	0.50	1	08/29/2023 07:45	08/29/2023 18:49	J
Molybdenum	**3.9**	ug/L	2.0	0.50	1	08/29/2023 07:45	08/29/2023 18:49	J
Selenium	1.2 U	ug/L	5.0	1.2	1	08/29/2023 07:45	08/29/2023 18:49	J
Thallium	0.25 U	ug/L	1.0	0.25	1	08/29/2023 07:45	08/29/2023 18:49	J
METALS (SW-846 7470A)								
Mercury	0.011 U	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 14:47	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**2.2 I**	mg/L	10	2.0	2	08/31/2023 17:42	08/31/2023 17:42	T
Fluoride	0.40 U	mg/L	1.0	0.40	2	08/31/2023 17:42	08/31/2023 17:42	T
Sulfate	**35**	mg/L	10	2.0	2	08/31/2023 17:42	08/31/2023 17:42	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	**170**	mg/L	20	5.0	1	08/24/2023 22:59	08/24/2023 22:59	T
Alkalinity, Total	**170**	mg/L	20	5.0	1	08/24/2023 22:59	08/24/2023 22:59	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486023 **Date Collected:** 08/21/2023 14:47 **Matrix:** Water
Sample ID: CCR-18 **Date Received:** 08/22/2023 16:03

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**280**	mg/L	10	10	1	08/26/2023 14:00	08/26/2023 14:00	T

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Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486024 **Date Collected:** 08/22/2023 12:32 **Matrix:** Water
Sample ID: CCR-5 **Date Received:** 08/22/2023 16:03

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
METALS (SW-846 3010A/SW-846 6010)								
Barium	**85**	ug/L	12	3.0	1	08/31/2023 10:00	08/31/2023 22:52	J
Beryllium	2.0 U	ug/L	8.0	2.0	1	08/31/2023 10:00	08/31/2023 22:52	J
Boron	**430**	ug/L	400	100	1	08/31/2023 10:00	08/31/2023 22:52	J
Calcium	**2200**	mg/L	40	10	50	08/31/2023 10:00	09/05/2023 16:27	J
Chromium	5.0 U	ug/L	20	5.0	1	08/31/2023 10:00	08/31/2023 22:52	J
Lithium	**4100**	ug/L	240	60	1	08/31/2023 10:00	08/31/2023 22:52	J^
Magnesium	**34**	mg/L	0.40	0.10	1	08/31/2023 10:00	08/31/2023 22:52	J
Potassium	**730**	mg/L	100	25	50	08/31/2023 10:00	09/05/2023 16:27	J
Sodium	**1100**	mg/L	160	40	50	08/31/2023 10:00	09/05/2023 16:27	J
METALS (SW-846 3010A/SW-846 6020)								
Antimony	1.0 U	ug/L	4.0	1.0	1	09/02/2023 12:14	09/05/2023 17:18	J
Arsenic	**0.42 I**	ug/L	1.0	0.25	1	09/02/2023 12:14	09/05/2023 17:18	J
Cadmium	0.25 U	ug/L	1.0	0.25	1	09/02/2023 12:14	09/05/2023 17:18	J
Cobalt	0.25 U	ug/L	1.0	0.25	1	09/02/2023 12:14	09/05/2023 17:18	J
Lead	0.50 U	ug/L	2.0	0.50	1	09/02/2023 12:14	09/05/2023 17:18	J
Molybdenum	0.50 U	ug/L	2.0	0.50	1	09/02/2023 12:14	09/05/2023 17:18	J
Selenium	1.2 U	ug/L	5.0	1.2	1	09/02/2023 12:14	09/05/2023 17:18	J
Thallium	0.25 U	ug/L	1.0	0.25	1	09/02/2023 12:14	09/05/2023 17:18	J
METALS (SW-846 7470A)								
Mercury	**0.11**	ug/L	0.10	0.011	1	09/01/2023 10:05	09/05/2023 14:50	T
WET CHEMISTRY (EPA 300.0)								
Chloride	**5700**	mg/L	500	100	100	08/31/2023 17:59	08/31/2023 17:59	T
Fluoride	20 U	mg/L	50	20	100	08/31/2023 17:59	08/31/2023 17:59	T
Sulfate	**630**	mg/L	500	100	100	08/31/2023 17:59	08/31/2023 17:59	T
WET CHEMISTRY (SM 2320B)								
Alkalinity, Bicarbonate	**49**	mg/L	20	5.0	1	08/24/2023 23:03	08/24/2023 23:03	T
Alkalinity, Total	**49**	mg/L	20	5.0	1	08/24/2023 23:03	08/24/2023 23:03	T

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FINAL - REVISION

Workorder: 2023 CCR Event (T2316486)

Analytical Results

Lab ID: T2316486024 **Date Collected:** 08/22/2023 12:32 **Matrix:** Water
Sample ID: CCR-5 **Date Received:** 08/22/2023 16:03

Parameter	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Lab
WET CHEMISTRY (SM 2540 C)								
Total Dissolved Solids	**11000**	mg/L	10	10	1	08/26/2023 14:00	08/26/2023 14:00	T

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: CVAt/2047 **Analysis Method:** SW-846 7470A
Preparation Method: SW-846 7470A
Associated Lab IDs: T2316486001, T2316486002, T2316486003, T2316486004, T2316486005, T2316486006, T2316486007, T2316486008, T2316486009, T2316486010, T2316486011, T2316486012, T2316486013, T2316486014

Method Blank(4937292)

Parameter	Results	Units	PQL	MDL	Lab
Mercury	0.011 U	ug/L	0.10	0.011	T

Lab Control Sample (4937293)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Mercury	ug/L	1	.98	98	80 - 120	T

Matrix Spike (4937294); Matrix Spike Duplicate (4937295); Original (T2316187008); Parent Lab Sample (T2316187008)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Mercury	ug/L	1	1	102	80 - 120	1	104	2	20	T

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: CVAt/2048 **Analysis Method:** SW-846 7470A
Preparation Method: SW-846 7470A
Associated Lab IDs: T2316486015, T2316486016, T2316486017, T2316486018, T2316486019, T2316486020, T2316486021, T2316486022, T2316486023, T2316486024

Method Blank(4937315)

Parameter	Results	Units	PQL	MDL	Lab
Mercury	0.011 U	ug/L	0.10	0.011	T

Lab Control Sample (4937316)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Mercury	ug/L	1	1.1	110	80 - 120	T

Matrix Spike (4937317); Matrix Spike Duplicate (4937318); Original (T2316486015); Parent Lab Sample (T2316486015)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Mercury	ug/L	1	.81	81	80 - 120	.81	81	1	20	T

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: ICMj/3410 **Analysis Method:** SW-846 6020
Preparation Method: SW-846 3010A
Associated Lab IDs: T2316486001, T2316486002, T2316486003, T2316486004, T2316486005, T2316486006, T2316486007, T2316486008, T2316486009, T2316486010, T2316486011, T2316486012, T2316486013, T2316486014, T2316486015

Method Blank(4931728)

Parameter	Results	Units	PQL	MDL	Lab
Cobalt	0.25 U	ug/L	1.0	0.25	J
Arsenic	0.25 U	ug/L	1.0	0.25	J
Selenium	1.2 U	ug/L	5.0	1.2	J
Molybdenum	0.50 U	ug/L	2.0	0.50	J
Cadmium	0.25 U	ug/L	1.0	0.25	J
Antimony	1.0 U	ug/L	4.0	1.0	J
Thallium	0.25 U	ug/L	1.0	0.25	J
Lead	0.50 U	ug/L	2.0	0.50	J

Lab Control Sample (4931729)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Cobalt	ug/L	20	22	108	80 - 120	J
Arsenic	ug/L	20	22	111	80 - 120	J
Selenium	ug/L	20	22	111	80 - 120	J
Molybdenum	ug/L	20	22	110	80 - 120	J
Cadmium	ug/L	20	22	109	80 - 120	J
Antimony	ug/L	20	24	119	80 - 120	J
Thallium	ug/L	20	21	107	80 - 120	J
Lead	ug/L	20	22	108	80 - 120	J

Matrix Spike (4931730); Matrix Spike Duplicate (4931731); Original (T2316486001); Parent Lab Sample (T2316486001)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Cobalt	ug/L	20	21	104	75 - 125	21	103	1	20	J
Arsenic	ug/L	20	21	104	75 - 125	21	104	1	20	J
Selenium	ug/L	20	20	99	75 - 125	22	108	8	20	J
Molybdenum	ug/L	20	22	106	75 - 125	22	107	0	20	J
Cadmium	ug/L	20	21	107	75 - 125	21	105	2	20	J
Antimony	ug/L	20	24	119	75 - 125	24	118	1	20	J
Thallium	ug/L	20	22	109	75 - 125	21	107	2	20	J
Lead	ug/L	20	22	110	75 - 125	21	107	3	20	J

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: ICMj/3417 **Analysis Method:** SW-846 6020
Preparation Method: SW-846 3010A
Associated Lab IDs: T2316486016, T2316486017, T2316486018, T2316486019, T2316486020, T2316486022, T2316486023

Method Blank(4933295)

Parameter	Results	Units	PQL	MDL	Lab
Cobalt	0.25 U	ug/L	1.0	0.25	J
Arsenic	0.25 U	ug/L	1.0	0.25	J
Selenium	1.2 U	ug/L	5.0	1.2	J
Molybdenum	0.50 U	ug/L	2.0	0.50	J
Cadmium	0.25 U	ug/L	1.0	0.25	J
Antimony	1.0 U	ug/L	4.0	1.0	J
Thallium	0.25 U	ug/L	1.0	0.25	J
Lead	0.50 U	ug/L	2.0	0.50	J

Lab Control Sample (4933296)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Cobalt	ug/L	20	19	93	80 - 120	J
Arsenic	ug/L	20	21	104	80 - 120	J
Selenium	ug/L	20	19	96	80 - 120	J
Molybdenum	ug/L	20	21	104	80 - 120	J
Cadmium	ug/L	20	20	98	80 - 120	J
Antimony	ug/L	20	23	113	80 - 120	J
Thallium	ug/L	20	20	101	80 - 120	J
Lead	ug/L	20	21	103	80 - 120	J

Matrix Spike (4933297); Matrix Spike Duplicate (4933298); Original (J2312388001); Parent Lab Sample (J2312388001)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Arsenic	ug/L	20	20	100	75 - 125	21	103	3	20	J
Selenium	ug/L	20	19	95	75 - 125	20	98	3	20	J
Cadmium	ug/L	20	19	95	75 - 125	20	96	1	20	J
Lead	ug/L	20	27	108	75 - 125	27	106	2	20	J

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: ICMj/3427
Preparation Method: SW-846 3010A
Associated Lab IDs: T2316486021, T2316486024
Analysis Method: SW-846 6020

Method Blank(4937810)

Parameter	Results	Units	PQL	MDL	Lab
Cobalt	0.25 U	ug/L	1.0	0.25	J
Arsenic	0.25 U	ug/L	1.0	0.25	J
Selenium	1.2 U	ug/L	5.0	1.2	J
Molybdenum	0.50 U	ug/L	2.0	0.50	J
Cadmium	0.25 U	ug/L	1.0	0.25	J
Antimony	1.0 U	ug/L	4.0	1.0	J
Thallium	0.25 U	ug/L	1.0	0.25	J
Lead	0.50 U	ug/L	2.0	0.50	J

Lab Control Sample (4937811)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Cobalt	ug/L	20	20	99	80 - 120	J
Arsenic	ug/L	20	21	104	80 - 120	J
Selenium	ug/L	20	20	99	80 - 120	J
Molybdenum	ug/L	20	20	98	80 - 120	J
Cadmium	ug/L	20	20	101	80 - 120	J
Antimony	ug/L	20	20	101	80 - 120	J
Thallium	ug/L	20	20	100	80 - 120	J
Lead	ug/L	20	20	99	80 - 120	J

Matrix Spike (4937812); Matrix Spike Duplicate (4937813); Original (T2316486024); Parent Lab Sample (T2316486024)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Cobalt	ug/L	20	.1	**0**	75 - 125	15	**74**	**197**	20	J
Arsenic	ug/L	20	.43	**0**	75 - 125	17	83	**190**	20	J
Selenium	ug/L	20	.39	**2**	75 - 125	13	**67**	**189**	20	J
Molybdenum	ug/L	20	18	90	75 - 125	18	92	2	20	J
Cadmium	ug/L	20	.0055	**0**	75 - 125	15	77	**200**	20	J
Antimony	ug/L	20	19	95	75 - 125	19	97	2	20	J
Thallium	ug/L	20	.0013	**0**	75 - 125	22	110	**200**	20	J
Lead	ug/L	20	.018	**0**	75 - 125	22	108	**200**	20	J

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Workorder: 2023 CCR Event (T2316486)

QC Result Comments

Matrix Spike - 4937812 - Arsenic

J4|Estimated Result

Matrix Spike - 4937812 - Cadmium

J4|Estimated Result

Matrix Spike - 4937812 - Cobalt

J4|Estimated Result

Matrix Spike - 4937812 - Lead

J4|Estimated Result

Matrix Spike - 4937812 - Selenium

J4|Estimated Result

Matrix Spike - 4937812 - Thallium

J4|Estimated Result

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: ICPj/2953 **Analysis Method:** SW-846 6010
Preparation Method: SW-846 3010A
Associated Lab IDs: T2316486001, T2316486002, T2316486003, T2316486004, T2316486005, T2316486006, T2316486007, T2316486008, T2316486009, T2316486010, T2316486011, T2316486012, T2316486013, T2316486014, T2316486015

Method Blank(4926833)

Parameter	Results	Units	PQL	MDL	Lab
Boron	100 U	ug/L	400	100	J
Barium	3.0 U	ug/L	12	3.0	J
Beryllium	2.0 U	ug/L	8.0	2.0	J
Calcium	0.20 U	mg/L	0.80	0.20	J
Chromium	5.0 U	ug/L	20	5.0	J
Potassium	0.50 U	mg/L	2.0	0.50	J
Magnesium	0.10 U	mg/L	0.40	0.10	J
Sodium	0.80 U	mg/L	3.2	0.80	J
Lithium	60 U	ug/L	240	60	J^

Method Blank(4926833)

Parameter	Results	Units	PQL	MDL	Lab
Boron	100 U	ug/L	400	100	J
Barium	3.0 U	ug/L	12	3.0	J
Beryllium	2.0 U	ug/L	8.0	2.0	J
Calcium	0.20 U	mg/L	0.80	0.20	J
Chromium	5.0 U	ug/L	20	5.0	J
Potassium	0.50 U	mg/L	2.0	0.50	J
Magnesium	0.10 U	mg/L	0.40	0.10	J
Sodium	0.80 U	mg/L	3.2	0.80	J
Lithium	60 U	ug/L	240	60	J^

Lab Control Sample (4926834)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Boron	ug/L	2000	1900	94	80 - 120	J
Barium	ug/L	60	55	91	80 - 120	J
Beryllium	ug/L	40	39	98	80 - 120	J
Calcium	mg/L	4	3.8	95	80 - 120	J
Chromium	ug/L	100	98	98	80 - 120	J
Potassium	mg/L	10	9.1	91	80 - 120	J
Magnesium	mg/L	2	1.9	95	80 - 120	J
Sodium	mg/L	16	16	98	80 - 120	J

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Workorder: 2023 CCR Event (T2316486)

QC Batch: ICPj/2953 **Analysis Method:** SW-846 6010
Preparation Method: SW-846 3010A
Associated Lab IDs: T2316486001, T2316486002, T2316486003, T2316486004, T2316486005, T2316486006, T2316486007, T2316486008, T2316486009, T2316486010, T2316486011, T2316486012, T2316486013, T2316486014, T2316486015

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Lithium	ug/L	1200	1100	95	80 - 120	J^

Lab Control Sample (4926834)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Boron	ug/L	2000	1900	94	80 - 120	J
Barium	ug/L	60	55	91	80 - 120	J
Beryllium	ug/L	40	39	98	80 - 120	J
Calcium	mg/L	4	3.8	95	80 - 120	J
Chromium	ug/L	100	98	98	80 - 120	J
Potassium	mg/L	10	9.1	91	80 - 120	J
Magnesium	mg/L	2	1.9	95	80 - 120	J
Sodium	mg/L	16	16	98	80 - 120	J
Lithium	ug/L	1200	1100	95	80 - 120	J^

Matrix Spike (4926835); Matrix Spike Duplicate (4926836); Original (J2312272001); Parent Lab Sample (J2312272001)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Boron	ug/L	2000	2000	98	75 - 125	1900	97	1	20	J
Barium	ug/L	60	100	84	75 - 125	100	85	1	20	J
Beryllium	ug/L	40	40	100	75 - 125	41	102	1	20	J
Calcium	mg/L	4	200	**-96**	75 - 125	210	97	4	20	J
Chromium	ug/L	100	98	98	75 - 125	98	99	1	20	J
Potassium	mg/L	10	16	89	75 - 125	16	90	1	20	J
Magnesium	mg/L	2	98	**-59**	75 - 125	100	**130**	4	20	J
Sodium	mg/L	16	230	**54**	75 - 125	240	103	3	20	J

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: ICPj/2964 **Analysis Method:** SW-846 6010
Preparation Method: SW-846 3010A
Associated Lab IDs: T2316486016, T2316486017, T2316486018, T2316486019, T2316486020, T2316486021, T2316486022, T2316486023, T2316486024

Method Blank(4934327)

Parameter	Results	Units	PQL	MDL	Lab
Boron	100 U	ug/L	400	100	J
Barium	3.0 U	ug/L	12	3.0	J
Beryllium	2.0 U	ug/L	8.0	2.0	J
Calcium	0.20 U	mg/L	0.80	0.20	J
Chromium	5.0 U	ug/L	20	5.0	J
Potassium	0.50 U	mg/L	2.0	0.50	J
Magnesium	0.10 U	mg/L	0.40	0.10	J
Sodium	0.80 U	mg/L	3.2	0.80	J
Lithium	60 U	ug/L	240	60	J^

Method Blank(4934327)

Parameter	Results	Units	PQL	MDL	Lab
Boron	100 U	ug/L	400	100	J
Barium	3.0 U	ug/L	12	3.0	J
Beryllium	2.0 U	ug/L	8.0	2.0	J
Calcium	0.20 U	mg/L	0.80	0.20	J
Chromium	5.0 U	ug/L	20	5.0	J
Potassium	0.50 U	mg/L	2.0	0.50	J
Magnesium	0.10 U	mg/L	0.40	0.10	J
Sodium	0.80 U	mg/L	3.2	0.80	J
Lithium	60 U	ug/L	240	60	J^

Lab Control Sample (4934328)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Boron	ug/L	2000	1800	91	80 - 120	J
Barium	ug/L	60	55	91	80 - 120	J
Beryllium	ug/L	40	36	89	80 - 120	J
Calcium	mg/L	4	3.6	90	80 - 120	J
Chromium	ug/L	100	90	90	80 - 120	J
Potassium	mg/L	10	9	90	80 - 120	J
Magnesium	mg/L	2	1.8	89	80 - 120	J
Sodium	mg/L	16	14	91	80 - 120	J

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Workorder: 2023 CCR Event (T2316486)

QC Batch: ICPj/2964 **Analysis Method:** SW-846 6010
Preparation Method: SW-846 3010A
Associated Lab IDs: T2316486016, T2316486017, T2316486018, T2316486019, T2316486020, T2316486021, T2316486022, T2316486023, T2316486024

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Lithium	ug/L	1200	1100	92	80 - 120	J^

Lab Control Sample (4934328)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Boron	ug/L	2000	1800	91	80 - 120	J
Barium	ug/L	60	55	91	80 - 120	J
Beryllium	ug/L	40	36	89	80 - 120	J
Calcium	mg/L	4	3.6	90	80 - 120	J
Chromium	ug/L	100	90	90	80 - 120	J
Potassium	mg/L	10	9	90	80 - 120	J
Magnesium	mg/L	2	1.8	89	80 - 120	J
Sodium	mg/L	16	14	91	80 - 120	J
Lithium	ug/L	1200	1100	92	80 - 120	J^

Matrix Spike (4934329); Matrix Spike Duplicate (4934330); Original (S2302291001); Parent Lab Sample (S2302291001)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Boron	ug/L	2000	1800	92	75 - 125	1800	92	1	20	J
Barium	ug/L	60	61	89	75 - 125	62	90	1	20	J
Beryllium	ug/L	40	35	88	75 - 125	35	89	0	20	J
Calcium	mg/L	4	43	75	75 - 125	43	87	1	20	J
Chromium	ug/L	100	99	88	75 - 125	100	89	1	20	J
Potassium	mg/L	10	9.8	89	75 - 125	9.9	89	1	20	J
Magnesium	mg/L	2	17	83	75 - 125	17	92	1	20	J
Sodium	mg/L	16	17	93	75 - 125	17	94	1	20	J

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: WCAt/23158
Preparation Method: SM 2320B
Associated Lab IDs: T2316486002
Analysis Method: SM 2320B

Sample Duplicate (4928212); Original (T2316254003); Parent Lab Sample (T2316486002)

Parameter	Original	Duplicate	Units	RPD	RPD Limit	Lab
Alkalinity, Total	1644.137	1647.578	mg/L	0	10	T

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: WCAt/23158 **Analysis Method:** SM 2320B
Preparation Method: SM 2320B
Associated Lab IDs: T2316486002, T2316486003, T2316486004, T2316486006, T2316486007, T2316486008, T2316486009, T2316486011, T2316486012, T2316486013

Method Blank(4928210)

Parameter	Results	Units	PQL	MDL	Lab
Alkalinity, Total	5.0 U	mg/L	20	5.0	T

Lab Control Sample (4928211)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Alkalinity, Total	mg/L	100	100	100	85 - 115	T

Sample Duplicate (4928213); Original (T2316486002); Parent Lab Sample (T2316486002, T2316486003, T2316486004, T2316486006, T2316486007, T2316486008, T2316486009, T2316486011, T2316486012, T2316486013)

Parameter	Original	Duplicate	Units	RPD	RPD Limit	Lab
Alkalinity, Total	225.0808	226.9154	mg/L	1	10	T

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: WCAt/23160 **Analysis Method:** SM 2320B
Preparation Method: SM 2320B
Associated Lab IDs: T2316486014, T2316486015, T2316486017, T2316486019, T2316486021, T2316486023, T2316486024

Method Blank(4928224)

Parameter	Results	Units	PQL	MDL	Lab
Alkalinity, Total	5.0 U	mg/L	20	5.0	T

Lab Control Sample (4928225)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Alkalinity, Total	mg/L	100	98	98	85 - 115	T

Sample Duplicate (4928226); Original (T2316486014); Parent Lab Sample (T2316486014, T2316486015, T2316486017, T2316486019, T2316486021, T2316486023, T2316486024)

Parameter	Original	Duplicate	Units	RPD	RPD Limit	Lab
Alkalinity, Total	284.4504	285.3025	mg/L	0	10	T

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: WCAt/23204 **Analysis Method:** SM 2540 C
Preparation Method: SM 2540 C
Associated Lab IDs: T2316486001, T2316486002, T2316486003, T2316486004, T2316486005, T2316486006, T2316486007, T2316486008, T2316486009

Method Blank(4931061)

Parameter	Results	Units	PQL	MDL	Lab
Total Dissolved Solids	10 U	mg/L	10	10	T

Lab Control Sample (4931062)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Total Dissolved Solids	mg/L	660	660	100	85 - 115	T

Sample Duplicate (4931063); Original (T2316286009); Parent Lab Sample (T2316486001, T2316486002, T2316486003, T2316486004, T2316486005, T2316486006, T2316486007, T2316486008, T2316486009)

Parameter	Original	Duplicate	Units	RPD	RPD Limit	Lab
Total Dissolved Solids	808	760	mg/L	6	10	T

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: WCAt/23209 **Analysis Method:** SM 2540 C
Preparation Method: SM 2540 C
Associated Lab IDs: T2316486010, T2316486011, T2316486012, T2316486013, T2316486014, T2316486015

Method Blank(4931116)

Parameter	Results	Units	PQL	MDL	Lab
Total Dissolved Solids	10 U	mg/L	10	10	T

Lab Control Sample (4931117)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Total Dissolved Solids	mg/L	660	690	105	85 - 115	T

Sample Duplicate (4931118); Original (T2316486010); Parent Lab Sample (T2316486010, T2316486011, T2316486012, T2316486013, T2316486014, T2316486015)

Parameter	Original	Duplicate	Units	RPD	RPD Limit	Lab
Total Dissolved Solids	2526	2522	mg/L	0	10	T

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: WCAt/23246 **Analysis Method:** SM 2540 C
Preparation Method: SM 2540 C
Associated Lab IDs: T2316486016, T2316486017, T2316486018, T2316486019, T2316486020, T2316486021, T2316486022, T2316486023, T2316486024

Method Blank(4932120)

Parameter	Results	Units	PQL	MDL	Lab
Total Dissolved Solids	10 U	mg/L	10	10	T

Lab Control Sample (4932121)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Total Dissolved Solids	mg/L	660	710	108	85 - 115	T

Sample Duplicate (4932122); Original (T2316620001); Parent Lab Sample (T2316486016, T2316486017, T2316486018, T2316486019, T2316486020, T2316486021, T2316486022, T2316486023, T2316486024)

Parameter	Original	Duplicate	Units	RPD	RPD Limit	Lab
Total Dissolved Solids	258	254	mg/L	2	10	T

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: WCAt/23545 **Analysis Method:** EPA 300.0
Preparation Method: EPA 300.0
Associated Lab IDs: T2316486016, T2316486017, T2316486018, T2316486019, T2316486020, T2316486021, T2316486022, T2316486023, T2316486024

Method Blank(4948773)

Parameter	Results	Units	PQL	MDL	Lab
Fluoride	0.20 U	mg/L	0.50	0.20	T
Chloride	1.0 U	mg/L	5.0	1.0	T
Sulfate	1.0 U	mg/L	5.0	1.0	T

Lab Control Sample (4948774)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Fluoride	mg/L	5	4.9	99	90 - 110	T
Chloride	mg/L	50	50	99	90 - 110	T
Sulfate	mg/L	50	51	101	90 - 110	T

Matrix Spike (4948775); Matrix Spike Duplicate (4948776); Original (T2316486017); Parent Lab Sample (T2316486017)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Fluoride	mg/L	2	1.8	92	90 - 110	1.8	92	1	10	T
Chloride	mg/L	20	25	104	90 - 110	25	103	0	10	T
Sulfate	mg/L	20	53	104	90 - 110	53	103	0	10	T

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: WCAt/23545 **Analysis Method:** EPA 300.0
Preparation Method: EPA 300.0
Associated Lab IDs: T2316486018, T2316486019, T2316486020, T2316486021, T2316486023, T2316486024

Matrix Spike (4948777); Matrix Spike Duplicate (4948778); Original (T2316486021); Parent Lab Sample (T2316486021)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Fluoride	mg/L	2	2	100	90 - 110	2	100	1	10	T
Chloride	mg/L	20	26	105	90 - 110	26	106	1	10	T
Sulfate	mg/L	20	66	105	90 - 110	66	106	0	10	T

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: WCAt/23554 **Analysis Method:** EPA 300.0
Preparation Method: EPA 300.0
Associated Lab IDs: T2316486001, T2316486002, T2316486003, T2316486004, T2316486005, T2316486006, T2316486007, T2316486008, T2316486009, T2316486010, T2316486011, T2316486012

Matrix Spike (4949200); Matrix Spike Duplicate (4949201); Original (T2316486001); Parent Lab Sample (T2316486001)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Fluoride	mg/L	2	2.1	104	90 - 110	2.1	106	2	10	T
Chloride	mg/L	20	25	106	90 - 110	25	106	0	10	T
Sulfate	mg/L	20	36	104	90 - 110	36	104	0	10	T

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: WCAt/23554 **Analysis Method:** EPA 300.0
Preparation Method: EPA 300.0
Associated Lab IDs: T2316486001, T2316486002, T2316486003, T2316486004, T2316486005, T2316486006, T2316486007, T2316486008, T2316486009, T2316486010, T2316486011, T2316486012, T2316486013, T2316486014

Method Blank(4949198)

Parameter	Results	Units	PQL	MDL	Lab
Fluoride	0.20 U	mg/L	0.50	0.20	T
Chloride	1.0 U	mg/L	5.0	1.0	T
Sulfate	1.0 U	mg/L	5.0	1.0	T

Lab Control Sample (4949199)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Fluoride	mg/L	5	5.4	108	90 - 110	T
Chloride	mg/L	50	50	99	90 - 110	T
Sulfate	mg/L	50	50	100	90 - 110	T

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: WCAt/23554 **Analysis Method:** EPA 300.0
Preparation Method: EPA 300.0
Associated Lab IDs: T2316486002, T2316486003, T2316486004, T2316486005, T2316486006, T2316486007, T2316486008, T2316486009, T2316486010, T2316486011, T2316486012, T2316486013, T2316486014

Matrix Spike (4949202); Matrix Spike Duplicate (4949203); Original (T2316486012); Parent Lab Sample (T2316486012)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Fluoride	mg/L	2	2	100	90 - 110	2	100	0	10	T
Chloride	mg/L	20	23	103	90 - 110	23	102	1	10	T
Sulfate	mg/L	20	48	100	90 - 110	47	98	1	10	T

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: WCAt/23555
Preparation Method: EPA 300.0
Associated Lab IDs: T2316486015
Analysis Method: EPA 300.0

Method Blank(4949204)

Parameter	Results	Units	PQL	MDL	Lab
Fluoride	0.20 U	mg/L	0.50	0.20	T
Chloride	1.0 U	mg/L	5.0	1.0	T
Sulfate	1.0 U	mg/L	5.0	1.0	T

Lab Control Sample (4949205)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Fluoride	mg/L	5	5.4	109	90 - 110	T
Chloride	mg/L	50	50	100	90 - 110	T
Sulfate	mg/L	50	51	101	90 - 110	T

Matrix Spike (4949206); Matrix Spike Duplicate (4949207); Original (T2316510003); Parent Lab Sample (T2316510003)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Fluoride	mg/L	2	2.2	110	90 - 110	2.2	109	1	10	T
Chloride	mg/L	20	32	**112**	90 - 110	31	107	3	10	T
Sulfate	mg/L	20	23	**115**	90 - 110	22	108	6	10	T

QC Result Comments

Matrix Spike - 4949206 - Chloride

J4|Estimated Result

Matrix Spike - 4949206 - Sulfate

J4|Estimated Result

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Workorder: 2023 CCR Event (T2316486)

QC Results

QC Batch: WCAt/23717
Preparation Method: EPA 300.0
Associated Lab IDs: T2316486010, T2316486011
Analysis Method: EPA 300.0

Method Blank(4960140)

Parameter	Results	Units	PQL	MDL	Lab
Sulfate	1.0 U	mg/L	5.0	1.0	T

Lab Control Sample (4960141)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Sulfate	mg/L	50	47	95	90 - 110	T

Matrix Spike (4960142); Matrix Spike Duplicate (4960143); Original (T2317473001); Parent Lab Sample (T2317473001)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Sulfate	mg/L	20	25	105	90 - 110	23	99	5	10	T

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Workorder: 2023 CCR Event (T2316486)

QC Cross Reference

Lab ID	Sample ID	Prep Batch	Prep Method
CVAt/2047 - SW-846 7470A			
T2316486001	CCR-2	DGMt/6576	SW-846 7470A
T2316486002	CCR-17	DGMt/6576	SW-846 7470A
T2316486003	CCR-16	DGMt/6576	SW-846 7470A
T2316486004	CCR-6	DGMt/6576	SW-846 7470A
T2316486005	CCR-8	DGMt/6576	SW-846 7470A
T2316486006	CCR-9	DGMt/6576	SW-846 7470A
T2316486007	CCR-20	DGMt/6576	SW-846 7470A
T2316486008	CCR-11	DGMt/6576	SW-846 7470A
T2316486009	CCR-23	DGMt/6576	SW-846 7470A
T2316486010	CCR-13	DGMt/6576	SW-846 7470A
T2316486011	CCR-22	DGMt/6576	SW-846 7470A
T2316486012	SW-106	DGMt/6576	SW-846 7470A
T2316486013	EQ BLANK	DGMt/6576	SW-846 7470A
T2316486014	CCR-21	DGMt/6576	SW-846 7470A
CVAt/2048 - SW-846 7470A			
T2316486015	CCR-12	DGMt/6577	SW-846 7470A
T2316486016	Fishlake	DGMt/6577	SW-846 7470A
T2316486017	CCR-15	DGMt/6577	SW-846 7470A
T2316486018	CCR-1	DGMt/6577	SW-846 7470A
T2316486019	CCR-19	DGMt/6577	SW-846 7470A
T2316486020	CCR-4	DGMt/6577	SW-846 7470A
T2316486021	CCR-7	DGMt/6577	SW-846 7470A
T2316486022	Lake D	DGMt/6577	SW-846 7470A
T2316486023	CCR-18	DGMt/6577	SW-846 7470A
T2316486024	CCR-5	DGMt/6577	SW-846 7470A

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Workorder: 2023 CCR Event (T2316486)

QC Cross Reference

Lab ID	Sample ID	Prep Batch	Prep Method
ICMj/3410 - SW-846 6020			
T2316486001	CCR-2	DGMj/6376	SW-846 3010A
T2316486002	CCR-17	DGMj/6376	SW-846 3010A
T2316486003	CCR-16	DGMj/6376	SW-846 3010A
T2316486004	CCR-6	DGMj/6376	SW-846 3010A
T2316486005	CCR-8	DGMj/6376	SW-846 3010A
T2316486006	CCR-9	DGMj/6376	SW-846 3010A
T2316486007	CCR-20	DGMj/6376	SW-846 3010A
T2316486008	CCR-11	DGMj/6376	SW-846 3010A
T2316486009	CCR-23	DGMj/6376	SW-846 3010A
T2316486010	CCR-13	DGMj/6376	SW-846 3010A
T2316486011	CCR-22	DGMj/6376	SW-846 3010A
T2316486012	SW-106	DGMj/6376	SW-846 3010A
T2316486013	EQ BLANK	DGMj/6376	SW-846 3010A
T2316486014	CCR-21	DGMj/6376	SW-846 3010A
T2316486015	CCR-12	DGMj/6376	SW-846 3010A
ICMj/3417 - SW-846 6020			
T2316486016	Fishlake	DGMj/6388	SW-846 3010A
T2316486017	CCR-15	DGMj/6388	SW-846 3010A
T2316486018	CCR-1	DGMj/6388	SW-846 3010A
T2316486019	CCR-19	DGMj/6388	SW-846 3010A
T2316486020	CCR-4	DGMj/6388	SW-846 3010A
T2316486022	Lake D	DGMj/6388	SW-846 3010A
T2316486023	CCR-18	DGMj/6388	SW-846 3010A
ICMj/3427 - SW-846 6020			
T2316486021	CCR-7	DGMj/6408	SW-846 3010A
T2316486024	CCR-5	DGMj/6408	SW-846 3010A

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Workorder: 2023 CCR Event (T2316486)

QC Cross Reference

Lab ID	Sample ID	Prep Batch	Prep Method
ICPj/2953 - SW-846 6010			
T2316486001	CCR-2	DGMj/6358	SW-846 3010A
T2316486002	CCR-17	DGMj/6358	SW-846 3010A
T2316486003	CCR-16	DGMj/6358	SW-846 3010A
T2316486004	CCR-6	DGMj/6358	SW-846 3010A
T2316486005	CCR-8	DGMj/6358	SW-846 3010A
T2316486006	CCR-9	DGMj/6358	SW-846 3010A
T2316486007	CCR-20	DGMj/6358	SW-846 3010A
T2316486008	CCR-11	DGMj/6358	SW-846 3010A
T2316486009	CCR-23	DGMj/6358	SW-846 3010A
T2316486010	CCR-13	DGMj/6358	SW-846 3010A
T2316486011	CCR-22	DGMj/6358	SW-846 3010A
T2316486012	SW-106	DGMj/6358	SW-846 3010A
T2316486013	EQ BLANK	DGMj/6358	SW-846 3010A
T2316486014	CCR-21	DGMj/6358	SW-846 3010A
T2316486015	CCR-12	DGMj/6358	SW-846 3010A
ICPj/2964 - SW-846 6010			
T2316486016	Fishlake	DGMj/6392	SW-846 3010A
T2316486017	CCR-15	DGMj/6392	SW-846 3010A
T2316486018	CCR-1	DGMj/6392	SW-846 3010A
T2316486019	CCR-19	DGMj/6392	SW-846 3010A
T2316486020	CCR-4	DGMj/6392	SW-846 3010A
T2316486021	CCR-7	DGMj/6392	SW-846 3010A
T2316486022	Lake D	DGMj/6392	SW-846 3010A
T2316486023	CCR-18	DGMj/6392	SW-846 3010A
T2316486024	CCR-5	DGMj/6392	SW-846 3010A

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Workorder: 2023 CCR Event (T2316486)

QC Cross Reference

Lab ID	Sample ID	Prep Batch	Prep Method
WCAt/23158 - SM 2320B			
T2316486002	CCR-17		
T2316486003	CCR-16		
T2316486004	CCR-6		
T2316486006	CCR-9		
T2316486007	CCR-20		
T2316486008	CCR-11		
T2316486009	CCR-23		
T2316486011	CCR-22		
T2316486012	SW-106		
T2316486013	EQ BLANK		
WCAt/23160 - SM 2320B			
T2316486014	CCR-21		
T2316486015	CCR-12		
T2316486017	CCR-15		
T2316486019	CCR-19		
T2316486021	CCR-7		
T2316486023	CCR-18		
T2316486024	CCR-5		
WCAt/23204 - SM 2540 C			
T2316486001	CCR-2		
T2316486002	CCR-17		
T2316486003	CCR-16		
T2316486004	CCR-6		
T2316486005	CCR-8		
T2316486006	CCR-9		
T2316486007	CCR-20		
T2316486008	CCR-11		
T2316486009	CCR-23		

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Payments: P.O. Box 551580 Jacksonville, FL 32255-1580
Phone: (813) 630-9616
Fax: (813) 630-4327

FINAL - REVISION

Workorder: 2023 CCR Event (T2316486)

QC Cross Reference

Lab ID	Sample ID	Prep Batch	Prep Method
WCAt/23209 - SM 2540 C			
T2316486010	CCR-13		
T2316486011	CCR-22		
T2316486012	SW-106		
T2316486013	EQ BLANK		
T2316486014	CCR-21		
T2316486015	CCR-12		
WCAt/23246 - SM 2540 C			
T2316486016	Fishlake		
T2316486017	CCR-15		
T2316486018	CCR-1		
T2316486019	CCR-19		
T2316486020	CCR-4		
T2316486021	CCR-7		
T2316486022	Lake D		
T2316486023	CCR-18		
T2316486024	CCR-5		
WCAt/23545 - EPA 300.0			
T2316486016	Fishlake		
T2316486017	CCR-15		
T2316486018	CCR-1		
T2316486019	CCR-19		
T2316486020	CCR-4		
T2316486021	CCR-7		
T2316486022	Lake D		
T2316486023	CCR-18		
T2316486024	CCR-5		

Certificate of Analysis

NELAP Accredited E84589

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FINAL - REVISION

Workorder: 2023 CCR Event (T2316486)

QC Cross Reference

Lab ID	Sample ID	Prep Batch	Prep Method
WCAt/23554 - EPA 300.0			
T2316486001	CCR-2		
T2316486002	CCR-17		
T2316486003	CCR-16		
T2316486004	CCR-6		
T2316486005	CCR-8		
T2316486006	CCR-9		
T2316486007	CCR-20		
T2316486008	CCR-11		
T2316486009	CCR-23		
T2316486010	CCR-13		
T2316486011	CCR-22		
T2316486012	SW-106		
T2316486013	EQ BLANK		
T2316486014	CCR-21		
WCAt/23555 - EPA 300.0			
T2316486015	CCR-12		
WCAt/23717 - EPA 300.0			
T2316486010	CCR-13		
T2316486011	CCR-22		

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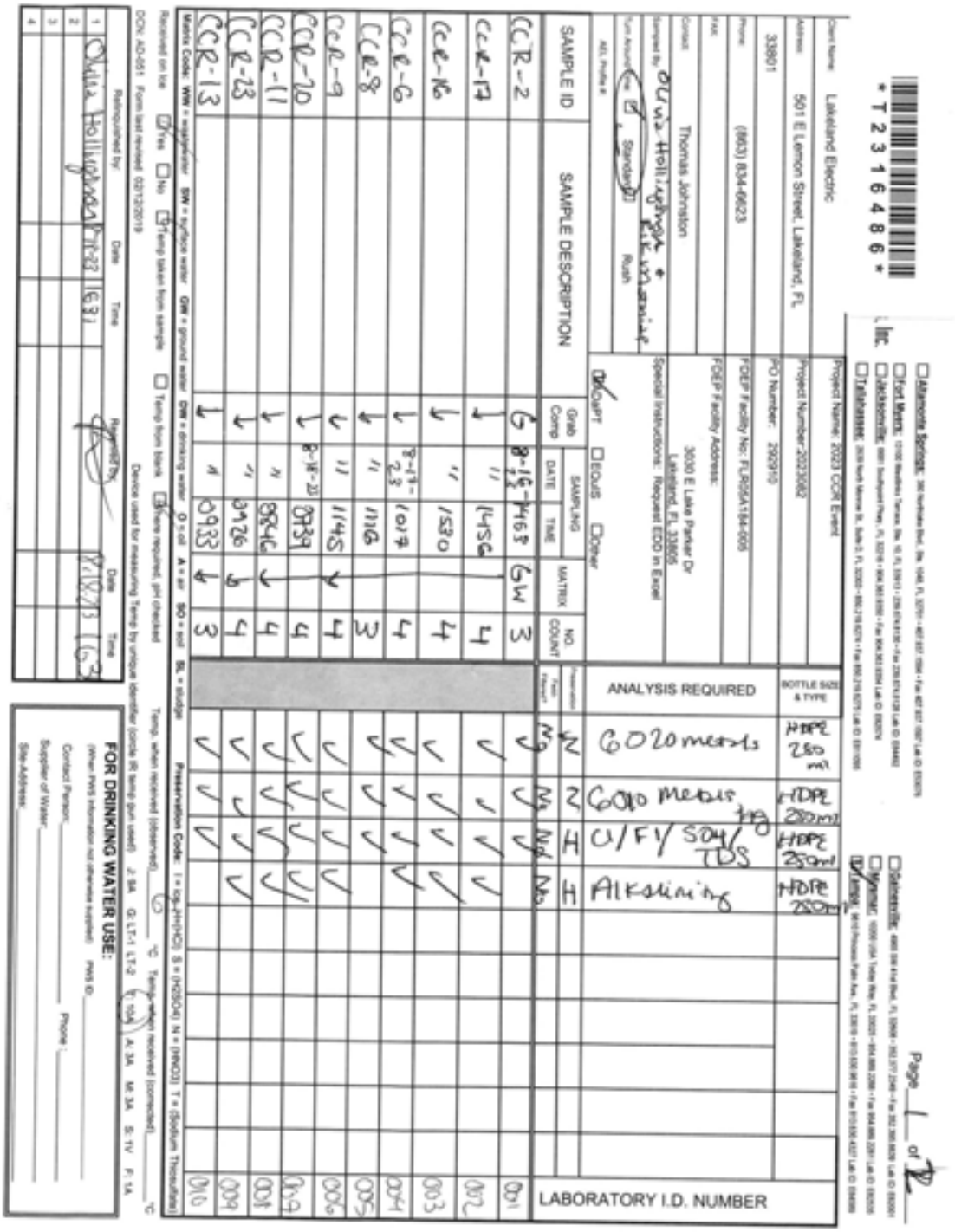
FINAL - REVISION

Workorder: 2023 CCR Event (T2316486)



Certificate of Analysis

POWERED BY HORIZON v.13.1.0

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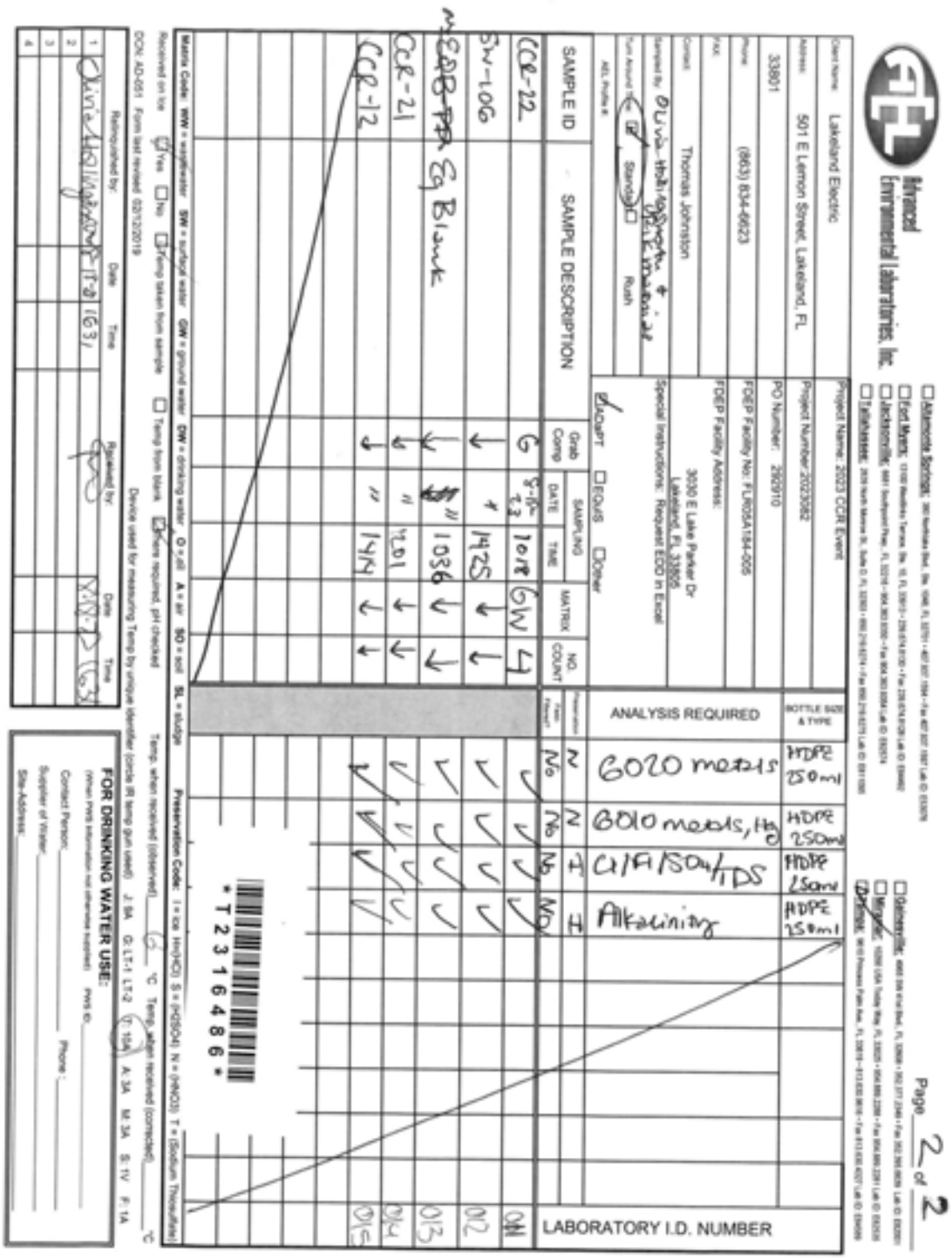
FINAL - REVISION

Workorder: 2023 CCR Event (T2316486)



Certificate of Analysis

NELAP Accredited E84589

Advanced Environmental Laboratories, Inc.

☐ **Altamonte Springs:** 380 Northlake Blvd., Ste. 1048, FL 32701 • 407.937.1594 • Fax 407.937.1597 Lab ID: E83076
☐ **Fort Myers:** 13100 Westlinks Terrace, Ste. 10, FL 33913 • 239.674.8130 • Fax 239.674.8128 Lab ID: E84402
☐ **Jacksonville:** 6681 Southpoint Pkwy., FL 32216 • 904.363.9350 • Fax 904.363.9354 Lab ID: E82574
☐ **Tallahassee:** 2639 North Monroe St., Suite D, FL 32303 • 850.219.6274 • Fax 850.219.6275 Lab ID: E81005
☐ **Gainesville:** 4965 SW 41st Blvd., FL 32608 • 352.377.2349 • Fax 352.395.6639 Lab ID: E82001
☐ **Miramar:** 10200 USA Today Way, FL 33025 • 954.889.2288 • Fax 954.889.2281 Lab ID: E82535
☐ **Tampa:** 9610 Princess Palm Ave., FL 33619 • 813.630.9616 • Fax 813.630.4327 Lab ID: E84589

Client Name: Lakeland Electric
Address: 501 E Lemon Street, Lakeland, FL 33801
Phone: (863) 834-6623
FAX:
Contact: Thomas Johnston
Sampled By: Olivia Hollingsworth + Tik Martinez
Turn Around Time: ☑ Standard ☐ Rush
AEL Profile #:

Project Name: 2023 CCR Event
Project Number: 2023082
PO Number: 292910
FDEP Facility No: FLR05A184-005
FDEP Facility Address: 3030 E Lake Parker Dr, Lakeland, FL 33805
Special Instructions: Request EDD in Excel
☑ ADaPT ☐ EQuIS ☐ Other

Bottle size & type: HDPE 250ml | HDPE 250ml | HDPE 250ml | HDPE 250ml

SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. COUNT	6020 metals (N, No)	6010 metals HG (N, No)	Cl/F1/SO4/TDS (I, No)	Alkalinity (I, No)	LABORATORY
Fishlake		G	8-21-23	0957	SW	3	✓	✓	✓		016 ~~001~~
Lake D		↓	↓	1030	SW	3	✓	✓	✓		022 ~~002~~
CCR-15		↓	↓	~~[illegible]~~ 1127	GW	4	✓	✓	✓	✓	017 ~~003~~
CCR-1		↓	↓	1343	↓	3	✓	✓	✓		018 ~~004~~
CCR-19		↓	↓	1406	↓	4	✓	✓	✓	✓	019 ~~005~~
CCR-4		↓	↓	1441	↓	3	✓	✓	✓		020 ~~006~~
CCR-18		↓	↓	1447	↓	4	✓	✓	✓	✓	023 ~~007~~
CCR-5		↓	8-22-23	1232	↓	4	✓	✓	✓	✓	024 ~~008~~
CCR-7		↓	↓	1341	↓	4	✓	✓	✓	✓	021 ~~009~~

T2316641 ~~6641~~ 6486

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SO = soil SL = sludge
Preservation Code: I = ice H=(HCl) S = (H2SO4) N = (HNO3) T = (Sodium Thiosulfate)

Received on Ice ☐ Yes ☐ No ☑ Temp taken from sample ☐ Temp from blank ☑ Where required, pH checked
Temp. when received (observed) UL °C Temp. when received (corrected) ____ °C
Device used for measuring Temp by unique identifier (circle IR temp gun used) J: 9A G: LT-1 LT-2 (T: 10A) A: 3A M: 3A S: 1V F: 1A

DCN: AD-051 Form last revised 02/12/2019

	Relinquished by:	Date	Time	Received by:	Date	Time
1	Olivia Hollingsworth	8-22-23	1603	Carol A. Woolwood	8/22/23	1603
2						
3						
4						

FOR DRINKING WATER USE:
(When PWS information not otherwise supplied) PWS ID: ____
Contact Person: ____ Phone: ____
Supplier of Water: ____
Site-Address: ____

Geosyntec consultants

180A Marketplace Blvd
Knoxville, TN 37922
PH 865.330.0037
www.geosyntec.com

Memorandum

Date: 20 November 2023

To: Thomas Johnston

From: Derek Yeadon

CC: K. Henderson

Subject: Stage 2A Data Validation - Level II Data Deliverable – Advanced Environmental Laboratories Work Order #T2316486

SITE: Lakeland 2023 CCR Event

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of twenty-three groundwater samples and one equipment blank, collected 16-18 and 21-22 August 2023, as part of the site investigation activities for the Lakeland 2023 CCR sampling event.

The samples were analyzed at Advanced Environmental Laboratories, Inc., Tampa, Florida, for the following analytical tests:

- Metals by United States Environmental Protection Agency (USEPA) Methods 3010A/6010
- Metals by USEPA Methods 3010A/6020
- Mercury by USEPA Method 7470A
- Total Dissolved Solids (TDS) by Standard Method (SM) 2540C
- Alkalinity by SM 2320B
- Anions (Chloride, Fluoride and Sulfate) by USEPA Method 300.0

EXECUTIVE SUMMARY

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data as qualified are usable for supporting project objectives, with the following exception.

The non-detect results of cobalt, selenium, cadmium, thallium and lead for sample CCR-5 were R qualified as rejected due to MS recoveries less than 30%.

The qualified data that were not rejected should be used within the limitations of the qualifications. If there are results with two or more different qualifications due to multiple QC

failures, the final qualification is reconciled in the electronic data deliverable (EDD) with qualifications.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment, and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, November 2020 (EPA 542-R-20-006); and
- American National Standard, Verification and Validation of Radiological Data for use in Waste Management and Environmental Remediation, February 15, 2012 (ANSI/ANS- 41.5-2012).

The following samples were analyzed and validated at a Stage 2A level in the data set:

Laboratory ID	Client ID
T2316486001	CCR-2
T2316486002	CCR-17
T2316486003	CCR-16
T2316486004	CCR-6
T2316486005	CCR-8
T2316486006	CCR-9
T2316486007	CCR-20
T2316486008	CCR-11
T2316486009	CCR-23
T2316486010	CCR-13
T2316486011	CCR-22
T2316486012	SW-106

Laboratory ID	Client ID
T2316486013	EQ BLANK
T2316486014	CCR-21
T2316486015	CCR-12
T2316486016	Fishlake
T2316486017	CCR-15
T2316486018	CCR-1
T2316486019	CCR-19
T2316486020	CCR-4
T2316486021	CCR-7
T2316486022	Lake D
T2316486023	CCR-18
T2316486024	CCR-5

The laboratory reported results for the analytical method(s) requested for each sample on the chains of custody (COCs).

Incorrect error corrections were observed on the COCs instead of the proper procedure of a single strike through, correction, and initials and date of person making the corrections.

The samples were received within 0-6 degrees Celsius (°C). No sample preservation issues were noted by the laboratory.

1.0 METALS

The samples were analyzed for metals by USEPA methods 3010A/6010D and USEPA methods

3005A/6020B. (Mercury was evaluated separately in Section 2.0, below).

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues

were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time
✓ Method Blank Matrix
⊗ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Equipment Blank
✓ Sensitivity
✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in this data set are considered usable for supporting project objectives, with the following exceptions. The non-detect results of cobalt, selenium, cadmium, thallium and lead for sample CCR-5 were R qualified as rejected due to MS recoveries less than 30%. Therefore,, the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this data set is 98.7%.

The laboratory noted silver and cadmium in a closing continuing calibration verification (CCV) exceeded the upper control criterion. The laboratory noted these metals were not detected in the associated samples; therefore, no qualifications were applied to the data.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Five method blanks were reported (batches ICMj/3410, ICMj/3417, ICMj/3427, ICPj/2953, and ICPj/2964. The metals were not detected in the method blanks at or above the method detection limit (MDL).

1.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two sample set specific MS/MSD pairs were reported, using samples CCR-2 and CCR-5. The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance criteria, with the following exceptions.

The recoveries of cobalt, arsenic, selenium, cadmium, thallium, and lead in the MS were less than 30% and the recoveries of cobalt and selenium in the MSD, using sample CCR-5 were low and outside the laboratory specified acceptance criteria. In addition, the RPDs for cobalt, arsenic, selenium, cadmium, thallium and lead were outside the laboratory specified acceptance criteria. Therefore, the estimated arsenic concentration for sample CCR-5 was J qualified as estimated and the non-detect results for cobalt, selenium, cadmium, thallium, and lead concentrations in sample CCR-5 were R qualified as rejected.

Three batch MS/MSD pairs were also reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
CCR-5	Arsenic	0.42	I	0.42	J	4
CCR-5	Selenium	1.2	NA	1.2	R	4
CCR-5	Cadmium	0.25	NA	0.25	R	4
CCR-5	Cobalt	0.25	NA	0.25	R	4
CCR-5	Thallium	0.25	NA	0.25	R	4
CCR-5	Lead	0.5	NA	0.5	R	4

mg/L-milligrams per liter
NA-Not applicable
UJ- Estimated not detected at or above the MDL

1.5 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Five LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

1.6 Equipment Blank

One equipment blank was collected with the sample set, EQ BLANK. Metals were not

detected in the equipment blank at or above the MDLs.

1.7 Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were reported due to dilutions analyzed.

1.8 Electronic Data Deliverable Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20%. The laboratory flags that were used in the level II report were not used in the EDD. No other discrepancies were identified between the level II report and the EDD.

2.0 MERCURY

The samples were analyzed for mercury by USEPA method 7470A.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Time
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Equipment Blank
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

2.1 Overall Assessment

The mercury data reported in this data set are considered usable for supporting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this data set is 100%.

2.2 Holding Time

The holding time for mercury analysis of a water sample is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported (batches CVAt/2047 and CVAt/2048). Mercury was not detected in the method blanks above the MDL.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pairs was reported, using sample CCR-12. The recovery and RPD results were within the laboratory specified acceptance criteria.

One batch MS/MSD pair was also reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

2.6 Equipment Blank

One equipment blank was collected with the sample set, EQ BLANK. Mercury was not detected in the equipment blank above the MDL.

2.7 Sensitivity

The samples were reported to the MDL. No elevated non-detect results were reported.

2.8 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

3.0 WET CHEMISTRY

The samples were analyzed for TDS by Standard method 2540C, alkalinity by Standard method 2320B, TDS by Standard method 2540C, and anions by USEPA method 300.0.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Time and Preservation
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicates
- ✓ Equipment Blank
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

3.1 Overall Assessment

The wet chemistry data reported in this data set are considered usable for supporting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for these analyses, for this data set is 100%.

The laboratory noted that due to low sample pH for sample CCR-16, the alkalinity of sample CCR-16 was undetected. No qualifications were applied to the data.

3.2 Holding Time & Preservation

The holding times for the wet chemistry parameters are listed below.

Analyte	Method	Holding Time
Anions	US EPA Method 300	28 days from collection to analysis
Alkalinity	SM 2320B	14 days from collection to analysis
TDS	SM 2540C	7 days from collection to analysis

The holding times were met for the sample analyses.

3.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three method blanks were reported for TDS (batches WCAt/23204, WCAt/23209, and WCAt/23246), two method blanks were reported for alkalinity (batches WCAt/23158 and WCAt/23160), and four method blanks were reported for anions (batches WCAt/23545, WCAt/23554, WCAt/23555, and WCAt/23717). The wet chemistry parameters were not detected in the method blanks above the MDLs.

3.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Four sample set specific MS/MSD pairs were reported for anions, using samples CCR-15, CCR-7, CCR-2, and SW-106. The recovery and RPD results were within the laboratory specified acceptance criteria.

MS/MSD pairs for TDS and alkalinity were not reported. Precision and accuracy were assessed using the sample/sample duplicate pairs listed in section 3.6 for TDS and alkalinity. No additional qualifications were applied to the data.

Two additional batch MS/MSD were reported for anions. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

3.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three LCSs were reported for TDS, two LCSs were reported for alkalinity, and four LCSs were reported for anions. The recovery results were within the laboratory specified acceptance criteria.

3.6 Laboratory Duplicates

Two sample set specific laboratory duplicates were reported for alkalinity (using samples CCR-17 and CCR-21) and one sample set specific laboratory duplicate was reported for TDS (using sample CCR-13). All RPDs were within the laboratory specified acceptance criteria.

Two batch duplicates were also reported for TDS. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

3.7 Equipment Blank

One equipment blank was collected with the sample set, EQ BLANK. The wet chemistry parameters were not detected in the equipment blank above the MDLs.

3.8 Sensitivity

The samples were reported to the MDLs for the anions and the RL for TDS. No elevated non- detect results were reported.

3.9 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

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* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

U The analyte was analyzed for but was not detected at or above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to "not detected at or above the reported result."

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.

J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.

UJ The analyte was not detected at or above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS or RPD recovery outside limits (LCS/LCSD)
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other
14	Lab flag removed or modified: no validation qualification required

LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample
duplicate RPD - Relative percent difference

Geosyntec Consultants
Water Quality Instrument Calibration Form

Project Site: Lakeland Electric Project #: FR8715F Field Personnel: Olivia Hollingsworth

Water Quality Meter - Model/Serial #: YSI Pro DSS / 626991 Turbidimeter - Model/Serial #: 2100Q / 21030D001064

Dissolved Oxygen (DEP SOP FT 1500) — Acceptance Criteria: +/- 0.3 mg/L

	Date	Time	Temp (°C)	Saturation (mg/L)[1]	Reading (mg/L)	Reading (%)	Pass or Fail
CAL (ICV) CCV	8-15-22	0749	29.4	7.63	7.63	100	(P) F
CAL ICV (CCV)	8-16-23	0805	29.4	7.63	7.64	100.1	(P) F
CAL ICV (CCV)	8-18-22	0813	27.8	7.85	7.84	100.0	(P) F
CAL ICV CCV							P F

Specific Conductance (DEP SOP FT 1200) — Acceptance Criteria: +/- 5%

	Date	Time	Standard (mS/cm)	Standard Lot #	Standard Exp. Date	Reading (mS/cm)	Pass or Fail
CAL (ICV) CCV	8-15-23	0755	1.408	4207892	6/24	1.410	(P) F
CAL ICV (CCV)	8-16-23	0816	1.408	4207892	6/24	1.408	(P) F
CAL ICV (CCV)	8-18-23	0820	1.408	4207891	6/24	1.408	(P) F
CAL ICV CCV							P F

pH (DEP SOP FT 1100) — Acceptance Criteria: +/- 0.2 SU

	Date	Time	Standard (SU)	Standard Lot #	Standard Exp. Date	Reading (SU)	Pass or Fail
CAL (ICV) CCV	8-15-23	0801	4.00	222455	5/24	3.99	(P) F
CAL (ICV) CCV	"	0806	7.00	225423	11/24	6.99	(P) F
CAL (ICV) CCV	"	0812	10.00	222369	10/24	10.00	(P) F
CAL ICV (CCV)	8-16-23	0822	4.00	222455	5/24	4.00	(P) F
CAL ICV (CCV)	"	0827	7.00	225423	11/24	7.00	(P) F
CAL ICV (CCV)	"	0832	10.00	222368	10/24	10.00	(P) F
CAL ICV (CCV)	8-18-22	0827	4.00	222455	5/24	4.02	(P) F
CAL ICV (CCV)	"	0830	7.00	225427	11/24	6.99	(P) F
CAL ICV (CCV)	"	0833	10.00	222369	10/24	10.04	(P) F

ORP (SOP NA) — Geosyntec Acceptance Criteria: +/- 5%

	Date	Time	Std mV @ Temp °C	Standard Lot #	Standard Exp. Date	Reading (mV)	Pass or Fail
CAL ICV CCV							P F
CAL ICV CCV							P F
CAL ICV CCV							P F

Specific Conductance Probe Cleaned? Yes (No) Dissolved Oxygen membrane Changed? Yes (No)

Turbidity

0.1 - 10 NTU, Std 10 NTU — Acceptance Criteria: +/- 10%

	Date	Reading (NTU)	Pass or Fail
CAL (ICV) CCV	8-15-22	9.74	(P) F
CAL ICV (CCV)	8-16-23	10.1	(P) F
CAL ICV (CCV)	8-18-22	9.80	(P) F
CAL ICV CCV			P F

11 - 40 NTU, Std 20 NTU — Acceptance Criteria: +/- 8%

	Date	Reading (NTU)	Pass or Fail
CAL (ICV) CCV	8-15-23	20.4	(P) F
CAL ICV (CCV)	8-16-23	20.2	(P) F
CAL ICV (CCV)	8-18-22	20.8	(P) F
CAL ICV CCV			P F

41 - 100 NTU, Std 100 NTU — Acceptance Criteria: +/- 6.5%

	Date	Reading (NTU)	Pass or Fail
CAL (ICV) CCV	8-15-22	105	(P) F
CAL ICV (CCV)	8-16-23	105	(P) F
CAL ICV (CCV)	8-18-22	101	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

> 100 NTU, Std 800 NTU — Acceptance Criteria: +/- 5%

	Date	Reading (NTU)	Pass or Fail
CAL (ICV) CCV	8-15-22	790	(P) F
CAL ICV (CCV)	8-16-23	810	(P) F
CAL ICV (CCV)	8-18-22	795	(P) F

1. See Table FS 2200-2 on the back of this form

CAL - Initial Calibration

ICV - Initial Calibration Verification

CCV - Continuing Calibration Verification

Comments:

[illegible]

Geosyntec

Geosyntec Consultants
Water Quality Instrument Calibration Form

Project/Site: Lakeland Electric Project #: FR3715F Field Personnel: Olivia Hollingsworth

Water Quality Meter - Model/Serial #: YSI Pro DSS / 626991 Turbidimeter - Model/Serial #: 2100Q/21030D00[illegible]

Dissolved Oxygen (DEP SOP FT 1500)

Acceptance Criteria +/-0.3mg/L

Check	Date	Time	Temp (°C)	Saturation (mg/L)[1]	Reading (mg/L)	Reading (%)	Pass or Fail
CAL ICV CCV (CCV circled)	8-18-23	1444	28.5	7.76	7.58	97.7	P (circled) F
CAL ICV CCV (CCV circled)	8-21-23	0803	29.9	7.84	7.85	99.9	P (circled) F
CAL ICV CCV (CCV circled)	8-22-23	0954	29.1	7.67	7.66	99.9	P (circled) F
CAL ICV CCV							P F

Specific Conductance (DEP SOP FT 1200)

Acceptance Criteria +/-5%

Check	Date	Time	Standard (mS/cm)	Standard Lot #	Standard Exp. Date	Reading (mS/cm)	Pass or Fail
CAL ICV CCV (CCV circled)	8-18-23	1409	1.408	4209892	6/24	1.477	P (circled) F
CAL ICV CCV (CCV circled)	8-21-23	0907	1.408	4209892	6/24	1.408	P (circled) F
CAL ICV CCV (CCV circled)	8-22-23	1000	1.408	4209892	6/24	1.409	P (circled) F
CAL ICV CCV							P F

pH (DEP SOP FT 1100)

Acceptance Criteria +/-0.2 SU

Check	Date	Time	Standard (SU)	Standard Lot #	Standard Exp. Date	Reading (SU)	Pass or Fail
CAL ICV CCV (CCV circled)	8-18-23	1453	4.00	222455	5/24	4.07	P (circled) F
CAL ICV CCV (CCV circled)	"	1456	7.00	225423	11/24	7.00	P (circled) F
CAL ICV CCV (CCV circled)	"	1459	10.00	222368	10/24	10.00	P (circled) F
CAL ICV CCV (CCV circled)	8-21-23	0810	4.00	222455	5/24	4.01	P (circled) F
CAL ICV CCV (CCV circled)	"	0817	7.00	225423	11/24	6.99	P (circled) F
CAL ICV CCV (CCV circled)	"	0821	10.00	222368	10/24	10.00	P (circled) F
CAL ICV CCV (CCV circled)	8-22-23	1006	4.00	222455	5/24	4.01	P (circled) F
CAL ICV CCV (CCV circled)	"	1013	7.00	225423	11/24	7.00	P (circled) F
CAL ICV CCV (CCV circled)	"	1018	10.00	222368	10/24	10.00	P (circled) F

ORP (SOP N/A)

Geosyntec Acceptance Criteria +/-5%

Check	Date	Time	Std. mV @ Temp °C	Standard Lot #	Standard Exp. Date	Reading (mV)	Pass or Fail
CAL ICV CCV							P F
CAL ICV CCV							P F
CAL ICV CCV							P F

Specific Conductance Probe Cleaned? Yes No (No circled) Disolved Oxygen membrane Changed? Yes No (No circled)

Turbidity

0.1 - 10 NTU, Std 10 NTU — Acceptance Criteria +/-10%

Check	Date	Reading (NTU)	Pass or Fail
CAL ICV CCV (CCV circled)	8-18-23	9.89	P (circled) F
CAL ICV CCV (CCV circled)	8-21-23	9.84	P (circled) F
CAL ICV CCV (CCV circled)	8-22-23	10.1	P (circled) F
CAL ICV CCV			P F

11 - 40 NTU, Std 20 NTU — Acceptance Criteria +/-8%

Check	Date	Reading (NTU)	Pass or Fail
CAL ICV CCV (CCV circled)	8-18-23	21.0	P (circled) F
CAL ICV CCV (CCV circled)	8-21-23	20.3	P (circled) F
CAL ICV CCV (CCV circled)	8-22-23	21.2	P (circled) F
CAL ICV CCV			P F

41 - 100 NTU, Std 100 NTU — Acceptance Criteria +/-6.5%

Check	Date	Reading (NTU)	Pass or Fail
CAL ICV CCV (CCV circled)	8-18-23	102	P (circled) F
CAL ICV CCV (CCV circled)	8-21-23	101	P (circled) F
CAL ICV CCV (CCV circled)	8-22-23	98.6	P (circled) F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

>100 NTU, Std 800 NTU — Acceptance Criteria +/-5%

Check	Date	Reading (NTU)	Pass or Fail
CAL ICV CCV (CCV circled)	8-18-23	796	P (circled) F
CAL ICV CCV (CCV circled)	8-21-23	789	P (circled) F
CAL ICV CCV (CCV circled)	8-22-23	801	P (circled) F

1. See Table FS 1200-3 on the back of this form

CAL - Initial Calibration

ICV - Initial Calibration Verification

CCV - Continuing Calibration Verification

Comments:

[illegible fine-print instructions on calibration of dissolved oxygen, specific conductance and pH]

Geosyntec consultants

Geosyntec Consultants
Water Quality Instrument Calibration Form

Project/Site: Lakeland Electric Project #: FR3716F Field Personnel: Olivia Hollingsworth

Water Quality Meter - Model/Serial #: YSI Pro-DSS/626991 Turbidimeter - Model/Serial #: 2100 Q/21080D00064

Dissolved Oxygen	DEP SOP FT 1500	Date	Time	Temp (°C)	Saturation (mg/L)[1]	Reading (mg/L)	Reading (%)	Pass or Fail
						Acceptance Criteria +/- 0.3mg/L		
CAL ICV (CCV)		8-22-22	1400	21.5	8.35	7.73?	94.5?	(P) F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

Specific Conductance	DEP SOP FT 1200	Date	Time	Standard (mS/cm)	Standard Lot #	Standard Exp. Date	Reading (mS/cm)	Pass or Fail
						Acceptance Criteria +/- 5%		
CAL ICV (CCV)		8-22-22	1405	1.408	4284792?	6/24	1.437?	(P) F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

pH	DEP SOP FT 1100	Date	Time	Standard (SU)	Standard Lot #	Standard Exp. Date	Reading (SU)	Pass or Fail
						Acceptance Criteria +/- 0.2 SU		
CAL ICV (CCV)		8-22-22	1409	4.00	222455	5/24	4.05	(P) F
CAL ICV (CCV)		"	1414	7.00	225428	11/24	6.92	(P) F
CAL ICV (CCV)		"	1418	10.00	222368	10/24	9.99	(P) F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

ORP	SOP NA	Date	Time	Std. mV @ Temp °C	Standard Lot #	Standard Exp. Date	Reading (mV)	Pass or Fail
						Geosyntec Acceptance Criteria +/- 5%		
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

Specific Conductance Probe Cleaned? Yes (No) Disolved Oxygen membrane Changed? Yes (No)

0 - 10 NTU Std 10 NTU	Date	Reading (NTU)	Pass or Fail
		Acceptance Criteria +/- 10%	
CAL ICV (CCV)	8-22-22	10.7	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

11 - 40 NTU Std ___ NTU	Date	Reading (NTU)	Pass or Fail
		Acceptance Criteria +/- 8%	
CAL ICV (CCV)	8-22-22	20.2?	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

41 - 100 NTU Std ___ NTU	Date	Reading (NTU)	Pass or Fail
		Acceptance Criteria +/- 6.5%	
CAL ICV (CCV)	8-22-22	98.1	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

>100 NTU Std ___ NTU	Date	Reading (NTU)	Pass or Fail
		Acceptance Criteria +/- 5%	
CAL ICV (CCV)	8-22-22	791	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F

1. See Table FS 2700-3 on the back of this form

CAL - Initial Calibration

ICV - Initial Calibration Verification

CCV - Continuing Calibration Verification

Comments:

Allow adequate time for the dissolved oxygen sensor to equilibrate during air calibration

Calibrate specific conductance using at least two standards that bracket the range of expected sample readings (unless readings < 0.1 mS/cm then one standard of 0.1 mS/cm is acceptable)

Calibrate pH using at least two standards (typ. pH 4 and 7) that bracket the range of expected sample readings; always start with pH 7; add a third calibration point if needed (i.e. pH > 7)

If parameter fails to calibrate within SOP acceptance criteria then append sample results with a "J" qualifier

Geosyntec consultants

Geosyntec Consultants
Water Quality Instrument Calibration Form

Project/Site: LAKELAND ELECTRIC   Project #: FR3715F   Field Personnel: RIK MATHIAS

Water Quality Meter - Model/Serial #: YSI 556   11J 102402

Turbidity meter - Model/Serial #: HACH 2100Q   20070D000050

Dissolved Oxygen	DEP SOP FT 1500	Date	Time	Temp (°C)	Saturation (mg/L)	Reading (mg/L)	Reading (%)	Pass or Fail
						Acceptance Criteria: +/- 0.3 mg/L		
CAL (ICV) CCV		8-15-23	0750	27.13	7.954	8.02	100.2	(P) F
CAL ICV (CCV)		8-16-23	0715	26.91	7.983	8.06	101.0	(P) F
CAL ICV (CCV)		8-17-23	0715	26.68	8.026	8.03	100.2	(P) F
CAL ICV CCV								P F

Specific Conductance	DEP SOP FT 1200	Date	Time	Standard (mS/cm)	Standard Lot #	Standard Exp. Date	Reading (mS/cm)	Pass or Fail
						Acceptance Criteria: +/- 5%		
CAL (ICV) CCV		8-15-23	0755	1.413	3GF0022	06/24	1413	(P) F
CAL ICV (CCV)		8-16-23	0720	"	"	"	1411	(P) F
CAL ICV (CCV)		8-17-23	0719	"	"	"	1412	(P) F
CAL ICV CCV								P F

pH	DEP SOP FT 1100	Date	Time	Standard (SU)	Standard Lot #	Standard Exp. Date	Reading (SU)	Pass or Fail
						Acceptance Criteria: +/- 0.2 SU		
CAL (ICV) CCV		8-15-23	0800	7.00	3GE1252	05/25	7.00	(P) F
CAL (ICV) CCV		|	0805	4.00	3GE1094	05/25	4.02	(P) F
CAL (ICV) CCV		|	0810	10.00	3GE0915	05/25	10.00	(P) F
CAL ICV (CCV)		8-16-23	0725	7.00	3GE1252	05/25	7.02	(P) F
CAL ICV (CCV)		8-17-23	0725	7.00	3GE1252	05/25	7.01	(P) F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

ORP	SOP N/A	Date	Time	Std. mV @ Temp °C	Standard Lot #	Standard Exp. Date	Reading (mV)	Pass or Fail
						Geosyntec Acceptance Criteria: +/- 5%		
CAL (ICV) CCV		8-15-23	0815	240.0	3GG0605	04/24	240.0	(P) F
CAL ICV (CCV)		8-16-23	0728	"	"	"	239.7	(P) F
CAL ICV (CCV)		8-17-23	0730	"	"	"	238.9	(P) F

Specific Conductance Probe Cleaned? Yes No   Disolved Oxygen membrane Changed? Yes No

0.1 - 10 NTU Std 10 NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria: +/- 10%		
CAL (ICV) CCV	8-15-23	9.97	(P) F
CAL ICV (CCV)	8-16-23	10.00	(P) F
CAL ICV (CCV)	8-17-23	9.95	(P) F
CAL ICV CCV			P F

11 - 40 NTU Std 20 NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria: +/- 8%		
CAL (ICV) CCV	8-15-23	19.9	(P) F
CAL ICV (CCV)	8-16-23	19.8	(P) F
CAL ICV (CCV)	8-17-23	20.0	(P) F
CAL ICV CCV			P F

41 - 100 NTU Std 100 NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria: +/- 6.5%		
CAL (ICV) CCV	8-15-23	105	(P) F
CAL ICV (CCV)	8-16-23	103	(P) F
CAL ICV (CCV)	8-17-23	101	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

>100 NTU Std 800 NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria: +/- 5%		
CAL (ICV) CCV	8-15-23	793	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F

1 See Table FS 2000-3 on the back of this form

CAL - Initial Calibration

ICV - Initial Calibration Verification

CCV - Continuing Calibration Verification

Allow adequate time for the dissolved oxygen sensor to equilibrate during air calibration [illegible]

Calibrate specific conductance using [illegible]

Calibrate pH using [illegible]

[illegible]

Comments:

Geosyntec[D]

consultants

(cont.)

Geosyntec Consultants
Water Quality Instrument Calibration Form

Project/Site: LAKELAND ELECTRIC Project #: FR3715F Field Personnel: RIK MATHIAS

Water Quality Meter - Model/Serial #: YSI 556 11J102402 Turbidimeter - Model/Serial #: HACH 2100Q 20070D000052/+

Dissolved Oxygen	DEP SOP FT 1500	Date	Time	Temp (°C)	Saturation (mg/L)	Reading (mg/L)	Reading (%)	Pass or Fail
						Acceptance Criteria +/- 0.2mg/L		
CAL ICV (CCV)		8-18-23	0705	23.57	8.498	8.43	99.4	P F
CAL ICV (CCV)		"	1458	26.14	8.099	8.16	100.9	P F
CAL ICV (CCV)		8-21-23	0724	28.36	7.786	7.80	100.2	P F
CAL ICV (CCV)		8-22-23	1140	27.33	7.926	8.09	100.3	P F

Specific Conductance	DEP SOP FT 1200	Date	Time	Standard (mS/cm)	Standard Lot #	Standard Exp. Date	Reading (mS/cm)	Pass or Fail
						Acceptance Criteria +/- 5%		
CAL ICV (CCV)		8-18-23	6710	1.413	36F0022	06/24	1414	P F
CAL ICV (CCV)		"	1509	"	"	"	1416	P F
CAL ICV (CCV)		8-21-23	0728	1.413	36F0022	06/24	1415	P F
CAL ICV (CCV)		8-22-23	1144	"	"	"	1417	P F

pH	DEP SOP FT 1100	Date	Time	Standard (SU)	Standard Lot #	Standard Exp. Date	Reading (SU)	Pass or Fail
						Acceptance Criteria +/- 0.2 SU		
CAL ICV (CCV)		8-18-23	0715	7.00	36E1252	05/25	6.97	P F
CAL ICV (CCV)		"	1506	"	"	"	6.99	P F
CAL ICV (CCV)		8-21-23	0734	7.00	36E1252	05/25	6.98	P F
CAL ICV (CCV)		8-22-23	1149	"	"	"	6.97	P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

ORP	SOP NA	Date	Time	Std. mV @ Temp °C	Standard Lot #	Standard Exp. Date	Reading (mV)	Pass or Fail
						Geosyntec Acceptance Criteria +/- 5%		
CAL ICV (CCV)		8-18-23	0719	240.0	36G0605	04/24	241.3	P F
CAL ICV (CCV)		"	1509	"	"	"	240.9	P F
CAL ICV (CCV)		8-21-23		"	"	"	238.9	P F
							238.4	P

Specific Conductance Probe Cleaned? Yes No Dissolved Oxygen membrane Changed? Yes No

0.1 - 10 NTU Std 10 NTU	Date	Reading (NTU)	Pass or Fail
		Acceptance Criteria +/- 10%	
CAL ICV (CCV)	8-18-23	9.95	P F
CAL ICV (CCV)	"	9.97	P F
CAL ICV (CCV)	8-21-23	9.95	P F
CAL ICV (CCV)	8-22-23	9.98	P F

11 - 40 NTU Std 20 NTU	Date	Reading (NTU)	Pass or Fail
		Acceptance Criteria +/- 5%	
CAL ICV (CCV)	8-18-23	19.97	P F
CAL ICV (CCV)	"	20.04	P F
CAL ICV (CCV)	8-21-23	20.3	P F
CAL ICV (CCV)	8-22-23	20.1	P F

41 - 100 NTU Std 100 NTU	Date	Reading (NTU)	Pass or Fail
		Acceptance Criteria +/- 5.5%	
CAL ICV (CCV)	8-18-23	102	P F
CAL ICV (CCV)	"	104	P F
CAL ICV (CCV)	8-21-23	103	P F
CAL ICV (CCV)	8-22-23	102	P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

>100 NTU Std ____ NTU	Date	Reading (NTU)	Pass or Fail
		Acceptance Criteria +/- 5%	
CAL ICV CCV	8-21-23	790	P F
CAL ICV CCV			P F
CAL ICV CCV			P F

1. See Table FS 2200-3 on the back of the form

CAL - Initial Calibration

ICV - Initial Calibration Verification

CCV - Continuing Calibration Verification

Allow adequate time for the dissolved oxygen (DO) to equilibrate during calibration

Calibrate specific conductance using at least one standard that bracket the range of expected sample readings (unless readings < 0.1 mS/cm, then one standard of 0.1 mS/cm is acceptable

Calibrate pH using at least two standards (pH 7 and pH 4 or pH 10) that bracket the range of expected sample readings (always start with pH 7 and then calibrate pH 4 or pH 10 as needed)

If unable to calibrate within SOP acceptance criteria then record sample results with a "J" qualifier

Comments: \

Geosyntec

WQ Cal Form (Version 2)

8/1/2016

"Post Check"

Geosyntec Consultants
Water Quality Instrument Calibration Form

Project/Site: LAKELAND ELECTRIC Project #: FR3715F Field Personnel: RIK MATHIAS

Water Quality Meter - Model/Serial #: YSI 556 11J102402 Turbidimeter - Model/Serial #: HACH 2100Q 20070D000050

Dissolved Oxygen	DEP SOP FT 1500	Date	Time	Temp (°C)	Saturation (mg/L)[1]	Reading (mg/L)	Reading (%)	Pass or Fail
						Acceptance Criteria: ±0.3 mg/L		
CAL ICV (CCV)		8-22-23	1245	30.22	7.533	7.61	100.3	(P) F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

Specific Conductance	DEP SOP FT 1200	Date	Time	Standard (mS/cm)	Standard Lot #	Standard Exp. Date	Reading (mS/cm)	Pass or Fail
						Acceptance Criteria: ±5%		
CAL ICV (CCV)		8-22-23	1249	1.413	36F0022	06/24	1.416	(P) F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

pH	DEP SOP FT 1100	Date	Time	Standard (SU)	Standard Lot #	Standard Exp. Date	Reading (SU)	Pass or Fail
						Acceptance Criteria: ±0.2 SU		
CAL ICV (CCV)		8-22-23	1253	7.00	36E1252	05/25	6.97	(P) F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

ORP	SOP N/A	Date	Time	Std. mV @ Temp °C	Standard Lot #	Standard Exp. Date	Reading (mV)	Pass or Fail
						Geosyntec Acceptance Criteria: ±5%		
CAL ICV (CCV)		8-22-23	1257	240.0	36G0605	04/24	238.6	(P) F
CAL ICV CCV								P F
CAL ICV CCV								P F

Specific Conductance Probe Cleaned? Yes No Disolved Oxygen membrane Changed? Yes No

0.1 - 10 NTU Std 10 NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria: ±10%		
CAL ICV (CCV)	8-22-23	9.97	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

11 - 40 NTU Std 20 NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria: ±8%		
CAL ICV (CCV)	8-22-23	20.0	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

41 - 100 NTU Std 100 NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria: ±6.5%		
CAL ICV (CCV)	8-22-23	103	(P) F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

>100 NTU Std ___ NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria: ±5%		
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

1 See Table FS 2200-2 on the back of this form
CAL - Initial Calibration
ICV - Initial Calibration Verification
CCV - Continuing Calibration Verification
Allow adequate time for the dissolved oxygen sensor to equilibrate during air calibration
Calibrate specific conductance using at least two standards that bracket the range of expected sample readings, unless readings < 0.1 mS/cm then one standard of 0.1 mS/cm is acceptable
Calibrate pH using at least two standards (e.g. pH 4 and 7) that bracket the range of expected sample readings; always start with pH 7 and a third standard if needed (e.g. pH 10)
If parameter fails to calibrate within SOP acceptance criteria then append sample results with a "J" qualifier

Comments: ______

Geosyntec[D] consultants

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC

3901 Coconut Palm Dr. Ste 107
Tampa, FL 33619
Direct: 813-620-1401

Pine Environmental Services, Inc.

Instrument ID 18925
Description YSI 556
Calibrated 8/10/2023 1:55:05 PM

Manufacturer YSI
Model Number 556
Serial Number/ Lot Number 11H102402
Location Florida
Department

State Certified
Status Pass
Temp °C 22
Humidity % 59

Calibration Specifications

Group # 1
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Left As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.18	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	PH	4.07	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	9.93	10.00	0.00%	Pass

Group # 2
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.000

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Left As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.462	1.413	0.00%	Pass

Group # 3
Group Name Redox (ORP)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.0

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Left As	Dev%	Pass/Fail
240.0 / 240.0	mv	240.0	mv	222.3	240.0	0.00%	Pass

Group # 4
Group Name Dissolved Oxygen
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.0

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Left As	Dev%	Pass/Fail
100.0 / 100.0	%	100.0	%	81.2	100.0	0.00%	Pass

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
3901 Coconut Palm Dr. Ste 107
Tampa, FL 33619
Direct 813-620-1001

Pine Environmental Services, Inc.

Instrument ID 48640
Description HACH 2100Q Turbidity meter
Calibrated 8/11/2023 8:39:46AM

Manufacturer HACH
Model Number 2100Q
Serial Number/ Lot Number 20070I000050
Location Florida
Department

State Certified
Status Pass
Temp °C 21
Humidity % 58

Calibration Specifications

Group # 1
Group Name Turbidity
Stated Accy Pct of Reading

Range Acc % 0.0000
Reading Acc % 10.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
10.00 / 10.00	NTU	10.00	NTU	11.90	9.37	-6.30%	Pass
20.00 / 20.00	NTU	20.00	NTU	24.80	20.00	0.00%	Pass
100.00 / 100.00	NTU	100.00	NTU	111.00	100.00	0.00%	Pass
800.00 / 800.00	NTU	800.00	NTU	832.00	800.00	0.00%	Pass

Test Instruments Used During the Calibration

(As Of Cal Entry Date)

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
FL HACH 100NTU	100 NTU Turbidity Standard	HACH	2684901	A3038		5/31/2024
FL HACH 10NTU	10 NTU Turbidity Standard	HACH	2961801	A3051		5/31/2024
FL HACH 20NTU	20 NTU Turbidity Standard	HACH	2684801	A3037		5/31/2024
FL HACH 800NTU	800 NTU Turbidity Standard	HACH	2660501	A3048		5/31/2024

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Evan McClenchan

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-1	SAMPLE ID: CCR-1	DATE: 8-21-23

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 18 feet to 28 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 8.90	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0014 gallons/foot X 30 feet) + 0.1 gallons = 0.426 gallons (x3)

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~23.7	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~23.7	PURGING INITIATED AT: 1331	PURGING ENDED AT: 1343	TOTAL VOLUME PURGED (gallons): 0.72

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1339	0.48	0.48	0.06	8.93	5.25	28.0	212.2	0.28	3.66	Clear	
1341	0.12	0.60	0.06	8.93	5.29	28.1	213.0	0.24	3.59	"	
1343	0.12	0.72	0.06	8.93	5.29	28.1	214.5	0.19	3.57	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Olivia Hollingsworth /Geosyntec	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 1343	SAMPLING ENDED AT: 1349
PUMP OR TUBING DEPTH (feet) BTOC: ~23.7	TUBING MATERIAL CODE: HDPE, S	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ μm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N (replaced))	DUPLICATE: Y (N)	

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-1	*2	PP	250mL	1:1 HNO3	None	NA	Metals, Hg, Ra 226, 228	APP	<400
↓	1	PP	250mL	Ice	None	NA	~~B, Ca~~ Cl, F, SO4, TDS ~~carbonate alkalinity~~	↓	↓

REMARKS:
*Sampled at 1343

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO CCR-2	SAMPLE ID CCR-2	DATE 8-16-23

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH (feet) to (feet) BTOC	STATIC DEPTH TO WATER (feet) BTOC	PURGE PUMP TYPE OR BAILER
2	3/16	18.7 to 28	9.17	PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)

= (feet - feet) X gallons/foot = Gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)

= 0 gallons + 0.0014 gallons/foot X 28 feet; 10.1 (x3) 0.418 gallons = Gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC	FINAL PUMP OR TUBING DEPTH (feet) BTOC	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
~23.7	~23.7	1438	1453 2.91	0.9

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1445	0.42	0.42	0.06	9.28	5.62	29.3	180.4	0.18	2.91	Clear	
1447	0.12	0.54	0.06	9.28	5.51	29.8	148.4	0.14	4.98	"	
1449	0.12	0.66	0.06	9.28	5.49	29.4	140.7	0.12	4.91	"	
1451	0.12	0.78	0.06	9.28	5.49	29.3	139.8	0.11	4.56	"	
1453	0.12	0.90	0.06	9.28	5.51	29.3	141.5	0.09	4.66	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.005; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
Olivia Hallnagel /Geosyntec		1453	1500

PUMP OR TUBING DEPTH (feet) BTOC	TUBING MATERIAL CODE	FIELD-FILTERED	FILTER SIZE
~23.7	HDPE, S	Y (N)	µm

Filtration Equipment Type: N/A

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N replaced) DUPLICATE Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-2	2	PP	250mL	1:1 HNO3	None	NA	Metals (6010, Hg) (7470)	APP	<400
CCR-2	1	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, ~~bicarbonate alkalinity~~	APP	<400

REMARKS Sampled at 1453

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-4	SAMPLE ID: CCR-4	DATE: 8-21-18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8 OD	WELL SCREEN INTERVAL DEPTH: 18.5 feet to 28.5 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 14.42	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)

= (feet - feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only if not applicable)

= 0 gallons + (0.024 gallons/foot X 20 feet) + 0.1 (x3) gallons = 0.426 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~23.5	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~23.5	PURGING INITIATED AT: 1419	PURGING ENDED AT: 1441	TOTAL VOLUME PURGED (gallons): 1.32

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (GPM)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle one: µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle units: mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1427	0.48	0.48	0.06	14.48	3.96	28.6	11,662	0.21	8.80	clear	
1437	0.6	1.08	0.060	14.48	3.98	28.2	11,762	0.10	3.87	"	
1439	0.12	1.20	0.06	14.48	3.99	28.2	11,776	0.09	3.55	"	
1441	0.12	1.32	0.06	14.48	3.98	28.2	11,790	0.09	3.76	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 6" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Olivia Hollingsworth/Geosyntec	SAMPLER(S) SIGNATURE(S): Olivia A Hollingsworth	SAMPLING INITIATED AT: 1441	SAMPLING ENDED AT: 1449
PUMP OR TUBING DEPTH (feet) BTOC: ~23.5	TUBING MATERIAL CODE: HDPE, S	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-4	2	PP	250mL	1:1 HNO3	None	NA	Metals (6010, 7470A)	MPP	2400
↓	1	PP	250mL	Ice	None	NA	B, Cl, F, SO4, TDS, ~~bicarbonate alkalinity~~	↓	↓

REMARKS: Sampled at 1441

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2) optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL ID: CCR-5	SAMPLE ID: CCR-5	DATE: 8.22.2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 10.2 to 20.2 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 10.73	PURGE PUMP TYPE OR BAILER: P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only if purging dry)
(feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only if purging dry)
= gallons + (.0014 gallons/ft X 35 feet) + .1 gallons = .149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	PURGING INITIATED AT: 1222	PURGING ENDED AT: 1231	TOTAL VOLUME PURGED (gallons): .90

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1227	.50	.50	.10	10.80	5.39	27.02	14673	2.45	4.33	clear	-50.1
1229	.20	.70	1	10.80	5.39	27.04	14727	2.43	4.39	"	-53.7
1231	.20	.90	1	10.80	5.39	27.05	14724	2.39	4.47	"	-54.1

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.56
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT: 1232	SAMPLING ENDED AT: 1237
Rik MATHIAS /Geosyntec	Rik Mathias		

PUMP OR TUBING DEPTH (feet) BTOC: ~23	TUBING MATERIAL CODE: HDPE	FIELD-FILTERED: Y (N) Filter Size: Filter Type: N/A	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATRIX CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-5	2	PP	250mL	1:1 HNO3	None	NA	6010 Metals 6020	APP	~380
CCR-5	2	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS bicarbonate alkalinity	1	1

REMARKS:
Sample Time: 1232

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO CCR-6	SAMPLE ID CCR-6	DATE 8-17-2023

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH (feet)	STATIC DEPTH TO WATER (feet) BTOC	PURGE PUMP TYPE OR BAILER
2	3/16	18.4 to 28.4 feet BTOC	9.12	P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only if box if applicable)
= (feet - feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only if box if applicable)
= gallons + 1.00 gallons/foot X 35 feet) + .1 gallons = 1.45 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC	FINAL PUMP OR TUBING DEPTH (feet) BTOC	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
~23	~27	0959	1016	1.70

TIME	VOLUME PURGED (gallons)	CUMULATIVE VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1004	.50	.50	.10	9.14	6.40	27.23	368	0.36	8.48	clear	+ 121.4
(RW) 1007											
1012	1.30	1.30	.10	9.16	6.46	27.09	376	0.27	2.94	clear	- 139.8
1013	.20	1.50	1	9.16	6.47	27.09	379	0.26	2.71	"	- 141.4
1016	.20	1.70	1	9.16	6.49	27.08	382	0.26	2.54	"	- 142.8
							(purged extra to clear turbidity) (RW)				

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 6" = 1.02; 8" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.010

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
RW Mathias /Geosyntec	R.W. Mathias	1017	1022

PUMP OR TUBING DEPTH (feet) BTOC	TUBING MATERIAL CODE	FIELD-FILTERED	FILTER SIZE
~27	HDPE	Y (N) Filtration Equipment Type N/A	µm

FIELD DECONTAMINATION		DUPLICATE
PUMP Y (N)	TUBING Y (N (replaced))	Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-6	2	PP	250mL	1:1 HNO3	None	NA	6010 Metals Ca20	APP	~380
CCR-6	2	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS bicarbonate alkalinity	1	1

REMARKS: SAMPLE TIME: 1017

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = Alum Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units. Temperature: ± 0.2 °C. Specific Conductance: ± 5%. Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater). Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO: CCR-7	SAMPLE ID: CCR-7	DATE: 8-22-23

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH (feet): 18 - 28 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 9.45	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0014 gallons/foot X 30 feet) + 0.1 gallons (x3) = 0.426 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~28.7	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~28.7	PURGING INITIATED AT: 1059	PURGING ENDED AT: 1341	TOTAL VOLUME PURGED (gallons): 9.72

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (circle one) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1107	0.48	0.48	0.06	9.47	4.72	27.5	149.9	0.34	10.7	clear	
1127	1.2	1.68	0.06	9.47	4.86	27.3	148.2	0.12	11.4	"	
1137	0.6	2.28	0.06	9.47	4.89	28.2	124.9	0.10	15.0	"	
1157	1.2	3.48	0.06	9.47	4.98	27.7	154.6	0.11	12.4	"	
1207	0.6	4.08	0.06	9.47	4.93	27.8	152.3	0.09	13.9	"	
1227	1.2	5.28	0.06	9.47	4.95	27.8	158.8	0.07	12.4	"	
1307	4.2	9.48	0.06	9.47	5.00	28.6	173.6	0.03	12.6	"	
1329	0.12	9.60	0.06	9.47	4.99	28.5	173.2	0.03	12.6	"	
1341	0.12	9.72	0.06	9.47	4.99	28.6	175.1	0.03	12.7	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Olivia Hollingsworth/Geosyntec	SAMPLER(S) SIGNATURE(S): Olivia Hollingsworth	SAMPLING INITIATED AT: 1341	SAMPLING ENDED AT: 1349
PUMP OR TUBING DEPTH (feet) BTOC: ~28.7	TUBING MATERIAL CODE: HDPE S	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: __ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N replaced)	DUPLICATE: Y (N)	

SAMPLE ID	SAMPLE CONTAINER SPECIFICATION: # CONTAINERS	MATERIAL CODE	VOLUME	SAMPLE PRESERVATION: PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-7	#2	PP	250mL	1:1 HNO3	None	NA	Metals 6010(Ra) + 6020	APP	<400
	1	PP	250mL	Ice	None	NA	~~B, Ca~~, Cl, F, SO4, TDS, ~~bicarbonate, alkalinity~~		
	1	PP	250mL	Ice	None	NA	Alkalinity		

REMARKS: Sampled at 1341

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES:
1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally: ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO: CCR-8	SAMPLE ID: CCR-8	DATE: 8-17-2022

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet) BTOC	PURGE PUMP TYPE OR BAILER
2	3/16	8.7 feet to 28.7 feet BTOC	9.26	P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only 1 out * applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only 1 out * applicable)
= gallons + (.0014 gallons/foot X 35 feet) + .1 gallons = .149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC	FINAL PUMP OR TUBING DEPTH (feet) BTOC	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
~24	~24	1041	1115	3.40

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle one) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1040	.50	.50	.10	9.34	6.58	26.79	367	0.38	23.8	clear	-9.0
1111	3.00	3.00	.10	9.34	6.68	26.93	380	0.21	5.17	clear	-59.2
1113	.20	3.20	1	9.34	6.68	26.93	380	0.21	4.41	"	-59.0
1115	.20	3.40	1	9.34	6.67	26.94	381	0.22	3.97	"	-57.1

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.015

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
Rik Mathias /Geosyntec	Rik Mathias	1116	1120

PUMP OR TUBING DEPTH (feet) BTOC	TUBING MATERIAL CODE: HDPE, S	FIELD-FILTERED: Y (N)	FILTER SIZE: ___ µm
~24		Filtration Equipment Type: N/A	

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N replaced) DUPLICATE Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-8	2	PP	250mL	1:1 HNO3	None	NA	6010 Metals 6020	APP	~380
CCR-8	1 (RM)	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, ~~alkalinity~~		

REMARKS: SAMPLE TIME: 1116

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2°C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO: CCR-9	SAMPLE ID: CCR-9	DATE: 8-17-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH 12.7 feet to 22.7 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 10.12	PURGE PUMP TYPE OR BAILER: P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only if not if applicable)
= / feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only if not if applicable)
= gallons + (.0014 gallons/foot X 35 feet) + .1 gallons = .149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~24	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~24	PURGING INITIATED AT: 1135	PURGING ENDED AT: 1144	TOTAL VOLUME PURGED (gallons): .90

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (GPM)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units): µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1140	.50	.50	.10	10.23	5.29	28.67	3410	0.90	3.51	clear	-209.9
1142	.20	.70	1	10.23	5.29	28.64	3408	0.94	2.21	"	-211.3
1144	.20	.90	1	10.23	5.29	28.60	3349	0.96	1.63	"	-212.1

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1145	SAMPLING ENDED AT: 1150
Rik Mathias /Geosyntec	Rik Mathias		

PUMP OR TUBING DEPTH (feet) BTOC: ~24	TUBING MATERIAL CODE: HDPE	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-9	2	PP	250mL	1:1 HNO3	None	NA	6010 Metals 6020	APP	~380
CCR-9	2	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	1	1

REMARKS: Sample Time: 1145

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After-Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, FPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2) optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR		SITE LOCATION: Lakeland, FL	
WELL NO: CCR-11	SAMPLE ID: CCR-11		DATE: 8-18-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 25 feet to 35 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 6.75	PURGE PUMP TYPE OR BAILER: P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet − feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (.0014 gallons/foot X 35 feet) + .1 gallons = .149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	PURGING INITIATED AT: 0809	PURGING ENDED AT: 0845	TOTAL VOLUME PURGED (gallons): 3.60

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0814	.50	.50	.10	6.82	4.81	25.73	4735	2.93	27.6	clear	-209.2
0827				6.82	4.78	25.75	4607	1.08	11.9	"	-222.9
0841	3.20	3.20	.10	6.82	4.77	25.81	4579	1.01	5.27	Clear	-229.1
0843	.20	3.40	|	6.82	4.77	25.82	4592	1.00	5.42	"	-229.3
0845	.20	3.60	|	6.82	4.77	25.82	4584	1.00	5.67	"	-229.4

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Rik Mathias /Geosyntec	SAMPLER(S) SIGNATURE(S): Rik Mathias	SAMPLING INITIATED AT: 0846	SAMPLING ENDED AT: 0851
PUMP OR TUBING DEPTH (feet) BTOC: ~23	TUBING MATERIAL CODE: HDPE, S	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N (replaced))	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
CCR-11	2	PP	250mL	1:1 HNO3	None	NA	~~6020~~ Metals ~~6010~~	APP	~380
CCR-11	2	PP	250mL	Ice	None	NA	B, Ca, Cl, F-, SO4, TDS, bicarbonate, alkalinity	|	|

REMARKS:
SAMPLE TIME: 0846

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO. CCR-12	SAMPLE ID CCR-12	DATE 8-18-23

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH feet to feet BTOC	STATIC DEPTH TO WATER (feet) BTOC	PURGE PUMP TYPE OR BAILER
2	3/16	18.6 to 23.6	6.50	PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)

= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)

= 0 gallons + (0.0014 gallons/foot X 27 feet) + 0.1 gallons = 0.138 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC	FINAL PUMP OR TUBING DEPTH (feet) BTOC	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
~23.6	~23.6	1306	1414	2.72

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1410	2.56	2.56	0.04	6.72	6.58	26.6	1863	0.01	3.84	clear	
1412	0.08	2.64	0.04	6.72	6.58	26.6	1860	0.01	3.18	"	
1414	0.08	2.72	0.04	6.72	6.58	26.6	1847	0.01	2.86	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
Olivia Hollingsworth /Geosyntec	Olivia Hollingsworth	1414	1422

PUMP OR TUBING DEPTH (feet BTOC)	TUBING MATERIAL CODE: HDPE	FIELD FILTERED Y (N) Filtration Equipment Type: N/A	FILTER SIZE µm
~23.6			

FIELD DECONTAMINATION PUMP	TUBING	DUPLICATE
Y (N)	Y (N replaced)	Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-12	2	PP	250mL	1:1 HNO3	None	NA	Metals	APP	400
	1	PP	250mL	Ice	None	NA	~~B, Ca~~, Cl, F, SO4, TDS, bicarbonate ~~alkalinity~~	↓	↓
CCR-12	1	PP	250	Ice	None	NA	Alkalinity		

REMARKS: Sampled at 1414

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = Alkaline Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES:
1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO: CCR-13	SAMPLE ID: CCR-13	DATE: 8.18.2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH (feet) BTOC: 18.6 to 28.6	STATIC DEPTH TO WATER (feet) BTOC: 7.21	PURGE PUMP TYPE OR BAILER: P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only if required if applicable)
= (feet - feet) X gallons/feet = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only if required if applicable)
= gallons + (.0014 gallons/foot X 35 feet) + 1 gallons = 1.149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	PURGING INITIATED AT: 0923	PURGING ENDED AT: 0932	TOTAL VOLUME PURGED (gallons): .90

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (GPM)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0928	.50	.50	.10	7.35	4.36	26.15	2772	0.58	3.71	clear	-111.8
0930	.20	.70	1	7.35	4.36	26.15	2771	0.73	4.15	"	-114.0
0932	.20	.90	1	7.35	4.36	26.14	2770	0.75	5.20	"	-114.6

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 0933	SAMPLING ENDED AT: 0938
RK Mathias /Geosyntec	RK Mathias		

PUMP OR TUBING DEPTH (feet) BTOC: ~23	TUBING MATERIAL CODE: HDPE, S	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml per minute)
SAMPLE ID (CCR-)	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
CCR-13	2	PP	250mL	1:1 HNO3	None	NA	Geo Metals w/ Hg	APP	~380
CCR-13	1 (RM)	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, ~~bicarbonate, alkalinity~~	1	1

REMARKS: SAMPLE TIME: 0933

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1 The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2) optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO: CCR-15	SAMPLE ID: CCR-15	DATE: 8-21-2023

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet) BTOC	PURGE PUMP TYPE OR BAILER
2	3/16	18.5 feet to 28.5 feet BTOC	16.94	P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet - feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (.0014 gallons/foot X 35 (feet)) + .1 gallons = .149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC	FINAL PUMP OR TUBING DEPTH (feet) BTOC	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
~23	~32	1117	1126	.90

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1122	.50	.50	.10	16.98	3.94	28.41	121	1.69	5.40	clear	2.0
1124	.20	.70	.1	16.98	3.96	28.44	121	1.65	5.67	"	2.3
1126	.20	.90	.1	16.98	3.97	28.44	121	1.61	5.63	"	1.6

(checked turbidity again prior to sampling metals, 4.88 ntu) PMA

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0025; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
Rik MATHIAS /Geosyntec	Rik Mathias	1127	1133

PUMP OR TUBING DEPTH (feet) BTOC	TUBING MATERIAL CODE	FIELD-FILTERED Y (N)	FILTER SIZE
~23	HDPE, S	Filtration Equipment Type N/A	___ µm

FIELD DECONTAMINATION PUMP Y (N) TUBING Y (N replaced) DUPLICATE Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-15	2	PP	250mL	1:1 HNO3	None	NA	total Metals 6020	APP	~380
CCR-15	2	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	1	1

REMARKS: Sample Time: 1127

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric MPP CCR	SITE LOCATION: Lakeland, FL	
WELL NO: CCR-16	SAMPLE ID: CCR-16	DATE: 8-16-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 18.5 feet to 28.5 BTOC	STATIC DEPTH TO WATER (feet) BTOC: 15.45	PURGE PUMP TYPE OR BAILER: P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only if purged dry)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only if purged dry)
= gallons + (.0014 gallons/foot X 35 feet) + .1 gallons = .249 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~24	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~24	PURGING INITIATED AT: 1520	PURGING ENDED AT: 1529	TOTAL VOLUME PURGED (gallons): .90

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1525	.50	.50	.10	15.48	4.14	28.91	0.254	0.66	0.68	clear	47.9
1527	.20	.70	1	15.48	4.14	28.89	0.246	0.63	1.14	"	45.6
1529	.20	.90	1	15.48	4.13	28.82	0.241	0.59	2.59	"	43.8

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: RW MATHIAS /Geosyntec	SAMPLER(S) SIGNATURE(S): R.W. Mathias	SAMPLING INITIATED AT: 1530	SAMPLING ENDED AT: 1535
PUMP OR TUBING DEPTH (feet) BTOC: ~24	TUBING MATERIAL CODE: HDPE, S	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE I.D. CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (ml.)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-16	2	PP	250mL	1:1 HNO3	None	NA	6010 Metals 6020	APP	~300
"	2	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	"	"

REMARKS: SAMPLE TIME: 1530

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION
Lakeland Electric MPP CCR	Lakeland, FL

WELL NO	SAMPLE ID	DATE
CCR-17	CCR-17	8-16-2023

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH (feet)	STATIC DEPTH TO WATER (feet) BTOC	PURGE PUMP TYPE OR BAILER
2	3/16	[illegible] to [illegible] BTOC	14.09	P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only if calculated)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only if calculated)
= gallons + (.0014 gallons/foot X 35 feet) + .1 gallons = .149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC	FINAL PUMP OR TUBING DEPTH (feet) BTOC	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
~23	~23	1446	1455	.90

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1451	.50	.50	.10	14.11	6.53	28.92	1094	0.78	0.48	clear	-10.3
1453	.20	.70	1	14.11	6.53	28.90	1093	0.74	0.58	"	-13.2
1455	.20	.90	1	14.11	6.53	28.88	1094	0.72	0.76	"	-14.6

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
Rik Mathias /Geosyntec	R.V. Mathias	1456	1501

PUMP OR TUBING DEPTH (feet) BTOC	TUBING MATERIAL CODE	FIELD-FILTERED	FILTER SIZE
~23	HDPE	Y (N)	
		Filtration Equipment Type: N/A	

FIELD DECONTAMINATION	PUMP	TUBING	DUPLICATE
	Y (N)	N (replaced)	Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
CCR-17	2	PP	250mL	1:1 HNO3	None	NA	6010 Metals 6020	APP	~380
CCR-17	2	PP	250mL	Ice	None	NA	B, Ca, Cl, F-, SO4, TDS, bicarbonate, alkalinity		

REMARKS: Sample Time: 1456

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO: CCR-1B	SAMPLE ID: CCR-1B	DATE: 8-21-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 18.5 feet to 28.5 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 8.33	PURGE PUMP TYPE OR BAILER: P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (.0014 gallons/foot X 35 feet) + .1 gallons = .149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	PURGING INITIATED AT: 1437	PURGING ENDED AT: 1446	TOTAL VOLUME PURGED (gallons): .90

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units: µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle units: mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1442	.50	.50	.10	8.38	6.43	27.73	404	0.81	1.21	clear	-160.0
1444	.20	.70	1	8.38	6.45	27.32	401	0.82	1.23	"	-161.3
1446	.20	.90	1	8.38	6.45	27.32	398	0.83	1.21	"	-162.5

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.26" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT: 1447	SAMPLING ENDED AT: 1451
RIK MATHIAS /Geosyntec	Rik Mathias		

PUMP OR TUBING DEPTH (feet) BTOC: ~23	TUBING MATERIAL CODE: HDPE S	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-1B	2	PP	250mL	1:1 HNO3	None	NA	6010 Metals 6020	APP	~380
CCR-1B	2	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, carbonate alkalinity	1	1

REMARKS: Sample Time: 1447

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland FL	
WELL NO CCR-19	SAMPLE ID CCR-19	DATE 8.21.2023

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH (feet)	STATIC DEPTH TO WATER (feet) BTOC	PURGE PUMP TYPE OR BAILER
2	3/16	8.5 feet to 28.5 feet BTOC	5.13	P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only if calculation applicable)
= (feet - feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only if calculation applicable)
= gallons + (.0014 gallons/foot X 85 feet) + .1 gallons = .149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC	FINAL PUMP OR TUBING DEPTH (feet) BTOC	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
~23	~23	1346	1405	1.90

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1351	~~1.50~~ PM 1.50		.10	5.15	4.62	27.80	5445	1.55	12.9	clear	-172.0
1401	1.50	1.50	.10	5.15	4.59	28.20	4828	0.62	1.26	"	-176.3
1403	.20	1.90	1	5.15	4.59	28.22	4802	0.58	1.04	"	-176.0
1405	.20	1.90	1	5.15	4.60	28.23	4759	0.57	0.97	"	-176.8

WELL CAPACITY (Gallons Per Foot) 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.) 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
Rik Mathias /Geosyntec	Rik Mathias	1406	1411

PUMP OR TUBING DEPTH (feet) BTOC	TUBING MATERIAL CODE HDPE S	FIELD-FILTERED Y (N) Filtration Equipment Type N/A	FILTER SIZE µm
~23			

FIELD DECONTAMINATION PUMP Y (N) TUBING Y (N replaced) DUPLICATE Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-19	2	PP	250mL	1:1 HNO3	None	NA	6010 Metals 6020	APP	~380
CCR-19	2	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	1	1

REMARKS: Sample Time: 1406

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2): optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO CCR-20	SAMPLE ID CCR-20	DATE 8-18-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH feet to feet BTOC	STATIC DEPTH TO WATER (feet) BTOC 6.02	PURGE PUMP TYPE OR BAILER P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only if not if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only if not if applicable)
= gallons + (.0014 gallons/foot X 35 feet) + 1 gallons = .149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	PURGING INITIATED AT 0729	PURGING ENDED AT 0738	TOTAL VOLUME PURGED (gallons): .90

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units: µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle units: mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0734	.50	.50	.10	6.07	5.00	25.42	4237	.29	3.09	clear	-214.2
0736	.20	.70	1	6.07	5.00	25.41	4232	.31	3.42	"	-218.3
0738	.20	.90	1	6.07	5.00	25.40	4229	.34	3.67	"	-215.4

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT 0739	SAMPLING ENDED AT 0744
Rik Mathias /Geosyntec	Rik Mathias		

PUMP OR TUBING DEPTH (feet) BTOC: ~23	TUBING MATERIAL CODE: HDPE	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-20	2	PP	250mL	1:1 HNO3	None	NA	Boron Metals 6010	APP	~380
CCR-20	2	PP	250 mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	1	1

REMARKS: Sample Time: 0739

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU optionally ± 5 NTU or ± 10% (whichever is greater)

Revison Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO: CCR-21	SAMPLE ID: CCR-21	DATE: 8-18-21

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 8 feet to 23 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 7.53	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (.0004 gallons/foot X 27 feet) + 0.1 gallons = (x3) 0.413 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~23.5	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~23.5	PURGING INITIATED AT: 1116	PURGING ENDED AT: 1201	TOTAL VOLUME PURGED (gallons): 2.7

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (lpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (circle units: µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle units: mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1123	0.42	0.42	0.06	7.57	6.27	27.9	2276	0.20	3.54	clear	
1125	0.12	0.54	0.06	7.57	6.26	27.9	2234	0.18	8.69	"	
1127	0.12	0.66	0.06	7.57	6.26	28.1	2237	0.16	23.4	"	
1137	0.6	1.26	0.06	7.57	6.24	30.3	2263	0.19	26.4	"	
1147	0.6	1.86	0.06	7.57	6.27	27.6	2278	0.06	8.86	"	
1152	0.3	2.16	0.06	7.57	6.27	27.7	2281	0.04	6.10	"	
1157	0.3	2.46	0.06	7.57	6.27	27.7	2283	0.03	5.60	"	
1159	0.12	2.58	0.06	7.57	6.27	27.8	2282	0.03	5.78	"	
1201	0.12	2.70	0.06	7.57	6.27	27.6	2278	0.03	4.64	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.85
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
Olivia Hollingsworth/Geosyntec		1201	1208

PUMP OR TUBING DEPTH (feet) BTOC	TUBING MATERIAL CODE: HDPE, S	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
~23.5			

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N replaced) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-21	2	PP	250mL	1:1 HNO_3	None	NA	Metals	APP	<400
	1	PP	250mL	Ice	None	NA	~~B, Ca~~, Cl, F, SO_4, TDS, ~~bicarbonate, alkalinity~~		
	1	PP	250ml	Ice	None	NA	Alkalinity		

REMARKS: Sampled at 1201

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Persistaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Persistaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO CCR-22	SAMPLE ID CCR-22	DATE 8-18-23

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH (feet)	STATIC DEPTH TO WATER (feet) BTOC	PURGE PUMP TYPE OR BAILER
2	3/16	18 - 38 feet BTOC	7.66	PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
(feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0014 gallons/foot X ~27 feet) + 0.1 (x3) gallons = 0.412 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC	FINAL PUMP OR TUBING DEPTH (feet) BTOC	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
~23.6	~23.6	1005	1018	0.65

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (+/-)
1014	0.45	0.45	0.05	7.67	4.52	27.0	2733	0.26	3.74	Clear	
1016	0.1	0.53	0.05	7.67	4.53	27.0	2745	0.21	3.79	"	
1018	0.1	0.65	0.05	7.67	4.53	26.9	2754	0.17	3.78	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
Olivia Hollingsworth/Geosyntec		1018	1027

PUMP OR TUBING DEPTH (feet) BTOC	TUBING MATERIAL CODE: HDPE, S	FIELD-FILTERED: Y (N)	FILTER SIZE ___ µm
~23.6		Filtration Equipment Type: N/A	

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N replaced) DUPLICATE Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min.)
CCR-22	2	PP	250mL	1:1 HNO3	None	NA	Metals	APP	250
↓	1	PP	250mL	Ice	None	NA	~~B, Ca~~, Cl, F, SO4, TDS, ~~bicarbonate, alkalinity~~	↓	↓
↓	1	PP	250	Ice	None	NA	NH4	↓	↓

REMARKS: Sampled at 1018

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = Alternative Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2) optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO CCR-23	SAMPLE ID CCR-23	DATE 8-18-23

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH feet to feet BTOC	STATIC DEPTH TO WATER (feet) BTOC	PURGE PUMP TYPE OR BAILER
2	3/16	15 feet to 25 feet BTOC	4.59	PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only if pump is applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOWCELL VOLUME
(only if pump is applicable)
= 0 gallons + (0.0014 gallons/foot X 25 feet) + 0.1 gallons (x3) = 0.405 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC	FINAL PUMP OR TUBING DEPTH (feet) BTOC	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
~20	~20	0915	0926	0.66

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle one) mmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0922	0.42	0.42	0.06	4.76	4.92	27.4	1731	0.17	3.74	Clear	
0924	0.12	0.54	0.08	4.76	4.94	27.4	1728	0.15	3.63	"	
0926	0.12	0.66	0.06	4.76	4.95	27.3	1726	0.12	2.85	"	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
Olivia Hollingsed / Geosyntec	Olivia Hollingsed	0926	0934

PUMP OR TUBING DEPTH (feet) BTOC	TUBING MATERIAL CODE	FIELD-FILTERED	FILTER SIZE
~20	HDPE, S	Y (N) Filtration Equipment Type: N/A	___ µm

FIELD DECONTAMINATION: PUMP	TUBING	DUPLICATE
Y (N)	Y (N (replaced))	Y (N)

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CCR-23	2*	PP	250mL	1:1 HNO3	None	NA	6010 / Metals Ca, Hg	APP	400
	1	PP	250mL	Ice	None	NA	~~B, Ca~~, Cl, F, SO4, TDS, ~~bicarbonate, alkalinity~~		
	1	PP	250ml	Ice	No	No	Alk		

REMARKS: Sampled at 0926

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2; optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland FL	
WELL NO: SW-106	SAMPLE ID: SW-106	DATE: 8-18-2023

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 8.4 feet to 28.4 feet BTOC	STATIC DEPTH TO WATER (feet) BTOC: 11.35	PURGE PUMP TYPE OR BAILER: P.P.

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only if purged)

= / feet - feet X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only if purged)

= gallons + (.0014 gallons/foot X 35 feet) + .1 gallons = .149 gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	FINAL PUMP OR TUBING DEPTH (feet) BTOC: ~23	PURGING INITIATED AT: 1024	PURGING ENDED AT: 1424	TOTAL VOLUME PURGED (gallons): 13.75

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units: µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle units: mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1029	.50	.50	.10	11.42	5.87	26.17	127	0.43	83.1	slight cloudy	-21.1
1059	3.50	3.60	.10	11.42	5.67	25.71	119	0.30	20.9	clear	-79.0
		(Increased to .05 gpm) (PM)									
1420	10.05	13.55	.05	11.42	5.46	25.44	108	0.27	8.92	clear	-29.7
1427	.10	13.65	1	11.42	5.45	25.42	108	0.27	9.47	"	-28.5
1424	.10	13.75	1	11.42	5.44	25.40	108	0.27	9.98	"	-27.6

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT: 1425	SAMPLING ENDED AT: 1435
RIK MATHIAS /Geosyntec	Rik Mathias		

PUMP OR TUBING DEPTH (feet) BTOC: ~23	TUBING MATERIAL CODE: HDPE, S	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SW-106	2	PP	250mL	1:1 HNO3	None	NA	Metals	APP	~380 190
SW-106	2	PP	250mL	Ice	None	NA	B, Ca, Cl, F, SO4, TDS, bicarbonate, alkalinity	1	1 (PM)

REMARKS: Sample Time: 1425

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = Alternate Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2) optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

~~GROUNDWATER~~ SAMPLING LOG

surface water

SITE NAME: Lakeland Electric MPP CCR		SITE LOCATION: Lakeland, FL	
WELL NO: Fish Lake	SAMPLE ID: Fish Lake		DATE: 8-21-23

PURGING DATA

water level elevation (NGL)

WELL DIAMETER (inches): —	TUBING DIAMETER (inches): —	WELL SCREEN INTERVAL DEPTH: feet to feet BTOC —	~~STATIC DEPTH TO WATER (feet) BTOC~~: 129.58	PURGE PUMP TYPE OR BAILER: PP

~~WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (feet - feet) X gallons/foot = gallons~~

~~EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons~~

INITIAL PUMP OR TUBING DEPTH (feet) BTOC: —	FINAL PUMP OR TUBING DEPTH (feet) BTOC: —	PURGING INITIATED AT: —	PURGING ENDED AT: —	TOTAL VOLUME PURGED (gallons): —

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	~~DEPTH TO WATER~~ Elevation (NGL) (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or (μS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0956	—	—	—	129.58	7.91	30.10	773	6.47	4.45	Clear	397

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Olivia Hollingsworth/Geosyntec	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 0957	SAMPLING ENDED AT: N/A
PUMP OR TUBING DEPTH (feet) BTOC: N/A	TUBING MATERIAL CODE: HDPE, S	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: ___ μm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N (replaced))	DUPLICATE: Y (N)	

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
Fish Lake	2	PP	250mL	1:1 HNO3	None	NA	Metals 6010 Hg + 6020	APP	400
Fish Lake	1	PP	250mL	Ice	None	NA	~~B, Ca~~, Cl, F-, ~~SO4~~, TDS, ~~bicarbonate, alkalinity~~	"	"

REMARKS:
grab sample at 0957

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

~~GROUNDWATER~~ SAMPLING LOG

Surface water

SITE NAME	SITE LOCATION	
Lakeland Electric MPP CCR	Lakeland, FL	
WELL NO: Lake D	SAMPLE ID: Lake D	DATE: 8-21-23

PURGING DATA water elevation (MSL)

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH: from to feet BTOC	~~SAMPLE~~ DEPTH TO WATER (feet) BTOC: 120.32	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
(feet - feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH (feet) BTOC	FINAL PUMP OR TUBING DEPTH (feet) BTOC: elevation (MSL)	PURGING ~~INITIATED~~ AT	PURGING ~~ENDED~~ AT	TOTAL VOLUME PURGED (gallons)

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	~~DEPTH TO WATER~~ (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units: umhos/cm or µS/cm)	DISSOLVED OXYGEN (circle units: mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1029	—	—	—	120.32	6.34	29.69	509	1.02	4.10	Clear	-143.3

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
Olivia Hollingsworth /Geosyntec	Olivia Hollingsworth	1030	N/A

PUMP OR TUBING DEPTH (feet) BTOC	TUBING MATERIAL CODE: HDPE	FIELD-FILTERED: Y (N) Filtration Equipment Type: N/A	FILTER SIZE: — µm
N/A	S		

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N) (replaced); DUPLICATE Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
Lake D	2 *	PP	250mL	1:1 HNO3	None	NA	Metals + 6020 APP 6010, Hg	APP	4400
Lake D	1	PP	250mL	Ice	None	NA	~~B, Ca~~, Cl, F-, ~~SO4~~ TDS, ~~bicarbonate alkalinity~~ SO4	APP	4400

REMARKS: sampled at 1030

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature**: ± 0.2 °C **Specific Conductance**: ± 5% **Dissolved Oxygen**: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity**: all readings ≤ 20 NTU optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Lakeland Electric - CCR	SITE LOCATION: 3030 E Lake Parker Dr
WELL NO:	SAMPLE ID: EQBlank	DATE: 8/18/23

PURGING DATA

WELL DIAMETER (inches): | TUBING DIAMETER (inches): 3/16 | WELL SCREEN INTERVAL DEPTH: feet to feet | STATIC DEPTH TO WATER (feet): | PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (feet − feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): | FINAL PUMP OR TUBING DEPTH IN WELL (feet): | PURGING INITIATED AT: | PURGING ENDED AT: | TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR/ ORP (mV)
1036					6.83	28.16	12	5.35	1.25	Clear	188.0

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Olivia Hollingsworth / Geosyntec | SAMPLER(S) SIGNATURE(S): Olivia A. Hollingsworth | SAMPLING INITIATED AT: 1036 | SAMPLING ENDED AT: 1038

PUMP OR TUBING DEPTH IN WELL (feet): | TUBING MATERIAL CODE: HDPE | FIELD-FILTERED: Y (N) | Filtration Equipment Type: | FILTER SIZE: ____ μm

FIELD DECONTAMINATION: PUMP Y (N) | TUBING Y (N) (replaced) | DUPLICATE: Y (N)

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
EQBlank	2	PP	250ml	HNO3	N/A	<2	6010, Hg 6020 metals	EQB/PP	N/A
"	1	PP	250ml	Ice	N/A	N/A	Cl, F, SO4, TDS	"	N/A

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec
consultants

Water Level Measurement Field Form

Site: Lakeland Electric CCR Wells

Project No.: FR3715F/01/****/123B

Date 8-14-23
Weather clear
Initials DH + RM

Page 1

Well ID	Status/Comments	Control Point	Measurement	
			Time of Measurement	Depth to Water
CCR-1	good	N	1115	9.05
CCR-2	good		1105	9.10
CCR-3	ok		0929	5.76
CCR-4	good		0936	14.41
CCR-5	good		0938	10.67
CCR-6	good		1335	9.07
CCR-7	good		1332	9.30
CCR-8	good		1325	9.23
CCR-9	good		1320	10.07
CCR-10R	good		1317	3.17
CCR-11	good		1314	7.09
CCR-12	good		1304	6.61
CCR-13	good		1256	7.41
CCR-14	good		1245	7.35
CCR-15	good		1054	16.99
CCR-16	good		1046	15.41
CCR-17	good		1041	14.04
CCR-18	good		1329	8.21
CCR-19	good		1339	5.27
CCR-20	good		1311	6.27
CCR-21	good		1306	7.56
CCR-22	good		1301	7.72
CCR-23	good	↓	1249	4.53
SW-106	good	↓	1012	11.16

Notes

APPENDIX B
Well Development Summary Report

Geosyntec consultants

13101 Telecom Drive, Suite 120
Temple Terrace, Florida 33637
PH 813.558.0990
FAX 813.558.9726
www.geosyntec.com

3 October 2023

Mr. Sean McGinnis, CHMM
Lakeland Electric
Environmental Coordinator
Environmental Affairs

Subject: Well Development Summary Report
C.D. McIntosh Power Plant
3030 East Lake Parker Drive
Lakeland, Florida 33805
Facility ID #95247

Dear Mr. McGinnis:

On behalf of Lakeland Electric (LE), Geosyntec Consultants, Inc. (Geosyntec) prepared this Well Development Summary Report to detail groundwater monitoring well development activities conducted in July 2023 at the C.D. McIntosh Power Plant (Site). The scope of work completed is detailed in the following sections.

SCOPE OF WORK COMPLETED

The scope of work for the field activities completed between 18 July 2023 and 20 July 2023 included the following:

- Development of six (6) groundwater monitoring wells (CCR-9, CCR-11, CCR-13, CCR-15, and CCR-20) associated with LE's coal combustion residuals (CCR) groundwater compliance program.

- Development of one (1) groundwater monitoring well (MW-26S) associated with LE's Conditions of Certification (PA74-06 Attachment D) groundwater compliance program.

FIELD ACTIVITIES

Groundwater Monitoring Well Development

Geosyntec performed a multi-method development technique to remove accumulated sediment collected in monitoring well sumps as well as precipitated compounds (iron, etc.) that build up over time and adhere to a well's screened interval and surrounding filter pack area. The two

development methods utilized combine the use of a Waterra Hydrolift (Waterra) inertial pump and a Whale Mega Purger electronic submersible pump (ESP). At the start of well development the static water level and depth to bottom were measured and recorded on a well development log (**Attachment A**). Initially, the Waterra pump was utilized to remove sediment accumulation from the well sump and agitate the well screen and surrounding filter pack. The Waterra pump creates an oscillatory flow pattern into and out of the well screened area via a surge block affixed to the high density polyethylene (HDPE) tubing deployed in the well. The HDPE tubing with surge block assembly was placed just above the well terminus and then pumped for 2 to 3 minutes. After the pumping time interval was reached, pumping was stopped and the tubing and surge block assembly depth adjusted in 4-inch intervals (the pump actuation range of the Waterra pump) vertically then pumping restarted. This was repeated until the length of the well screened interval had been developed. Development water was collected into a 5-gallon bucket to record the total volume of water purged during this step.

Next, the Waterra pump and tubing assembly were removed, and the ESP pump was deployed slightly above the bottom of the well. The monitoring well was purged at 1-foot intervals from the bottom of the well to the top of water column to remove suspended sediment in the water column and filter pack area. Flow rate, depth to water, purge volume, and turbidity were measured at approximate 3-minute intervals during ESP development and recorded on the well development log (**Attachment A**). Wells were developed until optimal turbidity measurements were observed except for wells SW-106 and MW-26S due to slow well recharge causing the wells to purge dry. When these wells purged dry, pumping was stopped to allow the wells to recharge and then recommenced until purged dry again. This process was repeated several times at each location. Despite not reaching optimal turbidity levels at these wells, turbidity measurements decreased during development. A final depth to bottom was recorded at the end of each well development period identifying the amount of sediment removed from the bottom of each well. A photographic log documenting the redevelopment process is included as **Attachment B**.

CLOSING

If you have any questions of require additional information, please do not hesitate to contact Luke Varner at 904.334.9007 or Lane Dorman at 850.449.4369.

Sincerely,

GEOSYNTEC CONSULTANTS

Luke Varner, GIT(FL)
Scientist

Lane Dorman, P.G.(FL)
Principal Hydrogeologist

cc:
Mr. Thomas Johnston – Lakeland Electric
Mr. Todd Kafka - Geosyntec

Attachments

A – Well Development Logs

B – Photographic Log

ATTACHMENT A

Well Development Logs

Geosyntec consultants

Well Development Log

Site: Lakeland Electric Project No.:

Monitoring Well: CCR-9 Date: 7/18/23

Well Condition: good PID (ppm):

Initial Depth to Water (ft): 9.32 Initial Depth to Bottom (ft): 28.58

Well Diameter (in): 2 Height of Water (ft):

multiply height by 0.163 for 2" well, 0.64 for 4" well = Total Volume in Well (g):

Final Depth to Water (ft): ~~28.58~~ 9.42 (cumulative) Final Depth to Bottom (ft): 28.55

Time	Flow Rate (gal/min)	Total Volume Removed (gal)	Depth to Water (ft BTOC)	Turbidity (ntu)	pH (SU)	Sp. Cond. (mS/cm)	Temp. (°C)	Dissolved Oxygen (mg/L)	Appearance of Water (color, odor)
1222	2.8	28	13.01	74.30					brown / clear
1232	1	56	13.09	43.55					brown / clear
1242		84	13.28	18.20					clear
1252		112	13.34	18.40					clear
1302		140	13.38	19.05					clear
1312		168	13.43	3.38					clear
1322		196	13.55	1.46					clear
1332		224	13.47	9.12					clear
1342		252	13.51	7.17					clear
1352		280	13.52	2.10					clear
1402	¾	308	13.56	13.83					clear
1409		327.6	13.57	2.89					clear
1412		336	13.57	1.67					clear
1415	¾	344.4	13.58	1.74					clear

Describe Development Method (e.g., pumping, surging, instrumentation, total volume removed, rest periods, problems, deviations from plan, etc.)

1005: water on, @ 1 gal/m

1006: GA starts on intervals →

1151: Pump stop. 111 min purge w/ 111 gal removed

1212: Sub pump stop

1321: Pump retrieved + bottom of pump

1358: Pump set in screen

1416: Pump stop

Final DTW: 9.77 ft

Final DTB: 28.51 ft

Water Quality Meter

Meter Number:

Calibrated on/by:

Stabilization Parameters

Geosyntec consultants

Well Development Log

Site: Laidlaw Electric — Project No.:

Monitoring Well: CCR-11 — Date: 7/14/23

Well Condition: good — PID (ppm):

Initial Depth to Water (ft): 6.19 — Initial Depth to Bottom (ft): 28.57

Well Diameter (in): 2 — Height of Water (ft):

multiply height by 0.163 for 2" well, 0.64 for 4" well = Total Volume in Well (g):

Final Depth to Water (ft): 6.25 (Cumulative) — Final Depth to Bottom (ft): 28.23

Time	Flow Rate (gal/min)	Total Volume Removed (gal)	Depth to Water (ft BTOC)	Turbidity (ntu)	pH (SU)	Sp. Cond (mS/cm)	Temp. (°C)	Dissolved Oxygen (mg/L)	Appearance of Water (color, odor)
0901	2.8	28	8.82	34.20					cloudy/clear
0911		56	8.88	32.29					clear/cloudy
0921		84	8.95	17.81					clear
0931		112	5.94	10.55					clear
0941		140	8.94	24.80					clear
0951		168	8.56	2.26					clear
1001		196	8.54	23.42					clear
1006		210	8.57	2.00					clear
1009		218.4	8.58	1.37					clear
1012		226.8	8.59	1.28					clear
1015		235.2	8.59	1.08					clear
1018		243.6	8.60	1.29					clear
1021		252	8.60	1.22					clear
1024	⊠	260.4	8.61	1.01					clear

Describe Development Method (e.g., pumping, surging, instrumentation, total volume removed, rest periods, problems, deviations from plan, etc.)

0735: Waterra pump on, pumping at 1.1 gpm, retracting 4in every 2 mins

0837: Waterra pump stop. 62 min purge, ~168.2 gal purged

0851: Sub-pump on, 2.8 gpm, retracting 1ft every 3mins

0938: Pump re-lowered to bottom of well

1000: Pump set in middle of screen

1024: pump stop

Water Quality Meter

Meter Number:

Calibrated on/by:

Stabilization Parameters

Final DTW: 6.37 ft

Final DTB: 28.68 ft

Geosyntec consultants

Well Development Log

Site: Lakeland Electric Project No.:

Monitoring Well: CCR-13 Date: 7/19/23
Well Condition: good PID (ppm):
Initial Depth to Water (ft): 6.67 Initial Depth to Bottom (ft): 28.50
Well Diameter (in): 2 Height of Water (ft):
multiply height by 0.163 for 2" well, 0.64 for 4" well = Total Volume in Well (g):
Final Depth to Water (ft): 6.76 (Cumulative) Final Depth to Bottom (ft): 28.51

Time	Flow Rate (gal/min)	Total Volume Removed (gal)	Depth to Water (ft BTOC)	Turbidity (NTU)	pH (SU)	Sp. Cond (mS/cm)	Temp. (°C)	Dissolved Oxygen (mg/L)	Appearance of Water (color, odor)
1220	3.75	37.5	11.04	51.06					cloudy/clear
1230	1	75	11.08	25.00					clear
1240		112.5	11.05	8.56					clear
1250		150	11.06	1.96					clear
1300		187.5	11.07	25.59					clear
1310		225	11.09	62.90					cloudy
1315		~~262.5~~	11.09	12.57					clear
1320		262.5	11.11	3.80					clear
1323		274	11.12	1.80					clear
1326		285.5	11.12	1.31					clear
1329	↓	297	11.15	1.15					clear
1332	↓	308.5	11.14	0.86					clear

243.75 gal

Describe Development Method (e.g., pumping, surging, instrumentation, total volume removed, rest periods, problems, deviations from plan, etc.)

1055: Waterra pump start at CCR-13, 1gpm
-retreating 4in every 2 mins
1157: Waterra pump stop. 62 min purge → 62 gal purged
1210: sub-pump start, 3.75 gpm (note higher than previous wells) 3/4 slotted screen on pump.
-retreating 1ft every 3 mins
1251: Pump re-lowered to well bottom
1305: Pump set in middle of screen
1332: Pump stop.

Final DTW: 6.79
Final DTB: 28.51

Water Quality Meter
Meter Number:
Calibrated on by:

Stabilization Parameters

Geosyntec consultants

Well Development Log

Site: Lakeland Electric　　Project No.:

Monitoring Well: CCR-15　　Date: 7/19/23

Well Condition: Good　　PID (ppm):

Initial Depth to Water (ft): 16.51　　Initial Depth to Bottom (ft): 28.29

Well Diameter (in): 2　　Height of Water (ft):

multiply height by 0.163 for 2" well, 0.64 for 4" well · Total Volume in Well (g):

Final Depth to Water (ft): 16.58　　Final Depth to Bottom (ft): 28.21

Time	Flow Rate (gal/min)	Total Volume Removed (gal)	Depth to Water (ft BTOC)	Turbidity (ntu)	pH (SU)	Sp. Cond (mS/cm)	Temp. (°C)	Dissolved Oxygen (mg/L)	Appearance of Water (color, odor)
1600	3.5	35	16.90	683					brown
1610	2.5	60	16.91	614					brown
1620		85	16.91	55.68					brown
1630		110	16.91	50.81					brown
1640 (17.25*)		135	~~[illegible]~~	788					brown
1650	3.5	170	17.29	848					brown
1700		205	17.30	31.37					clear
1710		240	17.31	24.79					clear
1720		275	17.34	15.03					clear
1725		310	17.35	11.74					clear
1730		345	17.36	11.36					clear
1735		380	17.36	10.03					clear
1740		415	17.36	10.05					clear
1745		450	17.37	9.56					clear

Describe Development Method (e.g., pumping, surging, instrumentation total volume removed, rest periods, problems, deviations from plan, etc.)

1436: Waterra pump start, 0.5 gpm
- retracting 4in every 2mins

1538: Waterra pump stop - 62 min purge, -> 31 gallons purged

1550: Sub-pump start, 3.5 gpm, ↓2.5
- retracting 1ft every 3mins

1630: Sub-pump relowered to bottom of well

1635: Pump set in middle of screen

1745: Pump stop

Water Quality Meter

Meter Number:

Calibrated on/by:

Stabilization Parameters

Final DTW: 16.67 ft

Final DTB: 28.29 ft

Geosyntec consultants

Well Development Log

Site: Lakeland Electric Project No.:

Monitoring Well: CCR-20 Date: 7/18/23
Well Condition: Good PID (ppm):
Initial Depth to Water (ft): 5.51 Initial Depth to Bottom (ft): 27.81
Well Diameter (in): 2 Height of Water (ft):
multiply height by 0.163 for 2" well, 0.64 for 4" well Total Volume in Well (g):
Final Depth to Water (ft): 5.61 cumulative Final Depth to Bottom (ft): 27.81

Time	Flow Rate (gal/min)	Total Volume Removed (gal)	Depth to Water (ft BTOC)	Turbidity (ntu)	pH (SU)	Sp. Cond. (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	Appearance of Water (color, odor)
1655	3.0	30	7.74	18.91					clear/cloudy
1705		60	7.77	20.53					clear
1715		90	7.80	14.94					clear
1725		120	7.83	3.97					clear
1735		150	7.81	9.78					clear
1745		180	7.82	13.96					clear
1750		195	7.83	1.36					clear
1763		204	7.83	1.20					clear
1756		213	7.83	0.76					clear
1759		222	7.83	0.69					clear
1802		231	7.84	0.63					clear

Describe Development Method (e.g., pumping, surging, instrumentation, total volume removed, rest periods, problems, deviations from plan, etc.)

1530: waterra pump on, @ 1.1 gpm
24 adjusts .25ft every 2mins
1532: pump off. 62 min purge, -> 68.2 gals purged

1645: Sub-pump on, 1ft every 3mins retracted
1724: Sub pump lowered back to bottom
1740: sub-pump set in middle of screen
1803: Sub pump off

Final DTW: 5.66
Final DTB: 27.98

Water Quality Meter
Meter Number:
Calibrated on/by: /
Stabilization Parameters

Geosyntec consultants

Well Development Log

Site: Lakeland Electric | Project No.:

Monitoring Well: MW-26S | Date: 7/20/23

Well Condition: Good | PID (ppm):

Initial Depth to Water (ft): 11.79 | Initial Depth to Bottom (ft): 25.89

Well Diameter (in): 4 | Height of Water (ft):

multiply height by 0.163 for 2" well, 0.64 for 4" well | Total Volume in Well (g):

Final Depth to Water (ft): 12.66 | Final Depth to Bottom (ft): 25.89

Time	Flow Rate (gal/min)	Cumulative Total Volume Removed (gal)	Depth to Water (ft BTOC)	Turbidity (ntu)	pH (SU)	Sp. Cond (mS/cm)	Temp. (°C)	Dissolved Oxygen (mg/L)	Appearance of Water (color, odor)
0935	3.5	~~35~~ 70	21.35	1853					brown
0937	3.5	77	23.43	906					brown
* 0945	↓	77	20.65	967					brown
0947		84	23.24	644					brown
0948		87.5	23.76	100					brown
* 0954		87.5	22.03	843					brown
0956		94.5	23.17	708					brown
0958		101.5	23.97	108					brown
* 1004		101.5	19.85	779					brown
1007		112	24.05	74					cloudy
* 1013		112	18.78	81					cloudy
1018		129.5	24.27	37					cloudy
* 1025		~~[illegible]~~ 127.5	18.92	40					cloudy
1029	↓	143.5	24.23	55					cloudy

Pump stop

PTO

Describe Development Method (e.g., pumping, surging, instrumentation total volume removed, rest periods, problems, deviations from plan, etc.)

0814: Waterra pump start, 0.7 gpm
- retracting 4 in every 3 mins (5ft screen)

0859: waterra pump stop, 45 min purged → 31.5 gal purged

0915: Sub-pump start, 3.5 gpm
- retracting 1 ft every 3 mins

0935: well pumps dry too quickly. JA sets pump in the middle of the screen and stop/starts pump until clear

1117: Pump stop final. Total volume purged from sub-pump → 206.5 gal

Final DTW: 19.34 ft (5 min After)

Final DTB: 25.86 ft

Water Quality Meter

Meter Number:

Calibrated on/by: /

Stabilization Parameters

* Pump restart after purge dry

– Pump stop when purge dry

MW-26S cont.

	Time	Flow Rate	Depth to water (BTOC) ft	Turbidity (NTU)	Appearance	Total Volume removed
*	1036	3.5	18.56	47	cloudy	143.5
	1040		24.23	74.48	cloudy	157.5
*	1047		19.45	88.58	cloudy	157.5
	1051		24.33	64.27	cloudy	171.5
*	1058		18.53	77.93	cloudy	171.5
	1103		24.20	53.13	cloudy	189
*	1112		18.28	86.86	cloudy	189
	1117	∅	24.24	54.84	cloudy	206.5

Geosyntec consultants

Well Development Log

Site: Lakeland Elevator Project No.:

Monitoring Well: SW-106 Date: 7/20/13

Well Condition: Sand PID (ppm):

Initial Depth to Water (ft): 10.25 Initial Depth to Bottom (ft): 27.78

Well Diameter (in): 2 Height of Water (ft):

multiply height by 0.163 for 2" well, 0.64 for 4" well Total Volume in Well (g):

Final Depth to Water (ft): ~~10.41~~ Condition Final Depth to Bottom (ft): 25.31

Time	Flow Rate (gal/min)	Total Volume Removed (gal)	Depth to Water (ft BTOC)	Turbidity (NTU)	pH (SU)	Sp. Cond. (mS/cm)	Temp. (°C)	Dissolved Oxygen (mg/L)	Appearance of Water (color, odor)
1400	*	- -							
* 1404	3.6	~~1832.4~~	14.25								milky brown
1408	|	32.4	25.92								milky brown
* 1411	|	32.4	14.75								|
1416	|	46.8	26.17								|
* 1417	|	46.8	14.52								|
1422	|	64.8	26.07								|
* 1425	|	64.8	~~194.88~~	629						|
1428	|	75.6	25.42	620						↓
* 1432	|	~~90.75~~	14.33	184						cloudy
1435	|	~~108~~ 81.4	25.62	170						|
* 1440	|	86.4	~~Note~~	170						|
1443	↓	104.4	-	145.88						↓

PTO →

Describe Development Method (e.g., pumping, surging, instrumentation total volume removed, rest periods, problems, deviations from plan, etc.)

1242: Waterra pump start, .67 gpm
- recharging 4in ~~easy~~ 2mins

1345: waterra pump off. 63 min purge. → 44.1 gal purged

1355: Sub-pump on, 3.5 gpm
- recharging 1ft every 2mins

1400: well pumps dry ~~too~~ quickly. JA sets pump in screened interval and stop/starts pump until clear

1404: Pump stop final. Total volume purged from sub-pump →

- Pump stop due to well purge dry
* Pump start after well recharge

Water Quality Meter

Meter Number:

Calibrated on/by:

Stabilization Parameters

* Note: DTW due to situation stopped being measured. pump off at 26ft BTOC & Pump on at 11ft BTOC.

Final DTW: 10.39

Final DTB: 28.01 ft

SW-106 cont.

Time	Flow Rate gpm	Total volume Removed gal	Depth to water ft (stick)	Turbidity NTU	Appearance of water
* 1449	3.6	104.4	–	125	cloudy
– 1453		108	–	136	
* 1458		108	–	120	
– 1503		126	–	102.45	
* 1507		126	–	77.52	
– 1511		140.4	–	96.32	
* 1515		140.4	–	82.48	
– 1519		154.8	–	88.24	
* 1524		154.8	–	83.21	
– 1528		169.2	–	57.82	
* 1533		169.2	–	79.45	
– 1540		187.2	–	57.94	
* 1545		187.2	–	46.02	cloudy/clear
– 1551		205.8	–	62.43	cloudy
* 1556		205.8	–	46.31	clear
1604	*	237.6		41.26	clear

Form FD9000-8 CALIBRATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Geosyntec Consultants
Water Quality Instrument Calibration Form

Project/Site: Lakeland Electric   Project #: FR3715F/06/****/   Field Personnel: Jacob Adam

Water Quality Meter - Model/Serial #:   Turbidimeter - Model/Serial #: LaMotte

Dissolved Oxygen	DEP SOP FT 1500	Date	Time	Temp (°C)	Saturation (mg/L)[1]	Reading (mg/L)	Reading (%)	Pass or Fail
						Acceptance Criteria: +/-0.3 mg/L		
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

Specific Conductance	DEP SOP FT 1200	Date	Time	Standard (mS/cm)	Standard Lot #	Standard Exp. Date	Reading (mS/cm)	Pass or Fail
						Acceptance Criteria: +/- 5%		
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

pH	DEP SOP FT 1100	Date	Time	Standard (SU)	Standard Lot #	Standard Exp. Date	Reading (SU)	Pass or Fail
						Acceptance Criteria: +/- 0.2 SU		
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

ORP	SOP N/A	Date	Time	Std. mV @ Temp °C	Standard Lot #	Standard Exp. Date	Reading (mV)	Pass or Fail
						Geosyntec Acceptance Criteria: +/- 5%		
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

Specific Conductance Probe Cleaned? Yes No   Dissolved Oxygen Membrane Changed? Yes No

0.1 - 10 NTU Std 10 NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria: +/- 10%		
CAL (ICV) CCV	7/18/23	10.25	(P) F
CAL (ICV) CCV	9/19/23	9.35	(P) F
CAL (ICV) CCV	9/20/23	9.92	(P) F
CAL ICV CCV			P F

11 - 40 NTU Std ___ NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria: +/- 8%		
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

41 - 100 NTU Std ___ NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria: +/- 6.5%		
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

>100 NTU Std ___ NTU	Date	Reading (NTU)	Pass or Fail
	Acceptance Criteria: +/- 5%		
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F
CAL ICV CCV			P F

1. See Table FS 2200-2 on the back of this form

CAL - Initial Calibration

ICV - Initial Calibration Verification

CCV - Continuing Calibration Verification

[illegible]

[illegible]

[illegible]

[illegible]

Comments:

Geosyntec consultants

[illegible]

ATTACHMENT B

Photographic Log

GEOSYNTEC CONSULTANTS
Photographic Record

Geosyntec consultants

Client: Lakeland Electric	**Project Number: FR3713F**
Site Name: C.D. McIntosh Power Plant	**Site Location: 3030 East Lake Parker Drive Lakeland, FL 33805**

Photo 1	
Date: 7/19/2023	
Direction: N/A	
Comments: Image of 2-inch surge block and foot valve assembly utilized during well development with a Waterra Hydrolift pump.	

Photo 2	
Date: 7/19/2023	
Direction: Southeast	
Comments: Image of Waterra Hydrolift well development activities at CCR-11.	

GEOSYNTEC CONSULTANTS
Photographic Record

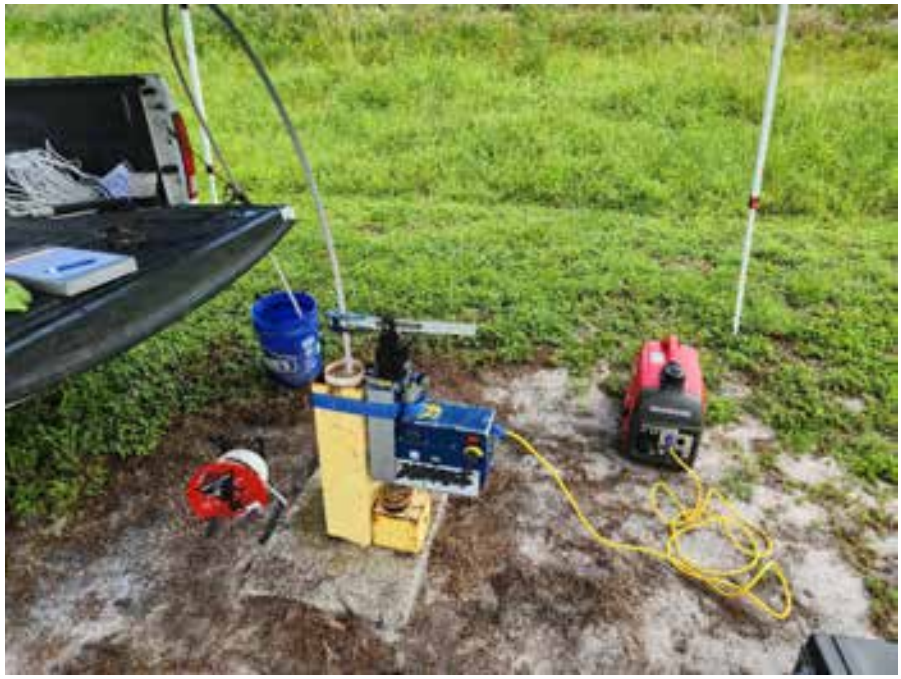
Geosyntec consultants

Client: Lakeland Electric	**Project Number: FR3713F**
Site Name: C.D. McIntosh Power Plant	**Site Location: 3030 East Lake Parker Drive Lakeland, FL 33805**

Photo 3 **Date: 7/19/2023** **Direction: Southeast** **Comments: Image of well development activities at CCR-13 with a Whale Mega Purger submersible pump deployed.**	

Photo 4 **Date: 7/19/2023** **Direction: Northwest** **Comments: Image of depth to bottom measurement at CCR-15 after well development with a Waterra Hydrolift pump. Depth to bottom is measured prior to and after a well development to determine the amount of sediment removed from the bottom of well.**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Lakeland Electric	**Project Number: FR3713F**
Site Name: C.D. McIntosh Power Plant	**Site Location: 3030 East Lake Parker Drive Lakeland, FL 33805**

Photo 5 **Date: 7/19/2023** **Direction: N/A** **Comments: Image of CCR-11 well development purge water during well development with a Waterra Hydrolift pump. High turbidity observed indicates removal of sediment from the well.**	
Photo 6 **Date: 7/20/2023** **Direction: North** **Comments: Image of well development activities at MW-26S utilizing a Waterra Hydrolift pump.**	

APPENDIX C

Statistical Results – First Semi-Annual 2023 Monitoring

FEBRUARY 2023 BSA LANDFILL APPENDIX IV STATISTICS - DOWNGRADIENT WELLS
Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Monitoring Location	Analyte	Units	Number of Samples	Number of NDs	Percent NDs	Minimum Detected Result	Maximum Detected Result	Minimum Detection Limit	Maximum Detection Limit	Mean[1]	CV	Concentration Trend[3]	LCL Distribution[2]	95% LCL
CCR-4	Antimony	mg/L	22	19	86	0.001	0.0015	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-4	Arsenic	mg/L	25	11	44	0.001	0.0136	0.00221	0.013	0.0018	1.3207	Decreasing	Nonparametric[4]	0.0016
CCR-4	Barium	mg/L	25	0	0	0.149	0.36	--	--	0.2755	0.2036	No Trend	Normal	0.26
CCR-4	Beryllium	mg/L	21	7	33	0.0002	0.00084	0.000101	0.00283	0.0005	0.4832	Stable	Normal	0.00034
CCR-4	Cadmium	mg/L	23	8	35	0.00046	0.0233	0.000181	0.0039	0.0039	1.5610	No Trend	Gamma	0.0022
CCR-4	Chromium	mg/L	23	5	22	0.0015	0.0063	0.001	0.00513	0.0022	0.4550	Decreasing	Nonparametric[4]	0.0020
CCR-4	Cobalt	mg/L	23	7	30	0.0027	0.0052	0.000293	0.002	0.0027	0.6194	Decreasing	Normal	0.0015
CCR-4	Fluoride	mg/L	27	6	22	0.04	1.92	0.032	0.05	0.2956	1.2905	Increasing	Trend (Theil-Sen Slope)	0.44
CCR-4	Lead	mg/L	23	18	78	0.00051	0.0032	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-4	Lithium	mg/L	25	4	16	0.0079	0.34	0.00333	0.022	0.0945	1.1190	Increasing	Trend (Theil-Sen Slope)	0.073
CCR-4	Mercury	mg/L	22	22	100	--	--	0.00003	0.000152	NA	NA	NA	DL	0.00007
CCR-4	Molybdenum	mg/L	25	23	92	0.0161	0.0184	0.00085	0.00631	NA	NA	NA	DL	0.00085
CCR-4	Selenium	mg/L	25	13	52	0.00029	0.0031	0.00024	0.028	NA	NA	NA	DL	0.00439
CCR-4	Thallium	mg/L	23	9	39	0.00026	0.0051	0.000925	0.0017	0.0006	1.7239	No Trend	Nonparametric	0.00047
CCR-5	Antimony	mg/L	22	22	100	--	--	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-5	Arsenic	mg/L	25	10	40	0.00078	0.019	0.00046	0.013	0.0024	1.7386	Decreasing	Nonparametric[4]	0.0018
CCR-5	Barium	mg/L	25	0	0	0.064	0.0847	--	--	0.0725	0.0844	Increasing	Trend (Regression)	0.076
CCR-5	Beryllium	mg/L	21	21	100	--	--	0.000101	0.00283	NA	NA	NA	DL	0.00034
CCR-5	Cadmium	mg/L	23	22	96	0.001	0.001	0.000181	0.0039	NA	NA	NA	DL	0.00034
CCR-5	Chromium	mg/L	23	6	26	0.0008	0.0018	0.000736	0.00513	0.0013	0.2702	Decreasing	Trend (Theil-Sen Slope)	0.00047
CCR-5	Cobalt	mg/L	23	21	91	0.0032	0.0034	0.000293	0.002	NA	NA	NA	DL	0.00040
CCR-5	Fluoride	mg/L	26	6	23	0.04	0.835	0.026	0.084	0.1119	1.5958	Increasing	Trend (Theil-Sen Slope)	0.075
CCR-5	Lead	mg/L	23	17	74	0.00046	0.0021	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-5	Lithium	mg/L	25	0	0	2.3	5.35	--	--	3.2232	0.2988	Increasing	Nonparametric	2.50
CCR-5	Mercury	mg/L	22	21	95	0.000233	0.000233	0.00003	0.000152	NA	NA	NA	DL	0.00007
CCR-5	Molybdenum	mg/L	25	22	88	0.0026	0.025	0.00085	0.00631	NA	NA	NA	DL	0.00085
CCR-5	Selenium	mg/L	25	14	56	0.00028	0.0312	0.00024	0.028	NA	NA	NA	DL	0.0044
CCR-5	Thallium	mg/L	23	21	91	0.0036	0.0056	0.000085	0.0017	NA	NA	NA	DL	0.00009
CCR-6	Antimony	mg/L	22	22	100	--	--	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-6	Arsenic	mg/L	25	11	44	0.00047	0.0073	0.00046	0.00586	0.0013	1.4130	Decreasing	Nonparametric	0.0010
CCR-6	Barium	mg/L	25	1	4	0.0145	0.051	0.017	0.017	0.0294	0.3731	Probably Decreasing	Trend (Regression)	0.015
CCR-6	Beryllium	mg/L	21	21	100	--	--	0.000101	0.00283	NA	NA	NA	DL	0.00034
CCR-6	Cadmium	mg/L	23	22	96	0.0003	0.0003	0.000181	0.0039	NA	NA	NA	DL	0.00034
CCR-6	Chromium	mg/L	23	13	57	0.0009	0.021	0.000736	0.00513	NA	NA	NA	DL	0.0011
CCR-6	Cobalt	mg/L	23	22	96	0.0005	0.0005	0.000293	0.002	NA	NA	NA	DL	0.00040
CCR-6	Fluoride	mg/L	27	0	0	0.09	0.738	--	--	0.2300	0.6146	Increasing	Trend (Theil-Sen Slope)	0.34
CCR-6	Lead	mg/L	23	21	91	0.00037	0.00041	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-6	Lithium	mg/L	25	0	0	0.045	1.47	--	--	0.3873	0.9752	Increasing	Trend (Regression)	0.72
CCR-6	Mercury	mg/L	22	22	100	--	--	0.00003	0.000152	NA	NA	NA	DL	0.00007
CCR-6	Molybdenum	mg/L	25	11	44	0.0011	0.0362	0.00085	0.00631	0.0053	1.5495	Increasing	Trend (Theil-Sen Slope)	0.0060
CCR-6	Selenium	mg/L	25	18	72	0.00033	0.00073	0.00024	0.027	NA	NA	NA	DL	0.00024
CCR-6	Thallium	mg/L	23	23	100	--	--	0.000085	0.0034	NA	NA	NA	DL	0.00009

FEBRUARY 2023 BSA LANDFILL APPENDIX IV STATISTICS - DOWNGRADIENT WELLS
Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Monitoring Location	Analyte	Units	Number of Samples	Number of NDs	Percent NDs	Minimum Detected Result	Maximum Detected Result	Minimum Detection Limit	Maximum Detection Limit	Mean[1]	CV	Concentration Trend[3]	LCL Distribution[2]	95% LCL
CCR-7	Antimony	mg/L	22	21	95	0.0178	0.0178	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-7	Arsenic	mg/L	25	16	64	0.00051	0.0169	0.00046	0.00586	NA	NA	NA	DL	0.00046
CCR-7	Barium	mg/L	25	1	4	0.0076	0.1	0.017	0.017	0.0388	0.5927	Decreasing	Normal	0.030
CCR-7	Beryllium	mg/L	21	21	100	--	--	0.000101	0.00283	NA	NA	NA	DL	0.00034
CCR-7	Cadmium	mg/L	23	23	100	--	--	0.000181	0.0039	NA	NA	NA	DL	0.00034
CCR-7	Chromium	mg/L	23	10	43	0.0012	0.0028	0.000736	0.00513	0.0015	0.4462	Stable	Normal	0.0011
CCR-7	Cobalt	mg/L	23	18	78	0.00041	0.001	0.000293	0.002	NA	NA	NA	DL	0.00040
CCR-7	Fluoride	mg/L	26	0	0	0.08	0.54	--	--	0.2487	0.4896	Probably Increasing	Trend (Regression)	0.22
CCR-7	Lead	mg/L	23	19	83	0.00039	0.0013	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-7	Lithium	mg/L	26	4	15	0.0032	0.34	0.0032	0.00474	0.0574	1.3213	Increasing	Gamma[6]	0.039
CCR-7	Mercury	mg/L	22	21	95	0.00007	0.00007	0.00003	0.000152	NA	NA	NA	DL	0.00007
CCR-7	Molybdenum	mg/L	25	23	92	0.00858	0.0115	0.00085	0.00631	NA	NA	NA	DL	0.00085
CCR-7	Selenium	mg/L	25	18	72	0.00024	0.00043	0.00024	0.027	NA	NA	NA	DL	0.00024
CCR-7	Thallium	mg/L	23	23	100	--	--	0.000085	0.0034	NA	NA	NA	DL	0.00009
CCR-8	Antimony	mg/L	22	20	91	0.0017	0.0058	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-8	Arsenic	mg/L	25	9	36	0.0015	0.0135	0.00221	0.00586	0.0030	0.8460	Decreasing	Nonparametric	0.0025
CCR-8	Barium	mg/L	25	0	0	0.0244	0.064	--	--	0.0367	0.3157	Stable	Gamma	0.033
CCR-8	Beryllium	mg/L	21	21	100	--	--	0.000101	0.00283	NA	NA	NA	DL	0.00034
CCR-8	Cadmium	mg/L	23	23	100	--	--	0.000181	0.0039	NA	NA	NA	DL	0.00034
CCR-8	Chromium	mg/L	23	20	87	0.0007	0.0008	0.000513	0.00513	NA	NA	NA	DL	0.0011
CCR-8	Cobalt	mg/L	23	22	96	0.0012	0.0012	0.000293	0.002	NA	NA	NA	DL	0.00040
CCR-8	Fluoride	mg/L	27	0	0	0.23	0.4	--	--	0.3096	0.1421	Increasing	Trend (Regression)	0.34
CCR-8	Lead	mg/L	23	22	96	0.00045	0.00045	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-8	Lithium	mg/L	25	11	44	0.0043	0.0491	0.00272	0.011	0.0111	1.0427	Decreasing	Nonparametric	0.0085
CCR-8	Mercury	mg/L	22	22	100	--	--	0.00003	0.000152	NA	NA	NA	DL	0.00007
CCR-8	Molybdenum	mg/L	25	0	0	0.011	0.0238	--	--	0.0165	0.1930	Stable	Normal	0.015
CCR-8	Selenium	mg/L	25	20	80	0.0003	0.0246	0.00024	0.027	NA	NA	NA	DL	0.00024
CCR-8	Thallium	mg/L	23	22	96	0.00015	0.00015	0.000085	0.0034	NA	NA	NA	DL	0.00009
CCR-9	Antimony	mg/L	22	21	95	0.0017	0.0017	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-9	Arsenic	mg/L	25	4	16	0.003	0.0173	0.00221	0.0075	0.0056	0.5942	Stable	Gamma	0.0046
CCR-9	Barium	mg/L	25	0	0	0.0435	0.13	--	--	0.0858	0.2784	Decreasing	Trend (Regression)	0.031
CCR-9	Beryllium	mg/L	21	21	100	--	--	0.000101	0.00283	NA	NA	NA	DL	0.00034
CCR-9	Cadmium	mg/L	23	22	96	0.00058	0.00058	0.000181	0.0039	NA	NA	NA	DL	0.00034
CCR-9	Chromium	mg/L	23	15	65	0.001	0.0023	0.000736	0.00513	NA	NA	NA	DL	0.0011
CCR-9	Cobalt	mg/L	23	23	100	--	--	0.000293	0.002	NA	NA	NA	DL	0.00040
CCR-9	Fluoride	mg/L	27	0	0	0.095	0.69	--	--	0.2421	0.5983	Increasing	Trend (Theil-Sen Slope)	0.28
CCR-9	Lead	mg/L	23	20	87	0.00054	0.0028	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-9	Lithium	mg/L	25	1	4	0.0457	0.19	0.00272	0.00272	0.1032	0.4294	Probably Decreasing	Trend (Regression)	0.023
CCR-9	Mercury	mg/L	22	22	100	--	--	0.00003	0.000152	NA	NA	NA	DL	0.00007
CCR-9	Molybdenum	mg/L	25	21	84	0.0014	0.0166	0.00085	0.00631	NA	NA	NA	DL	0.00085
CCR-9	Selenium	mg/L	25	12	48	0.00047	0.0015	0.00309	0.027	0.0010	0.3131	Increasing	Normal[4]	0.00081
CCR-9	Thallium	mg/L	23	22	96	0.0048	0.0048	0.000085	0.0017	NA	NA	NA	DL	0.00009

FEBRUARY 2023 BSA LANDFILL APPENDIX IV STATISTICS - DOWNGRADIENT WELLS
Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Monitoring Location	Analyte	Units	Number of Samples	Number of NDs	Percent NDs	Minimum Detected Result	Maximum Detected Result	Minimum Detection Limit	Maximum Detection Limit	Mean[1]	CV	Concentration Trend[3]	LCL Distribution[2]	95% LCL
CCR-11	Antimony	mg/L	22	21	95	0.0015	0.0015	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-11	Arsenic	mg/L	25	0	0	0.0513	0.14	--	--	0.0911	0.3349	Decreasing	Trend (Regression)	0.032
CCR-11	Barium	mg/L	25	0	0	0.025	0.071	--	--	0.0530	0.1884	Decreasing	Trend (Regression)	0.039
CCR-11	Beryllium	mg/L	21	21	100	--	--	0.000101	0.00283	NA	NA	NA	DL	0.00034
CCR-11	Cadmium	mg/L	23	22	96	0.001	0.001	0.000181	0.0039	NA	NA	NA	DL	0.00034
CCR-11	Chromium	mg/L	23	6	26	0.0012	0.0023	0.000736	0.00513	0.0016	0.2487	Decreasing	Normal[4]	0.0014
CCR-11	Cobalt	mg/L	23	22	96	0.0009	0.0009	0.000293	0.002	NA	NA	NA	DL	0.00040
CCR-11	Fluoride	mg/L	28	0	0	0.35	1.46	--	--	0.6376	0.5284	Increasing	Trend (Theil-Sen Slope)	1.06
CCR-11	Lead	mg/L	23	16	70	0.00039	0.0014	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-11	Lithium	mg/L	25	14	56	0.004	0.0338	0.00272	0.011	NA	NA	NA	DL	0.0032
CCR-11	Mercury	mg/L	22	22	100	--	--	0.00003	0.000152	NA	NA	NA	DL	0.00007
CCR-11	Molybdenum	mg/L	25	18	72	0.00089	0.0149	0.00085	0.00631	NA	NA	NA	DL	0.00085
CCR-11	Selenium	mg/L	25	9	36	0.0013	0.0085	0.00309	0.027	0.0025	0.8922	No Trend	Nonparametric	0.0022
CCR-11	Thallium	mg/L	23	23	100	--	--	0.000085	0.0034	NA	NA	NA	DL	0.00009
CCR-12	Antimony	mg/L	22	22	100	--	--	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-12	Arsenic	mg/L	25	0	0	0.00089	0.199	--	--	0.0579	0.8025	Increasing	Trend (Theil-Sen Slope)	0.070
CCR-12	Barium	mg/L	25	0	0	0.0117	0.048	--	--	0.0175	0.4190	Increasing	Trend (Theil-Sen Slope)	0.017
CCR-12	Beryllium	mg/L	21	21	100	--	--	0.000101	0.00283	NA	NA	NA	DL	0.00034
CCR-12	Cadmium	mg/L	23	22	96	0.0009	0.0009	0.000181	0.0039	NA	NA	NA	DL	0.00034
CCR-12	Chromium	mg/L	23	18	78	0.0006	0.0024	0.000736	0.00513	NA	NA	NA	DL	0.0011
CCR-12	Cobalt	mg/L	23	20	87	0.0008	0.0015	0.000293	0.002	NA	NA	NA	DL	0.00040
CCR-12	Fluoride	mg/L	27	0	0	0.45	1.44	--	--	0.6438	0.3272	Increasing	Trend (Theil-Sen Slope)	0.77
CCR-12	Lead	mg/L	23	22	96	0.001	0.001	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-12	Lithium	mg/L	25	20	80	0.0139	0.26	0.00272	0.011	NA	NA	NA	DL	0.0032
CCR-12	Mercury	mg/L	22	22	100	--	--	0.00003	0.000152	NA	NA	NA	DL	0.00007
CCR-12	Molybdenum	mg/L	25	2	8	0.0056	0.0368	0.00085	0.00392	0.0121	0.7107	Increasing	Trend (Theil-Sen Slope)	0.016
CCR-12	Selenium	mg/L	25	14	56	0.00032	0.0151	0.00024	0.028	NA	NA	NA	DL	0.0044
CCR-12	Thallium	mg/L	23	21	91	0.00035	0.0041	0.000085	0.0017	NA	NA	NA	DL	0.00009

FEBRUARY 2023 BSA LANDFILL APPENDIX IV STATISTICS - DOWNGRADIENT WELLS
Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Monitoring Location	Analyte	Units	Number of Samples	Number of NDs	Percent NDs	Minimum Detected Result	Maximum Detected Result	Minimum Detection Limit	Maximum Detection Limit	Mean[1]	CV	Concentration Trend[3]	LCL Distribution[2]	95% LCL
CCR-13	Antimony	mg/L	22	21	95	0.0014	0.0014	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-13	Arsenic	mg/L	25	13	52	0.00052	0.043	0.00046	0.00396	NA	NA	NA	DL	0.00046
CCR-13	Barium	mg/L	25	0	0	0.01	0.053	--	--	0.0378	0.3131	Stable	Nonparametric	0.037
CCR-13	Beryllium	mg/L	21	19	90	0.0002	0.0003	0.000101	0.00283	NA	NA	NA	DL	0.00034
CCR-13	Cadmium	mg/L	23	21	91	0.0003	0.0351	0.000181	0.0039	NA	NA	NA	DL	0.00034
CCR-13	Chromium	mg/L	23	7	30	0.001	0.0023	0.0011	0.00513	0.0017	0.2703	Stable	Normal	0.0015
CCR-13	Cobalt	mg/L	23	8	35	0.00094	0.0046	0.000354	0.002	0.0015	0.7498	No Trend	Normal	0.00054
CCR-13	Fluoride	mg/L	27	0	0	0.103	2.64	--	--	0.8857	0.6941	Increasing	Trend (Regression)	1.75
CCR-13	Lead	mg/L	23	23	100	--	--	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-13	Lithium	mg/L	25	1	4	0.011	0.32	0.0032	0.0032	0.2046	0.4588	Stable	Normal	0.17
CCR-13	Mercury	mg/L	22	21	95	0.000195	0.000195	0.00003	0.000152	NA	NA	NA	DL	0.00007
CCR-13	Molybdenum	mg/L	25	18	72	0.001	0.0121	0.00085	0.00631	NA	NA	NA	DL	0.00085
CCR-13	Selenium	mg/L	25	17	68	0.00032	0.0135	0.00024	0.027	NA	NA	NA	DL	0.00024
CCR-13	Thallium	mg/L	23	18	78	0.00009	0.00011	0.000085	0.0034	NA	NA	NA	DL	0.00009

Notes:

1 - For data sets with any ND data and 50% or less NDs, the Kaplan-Meier mean and standard deviation are provided. For data sets without ND data, the arithmetic mean is provided. For data sets with greater than 50% NDs, no mean is provided.

2. For distribution = "Normal" and "Lognormal", the 95% LCL was calculated on the mean concentration.
For distribution = "Trend (Regression)" or "Trend (Theil-Sen Slope)", the 95% LCL was calculated from the regression/Sen's slope line due to an increasing/decreasing trend.
For distribution = "Nonparametric", the 95% LCL was calculated on the median concentration.
For distribution = "DL", the 95% LCL was equivalent to the MDL.

3. The Mann-Kendall test was used to identify increasing or decreasing trends in the data with trends identified with a confidence level of 95% or more marked increasing or decreasing and those with a confidence level between 90% and 95% marked probably increasing or probably decreasing.

4. Trend is an artifact of varyng detection limits, therefore, the LCL was derived using a nonparametric method.

5. Data used in the statistical analysis are provided in Table 2.

6. There were two anamolously high concentrations in April 2018 and April 2019, but concentrations have been decreasing since April 2019. As such, a Gamma LCL was calculated instead of an LCL from the trend line.

-- - not provided because all data had either detected concentrations or was nondetect.
CV - coefficient of variation calculated as the ratio of the standard deviation to the mean
LCL - lower confidence limit
mg/L - milligrams per liter
NA - not applicable, statistic could not be calculated due to high percent of non-detects (>50% NDs)
ND - non-detect

APPENDIX D

Statistical Results – Second Semi-Annual 2023 Monitoring

AUGUST 2023 BSA LANDFILL APPENDIX IV STATISTICS - DOWNGRADIENT WELLS
Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Monitoring Location	Analyte	Units	Number of Samples	Number of NDs	Percent NDs	Minimum Detected Result	Maximum Detected Result	Minimum Detection Limit	Maximum Detection Limit	Mean[1]	CV	Concentration Trend[3]	LCL Distribution[2]	95% LCL
CCR-4	Antimony	mg/L	23	20	87	0.001	0.0015	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-4	Arsenic	mg/L	26	11	42	0.00051	0.0136	0.00221	0.013	0.0018	1.36	Decreasing	Nonparametric[4]	0.0015
CCR-4	Barium	mg/L	26	0	0	0.149	0.36	--	--	0.2734	0.20	Stable	Normal	0.25
CCR-4	Beryllium	mg/L	22	8	36	0.0002	0.00084	0.000101	0.00283	0.0005	0.48	Probably Decreasing	Normal[4]	0.00034
CCR-4	Cadmium	mg/L	24	9	38	0.00046	0.0233	0.000181	0.0039	0.0037	1.60	No Trend	Gamma	0.0021
CCR-4	Chromium	mg/L	24	6	25	0.0015	0.0063	0.001	0.00513	0.0022	0.45	Decreasing	Nonparametric[4]	0.0020
CCR-4	Cobalt	mg/L	24	7	29	0.0011	0.0052	0.000293	0.002	0.0027	0.63	Decreasing	Nonparametric	0.0024
CCR-4	Fluoride	mg/L	28	7	25	0.04	1.92	0.032	20	0.2956	1.29	Increasing	Trend (Theil-Sen Slope)	0.52
CCR-4	Lead	mg/L	24	19	79	0.00051	0.0032	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-4	Lithium	mg/L	26	4	15	0.0079	0.34	0.00333	0.022	0.0993	1.07	Increasing	Trend (Theil-Sen Slope)	0.101
CCR-4	Mercury	mg/L	23	22	96	0.000034	0.000034	0.00003	0.000152	NA	NA	NA	DL	0.00007
CCR-4	Molybdenum	mg/L	26	24	92	0.0161	0.0184	0.0005	0.00631	NA	NA	NA	DL	0.00085
CCR-4	Selenium	mg/L	26	14	54	0.00029	0.0031	0.00024	0.028	NA	NA	NA	DL	0.0044
CCR-4	Thallium	mg/L	24	10	42	0.00026	0.0051	0.00025	0.0017	0.0005	1.74	Decreasing	Nonparametric[4]	0.00046
CCR-5	Antimony	mg/L	23	23	100	--	--	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-5	Arsenic	mg/L	26	10	38	0.00042	0.019	0.00046	0.013	0.0023	1.78	Decreasing	Nonparametric[4]	0.0017
CCR-5	Barium	mg/L	26	0	0	0.064	0.085	--	--	0.0730	0.09	Increasing	Trend (Regression)	0.078
CCR-5	Beryllium	mg/L	22	22	100	--	--	0.000101	0.00283	NA	NA	NA	DL	0.00034
CCR-5	Cadmium	mg/L	24	23	96	0.001	0.001	0.000181	0.0039	NA	NA	NA	DL	0.00034
CCR-5	Chromium	mg/L	24	7	29	0.0008	0.0018	0.000736	0.00513	0.0013	0.27	Decreasing	Trend (Theil-Sen Slope)	0.00055
CCR-5	Cobalt	mg/L	24	22	92	0.0032	0.0034	0.00025	0.002	NA	NA	NA	DL	0.0004
CCR-5	Fluoride	mg/L	27	7	26	0.04	0.835	0.026	20	0.1119	1.60	Increasing	Trend (Theil-Sen Slope)	0.086
CCR-5	Lead	mg/L	24	18	75	0.00046	0.0021	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-5	Lithium	mg/L	26	0	0	2.3	5.35	--	--	3.2569	0.29	Increasing	Nonparametric	2.50
CCR-5	Mercury	mg/L	23	21	91	0.00011	0.000233	0.00003	0.000152	NA	NA	NA	DL	0.00007
CCR-5	Molybdenum	mg/L	26	23	88	0.0026	0.025	0.0005	0.00631	NA	NA	NA	DL	0.00085
CCR-5	Selenium	mg/L	26	15	58	0.00028	0.0312	0.00024	0.028	NA	NA	NA	DL	0.0044
CCR-5	Thallium	mg/L	24	22	92	0.0036	0.0056	0.000085	0.0017	NA	NA	NA	DL	0.000085

AUGUST 2023 BSA LANDFILL APPENDIX IV STATISTICS - DOWNGRADIENT WELLS
Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Monitoring Location	Analyte	Units	Number of Samples	Number of NDs	Percent NDs	Minimum Detected Result	Maximum Detected Result	Minimum Detection Limit	Maximum Detection Limit	Mean[1]	CV	Concentration Trend[3]	LCL Distribution[2]	95% LCL
CCR-6	Antimony	mg/L	23	23	100	--	--	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-6	Arsenic	mg/L	26	12	46	0.00047	0.0073	0.00025	0.00586	0.0012	1.50	Decreasing	Nonparametric	0.00095
CCR-6	Barium	mg/L	26	2	8	0.0145	0.051	0.003	0.017	0.0283	0.43	Decreasing	Trend (Regression)	0.010
CCR-6	Beryllium	mg/L	22	22	100	--	--	0.000101	0.00283	NA	NA	NA	DL	0.00034
CCR-6	Cadmium	mg/L	24	23	96	0.0003	0.0003	0.000181	0.0039	NA	NA	NA	DL	0.00034
CCR-6	Chromium	mg/L	24	14	58	0.0009	0.021	0.000736	0.00513	NA	NA	NA	DL	0.0011
CCR-6	Cobalt	mg/L	24	23	96	0.0005	0.0005	0.00025	0.002	NA	NA	NA	DL	0.0004
CCR-6	Fluoride	mg/L	28	1	4	0.09	0.738	0.4	0.4	0.2285	0.60	Increasing	Trend (Theil-Sen Slope)	0.36
CCR-6	Lead	mg/L	24	22	92	0.00037	0.00041	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-6	Lithium	mg/L	26	1	4	0.045	1.47	0.06	0.06	0.3744	0.98	Increasing	Trend (Regression)	0.55
CCR-6	Mercury	mg/L	23	23	100	--	--	0.000011	0.000152	NA	NA	NA	DL	0.00007
CCR-6	Molybdenum	mg/L	26	11	42	0.0011	0.0362	0.00085	0.00631	0.0054	1.49	Increasing	Trend (Theil-Sen Slope)	0.0070
CCR-6	Selenium	mg/L	26	19	73	0.00033	0.00073	0.00024	0.027	NA	NA	NA	DL	0.00024
CCR-6	Thallium	mg/L	24	24	100	--	--	0.000085	0.0034	NA	NA	NA	DL	0.000085
CCR-7	Antimony	mg/L	23	22	96	0.0178	0.0178	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-7	Arsenic	mg/L	26	17	65	0.00051	0.0169	0.00025	0.00586	NA	NA	NA	DL	0.00046
CCR-7	Barium	mg/L	26	1	4	0.0076	0.1	0.017	0.017	0.0376	0.62	Decreasing	Normal	0.029
CCR-7	Beryllium	mg/L	22	22	100	--	--	0.000101	0.00283	NA	NA	NA	DL	0.00034
CCR-7	Cadmium	mg/L	24	24	100	--	--	0.000181	0.0039	NA	NA	NA	DL	0.00034
CCR-7	Chromium	mg/L	24	11	46	0.0012	0.0028	0.000736	0.00513	0.0015	0.45	Stable	Normal	0.0011
CCR-7	Cobalt	mg/L	24	19	79	0.00041	0.001	0.00025	0.002	NA	NA	NA	DL	0.0004
CCR-7	Fluoride	mg/L	27	1	4	0.08	0.54	0.4	0.4	0.2474	0.48	Increasing	Trend (Regression)	0.25
CCR-7	Lead	mg/L	24	20	83	0.00039	0.0013	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-7	Lithium	mg/L	27	5	19	0.0032	0.34	0.0032	0.06	0.0561	1.33	Probably Increasing	Gamma[6]	0.038
CCR-7	Mercury	mg/L	23	22	96	0.00007	0.00007	0.000011	0.000152	NA	NA	NA	DL	0.00007
CCR-7	Molybdenum	mg/L	26	23	88	0.00053	0.0115	0.00085	0.00631	NA	NA	NA	DL	0.00085
CCR-7	Selenium	mg/L	26	19	73	0.00024	0.00043	0.00024	0.027	NA	NA	NA	DL	0.00024
CCR-7	Thallium	mg/L	24	24	100	--	--	0.000085	0.0034	NA	NA	NA	DL	0.000085

AUGUST 2023 BSA LANDFILL APPENDIX IV STATISTICS - DOWNGRADIENT WELLS
Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Monitoring Location	Analyte	Units	Number of Samples	Number of NDs	Percent NDs	Minimum Detected Result	Maximum Detected Result	Minimum Detection Limit	Maximum Detection Limit	Mean[1]	CV	Concentration Trend[3]	LCL Distribution[2]	95% LCL
CCR-8	Antimony	mg/L	23	21	91	0.0017	0.0058	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-8	Arsenic	mg/L	26	9	35	0.0013	0.0135	0.00221	0.00586	0.0029	0.87	Decreasing	Nonparametric[4]	0.0025
CCR-8	Barium	mg/L	26	0	0	0.021	0.064	--	--	0.0361	0.33	Probably Decreasing	Trend (Regression)	0.017
CCR-8	Beryllium	mg/L	22	22	100	--	--	0.000101	0.00283	NA	NA	NA	DL	0.00034
CCR-8	Cadmium	mg/L	24	24	100	--	--	0.000181	0.0039	NA	NA	NA	DL	0.00034
CCR-8	Chromium	mg/L	24	21	88	0.0007	0.0008	0.000513	0.00513	NA	NA	NA	DL	0.0011
CCR-8	Cobalt	mg/L	24	23	96	0.0012	0.0012	0.00025	0.002	NA	NA	NA	DL	0.0004
CCR-8	Fluoride	mg/L	28	1	4	0.23	0.4	0.4	0.4	0.3095	0.14	Increasing	Trend (Regression)	0.35
CCR-8	Lead	mg/L	24	23	96	0.00045	0.00045	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-8	Lithium	mg/L	26	12	46	0.0043	0.0491	0.00272	0.06	0.0111	1.04	Decreasing	Nonparametric	0.0088
CCR-8	Mercury	mg/L	23	23	100	--	--	0.000011	0.000152	NA	NA	NA	DL	0.00007
CCR-8	Molybdenum	mg/L	26	0	0	0.011	0.0238	--	--	0.0163	0.20	Stable	Normal	0.015
CCR-8	Selenium	mg/L	26	21	81	0.0003	0.0246	0.00024	0.027	NA	NA	NA	DL	0.00024
CCR-8	Thallium	mg/L	24	23	96	0.00015	0.00015	0.000085	0.0034	NA	NA	NA	DL	0.000085
CCR-9	Antimony	mg/L	23	22	96	0.0017	0.0017	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-9	Arsenic	mg/L	26	4	15	0.0019	0.0173	0.00221	0.0075	0.0054	0.62	Stable	Gamma	0.0045
CCR-9	Barium	mg/L	26	0	0	0.039	0.13	--	--	0.0840	0.30	Decreasing	Trend (Regression)	0.027
CCR-9	Beryllium	mg/L	22	22	100	--	--	0.000101	0.00283	NA	NA	NA	DL	0.00034
CCR-9	Cadmium	mg/L	24	23	96	0.00058	0.00058	0.000181	0.0039	NA	NA	NA	DL	0.00034
CCR-9	Chromium	mg/L	24	16	67	0.001	0.0023	0.000736	0.00513	NA	NA	NA	DL	0.0011
CCR-9	Cobalt	mg/L	24	24	100	--	--	0.00025	0.002	NA	NA	NA	DL	0.0004
CCR-9	Fluoride	mg/L	28	1	4	0.095	0.69	2	2	0.2421	0.59	Increasing	Trend (Theil-Sen Slope)	0.30
CCR-9	Lead	mg/L	24	21	88	0.00054	0.0028	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-9	Lithium	mg/L	26	2	8	0.0457	0.19	0.00272	0.06	0.1008	0.45	Decreasing	Trend (Regression)	0.021
CCR-9	Mercury	mg/L	23	23	100	--	--	0.000011	0.000152	NA	NA	NA	DL	0.00007
CCR-9	Molybdenum	mg/L	26	22	85	0.0014	0.0166	0.0005	0.00631	NA	NA	NA	DL	0.00085
CCR-9	Selenium	mg/L	26	13	50	0.00047	0.0015	0.0012	0.027	0.0010	0.31	Decreasing	Normal[4]	0.00081
CCR-9	Thallium	mg/L	24	23	96	0.0048	0.0048	0.000085	0.0017	NA	NA	NA	DL	0.000085

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Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Monitoring Location	Analyte	Units	Number of Samples	Number of NDs	Percent NDs	Minimum Detected Result	Maximum Detected Result	Minimum Detection Limit	Maximum Detection Limit	Mean[1]	CV	Concentration Trend[3]	LCL Distribution[2]	95% LCL
CCR-11	Antimony	mg/L	23	22	96	0.0015	0.0015	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-11	Arsenic	mg/L	26	0	0	0.0513	0.14	--	--	0.0899	0.34	Decreasing	Trend (Regression)	0.031
CCR-11	Barium	mg/L	26	0	0	0.025	0.071	--	--	0.0528	0.19	Decreasing	Trend (Regression)	0.039
CCR-11	Beryllium	mg/L	22	22	100	--	--	0.000101	0.00283	NA	NA	NA	DL	0.00034
CCR-11	Cadmium	mg/L	24	23	96	0.001	0.001	0.000181	0.0039	NA	NA	NA	DL	0.00034
CCR-11	Chromium	mg/L	24	7	29	0.0012	0.0023	0.000736	0.00513	0.0016	0.25	Decreasing	Normal[4]	0.0014
CCR-11	Cobalt	mg/L	24	23	96	0.0009	0.0009	0.00025	0.002	NA	NA	NA	DL	0.0004
CCR-11	Fluoride	mg/L	29	1	3	0.35	1.46	2	2	0.6376	0.52	Increasing	Trend (Theil-Sen Slope)	1.16
CCR-11	Lead	mg/L	24	17	71	0.00039	0.0014	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-11	Lithium	mg/L	26	15	58	0.004	0.0338	0.00272	0.06	NA	NA	NA	DL	0.0032
CCR-11	Mercury	mg/L	23	23	100	--	--	0.000011	0.000152	NA	NA	NA	DL	0.00007
CCR-11	Molybdenum	mg/L	26	19	73	0.00089	0.0149	0.0005	0.00631	NA	NA	NA	DL	0.00085
CCR-11	Selenium	mg/L	26	10	38	0.0013	0.0085	0.0012	0.027	0.0024	0.90	Decreasing	Nonparametric[4]	0.0021
CCR-11	Thallium	mg/L	24	24	100	--	--	0.000085	0.0034	NA	NA	NA	DL	0.000085
CCR-12	Antimony	mg/L	23	23	100	--	--	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-12	Arsenic	mg/L	26	0	0	0.00089	0.199	--	--	0.0580	0.78	Increasing	Trend (Theil-Sen Slope)	0.070
CCR-12	Barium	mg/L	26	0	0	0.0117	0.048	--	--	0.0174	0.41	Increasing	Trend (Theil-Sen Slope)	0.017
CCR-12	Beryllium	mg/L	22	22	100	--	--	0.000101	0.00283	NA	NA	NA	DL	0.00034
CCR-12	Cadmium	mg/L	24	23	96	0.0009	0.0009	0.000181	0.0039	NA	NA	NA	DL	0.00034
CCR-12	Chromium	mg/L	24	19	79	0.0006	0.0024	0.000736	0.00513	NA	NA	NA	DL	0.0011
CCR-12	Cobalt	mg/L	24	21	88	0.0008	0.0015	0.00025	0.002	NA	NA	NA	DL	0.0004
CCR-12	Fluoride	mg/L	28	1	4	0.45	1.44	1	1	0.6420	0.32	Increasing	Trend (Theil-Sen Slope)	0.81
CCR-12	Lead	mg/L	24	23	96	0.001	0.001	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-12	Lithium	mg/L	26	21	81	0.0139	0.26	0.00272	0.06	NA	NA	NA	DL	0.0032
CCR-12	Mercury	mg/L	23	23	100	--	--	0.000011	0.000152	NA	NA	NA	DL	0.00007
CCR-12	Molybdenum	mg/L	26	2	8	0.0056	0.0368	0.00085	0.00392	0.0121	0.70	Increasing	Trend (Theil-Sen Slope)	0.014
CCR-12	Selenium	mg/L	26	15	58	0.00032	0.0151	0.00024	0.028	NA	NA	NA	DL	0.0044
CCR-12	Thallium	mg/L	24	22	92	0.00035	0.0041	0.000085	0.0017	NA	NA	NA	DL	0.000085

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Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Monitoring Location	Analyte	Units	Number of Samples	Number of NDs	Percent NDs	Minimum Detected Result	Maximum Detected Result	Minimum Detection Limit	Maximum Detection Limit	Mean[1]	CV	Concentration Trend[3]	LCL Distribution[2]	95% LCL
CCR-13	Antimony	mg/L	23	22	96	0.0014	0.0014	0.001	0.0123	NA	NA	NA	DL	0.0010
CCR-13	Arsenic	mg/L	26	13	50	0.00032	0.043	0.00046	0.00396	0.0037	2.43	Probably Decreasing	Nonparametric[4]	0.00166
CCR-13	Barium	mg/L	26	0	0	0.01	0.053	--	--	0.0372	0.32	Stable	Nonparametric	0.037
CCR-13	Beryllium	mg/L	22	20	91	0.0002	0.0003	0.000101	0.00283	NA	NA	NA	DL	0.00034
CCR-13	Cadmium	mg/L	24	22	92	0.0003	0.0351	0.000181	0.0039	NA	NA	NA	DL	0.00034
CCR-13	Chromium	mg/L	24	8	33	0.001	0.0023	0.0011	0.00513	0.0017	0.27	Probably Decreasing	Normal[4]	0.0015
CCR-13	Cobalt	mg/L	24	8	33	0.00077	0.0046	0.000354	0.002	0.0015	0.76	Stable	Normal[4]	0.00058
CCR-13	Fluoride	mg/L	28	1	4	0.103	2.64	1	1	0.8686	0.69	Increasing	Trend (Regression)	1.60
CCR-13	Lead	mg/L	24	24	100	--	--	0.00035	0.0139	NA	NA	NA	DL	0.00035
CCR-13	Lithium	mg/L	26	1	4	0.011	0.32	0.0032	0.0032	0.2014	0.46	Probably Decreasing	Trend (Theil-Sen Slope)	0.096
CCR-13	Mercury	mg/L	23	22	96	0.000195	0.000195	0.000011	0.000152	NA	NA	NA	DL	0.00007
CCR-13	Molybdenum	mg/L	26	19	73	0.001	0.0121	0.0005	0.00631	NA	NA	NA	DL	0.00085
CCR-13	Selenium	mg/L	26	18	69	0.00032	0.0135	0.00024	0.027	NA	NA	NA	DL	0.00024
CCR-13	Thallium	mg/L	24	19	79	0.00009	0.00011	0.000085	0.0034	NA	NA	NA	DL	0.000085

Notes:

1 - For data sets with any ND data and 50% or less NDs, the Kaplan-Meier mean and standard deviation are provided. For data sets without ND data, the arithmetic mean is provided. For data sets with greater than 50% NDs, no mean is provided.

2. For distribution = "Normal" and "Lognormal", the 95% LCL was calculated on the mean concentration.
For distribution = "Trend (Regression)" or "Trend (Theil-Sen Slope)", the 95% LCL was calculated from the regression/Sen's slope line due to an increasing/decreasing trend.
For distribution = "Nonparametric", the 95% LCL was calculated on the median concentration.
For distribution = "DL", the 95% LCL was equivalent to the MDL.

3. The Mann-Kendall test was used to identify increasing or decreasing trends in the data with trends identified with a confidence level of 95% or more marked increasing or decreasing and those with a confidence level between 90% and 95% marked probably increasing or probably decreasing.

4. Trend is an artifact of varyng detection limits, therefore, the LCL was derived using a nonparametric method.

5. Data used in the statistical analysis are provided in Table 2.

6. There were two anamolously high concentrations in April 2018 and April 2019, but concentrations have been decreasing since April 2019. As such, a Gamma LCL was calculated instead of an LCL from the trend line.

-- - not provided because all data had either detected concentrations or was nondetect.
CV - coefficient of variation calculated as the ratio of the standard deviation to the mean
LCL - lower confidence limit
mg/L - milligrams per liter
NA - not applicable, statistic could not be calculated due to high percent of non-detects (>50% NDs)
ND - non-detect

APPENDIX E

Alternate Source Demonstration for
Radium 228 & 228 in Groundwater

ALTERNATE SOURCE DEMONSTRATION FOR RADIUM 226 & 228 IN GROUNDWATER BYPRODUCT STORAGE AREA C.D. MCINTOSH POWER PLANT

LAKELAND, POLK COUNTY, FLORIDA

Submitted to:

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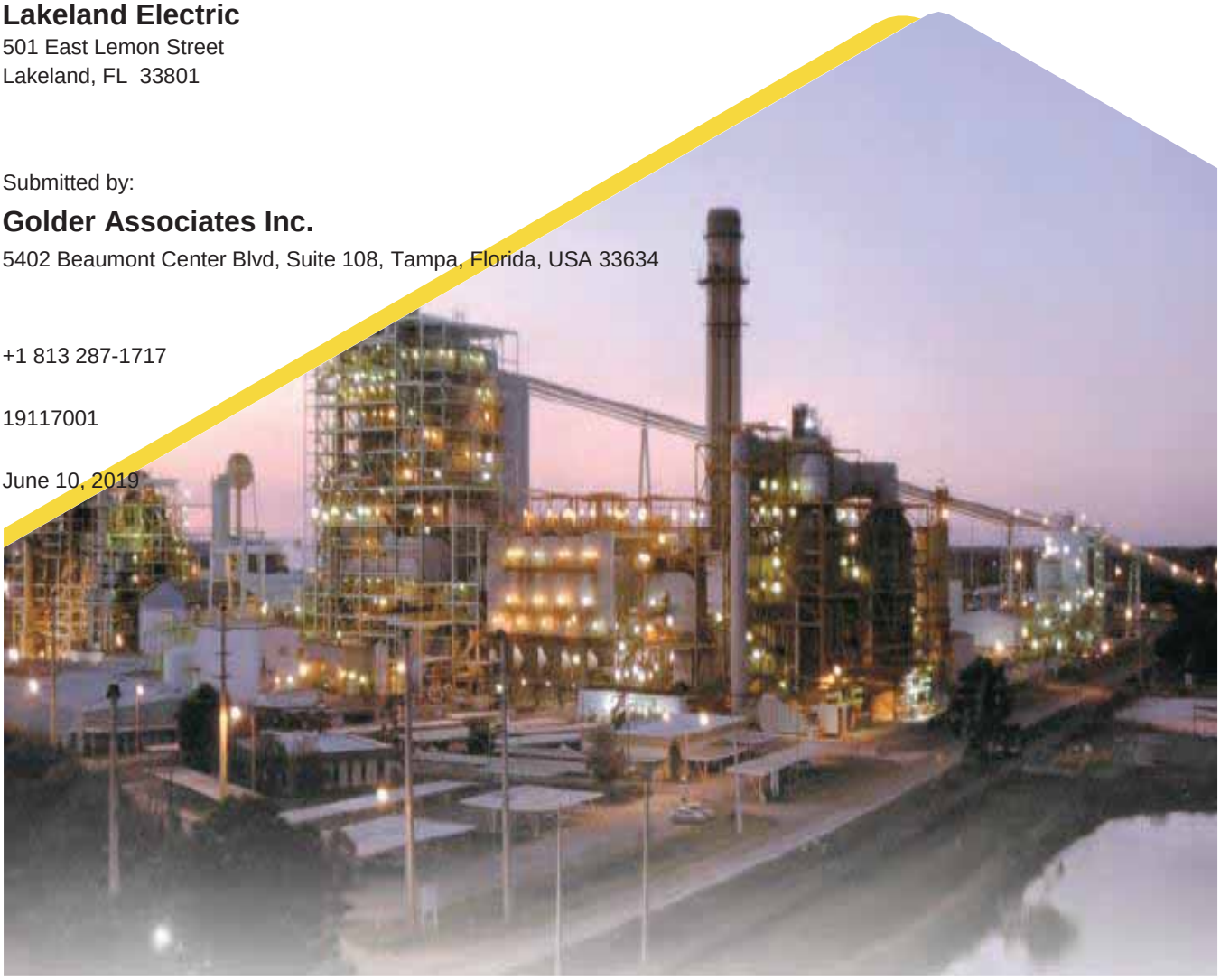
June 10, 2019



Distribution List

Sean P. McGinnis, CHMM, Lakeland Electric

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APPENDICES

Appendix A Soil Boring Logs and Location Map
Appendix B Historical Aerial Photographs and Maps
Appendix C Record of Borehole Logs for CCR-2A, CCR-4A, CCR-5A, CCR-7A, CCR-13A, and CCR-14A
Appendix D Geochemical Evaluation of Radium-226+228 in Soils
Appendix E Mineralogical Assessment prepared by Petrologic Solutions, Inc.

1.0 INTRODUCTION

Golder Associates Inc. (Golder), on behalf of Lakeland Electric, prepared this alternative source demonstration (ASD) report for combined radium-226 and radium-228 (referred to as radium-226+228) detected in groundwater samples collected from the monitoring well network installed pursuant to the Coal Combustion Residual (CCR) Rule[1] for the Byproduct Storage Area (BSA) at the C.D. McIntosh Power Plant (MPP or site). Figure 1 presents a site location map and Figure 2 presents a map of the BSA and associated CCR monitoring well network. A statistical analysis of assessment monitoring results identified certain Appendix IV constituents in the uppermost aquifer at statistically significant levels (SSLs) above the groundwater protection standards (GWPS) established for the constituents for the site. The rule allows the owner or operator of a CCR unit to demonstrate that the SSL(s) are due to a source other than the CCR unit—an alternate source.[2] The statistical analysis of assessment monitoring of the CCR monitoring well network identified radium-226+228, arsenic, and lithium to be present at SSLs above the respective GWPS in groundwater samples from CCR monitoring wells listed below (Golder 2018b):

Appendix IV Parameter	GWPS	CCR Monitoring Well at SSL
Arsenic	0.010 mg/L	CCR-11 and CCR-12
Lithium	0.040 mg/L	CCR-5, CCR-6, CCR-9, and CCR-13
Radium-226+228	7.94 pCi/L	CCR-4, CCR-5, CCR-7, CCR-13 and CCR-14

pCi/L - Picocuries per liter

mg/L - milligrams per liter

The BSA is a unit that historically has received CCR generated by Unit 3 at the MPP, including fly ash, bottom ash, synthetic gypsum and stabilized flue gas desulfurization (FGD) material. The BSA encompasses approximately 44 acres and is located east of Unit 3 and adjacent to Fish Lake, Lakes B, C, and D, the south sedimentation pond, and the Stackout pad (Figures 2 and 3). The BSA, constructed in the 1980s, is an above-grade earthen containment unit surrounded by a perimeter ditch system.

[1] Chapter 40 Code of Federal Regulations (CFR), Part 257, Subpart D.

[2] Chapter 40 CFR Section 257.95(g)(3)(ii).

2.0 PURPOSE AND BACKGROUND

2.1 Purpose

The purpose of this report is to provide information about a potential alternate source(s) for radium-226+228 that has been detected in groundwater from CCR monitoring wells at SSLs. The report presents a literature review of naturally occurring radioactive soils at the site and surrounding area (study area) and results of groundwater and soil assessments conducted at the site in February and March 2019.

This ASD report presents a description of the BSA and associated CCR monitoring well network, regional geologic and hydrogeologic conditions, site-specific hydrogeologic settings, a discussion on naturally-occurring radionuclides present in soil, sediment, and groundwater in central Florida; historical mining operations in the study area and at the BSA; and a review of historic aerial photographs and topographic maps of the BSA. Site characterization involved the installation of several soil borings / soil sampling adjacent to the monitoring wells where radium-226+228 was at SSLs in groundwater, as well as, the installation of additional soil borings, soil and sediment sampling, installation of "nature and extent" monitoring wells located hydraulically downgradient of the BSA, and groundwater and surface water sampling to evaluate the nature and extent of radium-226+228, arsenic and lithium for the SSLs in groundwater. Figure 4 presents the CCR monitoring well network (CCR-1 through CCR-14) and recently installed monitoring wells (CCR-15 through CCR-23) and existing MMP compliance monitoring wells[3] MW-24S, MW-25S, and MW-26S, which were used to evaluate the nature and extent of groundwater impacts at the BSA. Figure 4 also shows the location of soil borings drilled as part of site characterization. Site characterization included a geochemical assessment of select soil, sediment, and groundwater samples. This ASD also includes a mineralogical assessment for natural occurring radioactive minerals on select soil samples collected from the boreholes drilled adjacent to the CCR monitoring wells with radium-226+228 at SSLs above the GWPS (CCR-4, CCR-5, CCR-7, CCR-13, and CCR-14) and background well CCR-2.

2.2 Background

Radioactive decay products from naturally occurring radionuclides (e.g. uranium and thorium) are potential sources of radium-226+228 present in groundwater of the uppermost aquifer around and beneath the BSA. Past regional mineral resource evaluations reveal significant uranium-238 and other accessory constituents are associated with the phosphate ore that was mined at and near the BSA. Radium-226 and radium-228 are formed from the radioactive decay of uranium-238 and thorium-232, respectively. Radium-226 has a half-life of 1600 years and decays to form radon-222; radium-228 has a half-life of 5.8 years and decays to form actinium-228 (IAEA 2014).

Mining techniques used at the site prior to the construction of the BSA, typically resulted in fine-grained phosphatic materials (unrecoverable product) being left behind as mine tailings. Based on historic aerial photographs and topographic maps, a significant portion of the BSA footprint was constructed on previously mined land that was reclaimed (backfilled) with these fine-grained phosphatic mine tailings. Naturally occurring radionuclides are associated with phosphatic minerals, therefore, the mine tailings and unmined earth likely contain naturally occurring radionuclides. Also, a smaller portion of the land below ground surface (bgs) at the

[3] MPP compliance monitoring is performed in accordance with the Conditions of Certification for the site.

BSA was likely unmined, due to mining limitations such as pit side-slope stability and setback considerations in proximity of surface water, roads, etc. Therefore, unmined phosphate minerals may exist in these areas.

Several soil borings drilled within the footprint of the BSA before its construction indicate the presence of phosphate materials, including the following:

- TH-10 (phosphate matrix material)
- TH-11 (clayey sand with phosphate)
- BH-11, TH-12 (sandy clay with phosphate)
- BH-13 (cemented silt with phosphate)

The locations of these, and other soil borings, and the associated cross-sections are shown in Appendix A.

3.0 REGIONAL AND SITE SETTING

3.1 Regional Geology

The MPP is located within the Central Florida Phosphate District, an area of economically important, high-grade phosphate deposits in the Lakeland Ridge and Polk Upland geomorphic provinces (Hurst and others 2016). Stratigraphic nomenclature in this District has evolved over the past 100 years, resulting in confusion when comparing literature discussing geology of the mining district. Lithologic/stratigraphic descriptions for older mines use stratigraphic nomenclature developed by Cathcart (1964). The updated stratigraphic nomenclature presented by Scott (1986 and 2016) is commonly used in more recent publications and is referenced in this summary report.

Stratigraphic units present in the region consist of (in descending order; youngest to oldest):

- Up to 25 feet (ft) of Holocene to Pliocene-age sands and clays occur in the Lakeland area (FGS 1991). The Holocene-age sands consist of laterally restricted deposits such as stream flood plains, beaches, swamps, marshes, and lakes. The Pleistocene to upper Pliocene-age sands and clays are locally phosphatic and generally occur as laterally consistent terrace deposits.
- The Miocene to Oligocene-age Hawthorn Group has an approximate thickness between 50 and 100 ft in the Lakeland area and is comprised of the Peace River and Arcadia Formations. In Polk County, the upper portion of the Peace River Formation includes the Bone Valley Member, which is characterized by phosphate-rich, pebbly- and clayey-sand soils overlain by weathered residuum (Scott 1988). Economic quantities of minable, phosphate-bearing minerals occur within the Bone Valley Member. The remainder of the Peace River Formation is undifferentiated, largely being comprised of sandy, phosphatic dolostone interbedded with laterally discontinuous layers of sand, clay, and limestone. The Arcadia Formation underlies the Peace River Formation and is comprised of clayey dolostone and limestone of the Tampa and Nocatee Members (Scott 1988). The top of the Hawthorn Group experienced significant karstic solutioning when sea levels declined, resulting in an irregular erosional surface with abundant depressions and hills. A layer of phosphatic conglomerate is located on this surface, providing further support that the contact between the surficial sands and clays and underlying Hawthorn Group is unconformable (Cathcart 1964). The estimated thickness of the Hawthorn Group in the vicinity of the MPP is approximately 40 to 60 ft (Cathcart 1964).
- Older units underlying the Hawthorn group in the region include the Suwannee Limestone, Ocala Limestone, Avon Park Formation and Oldsmar Formation. These units are Oligocene to Eocene age and are primarily comprised of limestone and/or dolostone, and generally do not contain economic quantities of phosphate-bearing minerals.

3.2 Regional Hydrogeology

The regional hydrogeology is comprised of three major hydrostratigraphic units: the unconfined surficial aquifer, the intermediate aquifer/confining unit, and the Floridan aquifer. The following discusses each system in its regional context:

- The unconfined surficial aquifer underlies all of Polk County and varies from less than 25 to 50 ft thick in northern Polk County (FGS, 1991). This water-table aquifer consists primarily of Holocene- to Pliocene-age sand, clay, shell, and phosphate deposits that are contiguous with the ground surface.

The base of the surficial aquifer system is formed by the clayey, less permeable beds of the Peace River Formation – Bone Valley Member (Scott 1988). The surficial aquifer system is used primarily for residential low-volume irrigation applications (e.g. lawn watering) where high discharge rates are not required (Scott 1988). Transmissivity within the surficial aquifer ranges from 2 to about 20 square ft per day (ft^2/day), where fine clayey sand predominates, to greater than 5,000 ft^2/day in shell beds (Golder 2005). Regional groundwater flow in the surficial aquifer typically mimics ground surface topography. The surficial aquifer is discharged by natural gravity flow, evapotranspiration, discharge to lakes, downward loss into underlying aquifers, and pumping from wells. The surficial aquifer is recharged by rainfall, infiltration and discharge from lakes, and stormwater.

- The hydrostratigraphic unit that underlies the surficial aquifer is referred to as the intermediate aquifer/intermediate confining unit. The intermediate confining unit is largely comprised of clayey sand, sandy clay and clays and underlying clayey dolomite and limestone of the Hawthorn Group.
- The confined, artesian Floridan aquifer is the principal aquifer in Polk County and is the source of major municipal, industrial, and irrigation water supplies. This aquifer occurs primarily within the Ocala Limestone and is locally hydraulically connected with the overlying intermediate aquifer/confining unit, where present, in areas where the confining unit is absent or breached. There is limited recharge to the Floridan aquifer near the MPP due to the presence of the confining unit. Transmissivity of the upper Floridan aquifer is highly variable, and ranges from less than 50,000 ft^2/day to greater than 9,000,000 ft^2/day. The potentiometric surface of the aquifer occurs at an elevation of approximately 75 ft above National Geodetic Vertical Datum or approximately 70 ft bgs in the area of the MPP with regional groundwater flow generally to the south-southwest (FGS 1991). Due to the relatively thick and continuous intermediate confining unit separating the Floridan aquifer from the surficial aquifer, exchange of groundwater between the two aquifers is limited beneath the MPP (Golder 2005).

3.3 Site Hydrogeology and BSA Monitoring Well Network

The BSA is underlain by two regional aquifers, the surficial aquifer and Floridan aquifer which are separated by an intermediate confining unit. The surficial aquifer represents the uppermost aquifer and is approximately 25 ft to 30 ft thick beneath the BSA (Golder 2005). The surficial aquifer consists primarily of Holocene- to Pliocene-age sand, clay, shell, and phosphate deposits. Groundwater in the surficial aquifer generally flows from topographic highs to topographic lows. Underlying the surficial aquifer below the BSA is the intermediate confining unit, which ranges in thickness from approximately 40 to 50 ft and consists of interbedded clay with silty to sandy clay, silt to clayey sand, sand to clayey silt, and limestone (Golder 2005). There is a small component of groundwater flow in the surficial aquifer that is vertically downward toward the intermediate confining unit, and Floridan aquifer. However, this vertical flow component is retarded by the clayey materials of the underlying intermediate confining unit (Golder 2005).

The CCR monitoring network at the BSA includes two background monitoring wells, CCR-1 and CCR-2, and twelve downgradient monitoring wells, CCR-3 through CCR-14[4], installed at waste boundary and screened in the uppermost aquifer. Screened intervals in each of the monitoring wells, range from 15 to 25 ft bgs.

[4] Monitoring well CCR-10 was abandoned and replaced with CCR-10R on March 13, 2018 (Golder 2018a)

Groundwater in the surficial aquifer beneath the BSA has been documented to flow radially away from the BSA, with flow to the north toward Lake B, to the west toward Fish Lake, and to the east toward Lakes C and D (Figures 5 and 6). An area to the southwest of the BSA is hydraulically upgradient or side-gradient to the BSA, depending on site conditions that affect groundwater flow (e.g., surface water elevations, amount of precipitation, etc.), while the areas to the west, north and east are hydraulically downgradient of the BSA.

4.0 REGIONAL PHOSPHATE MINING

Land-pebble phosphate, hard-rock phosphate, and river-pebble phosphate are the three types of phosphatic ore found in Florida. The BSA is in one of the most productive areas of the land-pebble phosphate mining district. The land-pebble phosphate district was of economic interest not only to the minerals and fertilizer industry, but also to the United States Atomic Energy Commission (USAEC) during the twentieth century because land-pebble deposits contain a type of phosphate with elevated concentrations of uranium (Cathcart 1949). This section summarizes historic stratigraphy of mined land[5] near the BSA, uranium associated in the economic mining of calcium phosphate and aluminum phosphate zones, and the history of mining in the study area.

4.1 Historic Mining Related Stratigraphy

The stratigraphy near the BSA that was likely disturbed by historic mine activities, is presented below:

- Surface deposits consisted of windblown sand and swamp muck that range in thickness of up to 5 ft (Cathcart 1964).
- The Bone Valley Member[6] is divided into two distinct stratigraphic units, an upper unit of clayey sand and a lower phosphatic unit. The upper unit ranged in thickness from 0 to 25 ft and averaged about 8 ft (Cathcart 1964). It included light-colored clayey sand containing traces of phosphate nodules at the unit's base characterized by kaolinite and aluminum phosphate minerals.
- The contact between the upper and lower units of the Bone Valley Member is gradational over a few inches throughout most of the United States Geological Survey (USGS) Lakeland, Florida 7.5-minute quadrangle (Cathcart 1964). The lower unit ranges in thickness from minimal thickness to 35 ft, averages about 10 ft and contains most of the economic phosphate (Cathcart 1964). This unit is predominantly a clayey sand or a sandy clay, but beds of loose phosphate sand or fine-grained conglomerate are common. Beds of the lower unit locally contain phosphate nodules that range in size from fine sand to gravel (coarse pebble). The phosphate nodules are predominantly light colored—white, light brown and tan, gray; however, a few are amber or black.
- Due to mining, most of the Bone Valley sediments have been removed and reworked to recover phosphate. Mining in the vicinity of the BSA likely extended and stopped before, at, or slightly into the upper part of the Arcadia Formation**,** which underlies the Peace River Formation (Bone Valley Member). The upper portions of the Arcadia Formation consist of clayey sand and the lower portion of the formation is calcareous, and correlates to the upper portion of the intermediate confining unit at the site.

4.2 Uranium Associated with the Calcium Phosphate and Aluminum Phosphate Zones

The aluminum phosphate zone is formed by downward-percolating acidic water. The aluminum phosphate zone is not a stratigraphic unit but may include the various named and/or renamed beds/members of the Bone Valley strata. The physical and chemical characteristics of the zone vary.

[5] Historic stratigraphic nomenclature differs from the regional/site geology included in Section 3 of this report.

[6] Later in the twentieth century the stratigraphic nomenclature was refined such that Bone Valley Formation isn't currently used, rather, the recent nomenclature includes Peace River Formation and its upper unit is the Bone Valley Member, both of which belong to the Hawthorn Group.

Typically, it is a white, light gray, tan, or gray-green clayey sand containing no visible phosphate except near the base, and in some areas the base of the zone is characterized by lumps, fragments, or beds of sandrock. According to Altschuler, Clarke, and Young (1958), the most completely leached part of the zone is characterized by the aluminum phosphate mineral wavellite, the less weathered parts by calcium aluminum phosphate minerals, and the unweathered part by the calcium phosphate mineral carbonate-rich fluorapatite. The principal clay mineral in the weathered (leached) parts is kaolinite, whereas montmorillonite is characteristic of the unweathered parts. The aluminum phosphate zone is high in uranium, which typically is concentrated in the finest (slime) fraction (Cathcart 1964).

The calcium phosphate zone within the Bone Valley Member underlies the aluminum phosphate zone. Both the aluminum phosphate and calcium phosphate zones are present at the borehole drilled in 1953 by the USAEC, at the 40-acre tract where the southern region of the BSA and the other 26 holes drilled in 1953 at the Lake Parker Tract (Cathcart 1964) (see Section 4.3 of this report). The calcium phosphate zone consists of unconsolidated sand, clayey sand, and sandy clay containing abundant nodules of calcium phosphate. The ore zone, referred to by miners as the matrix section, is contained with the calcium phosphate zone (Cathcart 1964). In general, the coarse phosphate fraction (+20 or +24 mesh) of the calcium phosphate zone contains less phosphorus pentoxide (P_2O_5) and generally more uranium than the fine phosphate fraction (-20 to +150 mesh), which is characteristic of the land-pebble phosphate district (Cathcart 1964). At the Lake Parker Tract (nearest the BSA), however, the coarse phosphate fraction contains more P_2O_5 than the fine fraction (Cathcart 1964). The following is based on the analyses the borehole drilled in 1953 by the USACE at the 40-acre tract where the southern portion of the BSA exists, in accordance with Cathcart (1964):

- Uranium is removed (leached) from the coarser (pebble and sand) fractions of the sample collected from approximately 17 to 26 ft below the 1953 ground surface,
- Uranium is concentrated to some degree in the fine slime fraction[7] of the same 17 to 26 ft bgs sample, and
- Uranium is highly concentrated in the pebble and slime fractions of the 26 to 30 ft bgs sample.

4.3 History of Mining in the Vicinity of the BSA

Mining for phosphate was active at several locations in the Lakeland Quadrangle from about 1914 through the 1980s. Some areas that were completely mined in the early twentieth century exist today as lakes, indicating that mining was likely hydraulic[8] instead of dragline (Cathcart 1964). Early mining, approximately three miles south of Lake Parker in the Pauway area, was by hydraulic methods for the pebble fraction only; later mining was by dragline for the overburden, but hydraulic monitors (water cannons) were used to move ore (Cathcart 1964). Some washer debris from early mine operations was in part re-mined (Cathcart 1964), but the technology at that time was insufficient at recovering the finer grain-size phosphate, thus finer materials were not recovered or were returned to the mine cut (Moudgil, 1992).

[7] Slimes refers to fines, like silts/clays, passing a 150 mesh screen – less than approximately 0.1 millimeter in diameter. The fraction likely left behind and/or unmined at the BSA.

[8] Hydraulic mining is performed using high-pressure jets of water to dislodge rock material.

The American Cyanamid Co. operated its Saddle Creek Mine (T28S/R24E) from 1942 to 1957, and subsequently moved to the Orange Park Mine (Cathcart 1964). The Saddle Creek area was mined with draglines; both pebble and flotation concentrates[9] were recovered. The Orange Park Mine (T27S/R24E) started operating in April 1957 and was active in the 1960s (Cathcart 1964). Mining was by large draglines, flotation cells were used, and hydrocyclones[10] were used for primary desliming. Coronet Phosphate Co. began operation of its Tenoroc Mine (T27S/R24E) in 1951, and the mine continued to operate into the 1970s while the MPP was being developed. Mining at Tenoroc was for flotation concentrate and pebble; draglines were used to mine the overburden and phosphate (Cathcart 1964).

4.3.1 Lake Parker Tract

The Lake Parker tract included nearly 1,300 acres in portions of Sections 28 and 33: T27S/R24E, and Sections 3 and 4: T28S/R24E. The BSA, Fish Lake, and Lakes B, C, and D exist in portions of the same Sections. In 1953, the mining company, Coronet Phosphate Company, drilled 27 holes, under contract to the USAEC, at a spacing of 1 hole per 40-acre block (Cathcart 1964)[11]. The calcium phosphate zone, which includes the economic phosphate deposit, and the aluminum phosphate zone, which includes some possibly economic phosphate and concentrated uranium, are both present in all 27 holes in the Lake Parker tract. Relations of the two zones are graphically shown below.

[9] Concentrate refers to the fine phosphate product, 1.17 mm to 0.104 mm in grain size. Material of this grain size is treated in flotation cells to separate the phosphate from the quartz sand. The phosphate product is the concentrate (Cathcart 1963, page 11).

[10] Hydrocyclones are typically funnel-shaped equipment used to separate materials by particle size.

[11] The Lake Parker tract had not been mined as of the 1964 reference publication date. The area that has recently become the Florida Fish and Wildlife Conservation Commission Teneroc Public Use Area (PUA) was extensively surface mined for phosphate through 1978. The western portion of the PUA was part of a wetland system associated with Lake Parker. The area that became Tenoroc was extensively surface-mined between 1950 and 1978 by the Coronet Phosphate Company, the Smith-Douglass Company, and Borden, Inc.

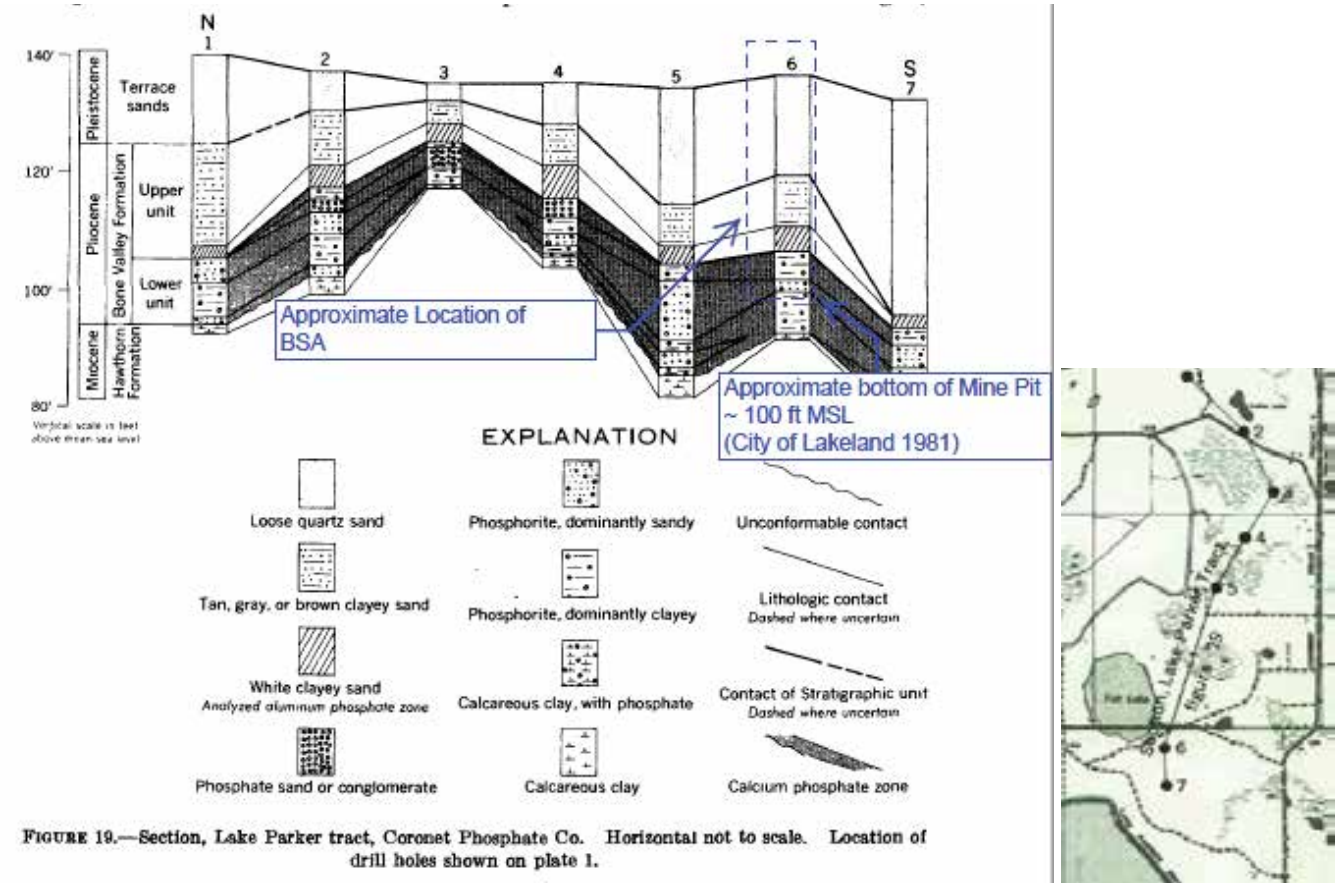


FIGURE 19.—Section, Lake Parker tract, Coronet Phosphate Co. Horizontal not to scale. Location of drill holes shown on plate 1.

Source for above base imagery: Cathcart 1964 – Image to the right of the section depicts approximate section/drill hole locations from Plate 1. Drill hole locations #6 and #7 are nearest the BSA location. Appendix B to this report includes a copy of the City of Lakeland 1981 Landfill Design Survey Drawing No. 229101.

Results of the analyses performed for the USAEC on samples collected in 1953 from the same 40-acre tract where the south region of the BSA exists are summarized below:

TABLE 18.—*Analytical data, aluminum phosphate zone, NE¼NW¼ sec. 4 T. 28 S., R. 24 E.*

[Leaders (....) = below limit of detection, taken as 0.0 percent. Analyses by Coronet Phosphate Co. chemists, under contract to the U.S. Atomic Energy Comm. Pebble = +20 mesh; sand = −20+150 mesh; slime = −150 mesh; head = computed from pebble, sand, and slime fractions. From 0 to 17 ft below surface is loose quartz sand, not sampled; from 30 to 44 ft is calcium phosphate zone]

Fraction	Weight percent	Chemical analyses, in percent					
		P_2O_5	CaO	Insoluble	Al_2O_3	Fe_2O_3	U
Top sample; 17–26 ft below surface							
Pebble	0.3	2.55	1.01	92.42	2.18	0.42	0.0001
Sand	70.4	.33	....	98.13	.28	.18	....
Slime	29.3	6.79	3.36	64.74	14.62	.40	.010
Head	100.0	2.23	.90	88.24	4.48	.25	.002
Bottom sample; 26–30 ft below surface							
Pebble	0.5	14.18	8.52	56.57	11.96	0.68	0.047
Sand	62.4	.80	2.77	96.63	.85	.17	.001
Slime	37.1	5.08	1.50	72.81	12.50	.28	.022
Head	100.0	2.45	2.33	87.61	5.22	.21	.010

Source for above: Cathcart 1964.

The Top sample (17 to 26 ft bgs) tabulated above is described as more thoroughly leached, has less calcium oxide (CaO) and uranium, and slightly less P_2O_5 than the Bottom sample (26 to 30 ft bgs); both have similar aluminum oxide (Al_2O_3) concentrations. The P_2O_5 content, originally as apatite (calcium phosphate), is dissolved and combines with alumina to form the relatively insoluble aluminum or calcium aluminum phosphate minerals. Uranium is not taken up by the aluminum phosphate minerals but combines with the calcium phosphate minerals. Uranium is removed from the coarser fractions of the top sample, is concentrated to some degree in the slime fraction[12] of the top sample and is highly concentrated in the pebble and slime fractions of the lower sample (Cathcart 1964).

4.3.2 Orange Park Mine

The Orange Park Mine consisted of two tracts of land: The Orange tract and the Park tract.

- The Orange tract included land in Section 28: T27S/R24E which includes the north portion of Lake B, which is adjacent to the BSA. Lake B extends into Section 28.
- The Park tract included land in Section 33: T27S/R24E, which includes portions of the BSA, Fish Lake, Lake B, and Lake C; and in Section 5: T28S/R24E, which includes portions of the MPP, Lake Parker, and Horseshoe Lake.

[12] Slimes refers to fines, like silts/clays, passing 150 mesh screen – less than approximately 0.1 millimeter in diameter, which represent the fraction likely left behind and/or unmined at the BSA.

The American Cyanamid Company started mining in the Orange tract in 1957. In 1954, the company drilled 57 holes at the Orange tract and 33 holes at the Park tract, under contract to the USAEC, spaced one in each 40-acre tract in effort to cover most of the property.

In the southern part of the area (in the Park tract), the calcium phosphate zone averaged 9 ft in thickness and included rocks[13] of the Hawthorn Group, Bone Valley Member and/or Peace River Formation at almost every drill hole. The relations are depicted below: the calcium phosphate zone is entirely within the Hawthorn Group Peace River Formation at hole A (shown as Hawthorn Formation on log); at hole B, the calcium phosphate zone is divided about equally between the Hawthorn Group, Peace River Formation and Bone Valley Group (shown as Bone Valley Formation on log); and, at hole C, the calcium phosphate zone is entirely within the Bone Valley Group (Cathcart 1964).

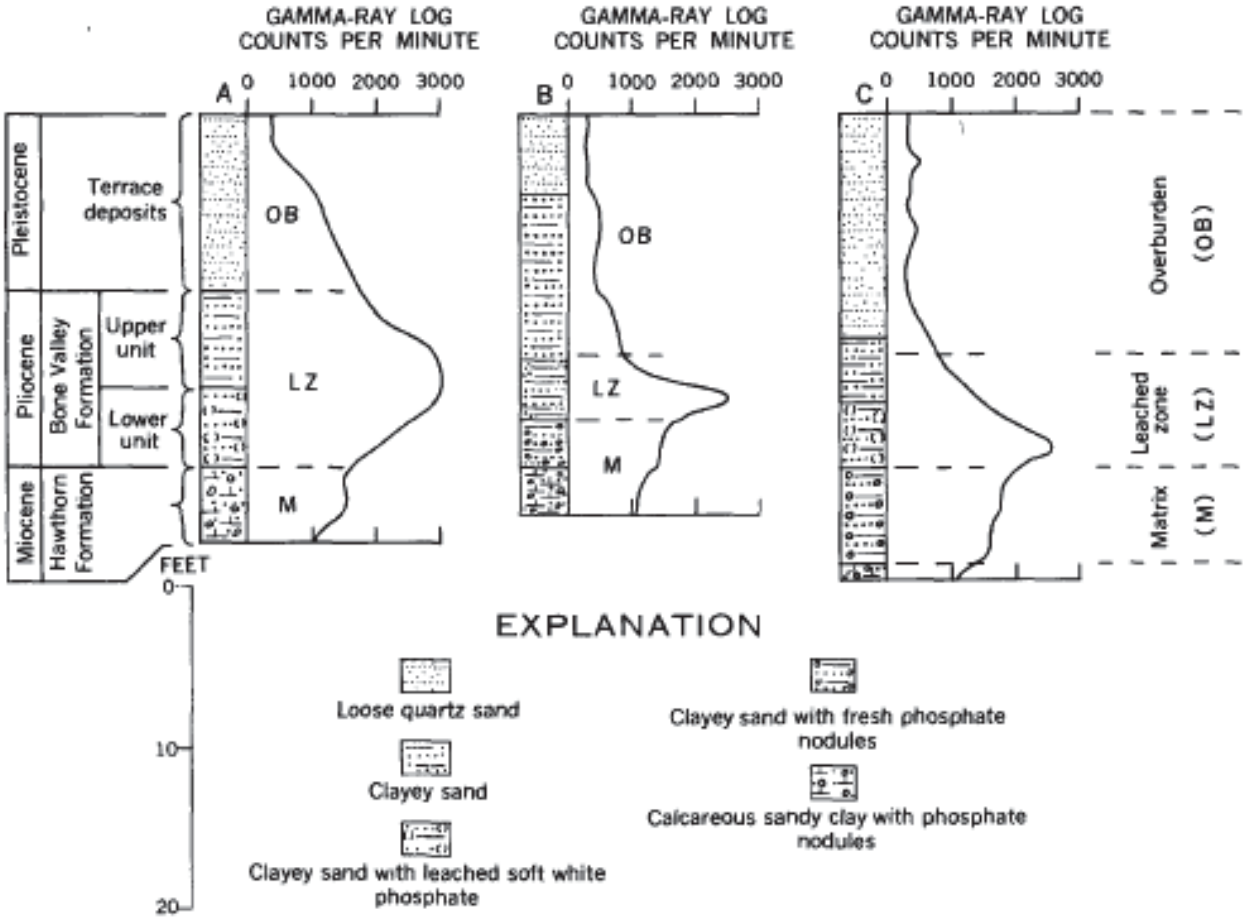


FIGURE 17.—Typical drill hole and gamma logs, Orange Park tract. Location of drill holes shown on plate 1.

Source for above: Page G86 Cathcart US Geologic Survey (USGS) 1964.

[13] In more recent stratigraphic nomenclature, this rock mentioned by Cathcart (1964) likely limestone or dolomite, is likely phosphatic, would today likely be assigned to the Arcadia Formation of the Hawthorn Group.

4.3.3 Teneroc Mine

The Tenoroc Mine is located just east of the BSA with the nearest operations approximately one mile from the BSA in Section 34: T27S/R24E and Section 2 and/or 3: T28S/R24E. Mining by Coronet Phosphate Company started in 1951. In 1953, the company drilled 39 holes under contract to the USAEC. In an area of about 2,000 acres, the holes were drilled at a spacing of one in each 40 acres. One sample each of the aluminum phosphate zone and the calcium phosphate zone were collected at each drill hole and were analyzed. Select laboratory and drilling results for samples, including samples from the Teneroc Mine are listed in Tables 8 and 13 and Figure 18 from Cathcart 1964. The analytical data, screen data, and stratigraphic and economic geologic cross-section shown below further demonstrate the abundance of phosphate present in the study area.

TABLE 8.—*Analytical data, calcium phosphate zone, Lakeland quadrangle*

[NA, no analysis reported. Analytical data by American Cyanamid Co. and Coronet Phosphate Co., under contract to the U.S. Atomic Energy Comm.]

Number of drill holes	Location	Fraction (mesh size)	Chemical analyses, average, (in percent)				Ratio U:P_2O_5 (average)
			P_2O_5	I and A[1]	Acid insoluble	U	
90	Park and Orange tracts, T. 27 S., R. 24 E.	+20	33.9	2.39	7.20	0.012	1:2820
		−20+150[2]	35.0	2.28	4.24	.010	1:3500
		−150	19.8	12.85	32.57	.011	1:1800
		Head[3]	23.1			.008	
39	Tenoroc mine, T. 27 S., Rs. 24 and 25 E.	+24	31.8	2.33	8.14	.015	1:2120
		−24+150[2]	35.2	1.83	1.88	.010	1:3520
		−150	14.7	NA	42.69	.011	1:1340
		Head[3]	12.1			.006	
27	Lake Parker tract, T. 28 S., R. 24 E.	+24	32.2	3.31	9.67	.015	1:2150
		−24+150[2]	31.4	2.01	2.30	.012	1:2620
		−150	16.8	NA	39.55	.010	1:1680
		Head[3]	12.6			.006	

[1] Percent $Fe_2O_3+Al_2O_3$.
[2] Concentrate fraction—quartz sand removed by flotation.
[3] Calculated, assuming that the sand tailing contained 2 percent P_2O_5 and 0.002 percent U.

TABLE 13.—*Summary of screen data and chemical analyses, aluminum phosphate zone, Lakeland quadrangle*

[Analyses by American Cyanamid Co. and Coronet Phosphate Co., published with permission]

Number of samples	Screen data		Chemical analyses, in percent					Ratios	
	Size	Weight percent	P_2O_5	CaO	U	Al_2O_3	Fe_2O_3	CaO:P_2O_5	U:P_2O_5
Lake Parker tract, T. 27 S., R. 24 E.; T. 28 S., R. 24 E.									
27	+24	1.1	13.09	3.97	0.009	11.50	0.56	0.303	1:1450
	+150	68.4	.72	.08	.0001	.56	.26	.111	----------
	−150	30.5	6.10	3.64	.012	8.28	.71	.597	1:510
	Head	100.0	2.52	1.24	.004	3.05	.40	.492	1:630
Tenoroc mine, T. 27 S., R. 24 E.; T. 27 S., R. 25 E.; T. 28 S., R. 24 E.									
39	+24	0.7	11.99	5.88	0.005	8.42	0.80	0.490	1:2390
	+150	72.1	.52	.37	.0001	.41	.31	.712	----------
	−150	27.2	5.42	3.65	.009	6.94	.86	.673	1:600
	Head	100.0	1.93	1.30	.0025	2.28	.46	.674	1:770
Orange tract, T. 27 S., R. 24 E.									
57	+20	1.5	26.02	28.03	0.015	8.29	0.69	1.077	1:1630
	+150	56.7	2.25	2.08	.002	.78	.36	.924	1:1130
	−150	41.8	8.66	6.26	.017	11.10	1.22	.723	1:510
	Head	100.0	5.29	4.23	.008	5.17	.72	.800	1:660
Park tract, T. 27 S., R. 24 E.									
33	+20	3.2	31.84	34.09	0.016	8.11	0.91	1.071	1:1990
	+150	52.0	3.85	3.94	.003	.94	.41	1.023	1:1280
	−150	44.8	14.63	14.05	.018	11.64	1.89	.960	1:810
	Head	100.0	9.58	9.44	.010	5.97	1.09	.985	1:960

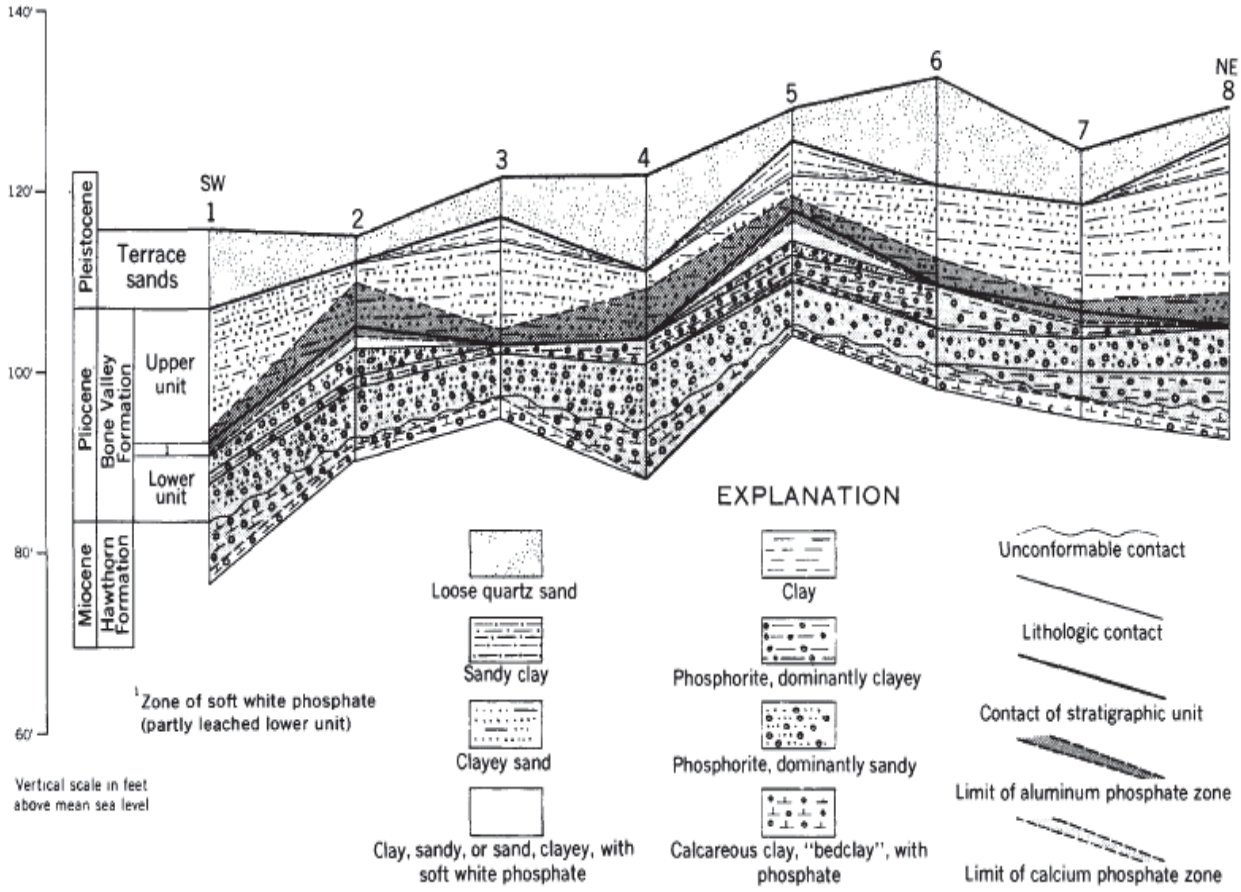


FIGURE 18.—Section, Tenoroc mine, showing relations of stratigraphy and economic geology. Horizontal not to scale. Location of drill holes shown on plate 1.

5.0 NATURALLY-OCCURING RADIONUCLIDE DISCUSSION

The following discussion provides information on the naturally-occurring radionuclides in the regional vicinity of the BSA:

- The Bone Valley Member contains high-grade phosphate rock in land-pebble form and is present and/or was mined just before construction of the BSA. In a report prepared for the USAEC, the USGS indicates the uranium occurrences in the Bone Valley Member were up to 0.1 percent (100 milligrams per kilogram or parts per million (ppm)) and are associated with the land pebble phosphate (Cathcart 1949).
- The BSA is located on former phosphate mined land which also included a mining pit/lake. The BSA and surrounding properties were mined in the early 1970s, at which time only coarser-grained pebble phosphate was recovered and the finer-grained (sand, silt, and clay) phosphate and associated minerals were left behind. An estimate of 20 to 30 percent of the phosphate (contained in the ore) is left behind with these finer-grained materials and/or returned to the mine cut or clay settling pond (Moudgil 1992). The mined land and lake were likely left behind with and/or infilled with these finer-grained material leftovers from mining and surrounding overburden.
- The southeastern coastal marine sediments of the Bone Valley Member contain naturally occurring phosphate minerals. Uranium and its decay products occur in significant quantities within these phosphate minerals and during the mid-1990s, 20 percent of the uranium produced in the United States was extracted from phosphate deposits in central Florida as a byproduct of fertilizer production (World Nuclear Association 2015).
- A typical Central Florida Phosphate district profile with average uranium concentrations listed per stratum is depicted below:

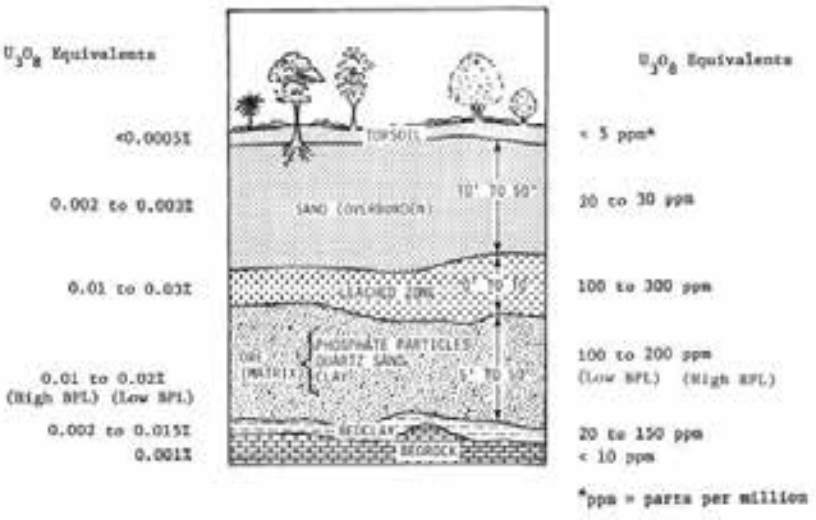


Figure 1.15. Average Uranium Concentrations as U_3O_8 (Altschuler et al 1956, Cathcart 1965, McKelvey 1956) in Typical Central Florida Phosphate District Profile (Fountain and Sellars 1972)

Source for above: Environmental Impact Statement: Central Florida Phosphate Industry: Volume II Background and Alternatives Assessment. EPA Nov 1978.

- Uranium in leached- and matrix-zones exhibits typical concentrations between 100 and 300 parts per million (ppm), which is approximately 1 to 2 orders of magnitude higher than U.S. coals and fly ash, respectively, as depicted below (USGS 1997, Figure 2):

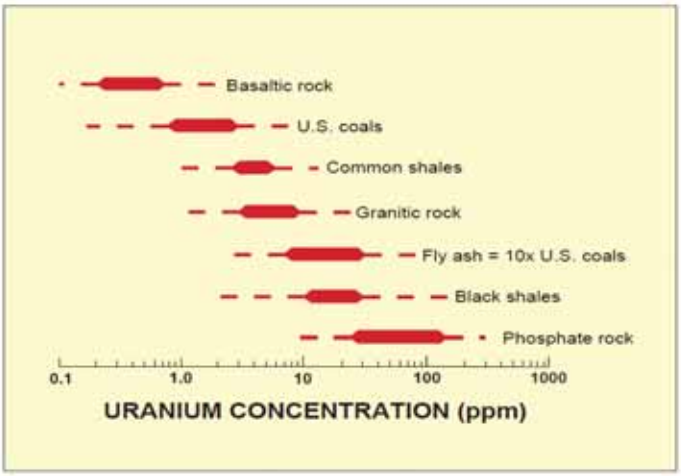
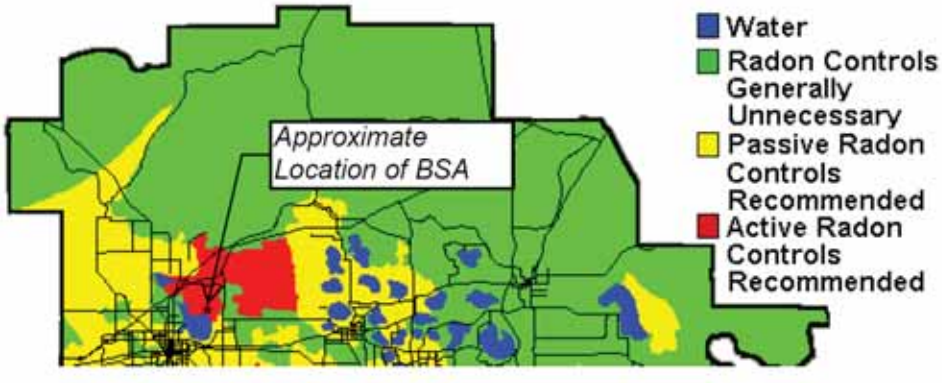


Figure 2. Typical range of uranium concentration in coal, fly ash, and a variety of common rocks.

Source of Figure 2 above: USGS 1997 Fact Sheet FS-163-97

- According to the Florida Department of Health (FDOH), the MPP is located in an area that is known to contain so much naturally-occurring radon, which is a daughter product of radium-226 decay, that the FDOH suggests buildings designed for construction on reclaimed mined land include active engineering controls in the effort to mitigate potential adverse health effects associated with human exposure to the natural radon gas. The following image is an excerpt from the Radon Protection Map for Polk County and depicts the approximate location of the BSA.



Source of above image of northern Polk County: http://www.floridahealth.gov/environmental-health/radon/maps/_images/POLK_LB.GIF (accessed November 16, 2018).

- Elevated levels of radon in structures built on reclaimed land suggest uranium and radium concentrations at shallow depths may be elevated relative to pre-mining levels. This is considered to occur when discarded fine-grained ore and leach zone materials are mixed with overburden materials as part of overall reclamation (Kaufman and Bliss 1977).
- Radon is a noble gas that sorbs little and does not participate in ion exchange; thus, its concentration can increase to high levels. Due to the short half-life (3.8 days) of radon-222, an abundance of radium-226 in subsurface materials is required to sustain high radon-222 levels (Miller 1985).
- Analysis by Miller (1985) suggests that a major fraction of radium-226 is released by alpha-particle recoil of thorium-230 or its precursors (uranium-234, protactinium-234, thorium-234, and uranium-238) to groundwater. Mineralized water competes with radium-226 for ion exchange and sorption sites and consequently results in elevated concentrations of dissolved radium-226. Miller contends that this process may explain the radium-226 concentrations present in groundwater in phosphate mining areas of Polk County.

6.0 AERIAL PHOTOGRAPHS AND TOPOGRAPHIC MAP SUMMARY

Based on Golder's review of documents including historic aerial photographs and topographic maps:

- The ground beneath BSA includes an area in the northeast region of the BSA identified as an abandoned phosphate pit (apparently the former southern finger of what is now identified as Lake B).
- Mining of the BSA and vicinity was active from 1971 through 1975.
- The western portion of the BSA likely was not mined as deep as other portions or at all due to mining limitations like pit side-slope stability setback considerations in proximity of surface water, roads, structures, etc., and therefore, phosphate matrix likely exists in these areas.

A summary of select historic aerial photographs and topographic maps reviewed is provided below. Appendix B provides copies of the photographs and maps:

Before the BSA:

- 1964 Plate 1 USGS Bulletin 1162-G (Cathcart 1964): includes approximate drill hole locations #6 and #7 along the Lake Parker Tract section line depicted in Section 4.3. of this report, drill hole locations #6 and #7 are nearest the BSA.
- 1968 Aerial Photograph: the east bank Horseshoe Lake is visible on the left side of the photograph. BSA vicinity prior to mining or site development activities.
- 1971 FDOT Aerial Photograph: An apparent dragline and perhaps pipelines are visible near the active mining just off the northeast corner of the BSA area.
- November 30, 1971 Aerial Photograph: Mining appears to be starting in the BSA area based on the ground surface appears to be stripped, and some tanks, pipelines, and/or a dragline is visible in the upper west area of the BSA near fish Lake.
- December 2, 1972 aerial photograph (on 1975 USGS Topographic Map): There is a region that appears to have been unmined and seems to have cast overburden at the western portion of the BSA south of Fish Lake between the visibly mined area and where the MPP generating area is now located and shore of Lake Parker, but some mining overburden may have been placed in this area. The mine pits appear to be holding water in the area where Lakes B, C, and D are currently located.
- 1973 Aerial Photograph (provided by Lakeland Electric with labels): Lake D appears to be undergoing mining. Some mine processing equipment appears to exist due south and near the bank of Fish Lake (near the approximate locations of monitoring wells CCR-13 and CCR-14).
- 1975 Aerial Photograph taken February 1, 1975 included on Map 2.1.1 Aerial Topographical Map dated 3/27/1978 for City of Lakeland MPP: mining appears to be recently active in the east and north areas of the BSA. South of the BSA and in the western/southernmost vicinity of the BSA the area is identified as, "Proposed Plant Boundary", and there is a region that appears to have been unmined and seems to have cast overburden at the western region of the BSA south of Fish Lake at the western region of the area between the visibly mined area and the MPP generating area and shore of Lake Parker.

- November 26, 1977 Aerial Photograph: Lakes B, C, and D created and left behind by the phosphate mining are visible. Mining does not appear to be actively ongoing in the photograph.

Post-Commencement of development of the Unit 3 at MPP:

- 1980 Aerial Photograph: Plant construction laydown roads (also drawn on the June 12, 1981 Existing Site Plan map) in the west area of the BSA are visible and some equipment/materials can be seen staged in this area. Lakes, including Lake B in the north BSA, created and left behind by the phosphate mining are visible.
- June 12, 1981 Existing Site Plan and April 7, 1981 Phase I Site Preparation Grading Plan for the City of Lakeland MPP landfill design: Topographic contours surveyed and depicted in the Lake B finger are labeled as abandoned phosphate mining pit in the BSA area. The pit appears to be approximately 20 ft deep with a base elevation of approximately 100 ft (USC&G Survey Datum).
- March 2, 1984 Aerial Photograph: A finger of Lake B, which is a manmade lake formed by mining, is visible in the BSA area. Lakes C and D, which were manmade by mining appear possibly interconnected.

7.0 SITE CHARACTERIZATION FOR RADIUM-226+228

The literature review for an ASD for radium-226+228 in groundwater is supported by data obtained from the February / March 2019 site characterization of and around the BSA, which was completed as part of the nature and extent investigation for radium-226+228, arsenic, and lithium SSLs in groundwater under the auspices of the assessment of corrective measures for the site. An assessment of corrective measures report will be included in the facility's operating records in accordance with §257.105(h)(10).

7.1 Field Investigation

Site characterization field investigation activities included an underground utility survey, collection of soil samples for a mineralogical assessment and chemical analysis, monitoring well installation and development, staff gauge installations, water-level data collection, and surface and groundwater sampling and analysis. Figure 4 presents locations of soil borings and monitoring wells installed and sampled as part of the site characterization.

Six boreholes were drilled using direct push technology (DPT) at locations adjacent to the CCR monitoring wells with radium-226+228 SSLs (CCR monitoring wells CCR-4, CCR-5, CCR-7, CCR-13, and CCR-14) and background CCR monitoring well CCR-2. These soil borings, designated CCR-2A, CCR-4A, CCR-5A, CCR-7A, CCR-13A, and CCR14A, were drilled to 30 ft bgs, and the soil boring logs are presented in Appendix C. Sixteen soil samples were collected from these six soil borings, ranging from 7 ft bgs to up to 29 ft bgs, for analysis. The soil samples are representative of the saturated uppermost aquifer downgradient of the BSA. A detailed mineralogical assessment of these 16 soil samples was conducted by Petrologic Solutions, Inc. under subcontract to Golder (see Section 7.2).

Nine soil borings were also advanced using DPT at proposed nature and extent monitoring well locations CCR-15 through CCR-23 to a depth of approximately 25 ft bgs. Soil samples were collected from these borings, as well as from soil boring CCR-4A, from approximately 24 ft bgs to 25 ft bgs and submitted, under chain-of-custody, for laboratory analysis of total uranium, iron, aluminum, arsenic, lithium, and phosphorus via EPA[14] Method 6020B, and for radium-226 and radium-228 via EPA Method 9315 and 9320, respectively, for samples from soil borings CCR-4A, CCR-15, CCR-16, CCR-18, CCR-22, and CCR-23. Soil samples were also collected from soil boring CCR-4A and from the soil borings advanced for the installation of nature and extent monitoring wells CCR-16 and CCR-20, from approximately 24 ft bgs to 25 ft bgs, and submitted, under chain-of-custody, for laboratory analysis of aluminum, arsenic, iron, and lithium via sequential extraction (EPA Method SW846 6010B SEP).

One shallow soil sample and one shallow sediment sample were also obtained from ground surface to 0.5 ft bgs. The soil sample, designated GSB-1, was collected east of the BSA and the sediment sample, designed Fish Lake-Sed, was collected from the bank of Fish Lake. Both samples were submitted under chain-of-custody for laboratory analysis. Soil sample GSB-1 was analyzed for total uranium, iron, aluminum, arsenic, lithium, and phosphorus via EPA Method 6020B and sediment sample Fish Lake-Sed was analyzed for total organic carbon via EPA Method Walkley-Black (USEA 2004a).

[14] EPA: United States Environmental Protection Agency.

A larger-diameter borehole was drilled, using hollow-stem auger drilling techniques, at locations where soil borings where previously drilled using DPT, to facilitate the installation of nature and extent monitoring wells CCR-15 through CCR-23. The monitoring wells were constructed of 2-inch diameter, flush threaded schedule 40 polyvinyl chloride (PVC), bottom cap, 0.006-inch slotted, 10-foot screen, and riser section.

The borehole annulus was filled with 30-45 graded silica sand to approximately 2 feet above the top of the screen interval, with approximately 2 feet of 3/8-inch bentonite chips placed atop. The remaining annulus was filled from bottom to top via tremie method with a neat Portland cement grout to just below ground surface. Monitoring wells CCR-15 through CCR-22 were completed above-grade with locking well caps and aluminum protective casings set into 2-foot by 2-foot by 4-inch concrete pads. Bollards were installed around each monitoring well for visibility and damage protection. Monitoring well CCR-23 was installed below grade, in a flush-mounted well casing set into a rebar reinforced 2-foot by 2-foot by 4-inch concrete pad without bollards (the well is installed in an access road). The newly-installed nature and extent monitoring wells were surveyed for elevation (top of well casing) and location and staff gauges were installed in Fish Lake and Lakes B, C, and D for surface water level elevation. Table 1 presents a summary of monitoring well construction details.

After development of the newly-installed wells, groundwater was collected from nature and extent monitoring wells CCR-15 through CCR-23, MW-24S, MW-25S, and MW-26S. Surface water samples were also obtained from Fish Lake, and Lakes B, C, and D. Chemical/geochemical analysis of groundwater and surface water samples included field parameters and radionuclides, nutrients, and major cations and anions. The rationale and methods used are as follows:

Field Parameters: Parameters measured in the field included pH, dissolved oxygen, oxidation reduction potential (ORP), conductivity, and temperature. These parameters were used to evaluate general geochemical conditions in the groundwater and support geochemical modeling.

Metals: Analysis of Appendix III and IV metals and uranium to better understand the geochemical composition of groundwater and surface water. Metals analysis allows for the delineation of a potential plume, evaluation of mineral saturation indices, and evaluation of background contributions from natural sources or anthropogenic sources (USEPA 1998).

Radionuclides: Analysis of radium-226 and radium-228 to better understand the nature and extent of radium in groundwater and surface water and evaluation of background contributions from natural or anthropogenic sources (USEPA 2014).

Major Cations, Anions, and Nutrients: Geochemical modeling of mineral solubility, metals attenuation and background contributions requires analysis of major cations and anions because they affect and participate in sorption and mineral dissolution or precipitation reactions.

The groundwater samples were analyzed using the following methods:

- pH following SW846 9040C “pH Electrometric Measurement” (USEPA 2004b)
- Total dissolved solids standard method (SM) 2540C “Total Dissolved Solids Dried at 180°C” (USEPA 1993a)
- Total hardness following SM 2340B (USEPA 1997)
- Chloride, fluoride, and sulfide following USEPA SW846 9056A “Determination of Inorganic Anions by Ion Chromatography”, Revision 1 (USEPA 2007c)

- Nitrate and nitrite following EPA 353.2 “Determination of Nitrate-Nitrite Nitrogen by Automated Colorimetry, Revision 2.0” (USEPA 1993b)
- Alkalinity following SM 2320B “Alkalinity by Titration” (USEPA 2005a)
- Phosphorus following SM 4500-P E “Phosphorus by Ascorbic Acid Method” (USEPA 2005b)

7.2 Summary of Results for Radium-226+228

Table 2 presents a summary of soil and analytical results. Radium-226+228 detected in soil samples from soil borings advanced in the surficial aquifer around the BSA was measured in six samples (soil sample CCR-4A, CCR-15, CCR-16, CCR-18, CCR-22, and CCR-23) as were total uranium and total phosphorus. Radium-226+228 ranged from approximately 0.6 pCi/g (CCR-18) to 76.6 pCi/g (CCR-4A). The presence of radium-226+228 correlates to the presence of uranium in soil samples of the surficial aquifer with a coefficient of determination (R^2) of 0.99, while total uranium also correlates to total phosphorus in soil samples of the surficial aquifer with a coefficient of determination of 0.80 (Appendix D). Based on these correlations and the known consistency of typical CCR (USGS 1997), it is considered highly likely that the presence of radium is due to the decay of naturally-occurring uranium in soils.

Results from a March 2019 groundwater sampling event for radium-226+228 in groundwater collected from nature and extent monitoring wells CCR-15, CCR-16, CCR-18, CCR-22, CCR-23, MW-25S, and MW-26S and for radium-226+228 in surface water samples collected from Fish Lake and Lakes B, C, and D are presented on Figure 7 and the results are summarized in Table 3. Historical groundwater sampling results for radium-226+228, from CCR monitoring wells, from August 2016 through January 2019, are also included on Figure 7 and in Table 4.

Radium-226+228 concentrations in groundwater sampled in March 2019 ranged from 1.1 pCi/L to 42.7 pCi/L. The concentration of radium-226+228 was above the site-specific GWPS of 7.94 pCi/L (Golder 2018b) in groundwater samples collected from nature and extent monitoring wells CCR-15, CCR-16, and CCR-22. The concentration of radium-226+228 detected in the groundwater sample collected from nature and extent well CCR-16 was higher compared to the corresponding hydraulically upgradient CCR monitoring well CCR-5 (Figure 7). Radium-226+228 concentration in groundwater varies in the vicinity of the BSA, likely due to natural variability of radium-226+228 in soils as well as in the phosphatic mine tailings used to backfill the mined area where the BSA was constructed. Radium-226+228 in lake samples (Fish Lake and Lakes B, C, and D) ranged from 1.4 pCi/L in Fish Lake to 5.3 pCi/L[15] in Lake D. Given the radial pattern of groundwater flow away from the BSA (Figure 5 and 6), Fish Lake, and Lakes B, C, and D are downgradient receptors of groundwater flowing from the BSA, and the concentration of radium-226+228 detected in these water bodies is below the Florida surface water quality criteria of 5 pCi/L (Chapter 62-302.530, F.A.C.). Furthermore, based on historical groundwater data (August 2016 to January 2019) of samples collected from the CCR monitoring well network, radium-226+228 shows a stable or decreasing trend at each CCR monitoring well (Table 4).

[15] Reported value meets State of Florida surface water quality criteria (Chapter 62-302.530, F.A.C.) for radium-226+228, in accordance with the rounding procedures described in the FDEP memorandum "Rounding Analytical Data for Site Rehabilitation Completion", dated November 17, 2011.

These soil and groundwater findings support the literature review indicating that the BSA and surrounding area are underlain by fine-grained phosphatic mine tailings and/or unmined phosphate deposits. Based on those findings, there is the high likelihood that radium-226+228 detected in groundwater is present as a product of the decay of a naturally-occurring uranium and thorium in soil and/or the mine tailings/phosphate deposits.

Further evidence for a naturally-occurring source for radium-226+228 in groundwater below and near the BSA is presented in a detailed mineralogical assessment of the underlying soils conducted by Petrologic Solutions, Inc. (Appendix E). The mineralogical assessment of soil samples included petrographic analysis, quantitative X-Ray Diffraction (XRD), Scanning Electron Microscopy (SEM), and additional bulk geochemistry. Results of the chemical and mineralogical assessment, coupled with Site and regional mineral resource evaluations, reveal the presence of naturally-occurring radioactive minerals associated with the phosphate ore mined at and near the BSA. These minerals include: eylettersite (thorium-bearing aluminum phosphate); wavellite (uranium-bearing aluminum phosphate); collophane, apatite, hydroxyapatite, and fluorapatite (uranium-bearing calcium phosphates) and zircon, rutile, and ilmenite (uranium-bearing oxides). As such, radium-226+228 present in groundwater below and in the vicinity of the BSA is considered to be naturally occurring and not due to a release from the BSA.

8.0 SUMMARY AND CONCLUSIONS

Radionuclides including radium-226 and radium-228 are naturally occurring in the study area and are associated with minerals in the phosphate matrix that was mined by the phosphate mining industry during the 1970s at the BSA prior to its construction. Radionuclides, including uranium, were detected in samples collected from approximately 26 to 30 ft bgs at the BSA during the 1950s. The upper portion of the phosphate matrix was mined in the north and west region of the BSA and phosphate matrix, tailings, and/or remnants, including the associated radionuclides, were left behind as backfill beneath the current BSA. Furthermore, a portion of the land beneath the BSA was likely not mined or partially mined, due to the proximity of the existing lakes, roads, and the MPP and therefore, phosphate ore likely exists in these areas. Based on the analysis presented in this report, uranium is most concentrated in the deeper phosphate bearing portions at the BSA site (e.g., approximately 26 to 30 ft bgs).

As previously presented, uranium concentrations in phosphate-bearing rocks exhibit typical uranium concentrations of up to 300 ppm, which is approximately 1 to 2 orders of magnitude higher than U.S. coals and fly ash, respectively (USGS 1997). The naturally occurring radionuclides in phosphate ore and mine tailings left behind underneath the BSA are conceivably at higher concentrations than CCR.

Findings of the geochemical assessments conducted for soil and groundwater at the site indicate that the BSA and surrounding area are underlain by fine-grained phosphatic mine tailings and/or unmined phosphate deposits. The concentration of radium-226+228 in groundwater in the vicinity of the BSA is shown to be variable, likely due to natural variations in soils as well as due to variations of radium-226+228 present in the phosphatic mine tailings used to backfill the mined area where the BSA was constructed. Furthermore, the detailed mineralogical assessment of the underlying soils conducted by Petrologic Solutions, Inc. reveal significant uranium and other accessory constituents associated with the phosphate ore mined at and near the BSA.

Therefore, based on the evidence presented herein, it is the opinion of Golder that radium-226+228 present in groundwater below and in the vicinity of the BSA is naturally occurring and not due to a release from the BSA.

9.0 PROFESSIONAL CERTIFICATION

This Alternative Source Demonstration for radium-226 and radium-228 in groundwater has been prepared for the Byproducts Storage Area at the C.D. McIntosh Power Plant, Lakeland, Florida. I hereby certify that the information contained in this report is accurate to the best of my knowledge as required by 40 CFR §257.95(g)(3)(ii).

Golder Associates Inc.

Samuel F. Stafford, P.E.

Florida Professional Engineer No. 78648

Certificate of Authorization No. 1670

Date 10 JUNE 2019

10.0 SIGNATURE PAGE

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TABLES

Table 1: Summary of CCR Monitoring Well and Nature and Extent Monitoring Well Construction Details
Byproduct Storage Area
Lakeland Electric - C.D. McIntosh Jr. Power Plant

Well ID	Date Installed	Northing (ft NAD83)	Easting (ft NAD83)	Ground Surface Elevation (ft NAVD88)	TOC Elevation (ft NAVD88)	Stick-up Height (ft ags)	Well Depth (ft bgs)	Screen Interval Depth (ft bgs)
CCR-1	6/24/2016	1362405.2	681287.1	138.3	141.30	3.0	25.7	15.7 - 25.2
CCR-2	6/23/2016	1362203.9	681787.6	137.6	140.57	3.0	25.8	15.7 - 25.2
CCR-3	6/23/2016	1362334.6	682451.3	137.5	137.04	-0.5	25.8	15.9 - 25.3
CCR-4	6/24/2016	1362450.0	683042.7	140.3	143.13	2.9	25.7	15.6 - 25.1
CCR-5	6/22/2016	1362716.0	683376.9	138.6	141.07	2.5	26.2	16.2 - 25.7
CCR-6	6/22/2016	1363168.4	683578.6	138.5	141.34	2.9	25.7	15.7 - 25.2
CCR-7	6/22/2016	1363631.9	683772.2	139.1	142.10	3.0	25.8	15.7 - 25.2
CCR-8	6/22/2016	1363917.6	683411.6	139.4	142.12	2.7	26.0	15.9 - 25.4
CCR-9	6/21/2016	1364085.2	683045.3	138.6	141.67	3.1	25.6	15.5 - 25.0
CCR-10 *	6/20/2016	1364309.4	682722.2	135.9	138.54	2.6	24.5	14.4 - 23.9
CCR-10R	3/13/2018	1364262.1	682706.3	133.8	133.56	-0.2	24.7	14.6 - 24.1
CCR-11	6/20/2016	1363835.4	682577.2	134.3	137.12	2.8	25.6	15.6 - 25.1
CCR-12	6/20/2016	1363353.1	682430.5	134.1	136.99	2.9	25.8	15.7 - 25.2
CCR-13	6/21/2016	1362936.6	682164.1	135.0	137.95	3.0	25.7	15.6 - 25.1
CCR-14	6/21/2016	1362771.1	681761.2	135.8	138.70	2.9	25.5	15.4 - 24.9
CCR-15	2/18/2019	1362341.3	683123.5	141.8	144.65	2.9	25.7	15.4 - 25.0
CCR-16	2/18/2019	1362533.2	683385.6	141.2	144.10	2.9	25.6	15.3 - 24.9
CCR-17	2/19/2019	1363019.9	683712.7	142.9	145.80	2.9	25.7	15.4 - 25.0
CCR-18	2/18/2019	1363631.1	683869.7	138.2	140.81	2.6	25.9	15.6 - 25.2
CCR-19	2/15/2019	1364205.4	683064.5	133.8	136.47	2.7	25.8	15.5 - 25.1
CCR-20	2/14/2019	1363855.5	682474.9	133.1	136.05	2.9	25.2	14.9 - 24.5
CCR-21	2/13/2019	1363454.0	682331.4	134.5	137.12	2.6	25.9	15.6 - 25.2
CCR-22	2/13/2019	1363017.4	682078.7	134.0	137.51	3.5	25.1	14.8 - 24.4
CCR-23	2/12/2019	1362812.1	681744.7	136.2	135.78	-0.5	25.4	15.1 - 24.7

Notes:

CCR Monitroing Wells are CCR-1 through CCR-14 and CCR-10R.

Nature and Extent Monitoring Wells are CCR-15 through CCR-23.

ft = feet

NAD83 = North American 1983 Datum

NAVD88 = North American Vertical Datum of 1988

ft bgs = feet below ground surface

ft ags = feet above ground surface

Checked by: MSI 5/8/19

Reviewed by ALG 6/10/19

* Monitoring well CCR-10 was abandonend and replaced with CCR-10R on 3/13/2018.

Table 2: Summary of Soil / Sediment Analytical Results
Byproduct Storage Area
Lakeland Electric - C.D. McIntosh Jr. Power Plant

Sample ID	Depth (ft bgs)	Date Sampled	Analyte									
			Aluminum (mg/Kg)	Arsenic (mg/Kg)	Iron (mg/Kg)	Lithium (mg/Kg)	Uranium (mg/Kg)	Phosphorus (mg/Kg)	Radium-226 (pCi/g)	Radium-228 (pCi/g)	Total Organic Carbon (%)	Fractional Organic Carbon (g/g)
CCR-4A	24-25	2/11/19	28,000 B	ND	2,800	ND	280 F1	130,000	75.9	0.726	NA	NA
CCR-15	24-25	2/18/19	8,000 B	ND	98	0.79 J	4.5	2,800	0.702	0.328	NA	NA
CCR-16	24-25	2/18/19	19,000 B	ND	450	2.9	4.3	3,000	1.14	1.07	NA	NA
CCR-17	24-25	2/19/19	5,900 B	ND	97	ND	0.92	1,000	NA	NA	NA	NA
CCR-18	24-25	2/15/19	2,600 B	ND	79	0.45 J	1.2	800	0.443	0.196 U	NA	NA
CCR-19	24-25	2/15/19	2,000 B	ND	62	ND	0.50	310	NA	NA	NA	NA
CCR-20	24-25	2/14/19	21,000 B	1.4 J	460	ND	40	11,000	NA	NA	NA	NA
CCR-21	24-25	2/13/19	1,800 B	ND	110	ND	0.51	210	NA	NA	NA	NA
CCR-22	24-25	2/12/19	96,000 B	ND	8,400	15	280	90,000	65.2	1.49	NA	NA
CCR-23	24-25	2/12/19	20,000 B	3.9 J	4,400	4.8 J	58	78,000	14.7	0.359	NA	NA
GSB-1	0-0.5	2/21/19	4,000 B	1.4 J	1,200	ND	21	21,000	NA	NA	NA	NA
Fish Lake - Sed	0-0.5	2/20/19	N/A	NA	NA	NA	NA	NA	NA	NA	1.300	0.013

Notes:

ft bgs = feet below ground surface

mg/Kg = milligrams per kilogram

pCi/g = picocuries per gram

g/g = gram per gram

B - Compound was found in the blank and sample.

F1 - Matrix Spike/Matrix Spike duplicate (MS/MSD) Recovery is outside acceptance limits, and the concentration is an approximate value. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample recovery was within acceptable limits.

J - Result is less than the reporting limit (RL) but greater than or equal to the method detection limit (MDL) and the concentration is an approximate value.

U - Result is less than the sample detection limit.

ND - Not detected

NA - Not analyzed

Checked by: SJH 5/23/19
Reviewed by: ALG 6/10/19

Table 3: Summary of Radium 226 & 228 in Nature and Extent Groundwater and Suface Water Byproduct Storage Area
Lakeland Electric - C.D. McIntosh Jr. Power Plant

Monitoring Well / Surface Water	Date Sampled	Radium 226 (pCi/L)	Radium 228 (pCi/L)
CCR-15	3/7/19	19.2	5.9
CCR-16	3/6/19	23.3	19.4
CCR-17	3/6/19	NA	NA
CCR-18	3/6/19	0.5	0.7 U
CCR-19	3/6/19	NA	NA
CCR-20	3/7/19	NA	NA
CCR-21	3/7/19	NA	NA
CCR-22	3/7/19	26.3	1.4
CCR-23	3/7/19	6.5	0.8
MW-24S	3/5/19	NA	NA
MW-25S	3/6/19	0.5	0.7 U
MW-26S	3/5/19	0.5	0.6 U
Fish Lake	3/11/19	0.7	0.7 U
Lake B	3/11/19	1.6	0.8 U
Lake C	3/13/19	1.5	0.7 U
Lake D	3/13/19	4.0	1.3

Notes:
Radium concentrations reported in picocuries per liter (pCi/L)
U - Result is less than the sample detection limit
NA - Not Analyzed

Checked by: SJH 5/10/19
Reviewed by: ALG 6/10/19

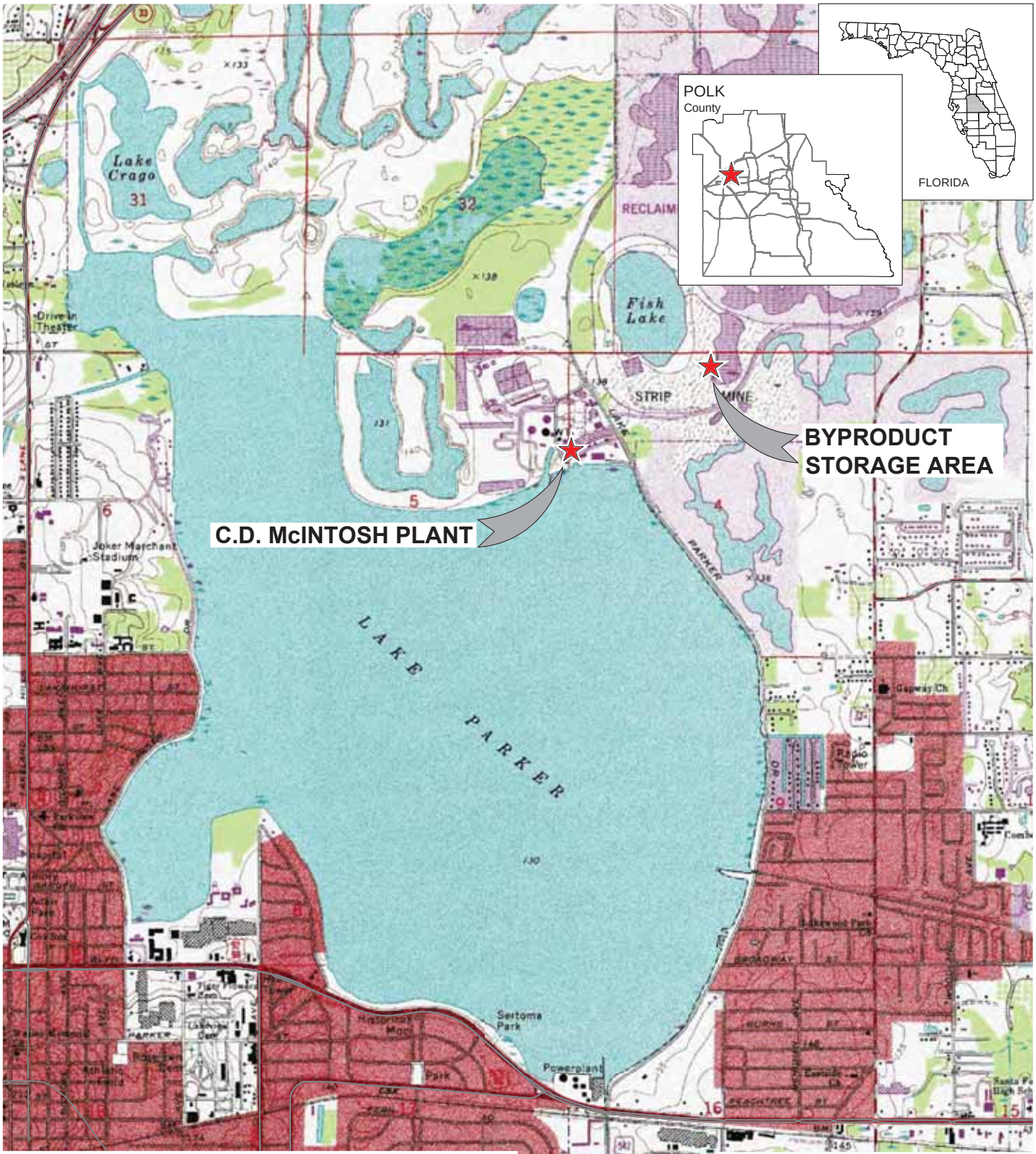
Table 4: Summary of Radium 228 & 228 Concentrations in Groundwater (CCR Monitoring Wells)
Byproduct Storage Area
Lakeland Electric - C.D. McIntosh Jr. Power Plant

Event	Date Sampled	CCR Monitoring Well Designation													
		CCR-1	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	CCR-9	CCR-10 / CCR-10R*	CCR-11	CCR-12	CCR-13	CCR-14
Background	8/4/2016	3.23	8.84	24.7	39.7	18.7	9.71	7.24	22	3.77	2.79	9.21	3	29.7	25.7
Background	9/14/2016	3.97	4.96	6.91	41	18	7.63	12.8	3.99	20.6	3.02	10.4	2.75	0.629	30.7
Background	10/12/2016	4.07	6.55	6.11	47.8	18.6	4.9	6.83	4.32	20.1	1.93	11.4	2.84	70.2	28.4
Background	11/2/2016	4.71	6.52	6.7	48.2	17	3.7	5.9	3.71	21.4	1.28	8.05	3.06	74.6	27
Background	12/14/2016	5.42	4.56	7.05	77.3	19.3	5.77	14.1	5.84	22.2	1.64	10.6	2.87	85.7	42.1
Background	1/11/2017	5.02	5.83	6.19	82.2	19.5	5.81	17.9	5.56	21.7	2.01	10.6	2.37	81.4	36.4
Background	2/1/2017	4.31	5.73	5.61	71.7	16.2	6.07	16.3	7.37	18.4	1.18	9.13	2.48	70.9	35.8
Background	3/15/2017	4.39	6.07	4.43	59	16.2	6.53	15.1	8.77	14.4	1.58	5.89	2.68	60.9	29.4
Background	4/12/2017	4.62	5.54	4.62	66.8	16	7.3	19.4	9.28	15.3	1.5	7.78	2.11	52.6	32.4
Background	5/17/2017	3.58	5.07	3.81	71.1	13.8	8.53	20.6	7.32	13.5	1.38	8.93	2.01	30.3	24.8
Background	6/13/2017	4.87	5.24	3.87	56.4	16.4	6.58	17.3	4.27	18.2	1.15	10.2	3.19	8.98	42.2
Background	7/11/2017	4.59	4.54	5.02	71.9	15.9	6.86	12.3	4.41	14.4	1.02	7.11	2.46	5.06	35.1
Background	8/15/2017	5.65	2.41	4.17	61.7	17.2	4.05	4.93	5.27	15.5	0.864	7.99	2.55	36.2	28.2
Detection	10/13/2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Detection	11/30/2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Detection	12/7/2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Assessment	4/12/2018	6.6	5.8	3.9	45.8	18.8	4.8	11.7	6.4	0.86	3.6	1.3	3	57.4	23.3
Assessment	7/18/2018	6.8	3.2	4.1	51	21.1	2.9	2.9	5.5	9.1	2.7	6.1	3.6	40.6	17.5
Assessment	1/8/2019	6.8	2.8	4.6	38.2	13.3	2.3	7.2	4.8	11.1	3.4	4.8	4.8	69.3	23.0

Notes:
Dates shown are represntative of sampling events that took place over multiple days
Radium values represent sum of Radium 226 and Radium 228
All concentrations reported in picocuries per liter (pCi/L)
NA - Not analyzed
* Monitoring well CCR-10 was abandonend and replaced with CCR-10R on 3/13/2018

Checked by: SJH 5/10/19
Reviewed by: ALG 5/24/2019

FIGURES



REFERENCE(S)

1.) USGS TOPOGRAPHIC MAP, 7.5 MIN. QUADRANGLE MAP SERIES: LAKELAND QUADRANGLE, POLK COUNTY, FLORIDA.

CLIENT
LAKELAND ELECTRIC

CONSULTANT
GOLDER

YYYY-MM-DD	2019-01-08
DESIGNED	SFS
PREPARED	BCL
REVIEWED	ALG
APPROVED	SFS

PROJECT
BSA CCR GROUNDWATER
C.D. McINTOSH POWER PLANT
LAKELAND, POLK COUNTY, FLORIDA

TITLE
SITE LOCATION MAP

PROJECT NO.	Control No.	REV.	FIGURE
19-117001	1895370-B001		1

LEGEND

CCR MONITORING WELL LOCATION

NOTE(S)

1. MONITORING WELL CCR-10 WAS ABANDONED IN PLACE AND REPLACED WITH CCR-10R ON MARCH 13, 2018.

CLIENT
LAKELAND ELECTRIC

CONSULTANT
GOLDER

YYYY-MM-DD	2019-05-23
DESIGNED	GJM
PREPARED	BCL
REVIEWED	ALG
APPROVED	SFS

PROJECT
BSA CCR GROUNDWATER
C.D. McINTOSH POWER PLANT
LAKELAND, POLK COUNTY, FLORIDA

TITLE
CCR GROUNDWATER MONITORING WELL NETWORK

PROJECT NO.	Control No.	REV.	FIGURE
19-117001	19117001-B002		2

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

DRAFT

0 350 700
SCALE FEET

LEGEND

SURFACE WATER SURROUNDING BYPRODUCT STORAGE AREA

APPROXIMATE EXTENT OF BYPRODUCT STORAGE AREA

STAFF GAUGE

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

CLIENT
LAKELAND ELECTRIC

CONSULTANT
GOLDER

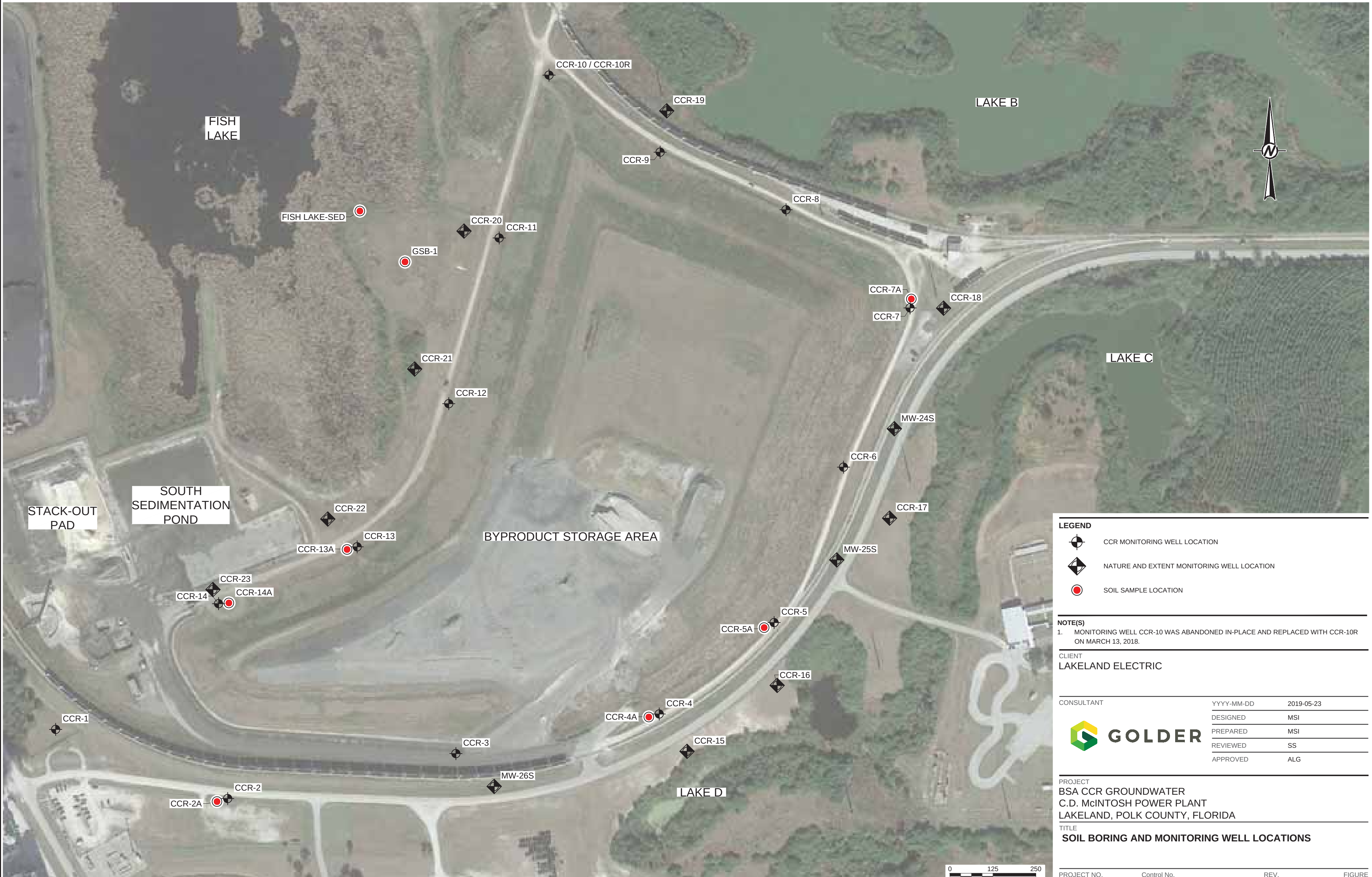
YYYY-MM-DD	2019-05-23
DESIGNED	MSI
PREPARED	MSI
REVIEWED	ALG
APPROVED	SFS

PROJECT
BSA CCR GROUNDWATER
C.D. McINTOSH POWER PLANT
LAKELAND, POLK COUNTY, FLORIDA

TITLE
SURFACE WATER BODIES SURROUNDING BYPRODUCT STORAGE AREA

PROJECT NO.	Control No.	REV.	FIGURE
19117001	19117001-A001		3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
0 1 in



LEGEND

- CCR MONITORING WELL LOCATION
- NATURE AND EXTENT MONITORING WELL LOCATION
- SOIL SAMPLE LOCATION

NOTE(S)

1. MONITORING WELL CCR-10 WAS ABANDONED IN-PLACE AND REPLACED WITH CCR-10R ON MARCH 13, 2018.

CLIENT
LAKELAND ELECTRIC

CONSULTANT
GOLDER

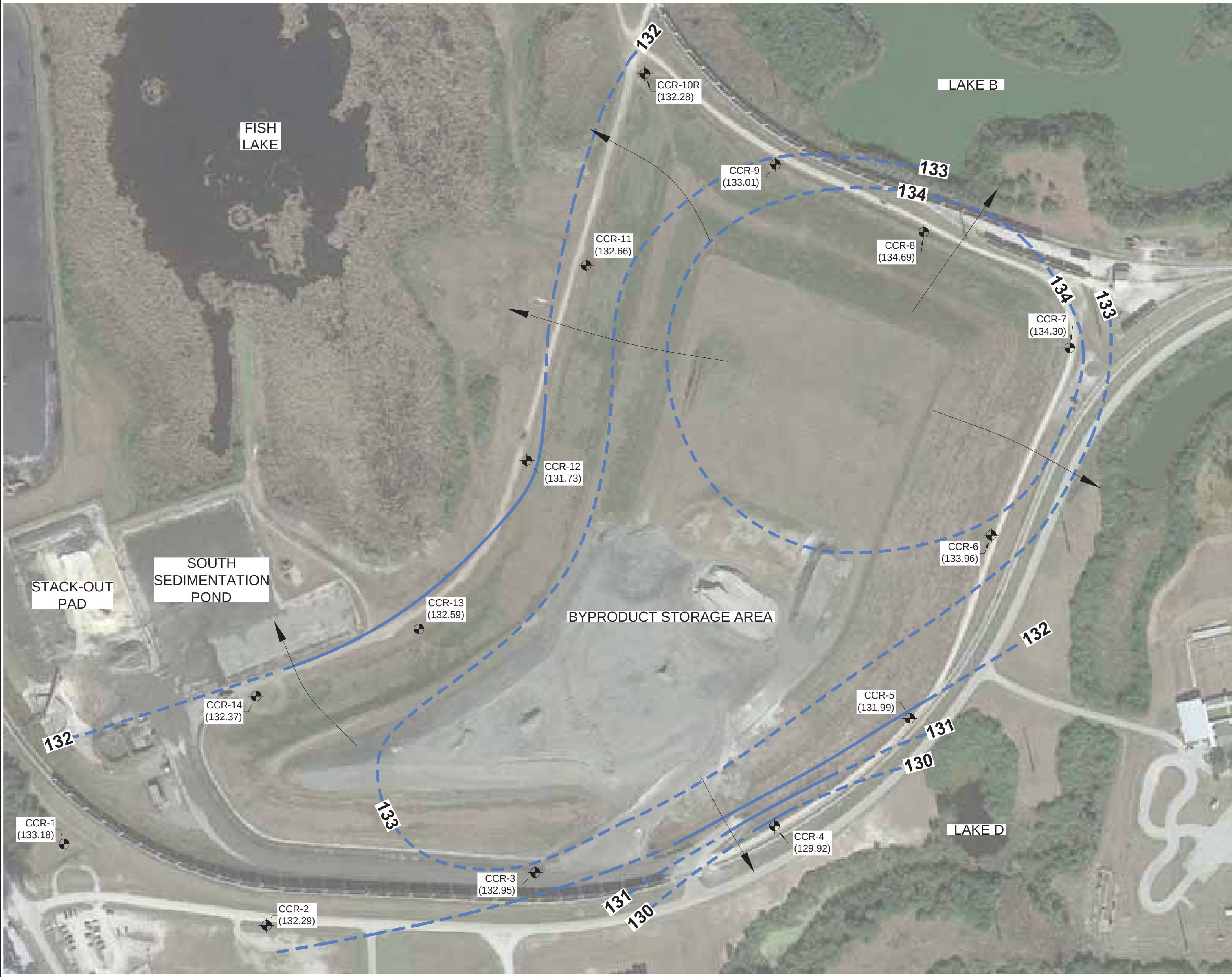
YYYY-MM-DD	2019-05-23
DESIGNED	MSI
PREPARED	MSI
REVIEWED	SS
APPROVED	ALG

PROJECT
BSA CCR GROUNDWATER
C.D. McINTOSH POWER PLANT
LAKELAND, POLK COUNTY, FLORIDA

TITLE
SOIL BORING AND MONITORING WELL LOCATIONS

PROJECT NO.	Control No.	REV.	FIGURE
19-117001	19117001-B003		4

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



LEGEND

(symbol)	CCR MONITORING WELL LOCATION
(132.59)	GROUNDWATER ELEVATION (FT. NAVD88)
(dashed line)	GROUNDWATER CONTOUR (INFERRED)
(arrow)	ESTIMATED GROUNDWATER FLOW DIRECTION

0 125 250
SCALE FEET

CLIENT
LAKELAND ELECTRIC

CONSULTANT

GOLDER

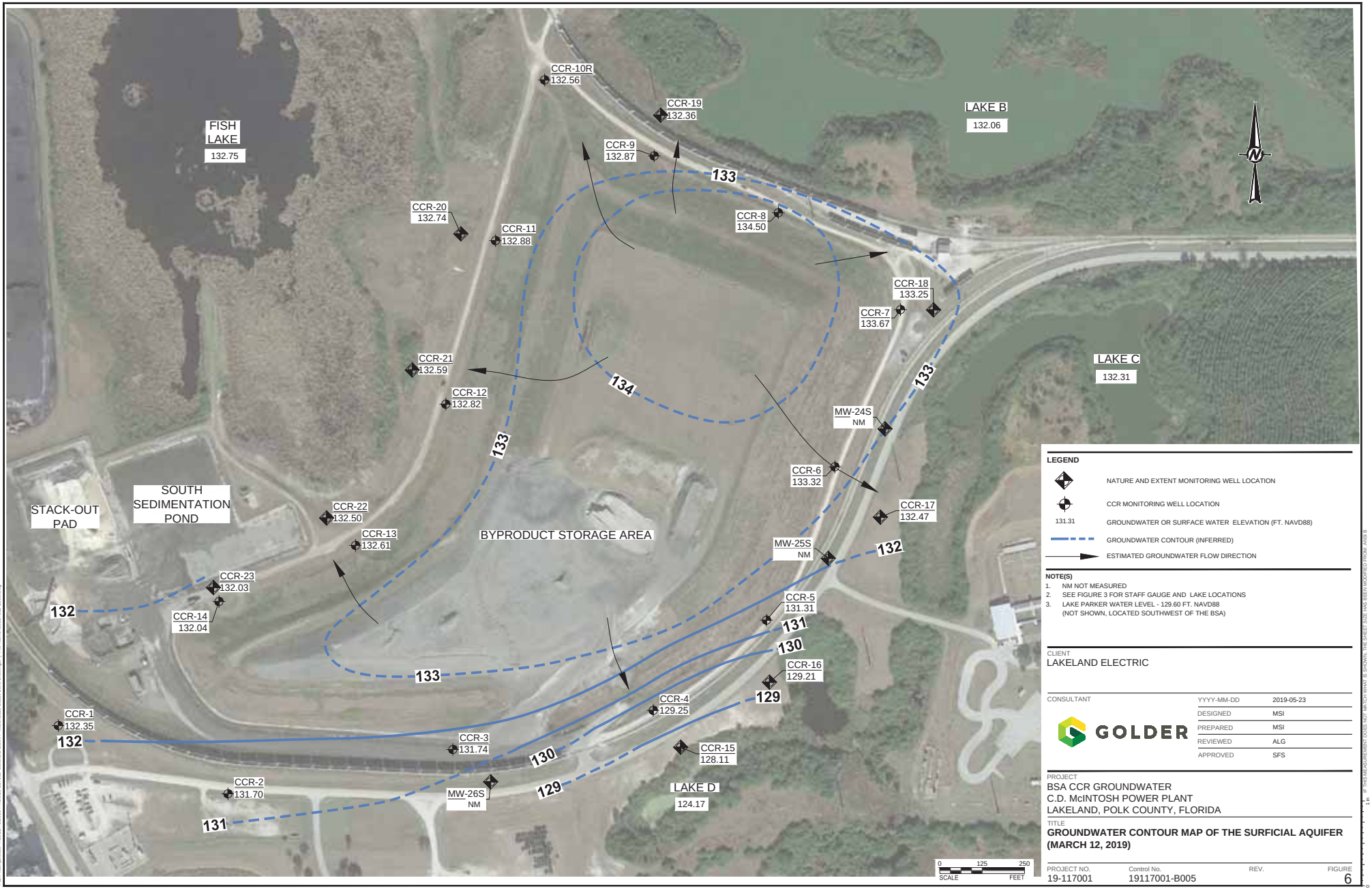
YYYY-MM-DD	2019-05-23
DESIGNED	MSI
PREPARED	ALG
REVIEWED	ALG
APPROVED	SFS

PROJECT
BSA CCR GROUNDWATER
C.D. McINTOSH POWER PLANT
LAKELAND, POLK COUNTY, FLORIDA

TITLE
GROUNDWATER CONTOUR MAP OF THE SURFICIAL AQUIFER (JULY 16, 2018)

PROJECT NO.	Control No.	REV.	FIGURE
19-115694	19117001-B004		5

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



LEGEND

- NATURE AND EXTENT MONITORING WELL LOCATION
- CCR MONITORING WELL LOCATION
- 131.31 GROUNDWATER OR SURFACE WATER ELEVATION (FT. NAVD88)
- GROUNDWATER CONTOUR (INFERRED)
- ESTIMATED GROUNDWATER FLOW DIRECTION

NOTE(S)

1. NM NOT MEASURED
2. SEE FIGURE 3 FOR STAFF GAUGE AND LAKE LOCATIONS
3. LAKE PARKER WATER LEVEL - 129.60 FT. NAVD88 (NOT SHOWN, LOCATED SOUTHWEST OF THE BSA)

CLIENT
LAKELAND ELECTRIC

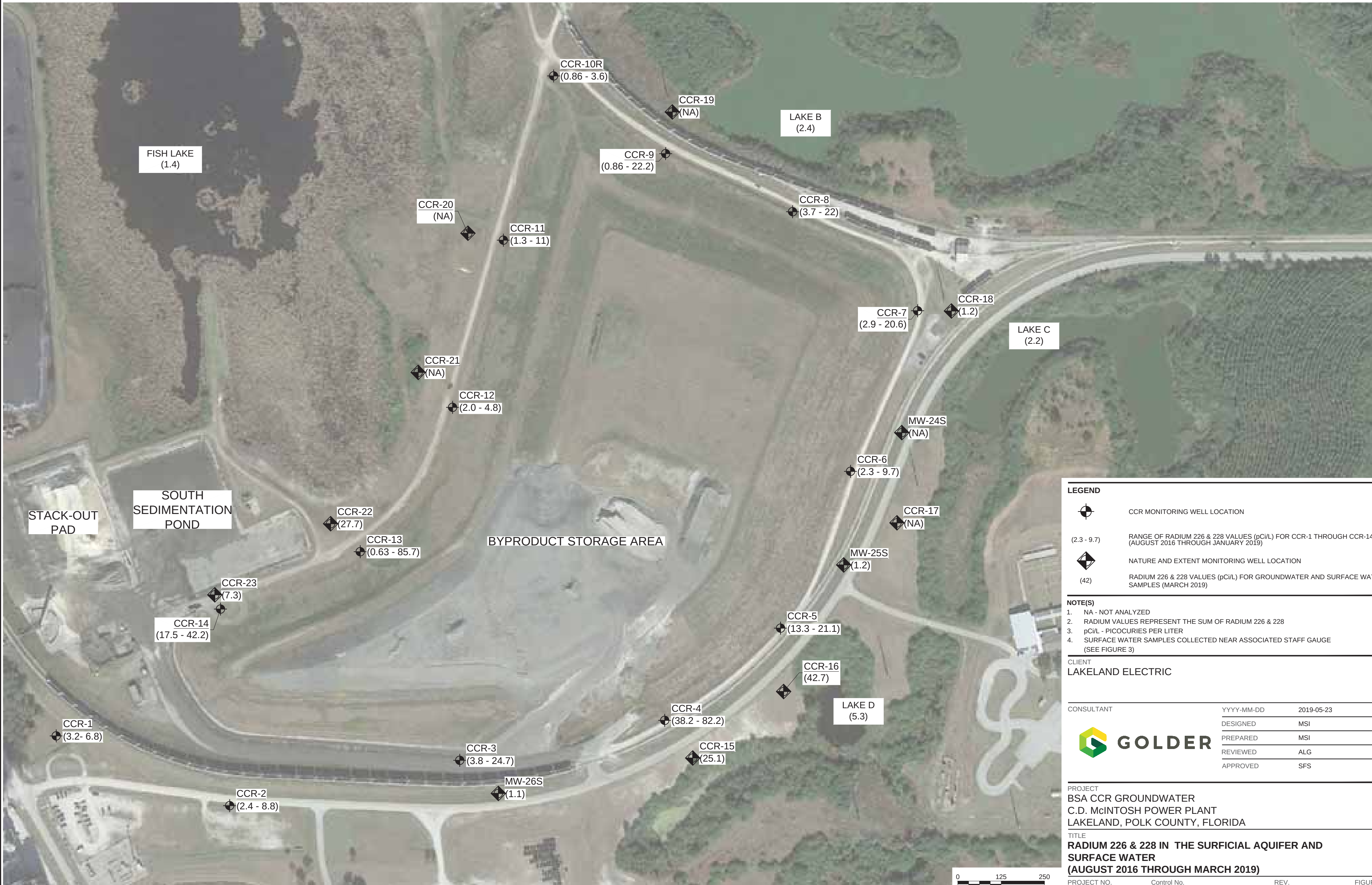
CONSULTANT
GOLDER

YYYY-MM-DD	2019-05-23
DESIGNED	MSI
PREPARED	MSI
REVIEWED	ALG
APPROVED	SFS

PROJECT
BSA CCR GROUNDWATER
C.D. McINTOSH POWER PLANT
LAKELAND, POLK COUNTY, FLORIDA

TITLE
GROUNDWATER CONTOUR MAP OF THE SURFICIAL AQUIFER (MARCH 12, 2019)

PROJECT NO.	Control No.	REV.	FIGURE
19-117001	19117001-B005		6



LEGEND

CCR MONITORING WELL LOCATION

(2.3 - 9.7) RANGE OF RADIUM 226 & 228 VALUES (pCi/L) FOR CCR-1 THROUGH CCR-14 (AUGUST 2016 THROUGH JANUARY 2019)

NATURE AND EXTENT MONITORING WELL LOCATION

(42) RADIUM 226 & 228 VALUES (pCi/L) FOR GROUNDWATER AND SURFACE WATER SAMPLES (MARCH 2019)

NOTE(S)

1. NA - NOT ANALYZED
2. RADIUM VALUES REPRESENT THE SUM OF RADIUM 226 & 228
3. pCi/L - PICOCURIES PER LITER
4. SURFACE WATER SAMPLES COLLECTED NEAR ASSOCIATED STAFF GAUGE (SEE FIGURE 3)

CLIENT
LAKELAND ELECTRIC

CONSULTANT

GOLDER

YYYY-MM-DD	2019-05-23
DESIGNED	MSI
PREPARED	MSI
REVIEWED	ALG
APPROVED	SFS

PROJECT
BSA CCR GROUNDWATER
C.D. McINTOSH POWER PLANT
LAKELAND, POLK COUNTY, FLORIDA

TITLE
RADIUM 226 & 228 IN THE SURFICIAL AQUIFER AND SURFACE WATER (AUGUST 2016 THROUGH MARCH 2019)

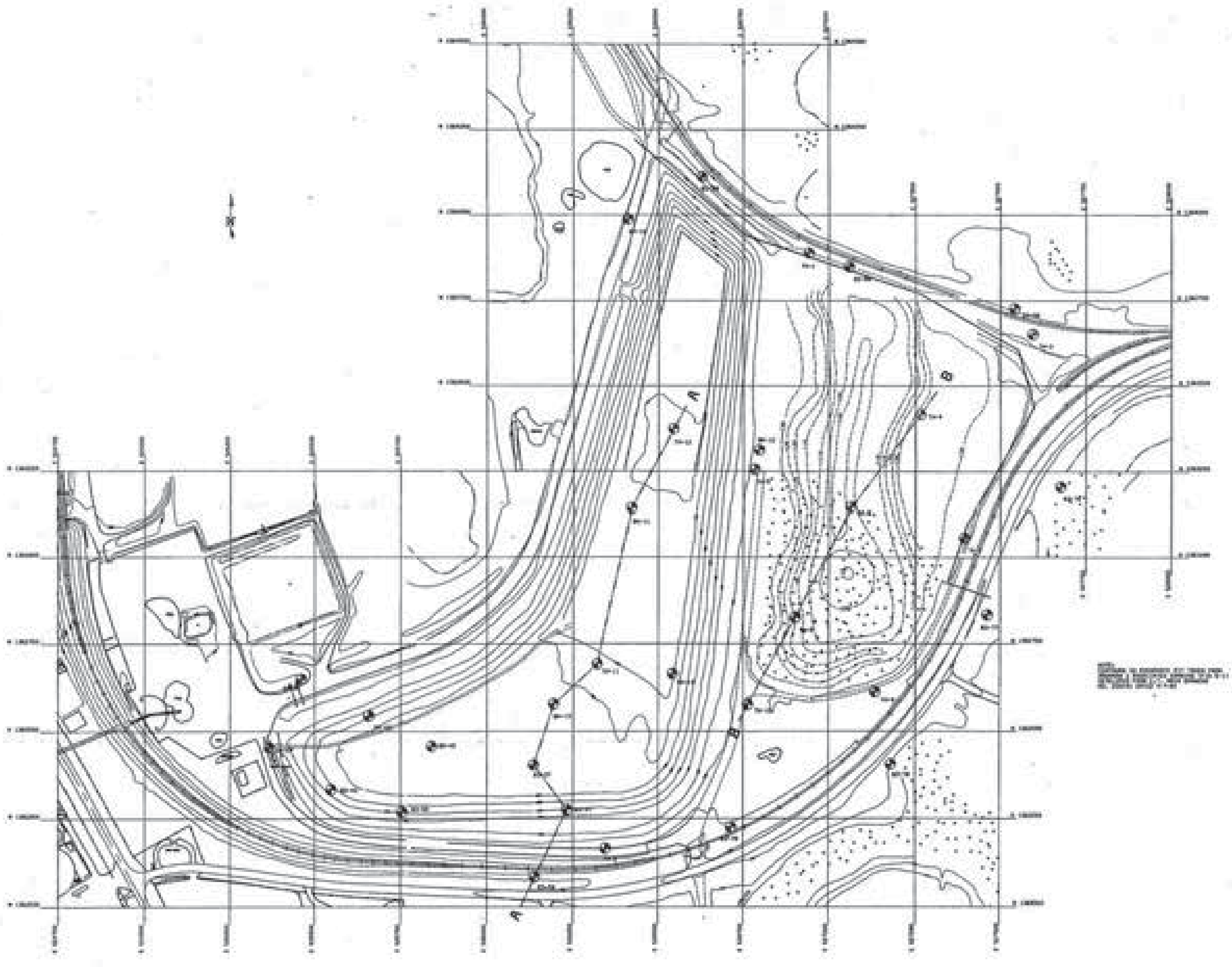
PROJECT NO.	Control No.	REV.	FIGURE
19-117001	19117001-B008		7

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

0 1 in

APPENDIX A

Soil Boring Logs and Location Map



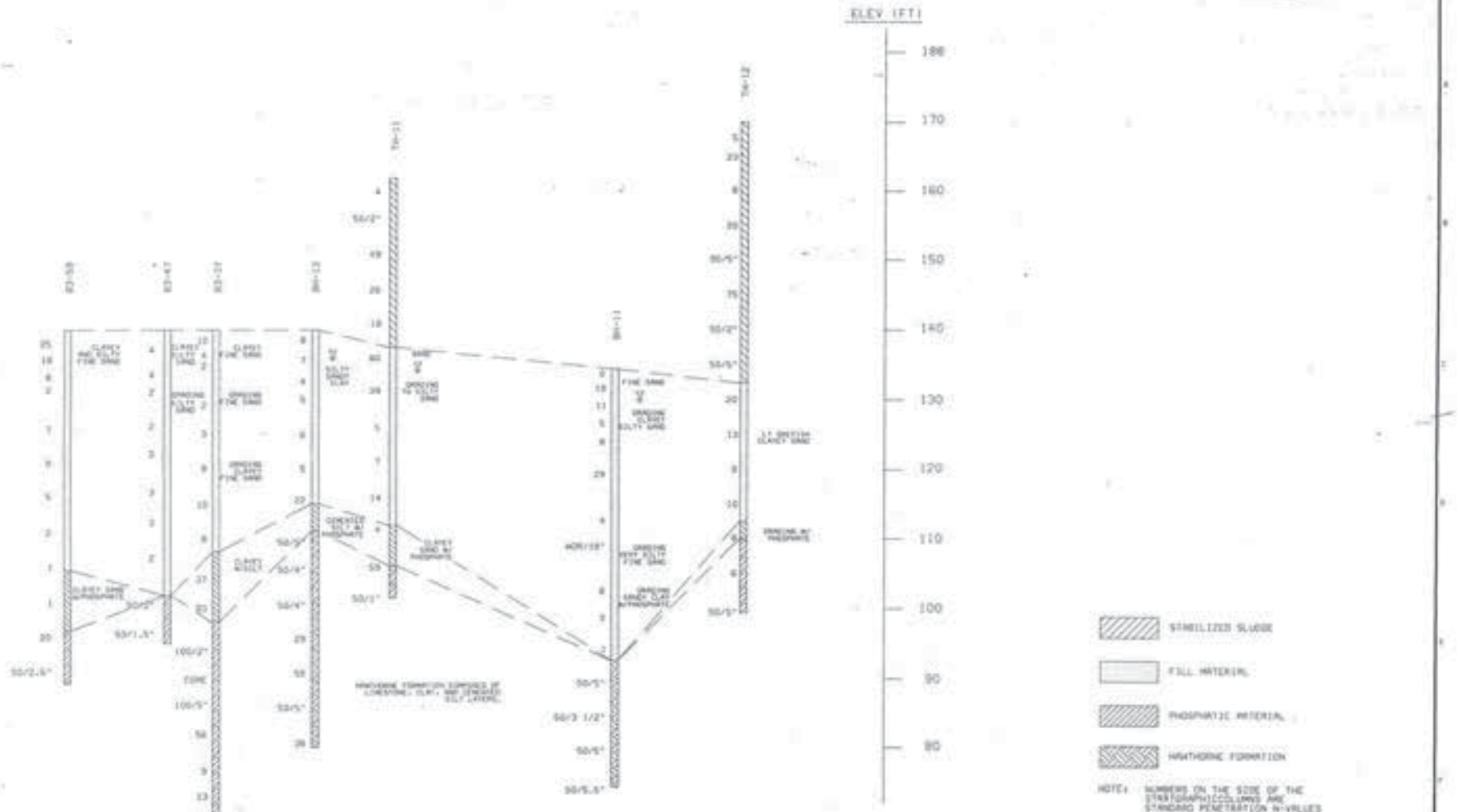
SOIL BORING LOCATION PLAN

BLACK & VEATCH

LAKELAND ELECTRIC & WATER

SOIL BORING LOCATION PLAN

FIGURE 2-1



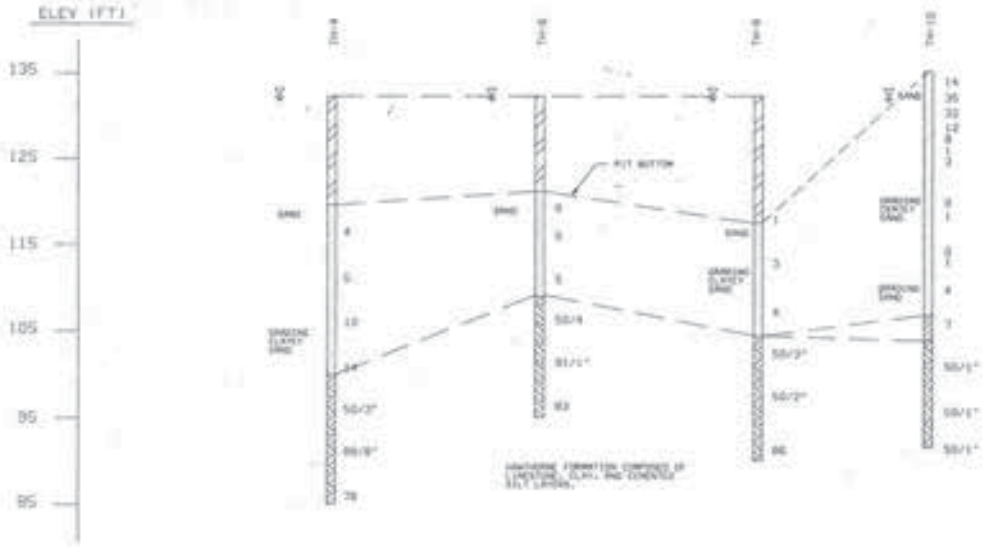
BLACK & VEATCH
ENGINEERS-ARCHITECTS

CITY OF LAKELAND
MCINTOSH LANDFILL

SOIL PROFILE SECTION A-A

PROJECT 17757

FIGURE 2-2



WATER

FILL MATERIAL

PHOSPHATIC MATERIAL

WEATHERED FORMATION

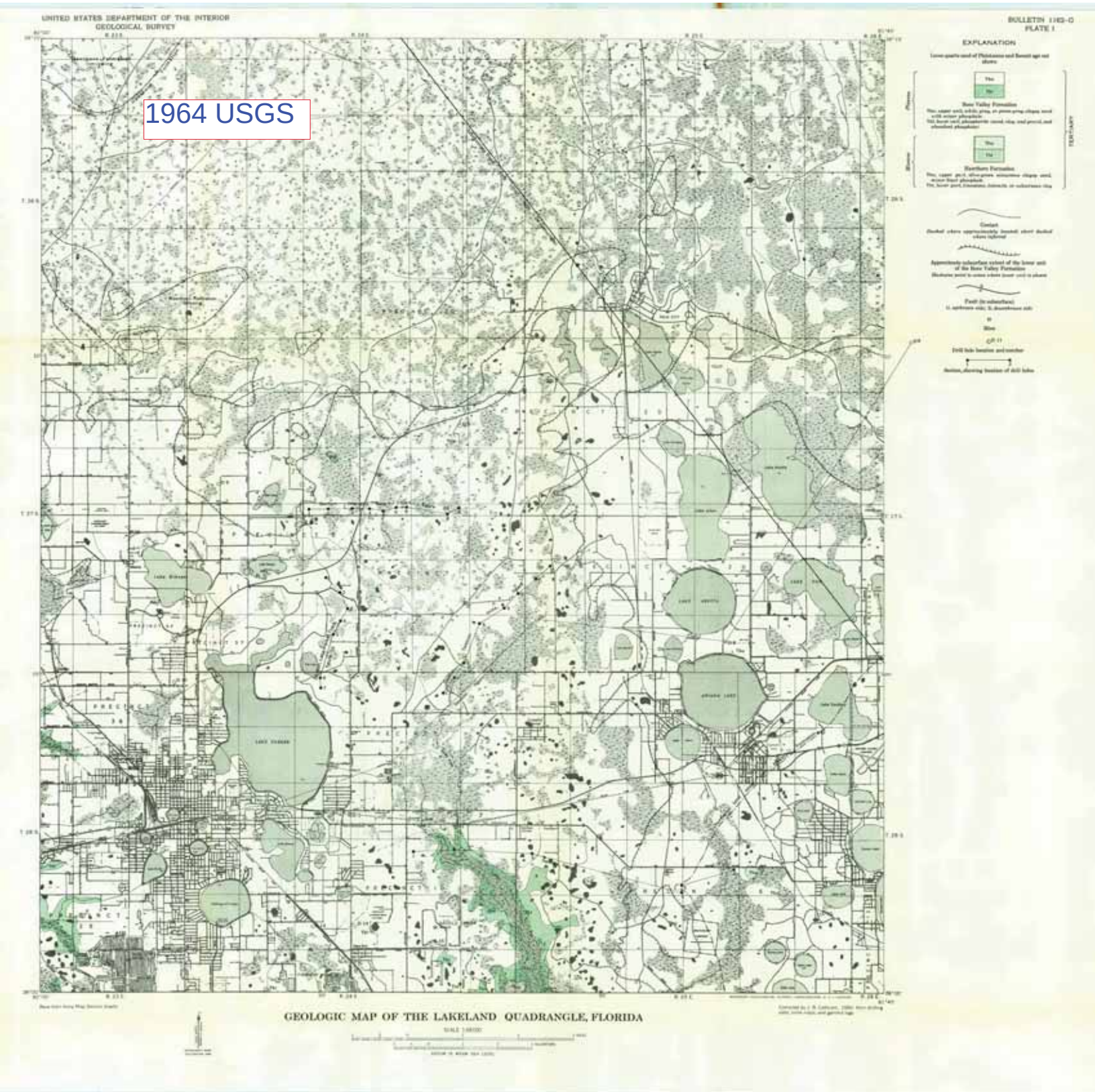
NOTE: NUMBERS ON THE SIDE OF THE STRATIGRAPHIC COLUMNS ARE STANDARD PENETRATIONS N-VALUES.

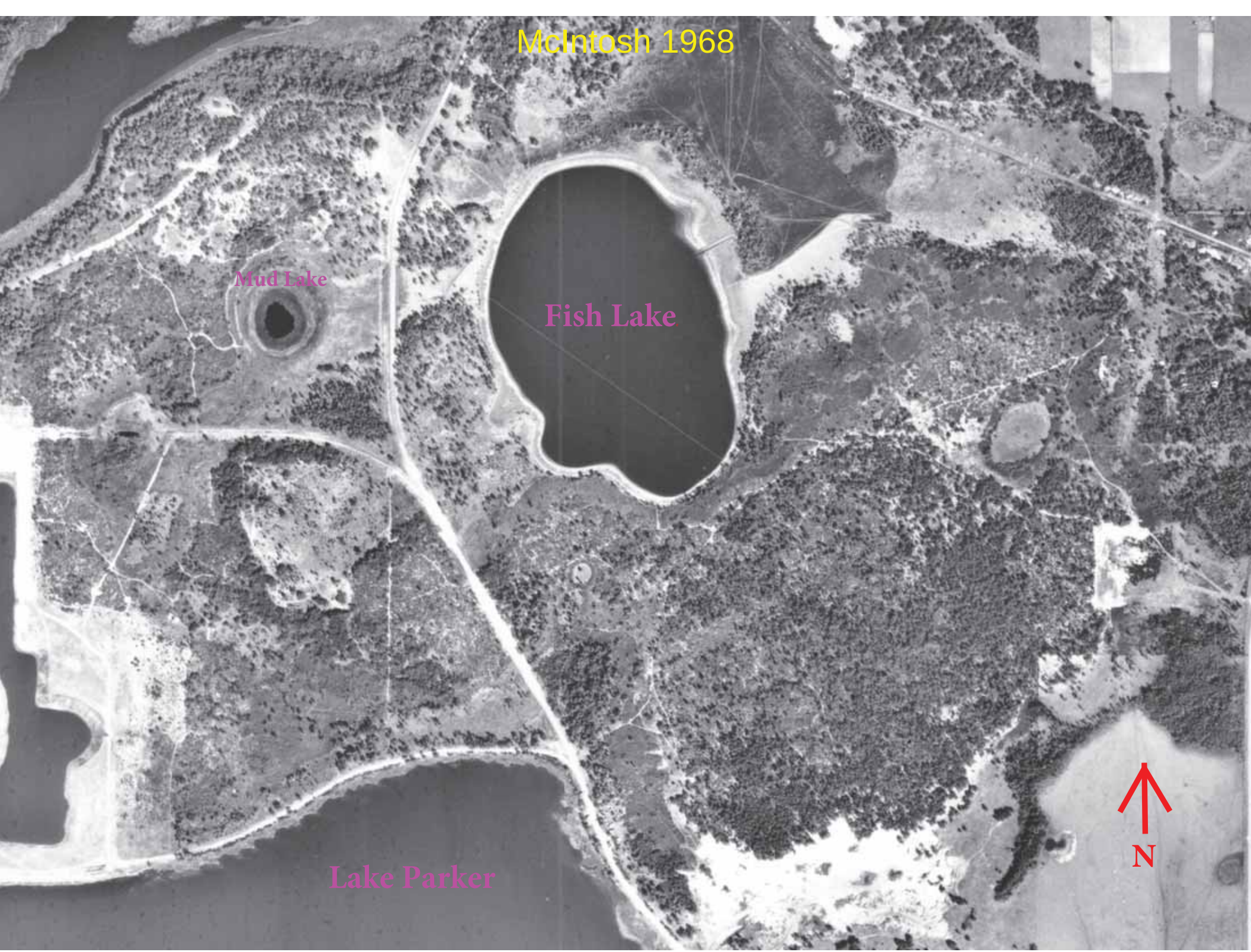
D.E.P.

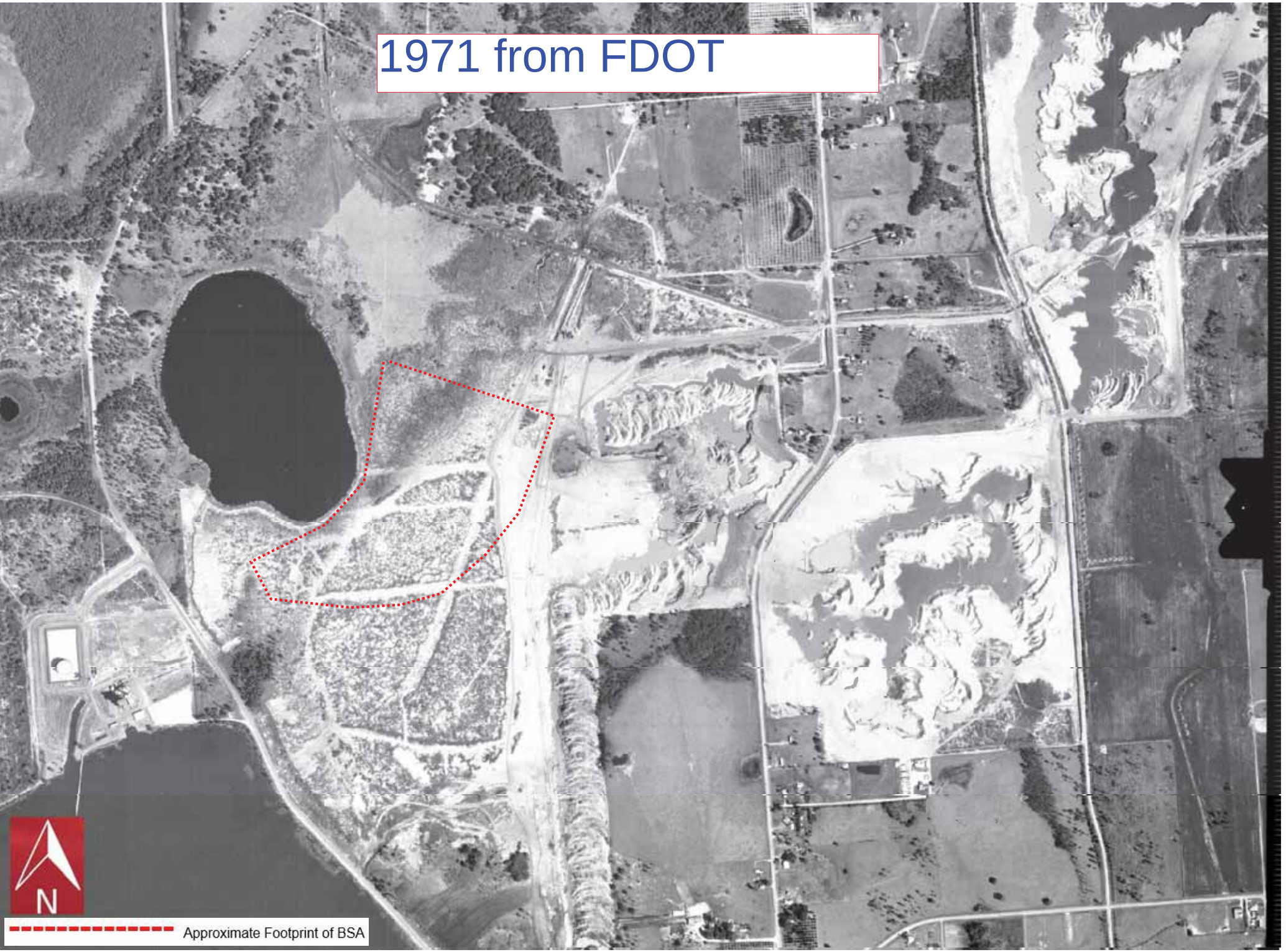
		BLACK & VEATCH ENGINEERS-ARCHITECTS	CITY OF LAKELAND MCINTOSH LANDFILL	PROJECT 17757	REV A
			SOIL PROFILE SECTION B-B	DATE	FIGURE 2-3

APPENDIX B

Historical Aerial Photographs and Maps


UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
BULLETIN 1162-G
PLATE 1
EXPLANATION
1964 USGS
GEOLOGIC MAP OF THE LAKELAND QUADRANGLE, FLORIDA


McIntosh 1968
Mud Lake
Fish Lake
Lake Parker
N


1971 from FDOT
N
Approximate Footprint of BSA

N
W E
S

BSA at Lakeland Electric USGS
11/30/1971
(Current boundary shown by dashed red line)

GeoSearch

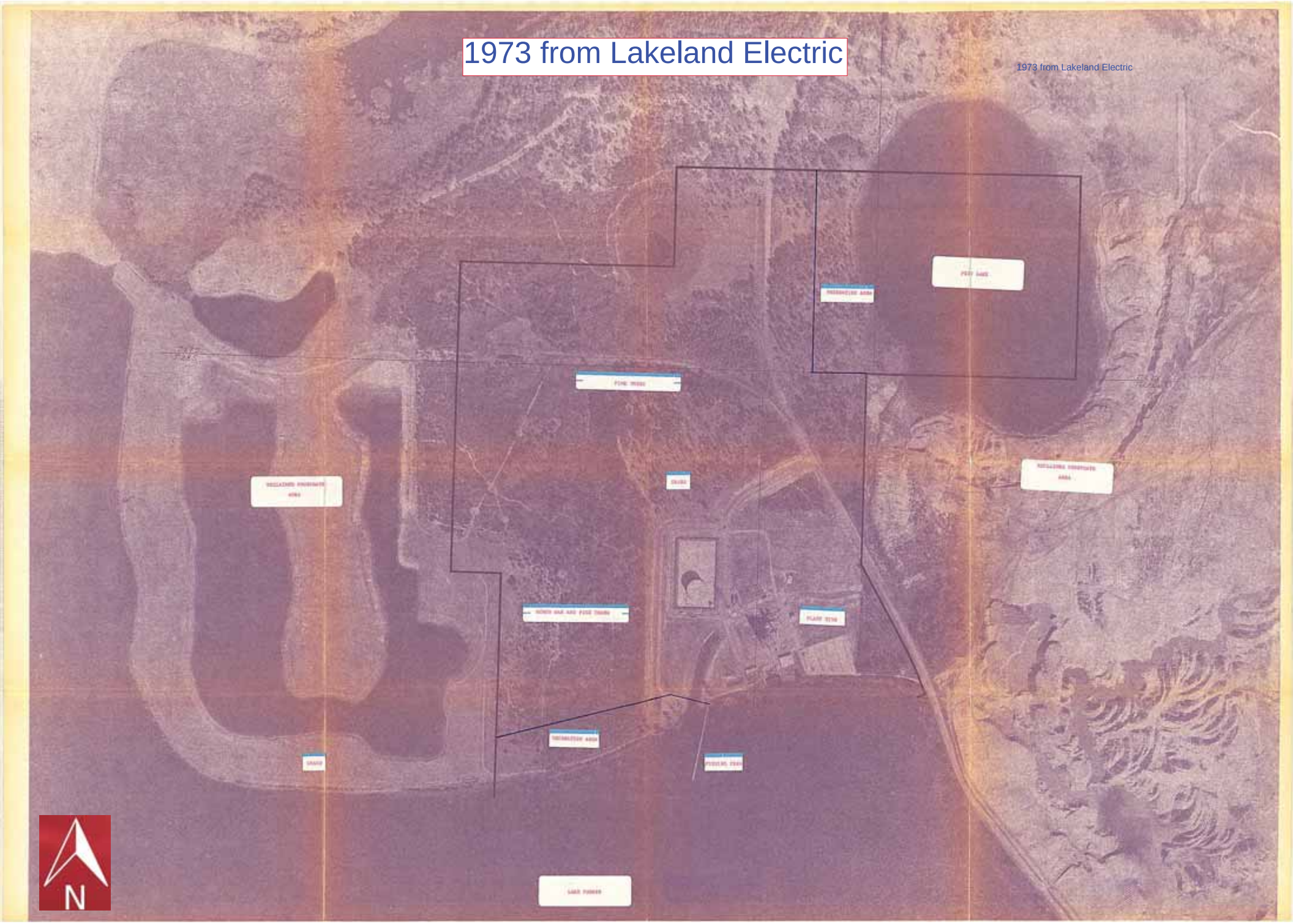
JOB #: 227772 - 03/09/2018

1975 USGS 7.5-minute topographic map including December 2, 1972 Aerial Photograph

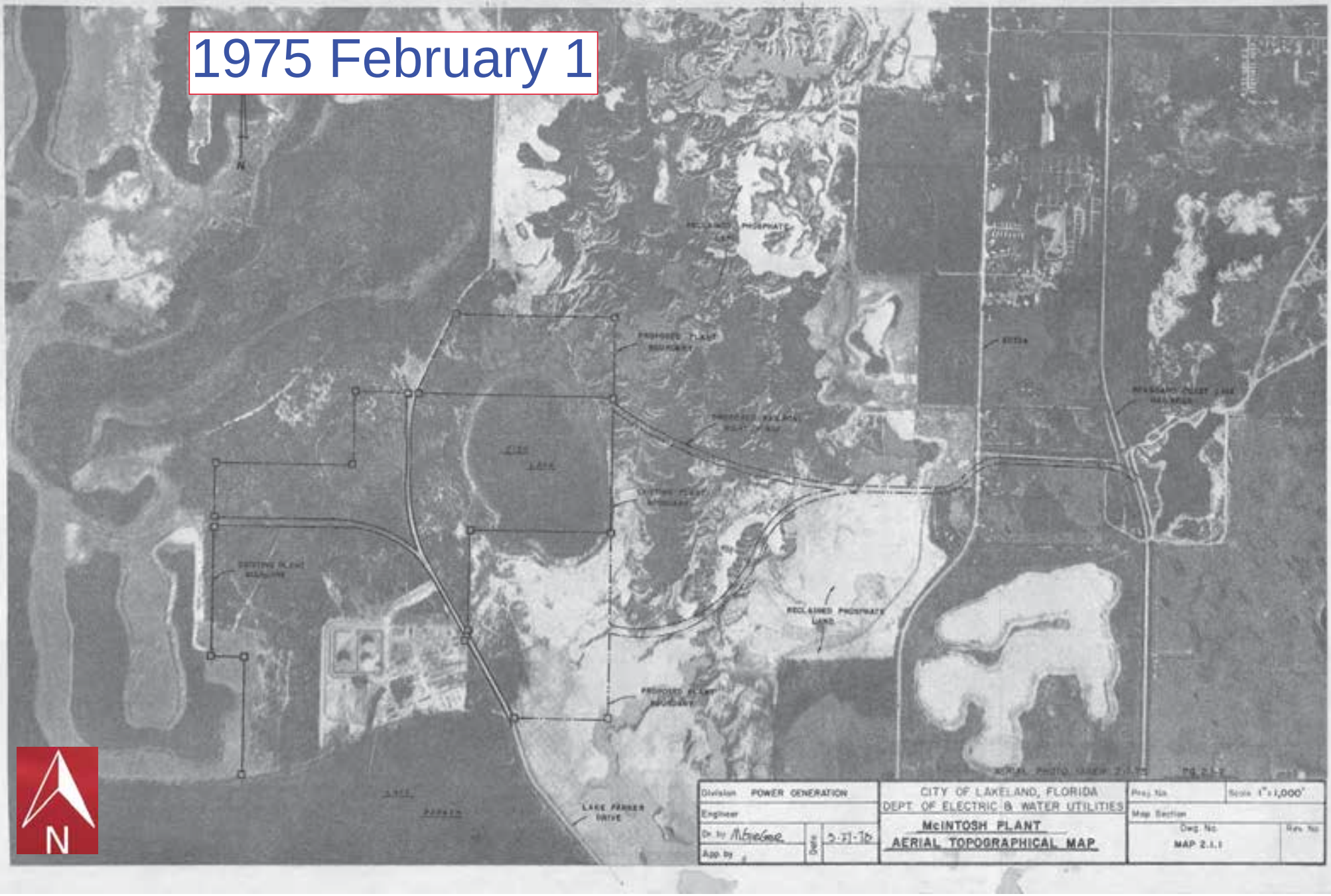
1972 Photo on 1975 USGS Topographic Map

1973 from Lakeland Electric

1973 from Lakeland Electric



1975 February 1



N
W E
S

BSA at Lakeland Electric USGS
11/26/1977
(Current boundary shown by dashed red line)

GeoSearch

JOB #: 227772 - 03/09/2018

McIntosh 1980

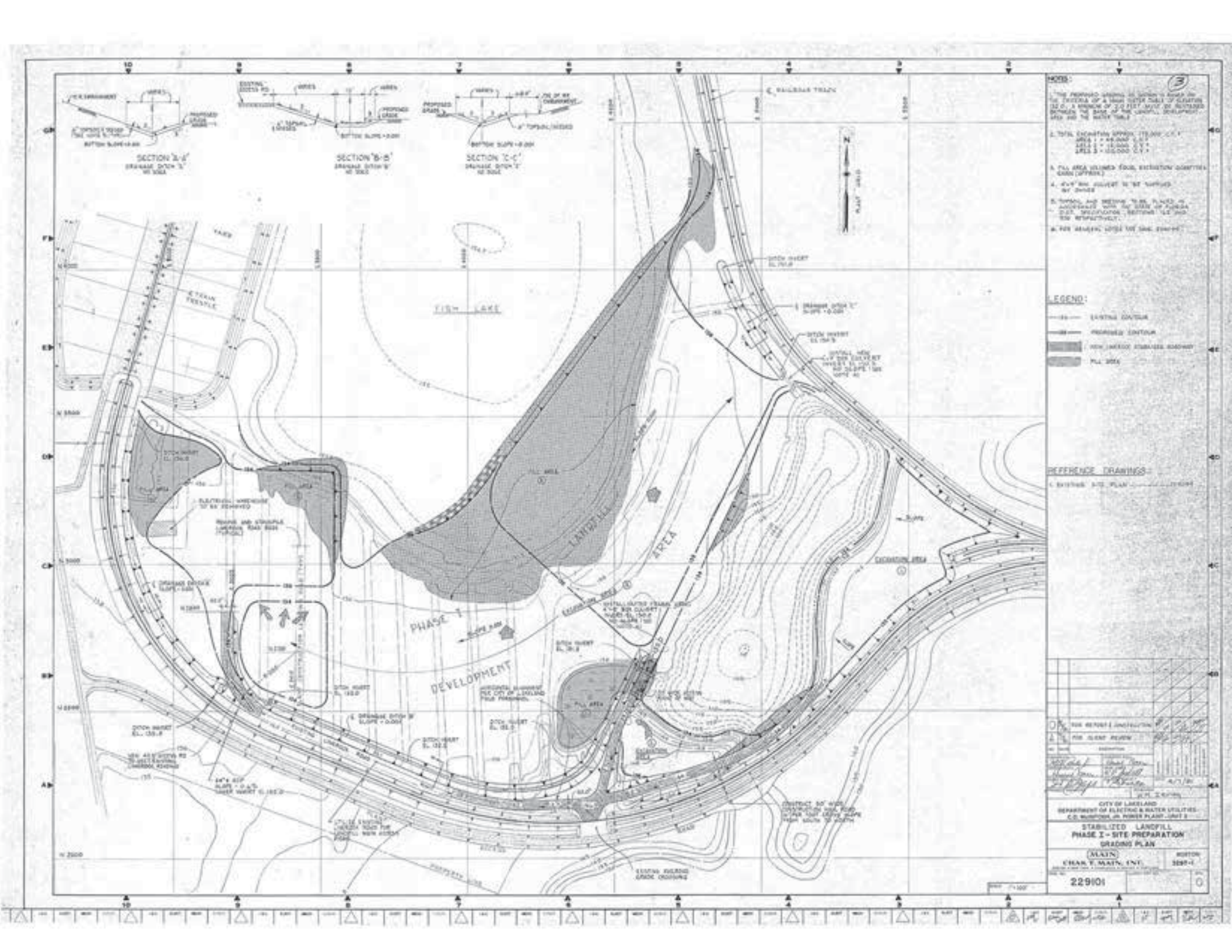
1:14,774

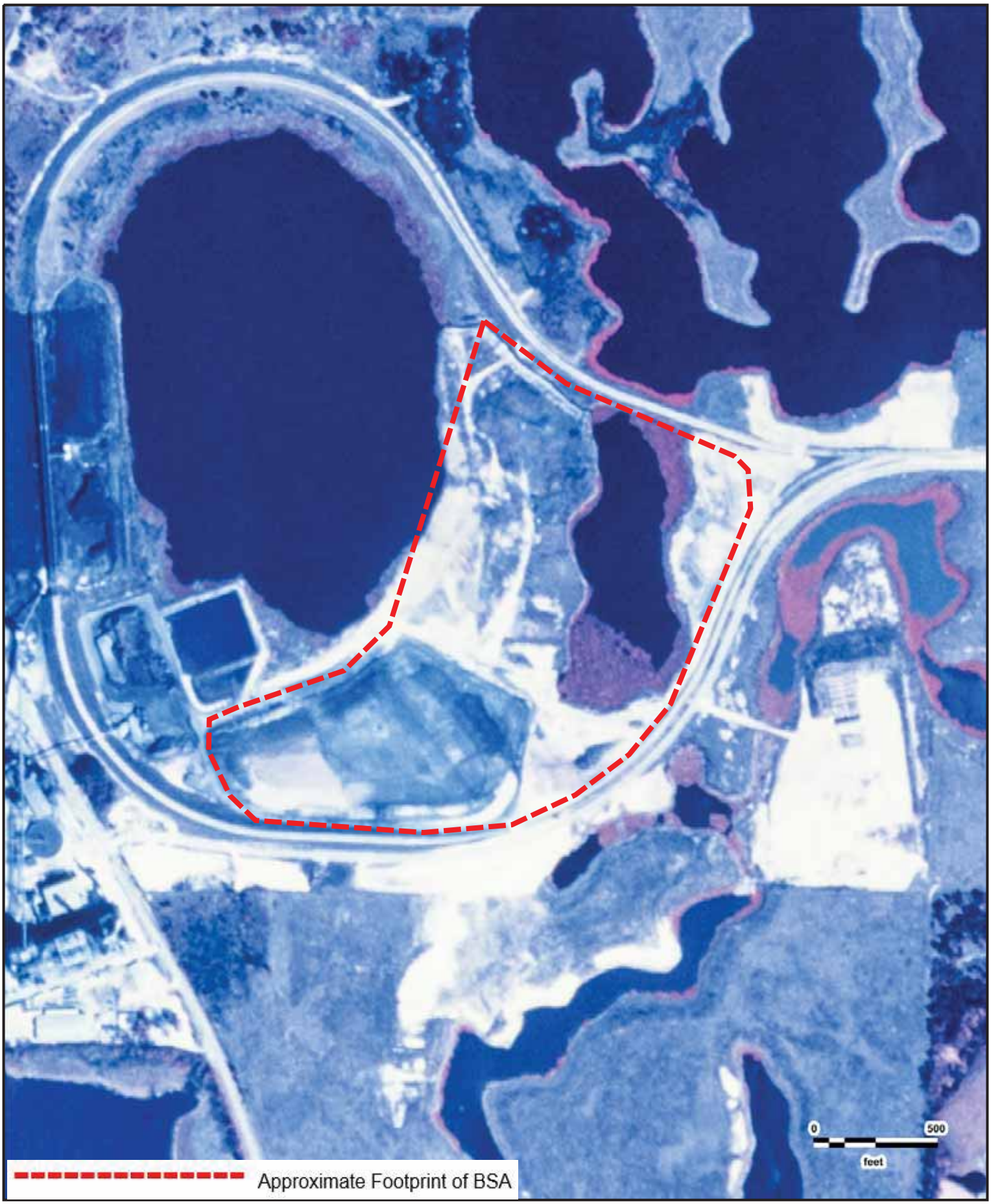
0 0.125 0.25 0.5 mi

0 0.2 0.4 0.8 km

N

Polk County BoCC


SECTION 'A-A'
SECTION 'B-B'
SECTION 'C-C'
NOTES:
LEGEND:
EXISTING CONTOUR
PROPOSED CONTOUR
FILL AREA
REFERENCE DRAWINGS:
FISH LAKE
LANDFILL AREA
PHASE I DEVELOPMENT
CITY OF LAKELAND
DEPARTMENT OF ELECTRIC & WATER UTILITIES
C.D. McINTOSH, JR. POWER PLANT - UNIT 3
STABILIZED LANDFILL
PHASE I - SITE PREPARATION
GRADING PLAN
CHAS. T. MAIN, INC.
BOSTON
229101



N
W E
S

BSA at Lakeland Electric USGS
03/02/1984
(Current boundary shown by dashed red line)

GeoSearch

JOB #: 227772 - 03/09/2018

APPENDIX C

Record of Borehole Logs for CCR-2A, CCR-4A, CCR-5A, CCR-7A, CCR-13A, and CCR-14A

RECORD OF BOREHOLE CCR-2A

SHEET 1 of 1

PROJECT: Lakeland Electric CCR
PROJECT NUMBER: 19117001
DRILLED DEPTH: 30.0 ft
AZIMUTH: N/A
LOCATION: Lakeland, FL

DRILL METHOD: Direct Push
DRILL RIG: Geoprobe 3230 DT
DATE STARTED: 2/11/2019
DATE COMPLETED: 2/11/2019
WEATHER: Partly cloudy

DATUM: NAD83 / NAVD88
COORDS: N: 1,362,203.9 E: 681,787.6
GS ELEVATION: 137.6 ft
TRC ELEVATION: N/A ft
TEMPERATURE: 74° F

INCLINATION: -90
DEPTH W.L.: 5.9 ft
ELEVATION W.L.: 131.70 ft
DATE W.L.: 3/12/2019
TIME W.L.: 10:45

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)
0		0.0 - 1.0 SAND, fine; brown, dry	SP		136.6
		1.0 - 2.0 SAND, fine; grayish brown, dry	SP		1.0 135.6
	135	2.0 - 4.0 SAND, fine; light gray, dry	SP		2.0 133.6
5		4.0 - 7.5 SAND, trace organics, fine to medium, subrounded to subangular, poorly graded; dark brown to black	SP		4.0 130.1
	130	7.5 - 10.8 SAND, fine to medium, subround to subangular, uniform grading; light tan to white, moist	SP		7.5 126.9
10		10.8 - 13.5 SAND, fine, subrounded, uniform; dark brown to black, compact, wet	SP		10.8 124.1
	125	13.5 - 15.8 No Recovery			13.5 121.9
15		15.8 - 18.4 SAND, fine, subrounded; light brown to light grey (white with small round black heavy mineral), wet	SP		15.8 119.2
	120	18.4 - 19.5 SAND, fine; dark brown to black (grains are brown), compact to dense, wet	SP		18.4 118.1
		19.5 - 20.0 No Recovery			117.6
20		20.0 - 23.0 SAND, very fine, subrounded; light brown to tan with a dark brown to black coating with small black opaque grains, compact to very dense, wet	SP		20.0 114.6
	115	23.0 - 23.5 CLAYEY SAND; tan to light brown, wet	SC		114.1
		23.5 - 25.0 SAND, very fine, subrounded; light brown to tan with a dark brown to black coating with small black heavy mineral, compact to very dense, wet	SP		23.5 112.6
25		25.0 - 27.5 SAND, fine subrounded, uniform grading; brown, loose to compact, wet	SP		25.0 110.1
	110	27.5 - 30.0 SAND, fine, subrounded; tan to white with small black heavy minerals, compact to dense, wet	SP		27.5 107.6
30		Boring completed at 30.0 ft			

1.) Borehole location is adjacent to monitoring well CCR-2; survey coordinates shown are from CCR-2.

2.) Ground surface elevation is estimated based on ground surface elevation of monitoring well CCR-2.

3.) Boreholes were backfilled with 20/30 graded silica sand to 5 ft bgs and the remaining borehole was filled with bentonite chips to land surface.

4.) Water-level elevations are estimated based on depth-to-water measurements from adjacent monitoring well CCR-2.

5.) Density descriptions are based on field observations and not form SPT blow counts.

6.) Soil cores were collected and transported to Golder's Tampa office. The soil cores were later logged by M. Boatman for mineralogic description of lithology.

7.) Based on lithologic descriptions, mine tailings and/or fill was encountered from approximately ground surface to 20 ft bgs and in-situ residual soil and/or weathered rock from 20 ft bgs to terminal depth.

LOG SCALE: 1 in = 4 ft
DRILLING COMPANY: Action Environmental
DRILLER: Omar Velazquez

INSPECTOR: M. Boatman
CHECKED BY: G. Morelli
DATE: 5/30/19

GOLDER

GLDR_GEOTECH NO SPT 1545454.2_REV1 (1).GPJ 5/30/19

RECORD OF BOREHOLE CCR-4A

SHEET 1 of 1

PROJECT: Lakeland Electric CCR
PROJECT NUMBER: 19117001
DRILLED DEPTH: 30.0 ft
AZIMUTH: N/A
LOCATION: Lakeland, FL

DRILL METHOD: Direct Push
DRILL RIG: Geoprobe 3230 DT
DATE STARTED: 2/11/2019
DATE COMPLETED: 2/11/2019
WEATHER: Partly cloudy

DATUM: NAD83 / NAVD88
COORDS: N: 1,362,450.0 E: 683,042.7
GS ELEVATION: 140.3 ft
TRC ELEVATION: N/A ft
TEMPERATURE: 86° F

INCLINATION: -90
DEPTH W.L.: 11.05 ft
ELEVATION W.L.: 129.25 ft
DATE W.L.: 3/12/2019
TIME W.L.: 10:57

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)
0	140	0.0 - 1.0 SAND, fine; brown, dry	SP		139.3
		1.0 - 2.0 SAND, fine, some gravel and silt; brown, dry	SP		1.0 138.3
		2.0 - 5.0 SAND, fine, some silt; brown, dry	SP-SM		2.0 135.3
5	135	5.0 - 10.4 SILTY SAND, fine, subrounded to subangular, uniform grading; dark brown to black, dry to moist	SM		5.0 129.9
10	130	10.4 - 13.6 SAND, fine to medium, subrounded, uniform grading; dark brown with small black heavy minerals, loose to very loose, wet 12.0 - 13.6 contact water is black	SP		10.4 126.7
		13.6 - 15.0 SAND, very fine, subrounded, uniform grading; dark brown with small black heavy minerals, compact, wet	SP		13.6 125.3
15	125	15.0 - 15.8 SAND, fine to medium, subrounded, uniform grading; dark brown with small black heavy minerals, loose to very loose, wet, water is black	SP		15.0 124.5
		15.8 - 19.5 SAND, fine, subrounded, uniform grading; light to dark brown, compact to dense, wet	SP		15.8 120.8
20	120	19.5 - 21.1 SAND little to some clay; fine, angular to subrounded, uniform grading; white to tan with small black heavy minerals, wet	SP-SC		19.5 119.2
		21.1 - 22.8 SAND some clay, fine, subrounded; white to pale green, moist	SP-SC		21.1 117.5
		22.8 - 23.4 CLAY some sand and trace gravel; soft; fine, limestone gravel, brownish gray; pale green to greenish gray, moist	CL		116.9
25	115	23.4 - 28.2 Sandy CLAY, trace to some silt; pale green to white, loose to compact, wet, fossiliferous (weathered limestone)	CL		23.4 112.1
		28.2 - 30.0 CLAY trace sand and gravel; soft; fine angular sand, fine rounded gravel; green, moist (weathered limestone)	CL		28.2 110.3
30	110	Boring completed at 30.0 ft			

COMMENTS

1.) Borehole location is adjacent to monitoring well CCR-4; survey coordinates shown are from CCR-4.

2.) Ground surface elevation is estimated based on ground surface elevation of monitoring well CCR-4.

3.) Boreholes were backfilled with 20/30 graded silica sand to 5 ft bgs and the remaining borehole was filled with bentonite chips to land surface.

4.) Water-level elevations are estimated based on depth-to-water measurements from adjacent monitoring well CCR-4.

5.) Density descriptions are based on field observations and not form SPT blow counts.

6.) Soil cores were collected and transported to Golder's Tampa office. The soil cores were later logged by M. Boatman for mineralogic description of lithology.

7.) Based on lithologic descriptions, mine tailings and/or fill was encountered from approximately ground surface to 19.5 ft bgs and in-situ residual soil and/or weathered rock from 19.5 ft bgs to terminal depth.

LOG SCALE: 1 in = 4 ft
DRILLING COMPANY: Action Environmental
DRILLER: Omar Velazquez

INSPECTOR: M. Boatman
CHECKED BY: G. Morelli
DATE: 5/30/19

GOLDER

GLDR_GEOTECH NO SPT 1545454.2_REV1 (1).GPJ 5/30/19

RECORD OF BOREHOLE CCR-5A

SHEET 1 of 1

PROJECT: Lakeland Electric CCR
PROJECT NUMBER: 19117001
DRILLED DEPTH: 30.0 ft
AZIMUTH: N/A
LOCATION: Lakeland, FL

DRILL METHOD: Direct Push
DRILL RIG: Geoprobe 3230 DT
DATE STARTED: 2/11/2019
DATE COMPLETED: 2/11/2019
WEATHER: Partly cloudy

DATUM: NAD83 / NAVD88
COORDS: N: 1,362,716.0 E: 683,376.9
GS ELEVATION: 138.6 ft
TRC ELEVATION: N/A ft
TEMPERATURE: 88° F

INCLINATION: -90
DEPTH W.L.: 7.29 ft
ELEVATION W.L.: 131.31 ft
DATE W.L.: 3/12/2019
TIME W.L.: 11:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)
0		0.0 - 5.0 SAND, fine; brown, dry	SP		133.6
	135				
5		5.0 - 8.4 SAND, fine to medium, subrounded, uniform grading; white with small rounded black heavy minerals	SP		5.0 130.2
	130	8.4 - 8.9 CLAY some sand and gravel; fine white gravel and fine to medium sand; white, moist	CL		129.7
		8.9 - 10.0 SAND, fine to medium, subrounded; white with small black heavy minerals, moist	SP		8.9 128.6
10		10.0 - 12.3 No Recovery			10.0 126.3
		12.3 - 13.0 SAND, fine to medium, subrounded; dark brown, loose, moist	SP		12.3 125.6
	125	13.0 - 15.0 SAND and CLAY; fine, subrounded; soft to firm; white to pale green with orange spots	SC		13.0 123.6
15		15.0 - 16.9 No Recovery			15.0 121.7
		16.9 - 18.2 SAND trace to some silt; fine to medium, subrounded to subangular; dark brown to black, loose to compact, moist to wet	SP-SM		16.9 120.4
	120	18.2 - 19.3 SAND, fine; dark brown with small black heavy minerals, loose to compact, wet	SP		18.2 119.3
		19.3 - 20.0 SAND, very fine to fine; dark brown to black, loose to compact, wet, contact water separates to tan and black	SP		19.3 118.6
20		20.0 - 22.3 No Recovery			20.0 116.3
		22.3 - 23.1 SAND some clay; fine, subrounded; soft; dark brown, wet	SP-SC		22.3 115.5
	115	23.1 - 24.2 SAND, fine to medium, subrounded; dark brown with smal black heavy minerals, loose, wet	SP		23.1 114.4
		24.2 - 25.0 SAND trace gravel; fine, subrounded, sand; fine to coarse, rounded, gravel; tan to white, wet	SP		24.2 113.6
25		25.0 - 27.4 No Recovery			25.0 111.2
		27.4 - 28.5 SAND, fine, rounded, dark brown with black heavy minerals, loose, wet	SP		27.4 110.1
	110	28.5 - 30.0 SAND trace organics; fine to medium; twigs and roots; light brown to light gray with black heavy minerals, loose, wet	SP		28.5 108.6
30		Boring completed at 30.0 ft			

COMMENTS

1.) Borehole location is adjacent to monitoring well CCR-5; survey coordinates shown are from CCR-5.

2.) Ground surface elevation is estimated based on ground surface elevation of monitoring well CCR-5.

3.) Boreholes were backfilled with 20/30 graded silica sand to 5 ft bgs and the remaining borehole was filled with bentonite chips to land surface.

4.) Water-level elevations are estimated based on depth-to-water measurements from adjacent monitoring well CCR-5.

5.) Density descriptions are based on field observations and not form SPT blow counts.

6.) Soil cores were collected and transported to Golder's Tampa office. The soil cores were later logged by M. Boatman for mineralogic description of lithology.

7.) Based on lithologic descriptions, mine tailings and/or fill was encountered from approximately ground surface to terminal depth.

LOG SCALE: 1 in = 4 ft
DRILLING COMPANY: Action Environmental
DRILLER: Omar Velazquez

INSPECTOR: M. Boatman
CHECKED BY: G. Morelli
DATE: 5/30/19

GOLDER

GLDR_GEOTECH NO SPT 1545454.2_REV1 (1).GPJ 5/30/19

RECORD OF BOREHOLE CCR-7A

SHEET 1 of 1

PROJECT: Lakeland Electric CCR
PROJECT NUMBER: 19117001
DRILLED DEPTH: 30.0 ft
AZIMUTH: N/A
LOCATION: Lakeland, FL

DRILL METHOD: Direct Push
DRILL RIG: Geoprobe 3230 DT
DATE STARTED: 2/11/2019
DATE COMPLETED: 2/11/2019
WEATHER: Partly cloudy

DATUM: NAD83 / NAVD88
COORDS: N: 1,363,631.9 E: 683,772.2
GS ELEVATION: 139.1 ft
TRC ELEVATION: N/A ft
TEMPERATURE: 86° F

INCLINATION: -90
DEPTH W.L.: 5.43 ft
ELEVATION W.L.: 133.67 ft
DATE W.L.: 3/12/2019
TIME W.L.: 11:05

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)
0		0.0 - 5.0 SAND, fine; light brownish gray, dry to wet	SP		
	135	4.0: ~ moist at 4 ft bgs			134.1
5		5.0 - 6.0 No Recovery			5.0 133.1
		6.0 - 7.0 SAND with pockets of sand/clay; fine, subrounded, uniform grading; fine sand/clay matrix, firm; tan to dark brown, loose to compact, wet	SP		6.0 132.1
		7.0 - 7.4 SAND, fine, subrounded, uniform grading; black, loose to compact, wet	SP		131.7 7.4
	130	7.4 - 10.0 SAND with pockets of sand/clay; fine, subrounded, uniform grading; fine sand/clay matrix, firm; tan to dark brown, loose to compact, wet	SP		129.1
10		10.0 - 11.0 No Recovery			10.0 128.1
		11.0 - 15.0 SILTY SAND, fine, subrounded, uniform grading, dark brown with black heavy minerals, loose, wet	SM		11.0
	125	13.4: 13.4-13.8 pockets of white sand/clay matrix			124.1
15		15.0 - 17.0 No Recovery			15.0 122.1
		17.0 - 17.8 SAND trace to some silt; fine, uniform grading; dark brown to black, wet	SP-SM		17.0 121.3
		17.8 - 18.5 CLAY; white, soft to firm, moist	CL		17.8 120.6
	120	18.5 - 20.0 SAND trace to some silt and sady clay; fine, uniform grading; dark brown, wet	SP-SM		18.5 119.1
20		20.0 - 25.0 SAND with pockets of sandy clay; fine, uniform grading; white clay; brown with black heavy minerals, wet	SP/CL		20.0
	115				114.1
25		25.0 - 26.1 No Recovery			25.0 113.0
		26.1 - 26.6 SAND, fine, subrounded, uniform grading; dark brown, loose, wet	SP		112.5
		26.6 - 27.2 SAND and CLAY; fine to coarse; soft; white to pale green, wet	SC/CL		111.9
		27.2 - 28.6 SAND, fine, subrounded, uniform grading; light brown, loose, wet	SP		27.2 110.5
	110	28.6 - 29.3 Sandy CLAY; fine to coarse, subrounded; compact, pale green, moist	CL		28.6 109.8
		29.3 - 30.0 Sandy CLAY, fine, subrounded, uniform grading; light to dark brown, loose, wet	CL		29.3 109.1
30		Boring completed at 30.0 ft			

COMMENTS

1.) Borehole location is adjacent to monitoring well CCR-7; survey coordinates shown are from CCR-7.

2.) Ground surface elevation is estimated based on ground surface elevation of monitoring well CCR-7.

3.) Boreholes were backfilled with 20/30 graded silica sand to 5 ft bgs and the remaining borehole was filled with bentonite chips to land surface.

4.) Water-level elevations are estimated based on depth-to-water measurements from adjacent monitoring well CCR-7.

5.) Density descriptions are based on field observations and not form SPT blow counts.

6.) Soil cores were collected and transported to Golder's Tampa office. The soil cores were later logged by M. Boatman for mineralogic description of lithology.

7.) Based on lithologic descriptions, mine tailings and/or fill was encountered from approximately ground surface to 17 ft bgs and in-situ residual soil and/or weathered rock from 17 ft bgs to terminal depth.

LOG SCALE: 1 in = 4 ft
DRILLING COMPANY: Action Environmental
DRILLER: Omar Velazquez

INSPECTOR: M. Boatman
CHECKED BY: G. Morelli
DATE: 5/30/19

GOLDER

GLDR_GEOTECH NO SPT 1545454.2_REV1 (1).GPJ 5/30/19

RECORD OF BOREHOLE CCR-13A

SHEET 1 of 1

PROJECT: Lakeland Electric CCR
PROJECT NUMBER: 19117001
DRILLED DEPTH: 30.0 ft
AZIMUTH: N/A
LOCATION: Lakeland, FL

DRILL METHOD: Direct Push
DRILL RIG: Geoprobe 3230 DT
DATE STARTED: 2/12/2019
DATE COMPLETED: 2/12/2019
WEATHER: Partly cloudy

DATUM: NAD83 / NAVD88
COORDS: N: 1,362,936.6 E: 682,164.1
GS ELEVATION: 135.0 ft
TRC ELEVATION: N/A ft
TEMPERATURE: 72° F

INCLINATION: -90
DEPTH W.L.: 2.39 ft
ELEVATION W.L.: 132.61 ft
DATE W.L.: 3/12/2019
TIME W.L.: 11.58

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)
0	135	0.0 - 2.0 SAND, fine; light brown, dry	SP		133.0
		2.0 - 4.0 SAND, fine; dark grayish brown, dry	SP		2.0 131.0
		4.0 - 5.0 SAND, fine; brown, dry	SP		4.0 130.0
5	130	5.0 - 7.1 SAND, fine, subrounded, uniform grading; black to dark gray, loose, moist to wet	SP		5.0 127.9
		7.1 - 9.4 SILTY SAND, fine, uniform grading; tan to white, compact to dense, wet	SM		7.1 125.6
10	125	9.4 - 10.0 SAND, fine, uniform grading; black with heavy minerals, loose, wet	SP		125.0
		10.0 - 12.0 No Recovery			10.0 123.0
		12.0 - 15.0 SAND, fine to medium, subrounded; dark brown, loose to compact, wet 14.2: root encountered	SP		12.0 120.0
15	120	15.0 - 17.0 No Recovery			15.0 118.0
		17.0 - 19.0 SAND trace to some clay, fine, uniform grading; grayish brown/tan with black heavy minerals, loose, wet. - two black bands at 17.3 and 17.6 ft bgs	SP-SC		17.0 116.0
		19.0 - 20.0 SAND, fine, uniform grading; grayish brown with black heavy minerals, compact, moist	SP		19.0 115.0
20	115	20.0 - 25.0 SAND, fine to medium, uniform grading; tan to white wih heavy minerals grains, wet	SP		20.0 110.0
25	110	25.0 - 30.0 CLAY trace sand; fine, sand; white to pale green, firm to stiff, slight mottling, moist	CL		25.0 105.0
30	105	Boring completed at 30.0 ft			

COMMENTS

1.) Borehole location is adjacent to monitoring well CCR-13; survey coordinates shown are from CCR-13.

2.) Ground surface elevation is estimated based on ground surface elevation of monitoring well CCR-13.

3.) Boreholes were backfilled with 20/30 graded silica sand to 5 ft bgs and the remaining borehole was filled with bentonite chips to land surface.

4.) Water-level elevations are estimated based on depth-to-water measurements from adjacent monitoring well CCR-13.

5.) Density descriptions are based on field observations and not form SPT blow counts.

6.) Soil cores were collected and transported to Golder's Tampa office. The soil cores were later logged by M. Boatman for mineralogic description of lithology.

7.) Based on lithologic descriptions, mine tailings and/or fill was encountered from approximately ground surface to 25 ft bgs and in-situ residual soil and/or weathered rock from 25 ft bgs to terminal depth.

LOG SCALE: 1 in = 4 ft
DRILLING COMPANY: Action Environmental
DRILLER: Omar Velazquez

INSPECTOR: M. Boatman
CHECKED BY: G. Morelli
DATE: 5/30/19

GOLDER

GLDR_GEOTECH NO SPT 1545454.2_REV1 (1).GPJ 5/30/19

RECORD OF BOREHOLE CCR-14A

SHEET 1 of 1

PROJECT: Lakeland Electric CCR
PROJECT NUMBER: 19117001
DRILLED DEPTH: 30.0 ft
AZIMUTH: N/A
LOCATION: Lakeland, FL

DRILL METHOD: Direct Push
DRILL RIG: Geoprobe 3230 DT
DATE STARTED: 2/12/2019
DATE COMPLETED: 2/12/2019
WEATHER: Partly cloudy

DATUM: NAD83 / NAVD88
COORDS: N: 1,362,771.1 E: 681,761.2
GS ELEVATION: 135.8 ft
TRC ELEVATION: N/A ft
TEMPERATURE: 75° F

INCLINATION: -90
DEPTH W.L.: 3.76 ft
ELEVATION W.L.: 132.04 ft
DATE W.L.: 3/12/2019
TIME W.L.: 12:06

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)
0	135	0.0 - 5.0 SAND, fine; brown, dry to moist	SP		130.8
5	130	5.0 - 7.4 SAND some silt; fine, subrounded, uniform grading; grayish brown, wet, loose 6.3: 6.3-6.7 ft bgs, CLAY pocket; soft; white, moist	SP-SM		5.0 128.4
		7.4 - 10.0 SAND, fine, subrounded, uniform grading; light to medium grayish brown, moist 8.6: 8.6-8.8 ft bgs, (CL) CLAY; soft; white, moist	SP		7.4 125.8
10	125	10.0 - 11.2 No Recovery			10.0 124.6
		11.2 - 12.3 SILTY SAND, fine, subrounded, uniform graded; white to light gray, wet, loose	SM		11.2 123.5
		12.3 - 15.0 CLAYEY SAND to Sandy CLAY, fine, subrounded; white to tan, moist, compact	SC/CL		12.3 120.8
15	120	15.0 - 16.4 No Recovery			15.0 119.4
		16.4 - 18.3 CLAYEY SAND to Sandy CLAY, fine to coarse, subangular, fossil fragments; white to pale green, wet, loose to compact	SC/CL		16.4 117.5
		18.3 - 20.0 SAND, fine to medium, subrounded to subangular, uniform grading; moist, compact to dense	SP		18.3 115.8
20	115	20.0 - 22.8 Sandy CLAY; fine to coarse, subangular coarse (fossil fragments); pale green to green, compact to dense (weathered limestone)	CL		20.0 113.0
		22.8 - 25.0 Sandy CLAY, fine to medium; white to pale green, moist, loose to compact	CL		22.8 110.8
25	110	25.0 - 27.0 Sandy CLAY; fine to coarse, subangular coarse (fossil fragments); pale green to green, compact to dense (weathered limestone)	CL		25.0 108.8
		27.0 - 30.0 CLAY trace sand; coarse sand; green and olive brown mottled, phosphatic grains, moist, stiff to hard (weathered limestone)	CL		27.0 105.8
30	105	Boring completed at 30.0 ft			

COMMENTS

1.) Borehole location is adjacent to monitoring well CCR-14; survey coordinates shown are from CCR-14.

2.) Ground surface elevation is estimated based on ground surface elevation of monitoring well CCR-14.

3.) Boreholes were backfilled with 20/30 graded silica sand to 5 ft bgs and the remaining borehole was filled with bentonite chips to land surface.

4.) Water-level elevations are estimated based on depth-to-water measurements from adjacent monitoring well CCR-14.

5.) Density descriptions are based on field observations and not form SPT blow counts.

6.) Soil cores were collected and transported to Golder's Tampa office. The soil cores were later logged by M. Boatman for mineralogic description of lithology.

7.) Based on lithologic descriptions, in-situ residual soil and/or weathered rock was encountered from approximately ground surface to terminal depth.

LOG SCALE: 1 in = 4 ft
DRILLING COMPANY: Action Environmental
DRILLER: Omar Velazquez

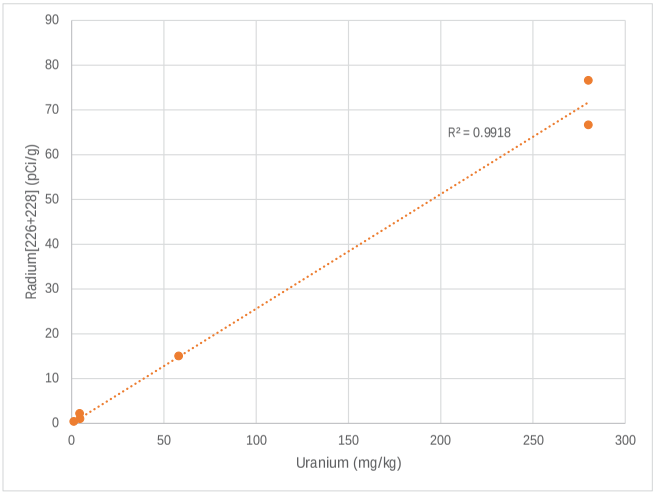
INSPECTOR: M. Boatman
CHECKED BY: G. Morelli
DATE: 5/30/19

GOLDER

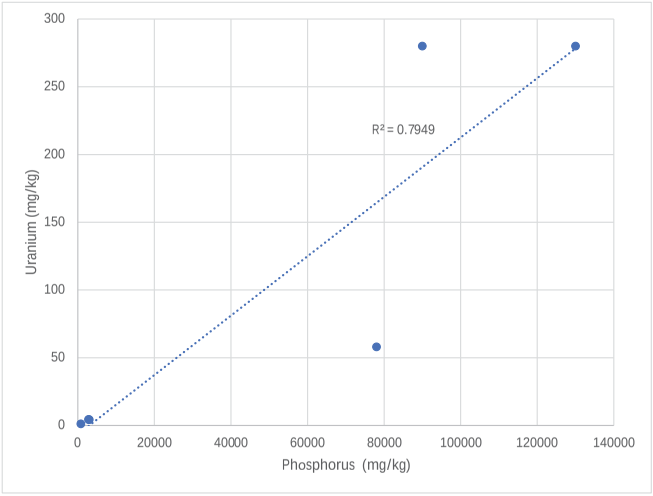
APPENDIX D

Geochemical Evaluation of Radium-226+228 in Soils

(a)



(b)



Results of chemical analysis of soils from boreholes for radionuclides and phosphorus

Soil Boring ID	Depth of samples (ft. bgs.)	Total Uranium (mg/kg)	Phosphorus (mg/kg)	Radium 226 (pCi/g)	Radium 228 (pCi/g)	Total Radium (pCi/g)
CCR-4A	24 - 25	280	130,000	75.9	0.726	76.6
CCR-15	24 - 25	4.5	2,800	0.702	0.328	1.03
CCR-16	24 - 25	4.3	3,000	1.14	1.07	2.21
CCR-18	24 - 25	1.2	800	0.443	ND	0.443
CCR-22	24 - 25	280	90,000	65.2	1.49	66.7
CCR-23	24 - 25	58	78,000	14.7	0.359	15.1

Notes:
mg/kg- milligrams per kilogram
pCi/g- picocuries per gram
ft. bgs.- feet below ground surface

CLIENT
LAKELAND ELECTRIC

CONSULTANT
GOLDER

PROJECT
BSA CCR GROUNDWATER
C.D. McINTOSH POWER PLANT
LAKELAND, POLK COUNTY, FLORIDA

TITLE
GEOCHEMICAL EVALUATION OF RADIUM-226+228 IN SOILS

PROJECT NO.	PHASE	REV.	FIGURE
19-117001	01	A	D

APPENDIX E

Mineralogical Assessment prepared by Petrologic Solutions, Inc.

Petrologic Solutions, Inc.
3997 Oak Hill Road
Douglasville, GA 30135
Tel: (678) 313-4146
rlkath@comcast.net

June 4, 2019 P18-2058

Anthony Grasso, P.G.
Golder Associates Inc.
5402 Beaumont Center Boulevard, Suite 108
Tampa, Florida, USA 33634

RE: TRANSMITTAL OF ANALYTICAL RESULTS IN SUPPORT OF THE EVALUATION OF RADIONUCLIDE SOURCES AT THE C.D. McINTOSH POWER PLANT, POLK COUNTY, LAKELAND, FLORIDA

Dear Mr. Grasso:

Petrologic Solutions, Inc. (Petrologic) was retained by Golder Associates Inc. (Golder) to evaluate soil samples for the presence of naturally-occurring radiogenic minerals and elements in support of Lakeland Electric's evaluation of radionuclide sources beneath the Byproduct Storage Area (BSA) at the C.D. McIntosh Power Plant (MPP) in Lakeland, Florida. For this work effort, Petrologic conducted petrographic analysis, qualitative X-ray diffraction (XRD), Scanning Electron Microscopy (SEM), and bulk geochemical analysis of unconsolidated soil samples collected from borings recently advanced at the site. Analytical procedures and results of these analyses are presented herein.

1.0 SAMPLE COLLECTION, PREPARATION, AND DESCRIPTION

Six soil borings were advanced around the perimeter of the BSA adjacent to monitoring wells CCR2, CCR4, CCR5, CCR7, CCR13, and CCR14 in February 2019, using Direct Push Technology (DPT). These additional borings, designated CCR2A, CCR4A, CCR5A, CCR7A, CCR13A, and CCR14A, were each extended to 30 feet below ground surface (ft. bgs). The locations of the borings were selected to evaluate geologic conditions of downgradient monitoring wells that encountered statistically significant levels of Radium-226 (Ra^{226}) and Radium-228 (Ra^{228}) during recent groundwater sampling events. An additional boring was located adjacent to CCR2, which occurs in an upgradient or side gradient position relative to the BSA. Golder logged the soil samples collected from the borings on March 1, 2019 and shipped 40 representative samples to Petrologic for analysis. Upon receipt, the soil samples were saturated; consequently, the samples were dried at 100 °C for 12-hours and then relogged by Petrologic.

Based on visual observation of the dried samples, generally two different material types were represented in the 40 samples collected. The upper-most unit consists of subangular to subrounded, fine- to medium-grained sand that varies in color, silt content, and abundance of heavy minerals. The sand-sized material is largely comprised of quartz, feldspar and a variety of dark heavy minerals; mineralogy of the very fine-grained matrix of the sand could not be determined through visual observation. This unit, as represented on the soil logs provided by Golder, ranges from approximately 20 feet to greater than 30 feet thick and was encountered in the upper parts of each of the additional DPT borings advanced. Although the samples show lithologic variability, no lateral continuity was apparent, giving the material a disturbed or disrupted appearance.

A second unit, observed to locally underlie the sand unit, consists of white to buff-tan, very fine- to fine-grained clayey sand to sandy clay with variable concentrations of silt and local occurrence of marine fossils (bryozoans and bivalves) and bone fragments. This lower unit is largely comprised of clay and quartz, with accessory minerals including rounded brown collophane (fine-grained apatite) "balls" and dolomite. Where present, this clayey sand to sandy clay unit, as represented on the soil logs provided by Golder, ranges from at least 5 feet to 10 feet thick and was encountered in the lower part of each of the DPT borings advanced except for CCR2A and CCR5A. The lateral continuity of this material along with the occurrence of dolomite, marine fossils, and bone, indicates that this unit may represent in-situ material.

From the 40 samples provided, Petrologic selected a subset of 16 samples for supplemental evaluation using a variety of analytical techniques, discussed in Section 2.0. These 16 samples were screened for the occurrence of radiogenic minerals using petrographic analysis of polished thin sections, XRD analysis, and radiogenic elements using bulk geochemistry. Based on these results, Petrologic selected a subset of 5 samples for SEM analysis to evaluate the presence of radiogenic minerals observed in thin section.

2.0 ANALYTICAL TECHNIQUES

Petrographic Analysis

Splits of the dried samples were prepared for petrographic analysis. The 16 soil samples selected from CCR2A, CCR4A, CCR5A, CCR7A, CCR13A, and CCR14A were re-dried and vacuum impregnated with clear epoxy by National Petrographic. The samples were mounted to a microscope slide; once the epoxy cured and then cut using a water-based cutoff saw. After drying the epoxy at 130 °C for 35 minutes, the billets were cut off from the microscope slides and the epoxied material was ground to approximately 35μm. After reaching 35μm, the samples were then polished using a roto-polishing system to a final thickness of 30μm. During grinding and polishing of the clayey samples, the clays were absorbing the grinding oils; consequently, the oil was cleaned with acetone repetitively during the grinding and polishing process to prevent oil from impregnating the clays.

Photomicrographs of the thin sections were taken using plane-polarized light (PPL), cross-polarized light (XPL), or reflected light (RL) on standard using an Olympus BX-60 petrographic microscope and Pixelink 662 digital camera in the microscopy lab at the University of West Georgia, Department of Geosciences. Unless otherwise indicated, all images were taken at 5x magnification; the long-edge of the field of view in the photographs is approximately 2.5 mm in length. Representative photomicrographs are presented in Attachment 1.

Qualitative X-Ray Diffraction - XRD

Splits of the dried samples were prepared for qualitative XRD analysis. The 16 soil samples selected from CCR2A, CCR4A, CCR5A, CCR7A, CCR13A, and CCR14A were ground using a mortar and pestle to create fine-grained powders (~10-12μm-diameter). The fine powders were then loaded on Whatman GF/C glass fiber filters using the Tubular Aerosol Suspension Chamber (TASC) method. This method is used to reduce preferred orientation and allow for a uniform particle distribution over the load area. The samples were loaded into a Philips PW-3710 X-ray diffractometer using a spinning stage pedestal and Cu-Kα X-ray source. The samples were run at 0.96 (~1) degree two-theta per minute from 4 to 64 degrees two-theta. Sample identification was conducted using a semi-automated search-match computer program (High Score) which utilizes a Joint Committee on Powder Diffraction Standards (JCPDS) and Crystallography Open (COD) databases; and manual identification using published reference patterns. Additionally, some of the

XRD patterns were overlain with unpublished reference patterns obtained at the University of West Georgia. Interpreted XRD patterns are presented in Attachment 2.

Bulk Geochemistry

Sixteen dried soil samples collected from CCR2A, CCR4A, CCR5A, CCR7A, CCR13A, and CCR14A were provided to American Assay Laboratory (AAL) in Sparks, Nevada for bulk geochemical elemental analysis. All 16 samples were placed in a drying oven at 90°C by AAL prior to analysis. After drying, samples were transferred into ring and puck shatterbox where samples were reduced to a fine powder (200 mesh). A 0.5-gram sample was then weighed and placed into Teflon sample tubes for acid digestion with HNO_3+HCl+HF+$HClO_4$ for 1 hour. Major, minor and trace element concentrations of the samples were determined by Inductively Coupled Plasma (ICP)- Mass Spectrometry (MS) using ICP-5AM48 protocol. Geochemical results are included as Attachment 3 and summarized on Table 1, presented in Section 3.0.

Scanning Electron Microscopy - SEM

The University of West Georgia Microscopy Center (WGMC) at the Department of Geosciences completed SEM analysis of five polished thin sections, one sample each from CCR2A, CCR7A, and CCR13A, and two samples from CCR14A. The selected thin sections were carbon-coated to reduce surface charging during SEM analysis. Qualitative backscattered electron imaging (BSE) and identification of potential Uranium (U)/Thorium (Th)-bearing accessory minerals in the coated polished thin-sections were conducted using the FEI Quanta 200 SEM instrument and attached Bruker EDX detector for semi-quantitative analysis. Analyses were completed using a 20 kilovolt (kV) accelerating voltage on the filament and a partial vacuum of 0.45 Torr in the sample chamber. Images, spectra, and elemental maps were collected, processed, and annotated using the Bruker ESPRIT software package. Images resulting from the SEM analyses are presented in Attachment 4.

3.0 RESULTS

Petrographic Analysis

Petrographic analysis was conducted on all 16 polished thin-sections to determine the major and minor mineralogy of each sample. Based on petrographic analysis of the upper sand, this unit is characterized by more than 95 volume percent detrital quartz, which is typically subangular to subrounded. Associated with the quartz are accessory minerals that include microcline, muscovite, staurolite, kyanite, zircon, rutile, and ilmenite. The matrix of the sand is variably comprised of kaolinite and eylettersite, and is locally cemented with wavellite.

Based on petrographic analysis of the lower clayey sand to sandy clay unit, this unit is characterized by subangular sand in a clayey matrix. Large rounded grains of collophane, marine fossils (Bryozoa and Molluska), and bone fragments also occur within this more clay-rich unit. Collophane is a massive cryptocrystalline apatite comprised of apatite, fluorapatite and hydroxyapatite. Typically, apatite-minerals are not optically isotropic; however, the cryptocrystalline nature of the collophane makes it optically isotropic in thin section. In one sample, CCR14A (28.3-28.6), dolomite is present in the clayey matrix. Accessory minerals include microcline, staurolite, ilmenite, and zircon.

Photomicrographs for selected samples are presented in Attachment 1.

Qualitative X-Ray Diffraction - XRD

X-Ray powder diffraction scans were completed on all 16 samples to identify the major minerals present. A limitation of XRD analysis is that the lower detection limit is approximately 4 to 5 weight percent. Therefore, diffraction peaks for accessory minerals that are less than approximately 5 weight percent of the rock are typically lost in the background. As previously discussed, the samples are loaded GF/C filters using an aerosol suspension chamber. This method of sample preparation reduces preferred orientation; however, it is a thin layer diffraction technique. Consequently, each of the XRD scans presented in Attachment 2 shows two aluminum peaks that represent the aluminum sample holder upon which the loaded filters are mounted; therefore, aluminum-metal is not contained in these samples.

Consistent with the petrographic analysis, XRD analysis indicates that mineralogy of the upper sand unit is primarily comprised of quartz with minor zircon. Kaolinite and wavellite were also observed, along with the presence of eylettersite occurring in increased concentration near the base of this unit.

The lower clay-rich unit is characterized by the occurrence of quartz, hydroxyapatite, fluorapatite, palygorskite, and minor wavellite. Additionally, the deepest sample, collected from CCR14A at 28.3-28.6 ft. bgs, contains dolomite. Annotated XRD scans for the selected samples are presented in Attachment 2.

Bulk Geochemistry

A summary of selected major, minor and trace elemental geochemistry of soil samples from CCR2A, CCR4A, CCR5A, CCR7A, CCR13A, and CCR14A is presented on Table 1. A complete listing of all geochemical data is presented in Attachment 3.

As indicated in these summary results, the radiogenic elements uranium and thorium were detected in all of the samples collected from the upper sand unit and lower clayey sand to sandy clay unit. The radiogenic elements rubidium and potassium were also detected in many of the samples.

Scanning Electron Microscopy - SEM

Petrographic and XRD analyses indicated the presence of minerals that are potentially radiogenic, and bulk geochemistry confirms the presence of radiogenic elements. Scanning Electron Microscopy was used to confirm the presence of the radiogenic elements detected in the bulk geochemistry in the radiogenic minerals identified in thin section and XRD patterns.

Radiogenic minerals identified from SEM analyses in representative sediment samples include the following:

Zircon	**Rutile**
Ilmenite	**Wavellite**
Hydroxyapatite	**Fluorapatite**
Collophane	**Eylettersite**

Energy dispersive spectroscopy (EDS), back scatter electron (BSE) images, and element maps of soil samples are presented as Attachment 4. In the BSE images, minerals that contain elements with low atomic numbers are shown in gray tones. Minerals that contain elements with large atomic numbers, generally show up as “bright” spots on the BSE image. Because

uranium and thorium have atomic numbers of 92 and 90, respectively, minerals that contain these elements are “brighter” than the surrounding matrix.

Once a mineral with high atomic number elements was identified in the BSE image, the mineral was analyzed using energy dispersive spectroscopy. EDS is an analytical technique for elemental analysis based on x-ray emission caused by electrons that are dislodged from the inner orbitals by an x-ray beam from the instrument. As the inner electron is ejected from the inner shell, the electron hole is filled by electrons from higher-energy shells. This transformation from an outer- to an inner-shell releases energy in the form of an x-ray that can be detected and quantified. The energy of the x-ray is characteristic for different elements and can be displayed on an EDS spectrum as a function of electron volts (KeV). EDS and BSE plots for each sample analyzed is presented in Attachment 4.

Discussion

Based on review of historic aerial photographs, topographic maps and mine records, Golder has interpreted that the BSA and surrounding area are underlain by either fine-grained phosphatic mine tailings and/or unmined phosphate deposits. Results from visual observation, petrographic analysis, XRD analysis, bulk chemistry, and SEM analysis conducted for this work effort support this interpretation.

Two types of material were generally encountered in the six additional DPT borings advanced around the BSA. Based on the absence of glass (spherical or shards) in the thin sections or XRD patterns, and relatively low arsenic, beryllium and lithium concentrations, along with the high concentration of wavellite-cemented detrital quartz, microcline, zircon, staurolite, kyanite, ilmenite, and rutile, the upper sand unit encountered is not considered to represent coal combustion residuals (CCR). Although there is lithologic variability in this sand unit, there is no lateral continuity, giving the material a disturbed appearance; consequently, the absence of stratigraphy in a marine sand sequence and known land-use history indicates that this material likely represents backfilled materials, comprised of either removed and replaced overburden, unrecoverable ore, processed mine tailings, and/or mine waste. The underlying clayey-sand to sandy clay unit is interpreted to represent unmined, in-situ material, based on the occurrence of palygorskite, collophane apatite (with quartz inclusions), dolomitic carbonate, marine fossils, and bone fragments.

It is well-documented by Golder that phosphate deposits mined in this area contain naturally-occurring radiogenic minerals. Based on petrographic, XRD and SEM analysis, several potentially radiogenic minerals were identified in the soil samples collected, including: eylettersite (thorium-bearing aluminum phosphate); wavellite (uranium-bearing aluminum phosphate); collophane, apatite, hydroxyapatite, and fluorapatite (uranium-bearing calcium phosphates); and zircon, rutile, and ilmenite (uranium-bearing oxides). This is further supported by the detection of uranium concentrations up to 467ppm and thorium concentrations up to 23.4ppm in the bulk geochemistry, as summarized in Table 1 and presented in Attachment 3.

Radioactive decay products from naturally occurring radionuclides such as uranium and thorium are potential sources of Ra^{226} and Ra^{228}. Results from this investigation and regional mineral resource evaluations reveal significant uranium and other accessory constituents that are associated with the phosphate ore mined at and near the BSA. Published uranium concentrations in phosphate-bearing rocks have typical concentrations of up to 300 ppm, significantly exceeding concentrations reported for US coals and fly ash (USGS 1997). As shown on Table 1, naturally occurring radionuclides in phosphate ore and mine tailings surrounding the BSA are consistent with, and locally have higher concentrations of uranium than published concentrations in CCR.

Based on research conducted by Golder, the BSA is located in one of the most productive districts of the land-pebble phosphate mining in Florida. Because land-pebble deposits contain phosphates with elevated concentrations of uranium, this district was also of economic interest to the United States Atomic Energy Commission (USACE) (Cathcart, 1949). Uranium is associated in different ways with the aluminum phosphate and calcium phosphate mining zones that occur within these types of deposits. The upper sand unit encountered around the BSA, appears to represent materials originally derived from the aluminum phosphate zone, indicated by the presence of wavellite, eylettersite, and kaolinite. Materials located in the leached portions of the aluminum phosphate zone, originally formed by the downward migration of oxygen-rich acidic water, were noted to have uranium concentrated in the finest fraction (Cathcart, 1964). The principal fine fraction in the leached zone is kaolinitic clay and eylettersite.

The lower clayey-sand unit appears to represent the calcium phosphate zone, which was the target ore that was mined beneath the BSA. Cathcart (1964) described this zone as being comprised of unconsolidated sand, clayey sand, and sandy clay containing abundant nodules of calcium phosphate. We interpret the rounded collophane “balls” which consist of apatite, hydroxyapatite, and fluorapatite to represent the calcium phosphate nodules described by Cathart (1964). Samples from this zone represent unmined, in-situ material that are locally present beneath the BSA.

Based on the results of this work effort, multiple sources for naturally occurring uranium and thorium, and their decay products of Ra^{226} and Ra^{228}, were identified in the unconsolidated samples taken from the DPT borings advanced adjacent to monitoring wells installed around the BSA.

4.0 CLOSING

Petrologic Solutions appreciates the opportunity to work with Golder Associates on this project. Should you require additional information related to this evaluation, please do not hesitate to contact us.

Respectfully submitted,
PETROLOGIC SOLUTIONS INC.

Randy Kath, PhD, PG
Senior Geologist and Principal

References:

Cathcart, J.B., 1964, Economic Geology of the Lakeland Quadrangle Florida. USGS Survey Bulletin 1162-G. US Government Printing Office, Washington.

USGS 1997. Radioactive Elements in Coal and Fly Ash: Abundance, Forms, and Environmental Significance. USGS Fact Sheet FS-163-97

Table 1. Summary of Selected Geochemical Data

Attachment 1: Photomicrographs of Sediment Samples
Attachment 2: Qualitative X-Ray diffraction scans
Attachment 3: Bulk Geochemistry
Attachment 4: SEM Backscatter Images and Associated EDS Spectra

Table 1: Summary of Selected Geochemical Data

Sample Number	*Depth (ft. BGS)*	Al_2O_3 wt%	TiO_2 wt%	Fe_2O_3 wt%	MgO wt%	MnO wt%	CaO wt%	K_2O wt%	NaO wt%	P_20_5 wt%
CCR2A	*18.7-19*	1.37	1.34	0.35	<MDL	0.01	0.10	0.06	0.01	0.47
CCR2A	*23-23.5*	9.22	1.06	0.50	0.05	0.01	0.51	0.13	0.02	2.29
CCR4A	*12.5-12.8*	0.42	0.50	0.08	<MDL	0.00	0.19	0.03	<MDL	0.05
CCR4A	*17-17.4*	3.75	0.62	0.13	0.05	0.00	0.20	0.06	0.02	0.67
CCR4A	*26.1-26.4*	9.12	0.36	0.45	0.10	0.01	23.38	0.36	0.13	>2.30
CCR5A	*19.3-20*	1.11	0.31	0.06	<MDL	0.00	0.13	0.04	0.03	0.22
CCR5A	*22.3-22.6*	9.32	0.42	0.34	0.05	0.00	0.48	0.10	0.03	1.10
CCR7A	*7-7.4*	0.59	0.51	0.10	<MDL	0.00	0.20	<MDL	<MDL	0.11
CCR7A	*14.6-15*	0.73	0.62	0.13	<MDL	0.01	0.08	<MDL	<MDL	0.16
CCR7A	*23.2-23.5*	8.70	0.51	0.71	0.05	0.00	0.90	0.07	0.20	>2.30
CCR13A	*9.4-10*	0.54	0.94	0.12	<MDL	0.00	0.41	<MDL	<MDL	0.13
CCR13A	*17.3-17.6*	4.12	0.36	0.16	0.03	0.00	0.26	0.05	<MDL	1.29
CCR13A	*27.8-28.2*	17.87	0.68	1.41	0.81	0.01	0.59	0.66	0.05	>2.30
CCR14A	*8.6-8.8*	7.61	0.46	0.42	0.14	0.00	1.05	0.13	0.02	2.13
CCR14A	*16.5-18*	11.95	0.53	0.50	0.08	0.01	0.72	0.18	0.02	>2.30
CCR14A	*28.3-28.6*	2.99	0.17	3.37	6.37	0.02	20.09	0.43	0.26	>2.30
Sample Number	*Depth (ft. BGS)*	As ppm	Be ppm	Cr ppm	Pb ppm	Rb ppm	Th ppm	U ppm	V ppm	Zr ppm
CCR2A	*18.7-19*	0.30	0.17	19.5	25.00	4.00	8.50	5.0	19.00	71.0
CCR2A	*23-23.5*	<MDL	1.22	42.9	29.00	6.00	12.90	50.4	59.00	70.2
CCR4A	*12.5-12.8*	<MDL	0.01	7.7	<MDL	<MDL	1.70	1.2	6.00	17.6
CCR4A	*17-17.4*	0.30	0.20	19.2	13.00	3.00	6.80	5.3	16.00	37.7
CCR4A	*26.1-26.4*	3.40	1.80	136.1	11.00	16.00	9.70	185.5	119.00	51.8
CCR5A	*19.3-20*	<MDL	0.05	6.6	6.00	2.00	2.10	4.1	5.00	15.9
CCR5A	*22.3-22.6*	0.70	1.22	49.6	24.00	5.00	8.20	34.2	35.00	44.0
CCR7A	*7-7.4*	0.60	0.05	7.9	4.00	<MDL	1.70	1.4	6.00	42.5
CCR7A	*14.6-15*	<MDL	0.05	10.1	4.00	<MDL	2.00	0.9	6.00	30.7
CCR7A	*23.2-23.5*	<MDL	0.93	50.5	22.00	3.00	8.80	35.0	33.00	60.9
CCR13A	*9.4-10*	0.40	0.04	11.4	16.00	<MDL	4.80	3.0	13.00	76.1
CCR13A	*17.3-17.6*	<MDL	0.49	23.4	12.00	3.00	6.30	22.4	25.00	43.5
CCR13A	*27.8-28.2*	0.20	1.58	162.8	21.00	41.00	23.40	164.4	247.00	167.2
CCR14A	*8.6-8.8*	<MDL	1.47	48.4	26.00	8.00	11.40	96.2	50.00	93.3
CCR14A	*16.5-18*	0.60	4.24	112.3	31.00	10.00	16.60	467.0	48.00	94.2
CCR14A	*28.3-28.6*	5.30	0.69	84.3	6.00	20.00	4.00	34.8	123.00	19.0

<MDL- less than method detection limit

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ATTACHMENT 1

PHOTOMICROGRAPHS OF SELECT THIN SECTIONS

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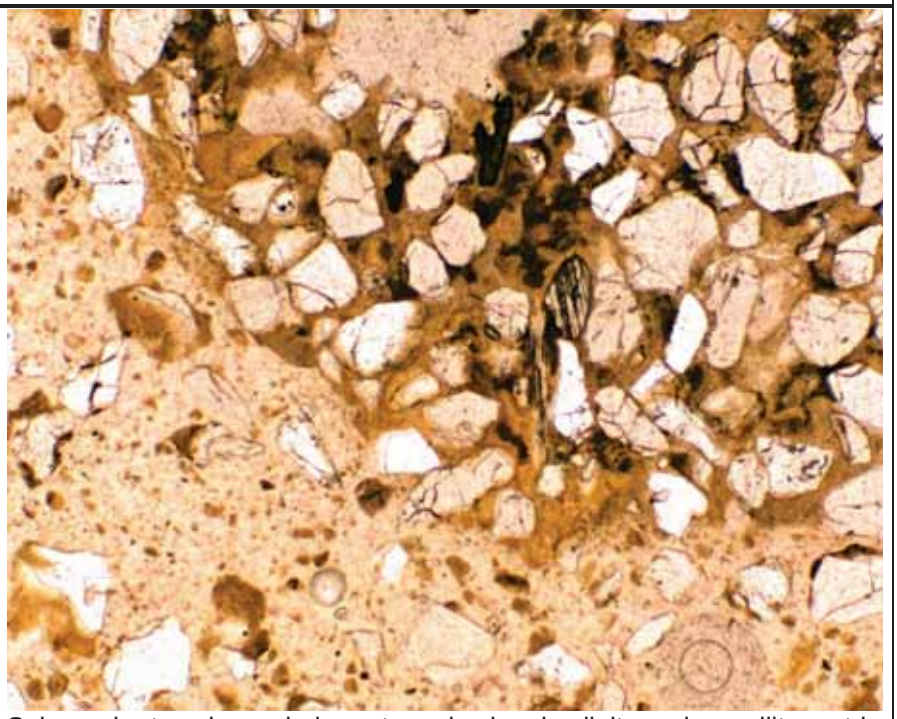
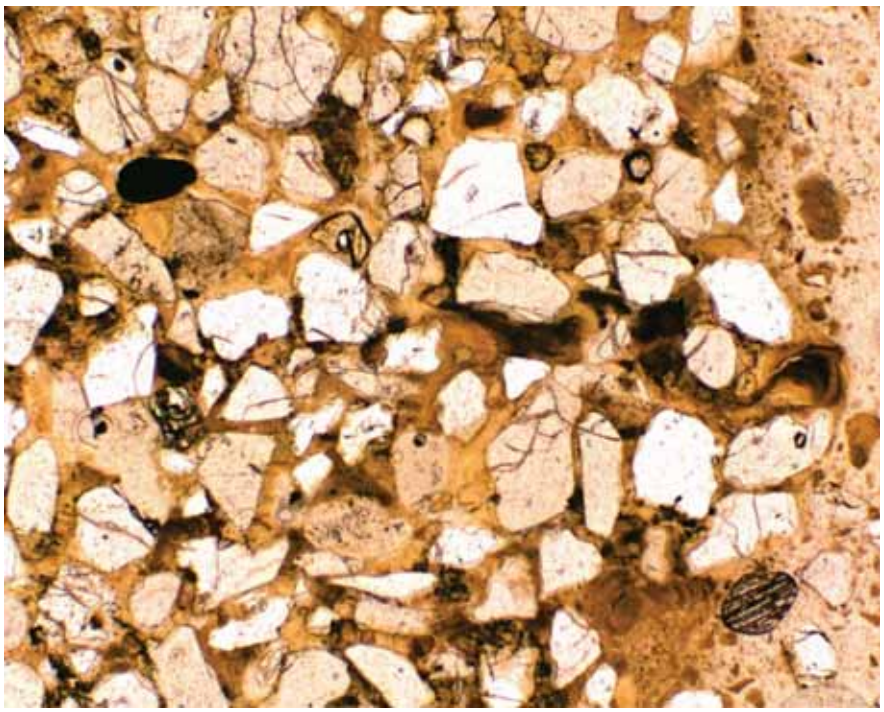
PHOTO 1 CCR2A 23.0-23.5	 Subangular to subrounded quartz grains in a kaolinite and wavellite matrix (brown). Striated high-relief mineral is kyanite. Minor rutile. Plane light.
PHOTO 2 CCR2A 23.0-23.5	 Subangular to subrounded quartz grains in a kaolinite and wavellite matrix (brown). Striated high-relief mineral is kyanite; rounded opaque grain is ilmenite; pleochroic yellow minerals are staurolite. Plane light.

Unless otherwise indicated, all images were taken at 5x magnification; the long-edge of the field of view in the photographs is approximately 2.5 mm in length.

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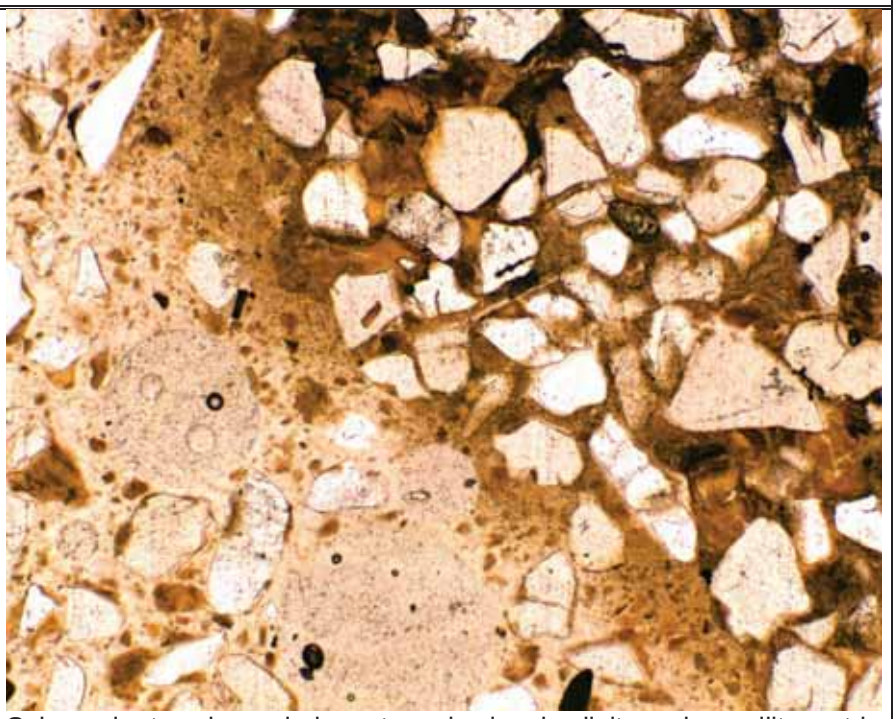
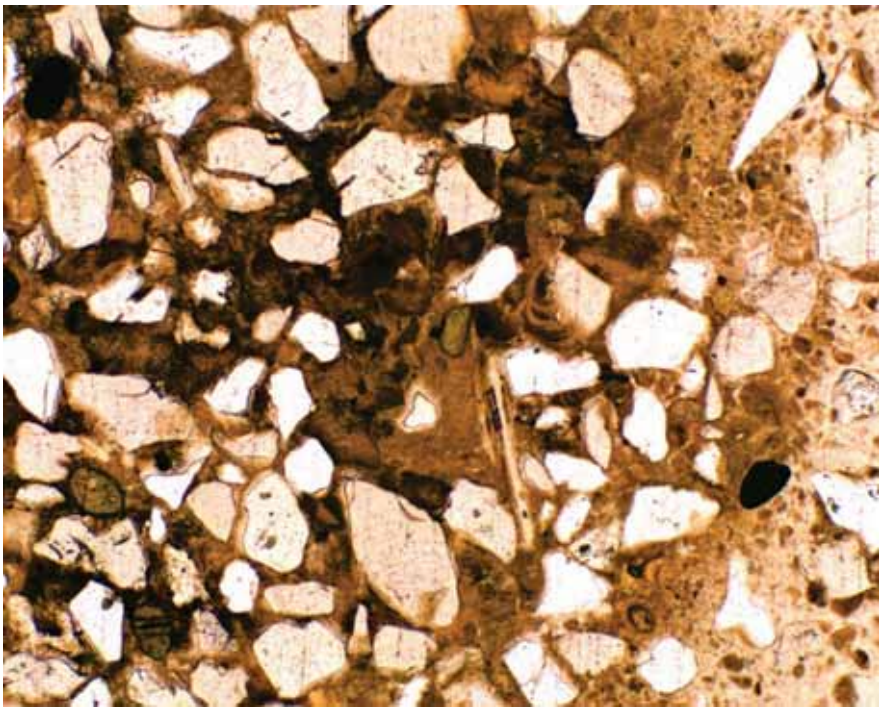
PHOTO 3 CCR2A 23.0-23.5	 Subangular to subrounded quartz grains in a kaolinite and wavellite matrix (brown). Greenish mineral is zircon; elongate mineral is muscovite Plane light.
PHOTO 4 CCR2A 23.0-23.5	 Subangular to subrounded quartz grains in a kaolinite and wavellite matrix (brown). Greenish minerals are zircon; elongate mineral is muscovite; rounded opaque mineral is ilmenite. Plane light.

Unless otherwise indicated, all images were taken at 5x magnification; the long-edge of the field of view in the photographs is approximately 2.5 mm in length.

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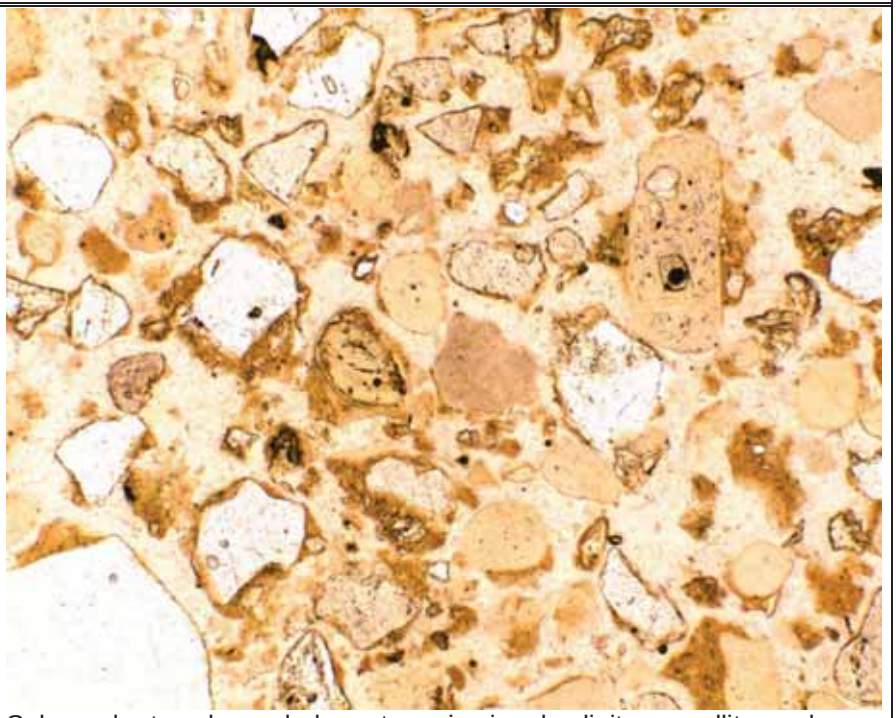
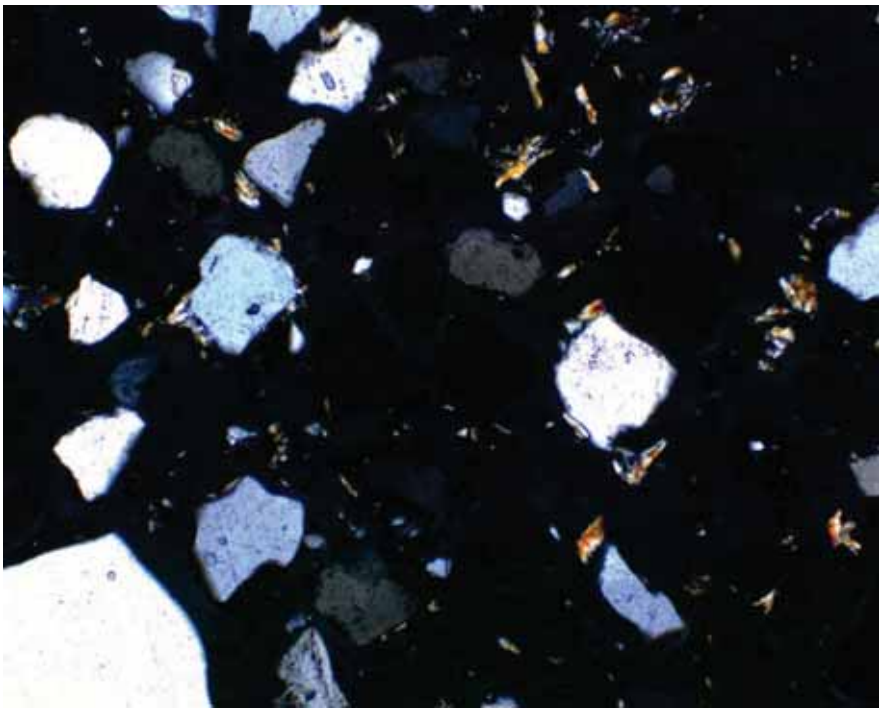
PHOTO 1 CCR4A 26.1-26.4	 Subangular to subrounded quartz grains in a kaolinite, wavellite, and apatite matrix (brown). Plane light.
PHOTO 2 CCR4A 26.1-26.4	 Subangular to subrounded quartz grains in a kaolinite, wavellite, and apatite matrix (brown). Polarized light.

Unless otherwise indicated, all images were taken at 5x magnification; the long-edge of the field of view in the photographs is approximately 2.5 mm in length.

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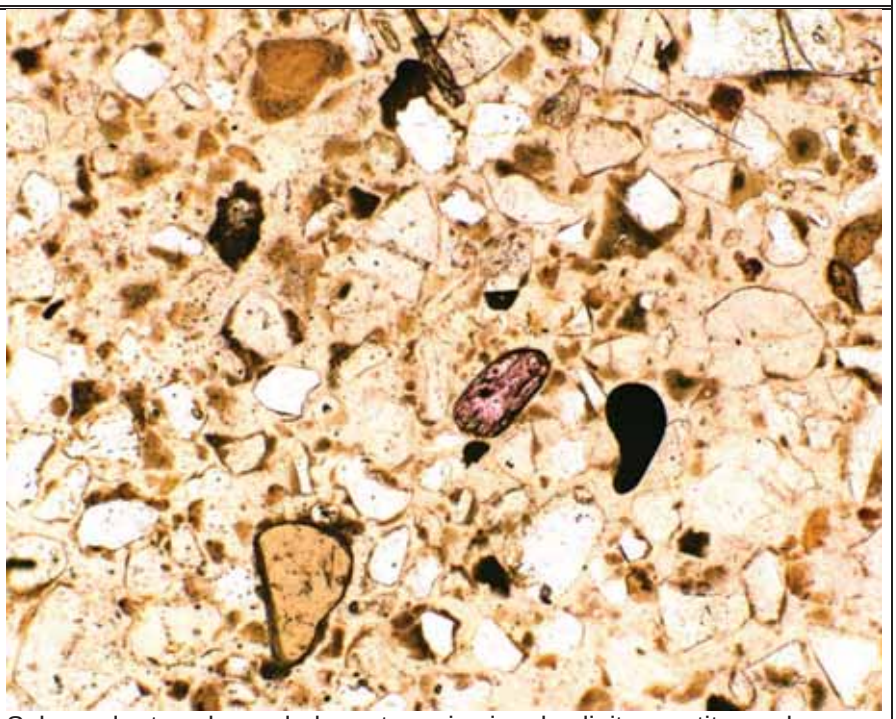
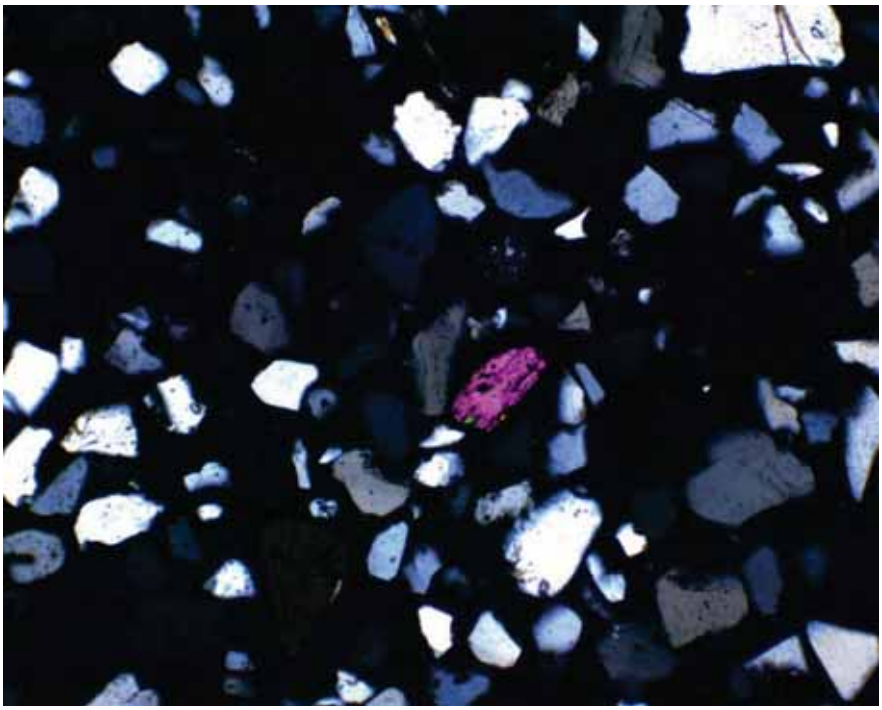
PHOTO 1 CCR7A 23.2-23.5	 Subangular to subrounded quartz grains in a kaolinite, apatite, and wavellite matrix (brown). Yellow and pleochroic minerals are staurolite; opaque mineral is ilmenite. Plane light.
PHOTO 2 CCR7A 23.2-23.5	 Subangular to subrounded quartz grains in a kaolinite, apatite, and wavellite matrix (brown). Greenish and purple mineral are staurolite. Polarized light.

Unless otherwise indicated, all images were taken at 5x magnification; the long-edge of the field of view in the photographs is approximately 2.5 mm in length.

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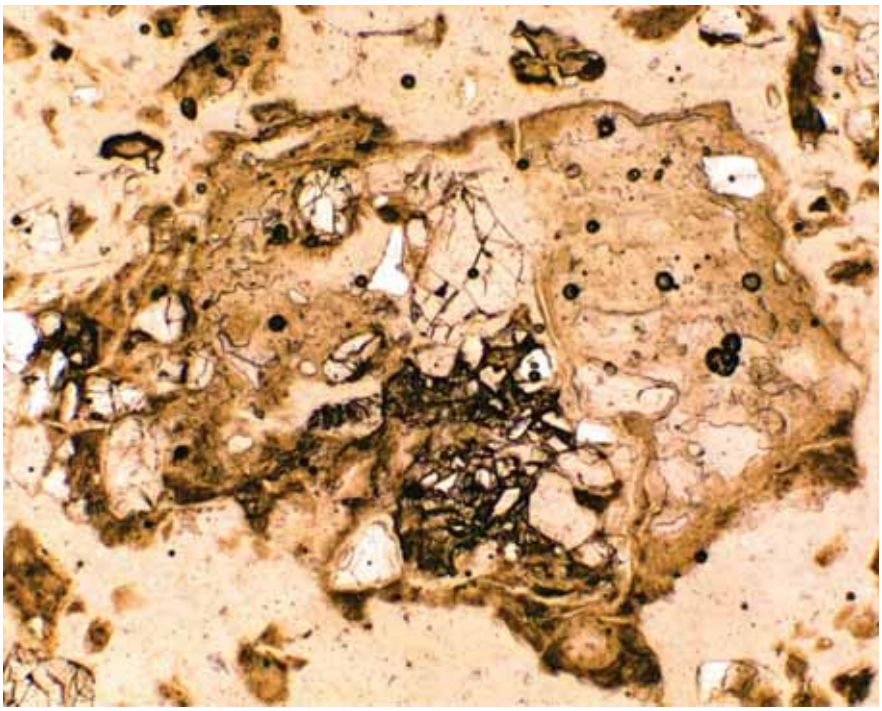
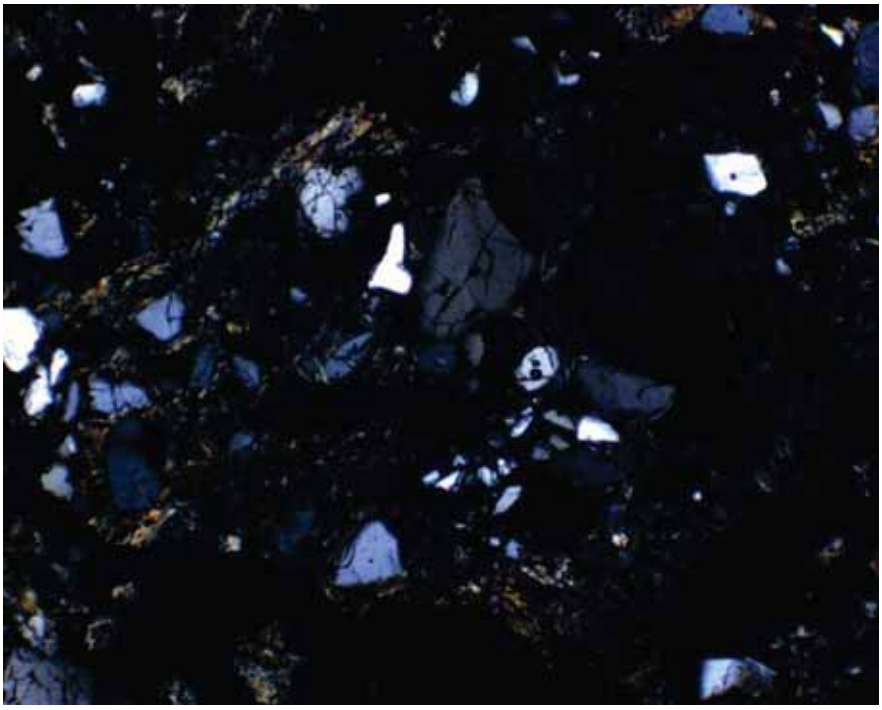
PHOTO 1 CCR13A 27.8-28.2	 Minor subangular quartz grins in a clay and wavellite matrix. Plane light.
PHOTO 2 CCR13A 27.8-28.2	 Minor subangular quartz grins in a clay and wavellite matrix. Polarized light.

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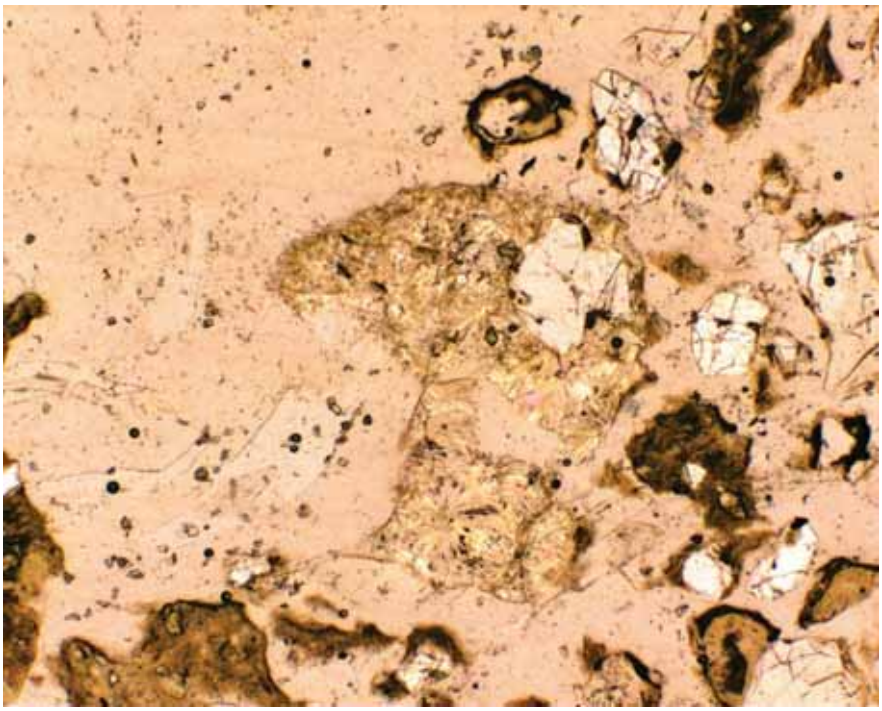
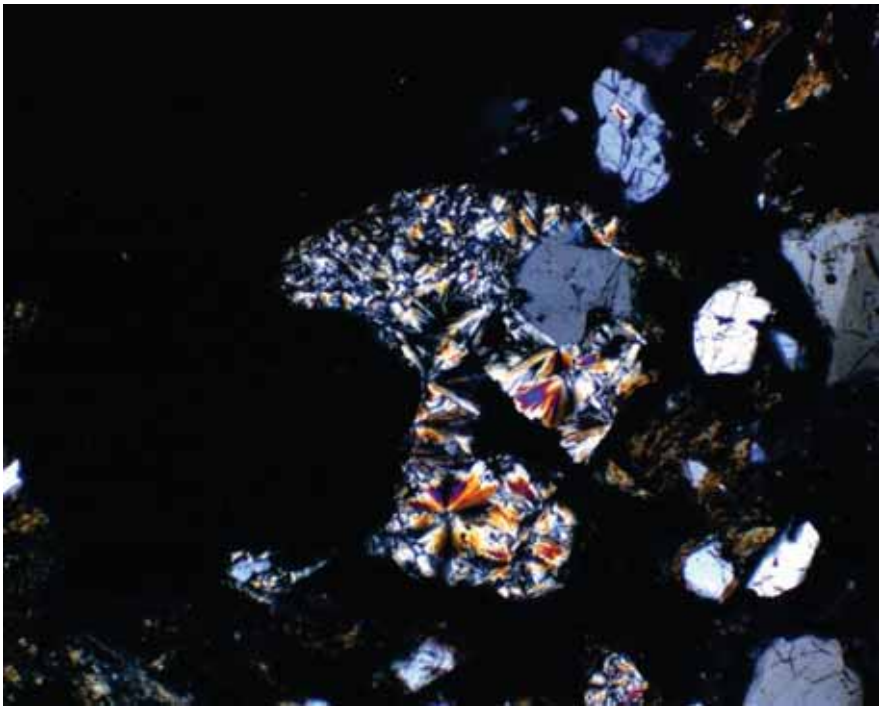
PHOTO 3 CCR13A 27.8-28.2	 Wavellite cement around an angular quartz grain. Plane light.
PHOTO 4 CCR13A 27.8-28.2	 Wavellite cement around an angular quartz grain. Polarized light.

Unless otherwise indicated, all images were taken at 5x magnification; the long-edge of the field of view in the photographs is approximately 2.5 mm in length

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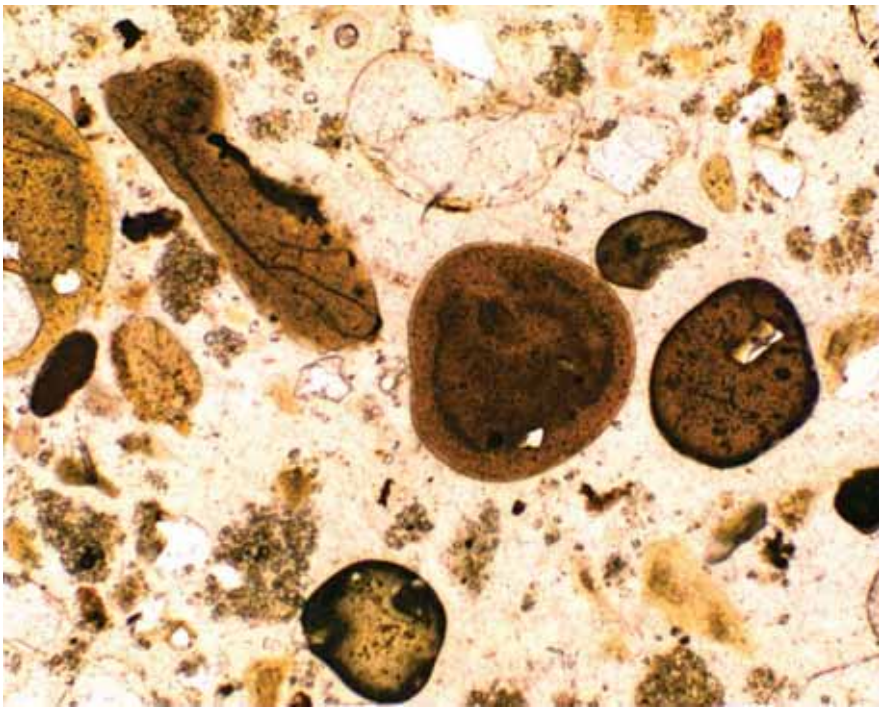
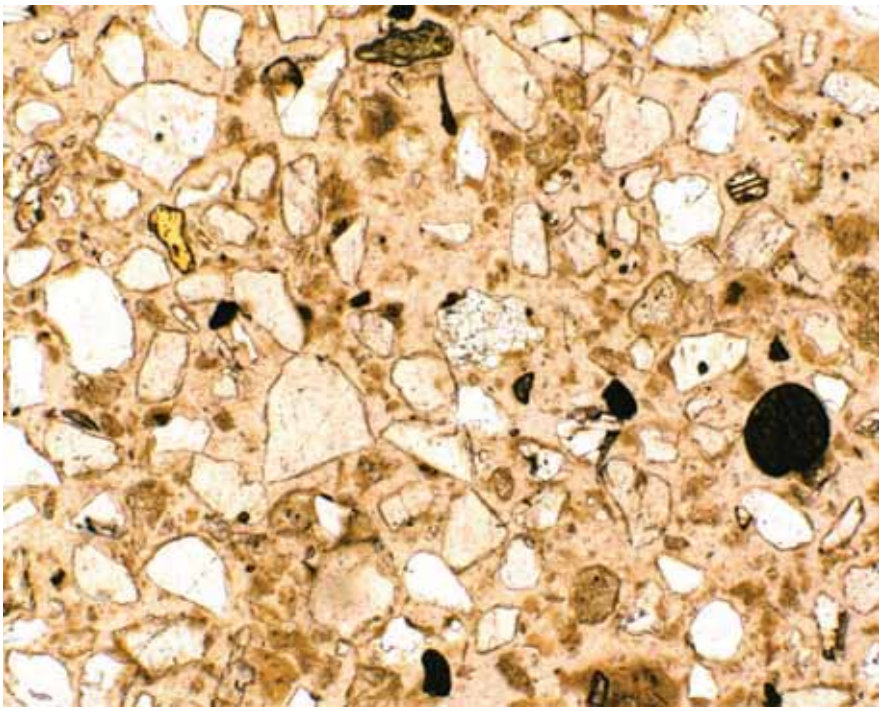
PHOTO 1 CCR14A 28.3-28.66	 Collophane apatite “balls” in a clay matrix. Plane light
PHOTO 2 CCR14A 16.5-18.0	 Subangular to subrounded quartz grains in a kaolinite and wavellite matrix (brown). Yellow mineral is staurolite, striated high-relief mineral is kyanite, and large round mineral is rutile. Plane light.

Unless otherwise indicated, all images were taken at 5x magnification; the long-edge of the field of view in the photographs is approximately 2.5 mm in length

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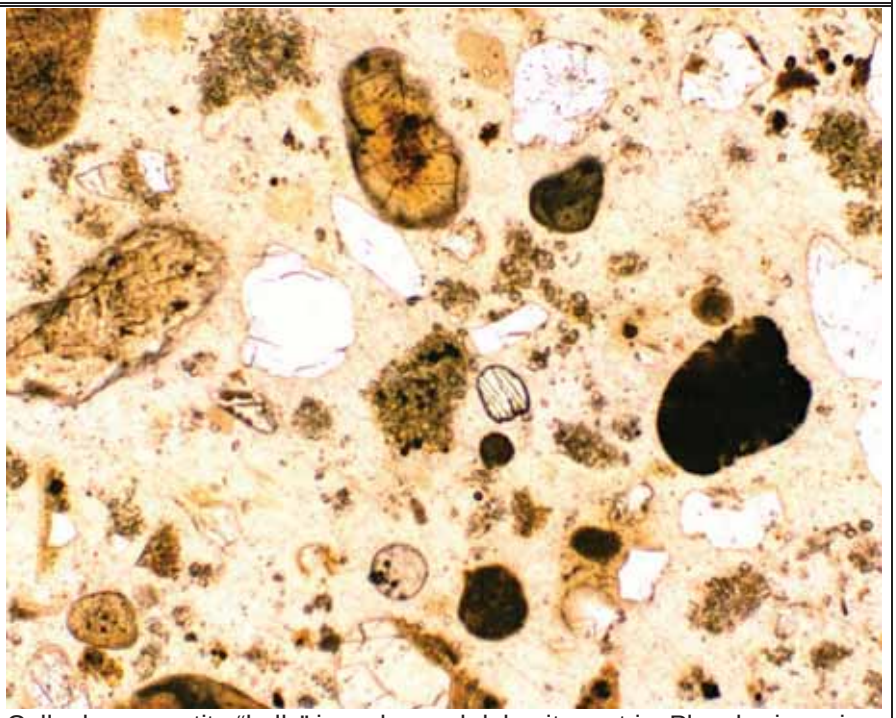
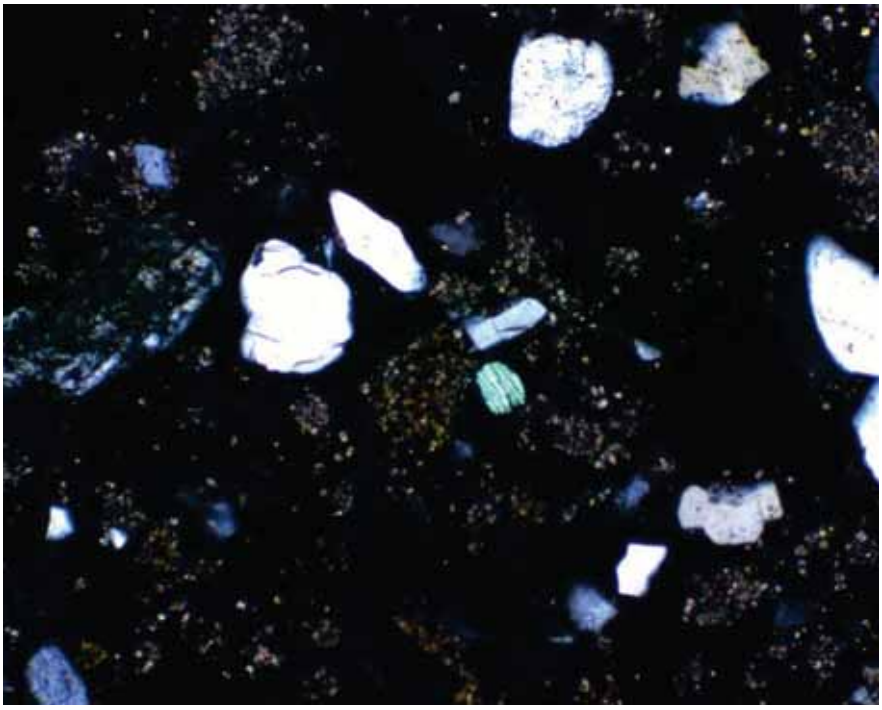
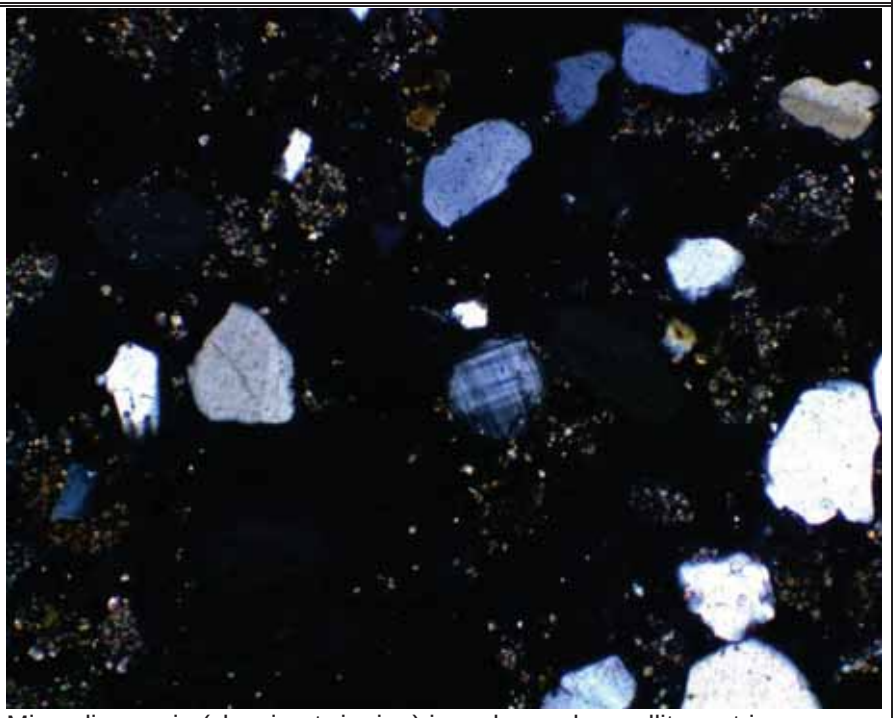
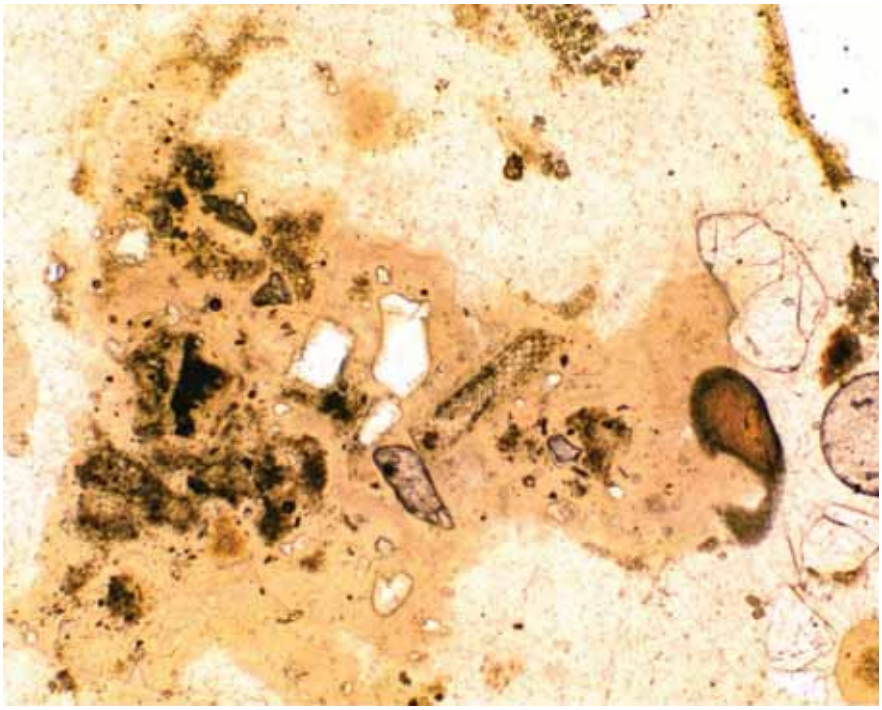
PHOTO 3 CCR14A 28.3-28.66	 Collophane apatite “balls” in a clay and dolomite matrix. Pleochroic grain near the center of the image is staurolite. Plane light.
PHOTO 4 CCR14A 16.5-18.0	 Collophane apatite “balls” in a clay and dolomite matrix. Greenish grain near the center of the image is staurolite. Polarized light.

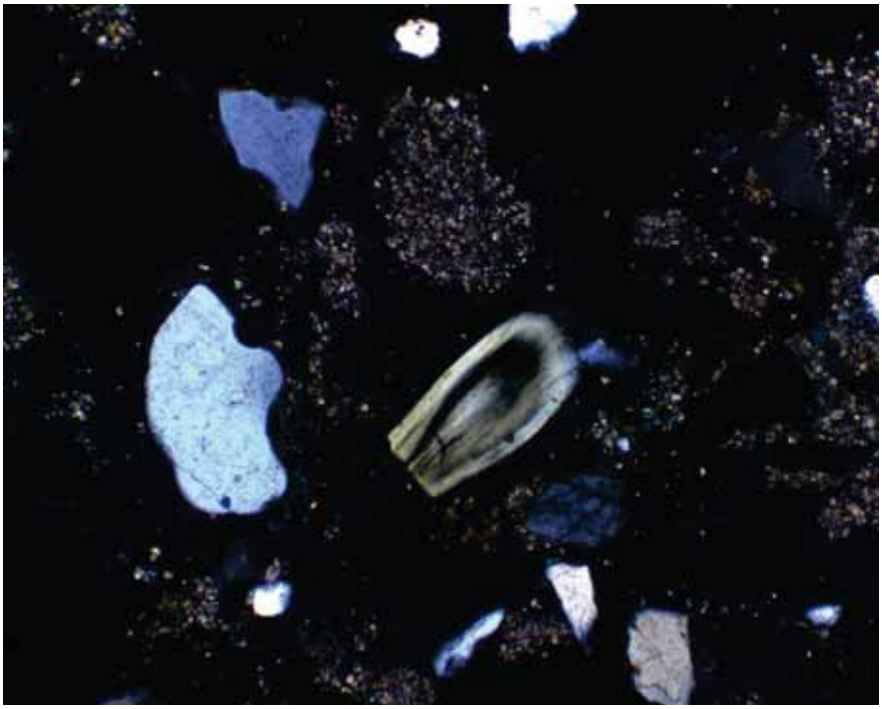
Unless otherwise indicated, all images were taken at 5x magnification; the long-edge of the field of view in the photographs is approximately 2.5 mm in length

Lakeland Electric

PHOTO 5 CCR14A 28.3-28.66	 Microcline grain (showing twinning) in a clay and wavellite matrix. Polarized light.
PHOTO 6 CCR14A 16.5-18.0	 Fossil fragment (bryozoan?) in a clay-rich matrix . Plane light.

Unless otherwise indicated, all images were taken at 5x magnification; the long-edge of the field of view in the photographs is approximately 2.5 mm in length

Lakeland Electric

PHOTO 7 CCR14A 28.3-28.66	 Phosphatic bone fragment and collophane “balls” in a dolomitic, clay-rich matrix (brown). Polarized light.
PHOTO 8 CCR14A 16.5-18.0	 Phosphatic bone fragment and collophane “balls” in a dolomitic, clay-rich matrix (brown). Note undulatory extinction. Polarized light.

Unless otherwise indicated, all images were taken at 5x magnification; the long-edge of the field of view in the photographs is approximately 2.5 mm in length

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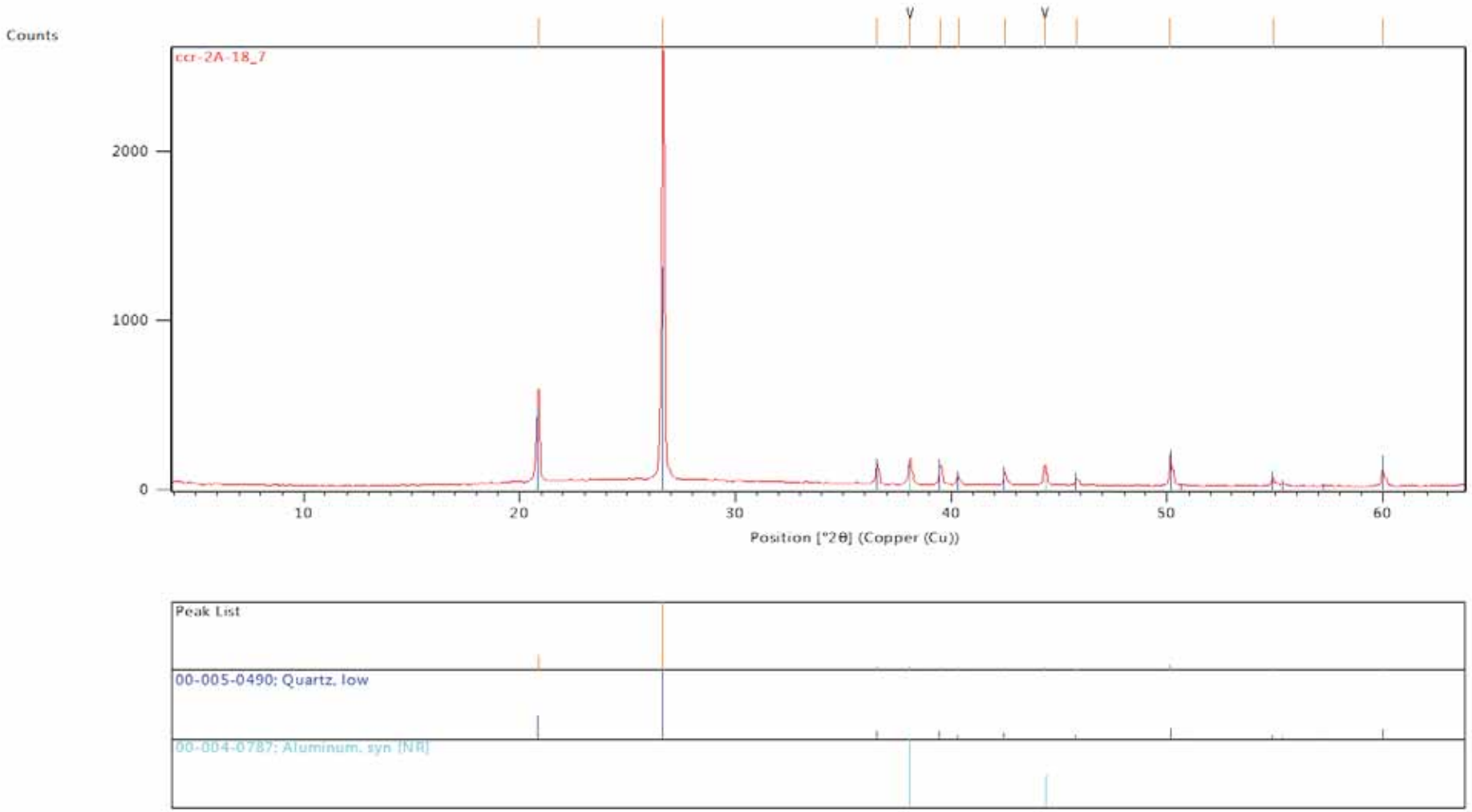
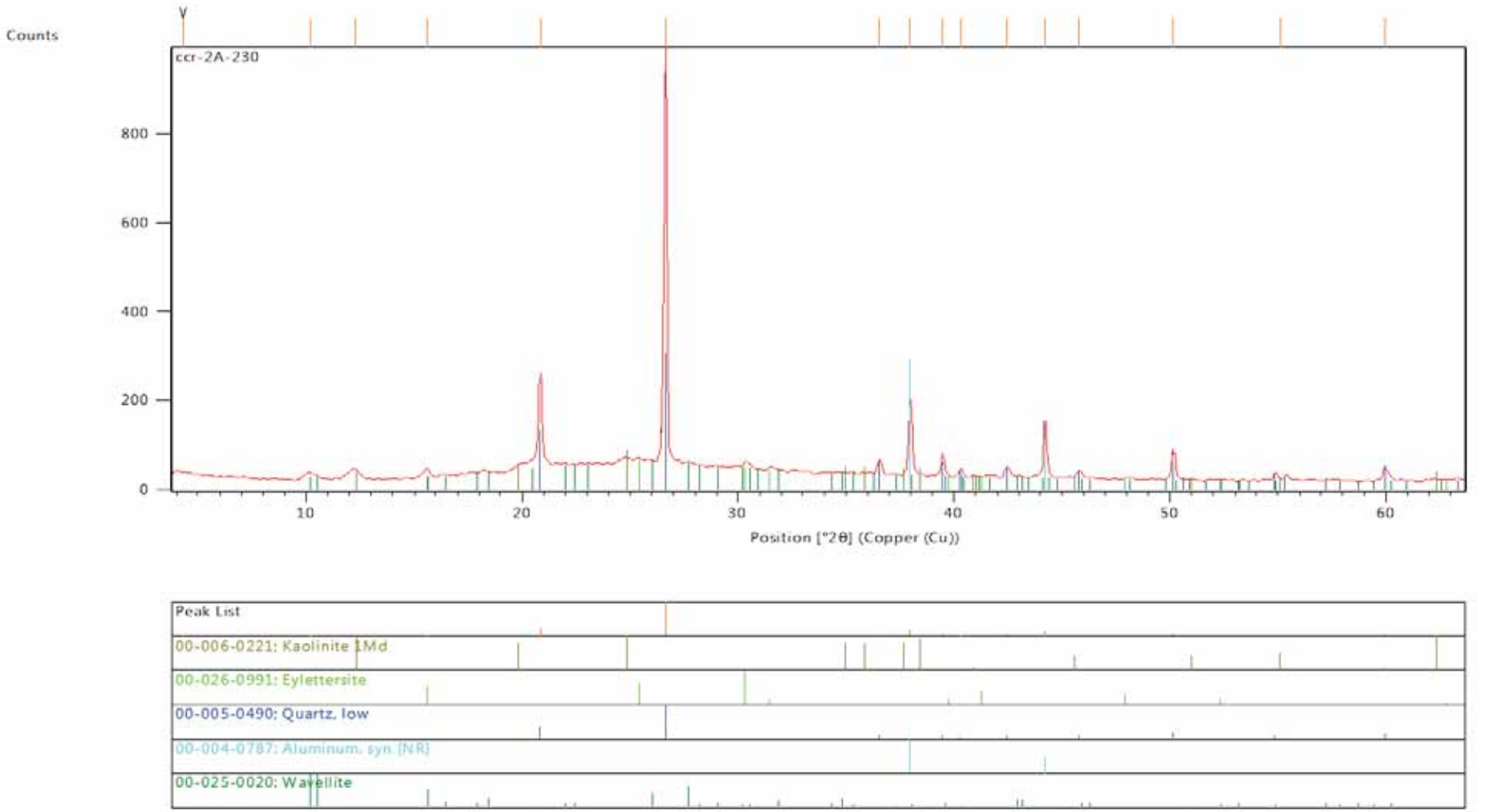
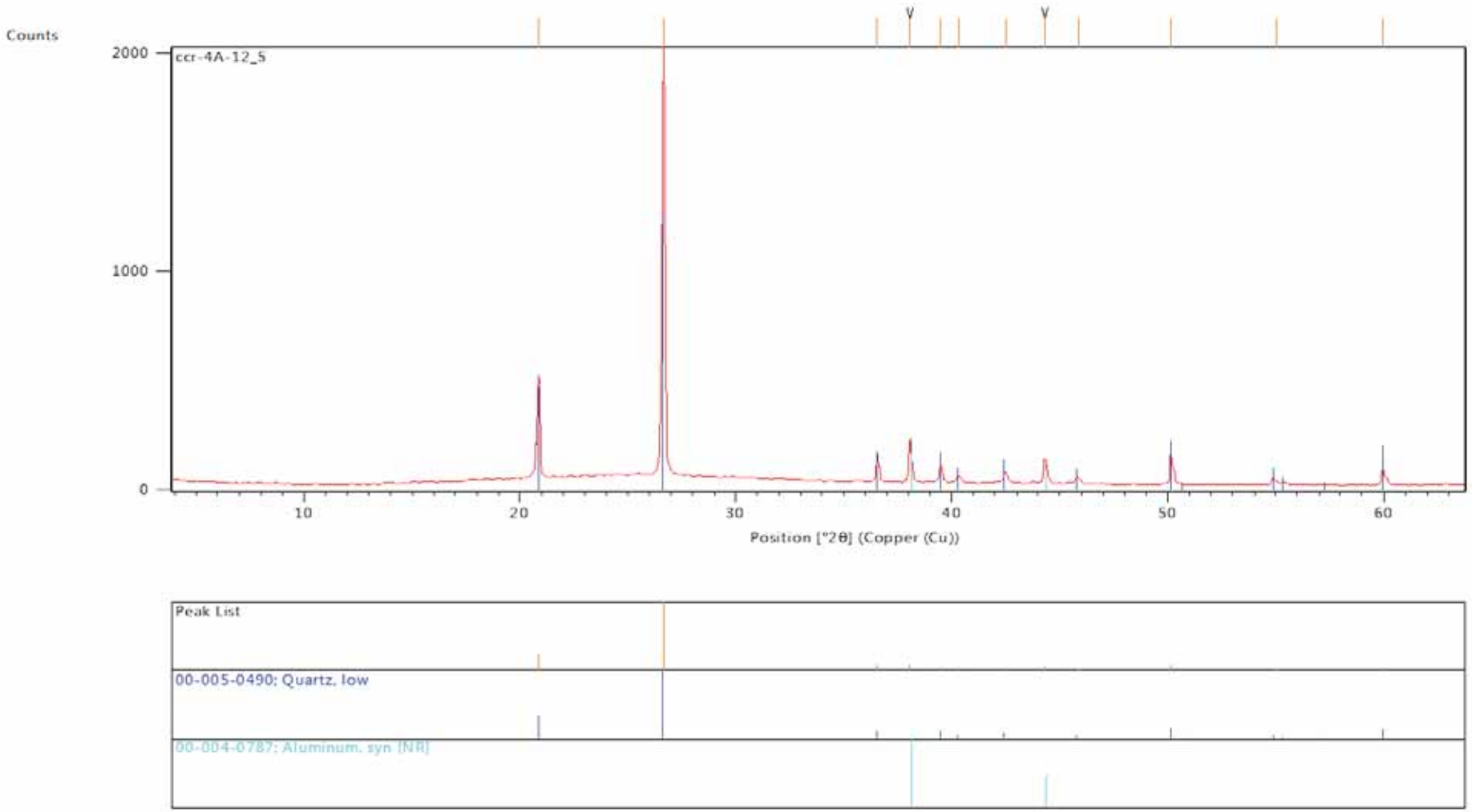
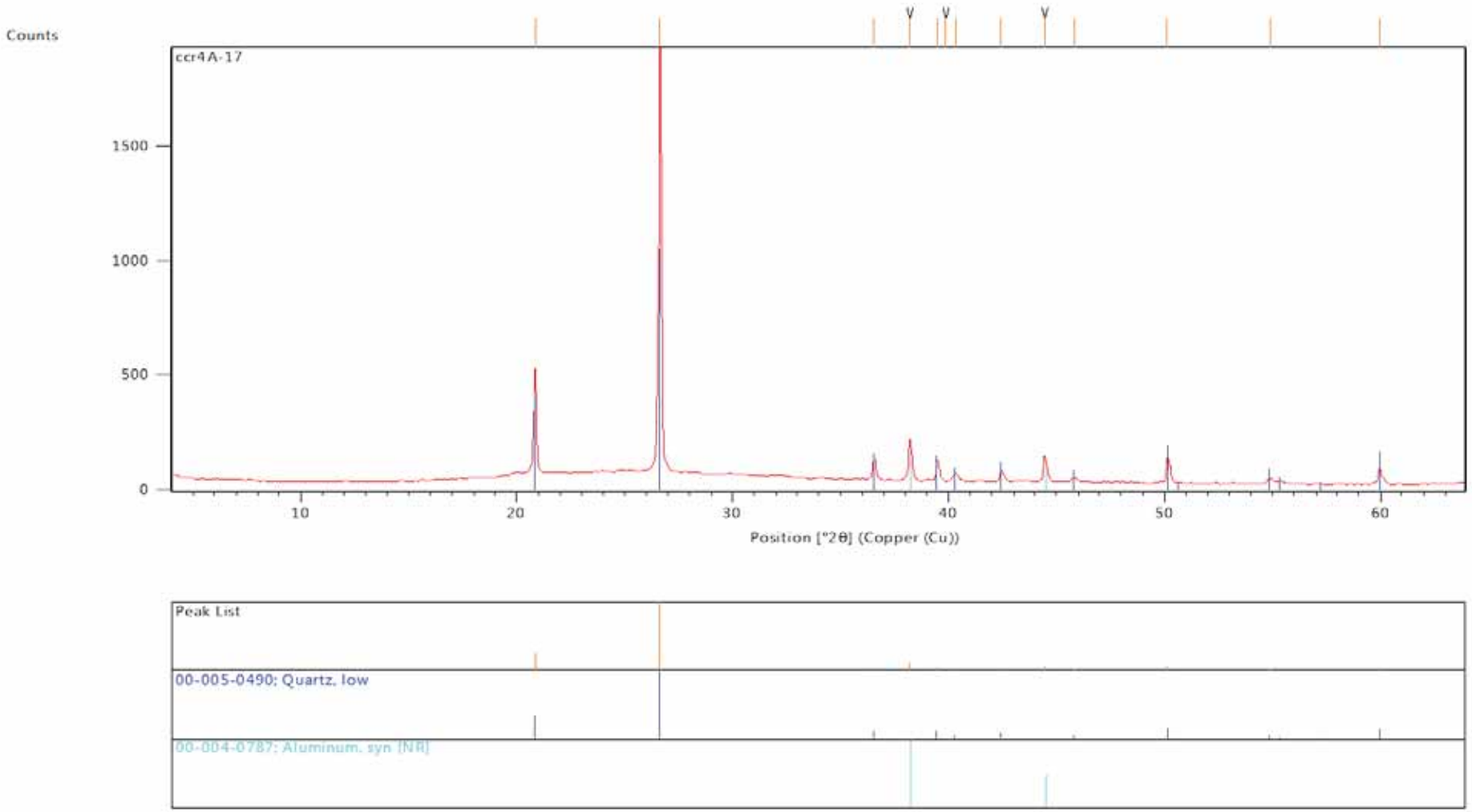
ATTACHMENT 2

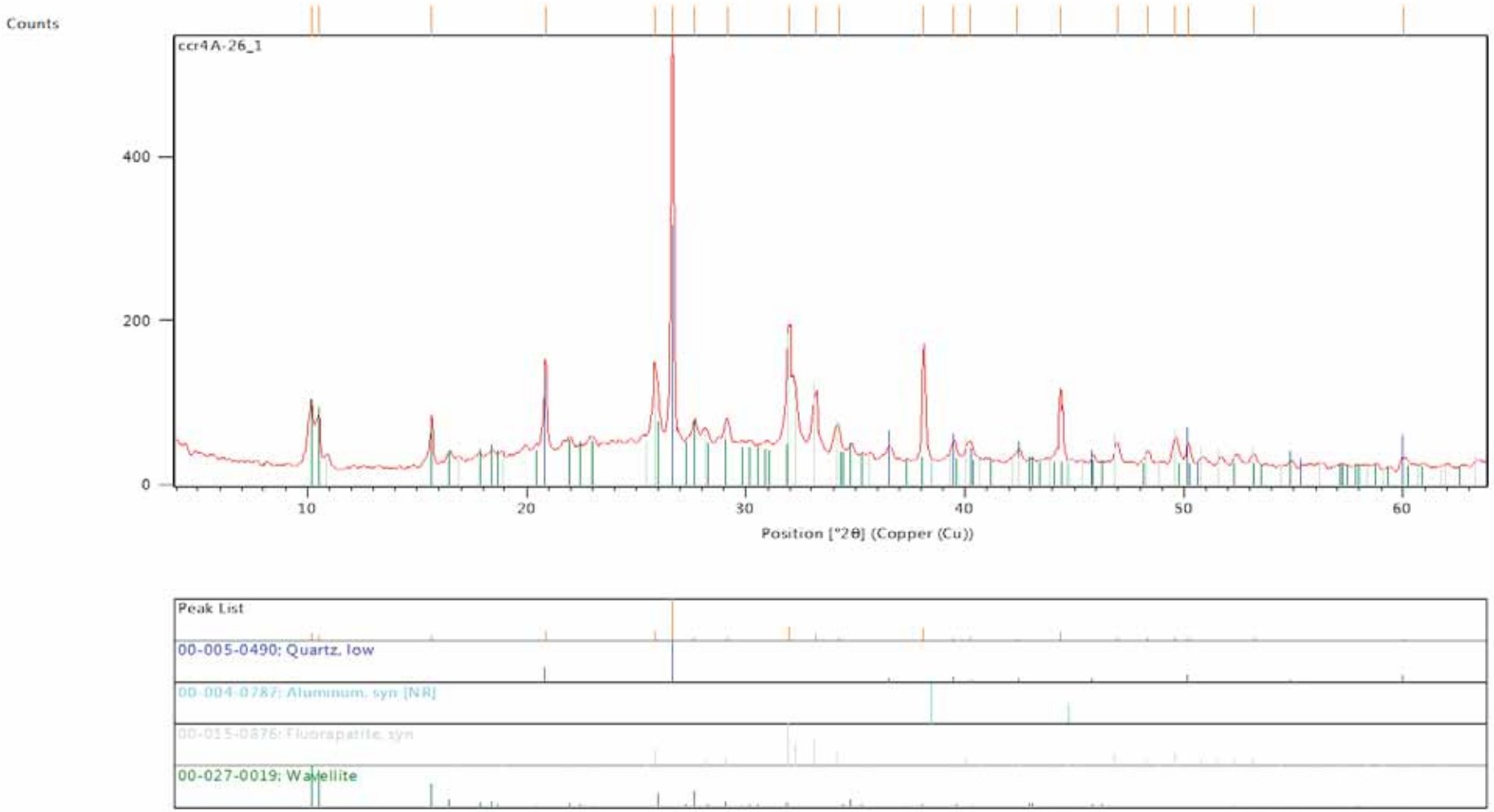
QUALITATIVE X-RAY DIFFRACTION DATA

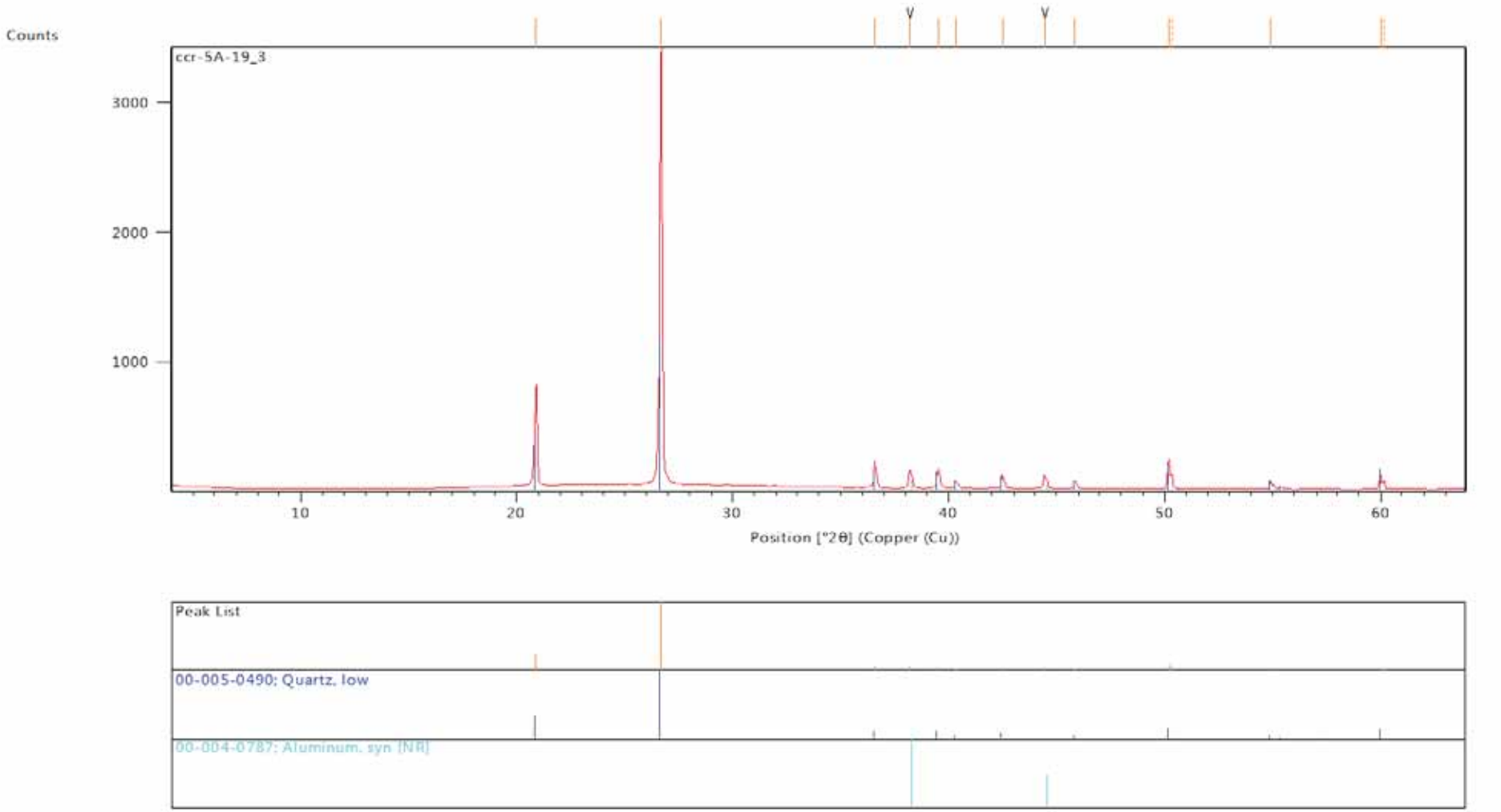

Counts
ccr-2A-18_7
2000
1000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490; Quartz, low
00-004-0787; Aluminum, syn [NR]

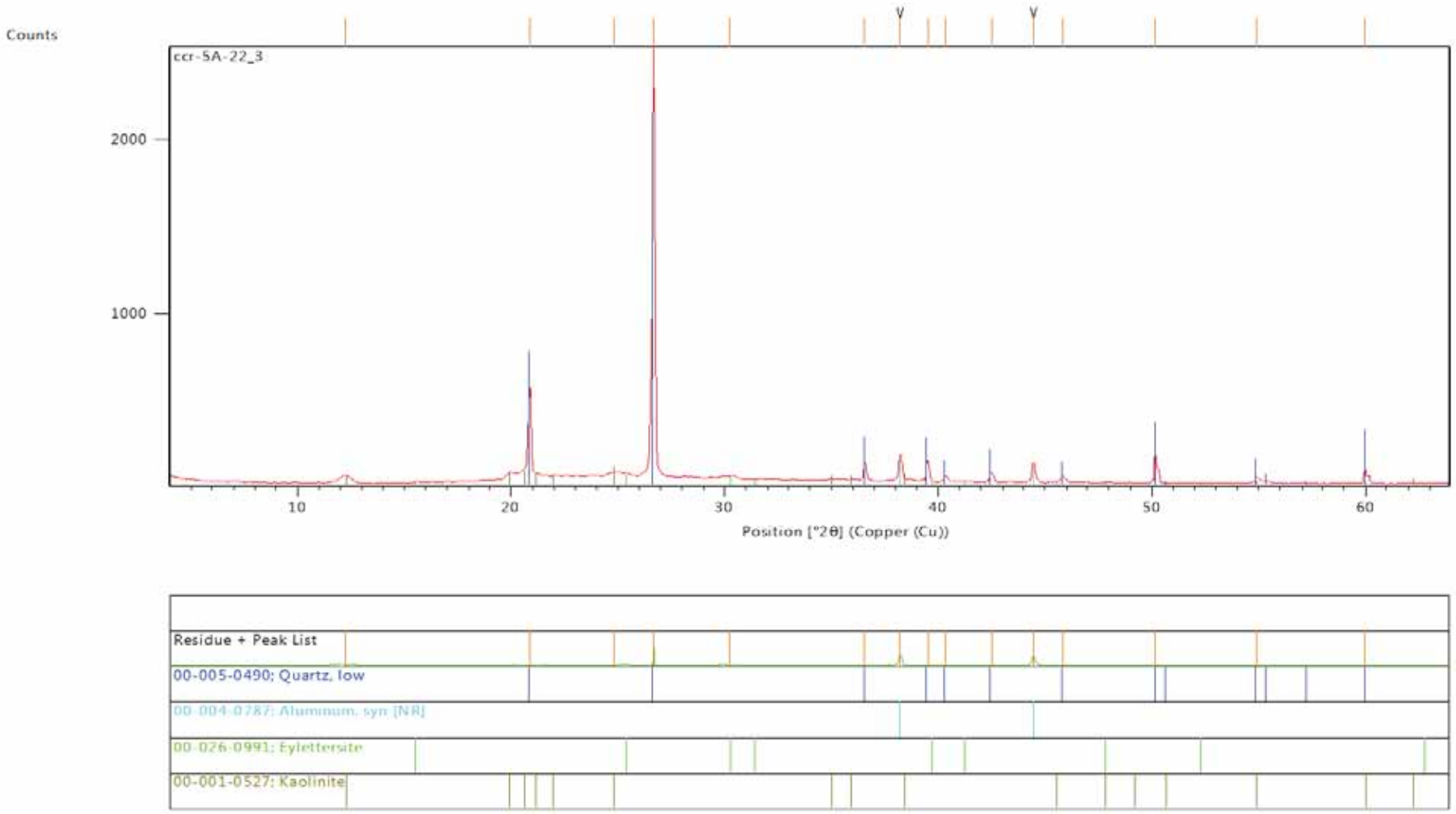

Counts
ccr-2A-230
800
600
400
200
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-006-0221: Kaolinite 1Md
00-026-0991: Eylettersite
00-005-0490: Quartz, low
00-004-0787: Aluminum, syn [NR]
00-025-0020: Wavellite

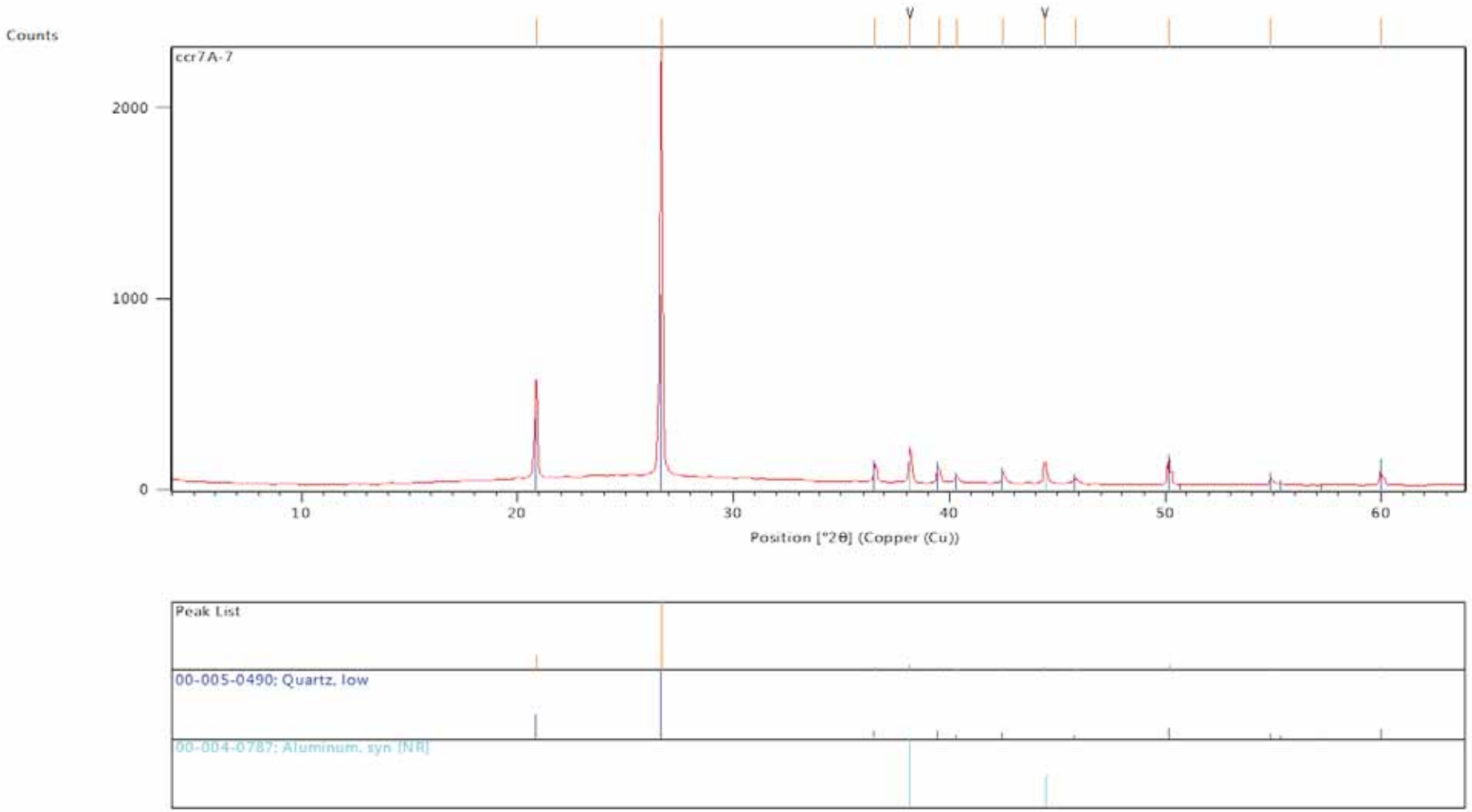

Counts
2000
1000
0
ccr-4A-12_5
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490; Quartz, low
00-004-0787; Aluminum, syn [NR]

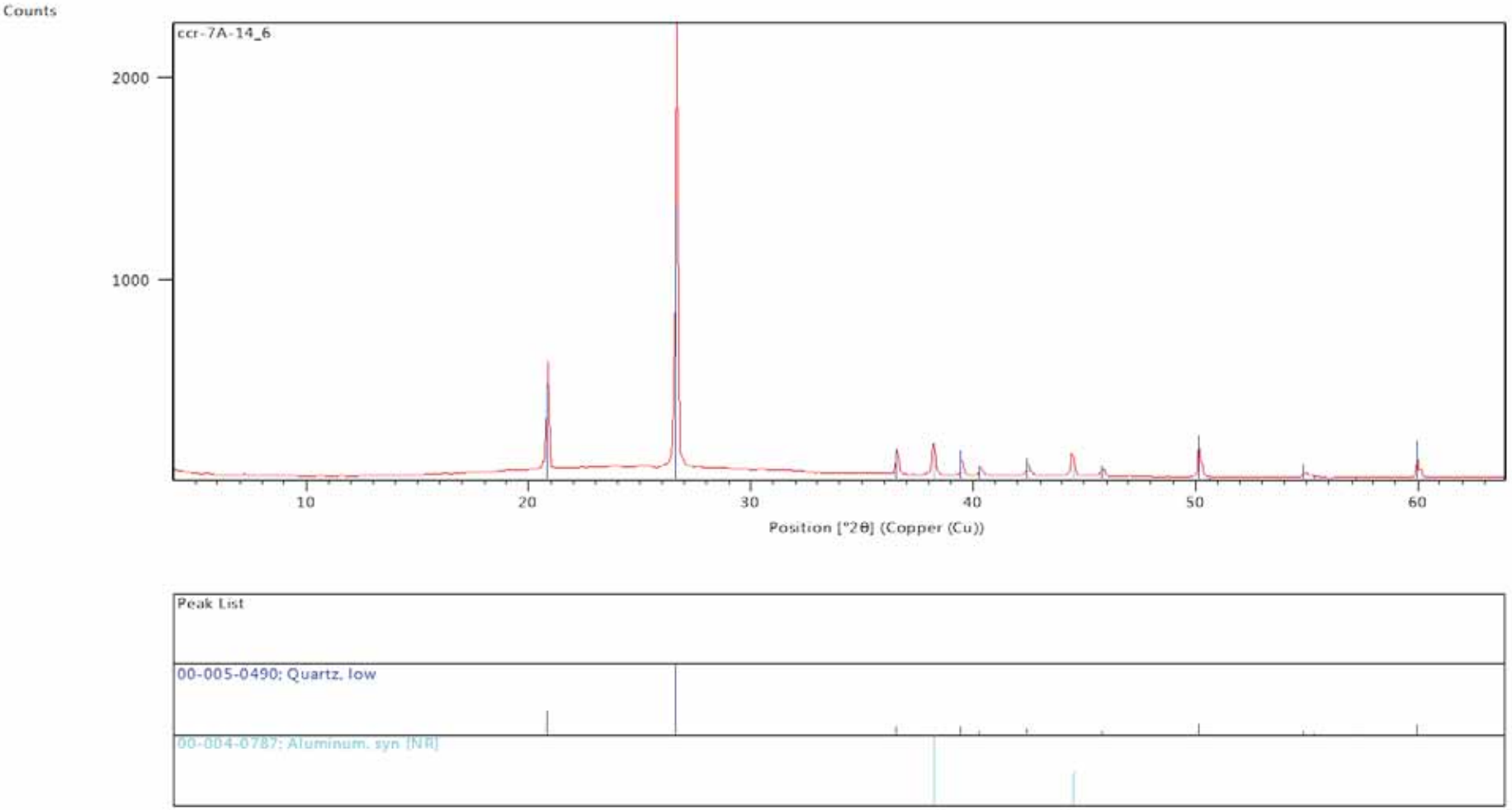

Counts
ccr4A-17
1500
1000
500
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490; Quartz, low
00-004-0787; Aluminum, syn [NR]

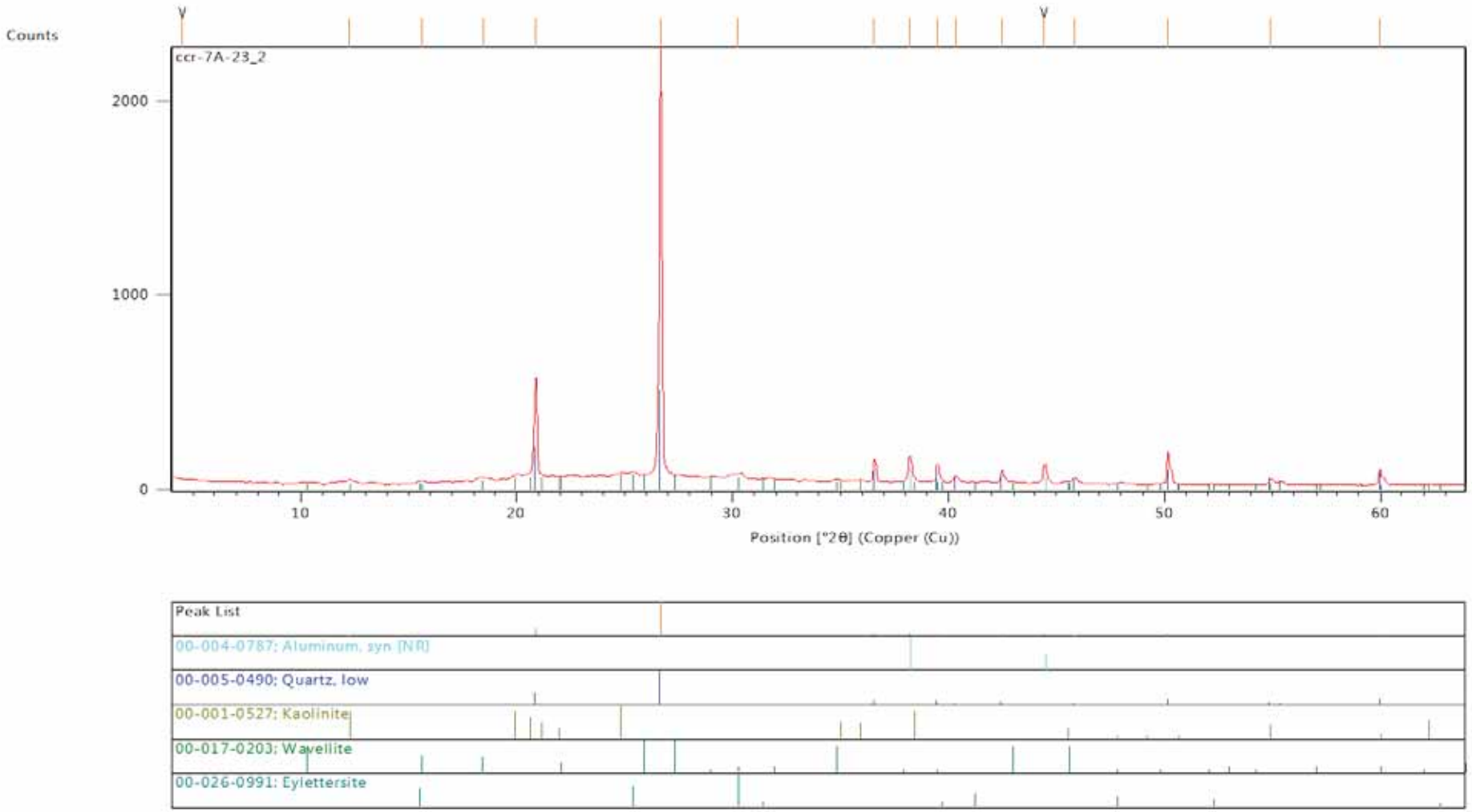

Counts
ccr4A-26_1
400
200
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490: Quartz, low
00-004-0787: Aluminum, syn [NR]
00-015-0876: Fluorapatite, syn
00-027-0019: Wavellite

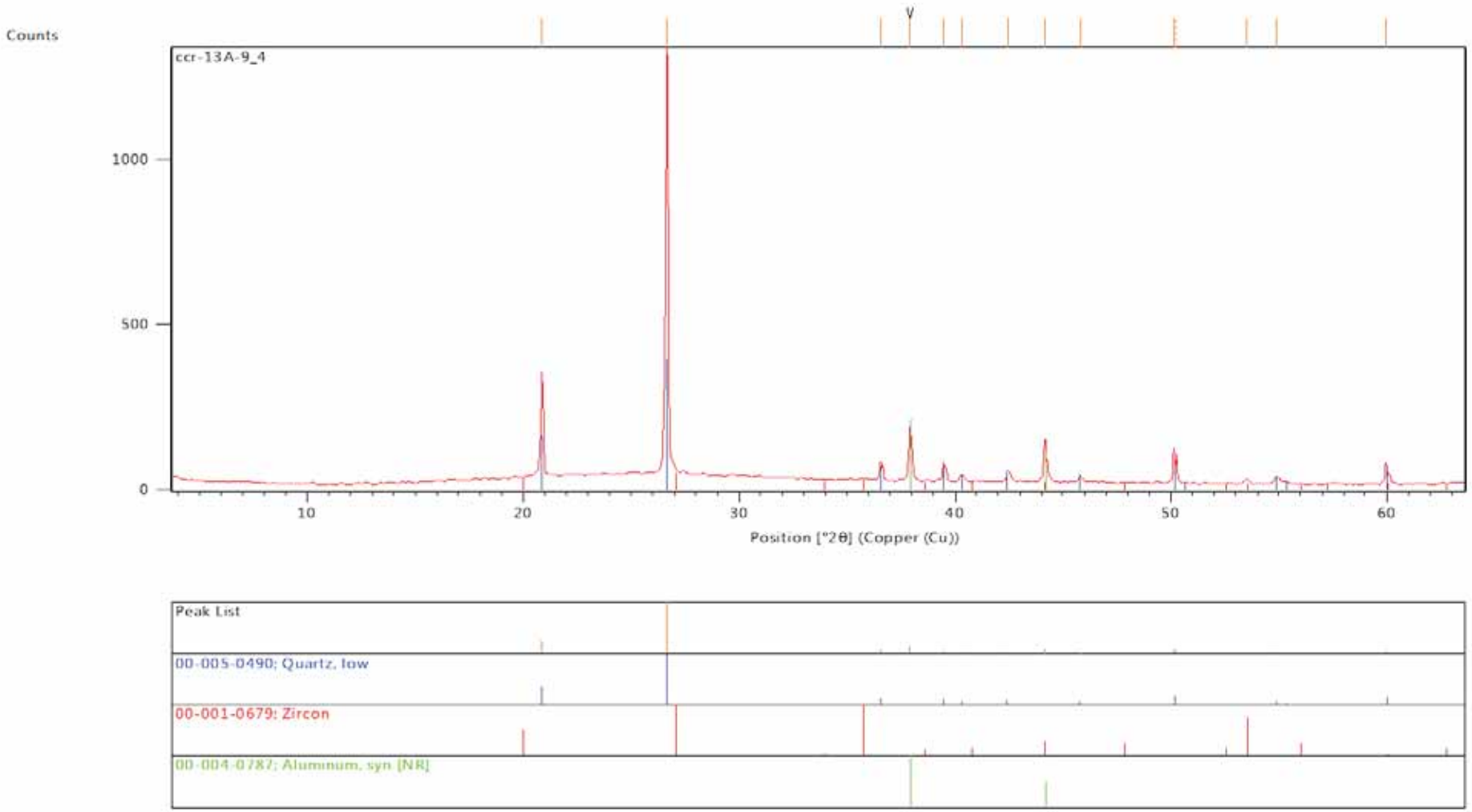

Counts
ccr-5A-19_3
3000
2000
1000
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490; Quartz, low
00-004-0787; Aluminum, syn [NR]

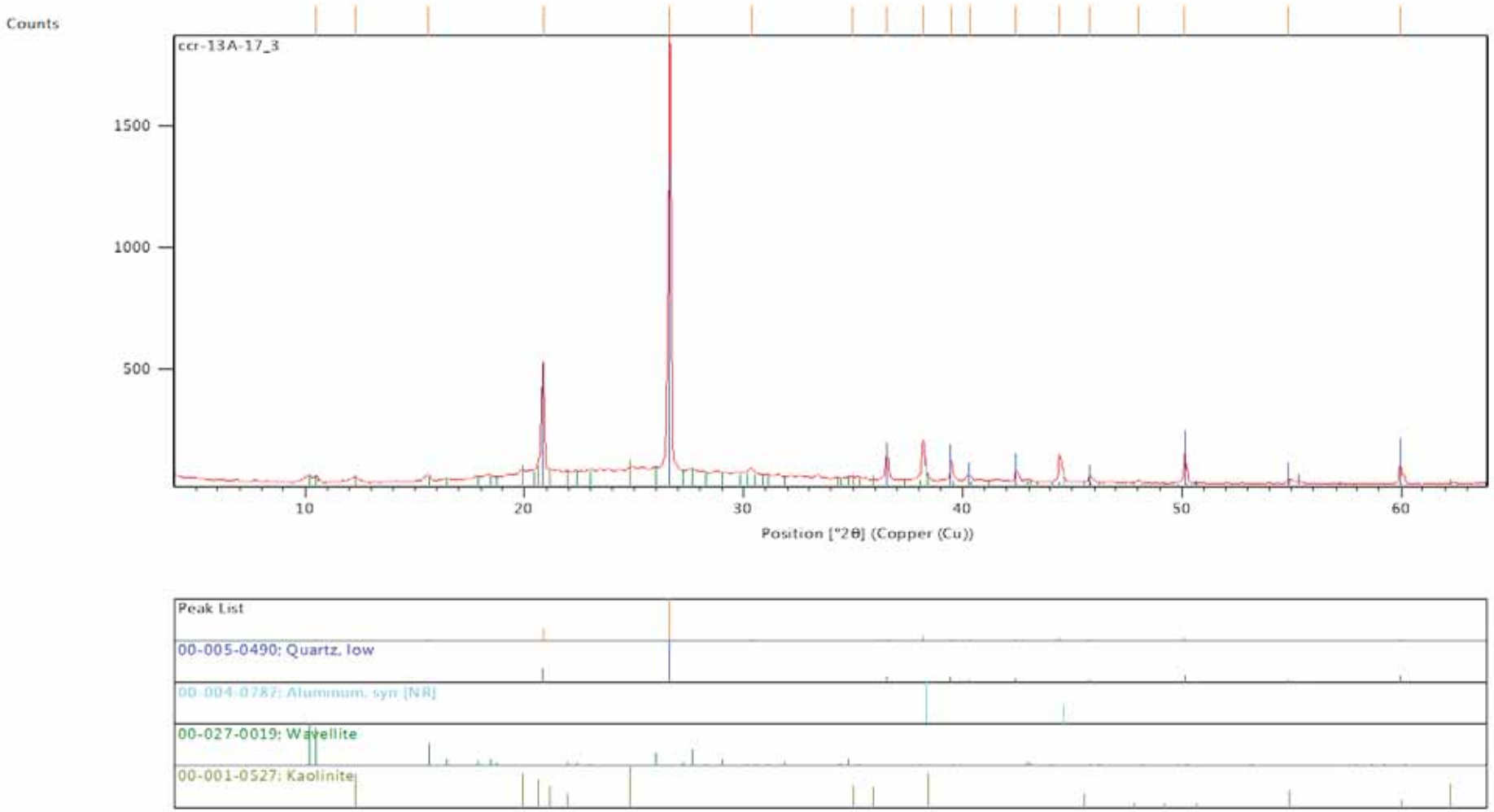

Counts
ccr-5A-22_3
2000
1000
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Residue + Peak List
00-005-0490; Quartz, low
00-004-0787; Aluminum, syn [NR]
00-026-0991; Eyletterstie
00-001-0527; Kaolinite

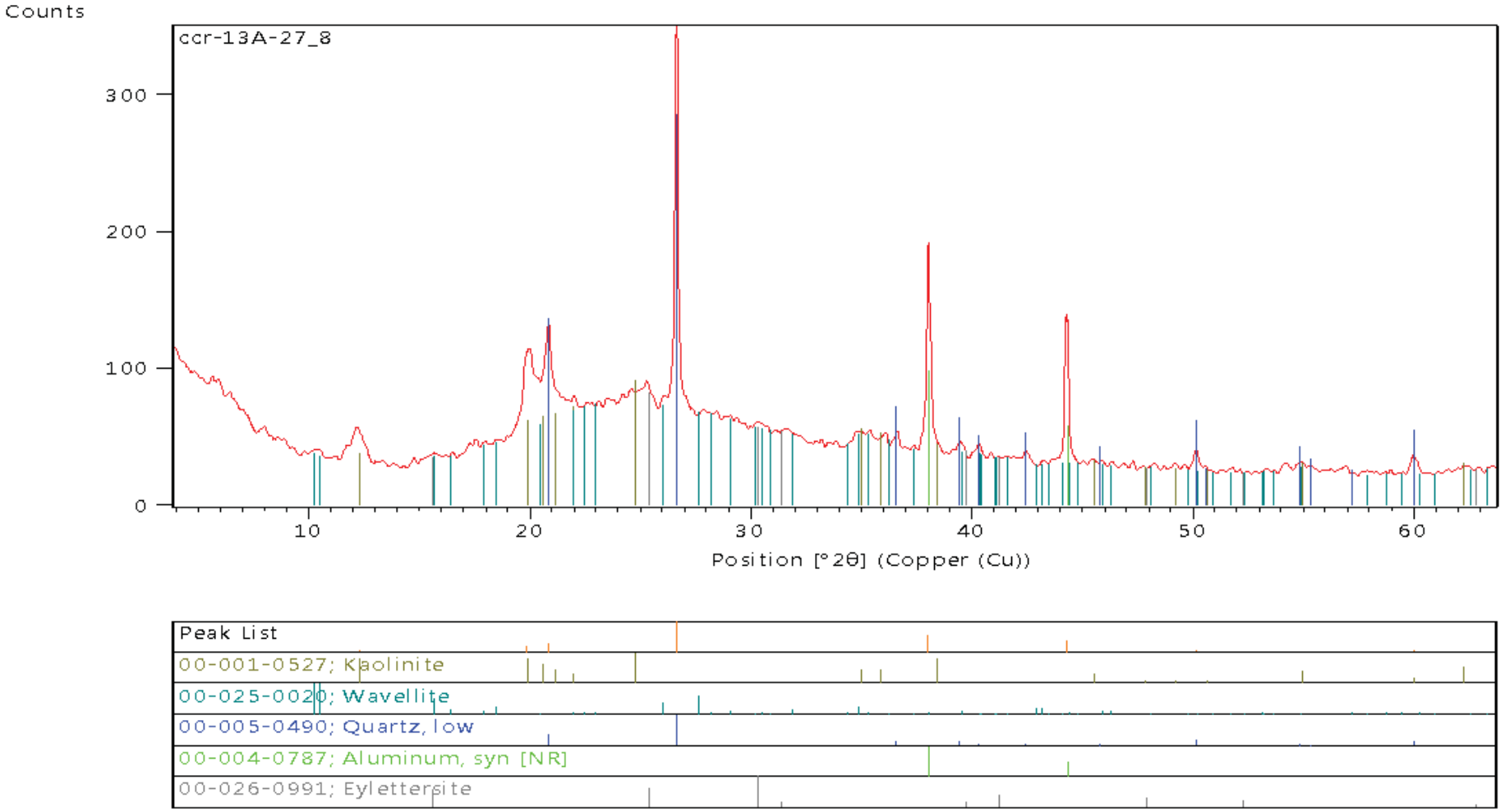

Counts
ccr7A-7
2000
1000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490; Quartz, low
00-004-0787; Aluminum, syn [NR]

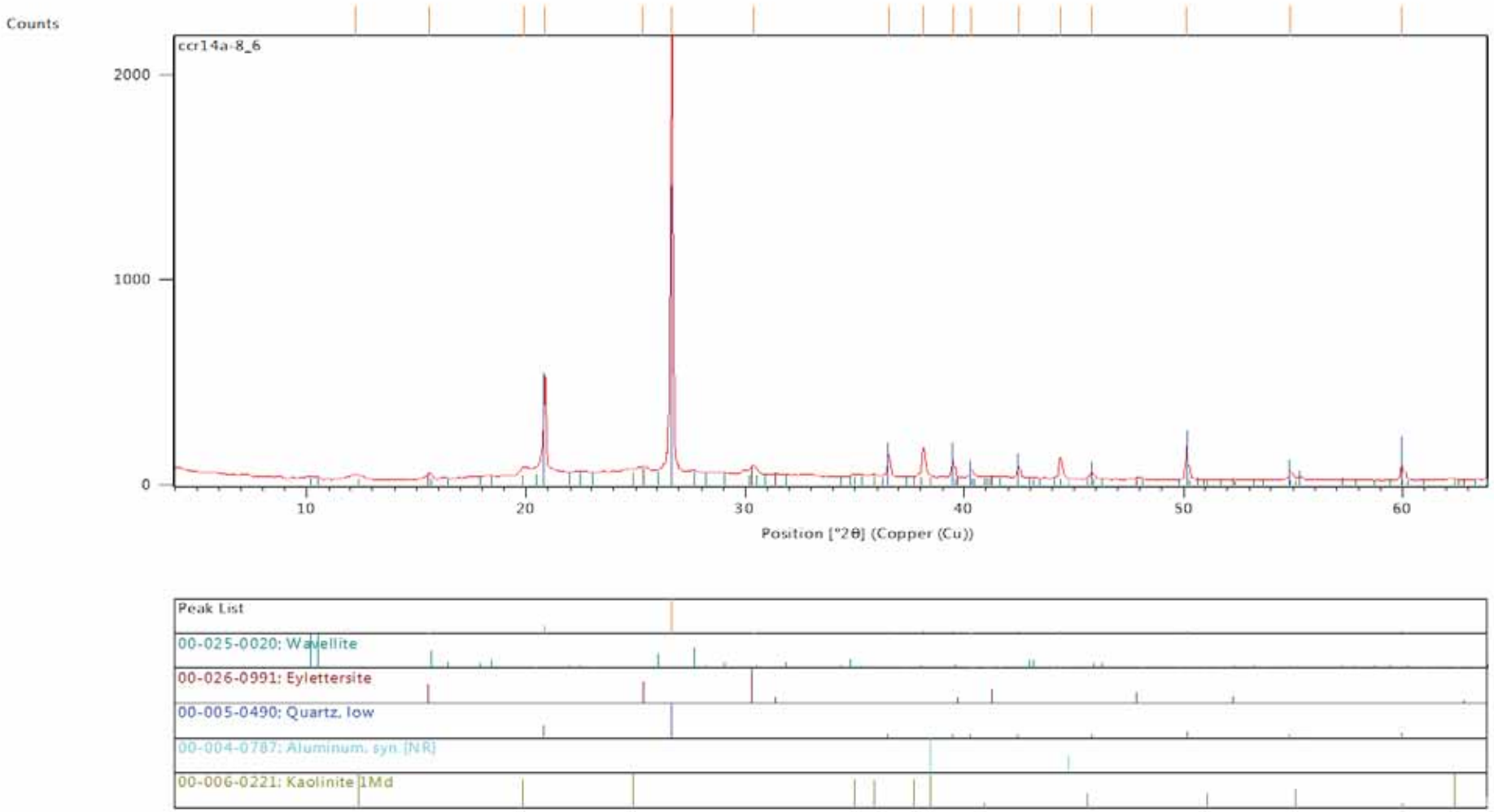

Counts
ccr-7A-14_6
2000
1000
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490; Quartz, low
00-004-0787; Aluminum, syn [NR]

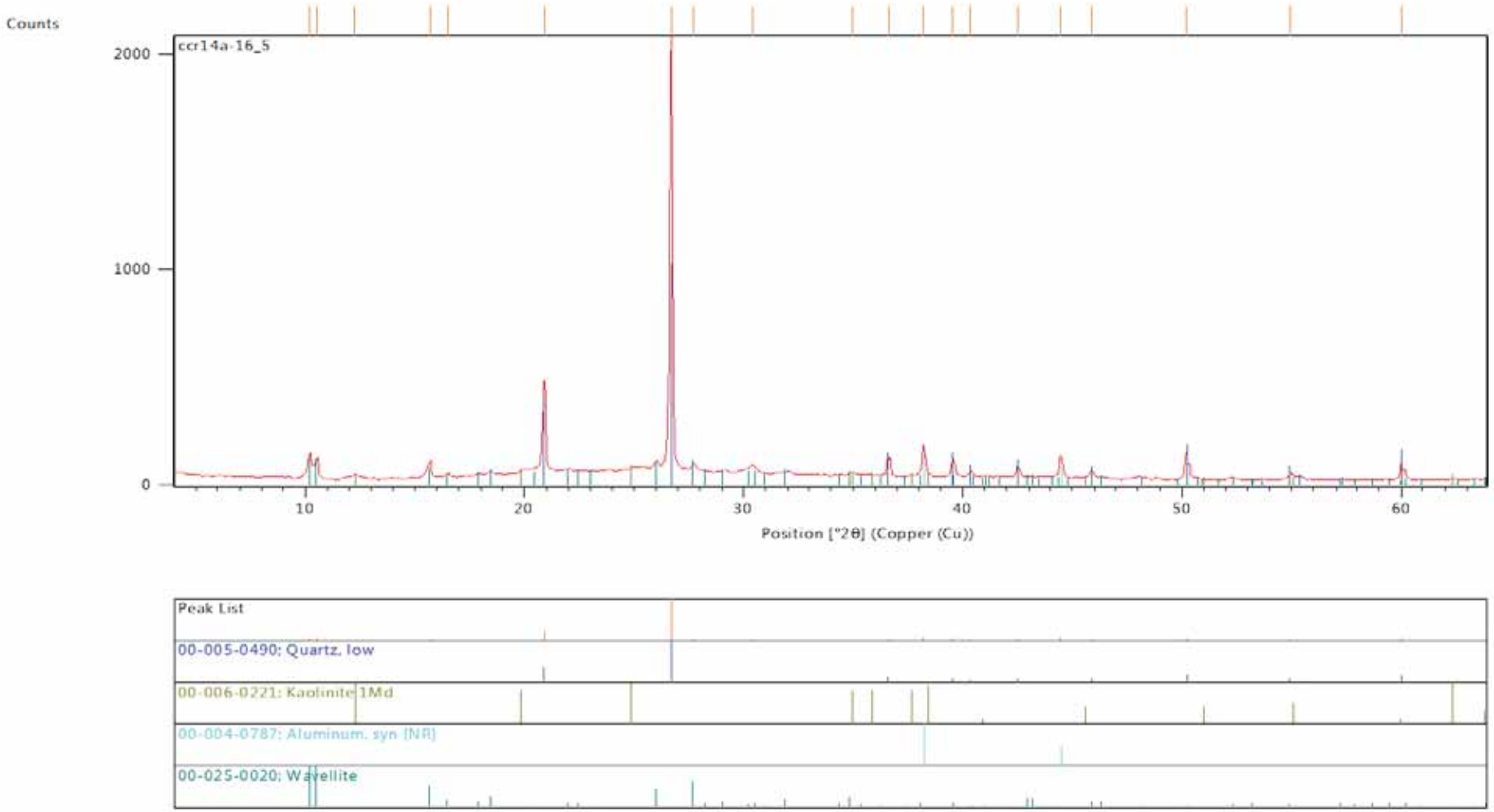

Counts
ccr-7A-23_2
2000
1000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-004-0787: Aluminum, syn [NR]
00-005-0490: Quartz, low
00-001-0527: Kaolinite
00-017-0203: Wavellite
00-026-0991: Eylettersite

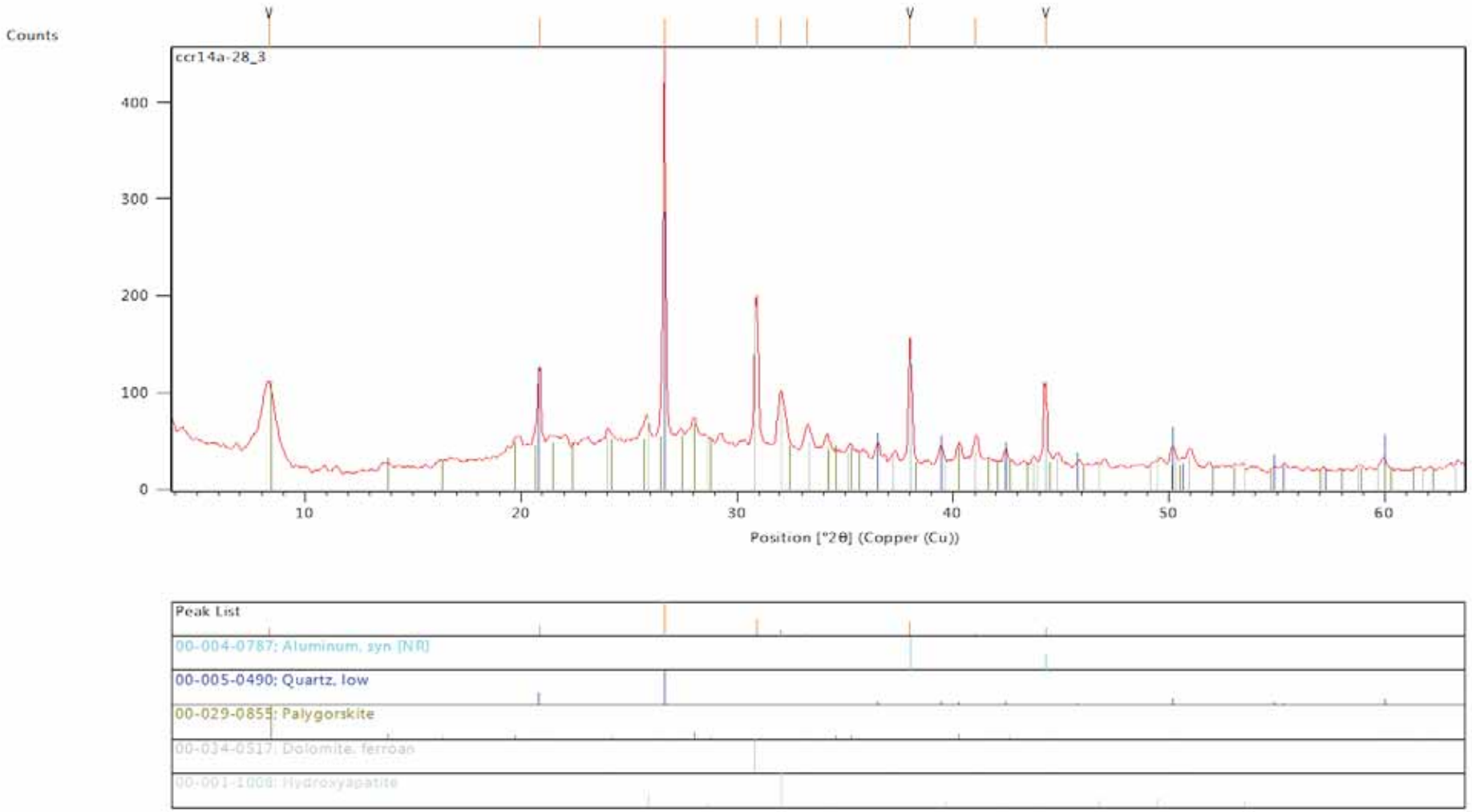

Counts
ccr-13A-9_4
1000
500
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490; Quartz, low
00-001-0679; Zircon
00-004-0787; Aluminum, syn [NR]


Counts
ccr-13A-17_3
1500
1000
500
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490: Quartz, low
00-004-0787: Aluminum, syn [NR]
00-027-0019: Wavellite
00-001-0527: Kaolinite


Counts
ccr-13A-27_8
300
200
100
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-001-0527; Kaolinite
00-025-0020; Wavellite
00-005-0490; Quartz, low
00-004-0787; Aluminum, syn [NR]
00-026-0991; Eylettersite


Counts
ccr14a-8_6
2000
1000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-025-0020; Wavellite
00-026-0991; Eylettersite
00-005-0490; Quartz, low
00-004-0787; Aluminum, syn [NR]
00-006-0221; Kaolinite 1Md


Counts
ccr14a-16_5
2000
1000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490: Quartz, low
00-006-0221: Kaolinite 1Md
00-004-0787: Aluminum, syn [NR]
00-025-0020: Wavellite


Counts
ccr14a-28_3
400
300
200
100
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-004-0787: Aluminum, syn [NR]
00-005-0490: Quartz, low
00-029-0855: Palygorskite
00-034-0517: Dolomite, ferroan
00-001-1008: Hydroxyapatite

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ATTACHMENT 3

GEOCHEMISTRY DATA

	Al_2O_3	TiO_2	Fe_2O_3	MgO	MnO	CaO	K_2O	NaO	P_20_5
Sample Number	**wt%**	**wt%**	**wt%**	**wt%**	**wt%**	**wt%**	**wt%**	**wt%**	**wt%**
CCR2A 18.7-19	1.37	1.34	0.35	<MDL	0.01	0.10	0.06	0.01	0.47
CCR2A 23-23.5	9.22	1.06	0.50	0.05	0.01	0.51	0.13	0.02	2.29
CCR4A 12.5-12.8	0.42	0.50	0.08	<MDL	0.00	0.19	0.03	<MDL	0.05
CCR4A 17-17.4	3.75	0.62	0.13	0.05	0.00	0.20	0.06	0.02	0.67
CCR4A 26.1-26.4	9.12	0.36	0.45	0.10	0.01	23.38	0.36	0.13	>2.30
CCR5A 19.3-20	1.11	0.31	0.06	<MDL	0.00	0.13	0.04	0.03	0.22
CCR5A 22.3-22.6	9.32	0.42	0.34	0.05	0.00	0.48	0.10	0.03	1.10
CCR7A 7-7.4	0.59	0.51	0.10	<MDL	0.00	0.20	<MDL	<MDL	0.11
CCR7A 14.6-15	0.73	0.62	0.13	<MDL	0.01	0.08	<MDL	<MDL	0.16
CCR7A 23.2-23.5	8.70	0.51	0.71	0.05	0.00	0.90	0.07	0.20	>2.30
CCR13A 9.4-10	0.54	0.94	0.12	<MDL	0.00	0.41	<MDL	<MDL	0.13
CCR13A 17.3-17.6	4.12	0.36	0.16	0.03	0.00	0.26	0.05	<MDL	1.29
CCR13A 27.8-28.2	17.87	0.68	1.41	0.81	0.01	0.59	0.66	0.05	>2.30
CCR14A 8.6-8.8	7.61	0.46	0.42	0.14	0.00	1.05	0.13	0.02	2.13
CCR14A 16.5-18	11.95	0.53	0.50	0.08	0.01	0.72	0.18	0.02	>2.30
CCR14A 28.3-28.6	2.99	0.17	3.37	6.37	0.02	20.09	0.43	0.26	>2.30

	Ag	As	Ba	Be	Bi	Ce	Cd	Co	Cr
	ppm	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**
CCR2A 18.7-19	0.27	0.30	128.00	0.17	0.29	57.9	<MDL	12.20	19.5
CCR2A 23-23.5	<MDL	<MDL	679.00	1.22	0.19	93.7	<MDL	10.10	42.9
CCR4A 12.5-12.8	<MDL	<MDL	6.00	0.01	0.03	6.1	<MDL	4.50	7.7
CCR4A 17-17.4	0.06	0.30	137.00	0.20	0.12	39.4	0.05	5.70	19.2
CCR4A 26.1-26.4	0.34	3.40	131.00	1.80	0.13	69.8	42.65	3.30	136.1
CCR5A 19.3-20	<MDL	<MDL	39.00	0.05	0.03	13.2	<MDL	2.80	6.6
CCR5A 22.3-22.6	0.06	0.70	617.00	1.22	0.31	60.0	0.16	10.30	49.6
CCR7A 7-7.4	0.14	0.60	18.00	0.05	0.05	12.3	<MDL	23.30	7.9
CCR7A 14.6-15	0.07	<MDL	12.00	0.05	0.02	10.1	<MDL	14.50	10.1
CCR7A 23.2-23.5	<MDL	<MDL	516.00	0.93	0.14	60.0	0.42	21.20	50.5
CCR13A 9.4-10	0.27	0.40	45.00	0.04	0.18	37.9	<MDL	18.40	11.4
CCR13A 17.3-17.6	0.14	<MDL	189.00	0.49	0.06	39.3	<MDL	20.10	23.4
CCR13A 27.8-28.2	0.48	0.20	136.00	1.58	0.30	64.7	0.12	15.10	162.8
CCR14A 8.6-8.8	0.22	<MDL	377.00	1.47	0.27	81.5	0.54	18.80	48.4
CCR14A 16.5-18	0.91	0.60	673.00	4.24	0.32	138.8	0.31	21.90	112.3
CCR14A 28.3-28.6	1.01	5.30	81.00	0.69	0.11	25.3	35.09	11.30	84.3

<MDL less than method detection limit

	Cs	Cu	Ga	Ge	Hf	In	La	Li	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
CCR2A 18.7-19	0.30	6.40	7.25	0.04	1.77	0.02	32.7	1.10	2.70
CCR2A 23-23.5	0.70	2.60	11.27	0.08	1.84	0.03	50.1	3.90	2.10
CCR4A 12.5-12.8	<MDL	1.50	2.04	<MDL	0.51	<MDL	2.4	0.70	1.70
CCR4A 17-17.4	0.40	3.40	6.76	0.03	1.09	0.03	20.7	4.20	2.20
CCR4A 26.1-26.4	1.50	8.50	10.30	0.06	1.76	0.06	63.2	3.20	2.30
CCR5A 19.3-20	0.10	0.90	2.41	0.02	0.44	0.01	6.5	6.10	1.10
CCR5A 22.3-22.6	0.40	1.40	9.16	0.05	1.44	0.07	30.6	7.50	1.50
CCR7A 7-7.4	<MDL	1.30	2.21	0.01	0.65	0.01	4.5	1.80	1.50
CCR7A 14.6-15	<MDL	2.00	2.81	0.01	0.55	0.02	4.0	1.20	1.60
CCR7A 23.2-23.5	0.30	1.20	10.57	0.06	1.55	0.04	31.8	7.00	2.10
CCR13A 9.4-10	0.10	3.10	3.95	<MDL	1.60	0.01	20.1	2.20	4.10
CCR13A 17.3-17.6	0.30	2.20	5.30	0.05	1.06	0.02	21.3	6.40	0.90
CCR13A 27.8-28.2	4.20	6.50	19.57	0.05	5.21	0.16	39.0	20.60	2.10
CCR14A 8.6-8.8	1.00	4.00	9.10	0.06	3.10	0.05	45.2	5.40	1.30
CCR14A 16.5-18	1.00	11.60	11.94	0.12	2.97	0.06	83.6	3.00	1.70
CCR14A 28.3-28.6	1.20	1.30	4.03	0.04	0.78	0.01	21.3	8.30	2.80

	Nb	Ni	Pb	Rb	Re	S	Sb	Sc	Se
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
CCR2A 18.7-19	17.45	1.50	25.00	4.00	<MDL	245.0	0.37	2.7	0.30
CCR2A 23-23.5	16.51	6.90	29.00	6.00	<MDL	315.0	0.64	4.8	0.30
CCR4A 12.5-12.8	4.81	1.30	<MDL	<MDL	<MDL	219.0	0.13	0.9	0.40
CCR4A 17-17.4	10.05	6.30	13.00	3.00	<MDL	344.0	0.23	1.8	0.80
CCR4A 26.1-26.4	7.58	4.10	11.00	16.00	0.00	624.0	1.07	8.2	0.50
CCR5A 19.3-20	4.14	2.00	6.00	2.00	<MDL	112.0	0.10	0.7	<MDL
CCR5A 22.3-22.6	7.17	10.90	24.00	5.00	0.01	144.0	0.76	8.6	0.30
CCR7A 7-7.4	5.81	2.40	4.00	<MDL	0.03	<MDL	0.16	0.8	<MDL
CCR7A 14.6-15	6.32	1.30	4.00	<MDL	0.02	142.0	0.13	0.9	<MDL
CCR7A 23.2-23.5	9.17	10.70	22.00	3.00	0.03	261.0	0.35	5.9	1.30
CCR13A 9.4-10	14.68	1.60	16.00	<MDL	0.02	218.0	0.41	1.5	0.80
CCR13A 17.3-17.6	6.31	4.70	12.00	3.00	0.03	291.0	0.29	2.3	0.30
CCR13A 27.8-28.2	15.13	21.20	21.00	41.00	0.01	270.0	1.24	82.1	<MDL
CCR14A 8.6-8.8	8.44	10.00	26.00	8.00	0.03	345.0	0.39	18.2	0.20
CCR14A 16.5-18	10.31	5.70	31.00	10.00	0.03	534.0	0.45	13.5	0.20
CCR14A 28.3-28.6	3.66	56.60	6.00	20.00	0.01	1645.0	1.41	2.7	0.50

	Sn	Sr	Ta	Te	Th	Tl	U	V	W
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
CCR2A 18.7-19	1.40	207.0	1.64	0.08	8.5	0.03	5.0	19.00	1.2
CCR2A 23-23.5	1.30	929.0	1.09	0.03	12.9	0.22	50.4	59.00	1.1
CCR4A 12.5-12.8	0.90	12.0	0.66	0.01	1.7	<MDL	1.2	6.00	0.5
CCR4A 17-17.4	1.50	227.0	1.65	0.03	6.8	0.04	5.3	16.00	0.9
CCR4A 26.1-26.4	1.50	308.0	0.12	0.05	9.7	0.50	185.5	119.00	0.8
CCR5A 19.3-20	0.60	63.0	0.46	<MDL	2.1	0.01	4.1	5.00	0.4
CCR5A 22.3-22.6	1.10	748.0	0.06	0.02	8.2	0.10	34.2	35.00	66.3
CCR7A 7-7.4	0.80	30.0	0.60	<MDL	1.7	<MDL	1.4	6.00	184.8
CCR7A 14.6-15	0.80	18.0	0.69	0.01	2.0	<MDL	0.9	6.00	97.1
CCR7A 23.2-23.5	1.20	786.0	<MDL	0.03	8.8	0.04	35.0	33.00	173.9
CCR13A 9.4-10	1.10	91.0	1.44	0.01	4.8	0.03	3.0	13.00	104.3
CCR13A 17.3-17.6	0.50	458.0	0.30	0.01	6.3	0.08	22.4	25.00	175.2
CCR13A 27.8-28.2	2.50	210.0	0.12	0.02	23.4	1.00	164.4	247.00	77.8
CCR14A 8.6-8.8	0.90	815.0	0.18	0.02	11.4	0.23	96.2	50.00	153.1
CCR14A 16.5-18	1.50	1185.0	1.04	<MDL	16.6	0.28	467.0	48.00	185.1
CCR14A 28.3-28.6	0.80	461.0	<MDL	<MDL	4.0	0.60	34.8	123.00	37.0

<MDL less than method detection limit

	Y	Zn	Zr
	ppm	ppm	ppm
CCR2A 18.7-19	12.10	4.00	71.0
CCR2A 23-23.5	49.30	11.00	70.2
CCR4A 12.5-12.8	1.10	<MDL	17.6
CCR4A 17-17.4	9.40	4.00	37.7
CCR4A 26.1-26.4	96.30	87.00	51.8
CCR5A 19.3-20	3.00	<MDL	15.9
CCR5A 22.3-22.6	33.30	7.00	44.0
CCR7A 7-7.4	2.20	4.00	42.5
CCR7A 14.6-15	1.40	4.00	30.7
CCR7A 23.2-23.5	25.80	7.00	60.9
CCR13A 9.4-10	6.80	3.00	76.1
CCR13A 17.3-17.6	17.00	5.00	43.5
CCR13A 27.8-28.2	33.90	49.00	167.2
CCR14A 8.6-8.8	48.90	12.00	93.3
CCR14A 16.5-18	93.50	10.00	94.2
CCR14A 28.3-28.6	30.70	49.00	19.0

<MDL less than method detection limit

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Douglasville, GA 30135
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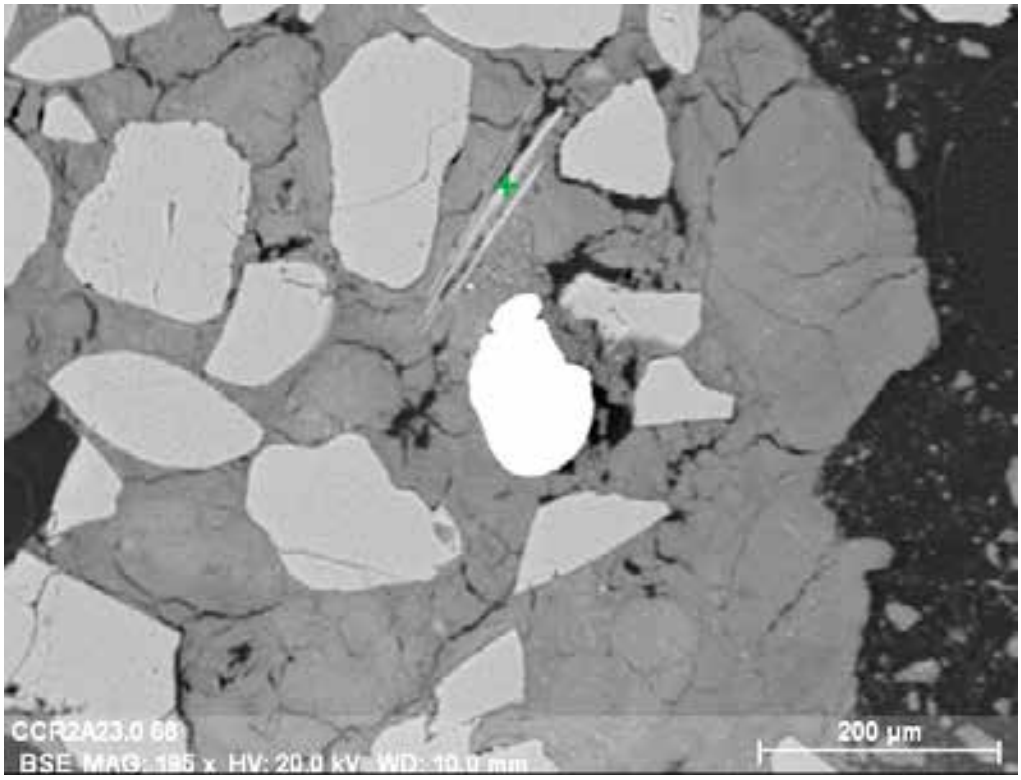
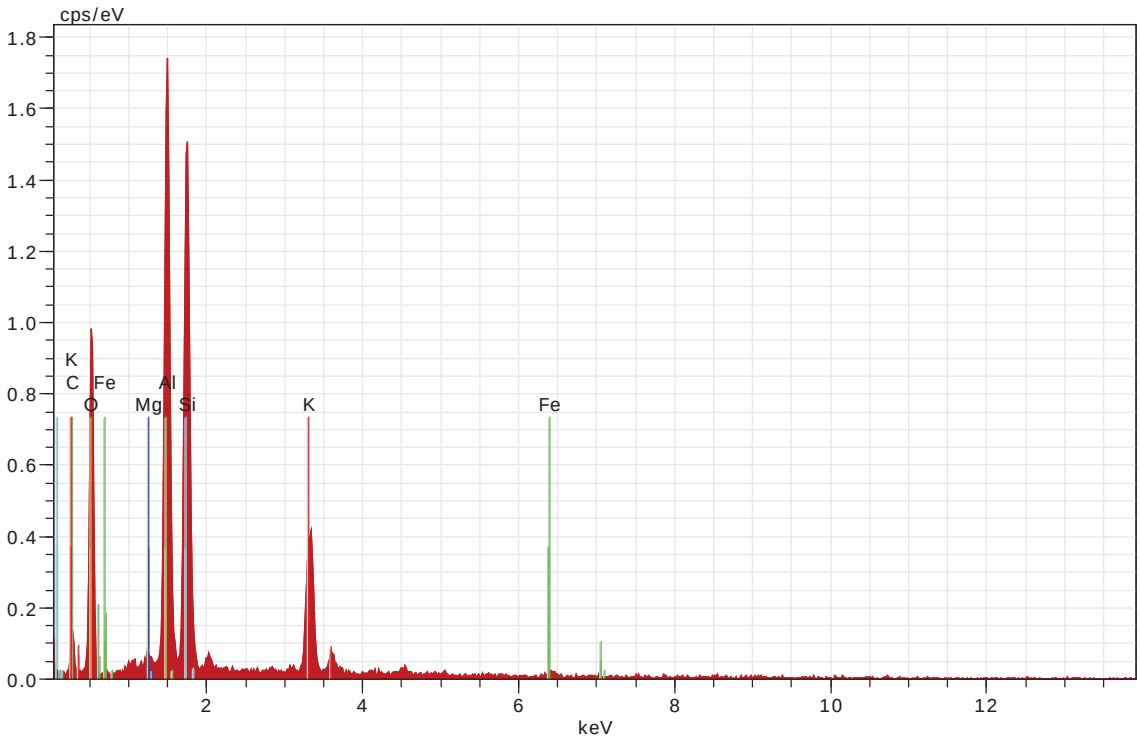
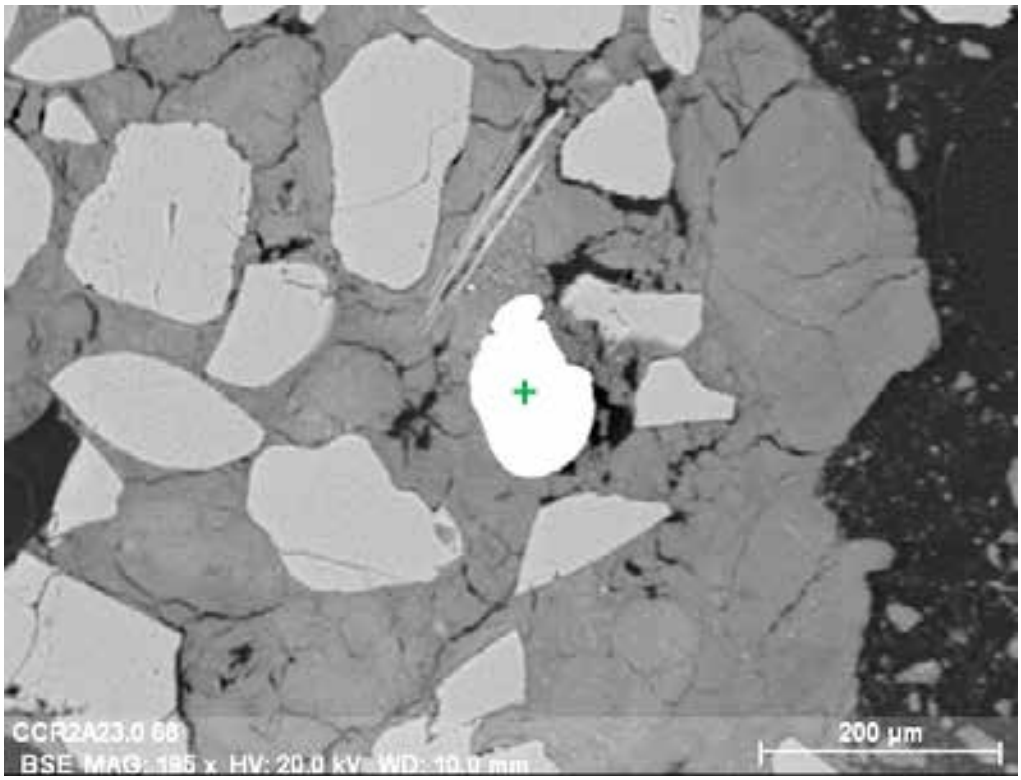
ATTACHMENT 4

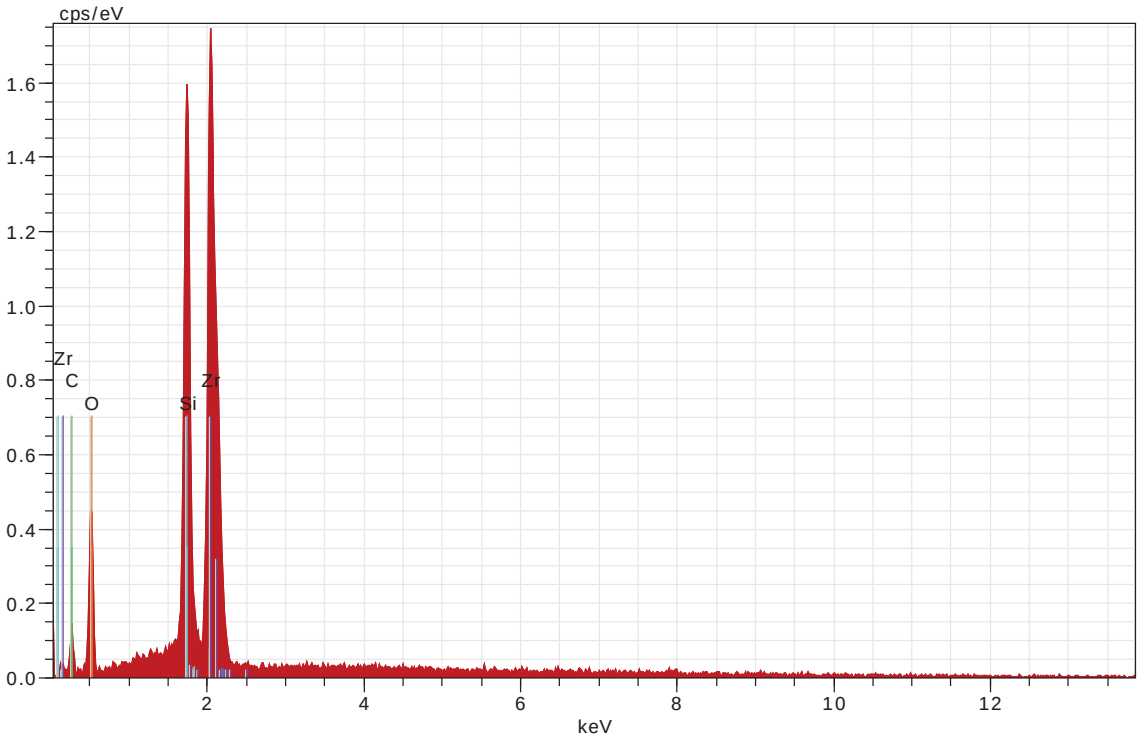
SCANNING ELECTRON MICROSCOPY DATA



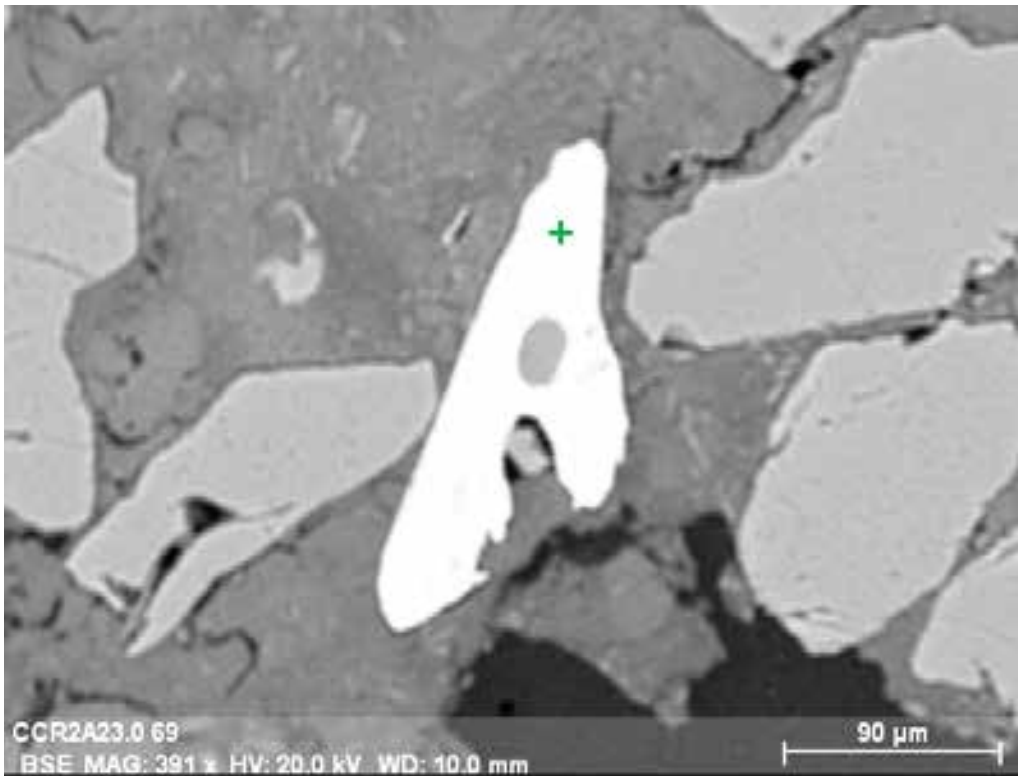


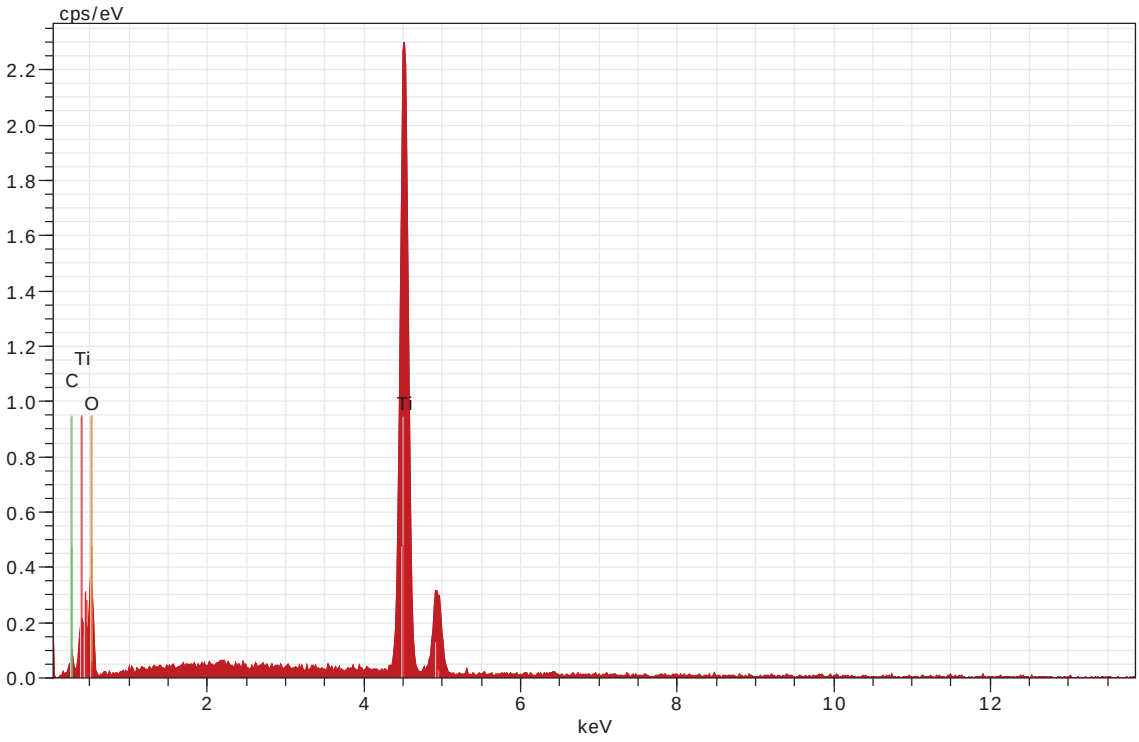
CCR2A 23.0-23.5: BSE image (top) and EDS spectrum (bottom) for muscovite; green crosshair on BSE image marks analysis location.



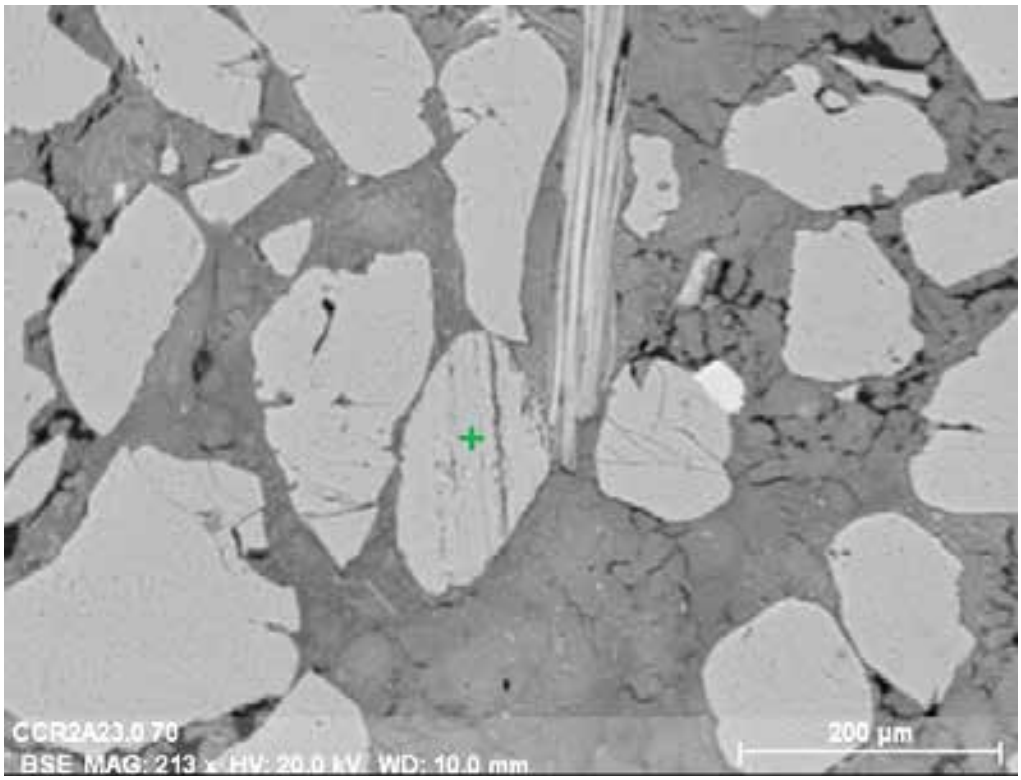


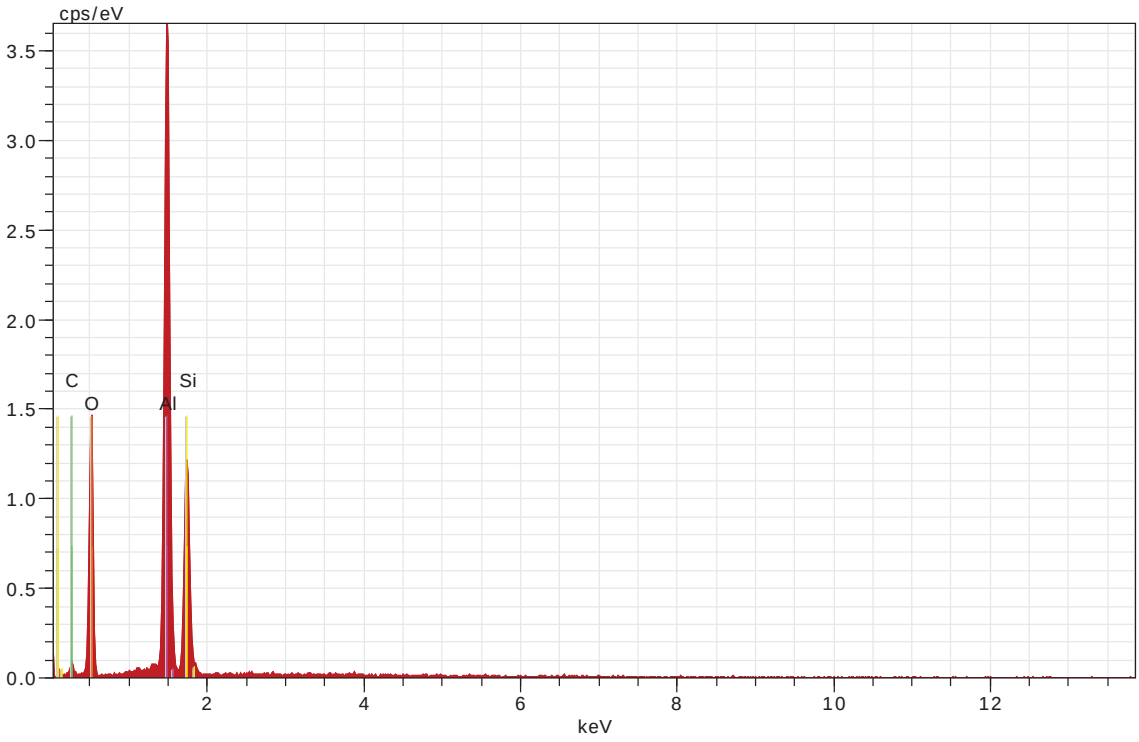
CCR2A 23.0-23.5: BSE image (top) and EDS spectrum (bottom) for zircon; green crosshair on BSE image marks analysis location.



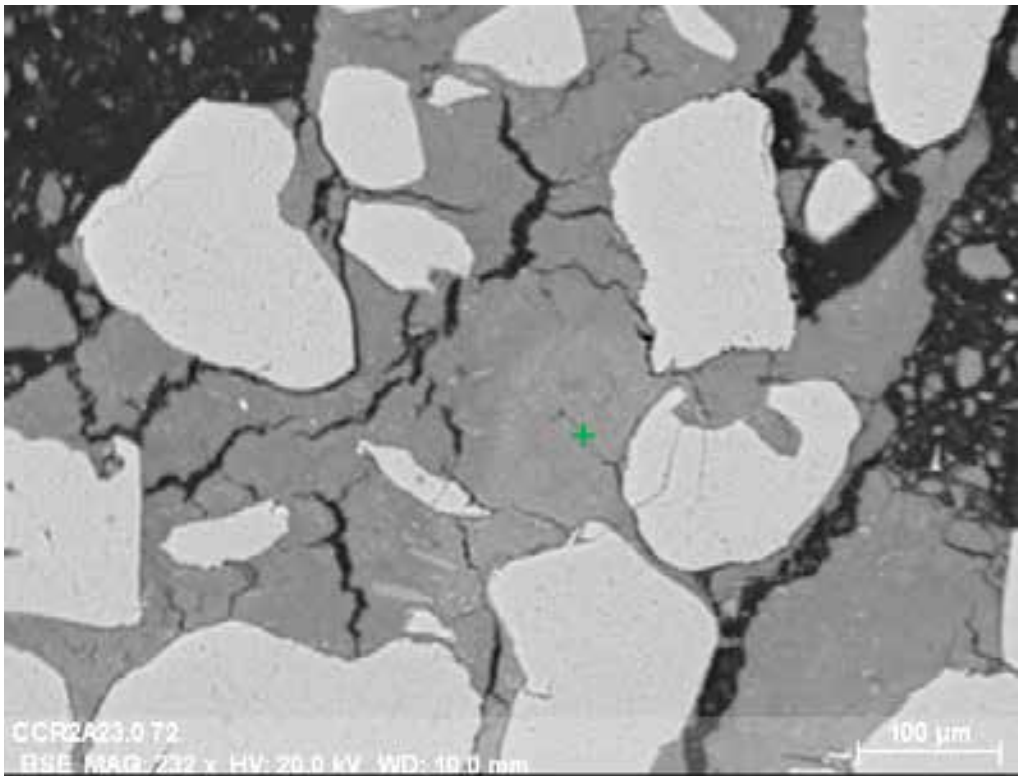


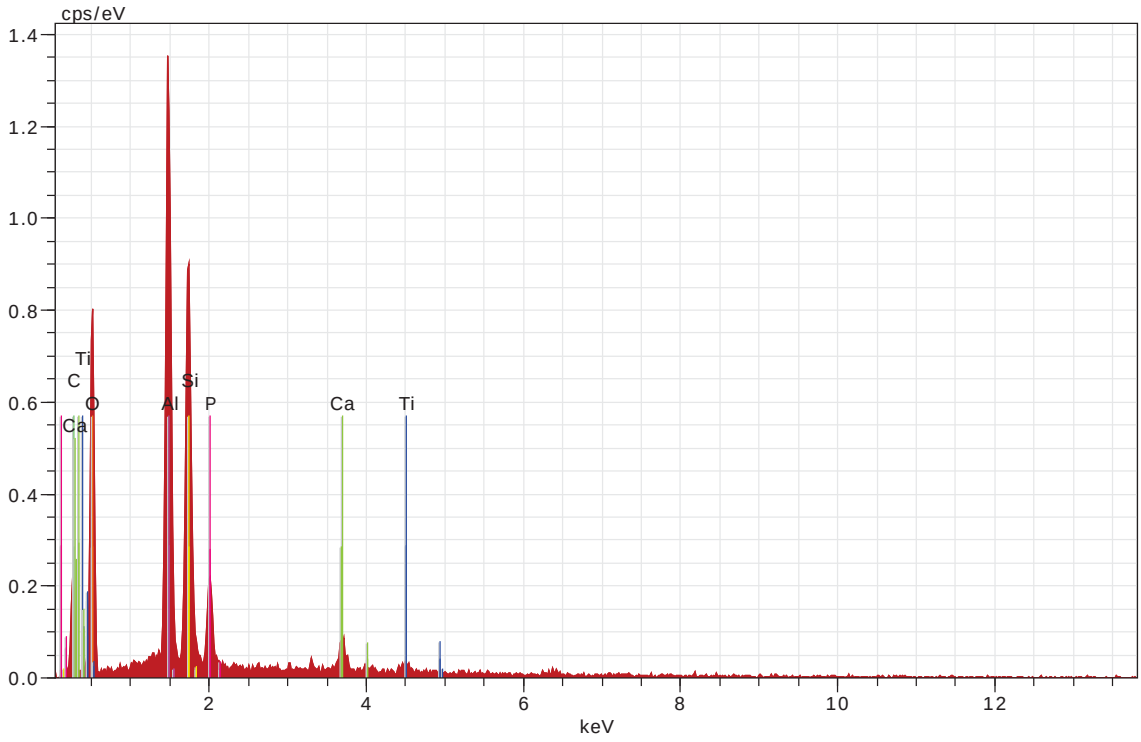
CCR2A 23.0-23.5: BSE image (top) and EDS spectrum (bottom) for rutile; green crosshair on BSE image marks analysis location.



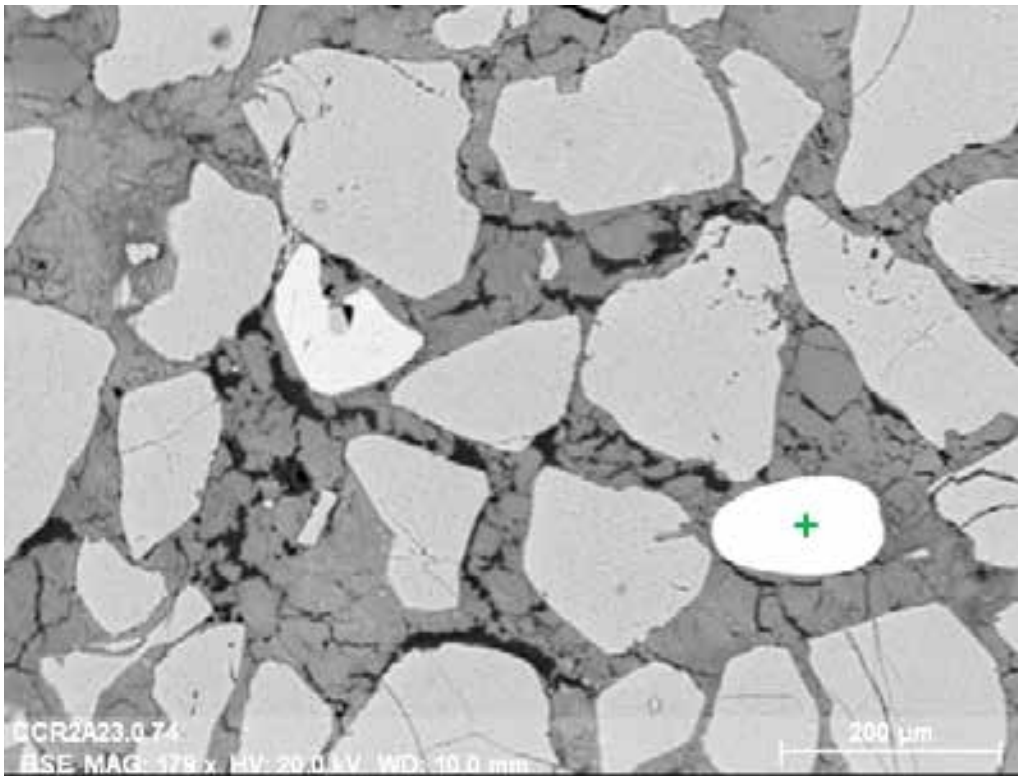


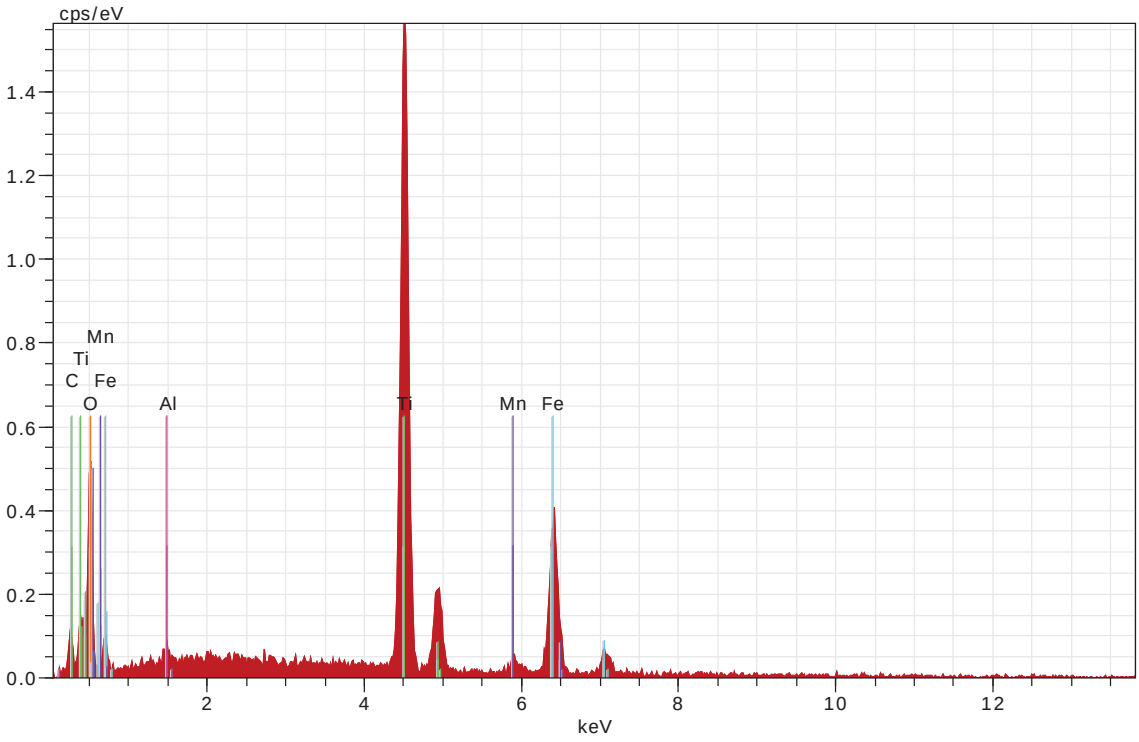
CCR2A 23.0-23.5: BSE image (top) and EDS spectrum (bottom) for kyanite; green crosshair on BSE image marks analysis location.



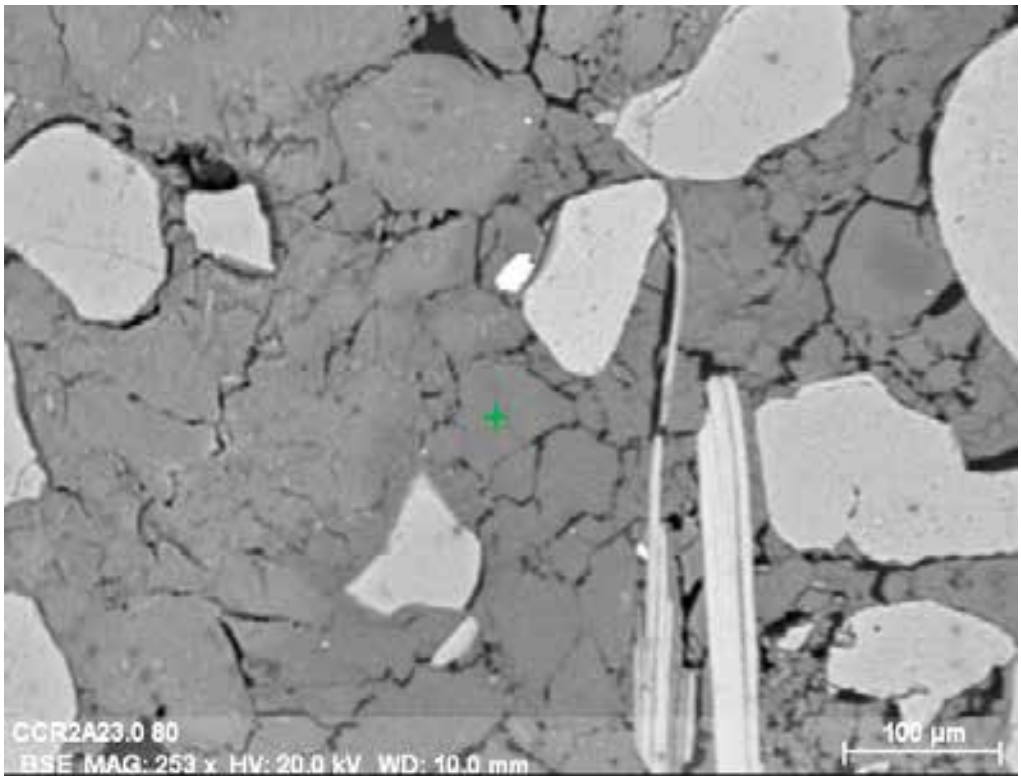


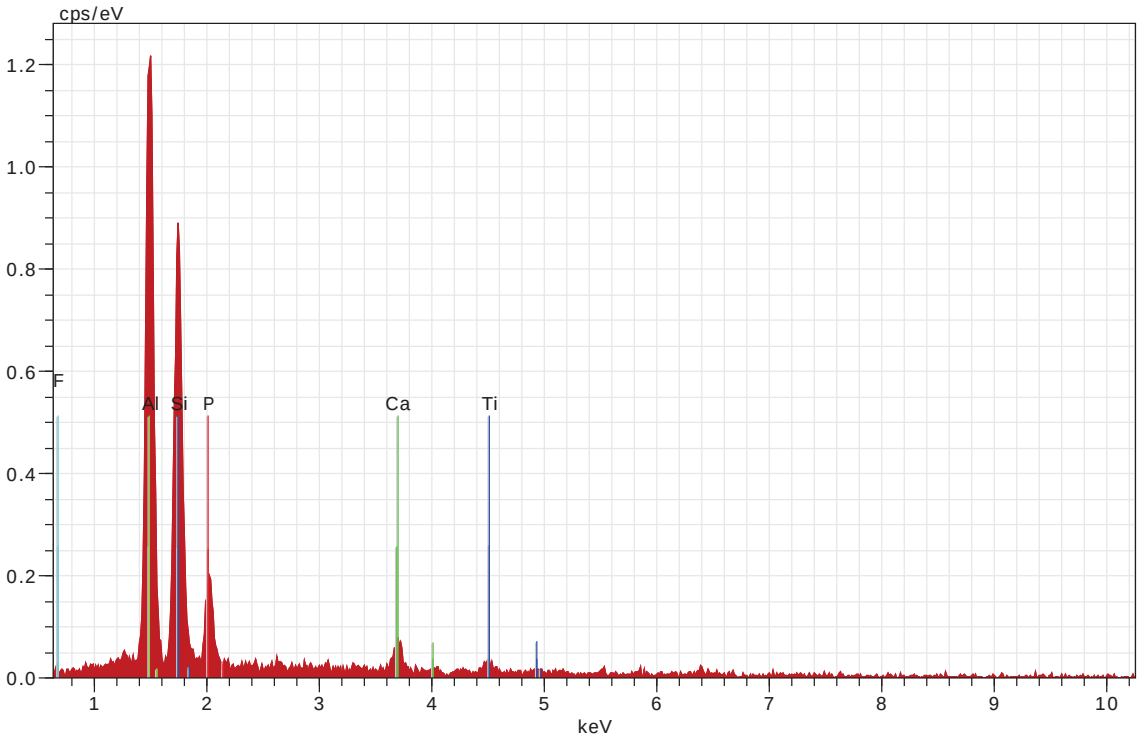
CCR2A 23.0-23.5: BSE image (top) and EDS spectrum (bottom) for wavellite and clay matrix; green crosshair on BSE image marks analysis location.



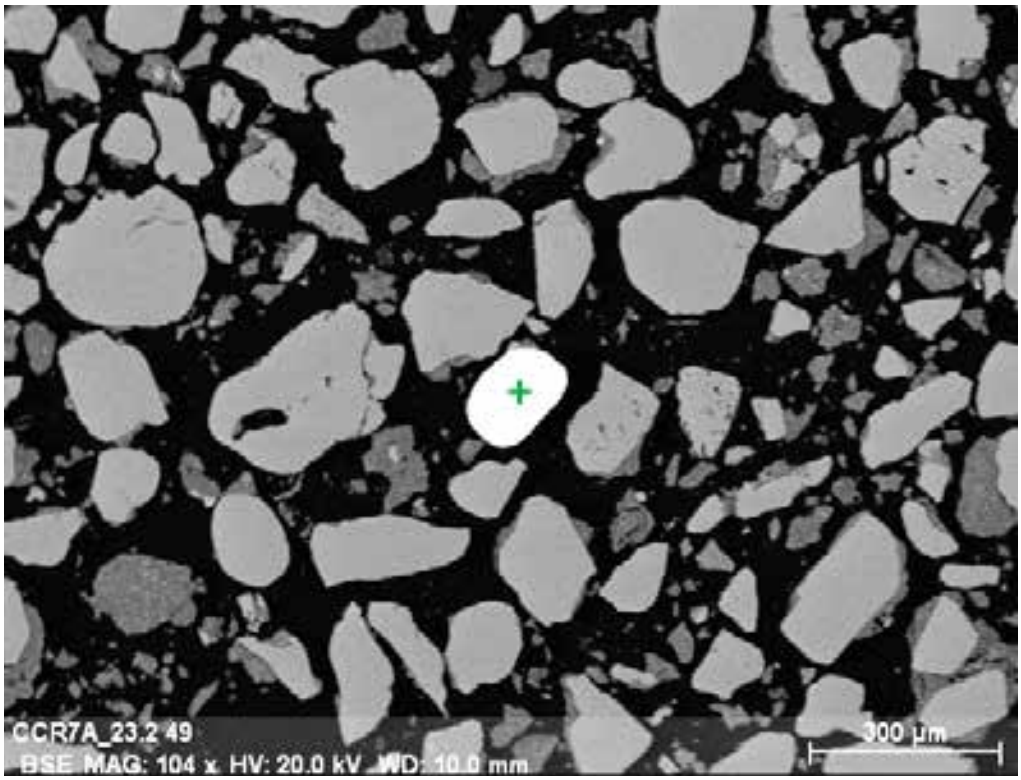


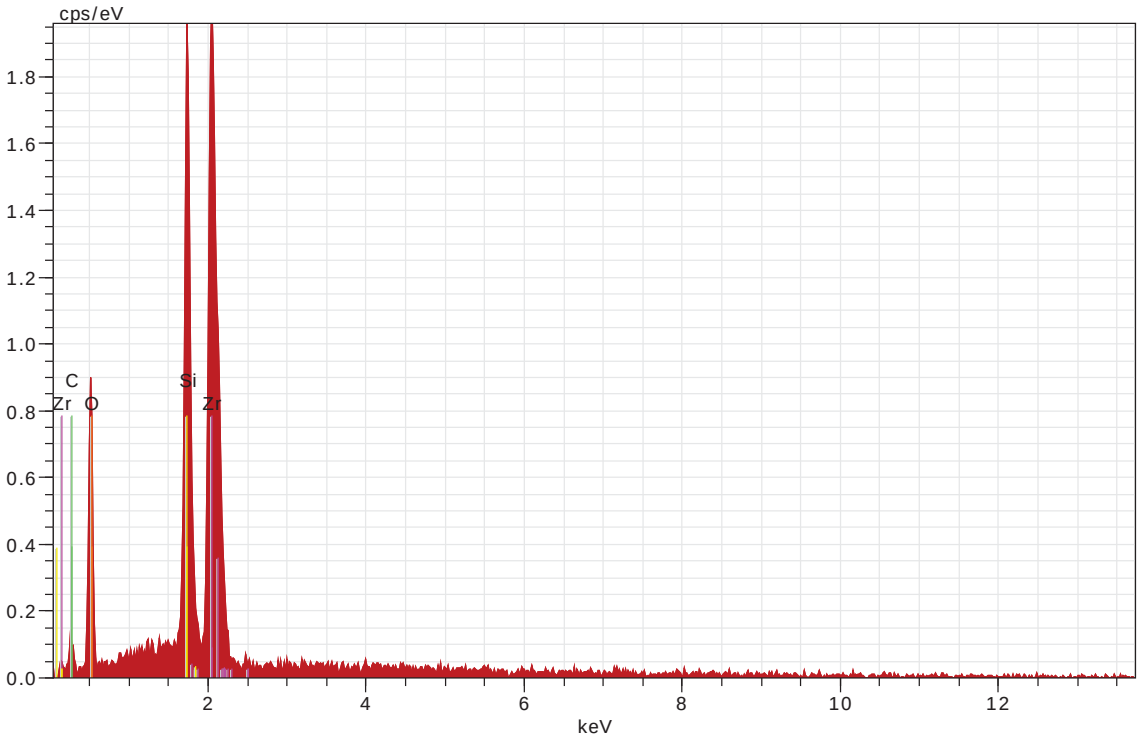
CCR2A 23.0-23.5: BSE image (top) and EDS spectrum (bottom) for ilmenite; green crosshair on BSE image marks analysis location.



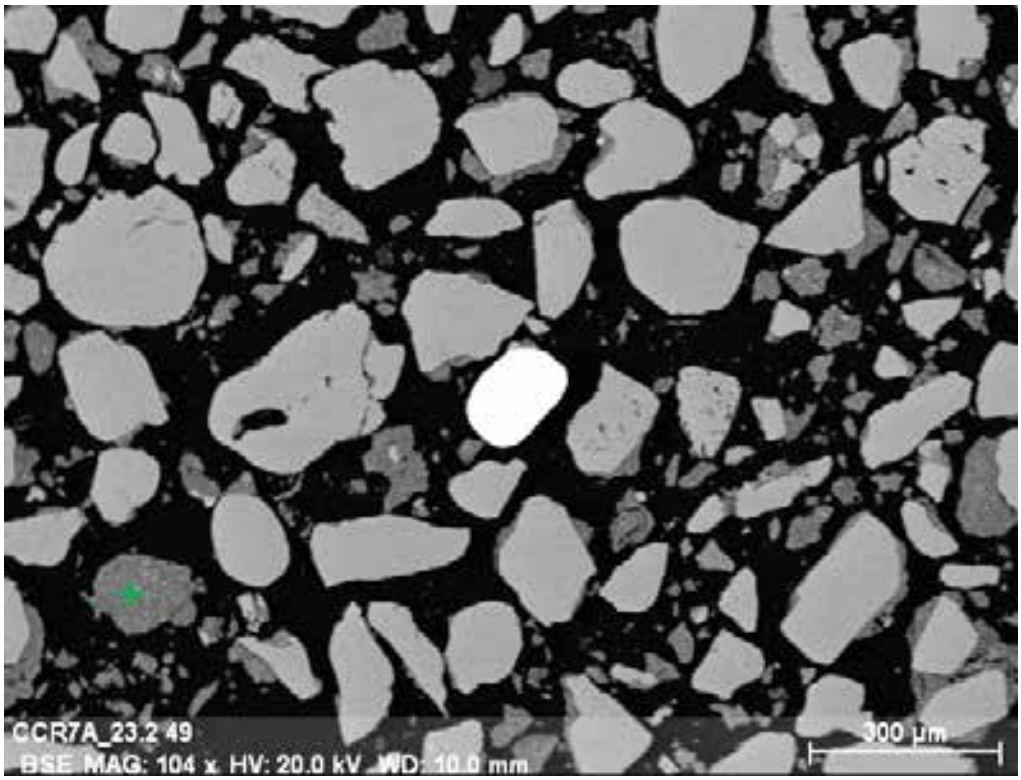


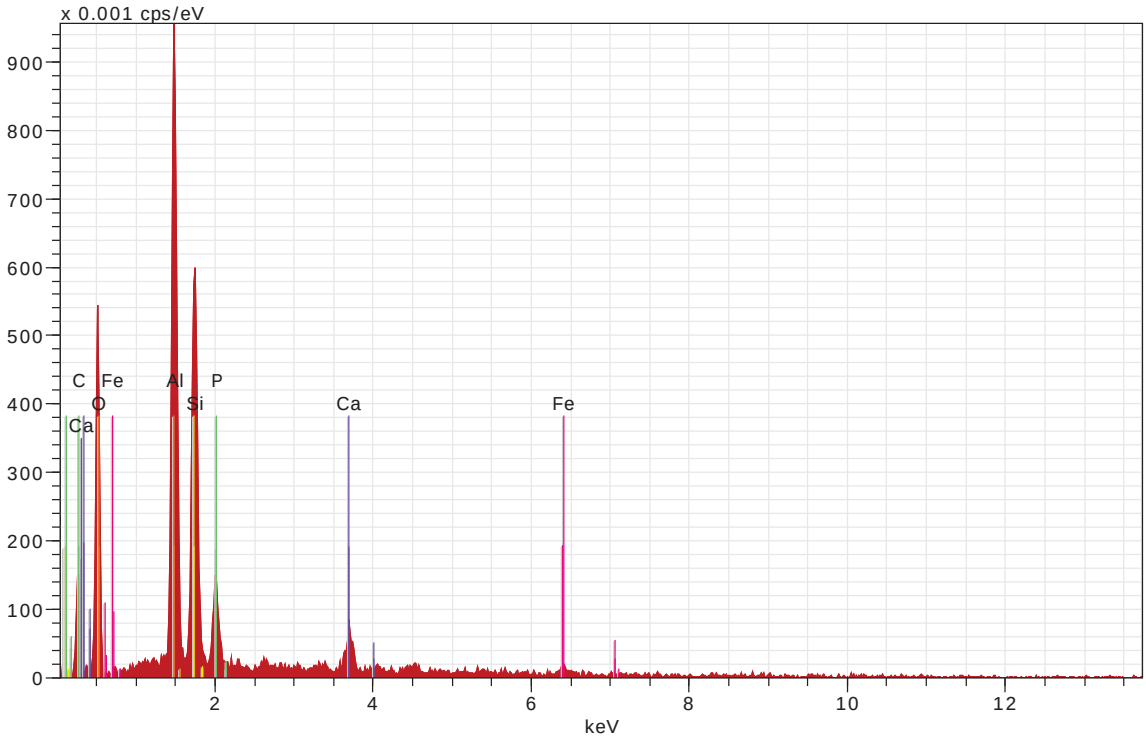
CCR2A 23.0-23.5: BSE image (top) and EDS spectrum (bottom) for wavellite and clay matrix; green crosshair on BSE image marks analysis location.



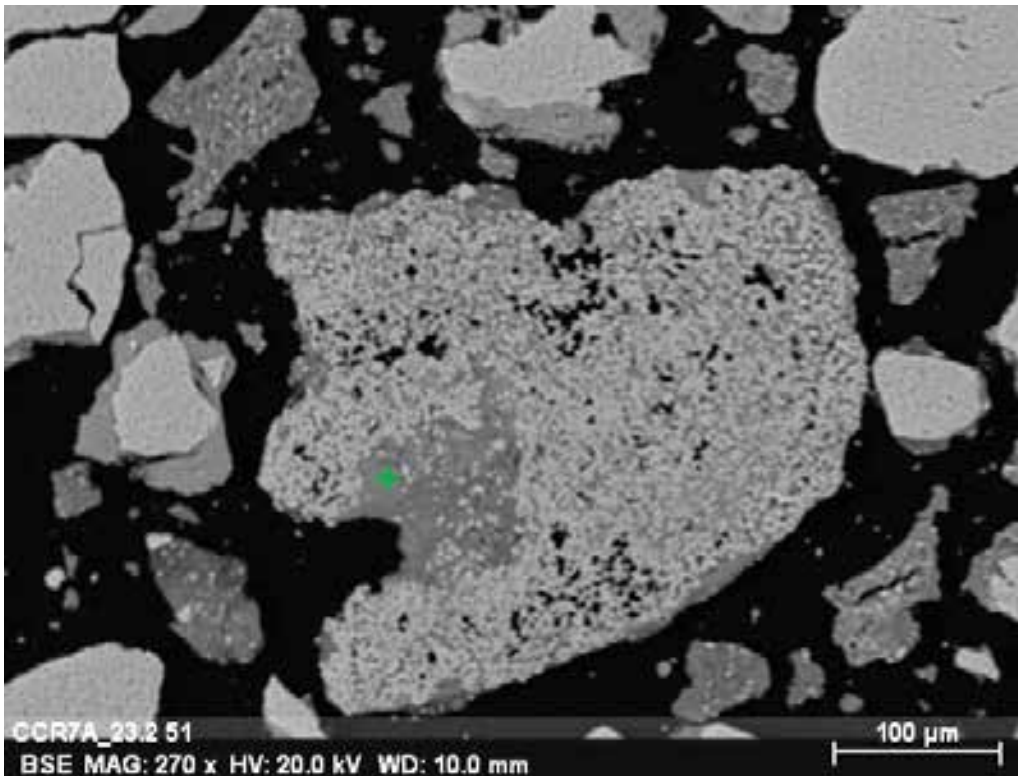


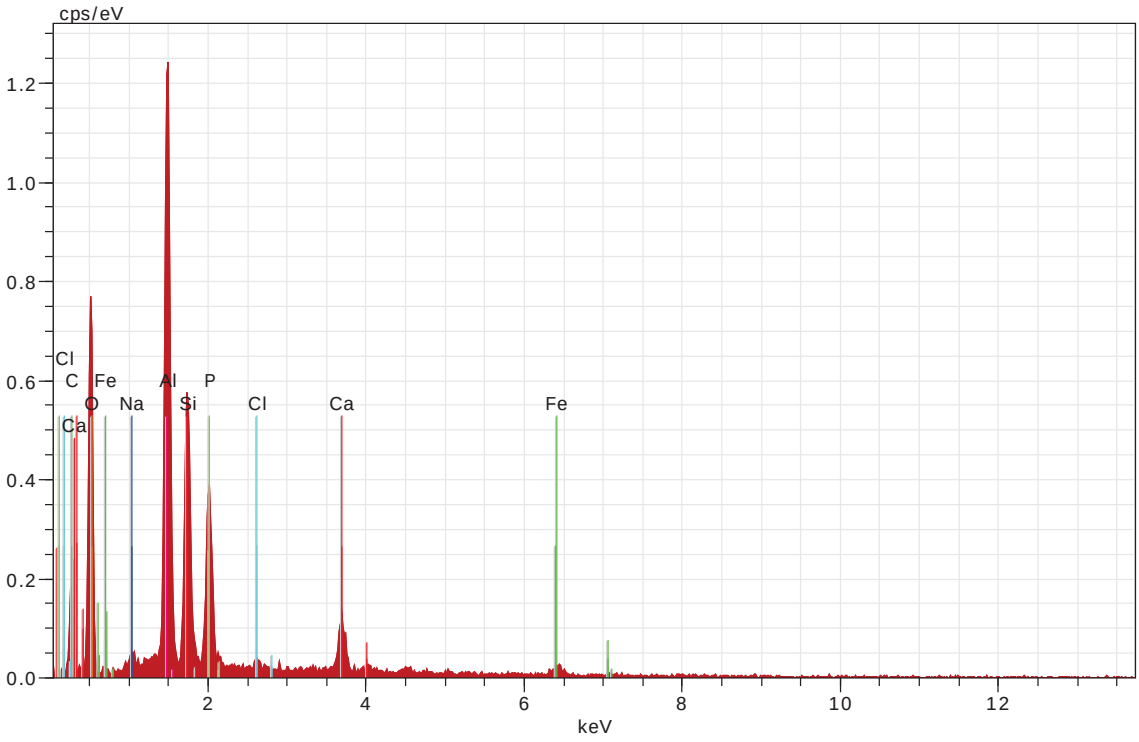
CCR7A 23.2-23.5: BSE image (top) and EDS spectrum (bottom) for zircon; green crosshair on BSE image marks analysis location.



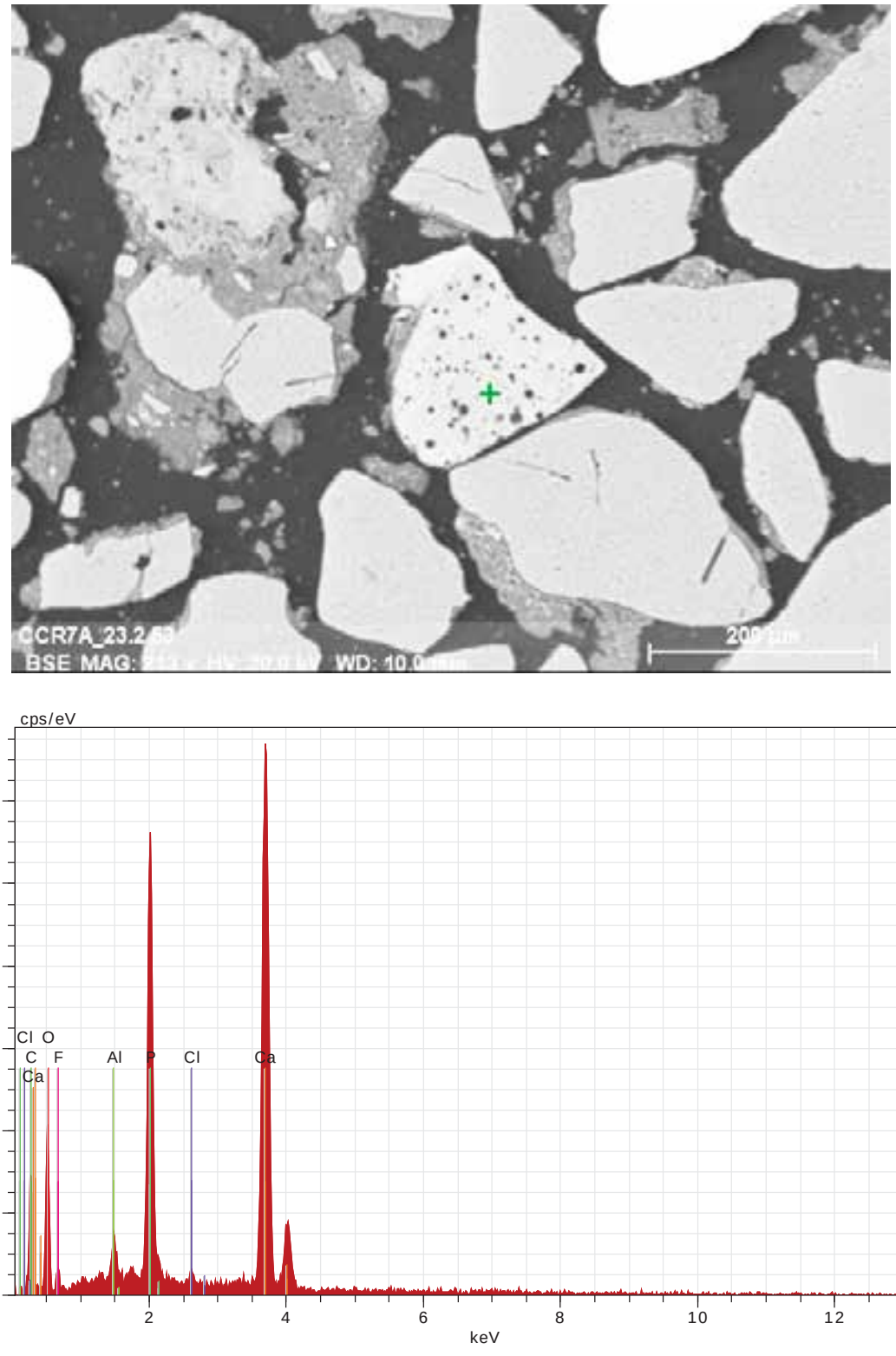


CCR7A 23.2-23.5: BSE image (top) and EDS spectrum (bottom) for Ca- and Al-phosphate matrix; green crosshair on BSE image marks analysis location.

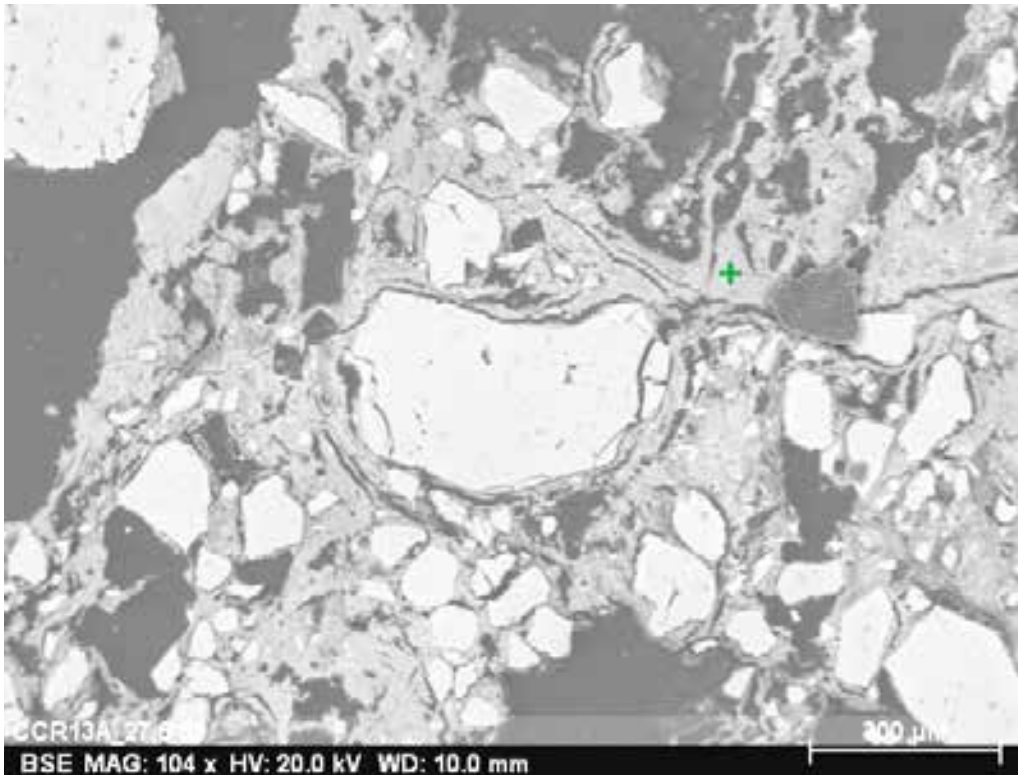


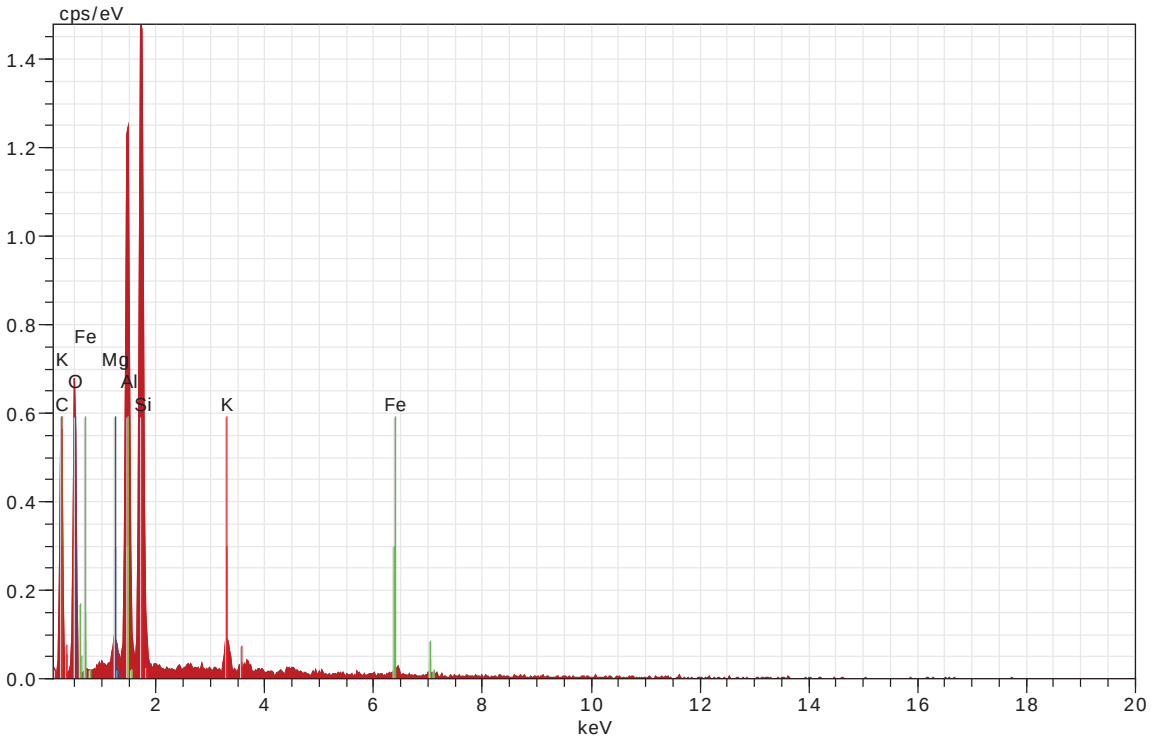


CCR7A 23.2-23.5: BSE image (top) and EDS spectrum (bottom) for wavellite and apatite matrix; green crosshair on BSE image marks analysis location.

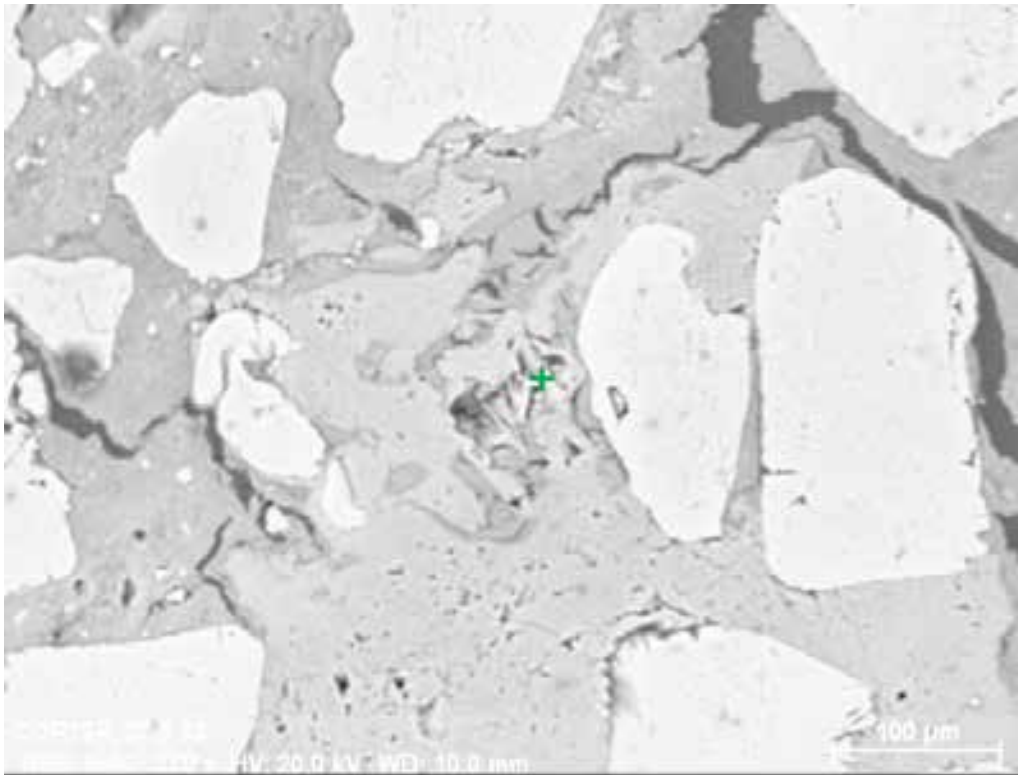


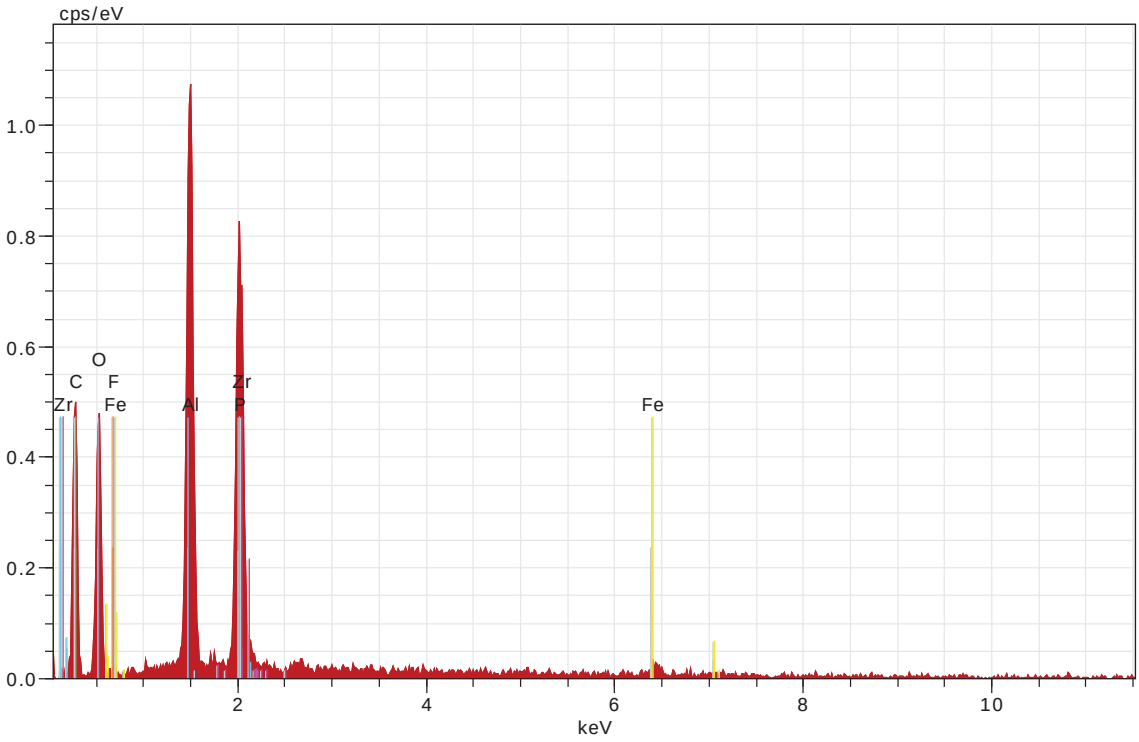
CCR7A 23.2-23.5: BSE image (top) and EDS spectrum (bottom) for apatite matrix; green crosshair on BSE image marks analysis location.



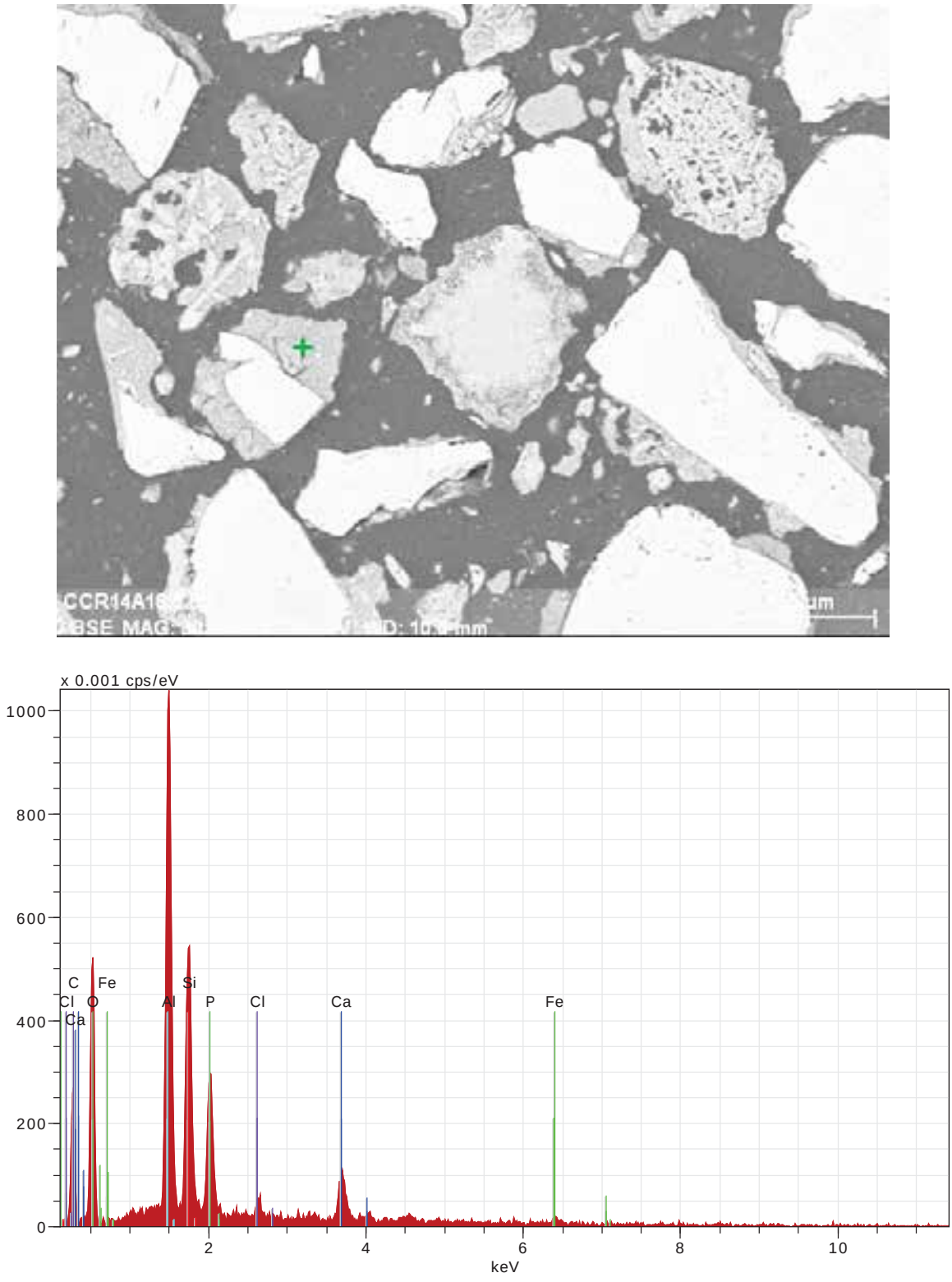


CCR13A 27.8-28.2: BSE image (top) and EDS spectrum (bottom) for kaolinite and muscovite matrix; green crosshair on BSE image marks analysis location.

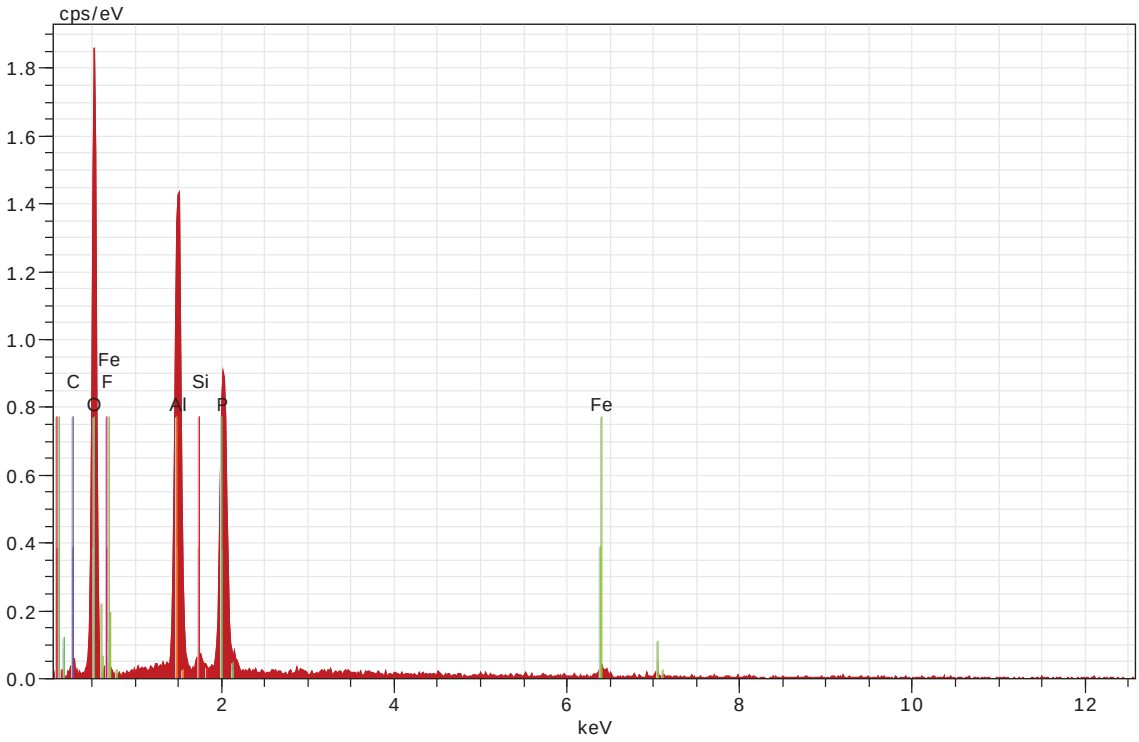




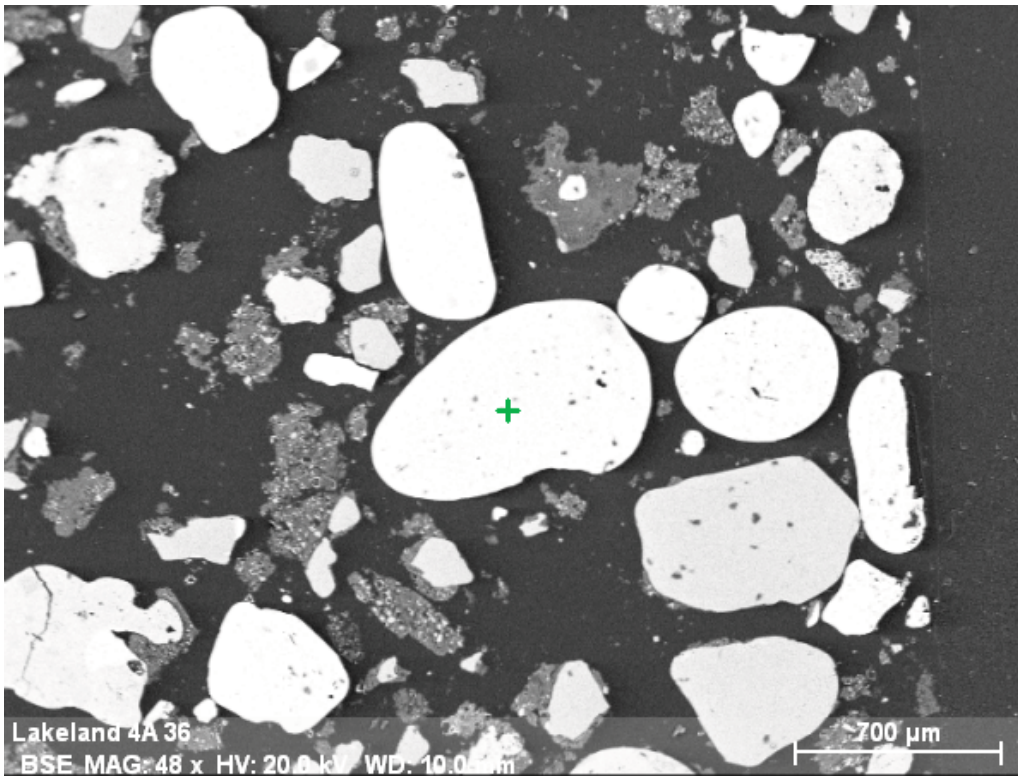
CCR13A 27.8-28.2: BSE image (top) and EDS spectrum (bottom) for wavellite; green crosshair on BSE image marks analysis location.

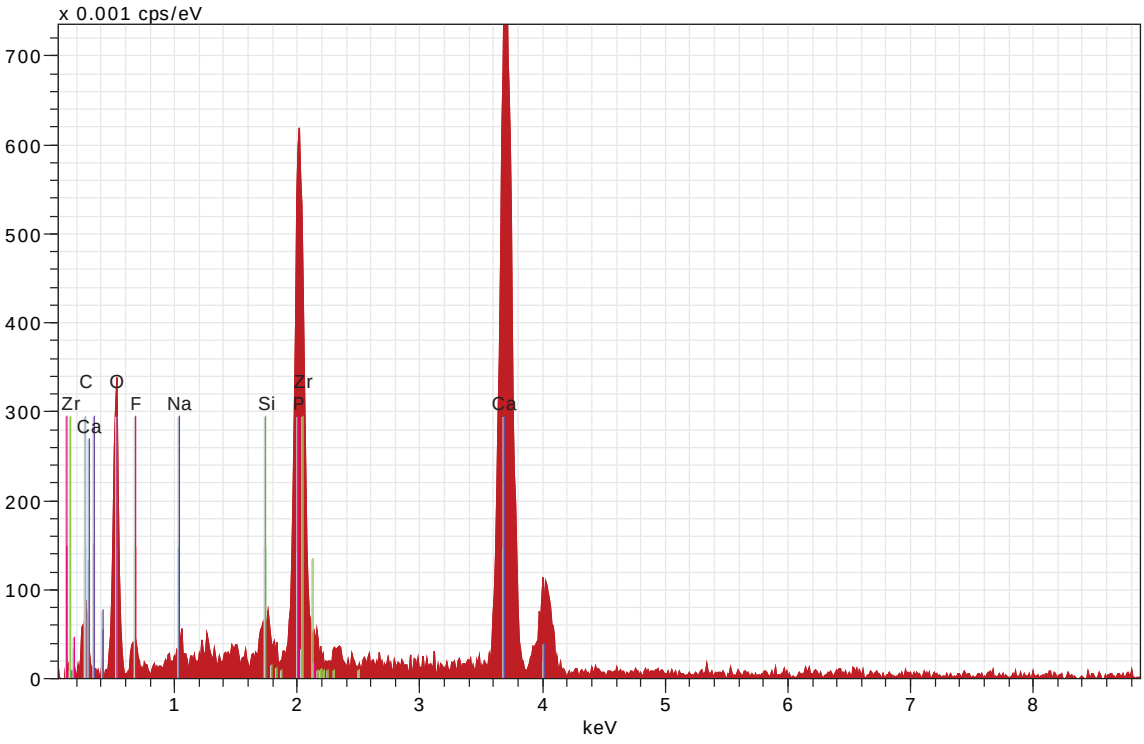


CCR14A 16.5-18.0: BSE image (top) and EDS spectrum (bottom) for apatite and wavellite matrix; green crosshair on BSE image marks analysis location.

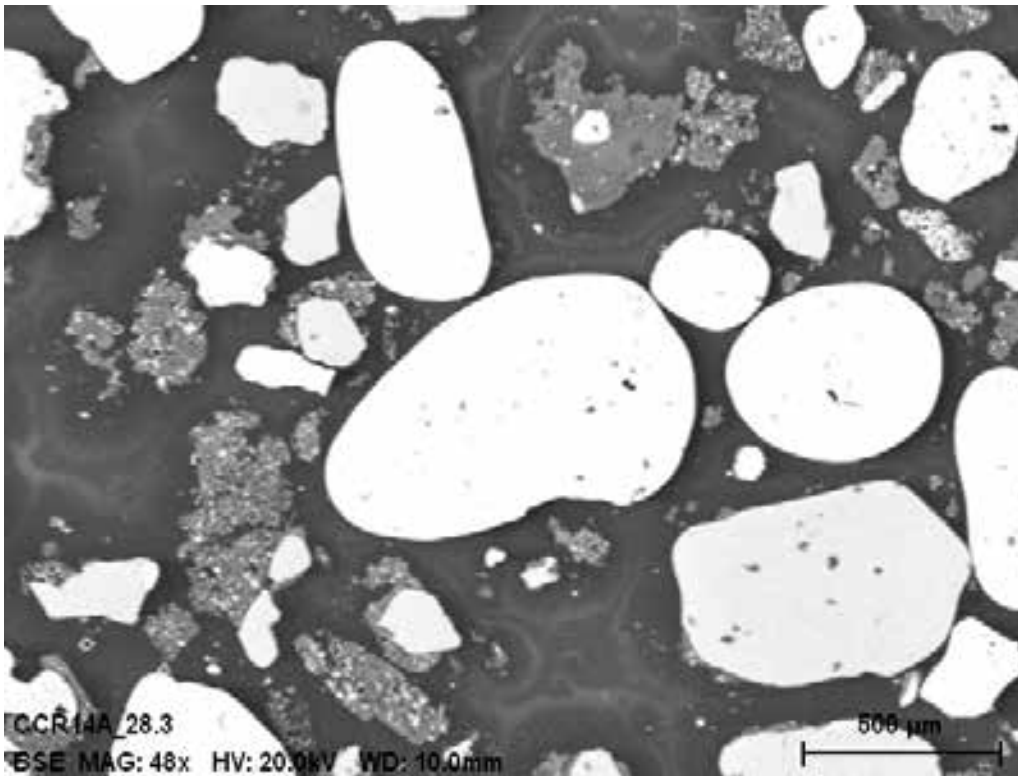


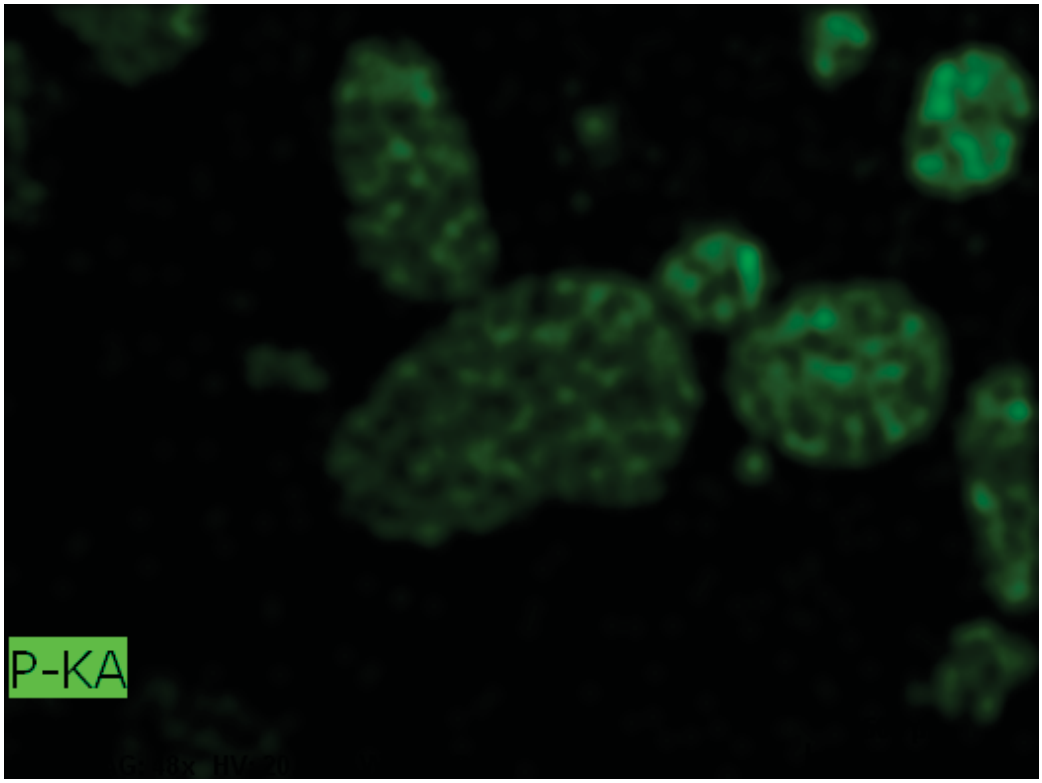
CCR14A 16.5-18.0: BSE image (top) and EDS spectrum (bottom) for wavellite; green crosshair on BSE image marks analysis location.



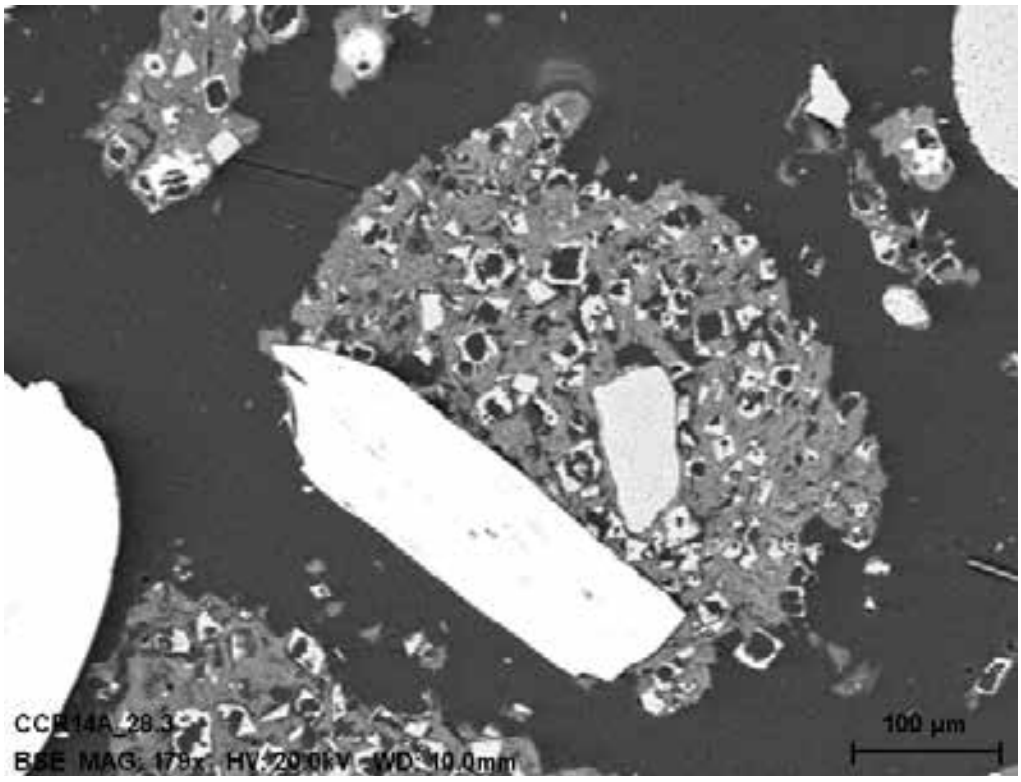


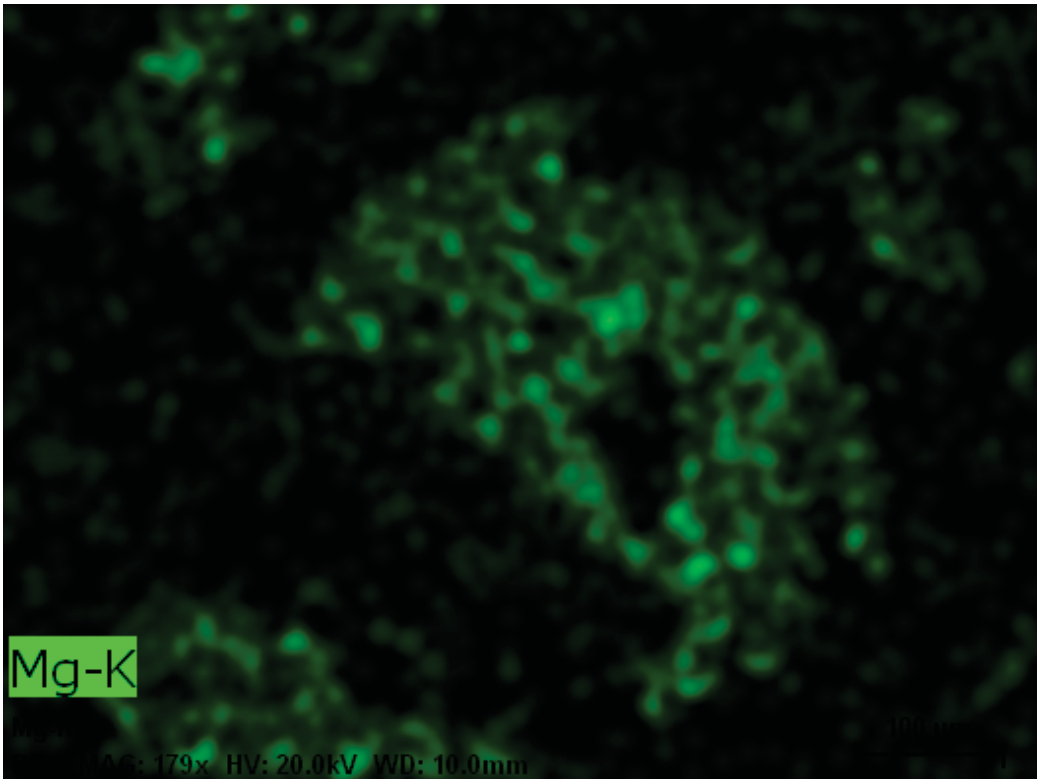
CCR14A 28.3-28.6: BSE image (top) and EDS spectrum (bottom) for collophane (apatite) "ball" with quartz inclusions (light gray); green crosshair on BSE image marks analysis location.





CCR7A 23.2-23.5: BSE image (top) and phosphorous map (bottom) of collophane apatite with quartz inclusions.





CCR7A 23.2-23.5: BSE image (top) of dolomite (high relief rhombohedral grains) in a clay matrix and magnesium map (bottom) of dolomite.

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