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2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

BYPRODUCT STORAGE AREA, C.D. MCINTOSH POWER PLANT

Prepared for

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Project FR3715

January 27, 2021

Geosyntec consultants

2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

Byproduct Storage Area, C.D. Mcintosh Power Plants

This 2020 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 §257.90(e)

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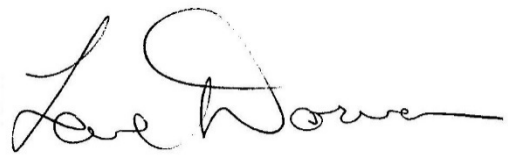

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Project Number: FR3715

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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 Part 257, Subpart D) ("CCR Rule"), this *2020 Annual Groundwater Monitoring and Corrective Action Report* documents CCR groundwater monitoring activities completed in 2020 at the Lakeland Electric ("LE") C.D. McIntosh Power Plant ("MPP") Byproduct Storage Area ("BSA").

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

- background wells: CCR-1 and CCR-2;
- downgradient wells: CCR-3, CCR-4, CCR-5, CCR-6, CCR-7, CCR-8, CCR-9, CCR-11, CCR-12, and CCR-13.

Statistical evaluation of CCR 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 2020. Semi-annual assessment monitoring was conducted in January and July 2020 and included CCR Rule Appendix III and Appendix IV constituents.

Appendix IV analytical data from the January and July 2020 sampling events were evaluated in accordance with the *Statistical Analysis Plan* (Golder, 2017b). The analyses indicated statistically significant levels ("SSLs") of the following CCR Rule Appendix IV constituents above applicable groundwater protection standards ("GWPS"):

SSL Constituent	Semi-annual assessment monitoring event	
	January 2020	July 2020
Arsenic	CCR-11 CCR-12	CCR-11 CCR-12
Lithium	CCR-5 CCR-6 CCR-9 CCR-13	CCR-5 CCR-6 CCR-9 CCR-13

In accordance with the CCR Rule, LE previously conducted an alternate source demonstration ("ASD") which documents that the total radium SSLs are not associated

with a release from the BSA. As a result of the ASD, statistical evaluation of the total radium data was not performed in 2020.

LE initiated assessment of corrective measures ("ACM") in January 2019 which was completed in June 2019. In 2020, LE continued to evaluate groundwater corrective measures to support remedy selection for groundwater downgradient of the BSA. Corrective measures evaluation and remedy selection are ongoing, and LE has tentatively scheduled a public meeting for early 2021.

LE continued evaluating the nature and extent of arsenic and lithium SSLs in groundwater downgradient of the BSA. Delineation activities completed in 2020 included sampling delineation monitoring wells CCR-16 through CCR-17, CCR-19 through CCR-22, and MW-24S through MW-25S in January 2020 and CCR-15 through CCR-23 and SW-106 in July 2020. Groundwater samples collected from the delineation wells indicated spatially limited locations where the horizontal and vertical extents of arsenic and lithium SSLs have not been delineated. In 2021, the BSA will remain in assessment monitoring.

LE continued to maintain the BSA perimeter ditch which included removal of any accumulated CCR material.

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1. INTRODUCTION

1.1 Overview

On behalf of Lakeland Electric ("LE"), Geosyntec Consultants, Inc. ("Geosyntec") has prepared this *2020 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 Residual ("CCR") groundwater monitoring activities conducted in 2020 in accordance with annual reporting requirements of the CCR Rule, section 257.90(e).

The Site is located at 3030 East Lake Parker Drive in Lakeland, Florida. A Site location map is provided as **Figure 1**. The Site is bordered by undeveloped lakes and marsh land to the north and east and Lake Parker to the south and west. 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). A brief summary is included here. Geologic units present near the MPP consist of (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); and
- 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 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. There is a smaller 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 and receives CCR generated by Unit 3. Pursuant to the CCR Rule, LE installed a CCR 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: CCR-1 and CCR-2;
- downgradient wells: CCR-3, CCR-4, CCR-5, CCR-6, CCR-7, CCR-8, CCR-9, CCR-11, CCR-12, and CCR-13.

As previously reported (Golder, 2019b), in February 2019, LE installed vertical and horizontal delineation wells (CCR-15 through CCR-23) to evaluate the nature and extent of identified statistically significant levels ("SSLs") of CCR Rule Appendix IV constituents. In 2020, LE sampled the vertical and horizontal delineation wells around the BSA, including MW-24S and MW-25S, and property boundary well SW-106. These samples were analyzed for select CCR Rule Appendix IV constituents.

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

2. GROUNDWATER MONITORING AND OTHER ACTIVITIES

Groundwater samples were collected in 2020 from monitoring wells in the CCR groundwater monitoring network and delineation wells (**Figure 2**). A summary of these groundwater sampling events is provided in **Table 2**. Analytical data associated with these events are summarized in **Table 3** and laboratory analytical reports are included in **Appendix A.**

2.1 Monitoring Well Installation and Maintenance

No additional monitoring wells or piezometers were installed at the BSA in 2020. Monitoring well conditions were adequate for their intended purpose in 2020.

2.2 Monitoring Well Abandonment

No monitoring well abandonment activities were completed at the BSA in 2020.

2.3 Semi-Annual Assessment Monitoring Events

Semi-annual assessment monitoring events were conducted in January and July 2020. During the 2020 semi-annual assessment monitoring events, groundwater samples were collected from CCR monitoring wells and analyzed for CCR Rule Appendix III and Appendix IV constituents. In addition, groundwater samples were collected from select delineation wells and analyzed for a subset of the CCR Rule Appendix III and Appendix IV constituents. Groundwater samples were collected from the locations shown on **Figure 2**.

2.4 CCR Maintenance Activities

In addition to completing two semi-annual groundwater assessment monitoring events, LE continued to maintain the BSA perimeter ditch which included removal of any accumulated CCR material.

3. SAMPLE METHODOLOGY & RESULTS

The following section describes the methods used to conduct CCR groundwater monitoring at the BSA, including groundwater level gauging and delineation well sampling. Results for CCR Rule Appendix IV constituents are discussed in Section 4.

3.1 Groundwater Elevation Measurement

During CCR groundwater sampling events, depth to groundwater measurements were recorded from the CCR groundwater monitoring wells and delineation wells. These 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 January and July 2020 are presented on **Figures 3** and **4**, respectively. Groundwater at the BSA generally flows in a semi-radial pattern towards the surrounding lakes that are at a lower elevation. Groundwater flow patterns observed during 2020 assessment monitoring events were generally consistent with observations from 2019.

3.2 Groundwater Sampling

Groundwater samples were collected in general accordance with the CCR Rule. Water quality parameters (pH, conductivity, dissolved oxygen, temperature, and turbidity) were documented during well purging to evaluate stabilization prior to sampling. Following sample collection, samples were placed in ice-packed coolers and submitted for laboratory analysis following chain-of-custody protocol. Field sampling data sheets are provided in **Appendix A**.

3.3 Nature and Extent Sampling

Groundwater samples were collected from relevant nature and extent (N & E) wells during semi-annual assessment monitoring events to assess the nature and extent of lithium and arsenic (i.e., constituents with SSLs).

During the first semi-annual assessment monitoring event in January 2020:

- LE sampled N & E wells CCR-20 and CCR-21 to assess the horizontal extent of arsenic at CCR-11 and CCR-12.
- LE sampled N & E wells CCR-16 and MW-25S, CCR-17 and MW-24S, CCR-19, and CCR-22 to assess the horizontal extent of lithium at CCR-5, CCR-6, CCR-9, and CCR-13, respectively.

During the second semi-annual assessment monitoring event in July 2020:

- LE sampled N & E wells CCR-20 and CCR-21 to assess the horizontal extent of arsenic at CCR-11 and CCR-12, respectively.
- LE sampled N & E wells CCR-16, CCR-17, CCR-19, and CCR-22 to assess the horizontal extent of lithium at CCR-5, CCR-6, CCR-9, and CCR-13, respectively.

In addition, N & E wells CCR-15, CCR-18, and CCR-23 were also sampled during the second semi-annual monitoring event in July 2020.

3.4 Laboratory Analyses

Laboratory analyses for groundwater samples collected during the semi-annual assessment monitoring events included both CCR Rule Appendix III and Appendix IV constituents for CCR monitoring wells CCR-1 through CCR-13. In January 2020, N & E monitoring wells were analyzed for either arsenic or lithium depending on the SSL to be evaluated by the well. In July 2020, N & E wells were sampled for CCR Rule Appendix III and Appendix IV constituents. Applicable analytical methods are provided in laboratory reports in **Appendix A**.

3.5 Quality Assurance & Quality Control Summary

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 from July 2020 in this report were independently validated in accordance with United States Environmental Protection Agency ("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). The data validation report for the July 2020 semi-annual assessment monitoring event is included in **Appendix A**.

4. STATISTICAL ANALYSIS

The following section describes the statistical methods and analyses performed in 2020.

4.1 Statistical Methods

Statistical analysis of CCR Rule Appendix IV constituents was performed on CCR groundwater monitoring data collected during the January and July 2020 semi-annual assessment monitoring events in accordance with the *Statistical Analysis Plan* outlined in Golder, 2017b. The *Statistical Analysis Plan* describes Site-specific statistical methods that were used to evaluate CCR groundwater data.

In accordance with the CCR Rule, Groundwater Protection Standards ("GWPSs") for Appendix IV constituents were established and are presented in **Table 5**.

To evaluate SSLs of CCR Rule Appendix IV constituents, a confidence interval approach was used to determine if downgradient concentrations were at SSLs above the GWPS for the CCR groundwater data collected in January and July 2020. As recommended in the *Statistical Analysis of Groundwater Data at RCRA Facilities, Unified Guidance* (USEPA, 2009), a confidence interval around the mean was employed for normal or normalized data. If the downgradient well data is not normal and cannot be transformed to normal, the non-parametric confidence interval around the median was employed. There is evidence of an SSL if the lower confidence limit (LCL) at 95% confidence level exceeds the GWPS. This assessment monitoring statistical analysis was limited to those wells and parameters that had detected concentrations above the GWPS.

4.2 Appendix IV Constituents Statistical Analysis Results

Analytical data from the January and July 2020 semi-annual assessment monitoring events were analyzed in accordance with the *Statistical Analysis Plan*. CCR Rule Appendix IV constituent data collected from January and July 2020 were evaluated to assess if groundwater concentrations statistically exceeded the established GWPS (Golder, 2019b and **Appendix B**, respectively).

Based on the statistical analysis of CCR Rule Appendix IV constituents, the following SSLs were identified:

SSL Constituent	Semi-annual assessment monitoring event	
	January 2020	July 2020
Arsenic	CCR-11 CCR-12	CCR-11 CCR-12
Lithium	CCR-5 CCR-6 CCR-9 CCR-13	CCR-5 CCR-6 CCR-9 CCR-13

5. ALTERNATE SOURCE DEMONSTRATION

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

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;

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); and

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 will no longer analyze radium-226 & 228.

6. CONCLUSIONS AND FUTURE ACTIONS

In accordance with the CCR Rule, LE continued assessment monitoring in 2020. Statistical analysis identified SSLs of arsenic and lithium downgradient of the BSA. An ASD was prepared in 2019 for the total radium SSLs, which documents that a source other than the BSA caused the total radium SSLs. Monitoring data collected in 2020 indicated that lithium and arsenic SSLs were not delineated in groundwater downgradient of the BSA; however, surface water quality data from the surrounding lakes (Fish, B, C, and D) indicated that these constituents did not exceed their GWPS or State of Florida surface water cleanup standards.

LE initiated assessment of corrective measures ("ACM") in January 2019 which was completed in June 2019. In 2020, LE continued to evaluate groundwater corrective measures to support remedy selection for groundwater downgradient of the BSA. Corrective measures evaluation and remedy selection is ongoing and a public meeting is tentatively planned for 2021 to discuss the ACM with public stakeholders.

Assessment monitoring will continue in 2021. Corrective measures evaluation and remedy selection is ongoing.

7. REFERENCES

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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	141.30	122.6	113.1	Background
CCR-2	6/23/2016	1362203.9	681787.6	137.6	140.57	121.9	112.4	Background
CCR-3	6/23/2016	1362334.6	682451.3	137.5	137.04	121.6	112.2	Monitoring
CCR-4	6/24/2016	1362450.0	683042.7	140.3	143.13	124.7	115.2	Monitoring
CCR-5	6/22/2016	1362716.0	683376.9	138.6	141.07	122.4	112.9	Monitoring
CCR-6	6/22/2016	1363168.4	683578.6	138.5	141.34	122.8	113.3	Monitoring
CCR-7	6/22/2016	1363631.9	683772.2	139.1	142.10	123.4	113.9	Monitoring
CCR-8	6/22/2016	1363917.6	683411.6	139.4	142.12	123.5	114.0	Monitoring
CCR-9	6/21/2016	1364085.2	683045.3	138.6	141.67	123.1	113.6	Monitoring
CCR-10R	3/13/2018	1364262.1	682706.3	133.8	133.56	119.2	109.7	Monitoring
CCR-11	6/20/2016	1363835.5	682577.2	134.3	137.12	118.7	109.2	Monitoring
CCR-12	6/20/2016	1363353.1	682430.5	134.1	136.99	118.4	108.9	Monitoring
CCR-13	6/21/2016	1362936.6	682164.1	135.0	137.95	119.4	109.9	Monitoring
CCR-14	6/21/2016	1362771.1	681761.2	135.8	138.70	120.4	110.9	Monitoring
Groundwater Monitoring Locations for Nature and Extent								
CCR-15	2/18/2019	1362341.3	683123.5	141.8	144.65	126.4	116.8	Delineation
CCR-16	2/18/2019	1362533.2	683385.6	141.2	144.10	125.9	116.3	Delineation
CCR-17	2/19/2019	1363019.9	683712.7	142.9	145.80	127.5	117.9	Delineation
CCR-18	2/18/2019	1363631.1	683869.7	138.2	140.81	122.6	113.0	Delineation
CCR-19	2/15/2019	1364205.4	683064.5	133.8	136.47	118.3	108.7	Delineation
CCR-20	2/14/2019	1363855.5	682474.9	133.1	136.05	118.2	108.6	Delineation
CCR-21	2/13/2019	1363454.0	682331.4	134.5	137.12	118.9	109.3	Delineation
CCR-22	2/13/2019	1363017.4	682078.7	134.0	137.51	119.2	109.6	Delineation
CCR-23	2/12/2019	1362812.1	681744.7	136.2	135.78	121.1	111.5	Delineation
SW-106	--	--	--	--	--	--	--	Delineation
MW-24S	--	--	--	--	--	--	--	Delineation
MW-25S	--	--	--	--	--	--	--	Delineation

Notes:

1. Northing and easting are in feet relative to the State Plane Florida North Datum of 1983.
2. Elevations are in feet relative to the North American Vertical Datum of 1988.

TABLE 2: SUMMARY OF 2020 GROUNDWATER SAMPLING EVENTS
Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Monitoring Location	2020 Semi-Annual Assessment Monitoring Event 1	2020 Semi-Annual Assessment Monitoring Event 2
CCR Groundwater Monitoring Network		
CCR-1	1/13/2020	7/14/2020
CCR-2	1/13/2020	7/14/2020
CCR-3	1/13/2020	7/14/2020
CCR-4	1/13/2020	7/14/2020
CCR-5	1/13/2020	7/14/2020
CCR-6	1/13/2020	7/14/2020
CCR-7	1/13/2020	7/14/2020
CCR-8	1/13/2020	7/14/2020
CCR-9	1/14/2020	7/15/2020
CCR-10R	1/14/2020	NS
CCR-11	1/14/2020	7/15/2020
CCR-12	1/14/2020	7/15/2020
CCR-13	1/14/2020	7/15/2020
CCR-14	1/14/2020	NS
Groundwater Monitoring Locations for Nature and Extent		
CCR-15	NS	7/16/2020
CCR-16	1/15/2020	7/16/2020
CCR-17	1/15/2020	7/16/2020
CCR-18	NS	7/16/2020
CCR-19	1/15/2020	7/17/2020
CCR-20	1/15/2020	7/17/2020
CCR-21	1/14/2020	7/17/2020
CCR-22	1/15/2020	7/17/2020
CCR-23	NS	7/17/2020
SW-106	NS	7/17/2020
MW-24S	1/7/2020	NS
MW-25S	1/7/2020	NS

Notes:

1. "NS" indicates not sampled

TABLE 3: SUMMARY OF 2020 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)
Semi-Annual Assessment Monitoring Event 1																							
CCR-1	Background	1/13/2020	0.00491 U	0.00289 U	0.0248	0.00200 U	0.0445	0.00351 U	30.2	3.43	0.0037 U	0.000382 U	9.4	0.0168 J3, U	0.0139 U	0.00333 U	0.000152 U	0.00313 U	4.81	0.00309 U	63.1	135	0.000925 U
CCR-2	Background	1/13/2020	0.00491 U	0.00289 U	0.0263	0.00200 U	0.0508	0.00351 U	78.8	12.9	0.0037 U	0.000382 U	4.5	0.11	0.0139 U	0.00333 U	0.000152 U	0.00313 U	4.84	0.00309 U	180	357	0.000925 U
CCR-3	Monitoring	1/13/2020	0.00491 U	0.00289 U	0.0235	NA	1.02	0.00351 U	545	23.7	0.0037 U	0.000382 U	5.3	0.13	0.0139 U	0.015	0.000152 U	0.00313 U	5.35	0.00309 U	1140	1920	0.000925 U
CCR-4	Monitoring	1/13/2020	0.00491 U	0.00289 U	0.149	NA	0.454	0.00751 I	973	2560	0.0037 U	0.000382 U	43	0.145	0.0139 U	0.0674	0.000152 U	0.00313 U	3.78	0.00309 U	518	5100	0.000925 U
CCR-5	Monitoring	1/13/2020	0.00491 U	0.00289 U	0.0782	NA	0.56	0.00351 U	1960	5540	0.0037 U	0.000382 U	24.2	0.084 U	0.0139 U	3.23	0.000152 U	0.00313 U	4.95	0.00309 U	437	10300	0.000925 U
CCR-6	Monitoring	1/13/2020	0.00491 U	0.00289 U	0.021	NA	0.507	0.00351 U	565	742	0.0037 U	0.000382 U	5.5	0.152	0.0139 U	0.452	0.000152 U	0.0102	5.93	0.00309 U	770	2560	0.000925 U
CCR-7	Monitoring	1/13/2020	0.00491 U	0.00289 U	0.0217	NA	1.26	0.00351 U	258	241	0.0037 U	0.000382 U	6.4	0.282	0.0139 U	0.0764	0.000152 U	0.00313 U	4.66	0.00309 U	621	1410	0.000925 U
CCR-8	Monitoring	1/13/2020	0.00491 U	0.00289 U	0.0244	NA	0.0951	0.00351 U	89.9	6.35	0.0037 U	0.000382 U	4.95	0.276	0.0139 U	0.00333 U	0.000152 U	0.0171	6.5	0.00309 U	119	244	0.000925 U
CCR-9	Monitoring	1/14/2020	0.00491 U	0.0092	0.0647	NA	0.43	0.00351 U	727	1250	0.0037 U	0.000382 U	1.2	0.095	0.0139 U	0.105	0.000152 U	0.00313 U	4.92	0.00309 U	999	3720	0.000925 U
CCR-10R	Monitoring	1/14/2020	0.00491 U	0.00289 U	0.0192 I	NA	0.277	0.00351 U	154	30.7	0.0037 U	0.000382 U	3.9	0.205	0.0139 U	0.00333 U	0.000152 U	0.00313 U	5.12	0.00309 U	463	775	0.000925 U
CCR-11	Monitoring	1/14/2020	0.00491 U	0.0644	0.0444	NA	0.412	0.00351 U	586	677	0.0037 U	0.000382 U	0.75	0.512	0.0139 U	0.0284	0.000152 U	0.00313 U	4.07	0.00309 U	1580	3570	0.000925 U
CCR-12	Monitoring	1/14/2020	0.00491 U	0.0727	0.0117 I	NA	0.4	0.00351 U	605	22.8	0.0037 U	0.000382 U	3.6	0.568	0.0139 U	0.0285	0.000152 U	0.018	6.37	0.00309 U	1410	2420	0.000925 U
CCR-13	Monitoring	1/14/2020	0.00491 U	0.00289 U	0.0411	NA	0.155	0.00351 U	517	383	0.0037 U	0.000382 U	13.3	1.17	0.0139 U	0.262	0.000152 U	0.00313 U	3.89	0.00309 U	1380	2790	0.000925 U
CCR-14	Monitoring	1/14/2020	0.00491 U	0.00289 U	0.0215	NA	0.984	0.00351 U	463	90.9	0.0037 U	0.000382 U	38.5	0.476	0.0139 U	0.0215	0.000152 U	0.00313 U	5.1	0.00309 U	1290	2120	0.000925 U
CCR-15	Delineation	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CCR-16	Delineation	1/15/2020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0494	NA	NA	3.72	NA	NA	NA	NA
CCR-17	Delineation	1/15/2020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0107	NA	NA	6.44	NA	NA	NA	NA
CCR-18	Delineation	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CCR-19	Delineation	1/15/2020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0322	NA	NA	4.32	NA	NA	NA	NA
CCR-20	Delineation	1/15/2020	NA	0.0672	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.77	NA	NA	NA	NA
CCR-21	Delineation	1/14/2020	NA	0.00289 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.22	NA	NA	NA	NA
CCR-22	Delineation	1/15/2020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.112	NA	NA	4.4	NA	NA	NA	NA
CCR-23	Delineation	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SW-106	Delineation	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-24S	Delineation	1/7/2020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00333 U	NA	NA	6.01	NA	NA	NA	NA
MW-25S	Delineation	1/7/2020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00333 U	NA	NA	5.68	NA	NA	NA	NA
Semi-Annual Assessment Monitoring Event 2																							
CCR-1	Background	7/14/2020	NA	0.00314 U	0.0134 I	0.00283 U	0.0607	0.0028 U	30.5	4.44	0.0037 U	0.000293 U	NA	0.0300	0.00415 U	0.00722 U	0.000152 U	0.00709 I	5.43	0.00439 U	54.9	142	0.00400 U
CCR-2	Background	7/14/2020	NA	0.00314 U	0.0264	0.00283 U	0.0728	0.0028 U	115	19.3	0.0037 U	0.000293 U	NA	0.125	0.00415 U	0.00722 U	0.000152 U	0.0081 I	4.6	0.00439 U	299 J-7	506 J-7	0.00400 U
CCR-3	Monitoring	7/14/2020	NA	0.00314 U	0.0234	0.00283 U	0.85	0.0028 U	482	16.5 I	0.0037 U	0.000293 U	NA	0.216	0.00415 U	0.00722 U	0.000152 U	0.0125	5.34	0.00439 U	1100 J-7	1830 J-7	0.00400 U
CCR-4	Monitoring	7/14/2020	NA	0.00314 U	0.304	0.00283 U	0.513	0.0233 J-7	1580	4260 J-7, J-8	0.0037 U	0.000293 U	NA	0.350	0.00415 U	0.147	0.000152 U	0.0184	3.69	0.00439 U	791 J-7	8240 J-7	0.00400 U
CCR-5	Monitoring	7/14/2020	NA	0.00314 U	0.0847	0.00283 U	0.601	0.0028 U	2140	5630 J-7, J-8	0.0037 U	0.000293 U	NA	0.125	0.00415 U	4.38	0.000233	0.025	4.94	0.00439 U	406 J-7	10200 J-7	0.00400 U
CCR-6	Monitoring	7/14/2020	NA	0.00314 U	0.0366	0.00283 U	0.83	0.0028 U	955	1580 J-7	0.0037 U	0.000293 U	NA	0.250	0.00415 U	1.11	0.000152 U	0.0362	5.68	0.00439 U	1110 J-7	4440 J-7	0.00400 U
CCR-7	Monitoring	7/14/2020	NA	0.00314 U	0.0328	0.00283 U	1.48	0.0028 U	341	366 J-7	0.0037 U	0.000293 U	NA	0.404	0.00415 U	0.120	0.000152 U	0.0115	4.53	0.00439 U	826 J-7	1920 J-7	0.00400 U
CCR-8	Monitoring	7/14/2020	NA	0.00314 U	0.0303	0.00283 U	0.101	0.0028 U	101	4.74 I	0.0037 U	0.000293 U	NA	0.294	0.00415 U	0.00722 U	0.000152 U	0.0179	6.35	0.00439 U	112	372	0.00400 U
CCR-9	Monitoring	7/15/2020	NA	0.005	0.0665	0.00283 U	0.473	0.0028 U	726	939 J-7	0.0037 U	0.000293 U	NA	0.285	0.00415 U	0.104	0.000152 U	0.0166	5	0.00439 U	1170 J-7	3340 J-7	0.00400 U
CCR-10R	Monitoring	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CCR-11	Monitoring	7/15/2020	NA	0.0697	0.0676	0.00283 U	0.415	0.0028 U	580	744 J-7	0.0037 U	0.000293 U	NA	1.02	0.00415 U, J-2+	0.00722 U	0.000152 U	0.0149 J-2+	3.96	0.00439 U	1560 J-7	3470 J-7	0.00400 U
CCR-12	Monitoring	7/15/2020	NA	0.0481	0.0204	0.00283 U	0.485	0.0028 U	673	24	0.0037 U	0.000293 U	NA	0.632	0.00415 U	0.00722 U	0.000152 U	0.0267	6.64	0.00439 U	1510 J-7	2550 J-7	0.000925 U
CCR-13	Monitoring	7/15/2020	NA	0.00314 U	0.0436	0.00283 U	0.173	0.0028 U	508	352 J-7	0.0037 U	0.0046	NA	1.38	0.00415 U	0.232	0.000195	0.0121	3.88	0.00439 U	1370 J-7	2710 J-7	0.000925 U
CCR-14	Monitoring	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CCR-15	Delineation	7/16/2020	NA	0.00314 U	0.0771	0.00283 U	0.0982	0.0028 U	210	220	0.00381 I	0.000293 U	NA	0.134	0.00415 U	0.00722 U	0.000152 U	0.0113	3.94	0.00439 U	407 J-7	1040 J-7	0.000925 U
CCR-16	Delineation	7/16/2020	NA	0.00314 U	0.188	0.00283 U	0.53	0.0028 U	1430	3650 J-7	0.0037 U	0.000293 U	NA	0.017 U	0.00415 U	0.00722 U	0.00051	0.0206	3.69	0.00439 U	936 J-7	7660 J-7	0.000925 U
CCR-17	Delineation	7/16/2020	NA	0.0127	0.00503 U	0.00283 U	0.153	0.0028 U	326	289 J-7	0.0037 U	0.000293 U	NA	0.056	0.00415 U	0.00722 U	0.000152 U	0.0123	6.36	0.00439 U	396 J-7	1310 J-7	0.000925 U
CCR-18	Delineation	7/16/2020	NA	0.00314 U	0.00503 U	0.00283 U	0.0422	0.0028 U	73.1	2.87	0.0037 U	0.000293 U	NA	0.366	0.00415 U	0.00722 U	0.000152 U	0.00894 I	6.26	0.00439 U	32.5	279	0.000925 U
CCR-19	Delineation	7/17/2020	NA	0.00314 U	0.124	0.00283 U	0.305	0.0028 U	753	1380 J-7	0.0037 U	0.000293 U	NA	1.54	0.00415 U	0.00722 U	0.000152 U	0.0131	4.35	0.00439 U	1190 J-7	4150 J-7	0.000925 U
CCR-20	Delineation	7/17/2020	NA	0.0611	0.0694	0.00283 U	0.539	0.0028 U	524	494 J-7	0.0037 U	0.000293 U	NA	0.32	0.00415 U	0.00722 U	0.000152 U	0.012	4.61	0.00439 U	1610 J-7	3300 J-7	0.000925 U
CCR-21	Delineation	7/17/2020	NA	0.00314 U	0.0427	0.00283 U	0.38	0.0028 U	391	21.7	0.0037 U	0.000293 U	NA	0.718	0.00415 U	0.00722 U	0.000152 U	0.0388	6.15	0.00439 U	743 J-7	1470 J-7	0.000925 U
CCR-22	Delineation	7/17/2020	NA	0.00314 U	0.0191 I	0.00283 U	0.379	0.0028 U	245	78.9	0.0037 U	0.000293 U	NA	0.925	0.00415 U	0.0738	0.000152 U	0.00975 I	4.38	0.00439 U	763 J-7	1360 J-7	0.000925 U
CCR-23	Delineation	7/17/2020	NA	0.00314 U	0.00919 I	0.00283 U	0.777	0.0028 U	274	80	0.0037 U	0.000293 U	NA	0.492	0.00415 U	0.00722 U	0.000152 U	0.0106	5.04	0.00439 U	679 J-7	1200 J-7	0.000925 U
SW-106	Delineation	7/17/2020	NA	0.00314 U	0.0213	0.00283 U	0.0324	0.0028 U	13.8	1.08	0.0037 U	NA	NA	0.0260 U	0.00415 U	0.00722 U	NA	0.00295 U	5.68	NA	9.7	141	NA
MW-24S	Delineation	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-25S	Delineation	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

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. "V" indicates that the analyte was detected at or above the method detection limit in both the sample and associated method blank and the value of 10 times the blank was equal to or greater than the associated sample value (i.e., the reported concentration may be biased high).
5. "I" indicates that the reported value is between laboratory method detection limit and laboratory practical quantitation limit.
6. "J3" indicates an estimated value; value may not be accurate. Spike recovery or relative percent difference outside of criteria.

TABLE 4: SUMMARY OF 2020 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	141.30	1/13/2020	9.65	131.65
CCR-2	1362203.9	681787.6	140.57	1/13/2020	9.12	131.45
CCR-3	1362334.6	682451.3	137.04	1/13/2020	5.92	131.12
CCR-4	1362450.0	683042.7	143.13	1/13/2020	14.16	128.97
CCR-5	1362716.0	683376.9	141.07	1/13/2020	10.20	130.87
CCR-6	1363168.4	683578.6	141.34	1/13/2020	8.43	132.91
CCR-7	1363631.9	683772.2	142.10	1/13/2020	8.77	133.33
CCR-8	1363917.6	683411.6	142.12	1/13/2020	8.04	134.08
CCR-9	1364085.2	683045.3	141.67	1/14/2020	8.86	132.81
CCR-10R	1364262.1	682706.3	133.56	1/14/2020	1.20	132.36
CCR-11	1363835.4	682577.2	137.12	1/14/2020	4.61	132.51
CCR-12	1363353.1	682430.5	136.99	1/14/2020	4.51	132.48
CCR-13	1362936.6	682164.1	137.95	1/14/2020	5.68	132.27
CCR-14	1362771.1	681761.2	138.70	1/14/2020	7.13	131.57
CCR-15	1362341.3	683123.5	144.65	NM	NM	NA
CCR-16	1362533.2	683385.6	144.10	1/15/2020	15.13	128.97
CCR-17	1363019.9	683712.7	145.80	1/15/2020	13.78	132.02
CCR-18	1363631.1	683869.7	140.81	NM	NM	NA
CCR-19	1364205.4	683064.5	136.47	1/15/2020	4.20	132.27
CCR-20	1363855.5	687474.9	136.05	1/15/2020	3.65	132.40
CCR-21	1363454.0	682331.4	137.12	1/14/2020	4.82	132.30
CCR-22	1363017.4	682078.7	137.51	1/15/2020	5.39	132.12
CCR-23	1362812.1	681744.7	135.78	NM	NM	NA
MW-24S	--	--	143.91	1/7/2020	10.67	133.24
MW-25S	--	--	144.40	1/7/2020	14.59	129.81

Notes:

1. Northing and easting are in feet relative to the State Plane Florida North Datum of 1983.
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."NM" indicates not measured.
5. "NA" indicates not applicable.
6. Januray 2020 groundwater elevations sourced from CCR Lab Analysis Report.
7. "--" indicates this information is not available.

TABLE 4: SUMMARY OF 2020 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	141.30	7/14/2020	11.66	129.64
CCR-2	1362203.9	681787.6	140.57	7/14/2020	10.56	130.01
CCR-3	1362334.6	682451.3	137.04	7/14/2020	3.05	133.99
CCR-4	1362450.0	683042.7	143.13	7/14/2020	14.00	129.13
CCR-5	1362716.0	683376.9	141.07	7/14/2020	10.92	130.15
CCR-6	1363168.4	683578.6	141.34	7/14/2020	9.44	131.90
CCR-7	1363631.9	683772.2	142.10	7/14/2020	NM	NA
CCR-8	1363917.6	683411.6	142.12	7/14/2020	NM	NA
CCR-9	1364085.2	683045.3	141.67	7/15/2020	10.02	131.65
CCR-10R	1364262.1	682706.3	133.56	NM	NM	NA
CCR-11	1363835.4	682577.2	137.12	7/15/2020	6.24	130.88
CCR-12	1363353.1	682430.5	136.99	7/15/2020	6.07	130.92
CCR-13	1362936.6	682164.1	137.95	7/15/2020	7.49	130.46
CCR-14	1362771.1	681761.2	138.70	NM	NM	NA
CCR-15	1362341.3	683123.5	144.65	7/16/2020	17.54	127.11
CCR-16	1362533.2	683385.6	144.10	7/16/2020	15.32	128.78
CCR-17	1363019.9	683712.7	145.80	7/16/2020	14.46	131.34
CCR-18	1363631.1	683869.7	140.81	7/16/2020	8.04	132.77
CCR-19	1364205.4	683064.5	136.47	7/17/2020	4.56	131.91
CCR-20	1363855.5	687474.9	136.05	7/17/2020	5.06	130.99
CCR-21	1363454.0	682331.4	137.12	7/17/2020	6.48	130.64
CCR-22	1363017.4	682078.7	137.51	7/17/2020	7.05	130.46
CCR-23	1362812.1	681744.7	135.78	7/17/2020	5.71	130.07
MW-24S	--	--	143.91	NA	NM	NA
MW-25S	--	--	144.40	NA	NM	NA

Notes:

1. Northing and easting are in feet relative to the State Plane Florida North Datum of 1983.
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."NM" indicates not measured.
5. "NA" indicates not applicable.
6. "--" indicates this information is not available.

TABLE 5: SUMMARY OF BACKGROUND LIMITS AND GROUNDWATER PROTECTION STANDARDS

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

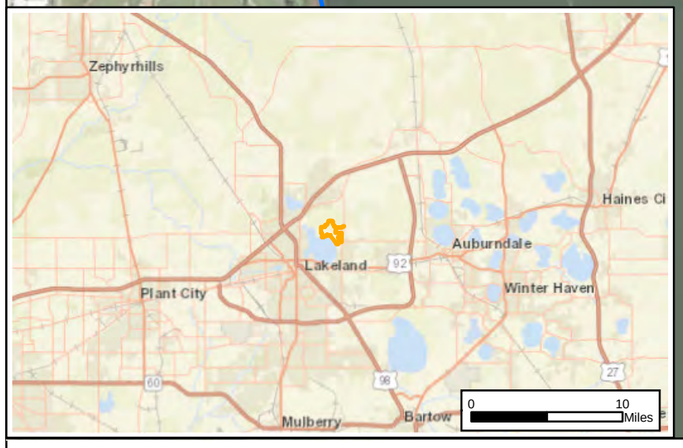
Analyte	Units	USEPA CCR Rule Specified Limit	Background[3]	Site-Specific GWPS[4]
Antimony	mg/L	0.006	NC	0.006
Arsenic	mg/L	0.01	NC	0.01
Barium	mg/L	2	NC	2
Beryllium	mg/L	0.004	NC	0.004
Cadmium	mg/L	0.005	NC	0.005
Chromium	mg/L	0.1	NC	0.1
Cobalt[2]	mg/L	0.006	NC	0.006
Fluoride	mg/L	4	NC	4
Lead[2]	mg/L	0.015	NC	0.015
Lithium[2]	mg/L	0.04	NC	0.04
Mercury	mg/L	0.002	NC	0.002
Molybdenum[2]	mg/L	0.1	NC	0.1
Selenium	mg/L	0.05	NC	0.05
Thallium	mg/L	0.002	NC	0.002
Combined Radium - 226+228	pCi/L	5	7.94	7.94

Notes:

1. "USEPA" indicates United States Environmental Protection Agency; "CCR" indicates Coal Combustion Residuals; "GWPS" indicates Groundwater Protection Standard; "mg/L" indicates milligrams per liter; "pCi/L" indicates picocuries per liter; "NA" indicates not applicable; "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 selected as the higher of the USEPA CCR Rule Specified Limit and background.

FIGURES

Lake A
Lake B
Fish Lake
Coal Storage Area
South Sedimentation Pond
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. 2019 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

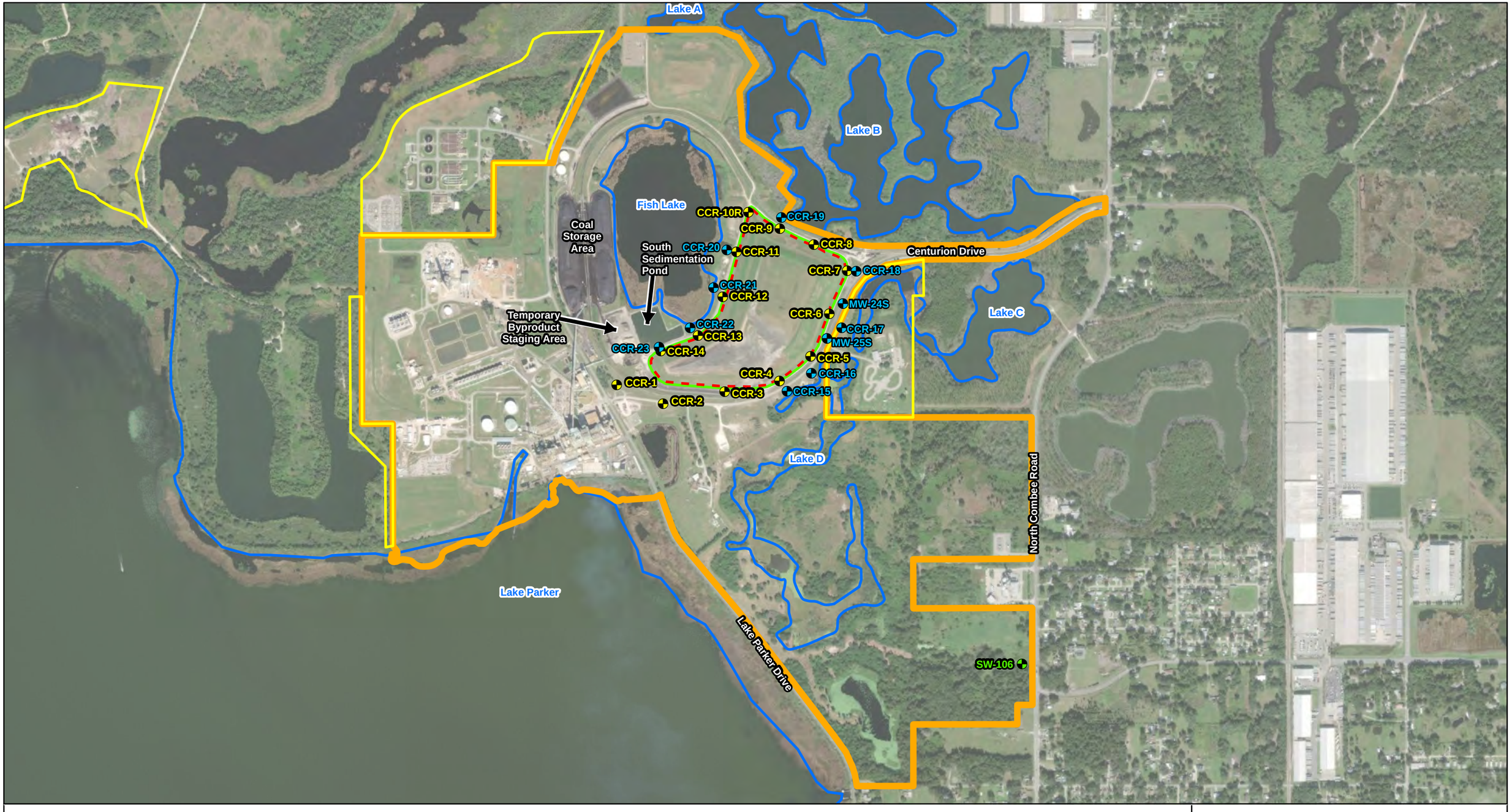
C.D. McIntosh Power Plant
Lakeland, Polk County, Florida

Geosyntec consultants

Tampa, FL | January 2021

Figure 1

Path: (Titusville-01\DATA) T:\0GIS\FR3715_Lakeland_Electric\MXDs\202101\SiteLocation_BSA.mxd 20 January 2021. Last Edited by: alangteau



Legend

- CCR Monitoring Well
- Nature and Extent Monitoring Well
- Sampling Location
- 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. 2019 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

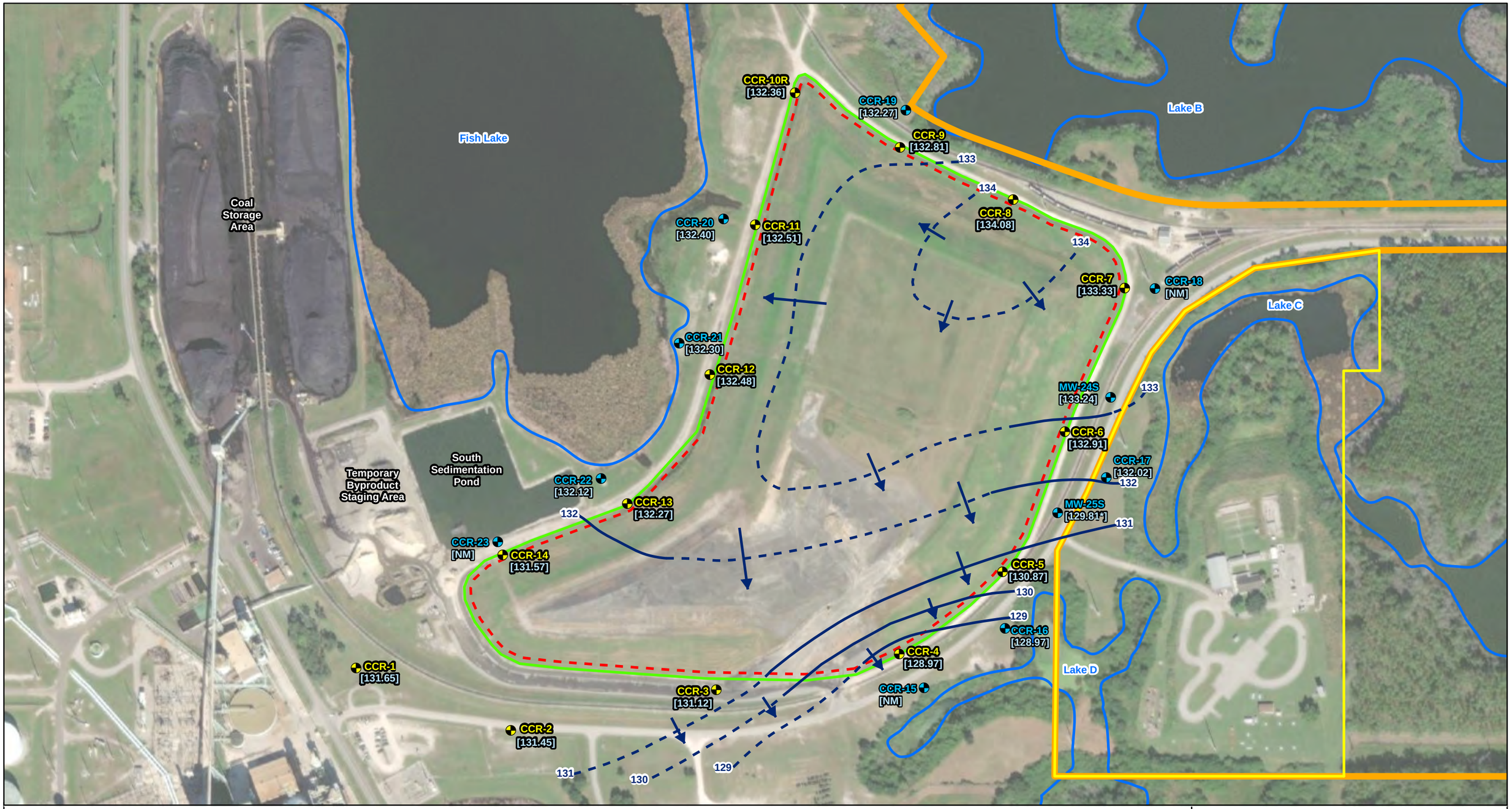
C.D. McIntosh Power Plant
Lakeland, Polk County, Florida

Geosyntec consultants

Tampa, FL | January 2021

Figure 2

Path: (Titusville-01\DATA) T:\0GIS\FR3715_Lakeland_Electric\MXDs\202101\Well_locs.mxd 20 January 2021. Last Edited by: alangteau



Legend

- 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
- Groundwater Elevation Contour Inferred
- Groundwater Flow Direction
- [131.45] 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. NM indicates not measured.
5. CCR indicates Coal Combustion Residual.
6. Well locations were obtained from the Golder 2019 Assessment of Corrective Measures Report.
7. 2019 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 Groundwater Contour Map January 2020

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

Geosyntec consultants

Tampa, FL | January 2021

Figure 3

Path: (Titusville-01\DATA) T:\0GIS\FR3715_Lakeland_Electric\MXDs\202101\GW_elev_Jan2020.mxd 20 January 2021. Last Edited by: alangteau

Legend

- 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
- Groundwater Elevation Contour Inferred
- Groundwater Flow Direction
- [130.01] 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. NM indicates not measured.
5. CCR indicates Coal Combustion Residual.
6. Well locations were obtained from the Golder 2019 Assessment of Corrective Measures Report.
7. 2019 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 Groundwater Contour Map July 2020

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

Geosyntec consultants

Tampa, FL | January 2021

Figure 4

Path: (Titusville-01\DATA) T:\0GIS\FR3715_Lakeland_Electric\MXDs\202101\GW_elev_July2020.mxd 20 January 2021. Last Edited by: alangteau

APPENDIX A

Laboratory Analytical, Field Sampling Reports, and Data Validation

3030 E Lake Parker Dr
Lakeland, FL 33805
CCR SAMPLING
January 2020
LAB ANALYSIS REPORT

SampleName	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Qualifiers	Detection Limit	Reporting Limit	Units	Analyst
CCR-1	1/13/20 9:43 AM	1/17/2020 11:48	EPA 200.7	Antimony	4.91	U	4.91	15.0	ug/L	FSES
CCR-1	1/13/20 9:43 AM	1/17/2020 11:48	EPA 200.7	Arsenic	2.89	U	2.89	10.0	ug/L	FSES
CCR-1	1/13/20 9:43 AM	2/7/2020 9:21	EPA 200.7	Barium	24.8		5.03	20.0	ug/L	CF
CCR-1	1/13/20 9:43 AM	1/17/2020 11:48	EPA 200.7	Boron	44.5		2.36	10.0	ug/L	FSES
CCR-1	1/13/20 9:43 AM	2/7/2020 9:21	EPA 200.7	Cadmium	3.51	U	3.51	10.0	ug/L	CF
CCR-1	1/13/20 9:43 AM	2/7/2020 11:08	EPA 200.7	Calcium	30.2		3.72	12.5	mg/L	CF
CCR-1	1/13/20 9:43 AM	1/13/2020 17:31	EPA 300.0 (Chloride)	Chloride	3.43		0.0380	0.100	mg/L	CF
CCR-1	1/13/20 9:43 AM	2/7/2020 9:21	EPA 200.7	Chromium	3.7	U	3.70	10.0	ug/L	CF
CCR-1	1/13/20 9:43 AM	1/17/2020 11:48	EPA 200.7	Cobalt	0.382	U	0.382	1.00	ug/L	FSES
CCR-1	1/13/20 9:43 AM	1/13/2020 9:43	By Observation	Color	Clear	U			[blank]	DB
CCR-1	1/13/20 9:43 AM	1/13/2020 9:43	EPA 360.2	Dissolved Oxygen	1.88		0.100	0.200	mg/L	DB
CCR-1	1/13/20 9:43 AM	1/17/2020 3:49	EPA 300.0	Fluoride	0.0168	J3, U	0.0168	0.0504	mg/L	FSES
CCR-1	1/13/20 9:43 AM	2/7/2020 9:21	EPA 200.7	Lead	13.9	U	13.9	20.0	ug/L	CF
CCR-1	1/13/20 9:43 AM	1/17/2020 10:55	EPA 200.7	Lithium	3.33	U	3.33	25.0	ug/L	FSES
CCR-1	1/13/20 9:43 AM	1/20/2020 13:34	EPA 245.1	Mercury	0.152	U	0.152	0.456	ug/L	FSES
CCR-1	1/13/20 9:43 AM	1/17/2020 11:48	EPA 200.7	Molybdenum	3.13	U	3.13	10.0	ug/L	FSES
CCR-1	1/13/20 9:43 AM	1/13/2020 9:43	SM18 4500-B B	Field pH	4.81		0.05	0.05	SU	DB
CCR-1	1/13/20 9:43 AM	1/28/2020 12:38	EPA 903.1	Radium-226	6.6		0.200		pCi/L	FRS
CCR-1	1/13/20 9:43 AM	1/27/2020 9:31	EPA Ra-05	Radium-228	2.8		0.700		pCi/L	FRS
CCR-1	1/13/20 9:43 AM	1/15/2020 14:00	SM18 2540 C	Total Dissolved Solids	135		10.0	20.0	mg/L	CF
CCR-1	1/13/20 9:43 AM	1/17/2020 11:48	EPA 200.7	Selenium	3.09	U	3.09	15.0	ug/L	FSES
CCR-1	1/13/20 9:43 AM	1/13/2020 9:43	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-1	1/13/20 9:43 AM	1/13/2020 9:43	EPA 120.1	Specific Conductance	203.2		1	5	umhos/cm	DB
CCR-1	1/13/20 9:43 AM	1/13/2020 17:31	EPA 300.0 (Sulfate)	Sulfate	63.1		0.0250	0.100	mg/L	CF
CCR-1	1/13/20 9:43 AM	1/13/2020 9:43	EPA 170.1	Temperature	25.0		0.1	0.1	deg C	DB
CCR-1	1/13/20 9:43 AM	1/17/2020 11:48	EPA 200.7	Thallium	0.925	U	0.925	4.00	ug/L	FSES
CCR-1	1/13/20 9:43 AM	1/13/2020 9:43	EPA 180.1	Turbidity	1.71		0.1	0.5	NTU	DB
CCR-1	1/13/20 9:43 AM	1/13/2020 9:43	FDEP DEP-SOP	Water Level	131.65		0.100	0.500	FT	DB
CCR-2	1/13/20 10:17 AM	1/17/2020 11:51	EPA 200.7	Antimony	4.91	U	4.91	15.0	ug/L	FSES
CCR-2	1/13/20 10:17 AM	1/17/2020 11:51	EPA 200.7	Arsenic	2.89	U	2.89	10.0	ug/L	FSES
CCR-2	1/13/20 10:17 AM	2/7/2020 9:27	EPA 200.7	Barium	26.3		5.03	20.0	ug/L	CF
CCR-2	1/13/20 10:17 AM	1/17/2020 11:51	EPA 200.7	Boron	50.8		2.36	10.0	ug/L	FSES
CCR-2	1/13/20 10:17 AM	2/7/2020 9:27	EPA 200.7	Cadmium	3.51	U	3.51	10.0	ug/L	CF
CCR-2	1/13/20 10:17 AM	2/7/2020 11:13	EPA 200.7	Calcium	78.8		3.72	12.5	mg/L	CF
CCR-2	1/13/20 10:17 AM	1/13/2020 16:14	EPA 300.0 (Chloride)	Chloride	12.9		0.152	0.400	mg/L	CF
CCR-2	1/13/20 10:17 AM	2/7/2020 9:27	EPA 200.7	Chromium	3.7	U	3.70	10.0	ug/L	CF
CCR-2	1/13/20 10:17 AM	1/17/2020 11:51	EPA 200.7	Cobalt	0.382	U	0.382	1.00	ug/L	FSES
CCR-2	1/13/20 10:17 AM	1/13/2020 10:17	By Observation	Color	Clear	U			[blank]	DB
CCR-2	1/13/20 10:17 AM	1/13/2020 10:17	EPA 360.2	Dissolved Oxygen	2.74		0.100	0.200	mg/L	DB
CCR-2	1/13/20 10:17 AM	1/17/2020 4:38	EPA 300.0	Fluoride	0.11		0.0168	0.0504	mg/L	FSES
CCR-2	1/13/20 10:17 AM	2/7/2020 9:27	EPA 200.7	Lead	13.9	U	13.9	20.0	ug/L	CF
CCR-2	1/13/20 10:17 AM	1/17/2020 10:58	EPA 200.7	Lithium	3.33	U	3.33	25.0	ug/L	FSES
CCR-2	1/13/20 10:17 AM	1/20/2020 13:36	EPA 245.1	Mercury	0.152	U	0.152	0.456	ug/L	FSES
CCR-2	1/13/20 10:17 AM	1/17/2020 11:51	EPA 200.7	Molybdenum	3.13	U	3.13	10.0	ug/L	FSES
CCR-2	1/13/20 10:17 AM	1/13/2020 10:17	SM18 4500-B B	Field pH	4.84		0.05	0.05	SU	DB
CCR-2	1/13/20 10:17 AM	1/28/2020 12:38	EPA 903.1	Radium-226	3.0		0.200		pCi/L	FRS
CCR-2	1/13/20 10:17 AM	1/27/2020 9:31	EPA Ra-05	Radium-228	1.5		0.700		pCi/L	FRS
CCR-2	1/13/20 10:17 AM	1/15/2020 14:02	SM18 2540 C	Total Dissolved Solids	357		10.0	20.0	mg/L	CF
CCR-2	1/13/20 10:17 AM	1/17/2020 11:51	EPA 200.7	Selenium	3.09	U	3.09	15.0	ug/L	FSES
CCR-2	1/13/20 10:17 AM	1/13/2020 10:17	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-2	1/13/20 10:17 AM	1/13/2020 10:17	EPA 120.1	Specific Conductance	467.3		1	5	umhos/cm	DB
CCR-2	1/13/20 10:17 AM	1/13/2020 16:14	EPA 300.0 (Sulfate)	Sulfate	180		0.100	0.400	mg/L	CF
CCR-2	1/13/20 10:17 AM	1/13/2020 10:17	EPA 170.1	Temperature	26.3		0.1	0.1	deg C	DB
CCR-2	1/13/20 10:17 AM	1/17/2020 11:51	EPA 200.7	Thallium	0.925	U	0.925	4.00	ug/L	FSES
CCR-2	1/13/20 10:17 AM	1/13/2020 10:17	EPA 180.1	Turbidity	5.18		0.1	0.5	NTU	DB
CCR-2	1/13/20 10:17 AM	1/13/2020 10:17	FDEP DEP-SOP	Water Level	131.45		0.100	0.500	FT	DB
CCR-3	1/13/20 11:11 AM	1/17/2020 11:53	EPA 200.7	Antimony	4.91	U	4.91	15.0	ug/L	FSES
CCR-3	1/13/20 11:11 AM	1/17/2020 11:53	EPA 200.7	Arsenic	2.89	U	2.89	10.0	ug/L	FSES
CCR-3	1/13/20 11:11 AM	2/7/2020 9:32	EPA 200.7	Barium	23.5		5.03	20.0	ug/L	CF
CCR-3	1/13/20 11:11 AM	1/17/2020 11:53	EPA 200.7	Boron	1020		2.36	10.0	ug/L	FSES
CCR-3	1/13/20 11:11 AM	2/7/2020 9:32	EPA 200.7	Cadmium	3.51	U	3.51	10.0	ug/L	CF
CCR-3	1/13/20 11:11 AM	2/7/2020 11:19	EPA 200.7	Calcium	545		37.2	125	mg/L	CF
CCR-3	1/13/20 11:11 AM	1/13/2020 16:39	EPA 300.0 (Chloride)	Chloride	23.7		0.0380	0.100	mg/L	CF
CCR-3	1/13/20 11:11 AM	2/7/2020 9:32	EPA 200.7	Chromium	3.7	U	3.70	10.0	ug/L	CF
CCR-3	1/13/20 11:11 AM	1/17/2020 11:53	EPA 200.7	Cobalt	0.382	U	0.382	1.00	ug/L	FSES
CCR-3	1/13/20 11:11 AM	1/13/2020 11:11	By Observation	Color	Clear	U			[blank]	DB
CCR-3	1/13/20 11:11 AM	1/13/2020 11:11	EPA 360.2	Dissolved Oxygen	0.18	I	0.100	0.200	mg/L	DB
CCR-3	1/13/20 11:11 AM	1/17/2020 4:54	EPA 300.0	Fluoride	0.13		0.0336	0.101	mg/L	FSES
CCR-3	1/13/20 11:11 AM	2/7/2020 9:32	EPA 200.7	Lead	13.9	U	13.9	20.0	ug/L	CF
CCR-3	1/13/20 11:11 AM	1/17/2020 11:00	EPA 200.7	Lithium	15		3.33	25.0	ug/L	FSES
CCR-3	1/13/20 11:11 AM	1/20/2020 13:39	EPA 245.1	Mercury	0.152	U	0.152	0.456	ug/L	FSES
CCR-3	1/13/20 11:11 AM	1/17/2020 11:53	EPA 200.7	Molybdenum	3.13	U	3.13	10.0	ug/L	FSES
CCR-3	1/13/20 11:11 AM	1/13/2020 11:11	SM18 4500-B B	Field pH	5.35		0.05	0.05	SU	DB
CCR-3	1/13/20 11:11 AM	1/28/2020 12:38	EPA 903.1	Radium-226	4.3		0.200		pCi/L	FRS
CCR-3	1/13/20 11:11 AM	1/27/2020 10:43	EPA Ra-05	Radium-228	1.0		0.900		pCi/L	FRS
CCR-3	1/13/20 11:11 AM	1/15/2020 14:04	SM18 2540 C	Total Dissolved Solids	1920		20.0	40.0	mg/L	CF
CCR-3	1/13/20 11:11 AM	1/17/2020 11:53	EPA 200.7	Selenium	3.09	U	3.09	15.0	ug/L	FSES
CCR-3	1/13/20 11:11 AM	1/13/2020 11:11	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-3	1/13/20 11:11 AM	1/13/2020 11:11	EPA 120.1	Specific Conductance	2148		1	5	umhos/cm	DB

3030 E Lake Parker Dr
Lakeland, FL 33805
CCR SAMPLING
January 2020
LAB ANALYSIS REPORT

SampleName	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Qualifiers	Detection Limit	Reporting Limit	Units	Analyst
CCR-3	1/13/20 11:11 AM	1/13/2020 16:39	EPA 300.0 (Sulfate)	Sulfate	1030		0.0250	0.100	mg/L	CF
CCR-3	1/13/20 11:11 AM	1/13/2020 11:11	EPA 170.1	Temperature	26.0		0.1	0.1	deg C	DB
CCR-3	1/13/20 11:11 AM	1/17/2020 11:53	EPA 200.7	Thallium	0.925	U	0.925	4.00	ug/L	FSES
CCR-3	1/13/20 11:11 AM	1/13/2020 11:11	EPA 180.1	Turbidity	9.08		0.1	0.5	NTU	DB
CCR-3	1/13/20 11:11 AM	1/13/2020 11:11	FDEP DEP-SOP	Water Level	131.12		0.100	0.500	FT	DB
CCR-3	1/13/20 11:11 AM	1/13/2020 15:48	EPA 300.0 (Sulfate)	Sulfate	1140		0.500	2.00	mg/L	CF
CCR-4	1/13/20 1:15 PM	1/17/2020 11:56	EPA 200.7	Antimony	4.91	U	4.91	15.0	ug/L	FSES
CCR-4	1/13/20 1:15 PM	1/17/2020 11:56	EPA 200.7	Arsenic	2.89	U	2.89	10.0	ug/L	FSES
CCR-4	1/13/20 1:15 PM	2/7/2020 9:37	EPA 200.7	Barium	149		5.03	20.0	ug/L	CF
CCR-4	1/13/20 1:15 PM	1/17/2020 11:56	EPA 200.7	Boron	454		2.36	10.0	ug/L	FSES
CCR-4	1/13/20 1:15 PM	2/7/2020 9:37	EPA 200.7	Cadmium	7.51	I	3.51	10.0	ug/L	CF
CCR-4	1/13/20 1:15 PM	2/7/2020 11:24	EPA 200.7	Calcium	973		74.5	250	mg/L	CF
CCR-4	1/13/20 1:15 PM	1/14/2020 15:28	EPA 300.0 (Chloride)	Chloride	2560		1.52	4.00	mg/L	CF
CCR-4	1/13/20 1:15 PM	2/7/2020 9:37	EPA 200.7	Chromium	3.7	U	3.70	10.0	ug/L	CF
CCR-4	1/13/20 1:15 PM	1/17/2020 11:56	EPA 200.7	Cobalt	0.382	U	0.382	1.00	ug/L	FSES
CCR-4	1/13/20 1:15 PM	1/13/2020 13:15	By Observation	Color	Clear	U			[blank]	DB
CCR-4	1/13/20 1:15 PM	1/13/2020 13:15	EPA 360.2	Dissolved Oxygen	0.50		0.100	0.200	mg/L	DB
CCR-4	1/13/20 1:15 PM	1/17/2020 5:11	EPA 300.0	Fluoride	0.145		0.0840	0.252	mg/L	FSES
CCR-4	1/13/20 1:15 PM	2/7/2020 9:37	EPA 200.7	Lead	13.9	U	13.9	20.0	ug/L	CF
CCR-4	1/13/20 1:15 PM	1/17/2020 11:03	EPA 200.7	Lithium	67.4		3.33	25.0	ug/L	FSES
CCR-4	1/13/20 1:15 PM	1/20/2020 13:42	EPA 245.1	Mercury	0.152	U	0.152	0.456	ug/L	FSES
CCR-4	1/13/20 1:15 PM	1/17/2020 11:56	EPA 200.7	Molybdenum	3.13	U	3.13	10.0	ug/L	FSES
CCR-4	1/13/20 1:15 PM	1/13/2020 13:15	SM18 4500-B B	Field pH	3.78		0.05	0.05	SU	DB
CCR-4	1/13/20 1:15 PM	1/28/2020 12:38	EPA 903.1	Radium-226	28.2		0.100		pCi/L	FRS
CCR-4	1/13/20 1:15 PM	1/27/2020 10:43	EPA Ra-05	Radium-228	14.8		0.900		pCi/L	FRS
CCR-4	1/13/20 1:15 PM	1/15/2020 14:06	SM18 2540 C	Total Dissolved Solids	5100		40.0	80.0	mg/L	CF
CCR-4	1/13/20 1:15 PM	1/17/2020 11:56	EPA 200.7	Selenium	3.09	U	3.09	15.0	ug/L	FSES
CCR-4	1/13/20 1:15 PM	1/13/2020 13:15	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-4	1/13/20 1:15 PM	1/13/2020 13:15	EPA 120.1	Specific Conductance	9455		1	5	umhos/cm	DB
CCR-4	1/13/20 1:15 PM	1/14/2020 15:28	EPA 300.0 (Sulfate)	Sulfate	518		1.00	4.00	mg/L	CF
CCR-4	1/13/20 1:15 PM	1/13/2020 13:15	EPA 170.1	Temperature	25.6		0.1	0.1	deg C	DB
CCR-4	1/13/20 1:15 PM	1/17/2020 11:56	EPA 200.7	Thallium	0.925	U	0.925	4.00	ug/L	FSES
CCR-4	1/13/20 1:15 PM	1/13/2020 13:15	EPA 180.1	Turbidity	4.76		0.1	0.5	NTU	DB
CCR-4	1/13/20 1:15 PM	1/13/2020 13:15	FDEP DEP-SOP	Water Level	128.97		0.100	0.500	FT	DB
CCR-5	1/13/20 1:46 PM	1/17/2020 11:59	EPA 200.7	Antimony	4.91	U	4.91	15.0	ug/L	FSES
CCR-5	1/13/20 1:46 PM	1/17/2020 11:59	EPA 200.7	Arsenic	2.89	U	2.89	10.0	ug/L	FSES
CCR-5	1/13/20 1:46 PM	2/7/2020 9:42	EPA 200.7	Barium	78.2		5.03	20.0	ug/L	CF
CCR-5	1/13/20 1:46 PM	1/17/2020 11:59	EPA 200.7	Boron	560		2.36	10.0	ug/L	FSES
CCR-5	1/13/20 1:46 PM	2/7/2020 9:42	EPA 200.7	Cadmium	3.51	U	3.51	10.0	ug/L	CF
CCR-5	1/13/20 1:46 PM	2/7/2020 11:29	EPA 200.7	Calcium	1960		74.5	250	mg/L	CF
CCR-5	1/13/20 1:46 PM	1/14/2020 15:54	EPA 300.0 (Chloride)	Chloride	5540		0.152	0.400	mg/L	CF
CCR-5	1/13/20 1:46 PM	2/7/2020 9:42	EPA 200.7	Chromium	3.7	U	3.70	10.0	ug/L	CF
CCR-5	1/13/20 1:46 PM	1/17/2020 11:59	EPA 200.7	Cobalt	0.382	U	0.382	1.00	ug/L	FSES
CCR-5	1/13/20 1:46 PM	1/13/2020 13:46	By Observation	Color	Clear	U			[blank]	DB
CCR-5	1/13/20 1:46 PM	1/13/2020 13:46	EPA 360.2	Dissolved Oxygen	0.44		0.100	0.200	mg/L	DB
CCR-5	1/13/20 1:46 PM	1/17/2020 5:27	EPA 300.0	Fluoride	0.0840	U	0.0840	0.252	mg/L	FSES
CCR-5	1/13/20 1:46 PM	2/7/2020 9:42	EPA 200.7	Lead	13.9	U	13.9	20.0	ug/L	CF
CCR-5	1/13/20 1:46 PM	1/17/2020 11:06	EPA 200.7	Lithium	3230		3.33	25.0	ug/L	FSES
CCR-5	1/13/20 1:46 PM	1/20/2020 13:48	EPA 245.1	Mercury	0.152	U	0.152	0.456	ug/L	FSES
CCR-5	1/13/20 1:46 PM	1/17/2020 11:59	EPA 200.7	Molybdenum	3.13	U	3.13	10.0	ug/L	FSES
CCR-5	1/13/20 1:46 PM	1/13/2020 13:46	SM18 4500-B B	Field pH	4.95		0.05	0.05	SU	DB
CCR-5	1/13/20 1:46 PM	1/28/2020 13:41	EPA 903.1	Radium-226	16.7		0.100		pCi/L	FRS
CCR-5	1/13/20 1:46 PM	1/27/2020 11:48	EPA Ra-05	Radium-228	7.5		0.800		pCi/L	FRS
CCR-5	1/13/20 1:46 PM	1/15/2020 14:08	SM18 2540 C	Total Dissolved Solids	10300		40.0	80.0	mg/L	CF
CCR-5	1/13/20 1:46 PM	1/17/2020 11:59	EPA 200.7	Selenium	3.09	U	3.09	15.0	ug/L	FSES
CCR-5	1/13/20 1:46 PM	1/13/2020 13:46	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-5	1/13/20 1:46 PM	1/13/2020 13:46	EPA 120.1	Specific Conductance	18396		1	5	umhos/cm	DB
CCR-5	1/13/20 1:46 PM	1/14/2020 15:54	EPA 300.0 (Sulfate)	Sulfate	437		0.100	0.400	mg/L	CF
CCR-5	1/13/20 1:46 PM	1/13/2020 13:46	EPA 170.1	Temperature	25.4		0.1	0.1	deg C	DB
CCR-5	1/13/20 1:46 PM	2/17/2020 11:59	EPA 200.7	Thallium	0.925	U	0.925	4.00	ug/L	FSES
CCR-5	1/13/20 1:46 PM	1/13/2020 13:46	EPA 180.1	Turbidity	6.54		0.1	0.5	NTU	DB
CCR-5	1/13/20 1:46 PM	1/13/2020 13:46	FDEP DEP-SOP	Water Level	130.87		0.100	0.500	FT	DB
CCR-5	1/13/20 1:46 PM	1/14/2020 15:02	EPA 300.0 (Chloride)	Chloride	5330		1.90	5.00	mg/L	CF
CCR-5	1/13/20 1:46 PM	1/14/2020 15:02	EPA 300.0 (Sulfate)	Sulfate	405		1.25	5.00	mg/L	CF
CCR-6	1/13/20 2:22 PM	1/17/2020 12:02	EPA 200.7	Antimony	4.91	U	4.91	15.0	ug/L	FSES
CCR-6	1/13/20 2:22 PM	1/17/2020 12:02	EPA 200.7	Arsenic	2.89	U	2.89	10.0	ug/L	FSES
CCR-6	1/13/20 2:22 PM	2/7/2020 9:47	EPA 200.7	Barium	21.3		5.03	20.0	ug/L	CF
CCR-6	1/13/20 2:22 PM	1/17/2020 12:02	EPA 200.7	Boron	507		2.36	10.0	ug/L	FSES
CCR-6	1/13/20 2:22 PM	2/7/2020 9:47	EPA 200.7	Cadmium	3.51	U	3.51	10.0	ug/L	CF
CCR-6	1/13/20 2:22 PM	2/13/2020 9:11	EPA 200.7	Calcium	565		37.2	125	mg/L	CF
CCR-6	1/13/20 2:22 PM	1/14/2020 16:19	EPA 300.0 (Chloride)	Chloride	742		0.760	2.00	mg/L	CF
CCR-6	1/13/20 2:22 PM	2/7/2020 9:47	EPA 200.7	Chromium	3.7	U	3.70	10.0	ug/L	CF
CCR-6	1/13/20 2:22 PM	1/17/2020 12:02	EPA 200.7	Cobalt	0.382	U	0.382	1.00	ug/L	FSES
CCR-6	1/13/20 2:22 PM	1/13/2020 14:22	By Observation	Color	Clear	U			[blank]	DB
CCR-6	1/13/20 2:22 PM	1/13/2020 14:22	EPA 360.2	Dissolved Oxygen	0.33		0.100	0.200	mg/L	DB
CCR-6	1/13/20 2:22 PM	1/17/2020 5:44	EPA 300.0	Fluoride	0.152		0.0336	0.101	mg/L	FSES
CCR-6	1/13/20 2:22 PM	2/7/2020 9:47	EPA 200.7	Lead	13.9	U	13.9	20.0	ug/L	CF
CCR-6	1/13/20 2:22 PM	1/17/2020 11:08	EPA 200.7	Lithium	452		3.33	25.0	ug/L	FSES
CCR-6	1/13/20 2:22 PM	1/20/2020 13:50	EPA 245.1	Mercury	0.152	U	0.152	0.456	ug/L	FSES

3030 E Lake Parker Dr
Lakeland, FL 33805
CCR SAMPLING
January 2020
LAB ANALYSIS REPORT

SampleName	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Qualifiers	Detection Limit	Reporting Limit	Units	Analyst
CCR-6	1/13/20 2:22 PM	1/17/2020 12:02	EPA 200.7	Molybdenum	10.2		3.13	10.0	ug/L	FSES
CCR-6	1/13/20 2:22 PM	1/13/2020 14:22	SM18 4500-B B	Field pH	5.93		0.05	0.05	SU	DB
CCR-6	1/13/20 2:22 PM	1/28/2020 14:45	EPA 903.1	Radium-226	4.3		0.200		pCi/L	FRS
CCR-6	1/13/20 2:22 PM	1/27/2020 11:48	EPA Ra-05	Radium-228	1.2		0.800		pCi/L	FRS
CCR-6	1/13/20 2:22 PM	1/15/2020 14:10	SM18 2540 C	Total Dissolved Solids	2560		10.0	20.0	mg/L	CF
CCR-6	1/13/20 2:22 PM	1/17/2020 12:02	EPA 200.7	Selenium	3.09	U	3.09	15.0	ug/L	FSES
CCR-6	1/13/20 2:22 PM	1/13/2020 14:22	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-6	1/13/20 2:22 PM	1/13/2020 14:22	EPA 120.1	Specific Conductance	3893		1	5	umhos/cm	DB
CCR-6	1/13/20 2:22 PM	1/14/2020 16:19	EPA 300.0 (Sulfate)	Sulfate	770		0.500	2.00	mg/L	CF
CCR-6	1/13/20 2:22 PM	1/13/2020 14:22	EPA 170.1	Temperature	25.8		0.1	0.1	deg C	DB
CCR-6	1/13/20 2:22 PM	1/17/2020 12:02	EPA 200.7	Thallium	0.925	U	0.925	4.00	ug/L	FSES
CCR-6	1/13/20 2:22 PM	1/13/2020 14:22	EPA 180.1	Turbidity	11.8		0.1	0.5	NTU	DB
CCR-6	1/13/20 2:22 PM	1/13/2020 14:22	FDEP DEP-SOP	Water Level	132.91		0.100	0.500	FT	DB
CCR-7	1/13/20 2:50 PM	1/17/2020 12:05	EPA 200.7	Antimony	4.91	U	4.91	15.0	ug/L	FSES
CCR-7	1/13/20 2:50 PM	1/17/2020 12:05	EPA 200.7	Arsenic	2.89	U	2.89	10.0	ug/L	FSES
CCR-7	1/13/20 2:50 PM	2/7/2020 9:51	EPA 200.7	Barium	21.7		5.03	20.0	ug/L	CF
CCR-7	1/13/20 2:50 PM	1/17/2020 12:05	EPA 200.7	Boron	1260		2.36	10.0	ug/L	FSES
CCR-7	1/13/20 2:50 PM	2/7/2020 9:51	EPA 200.7	Cadmium	3.51	U	3.51	10.0	ug/L	CF
CCR-7	1/13/20 2:50 PM	2/13/2020 9:16	EPA 200.7	Calcium	258		7.45	25.0	mg/L	CF
CCR-7	1/13/20 2:50 PM	1/14/2020 16:45	EPA 300.0 (Chloride)	Chloride	241		0.380	1.00	mg/L	CF
CCR-7	1/13/20 2:50 PM	2/7/2020 9:51	EPA 200.7	Chromium	3.7	U	3.70	10.0	ug/L	CF
CCR-7	1/13/20 2:50 PM	1/17/2020 12:05	EPA 200.7	Cobalt	0.382	U	0.382	1.00	ug/L	FSES
CCR-7	1/13/20 2:50 PM	1/13/2020 14:50	By Observation	Color	Clear	U			[blank]	DB
CCR-7	1/13/20 2:50 PM	1/13/2020 14:50	EPA 360.2	Dissolved Oxygen	0.33		0.100	0.200	mg/L	DB
CCR-7	1/13/20 2:50 PM	1/17/2020 6:00	EPA 300.0	Fluoride	0.282		0.0336	0.101	mg/L	FSES
CCR-7	1/13/20 2:50 PM	2/7/2020 9:51	EPA 200.7	Lead	13.9	U	13.9	20.0	ug/L	CF
CCR-7	1/13/20 2:50 PM	1/17/2020 11:11	EPA 200.7	Lithium	76.4		3.33	25.0	ug/L	FSES
CCR-7	1/13/20 2:50 PM	1/20/2020 13:53	EPA 245.1	Mercury	0.152	U	0.152	0.456	ug/L	FSES
CCR-7	1/13/20 2:50 PM	1/17/2020 12:05	EPA 200.7	Molybdenum	3.13	U	3.13	10.0	ug/L	FSES
CCR-7	1/13/20 2:50 PM	1/13/2020 14:50	SM18 4500-B B	Field pH	4.66		0.05	0.05	SU	DB
CCR-7	1/13/20 2:50 PM	1/28/2020 14:45	EPA 903.1	Radium-226	4.6		0.200		pCi/L	FRS
CCR-7	1/13/20 2:50 PM	1/27/2020 11:48	EPA Ra-05	Radium-228	1.8		0.600		pCi/L	FRS
CCR-7	1/13/20 2:50 PM	1/15/2020 14:12	SM18 2540 C	Total Dissolved Solids	1410		10.0	20.0	mg/L	CF
CCR-7	1/13/20 2:50 PM	1/17/2020 12:05	EPA 200.7	Selenium	3.09	U	3.09	15.0	ug/L	FSES
CCR-7	1/13/20 2:50 PM	1/13/2020 14:50	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-7	1/13/20 2:50 PM	1/13/2020 14:50	EPA 120.1	Specific Conductance	2125		1	5	umhos/cm	DB
CCR-7	1/13/20 2:50 PM	1/14/2020 16:45	EPA 300.0 (Sulfate)	Sulfate	621		0.250	1.00	mg/L	CF
CCR-7	1/13/20 2:50 PM	1/13/2020 14:50	EPA 170.1	Temperature	25.1		0.1	0.1	deg C	DB
CCR-7	1/13/20 2:50 PM	1/17/2020 12:05	EPA 200.7	Thallium	0.925	U	0.925	4.00	ug/L	FSES
CCR-7	1/13/20 2:50 PM	1/13/2020 14:50	EPA 180.1	Turbidity	7.71		0.1	0.5	NTU	DB
CCR-7	1/13/20 2:50 PM	1/13/2020 14:50	FDEP DEP-SOP	Water Level	133.33		0.100	0.500	FT	DB
CCR-8	1/13/20 3:32 PM	1/17/2020 12:08	EPA 200.7	Antimony	4.91	U	4.91	15.0	ug/L	FSES
CCR-8	1/13/20 3:32 PM	1/17/2020 12:08	EPA 200.7	Arsenic	2.89	U	2.89	10.0	ug/L	FSES
CCR-8	1/13/20 3:32 PM	2/7/2020 9:56	EPA 200.7	Barium	24.4		5.03	20.0	ug/L	CF
CCR-8	1/13/20 3:32 PM	1/17/2020 12:08	EPA 200.7	Boron	95.1		2.36	10.0	ug/L	FSES
CCR-8	1/13/20 3:32 PM	2/7/2020 9:56	EPA 200.7	Cadmium	3.51	U	3.51	10.0	ug/L	CF
CCR-8	1/13/20 3:32 PM	2/13/2020 9:21	EPA 200.7	Calcium	89.9		7.45	25.0	mg/L	CF
CCR-8	1/13/20 3:32 PM	1/14/2020 17:11	EPA 300.0 (Chloride)	Chloride	6.35		0.0380	0.100	mg/L	CF
CCR-8	1/13/20 3:32 PM	2/7/2020 9:56	EPA 200.7	Chromium	3.7	U	3.70	10.0	ug/L	CF
CCR-8	1/13/20 3:32 PM	1/17/2020 12:08	EPA 200.7	Cobalt	0.382	U	0.382	1.00	ug/L	FSES
CCR-8	1/13/20 3:32 PM	1/13/2020 15:32	By Observation	Color	Yellow	U			[blank]	DB
CCR-8	1/13/20 3:32 PM	1/13/2020 15:32	EPA 360.2	Dissolved Oxygen	0.48		0.100	0.200	mg/L	DB
CCR-8	1/13/20 3:32 PM	1/17/2020 6:17	EPA 300.0	Fluoride	0.276		0.0168	0.0504	mg/L	FSES
CCR-8	1/13/20 3:32 PM	2/7/2020 9:56	EPA 200.7	Lead	13.9	U	13.9	20.0	ug/L	CF
CCR-8	1/13/20 3:32 PM	1/17/2020 11:14	EPA 200.7	Lithium	3.33	U	3.33	25.0	ug/L	FSES
CCR-8	1/13/20 3:32 PM	1/20/2020 15:08	EPA 245.1	Mercury	0.152	U	0.152	0.456	ug/L	FSES
CCR-8	1/13/20 3:32 PM	1/17/2020 12:08	EPA 200.7	Molybdenum	17.1		3.13	10.0	ug/L	FSES
CCR-8	1/13/20 3:32 PM	1/13/2020 15:32	SM18 4500-B B	Field pH	6.50		0.05	0.05	SU	DB
CCR-8	1/13/20 3:32 PM	1/28/2020 14:45	EPA 903.1	Radium-226	4.6		0.200		pCi/L	FRS
CCR-8	1/13/20 3:32 PM	1/27/2020 11:48	EPA Ra-05	Radium-228	0.7	U	0.700		pCi/L	FRS
CCR-8	1/13/20 3:32 PM	1/15/2020 14:14	SM18 2540 C	Total Dissolved Solids	244		10.0	20.0	mg/L	CF
CCR-8	1/13/20 3:32 PM	1/17/2020 12:08	EPA 200.7	Selenium	3.09	U	3.09	15.0	ug/L	FSES
CCR-8	1/13/20 3:32 PM	1/13/2020 15:32	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-8	1/13/20 3:32 PM	1/13/2020 15:32	EPA 120.1	Specific Conductance	550		1	5	umhos/cm	DB
CCR-8	1/13/20 3:32 PM	1/14/2020 17:11	EPA 300.0 (Sulfate)	Sulfate	119		0.0250	0.100	mg/L	CF
CCR-8	1/13/20 3:32 PM	1/13/2020 15:32	EPA 170.1	Temperature	25.0		0.1	0.1	deg C	DB
CCR-8	1/13/20 3:32 PM	1/17/2020 12:08	EPA 200.7	Thallium	0.925	U	0.925	4.00	ug/L	FSES
CCR-8	1/13/20 3:32 PM	1/13/2020 15:32	EPA 180.1	Turbidity	3.94		0.1	0.5	NTU	DB
CCR-8	1/13/20 3:32 PM	1/13/2020 15:32	FDEP DEP-SOP	Water Level	134.08		0.100	0.500	FT	DB
CCR-8	1/13/20 3:32 PM	1/14/2020 18:55	EPA 300.0 (Sulfate)	Sulfate	119		0.250	1.00	mg/L	CF
CCR-9	1/14/20 9:12 AM	1/17/2020 12:28	EPA 200.7	Antimony	4.91	U	4.91	15.0	ug/L	FSES
CCR-9	1/14/20 9:12 AM	1/17/2020 12:28	EPA 200.7	Arsenic	9.2		2.89	10.0	ug/L	FSES
CCR-9	1/14/20 9:12 AM	2/7/2020 10:01	EPA 200.7	Barium	64.7		5.03	20.0	ug/L	CF
CCR-9	1/14/20 9:12 AM	1/17/2020 12:28	EPA 200.7	Boron	430		2.36	10.0	ug/L	FSES
CCR-9	1/14/20 9:12 AM	2/7/2020 10:01	EPA 200.7	Cadmium	3.51	U	3.51	10.0	ug/L	CF
CCR-9	1/14/20 9:12 AM	2/13/2020 9:27	EPA 200.7	Calcium	727		74.5	250	mg/L	CF
CCR-9	1/14/20 9:12 AM	1/14/2020 17:37	EPA 300.0 (Chloride)	Chloride	1250		1.52	4.00	mg/L	CF
CCR-9	1/14/20 9:12 AM	2/7/2020 10:01	EPA 200.7	Chromium	3.7	U	3.70	10.0	ug/L	CF
CCR-9	1/14/20 9:12 AM	1/17/2020 12:28	EPA 200.7	Cobalt	0.382	U	0.382	1.00	ug/L	FSES

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Lakeland, FL 33805
CCR SAMPLING
January 2020
LAB ANALYSIS REPORT

SampleName	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Qualifiers	Detection Limit	Reporting Limit	Units	Analyst
CCR-9	1/14/20 9:12 AM	1/14/2020 9:12	By Observation	Color	Clear	U			[blank]	DB
CCR-9	1/14/20 9:12 AM	1/14/2020 9:12	EPA 360.2	Dissolved Oxygen	0.85		0.100	0.200	mg/L	DB
CCR-9	1/14/20 9:12 AM	1/17/2020 6:33	EPA 300.0	Fluoride	0.095		0.0840	0.252	mg/L	FSES
CCR-9	1/14/20 9:12 AM	2/7/2020 10:01	EPA 200.7	Lead	13.9	U	13.9	20.0	ug/L	CF
CCR-9	1/14/20 9:12 AM	1/17/2020 11:16	EPA 200.7	Lithium	105		3.33	25.0	ug/L	FSES
CCR-9	1/14/20 9:12 AM	1/20/2020 15:06	EPA 245.1	Mercury	0.152	U	0.152	0.456	ug/L	FSES
CCR-9	1/14/20 9:12 AM	1/17/2020 12:28	EPA 200.7	Molybdenum	3.13	U	3.13	10.0	ug/L	FSES
CCR-9	1/14/20 9:12 AM	1/14/2020 9:12	SM18 4500-B B	Field pH	4.92		0.05	0.05	SU	DB
CCR-9	1/14/20 9:12 AM	1/28/2020 14:45	EPA 903.1	Radium-226	0.9		0.200		pCi/L	FRS
CCR-9	1/14/20 9:12 AM	1/27/2020 11:48	EPA Ra-05	Radium-228	0.6	U	0.600		pCi/L	FRS
CCR-9	1/14/20 9:12 AM	1/15/2020 14:16	SM18 2540 C	Total Dissolved Solids	3720		20.0	40.0	mg/L	CF
CCR-9	1/14/20 9:12 AM	1/17/2020 12:28	EPA 200.7	Selenium	3.09	U	3.09	15.0	ug/L	FSES
CCR-9	1/14/20 9:12 AM	1/14/2020 9:12	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-9	1/14/20 9:12 AM	1/14/2020 9:12	EPA 120.1	Specific Conductance	6210		1	5	umhos/cm	DB
CCR-9	1/14/20 9:12 AM	1/14/2020 17:37	EPA 300.0 (Sulfate)	Sulfate	999		1.00	4.00	mg/L	CF
CCR-9	1/14/20 9:12 AM	1/14/2020 9:12	EPA 170.1	Temperature	24.9		0.1	0.1	deg C	DB
CCR-9	1/14/20 9:12 AM	1/17/2020 12:28	EPA 200.7	Thallium	0.925	U	0.925	4.00	ug/L	FSES
CCR-9	1/14/20 9:12 AM	1/14/2020 9:12	EPA 180.1	Turbidity	20.0		0.1	0.5	NTU	DB
CCR-9	1/14/20 9:12 AM	1/14/2020 9:12	FDEP DEP-SOP	Water Level	132.81		0.100	0.500	FT	DB
CCR-10	1/14/20 9:48 AM	1/17/2020 12:11	EPA 200.7	Antimony	4.91	U	4.91	15.0	ug/L	FSES
CCR-10	1/14/20 9:48 AM	1/17/2020 12:11	EPA 200.7	Arsenic	2.89	U	2.89	10.0	ug/L	FSES
CCR-10	1/14/20 9:48 AM	2/7/2020 10:06	EPA 200.7	Barium	19.2	I	5.03	20.0	ug/L	CF
CCR-10	1/14/20 9:48 AM	1/17/2020 12:11	EPA 200.7	Boron	277		2.36	10.0	ug/L	FSES
CCR-10	1/14/20 9:48 AM	2/7/2020 10:06	EPA 200.7	Cadmium	3.51	U	3.51	10.0	ug/L	CF
CCR-10	1/14/20 9:48 AM	2/13/2020 9:32	EPA 200.7	Calcium	154		3.72	12.5	mg/L	CF
CCR-10	1/14/20 9:48 AM	1/14/2020 18:03	EPA 300.0 (Chloride)	Chloride	30.7		0.380	1.00	mg/L	CF
CCR-10	1/14/20 9:48 AM	2/7/2020 10:06	EPA 200.7	Chromium	3.7	U	3.70	10.0	ug/L	CF
CCR-10	1/14/20 9:48 AM	1/17/2020 12:11	EPA 200.7	Cobalt	0.382	U	0.382	1.00	ug/L	FSES
CCR-10	1/14/20 9:48 AM	1/14/2020 9:48	By Observation	Color	Clear	U			[blank]	DB
CCR-10	1/14/20 9:48 AM	1/14/2020 9:48	EPA 360.2	Dissolved Oxygen	0.19	I	0.100	0.200	mg/L	DB
CCR-10	1/14/20 9:48 AM	1/17/2020 2:09	EPA 300.0	Fluoride	0.205		0.0168	0.0504	mg/L	FSES
CCR-10	1/14/20 9:48 AM	2/7/2020 10:06	EPA 200.7	Lead	13.9	U	13.9	20.0	ug/L	CF
CCR-10	1/14/20 9:48 AM	1/17/2020 11:19	EPA 200.7	Lithium	3.33	U	3.33	25.0	ug/L	FSES
CCR-10	1/14/20 9:48 AM	1/20/2020 15:08	EPA 245.1	Mercury	0.152	U	0.152	0.456	ug/L	FSES
CCR-10	1/14/20 9:48 AM	1/17/2020 12:11	EPA 200.7	Molybdenum	3.13	U	3.13	10.0	ug/L	FSES
CCR-10	1/14/20 9:48 AM	1/14/2020 9:48	SM18 4500-B B	Field pH	5.12		0.05	0.05	SU	DB
CCR-10	1/14/20 9:48 AM	1/28/2020 14:45	EPA 903.1	Radium-226	2.9		0.100		pCi/L	FRS
CCR-10	1/14/20 9:48 AM	1/27/2020 11:48	EPA Ra-05	Radium-228	1.0		0.700		pCi/L	FRS
CCR-10	1/14/20 9:48 AM	1/15/2020 14:18	SM18 2540 C	Total Dissolved Solids	775		10.0	20.0	mg/L	CF
CCR-10	1/14/20 9:48 AM	1/17/2020 12:11	EPA 200.7	Selenium	3.09	U	3.09	15.0	ug/L	FSES
CCR-10	1/14/20 9:48 AM	1/14/2020 9:48	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-10	1/14/20 9:48 AM	1/14/2020 9:48	EPA 120.1	Specific Conductance	1201		1	5	umhos/cm	DB
CCR-10	1/14/20 9:48 AM	1/14/2020 18:03	EPA 300.0 (Sulfate)	Sulfate	463		0.250	1.00	mg/L	CF
CCR-10	1/14/20 9:48 AM	1/14/2020 9:48	EPA 170.1	Temperature	24.1		0.1	0.1	deg C	DB
CCR-10	1/14/20 9:48 AM	1/17/2020 12:11	EPA 200.7	Thallium	0.925	U	0.925	4.00	ug/L	FSES
CCR-10	1/14/20 9:48 AM	1/14/2020 9:48	EPA 180.1	Turbidity	1.22		0.1	0.5	NTU	DB
CCR-10	1/14/20 9:48 AM	1/14/2020 9:48	FDEP DEP-SOP	Water Level	132.36		0.100	0.500	FT	DB
CCR-11	1/14/20 10:30 AM	1/17/2020 12:31	EPA 200.7	Antimony	4.91	U	4.91	15.0	ug/L	FSES
CCR-11	1/14/20 10:30 AM	1/17/2020 12:31	EPA 200.7	Arsenic	64.4		2.89	10.0	ug/L	FSES
CCR-11	1/14/20 10:30 AM	2/7/2020 10:48	EPA 200.7	Barium	44.4		5.03	20.0	ug/L	CF
CCR-11	1/14/20 10:30 AM	1/17/2020 12:31	EPA 200.7	Boron	412		2.36	10.0	ug/L	FSES
CCR-11	1/14/20 10:30 AM	2/7/2020 10:48	EPA 200.7	Cadmium	3.51	U	3.51	10.0	ug/L	CF
CCR-11	1/14/20 10:30 AM	2/13/2020 9:37	EPA 200.7	Calcium	586		37.2	125	mg/L	CF
CCR-11	1/14/20 10:30 AM	1/14/2020 18:29	EPA 300.0 (Chloride)	Chloride	677		0.760	2.00	mg/L	CF
CCR-11	1/14/20 10:30 AM	2/7/2020 10:48	EPA 200.7	Chromium	3.7	U	3.70	10.0	ug/L	CF
CCR-11	1/14/20 10:30 AM	1/17/2020 12:31	EPA 200.7	Cobalt	0.382	U	0.382	1.00	ug/L	FSES
CCR-11	1/14/20 10:30 AM	1/14/2020 10:30	By Observation	Color	Clear	U			[blank]	AB
CCR-11	1/14/20 10:30 AM	1/14/2020 10:30	EPA 360.2	Dissolved Oxygen	0.49		0.100	0.200	mg/L	AB
CCR-11	1/14/20 10:30 AM	1/17/2020 2:26	EPA 300.0	Fluoride	0.512		0.0336	0.101	mg/L	FSES
CCR-11	1/14/20 10:30 AM	2/7/2020 10:48	EPA 200.7	Lead	13.9	U	13.9	20.0	ug/L	CF
CCR-11	1/14/20 10:30 AM	1/17/2020 11:51	EPA 200.7	Lithium	28.4		3.33	25.0	ug/L	FSES
CCR-11	1/14/20 10:30 AM	1/20/2020 15:11	EPA 245.1	Mercury	0.152	U	0.152	0.456	ug/L	FSES
CCR-11	1/14/20 10:30 AM	1/17/2020 12:31	EPA 200.7	Molybdenum	3.13	U	3.13	10.0	ug/L	FSES
CCR-11	1/14/20 10:30 AM	1/14/2020 10:30	SM18 4500-B B	Field pH	4.07		0.05	0.05	SU	AB
CCR-11	1/14/20 10:30 AM	1/29/2020 12:22	EPA 903.1	Radium-226	0.3		0.200		pCi/L	FRS
CCR-11	1/14/20 10:30 AM	1/28/2020 9:34	EPA Ra-05	Radium-228	0.9	U	0.900		pCi/L	FRS
CCR-11	1/14/20 10:30 AM	1/16/2020 13:30	SM18 2540 C	Total Dissolved Solids	3570		20.0	40.0	mg/L	CF
CCR-11	1/14/20 10:30 AM	1/17/2020 12:31	EPA 200.7	Selenium	3.09	U	3.09	15.0	ug/L	FSES
CCR-11	1/14/20 10:30 AM	1/14/2020 10:30	By Observation	Sheen	No Sheen	U			N/A	AB
CCR-11	1/14/20 10:30 AM	1/14/2020 10:30	EPA 120.1	Specific Conductance	5502		1	5	umhos/cm	AB
CCR-11	1/14/20 10:30 AM	1/14/2020 18:29	EPA 300.0 (Sulfate)	Sulfate	1580		0.500	2.00	mg/L	CF
CCR-11	1/14/20 10:30 AM	1/14/2020 10:30	EPA 170.1	Temperature	24.3		0.1	0.1	deg C	AB
CCR-11	1/14/20 10:30 AM	1/17/2020 12:31	EPA 200.7	Thallium	0.925	U	0.925	4.00	ug/L	FSES
CCR-11	1/14/20 10:30 AM	1/14/2020 10:30	EPA 180.1	Turbidity	54.7		0.1	0.5	NTU	AB
CCR-11	1/14/20 10:30 AM	1/14/2020 10:30	FDEP DEP-SOP	Water Level	132.51		0.100	0.500	FT	AB
CCR-12	1/14/20 11:01 AM	1/17/2020 12:34	EPA 200.7	Antimony	4.91	U	4.91	15.0	ug/L	FSES
CCR-12	1/14/20 11:01 AM	1/17/2020 12:34	EPA 200.7	Arsenic	72.7		2.89	10.0	ug/L	FSES
CCR-12	1/14/20 11:01 AM	2/7/2020 10:54	EPA 200.7	Barium	11.7	I	5.03	20.0	ug/L	CF
CCR-12	1/14/20 11:01 AM	1/17/2020 12:34	EPA 200.7	Boron	414		2.36	10.0	ug/L	FSES

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SampleName	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Qualifiers	Detection Limit	Reporting Limit	Units	Analyst
CCR-12	1/14/20 11:01 AM	2/7/2020 10:54	EPA 200.7	Cadmium	3.51	U	3.51	10.0	ug/L	CF
CCR-12	1/14/20 11:01 AM	2/13/2020 9:42	EPA 200.7	Calcium	605		37.2	125	mg/L	CF
CCR-12	1/14/20 11:01 AM	1/27/2020 17:44	EPA 300.0 (Chloride)	Chloride	22.8		0.038	0.100	mg/L	CF
CCR-12	1/14/20 11:01 AM	2/7/2020 10:54	EPA 200.7	Chromium	3.7	U	3.70	10.0	ug/L	CF
CCR-12	1/14/20 11:01 AM	1/17/2020 12:34	EPA 200.7	Cobalt	0.382	U	0.382	1.00	ug/L	FSES
CCR-12	1/14/20 11:01 AM	1/14/2020 11:01	By Observation	Color	Milky	U			[blank]	AB
CCR-12	1/14/20 11:01 AM	1/14/2020 11:01	EPA 360.2	Dissolved Oxygen	0.67		0.100	0.200	mg/L	AB
CCR-12	1/14/20 11:01 AM	1/17/2020 2:43	EPA 300.0	Fluoride	0.568		0.0336	0.101	mg/L	FSES
CCR-12	1/14/20 11:01 AM	2/7/2020 10:54	EPA 200.7	Lead	13.9	U	13.9	20.0	ug/L	CF
CCR-12	1/14/20 11:01 AM	1/17/2020 11:54	EPA 200.7	Lithium	28.5		3.33	25.0	ug/L	FSES
CCR-12	1/14/20 11:01 AM	1/20/2020 15:13	EPA 245.1	Mercury	0.152	U	0.152	0.456	ug/L	FSES
CCR-12	1/14/20 11:01 AM	1/17/2020 12:34	EPA 200.7	Molybdenum	18		3.13	10.0	ug/L	FSES
CCR-12	1/14/20 11:01 AM	1/14/2020 11:01	SM18 4500-B B	Field pH	6.37		0.05	0.05	SU	AB
CCR-12	1/14/20 11:01 AM	1/29/2020 12:22	EPA 903.1	Radium-226	2.7		0.200		pCi/L	FRS
CCR-12	1/14/20 11:01 AM	1/28/2020 9:34	EPA Ra-05	Radium-228	0.9		0.900		pCi/L	FRS
CCR-12	1/14/20 11:01 AM	1/16/2020 13:32	SM18 2540 C	Total Dissolved Solids	2420		20.0	40.0	mg/L	CF
CCR-12	1/14/20 11:01 AM	1/17/2020 12:34	EPA 200.7	Selenium	3.09	U	3.09	15.0	ug/L	FSES
CCR-12	1/14/20 11:01 AM	1/14/2020 11:01	By Observation	Sheen	No Sheen	U			N/A	AB
CCR-12	1/14/20 11:01 AM	1/14/2020 11:01	EPA 120.1	Specific Conductance	2868		1	5	umhos/cm	AB
CCR-12	1/14/20 11:01 AM	1/27/2020 17:44	EPA 300.0 (Sulfate)	Sulfate	1300		0.0250	0.100	mg/L	CF
CCR-12	1/14/20 11:01 AM	1/14/2020 11:01	EPA 170.1	Temperature	24.6		0.1	0.1	deg C	AB
CCR-12	1/14/20 11:01 AM	1/17/2020 12:34	EPA 200.7	Thallium	0.925	U	0.925	4.00	ug/L	FSES
CCR-12	1/14/20 11:01 AM	1/14/2020 11:01	EPA 180.1	Turbidity	20.4		0.1	0.5	NTU	AB
CCR-12	1/14/20 11:01 AM	1/14/2020 11:01	FDEP DEP-SOP	Water Level	132.48		0.100	0.500	FT	AB
CCR-12	1/14/20 11:01 AM	1/27/2020 16:52	EPA 300.0 (Sulfate)	Sulfate	1410		0.500	2.00	mg/L	CF
CCR-13	1/14/20 1:23 PM	1/17/2020 12:37	EPA 200.7	Antimony	4.91	U	4.91	15.0	ug/L	FSES
CCR-13	1/14/20 1:23 PM	1/17/2020 12:37	EPA 200.7	Arsenic	2.89	U	2.89	10.0	ug/L	FSES
CCR-13	1/14/20 1:23 PM	2/7/2020 10:58	EPA 200.7	Barium	41.1		5.03	20.0	ug/L	CF
CCR-13	1/14/20 1:23 PM	1/17/2020 12:37	EPA 200.7	Boron	155		2.36	10.0	ug/L	FSES
CCR-13	1/14/20 1:23 PM	2/7/2020 10:58	EPA 200.7	Cadmium	3.51	U	3.51	10.0	ug/L	CF
CCR-13	1/14/20 1:23 PM	2/13/2020 9:47	EPA 200.7	Calcium	517		37.2	125	mg/L	CF
CCR-13	1/14/20 1:23 PM	1/27/2020 19:02	EPA 300.0 (Chloride)	Chloride	383		0.760	2.00	mg/L	CF
CCR-13	1/14/20 1:23 PM	2/7/2020 10:58	EPA 200.7	Chromium	3.7	U	3.70	10.0	ug/L	CF
CCR-13	1/14/20 1:23 PM	1/17/2020 12:37	EPA 200.7	Cobalt	0.382	U	0.382	1.00	ug/L	FSES
CCR-13	1/14/20 1:23 PM	1/14/2020 13:23	By Observation	Color	Clear	U			[blank]	DB
CCR-13	1/14/20 1:23 PM	1/14/2020 13:23	EPA 360.2	Dissolved Oxygen	1.26		0.100	0.200	mg/L	DB
CCR-13	1/14/20 1:23 PM	1/22/2020 0:04	EPA 300.0	Fluoride	1.17		0.0336	0.101	mg/L	FSES
CCR-13	1/14/20 1:23 PM	2/7/2020 10:58	EPA 200.7	Lead	13.9	U	13.9	20.0	ug/L	CF
CCR-13	1/14/20 1:23 PM	1/17/2020 11:56	EPA 200.7	Lithium	262		3.33	25.0	ug/L	FSES
CCR-13	1/14/20 1:23 PM	1/20/2020 15:16	EPA 245.1	Mercury	0.152	U	0.152	0.456	ug/L	FSES
CCR-13	1/14/20 1:23 PM	1/17/2020 12:37	EPA 200.7	Molybdenum	3.13	U	3.13	10.0	ug/L	FSES
CCR-13	1/14/20 1:23 PM	1/14/2020 13:23	SM18 4500-B B	Field pH	3.89		0.05	0.05	SU	DB
CCR-13	1/14/20 1:23 PM	1/29/2020 12:22	EPA 903.1	Radium-226	6.6		0.200		pCi/L	FRS
CCR-13	1/14/20 1:23 PM	1/28/2020 9:34	EPA Ra-05	Radium-228	6.7		0.900		pCi/L	FRS
CCR-13	1/14/20 1:23 PM	1/16/2020 13:34	SM18 2540 C	Total Dissolved Solids	2790		20.0	40.0	mg/L	CF
CCR-13	1/14/20 1:23 PM	1/17/2020 12:37	EPA 200.7	Selenium	3.09	U	3.09	15.0	ug/L	FSES
CCR-13	1/14/20 1:23 PM	1/14/2020 13:23	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-13	1/14/20 1:23 PM	1/14/2020 13:23	EPA 120.1	Specific Conductance	3894		1	5	umhos/cm	DB
CCR-13	1/14/20 1:23 PM	1/27/2020 19:02	EPA 300.0 (Sulfate)	Sulfate	1380		0.500	2.00	mg/L	CF
CCR-13	1/14/20 1:23 PM	1/14/2020 13:23	EPA 170.1	Temperature	24.0		0.1	0.1	deg C	DB
CCR-13	1/14/20 1:23 PM	1/17/2020 12:37	EPA 200.7	Thallium	0.925	U	0.925	4.00	ug/L	FSES
CCR-13	1/14/20 1:23 PM	1/14/2020 13:23	EPA 180.1	Turbidity	2.98		0.1	0.5	NTU	DB
CCR-13	1/14/20 1:23 PM	1/14/2020 13:23	FDEP DEP-SOP	Water Level	132.27		0.100	0.500	FT	DB
CCR-14	1/14/20 1:55 PM	1/17/2020 12:40	EPA 200.7	Antimony	4.91	U	4.91	15.0	ug/L	FSES
CCR-14	1/14/20 1:55 PM	1/17/2020 12:40	EPA 200.7	Arsenic	2.89	U	2.89	10.0	ug/L	FSES
CCR-14	1/14/20 1:55 PM	2/7/2020 11:03	EPA 200.7	Barium	21.5		5.03	20.0	ug/L	CF
CCR-14	1/14/20 1:55 PM	1/17/2020 12:40	EPA 200.7	Boron	984		2.36	10.0	ug/L	FSES
CCR-14	1/14/20 1:55 PM	2/7/2020 11:03	EPA 200.7	Cadmium	3.51	U	3.51	10.0	ug/L	CF
CCR-14	1/14/20 1:55 PM	2/13/2020 9:52	EPA 200.7	Calcium	463		37.2	125	mg/L	CF
CCR-14	1/14/20 1:55 PM	1/27/2020 18:10	EPA 300.0 (Chloride)	Chloride	90.9		0.0760	0.200	mg/L	CF
CCR-14	1/14/20 1:55 PM	2/7/2020 11:03	EPA 200.7	Chromium	3.7	U	3.70	10.0	ug/L	CF
CCR-14	1/14/20 1:55 PM	1/17/2020 12:40	EPA 200.7	Cobalt	0.382	U	0.382	1.00	ug/L	FSES
CCR-14	1/14/20 1:55 PM	1/14/2020 13:55	By Observation	Color	Clear	U			[blank]	DB
CCR-14	1/14/20 1:55 PM	1/14/2020 13:55	EPA 360.2	Dissolved Oxygen	0.15	I	0.100	0.200	mg/L	DB
CCR-14	1/14/20 1:55 PM	1/22/2020 1:13	EPA 300.0	Fluoride	0.476		0.0336	0.101	mg/L	FSES
CCR-14	1/14/20 1:55 PM	2/7/2020 11:03	EPA 200.7	Lead	13.9	U	13.9	20.0	ug/L	CF
CCR-14	1/14/20 1:55 PM	1/17/2020 11:59	EPA 200.7	Lithium	21.5		3.33	25.0	ug/L	FSES
CCR-14	1/14/20 1:55 PM	1/20/2020 15:19	EPA 245.1	Mercury	0.152	U	0.152	0.456	ug/L	FSES
CCR-14	1/14/20 1:55 PM	1/17/2020 12:40	EPA 200.7	Molybdenum	3.13	U	3.13	10.0	ug/L	FSES
CCR-14	1/14/20 1:55 PM	1/14/2020 13:55	SM18 4500-B B	Field pH	5.10		0.05	0.05	SU	DB
CCR-14	1/14/20 1:55 PM	1/29/2020 12:22	EPA 903.1	Radium-226	37.1		0.200		pCi/L	FRS
CCR-14	1/14/20 1:55 PM	1/28/2020 9:34	EPA Ra-05	Radium-228	1.4		0.800		pCi/L	FRS
CCR-14	1/14/20 1:55 PM	1/16/2020 13:36	SM18 2540 C	Total Dissolved Solids	2120		20.0	40.0	mg/L	CF
CCR-14	1/14/20 1:55 PM	1/17/2020 12:40	EPA 200.7	Selenium	3.09	U	3.09	15.0	ug/L	FSES
CCR-14	1/14/20 1:55 PM	1/14/2020 13:55	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-14	1/14/20 1:55 PM	1/14/2020 13:55	EPA 120.1	Specific Conductance	2650		1	5	umhos/cm	DB
CCR-14	1/14/20 1:55 PM	1/27/2020 18:10	EPA 300.0 (Sulfate)	Sulfate	1240		0.0500	0.200	mg/L	CF
CCR-14	1/14/20 1:55 PM	1/14/2020 13:55	EPA 170.1	Temperature	24.7		0.1	0.1	deg C	DB
CCR-14	1/14/20 1:55 PM	1/17/2020 12:40	EPA 200.7	Thallium	0.925	U	0.925	4.00	ug/L	FSES

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SampleName	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Qualifiers	Detection Limit	Reporting Limit	Units	Analyst
CCR-14	1/14/20 1:55 PM	1/14/2020 13:55	EPA 180.1	Turbidity	5.13		0.1	0.5	NTU	DB
CCR-14	1/14/20 1:55 PM	1/14/2020 13:55	FDEP DEP-SOP	Water Level	131.57		0.100	0.500	FT	DB
CCR-14	1/14/20 1:55 PM	1/27/2020 17:18	EPA 300.0 (Sulfate)	Sulfate	1290		0.500	2.00	mg/L	CF
CCR-16	1/15/20 10:14 AM	1/15/2020 10:14	By Observation	Color	Clear	U			[blank]	DB
CCR-16	1/15/20 10:14 AM	1/15/2020 10:14	EPA 360.2	Dissolved Oxygen	0.22		0.100	0.200	mg/L	DB
CCR-16	1/15/20 10:14 AM	1/17/2020 12:04	EPA 200.7	Lithium	49.4		3.33	25.0	ug/L	FSES
CCR-16	1/15/20 10:14 AM	1/15/2020 10:14	SM18 4500-B B	Field pH	3.72		0.05	0.05	SU	DB
CCR-16	1/15/20 10:14 AM	1/15/2020 10:14	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-16	1/15/20 10:14 AM	1/15/2020 10:14	EPA 120.1	Specific Conductance	12018		1	5	umhos/cm	DB
CCR-16	1/15/20 10:14 AM	1/15/2020 10:14	EPA 170.1	Temperature	25.6		0.1	0.1	deg C	DB
CCR-16	1/15/20 10:14 AM	1/15/2020 10:14	EPA 180.1	Turbidity	13.3		0.1	0.5	NTU	DB
CCR-16	1/15/20 10:14 AM	1/15/2020 10:14	FDEP DEP-SOP	Water Level	128.97		0.100	0.500	FT	DB
CCR-17	1/15/20 10:49 AM	1/15/2020 10:49	By Observation	Color	Brown	U			[blank]	DB
CCR-17	1/15/20 10:49 AM	1/15/2020 10:49	EPA 360.2	Dissolved Oxygen	0.50		0.100	0.200	mg/L	DB
CCR-17	1/15/20 10:49 AM	1/17/2020 12:07	EPA 200.7	Lithium	10.7		3.33	25.0	ug/L	FSES
CCR-17	1/15/20 10:49 AM	1/15/2020 10:49	SM18 4500-B B	Field pH	6.44		0.05	0.05	SU	DB
CCR-17	1/15/20 10:49 AM	1/15/2020 10:49	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-17	1/15/20 10:49 AM	1/15/2020 10:49	EPA 120.1	Specific Conductance	970		1	5	umhos/cm	DB
CCR-17	1/15/20 10:49 AM	1/15/2020 10:49	EPA 170.1	Temperature	27.3		0.1	0.1	deg C	DB
CCR-17	1/15/20 10:49 AM	1/15/2020 10:49	EPA 180.1	Turbidity	13.4		0.1	0.5	NTU	DB
CCR-17	1/15/20 10:49 AM	1/15/2020 10:49	FDEP DEP-SOP	Water Level	132.02		0.100	0.500	FT	DB
CCR-19	1/15/20 9:35 AM	1/15/2020 9:35	By Observation	Color	Clear	U			[blank]	DB
CCR-19	1/15/20 9:35 AM	1/15/2020 9:35	EPA 360.2	Dissolved Oxygen	0.26		0.100	0.200	mg/L	DB
CCR-19	1/15/20 9:35 AM	1/17/2020 12:09	EPA 200.7	Lithium	32.2		3.33	25.0	ug/L	FSES
CCR-19	1/15/20 9:35 AM	1/15/2020 9:35	SM18 4500-B B	Field pH	4.32		0.05	0.05	SU	DB
CCR-19	1/15/20 9:35 AM	1/15/2020 9:35	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-19	1/15/20 9:35 AM	1/15/2020 9:35	EPA 120.1	Specific Conductance	6983		1	5	umhos/cm	DB
CCR-19	1/15/20 9:35 AM	1/15/2020 9:35	EPA 170.1	Temperature	24.0		0.1	0.1	deg C	DB
CCR-19	1/15/20 9:35 AM	1/15/2020 9:35	EPA 180.1	Turbidity	17.3		0.1	0.5	NTU	DB
CCR-19	1/15/20 9:35 AM	1/15/2020 9:35	FDEP DEP-SOP	Water Level	132.27		0.100	0.500	FT	DB
CCR-20	1/15/20 8:40 AM	1/17/2020 13:11	EPA 200.7	Arsenic	67.2		2.89	10.0	ug/L	FSES
CCR-20	1/15/20 8:40 AM	1/15/2020 8:40	By Observation	Color	Clear	U			[blank]	DB
CCR-20	1/15/20 8:40 AM	1/15/2020 8:40	EPA 360.2	Dissolved Oxygen	0.50		0.100	0.200	mg/L	DB
CCR-20	1/15/20 8:40 AM	1/15/2020 8:40	SM18 4500-B B	Field pH	4.77		0.05	0.05	SU	DB
CCR-20	1/15/20 8:40 AM	1/15/2020 8:40	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-20	1/15/20 8:40 AM	1/15/2020 8:40	EPA 120.1	Specific Conductance	4559		1	5	umhos/cm	DB
CCR-20	1/15/20 8:40 AM	1/15/2020 8:40	EPA 170.1	Temperature	23.4		0.1	0.1	deg C	DB
CCR-20	1/15/20 8:40 AM	1/15/2020 8:40	EPA 180.1	Turbidity	4.88		0.1	0.5	NTU	DB
CCR-20	1/15/20 8:40 AM	1/15/2020 8:40	FDEP DEP-SOP	Water Level	132.40		0.100	0.500	FT	DB
CCR-21	1/14/20 2:37 PM	1/17/2020 13:08	EPA 200.7	Arsenic	2.89	U	2.89	10.0	ug/L	FSES
CCR-21	1/14/20 2:37 PM	1/14/2020 14:37	By Observation	Color	Clear	U			[blank]	DB
CCR-21	1/14/20 2:37 PM	1/14/2020 14:37	EPA 360.2	Dissolved Oxygen	0.46		0.100	0.200	mg/L	DB
CCR-21	1/14/20 2:37 PM	1/14/2020 14:37	SM18 4500-B B	Field pH	6.22		0.05	0.05	SU	DB
CCR-21	1/14/20 2:37 PM	1/14/2020 14:37	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-21	1/14/20 2:37 PM	1/14/2020 14:37	EPA 120.1	Specific Conductance	1933		1	5	umhos/cm	DB
CCR-21	1/14/20 2:37 PM	1/14/2020 14:37	EPA 170.1	Temperature	24.2		0.1	0.1	deg C	DB
CCR-21	1/14/20 2:37 PM	1/14/2020 14:37	EPA 180.1	Turbidity	1.38		0.1	0.5	NTU	DB
CCR-21	1/14/20 2:37 PM	1/14/2020 14:37	FDEP DEP-SOP	Water Level	132.30		0.100	0.500	FT	DB
CCR-22	1/15/20 9:06 AM	1/5/2020 9:06	By Observation	Color	Clear	U			[blank]	DB
CCR-22	1/15/20 9:06 AM	1/5/2020 9:06	EPA 360.2	Dissolved Oxygen	0.16	I	0.100	0.200	mg/L	DB
CCR-22	1/15/20 9:06 AM	1/17/2020 12:12	EPA 200.7	Lithium	112		3.33	25.0	ug/L	FSES
CCR-22	1/15/20 9:06 AM	1/5/2020 9:06	SM18 4500-B B	Field pH	4.40		0.05	0.05	SU	DB
CCR-22	1/15/20 9:06 AM	1/5/2020 9:06	By Observation	Sheen	No Sheen	U			N/A	DB
CCR-22	1/15/20 9:06 AM	1/5/2020 9:06	EPA 120.1	Specific Conductance	2087		1	5	umhos/cm	DB
CCR-22	1/15/20 9:06 AM	1/5/2020 9:06	EPA 170.1	Temperature	23.8		0.1	0.1	deg C	DB
CCR-22	1/15/20 9:06 AM	1/5/2020 9:06	EPA 180.1	Turbidity	1.10		0.1	0.5	NTU	DB
CCR-22	1/15/20 9:06 AM	1/5/2020 9:06	FDEP DEP-SOP	Water Level	132.12		0.100	0.500	FT	DB
MW-24S	1/7/20 9:24 AM	1/7/2020 9:24	By Observation	Color	Clear	U			[blank]	ND
MW-24S	1/7/20 9:24 AM	1/7/2020 9:24	EPA 360.2	Dissolved Oxygen	3.22		0.100	0.200	mg/L	ND
MW-24S	1/7/20 9:24 AM	1/14/2020 11:35	EPA 200.7	Lithium	3.33	U	3.33	25.0	ug/L	FSES
MW-24S	1/7/20 9:24 AM	1/7/2020 9:24	SM18 4500-B B	Field pH	6.01		0.05	0.05	SU	ND
MW-24S	1/7/20 9:24 AM	1/7/2020 9:24	By Observation	Sheen	No Sheen	U			N/A	ND
MW-24S	1/7/20 9:24 AM	1/7/2020 9:24	EPA 120.1	Specific Conductance	320.1		1	5	umhos/cm	ND
MW-24S	1/7/20 9:24 AM	1/7/2020 9:24	EPA 170.1	Temperature	24.5		0.1	0.1	deg C	ND
MW-24S	1/7/20 9:24 AM	1/7/2020 9:24	EPA 180.1	Turbidity	2.39		0.1	0.5	NTU	ND
MW-24S	1/7/20 9:24 AM	1/7/2020 9:24	FDEP DEP-SOP	Water Level	133.24		0.100	0.500	FT	ND
MW-25S	1/7/20 10:02 AM	1/7/2020 10:02	By Observation	Color	Clear	U			[blank]	ND
MW-25S	1/7/20 10:02 AM	1/7/2020 10:02	EPA 360.2	Dissolved Oxygen	4.53		0.100	0.200	mg/L	ND
MW-25S	1/7/20 10:02 AM	1/14/2020 11:37	EPA 200.7	Lithium	3.33	U	3.33	25.0	ug/L	FSES
MW-25S	1/7/20 10:02 AM	1/7/2020 10:02	SM18 4500-B B	Field pH	5.68		0.05	0.05	SU	ND
MW-25S	1/7/20 10:02 AM	1/7/2020 10:02	By Observation	Sheen	No Sheen	U			N/A	ND
MW-25S	1/7/20 10:02 AM	1/7/2020 10:02	EPA 120.1	Specific Conductance	2186		1	5	umhos/cm	ND
MW-25S	1/7/20 10:02 AM	1/7/2020 10:02	EPA 170.1	Temperature	25.2		0.1	0.1	deg C	ND
MW-25S	1/7/20 10:02 AM	1/7/2020 10:02	EPA 180.1	Turbidity	4.41		0.1	0.5	NTU	ND
MW-25S	1/7/20 10:02 AM	1/7/2020 10:02	FDEP DEP-SOP	Water Level	129.81		0.100	0.500	FT	ND
CCR-26 Eq Blank	1/14/20 3:01 PM	1/17/2020 12:43	EPA 200.7	Antimony	4.91	U	4.91	15.0	ug/L	FSES
CCR-26 Eq Blank	1/14/20 3:01 PM	1/17/2020 12:43	EPA 200.7	Arsenic	2.89	U	2.89	10.0	ug/L	FSES
CCR-26 Eq Blank	1/14/20 3:01 PM	2/7/2020 11:34	EPA 200.7	Barium	5.03	U	5.03	20.0	ug/L	CF
CCR-26 Eq Blank	1/14/20 3:01 PM	1/17/2020 12:43	EPA 200.7	Boron	2.36	U	2.36	10.0	ug/L	FSES

3030 E Lake Parker Dr
Lakeland, FL 33805
CCR SAMPLING
January 2020
LAB ANALYSIS REPORT

SampleName	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Qualifiers	Detection Limit	Reporting Limit	Units	Analyst
CCR-26 Eq Blank	1/14/20 3:01 PM	2/7/2020 11:34	EPA 200.7	Cadmium	3.51	U	3.51	10.0	ug/L	CF
CCR-26 Eq Blank	1/14/20 3:01 PM	2/7/2020 11:34	EPA 200.7	Calcium	0.149	U	0.149	0.500	mg/L	CF
CCR-26 Eq Blank	1/14/20 3:01 PM	1/27/2020 16:27	EPA 300.0 (Chloride)	Chloride	0.038	U	0.0380	0.100	mg/L	CF
CCR-26 Eq Blank	1/14/20 3:01 PM	2/7/2020 11:34	EPA 200.7	Chromium	3.7	U	3.70	10.0	ug/L	CF
CCR-26 Eq Blank	1/14/20 3:01 PM	1/17/2020 12:43	EPA 200.7	Cobalt	0.382	U	0.382	1.00	ug/L	FSES
CCR-26 Eq Blank	1/14/20 3:01 PM	1/14/2020 15:01	By Observation	Color	Clear	U			[blank]	AB
CCR-26 Eq Blank	1/14/20 3:01 PM	1/14/2020 15:01	EPA 360.2	Dissolved Oxygen	0.74		0.100	0.200	mg/L	AB
CCR-26 Eq Blank	1/14/20 3:01 PM	1/22/2020 1:30	EPA 300.0	Fluoride	0.0168	U	0.0168	0.0504	mg/L	FSES
CCR-26 Eq Blank	1/14/20 3:01 PM	2/7/2020 11:34	EPA 200.7	Lead	13.9	U	13.9	20.0	ug/L	CF
CCR-26 Eq Blank	1/14/20 3:01 PM	1/17/2020 12:01	EPA 200.7	Lithium	3.33	U	3.33	25.0	ug/L	FSES
CCR-26 Eq Blank	1/14/20 3:01 PM	1/20/2020 15:26	EPA 245.1	Mercury	0.152	U	0.152	0.456	ug/L	FSES
CCR-26 Eq Blank	1/14/20 3:01 PM	1/17/2020 12:43	EPA 200.7	Molybdenum	3.13	U	3.13	10.0	ug/L	FSES
CCR-26 Eq Blank	1/14/20 3:01 PM	1/14/2020 15:01	SM18 4500-B B	Field pH	7.95		0.05	0.05	SU	AB
CCR-26 Eq Blank	1/14/20 3:01 PM	1/29/2020 12:22	EPA 903.1	Radium-226	8.6		0.100		pCi/L	FRS
CCR-26 Eq Blank	1/14/20 3:01 PM	1/28/2020 9:34	EPA Ra-05	Radium-228	0.7	U	0.700		pCi/L	FRS
CCR-26 Eq Blank	1/14/20 3:01 PM	1/16/2020 13:38	SM18 2540 C	Total Dissolved Solids	10.0	U	10.0	20.0	mg/L	CF
CCR-26 Eq Blank	1/14/20 3:01 PM	1/17/2020 12:43	EPA 200.7	Selenium	3.09	U	3.09	15.0	ug/L	FSES
CCR-26 Eq Blank	1/14/20 3:01 PM	1/14/2020 15:01	By Observation	Sheen	No Sheen	U			N/A	AB
CCR-26 Eq Blank	1/14/20 3:01 PM	1/14/2020 15:01	EPA 120.1	Specific Conductance	1.8	I	1	5	umhos/cm	AB
CCR-26 Eq Blank	1/14/20 3:01 PM	1/27/2020 16:27	EPA 300.0 (Sulfate)	Sulfate	0.0604	I	0.0250	0.100	mg/L	CF
CCR-26 Eq Blank	1/14/20 3:01 PM	1/14/2020 15:01	EPA 170.1	Temperature	22.7		0.1	0.1	deg C	AB
CCR-26 Eq Blank	1/14/20 3:01 PM	1/17/2020 12:43	EPA 200.7	Thallium	0.925	U	0.925	4.00	ug/L	FSES
CCR-26 Eq Blank	1/14/20 3:01 PM	1/14/2020 15:01	EPA 180.1	Turbidity	1.13		0.1	0.5	NTU	AB
CCR-26 Eq Blank	1/14/20 3:01 PM	1/14/2020 15:01	FDEP DEP-SOP	Water Level	0.10	U	0.100	0.500	FT	AB

I = The reported value is between the laboratory MDL and the laboratory PQL.
J = Estimated value. Quality control does not meet criteria.
J-2+ = Estimated value. Does not meet the quality control criteria for matrix spikes. The associated sample value is estimated to be greater than reported.
J-6 = Estimated value. Result does not meet the quality control criteria for duplicates.
J-7 = Result exceeds the regulatory MCL.
J-8 = Estimated value. Reported concentration is outside the standard calibration/calibration verification range.
U = Compound was analyzed for but not detected.
V = The analyte was detected at or above the method detection limit in both the sample and the associated method blank.
FSES = Subcontracted analysis conducted by Florida-Spectrum Environmental Services, Inc. (TNI Certificate No. E86006).
FRS = Subcontracted analysis conducted by Florida Radiochemistry Services, Inc. (TNI Certificate No. E83033).

The results detailed within this report apply only to those samples submitted for analysis and for which results are reported here.
Unless otherwise indicated, these test results meet all requirements of the TNI standards.

3030 E Lake Parker Dr
Lakeland, FL 33805
CCR SAMPLING
Month / Year: July 2020
LAB ANALYSIS REPORT

SampleName	Sample ID	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Units	Qualifiers	Detection Limit	Reporting Limit	Analyst
CCR-01	0070111-01	7/14/2020 8:21	7/17/2020 10:34	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
CCR-01	0070111-01	7/14/2020 8:21	7/27/2020 9:17	EPA 200.7	Barium	13.4	ug/L	I	5.03	20.0	CF
CCR-01	0070111-01	7/14/2020 8:21	7/27/2020 9:17	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-01	0070111-01	7/14/2020 8:21	7/17/2020 10:34	EPA 200.7	Boron	60.7	ug/L		1.04	10.0	FSES
CCR-01	0070111-01	7/14/2020 8:21	7/27/2020 9:17	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-01	0070111-01	7/14/2020 8:21	7/17/2020 10:34	EPA 200.7	Calcium	30500	ug/L		6.00	50.0	FSES
CCR-01	0070111-01	7/14/2020 8:21	7/16/2020 7:20	EPA 300.0	Chloride	4.44	mg/L		0.142	1.00	CF
CCR-01	0070111-01	7/14/2020 8:21	7/27/2020 9:17	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-01	0070111-01	7/14/2020 8:21	7/17/2020 10:34	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-01	0070111-01	7/14/2020 8:21	7/14/2020 8:21	Observation	Color	Clear	---		---	---	N_D
CCR-01	0070111-01	7/14/2020 8:21	7/14/2020 8:21	EPA 360.2	Dissolved Oxygen	0.60	mg/L		0.10	0.20	N_D
CCR-01	0070111-01	7/14/2020 8:21	7/17/2020 3:05	EPA 300.0	Fluoride	0.0300	mg/L		0.00340	0.0250	FSES
CCR-01	0070111-01	7/14/2020 8:21	7/27/2020 9:17	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-01	0070111-01	7/14/2020 8:21	7/17/2020 16:21	EPA 200.7	Lithium	7.22	ug/L	U	7.22	25.0	FSES
CCR-01	0070111-01	7/14/2020 8:21	7/20/2020 13:31	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-01	0070111-01	7/14/2020 8:21	7/27/2020 9:17	EPA 200.7	Molybdenum	7.09	ug/L	I	2.95	10.0	CF
CCR-01	0070111-01	7/14/2020 8:21	7/14/2020 8:21	EPA 150.1	pH	5.43	SU		0.05	0.05	N_D
CCR-01	0070111-01	7/14/2020 8:21	7/17/2020 10:34	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-01	0070111-01	7/14/2020 8:21	7/14/2020 8:21	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-01	0070111-01	7/14/2020 8:21	7/14/2020 8:21	EPA 120.1	Specific Conductance	178	uS/cm		1	5	N_D
CCR-01	0070111-01	7/14/2020 8:21	7/16/2020 7:20	EPA 300.0	Sulfate as SO4	54.9	mg/L		0.140	1.00	CF
CCR-01	0070111-01	7/14/2020 8:21	7/14/2020 8:21	EPA 170.1	Temperature	25.7	°C		0.1	0.1	N_D
CCR-01	0070111-01	7/14/2020 8:21	7/17/2020 10:34	EPA 200.7	Thallium	4.00	ug/L	U	0.925	4.00	FSES
CCR-01	0070111-01	7/14/2020 8:21	7/15/2020 14:45	EPA 160.1	Total Dissolved Solids	142	mg/L		10.0	20.0	ND
CCR-01	0070111-01	7/14/2020 8:21	7/14/2020 8:21	EPA 180.1	Turbidity	3.86	NTU		0.10	0.50	N_D
CCR-01	0070111-01	7/14/2020 8:21	7/14/2020 8:21	DEP-SOP	Water Level	129.52	FT		0.10	0.50	N_D
CCR-02	0070111-02	7/14/2020 9:00	7/17/2020 10:36	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
CCR-02	0070111-02	7/14/2020 9:00	7/27/2020 9:23	EPA 200.7	Barium	26.4	ug/L		5.03	20.0	CF
CCR-02	0070111-02	7/14/2020 9:00	7/27/2020 9:23	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-02	0070111-02	7/14/2020 9:00	7/17/2020 10:36	EPA 200.7	Boron	72.8	ug/L		1.04	10.0	FSES
CCR-02	0070111-02	7/14/2020 9:00	7/27/2020 9:23	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-02	0070111-02	7/14/2020 9:00	7/17/2020 10:36	EPA 200.7	Calcium	115000	ug/L		6.00	50.0	FSES
CCR-02	0070111-02	7/14/2020 9:00	7/15/2020 21:50	EPA 300.0	Chloride	19.3	mg/L		0.568	4.00	CF
CCR-02	0070111-02	7/14/2020 9:00	7/27/2020 9:23	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-02	0070111-02	7/14/2020 9:00	7/17/2020 10:36	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-02	0070111-02	7/14/2020 9:00	7/14/2020 9:00	Observation	Color	Clear	---		---	---	N_D
CCR-02	0070111-02	7/14/2020 9:00	7/14/2020 9:00	EPA 360.2	Dissolved Oxygen	0.41	mg/L		0.10	0.20	N_D
CCR-02	0070111-02	7/14/2020 9:00	7/17/2020 3:38	EPA 300.0	Fluoride	0.125	mg/L		0.00340	0.0250	FSES
CCR-02	0070111-02	7/14/2020 9:00	7/27/2020 9:23	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-02	0070111-02	7/14/2020 9:00	7/17/2020 16:23	EPA 200.7	Lithium	7.22	ug/L	U	7.22	25.0	FSES
CCR-02	0070111-02	7/14/2020 9:00	7/20/2020 13:49	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-02	0070111-02	7/14/2020 9:00	7/27/2020 9:23	EPA 200.7	Molybdenum	8.10	ug/L	I	2.95	10.0	CF
CCR-02	0070111-02	7/14/2020 9:00	7/14/2020 9:00	EPA 150.1	pH	4.60	SU		0.05	0.05	N_D
CCR-02	0070111-02	7/14/2020 9:00	7/17/2020 10:36	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-02	0070111-02	7/14/2020 9:00	7/14/2020 9:00	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-02	0070111-02	7/14/2020 9:00	7/14/2020 9:00	EPA 120.1	Specific Conductance	567	uS/cm		1	5	N_D
CCR-02	0070111-02	7/14/2020 9:00	7/15/2020 21:50	EPA 300.0	Sulfate as SO4	299	mg/L	J-7	0.560	4.00	CF
CCR-02	0070111-02	7/14/2020 9:00	7/14/2020 9:00	EPA 170.1	Temperature	27.0	°C		0.1	0.1	N_D
CCR-02	0070111-02	7/14/2020 9:00	7/17/2020 10:36	EPA 200.7	Thallium	4.00	ug/L	U	0.925	4.00	FSES
CCR-02	0070111-02	7/14/2020 9:00	7/15/2020 14:47	EPA 160.1	Total Dissolved Solids	506	mg/L	J-7	10.0	20.0	ND
CCR-02	0070111-02	7/14/2020 9:00	7/14/2020 9:00	EPA 180.1	Turbidity	1.35	NTU		0.10	0.50	N_D
CCR-02	0070111-02	7/14/2020 9:00	7/14/2020 9:00	DEP-SOP	Water Level	129.87	FT		0.10	0.50	N_D
CCR-03	0070111-03	7/14/2020 9:37	7/17/2020 10:39	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
CCR-03	0070111-03	7/14/2020 9:37	7/27/2020 9:28	EPA 200.7	Barium	23.4	ug/L		5.03	20.0	CF
CCR-03	0070111-03	7/14/2020 9:37	7/27/2020 9:28	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-03	0070111-03	7/14/2020 9:37	7/17/2020 10:39	EPA 200.7	Boron	850	ug/L		1.04	10.0	FSES
CCR-03	0070111-03	7/14/2020 9:37	7/27/2020 9:28	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-03	0070111-03	7/14/2020 9:37	7/17/2020 14:46	EPA 200.7	Calcium	482000	ug/L		60.0	500	FSES
CCR-03	0070111-03	7/14/2020 9:37	7/15/2020 22:19	EPA 300.0	Chloride	16.5	mg/L	I	2.84	20.0	CF
CCR-03	0070111-03	7/14/2020 9:37	7/27/2020 9:28	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-03	0070111-03	7/14/2020 9:37	7/17/2020 10:39	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-03	0070111-03	7/14/2020 9:37	7/14/2020 9:37	Observation	Color	Clear	---		---	---	N_D
CCR-03	0070111-03	7/14/2020 9:37	7/14/2020 9:37	EPA 360.2	Dissolved Oxygen	1.26	mg/L		0.10	0.20	N_D
CCR-03	0070111-03	7/14/2020 9:37	7/17/2020 3:54	EPA 300.0	Fluoride	0.216	mg/L		0.00680	0.0500	FSES
CCR-03	0070111-03	7/14/2020 9:37	7/27/2020 9:28	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-03	0070111-03	7/14/2020 9:37	7/17/2020 16:26	EPA 200.7	Lithium	7.22	ug/L	U	7.22	25.0	FSES
CCR-03	0070111-03	7/14/2020 9:37	7/20/2020 13:52	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-03	0070111-03	7/14/2020 9:37	7/27/2020 9:28	EPA 200.7	Molybdenum	12.5	ug/L		2.95	10.0	CF
CCR-03	0070111-03	7/14/2020 9:37	7/14/2020 9:37	EPA 150.1	pH	5.34	SU		0.05	0.05	N_D
CCR-03	0070111-03	7/14/2020 9:37	7/17/2020 10:39	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-03	0070111-03	7/14/2020 9:37	7/14/2020 9:37	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-03	0070111-03	7/14/2020 9:37	7/14/2020 9:37	EPA 120.1	Specific Conductance	1649	uS/cm		1	5	N_D
CCR-03	0070111-03	7/14/2020 9:37	7/15/2020 22:19	EPA 300.0	Sulfate as SO4	1100	mg/L	J-7	2.80	20.0	CF
CCR-03	0070111-03	7/14/2020 9:37	7/14/2020 9:37	EPA 170.1	Temperature	26.0	°C		0.1	0.1	N_D
CCR-03	0070111-03	7/14/2020 9:37	7/17/2020 10:39	EPA 200.7	Thallium	4.00	ug/L	U	0.925	4.00	FSES
CCR-03	0070111-03	7/14/2020 9:37	7/15/2020 14:49	EPA 160.1	Total Dissolved Solids	1830	mg/L	J-7	10.0	20.0	ND
CCR-03	0070111-03	7/14/2020 9:37	7/14/2020 9:37	EPA 180.1	Turbidity	2.22	NTU		0.10	0.50	N_D
CCR-03	0070111-03	7/14/2020 9:37	7/14/2020 9:37	DEP-SOP	Water Level	129.49	FT		0.10	0.50	N_D
CCR-04	0070111-04	7/14/2020 10:13	7/17/2020 10:42	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
CCR-04	0070111-04	7/14/2020 10:13	7/27/2020 9:33	EPA 200.7	Barium	304	ug/L		5.03	20.0	CF
CCR-04	0070111-04	7/14/2020 10:13	7/27/2020 9:33	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-04	0070111-04	7/14/2020 10:13	7/17/2020 10:42	EPA 200.7	Boron	513	ug/L		1.04	10.0	FSES
CCR-04	0070111-04	7/14/2020 10:13	7/27/2020 9:33	EPA 200.7	Cadmium	23.3	ug/L	J-7	2.80	10.0	CF

3030 E Lake Parker Dr
Lakeland, FL 33805
CCR SAMPLING
Month / Year: July 2020
LAB ANALYSIS REPORT

SampleName	Sample ID	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Units	Qualifiers	Detection Limit	Reporting Limit	Analyst
CCR-04	0070111-04	7/14/2020 10:13	7/17/2020 14:48	EPA 200.7	Calcium	1580000	ug/L		300	2500	FSES
CCR-04	0070111-04	7/14/2020 10:13	7/15/2020 22:48	EPA 300.0	Chloride	4260	mg/L	J-7, J-8	5.68	40.0	CF
CCR-04	0070111-04	7/14/2020 10:13	7/27/2020 9:33	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-04	0070111-04	7/14/2020 10:13	7/17/2020 10:42	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-04	0070111-04	7/14/2020 10:13	7/14/2020 10:13	Observation	Color	Clear	---		---	---	N_D
CCR-04	0070111-04	7/14/2020 10:13	7/14/2020 10:13	EPA 360.2	Dissolved Oxygen	0.43	mg/L		0.10	0.20	N_D
CCR-04	0070111-04	7/14/2020 10:13	7/17/2020 4:11	EPA 300.0	Fluoride	0.350	mg/L		0.0170	0.125	FSES
CCR-04	0070111-04	7/14/2020 10:13	7/27/2020 9:33	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-04	0070111-04	7/14/2020 10:13	7/17/2020 16:28	EPA 200.7	Lithium	147	ug/L		7.22	25.0	FSES
CCR-04	0070111-04	7/14/2020 10:13	7/20/2020 13:55	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-04	0070111-04	7/14/2020 10:13	7/27/2020 9:33	EPA 200.7	Molybdenum	18.4	ug/L		2.95	10.0	CF
CCR-04	0070111-04	7/14/2020 10:13	7/14/2020 10:13	EPA 150.1	pH	3.69	SU		0.05	0.05	N_D
CCR-04	0070111-04	7/14/2020 10:13	7/17/2020 10:42	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-04	0070111-04	7/14/2020 10:13	7/14/2020 10:13	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-04	0070111-04	7/14/2020 10:13	7/14/2020 10:13	EPA 120.1	Specific Conductance	11820	uS/cm		1	5	N_D
CCR-04	0070111-04	7/14/2020 10:13	7/15/2020 22:48	EPA 300.0	Sulfate as SO4	791	mg/L	J-7	5.60	40.0	CF
CCR-04	0070111-04	7/14/2020 10:13	7/14/2020 10:13	EPA 170.1	Temperature	26.1	°C		0.1	0.1	N_D
CCR-04	0070111-04	7/14/2020 10:13	7/17/2020 10:42	EPA 200.7	Thallium	4.00	ug/L	U	0.925	4.00	FSES
CCR-04	0070111-04	7/14/2020 10:13	7/15/2020 14:51	EPA 160.1	Total Dissolved Solids	8240	mg/L	J-7	10.0	20.0	ND
CCR-04	0070111-04	7/14/2020 10:13	7/14/2020 10:13	EPA 180.1	Turbidity	3.62	NTU		0.10	0.50	N_D
CCR-04	0070111-04	7/14/2020 10:13	7/14/2020 10:13	DEP-SOP	Water Level	128.43	FT		0.10	0.50	N_D
CCR-05	0070111-05	7/14/2020 10:54	7/17/2020 10:45	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
CCR-05	0070111-05	7/14/2020 10:54	7/27/2020 9:38	EPA 200.7	Barium	84.7	ug/L		5.03	20.0	CF
CCR-05	0070111-05	7/14/2020 10:54	7/27/2020 9:38	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-05	0070111-05	7/14/2020 10:54	7/23/2020 8:49	EPA 310.2	Bicarbonate	25.0	mg/L		2.49	7.46	FSES
CCR-05	0070111-05	7/14/2020 10:54	7/17/2020 10:45	EPA 200.7	Boron	601	ug/L		1.04	10.0	FSES
CCR-05	0070111-05	7/14/2020 10:54	7/27/2020 9:38	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-05	0070111-05	7/14/2020 10:54	7/17/2020 14:51	EPA 200.7	Calcium	2140000	ug/L		600	5000	FSES
CCR-05	0070111-05	7/14/2020 10:54	7/15/2020 23:17	EPA 300.0	Chloride	5630	mg/L	J-7, J-8	7.10	50.0	CF
CCR-05	0070111-05	7/14/2020 10:54	7/27/2020 9:38	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-05	0070111-05	7/14/2020 10:54	7/17/2020 10:45	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-05	0070111-05	7/14/2020 10:54	7/14/2020 10:54	Observation	Color	Clear	---		---	---	N_D
CCR-05	0070111-05	7/14/2020 10:54	7/14/2020 10:54	EPA 360.2	Dissolved Oxygen	0.29	mg/L		0.10	0.20	N_D
CCR-05	0070111-05	7/14/2020 10:54	7/17/2020 4:27	EPA 300.0	Fluoride	0.125	mg/L		0.0170	0.125	FSES
CCR-05	0070111-05	7/14/2020 10:54	7/27/2020 9:38	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-05	0070111-05	7/14/2020 10:54	7/17/2020 16:31	EPA 200.7	Lithium	4380	ug/L		7.22	25.0	FSES
CCR-05	0070111-05	7/14/2020 10:54	7/17/2020 14:51	EPA 200.7	Magnesium	48700	ug/L		313	2000	FSES
CCR-05	0070111-05	7/14/2020 10:54	7/20/2020 13:57	EPA 245.1	Mercury	0.233	ug/L		0.152	0.456	FSES
CCR-05	0070111-05	7/14/2020 10:54	7/27/2020 9:38	EPA 200.7	Molybdenum	25.0	ug/L		2.95	10.0	CF
CCR-05	0070111-05	7/14/2020 10:54	7/14/2020 10:54	EPA 150.1	pH	4.94	SU		0.05	0.05	N_D
CCR-05	0070111-05	7/14/2020 10:54	7/17/2020 14:51	EPA 200.7	Potassium	592000	ug/L		1150	5000	FSES
CCR-05	0070111-05	7/14/2020 10:54	7/17/2020 10:45	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-05	0070111-05	7/14/2020 10:54	7/14/2020 10:54	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-05	0070111-05	7/14/2020 10:54	7/17/2020 14:51	EPA 200.7	Sodium	888000	ug/L		42000	200000	FSES
CCR-05	0070111-05	7/14/2020 10:54	7/14/2020 10:54	EPA 120.1	Specific Conductance	15033	uS/cm		1	5	N_D
CCR-05	0070111-05	7/14/2020 10:54	7/15/2020 23:17	EPA 300.0	Sulfate as SO4	406	mg/L	J-7	7.00	50.0	CF
CCR-05	0070111-05	7/14/2020 10:54	7/14/2020 10:54	EPA 170.1	Temperature	25.5	°C		0.1	0.1	N_D
CCR-05	0070111-05	7/14/2020 10:54	7/17/2020 10:45	EPA 200.7	Thallium	4.00	ug/L	U	0.925	4.00	FSES
CCR-05	0070111-05	7/14/2020 10:54	7/23/2020 8:49	EPA 310.2	Total Alkalinity	25.0	mg/L		2.49	7.46	FSES
CCR-05	0070111-05	7/14/2020 10:54	7/15/2020 14:53	EPA 160.1	Total Dissolved Solids	10200	mg/L	J-7	10.0	20.0	ND
CCR-05	0070111-05	7/14/2020 10:54	7/14/2020 10:54	EPA 180.1	Turbidity	9.23	NTU		0.10	0.50	N_D
CCR-05	0070111-05	7/14/2020 10:54	7/14/2020 10:54	DEP-SOP	Water Level	130.87	FT		0.10	0.50	N_D
CCR-06	0070111-06	7/14/2020 12:58	7/17/2020 10:48	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
CCR-06	0070111-06	7/14/2020 12:58	7/27/2020 9:43	EPA 200.7	Barium	36.6	ug/L		5.03	20.0	CF
CCR-06	0070111-06	7/14/2020 12:58	7/27/2020 9:43	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-06	0070111-06	7/14/2020 12:58	7/23/2020 8:49	EPA 310.2	Bicarbonate	124	mg/L		2.49	7.46	FSES
CCR-06	0070111-06	7/14/2020 12:58	7/17/2020 10:48	EPA 200.7	Boron	830	ug/L		1.04	10.0	FSES
CCR-06	0070111-06	7/14/2020 12:58	7/27/2020 9:43	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-06	0070111-06	7/14/2020 12:58	7/17/2020 14:54	EPA 200.7	Calcium	955000	ug/L		150	1250	FSES
CCR-06	0070111-06	7/14/2020 12:58	7/15/2020 23:45	EPA 300.0	Chloride	1580	mg/L	J-7	2.84	20.0	CF
CCR-06	0070111-06	7/14/2020 12:58	7/27/2020 9:43	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-06	0070111-06	7/14/2020 12:58	7/17/2020 10:48	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-06	0070111-06	7/14/2020 12:58	7/14/2020 12:58	Observation	Color	Clear	---		---	---	N_D
CCR-06	0070111-06	7/14/2020 12:58	7/14/2020 12:58	EPA 360.2	Dissolved Oxygen	0.31	mg/L		0.10	0.20	N_D
CCR-06	0070111-06	7/14/2020 12:58	7/17/2020 4:44	EPA 300.0	Fluoride	0.250	mg/L		0.0170	0.125	FSES
CCR-06	0070111-06	7/14/2020 12:58	7/27/2020 9:43	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-06	0070111-06	7/14/2020 12:58	7/17/2020 16:34	EPA 200.7	Lithium	1110	ug/L		7.22	25.0	FSES
CCR-06	0070111-06	7/14/2020 12:58	7/17/2020 14:54	EPA 200.7	Magnesium	23900	ug/L		78.2	500	FSES
CCR-06	0070111-06	7/14/2020 12:58	7/20/2020 14:00	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-06	0070111-06	7/14/2020 12:58	7/27/2020 9:43	EPA 200.7	Molybdenum	36.2	ug/L		2.95	10.0	CF
CCR-06	0070111-06	7/14/2020 12:58	7/14/2020 12:58	EPA 150.1	pH	5.68	SU		0.05	0.05	N_D
CCR-06	0070111-06	7/14/2020 12:58	7/17/2020 14:54	EPA 200.7	Potassium	211000	ug/L		288	1250	FSES
CCR-06	0070111-06	7/14/2020 12:58	7/17/2020 10:48	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-06	0070111-06	7/14/2020 12:58	7/14/2020 12:58	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-06	0070111-06	7/14/2020 12:58	7/17/2020 14:54	EPA 200.7	Sodium	288000	ug/L		10500	50000	FSES
CCR-06	0070111-06	7/14/2020 12:58	7/14/2020 12:58	EPA 120.1	Specific Conductance	5638	uS/cm		1	5	N_D
CCR-06	0070111-06	7/14/2020 12:58	7/15/2020 23:45	EPA 300.0	Sulfate as SO4	1110	mg/L	J-7	2.80	20.0	CF
CCR-06	0070111-06	7/14/2020 12:58	7/14/2020 12:58	EPA 170.1	Temperature	26.1	°C		0.1	0.1	N_D
CCR-06	0070111-06	7/14/2020 12:58	7/17/2020 10:48	EPA 200.7	Thallium	4.00	ug/L	U	0.925	4.00	FSES
CCR-06	0070111-06	7/14/2020 12:58	7/23/2020 8:49	EPA 310.2	Total Alkalinity	124	mg/L		2.49	7.46	FSES
CCR-06	0070111-06	7/14/2020 12:58	7/14/2020 14:55	EPA 160.1	Total Dissolved Solids	4440	mg/L	J-7	10.0	20.0	ND
CCR-06	0070111-06	7/14/2020 12:58	7/14/2020 12:58	EPA 180.1	Turbidity	5.94	NTU		0.10	0.50	N_D
CCR-06	0070111-06	7/14/2020 12:58	7/14/2020 12:58	DEP-SOP	Water Level	131.89	FT		0.10	0.50	N_D

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CCR SAMPLING
Month / Year: July 2020
LAB ANALYSIS REPORT

SampleName	Sample ID	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Units	Qualifiers	Detection Limit	Reporting Limit	Analyst
CCR-07	0070111-07	7/14/2020 13:33	7/17/2020 10:51	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
CCR-07	0070111-07	7/14/2020 13:33	7/27/2020 9:48	EPA 200.7	Barium	32.8	ug/L		5.03	20.0	CF
CCR-07	0070111-07	7/14/2020 13:33	7/27/2020 9:48	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-07	0070111-07	7/14/2020 13:33	7/23/2020 8:49	EPA 310.2	Bicarbonate	21.7	mg/L		2.49	7.46	FSES
CCR-07	0070111-07	7/14/2020 13:33	7/17/2020 10:51	EPA 200.7	Boron	1480	ug/L		1.04	10.0	FSES
CCR-07	0070111-07	7/14/2020 13:33	7/27/2020 9:48	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-07	0070111-07	7/14/2020 13:33	7/17/2020 14:57	EPA 200.7	Calcium	341000	ug/L		150	1250	FSES
CCR-07	0070111-07	7/14/2020 13:33	7/16/2020 6:03	EPA 300.0	Chloride	366	mg/L	J-7	1.42	10.0	CF
CCR-07	0070111-07	7/14/2020 13:33	7/27/2020 9:48	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-07	0070111-07	7/14/2020 13:33	7/17/2020 10:51	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-07	0070111-07	7/14/2020 13:33	7/14/2020 13:33	Observation	Color	Clear	---		---	---	N_D
CCR-07	0070111-07	7/14/2020 13:33	7/14/2020 13:33	EPA 360.2	Dissolved Oxygen	0.38	mg/L		0.10	0.20	N_D
CCR-07	0070111-07	7/14/2020 13:33	7/17/2020 5:00	EPA 300.0	Fluoride	0.404	mg/L		0.00680	0.0500	FSES
CCR-07	0070111-07	7/14/2020 13:33	7/27/2020 9:48	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-07	0070111-07	7/14/2020 13:33	7/17/2020 16:36	EPA 200.7	Lithium	120	ug/L		7.22	25.0	FSES
CCR-07	0070111-07	7/14/2020 13:33	7/17/2020 14:57	EPA 200.7	Magnesium	22600	ug/L		78.2	500	FSES
CCR-07	0070111-07	7/14/2020 13:33	7/20/2020 14:02	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-07	0070111-07	7/14/2020 13:33	7/27/2020 9:48	EPA 200.7	Molybdenum	11.5	ug/L		2.95	10.0	CF
CCR-07	0070111-07	7/14/2020 13:33	7/14/2020 13:33	EPA 150.1	pH	4.53	SU		0.05	0.05	N_D
CCR-07	0070111-07	7/14/2020 13:33	7/17/2020 14:57	EPA 200.7	Potassium	87300	ug/L		288	1250	FSES
CCR-07	0070111-07	7/14/2020 13:33	7/17/2020 10:51	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-07	0070111-07	7/14/2020 13:33	7/14/2020 13:33	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-07	0070111-07	7/14/2020 13:33	7/17/2020 14:57	EPA 200.7	Sodium	115000	ug/L		10500	50000	FSES
CCR-07	0070111-07	7/14/2020 13:33	7/14/2020 13:33	EPA 120.1	Specific Conductance	2140	uS/cm		1	5	N_D
CCR-07	0070111-07	7/14/2020 13:33	7/16/2020 6:03	EPA 300.0	Sulfate as SO4	826	mg/L	J-7	1.40	10.0	CF
CCR-07	0070111-07	7/14/2020 13:33	7/14/2020 13:33	EPA 170.1	Temperature	26.0	°C		0.1	0.1	N_D
CCR-07	0070111-07	7/14/2020 13:33	7/17/2020 10:51	EPA 200.7	Thallium	4.00	ug/L	U	0.925	4.00	FSES
CCR-07	0070111-07	7/14/2020 13:33	7/23/2020 8:49	EPA 310.2	Total Alkalinity	21.7	mg/L		2.49	7.46	FSES
CCR-07	0070111-07	7/14/2020 13:33	7/15/2020 14:57	EPA 160.1	Total Dissolved Solids	1920	mg/L	J-7	10.0	20.0	ND
CCR-07	0070111-07	7/14/2020 13:33	7/14/2020 13:33	EPA 180.1	Turbidity	2.28	NTU		0.10	0.50	N_D
CCR-07	0070111-07	7/14/2020 13:33	7/14/2020 13:33	DEP-SOP	Water Level	132.25	FT		0.10	0.50	N_D
CCR-08	0070111-08	7/14/2020 14:05	7/17/2020 10:54	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
CCR-08	0070111-08	7/14/2020 14:05	7/27/2020 9:53	EPA 200.7	Barium	30.3	ug/L		5.03	20.0	CF
CCR-08	0070111-08	7/14/2020 14:05	7/27/2020 9:53	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-08	0070111-08	7/14/2020 14:05	7/17/2020 10:54	EPA 200.7	Boron	101	ug/L		1.04	10.0	FSES
CCR-08	0070111-08	7/14/2020 14:05	7/27/2020 9:53	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-08	0070111-08	7/14/2020 14:05	7/17/2020 10:54	EPA 200.7	Calcium	101000	ug/L		6.00	50.0	FSES
CCR-08	0070111-08	7/14/2020 14:05	7/16/2020 6:28	EPA 300.0	Chloride	4.74	mg/L	I	1.42	10.0	CF
CCR-08	0070111-08	7/14/2020 14:05	7/27/2020 9:53	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-08	0070111-08	7/14/2020 14:05	7/17/2020 10:54	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-08	0070111-08	7/14/2020 14:05	7/14/2020 14:05	Observation	Color	Clear	---		---	---	N_D
CCR-08	0070111-08	7/14/2020 14:05	7/14/2020 14:05	EPA 360.2	Dissolved Oxygen	3.12	mg/L		0.10	0.20	N_D
CCR-08	0070111-08	7/14/2020 14:05	7/17/2020 5:17	EPA 300.0	Fluoride	0.294	mg/L		0.00340	0.0250	FSES
CCR-08	0070111-08	7/14/2020 14:05	7/27/2020 9:53	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-08	0070111-08	7/14/2020 14:05	7/17/2020 16:39	EPA 200.7	Lithium	7.22	ug/L	U	7.22	25.0	FSES
CCR-08	0070111-08	7/14/2020 14:05	7/20/2020 14:05	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-08	0070111-08	7/14/2020 14:05	7/27/2020 9:53	EPA 200.7	Molybdenum	17.9	ug/L		2.95	10.0	CF
CCR-08	0070111-08	7/14/2020 14:05	7/14/2020 14:05	EPA 150.1	pH	6.35	SU		0.05	0.05	N_D
CCR-08	0070111-08	7/14/2020 14:05	7/17/2020 10:54	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-08	0070111-08	7/14/2020 14:05	7/14/2020 14:05	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-08	0070111-08	7/14/2020 14:05	7/14/2020 14:05	EPA 120.1	Specific Conductance	467.8	uS/cm		1	5	N_D
CCR-08	0070111-08	7/14/2020 14:05	7/16/2020 6:28	EPA 300.0	Sulfate as SO4	112	mg/L		1.40	10.0	CF
CCR-08	0070111-08	7/14/2020 14:05	7/14/2020 14:05	EPA 170.1	Temperature	26.1	°C		0.1	0.1	N_D
CCR-08	0070111-08	7/14/2020 14:05	7/17/2020 10:54	EPA 200.7	Thallium	4.00	ug/L	U	0.925	4.00	FSES
CCR-08	0070111-08	7/14/2020 14:05	7/15/2020 14:59	EPA 160.1	Total Dissolved Solids	372	mg/L		10.0	20.0	ND
CCR-08	0070111-08	7/14/2020 14:05	7/14/2020 14:05	EPA 180.1	Turbidity	3.03	NTU		0.10	0.50	N_D
CCR-08	0070111-08	7/14/2020 14:05	7/14/2020 14:05	DEP-SOP	Water Level	132.72	FT		0.10	0.50	N_D
CCR-09	0070111-09	7/15/2020 11:09	7/17/2020 10:57	EPA 200.7	Arsenic	5.00	ug/L		3.14	10.0	FSES
CCR-09	0070111-09	7/15/2020 11:09	7/27/2020 9:58	EPA 200.7	Barium	66.5	ug/L		5.03	20.0	CF
CCR-09	0070111-09	7/15/2020 11:09	7/27/2020 9:58	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-09	0070111-09	7/15/2020 11:09	7/23/2020 8:49	EPA 310.2	Bicarbonate	34.5	mg/L		2.49	7.46	FSES
CCR-09	0070111-09	7/15/2020 11:09	7/17/2020 10:57	EPA 200.7	Boron	473	ug/L		1.04	10.0	FSES
CCR-09	0070111-09	7/15/2020 11:09	7/27/2020 9:58	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-09	0070111-09	7/15/2020 11:09	7/17/2020 15:00	EPA 200.7	Calcium	726000	ug/L		150	1250	FSES
CCR-09	0070111-09	7/15/2020 11:09	7/16/2020 6:54	EPA 300.0	Chloride	939	mg/L	J-7	5.68	40.0	CF
CCR-09	0070111-09	7/15/2020 11:09	7/27/2020 9:58	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-09	0070111-09	7/15/2020 11:09	7/17/2020 10:57	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-09	0070111-09	7/15/2020 11:09	7/15/2020 11:09	Observation	Color	Clear	---		---	---	N_D
CCR-09	0070111-09	7/15/2020 11:09	7/15/2020 11:09	EPA 360.2	Dissolved Oxygen	1.43	mg/L		0.10	0.20	N_D
CCR-09	0070111-09	7/15/2020 11:09	7/17/2020 5:33	EPA 300.0	Fluoride	0.285	mg/L		0.0170	0.125	FSES
CCR-09	0070111-09	7/15/2020 11:09	7/27/2020 9:58	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-09	0070111-09	7/15/2020 11:09	7/17/2020 16:42	EPA 200.7	Lithium	104	ug/L		7.22	25.0	FSES
CCR-09	0070111-09	7/15/2020 11:09	7/17/2020 15:00	EPA 200.7	Magnesium	49000	ug/L		78.2	500	FSES
CCR-09	0070111-09	7/15/2020 11:09	7/20/2020 14:10	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-09	0070111-09	7/15/2020 11:09	7/27/2020 9:58	EPA 200.7	Molybdenum	16.6	ug/L		2.95	10.0	CF
CCR-09	0070111-09	7/15/2020 11:09	7/15/2020 11:09	EPA 150.1	pH	5.00	SU		0.05	0.05	N_D
CCR-09	0070111-09	7/15/2020 11:09	7/17/2020 15:00	EPA 200.7	Potassium	125000	ug/L		288	1250	FSES
CCR-09	0070111-09	7/15/2020 11:09	7/17/2020 10:57	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-09	0070111-09	7/15/2020 11:09	7/15/2020 11:09	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-09	0070111-09	7/15/2020 11:09	7/17/2020 15:00	EPA 200.7	Sodium	159000	ug/L		10500	50000	FSES
CCR-09	0070111-09	7/15/2020 11:09	7/15/2020 11:09	EPA 120.1	Specific Conductance	4934	uS/cm		1	5	N_D
CCR-09	0070111-09	7/15/2020 11:09	7/16/2020 6:54	EPA 300.0	Sulfate as SO4	1170	mg/L	J-7	5.60	40.0	CF
CCR-09	0070111-09	7/15/2020 11:09	7/15/2020 11:09	EPA 170.1	Temperature	27.1	°C		0.1	0.1	N_D

3030 E Lake Parker Dr
Lakeland, FL 33805
CCR SAMPLING
Month / Year: July 2020
LAB ANALYSIS REPORT

SampleName	Sample ID	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Units	Qualifiers	Detection Limit	Reporting Limit	Analyst
CCR-09	0070111-09	7/15/2020 11:09	7/17/2020 10:57	EPA 200.7	Thallium	4.00	ug/L	U	0.925	4.00	FSES
CCR-09	0070111-09	7/15/2020 11:09	7/23/2020 8:49	EPA 310.2	Total Alkalinity	34.5	mg/L		2.49	7.46	FSES
CCR-09	0070111-09	7/15/2020 11:09	7/15/2020 15:01	EPA 160.1	Total Dissolved Solids	3340	mg/L	J-7	40.0	80.0	ND
CCR-09	0070111-09	7/15/2020 11:09	7/15/2020 11:09	EPA 180.1	Turbidity	42.2	NTU		0.10	0.50	N_D
CCR-09	0070111-09	7/15/2020 11:09	8/3/2020 12:31	DEP-SOP	Water Level	131.47	FT		0.10	0.50	N_D
CCR-11	0070111-11	7/15/2020 10:32	7/17/2020 11:00	EPA 200.7	Arsenic	69.7	ug/L		3.14	10.0	FSES
CCR-11	0070111-11	7/15/2020 10:32	7/27/2020 10:03	EPA 200.7	Barium	67.6	ug/L		5.03	20.0	CF
CCR-11	0070111-11	7/15/2020 10:32	7/27/2020 10:03	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-11	0070111-11	7/15/2020 10:32	7/23/2020 8:49	EPA 310.2	Bicarbonate	8.09	mg/L		2.49	7.46	FSES
CCR-11	0070111-11	7/15/2020 10:32	7/17/2020 11:00	EPA 200.7	Boron	415	ug/L		1.04	10.0	FSES
CCR-11	0070111-11	7/15/2020 10:32	7/27/2020 10:03	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-11	0070111-11	7/15/2020 10:32	7/17/2020 15:03	EPA 200.7	Calcium	580000	ug/L		150	1250	FSES
CCR-11	0070111-11	7/15/2020 10:32	7/20/2020 17:31	EPA 300.0	Chloride	744	mg/L	J-7	2.84	20.0	CF
CCR-11	0070111-11	7/15/2020 10:32	7/27/2020 10:03	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-11	0070111-11	7/15/2020 10:32	7/17/2020 11:00	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-11	0070111-11	7/15/2020 10:32	7/15/2020 10:32	Observation	Color	Clear	---		---	---	N_D
CCR-11	0070111-11	7/15/2020 10:32	7/15/2020 10:32	EPA 360.2	Dissolved Oxygen	0.49	mg/L		0.10	0.20	N_D
CCR-11	0070111-11	7/15/2020 10:32	7/17/2020 5:50	EPA 300.0	Fluoride	1.02	mg/L		0.0170	0.125	FSES
CCR-11	0070111-11	7/15/2020 10:32	7/27/2020 10:03	EPA 200.7	Lead	4.15	ug/L	U, J-2+	4.15	10.0	CF
CCR-11	0070111-11	7/15/2020 10:32	7/17/2020 16:44	EPA 200.7	Lithium	7.22	ug/L	U	7.22	25.0	FSES
CCR-11	0070111-11	7/15/2020 10:32	7/17/2020 15:03	EPA 200.7	Magnesium	15600	ug/L		78.2	500	FSES
CCR-11	0070111-11	7/15/2020 10:32	7/20/2020 14:08	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-11	0070111-11	7/15/2020 10:32	7/27/2020 10:03	EPA 200.7	Molybdenum	14.9	ug/L	J-2+	2.95	10.0	CF
CCR-11	0070111-11	7/15/2020 10:32	7/15/2020 10:32	EPA 150.1	pH	3.96	SU		0.05	0.05	N_D
CCR-11	0070111-11	7/15/2020 10:32	7/17/2020 15:03	EPA 200.7	Potassium	272000	ug/L		288	1250	FSES
CCR-11	0070111-11	7/15/2020 10:32	7/17/2020 11:00	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-11	0070111-11	7/15/2020 10:32	7/15/2020 10:32	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-11	0070111-11	7/15/2020 10:32	7/17/2020 15:03	EPA 200.7	Sodium	234000	ug/L		10500	50000	FSES
CCR-11	0070111-11	7/15/2020 10:32	7/15/2020 10:32	EPA 120.1	Specific Conductance	5204	uS/cm		1	5	N_D
CCR-11	0070111-11	7/15/2020 10:32	7/20/2020 17:31	EPA 300.0	Sulfate as SO4	1560	mg/L	J-7	2.80	20.0	CF
CCR-11	0070111-11	7/15/2020 10:32	7/15/2020 10:32	EPA 170.1	Temperature	25.7	°C		0.1	0.1	N_D
CCR-11	0070111-11	7/15/2020 10:32	7/17/2020 11:00	EPA 200.7	Thallium	4.00	ug/L	U	0.925	4.00	FSES
CCR-11	0070111-11	7/15/2020 10:32	7/23/2020 8:49	EPA 310.2	Total Alkalinity	8.09	mg/L		2.49	7.46	FSES
CCR-11	0070111-11	7/15/2020 10:32	7/15/2020 15:03	EPA 160.1	Total Dissolved Solids	3470	mg/L	J-7	20.0	40.0	ND
CCR-11	0070111-11	7/15/2020 10:32	7/15/2020 10:32	EPA 180.1	Turbidity	48.1	NTU		0.10	0.50	N_D
CCR-11	0070111-11	7/15/2020 10:32	7/15/2020 10:32	DEP-SOP	Water Level	130.67	FT		0.10	0.50	N_D
CCR-12	0070111-12	7/15/2020 10:02	7/22/2020 12:06	EPA 200.7	Arsenic	48.1	ug/L		3.14	10.0	FSES
CCR-12	0070111-12	7/15/2020 10:02	7/27/2020 10:46	EPA 200.7	Barium	20.4	ug/L		5.03	20.0	CF
CCR-12	0070111-12	7/15/2020 10:02	7/27/2020 10:46	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-12	0070111-12	7/15/2020 10:02	7/24/2020 12:33	EPA 310.2	Bicarbonate	213	mg/L		2.49	7.46	FSES
CCR-12	0070111-12	7/15/2020 10:02	7/22/2020 12:06	EPA 200.7	Boron	485	ug/L		1.04	10.0	FSES
CCR-12	0070111-12	7/15/2020 10:02	7/27/2020 10:46	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-12	0070111-12	7/15/2020 10:02	7/22/2020 13:41	EPA 200.7	Calcium	673000	ug/L		60.0	500	FSES
CCR-12	0070111-12	7/15/2020 10:02	7/20/2020 17:57	EPA 300.0	Chloride	24.0	mg/L		2.84	20.0	CF
CCR-12	0070111-12	7/15/2020 10:02	7/27/2020 10:46	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-12	0070111-12	7/15/2020 10:02	7/22/2020 12:06	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-12	0070111-12	7/15/2020 10:02	7/15/2020 10:02	Observation	Color	Brown	---		---	---	N_D
CCR-12	0070111-12	7/15/2020 10:02	7/15/2020 10:02	EPA 360.2	Dissolved Oxygen	5.58	mg/L		0.10	0.20	N_D
CCR-12	0070111-12	7/15/2020 10:02	7/21/2020 22:48	EPA 300.0	Fluoride	0.632	mg/L		0.00680	0.0500	FSES
CCR-12	0070111-12	7/15/2020 10:02	7/27/2020 10:46	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-12	0070111-12	7/15/2020 10:02	7/22/2020 15:25	EPA 200.7	Lithium	7.22	ug/L	U	7.22	25.0	FSES
CCR-12	0070111-12	7/15/2020 10:02	7/22/2020 13:41	EPA 200.7	Magnesium	8200	ug/L		31.3	200	FSES
CCR-12	0070111-12	7/15/2020 10:02	7/27/2020 14:03	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-12	0070111-12	7/15/2020 10:02	7/27/2020 10:46	EPA 200.7	Molybdenum	26.7	ug/L		2.95	10.0	CF
CCR-12	0070111-12	7/15/2020 10:02	7/15/2020 10:02	EPA 150.1	pH	6.64	SU		0.05	0.05	N_D
CCR-12	0070111-12	7/15/2020 10:02	7/22/2020 13:41	EPA 200.7	Potassium	72500	ug/L		115	500	FSES
CCR-12	0070111-12	7/15/2020 10:02	7/22/2020 12:06	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-12	0070111-12	7/15/2020 10:02	7/15/2020 10:02	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-12	0070111-12	7/15/2020 10:02	7/22/2020 12:06	EPA 200.7	Sodium	31700	ug/L		420	2000	FSES
CCR-12	0070111-12	7/15/2020 10:02	7/15/2020 10:02	EPA 120.1	Specific Conductance	2762	uS/cm		1	5	N_D
CCR-12	0070111-12	7/15/2020 10:02	7/20/2020 17:57	EPA 300.0	Sulfate as SO4	1510	mg/L	J-7	2.80	20.0	CF
CCR-12	0070111-12	7/15/2020 10:02	7/15/2020 10:02	EPA 170.1	Temperature	27.9	°C		0.1	0.1	N_D
CCR-12	0070111-12	7/15/2020 10:02	7/22/2020 12:06	EPA 200.7	Thallium	0.925	ug/L	U	0.925	4.00	FSES
CCR-12	0070111-12	7/15/2020 10:02	7/24/2020 12:33	EPA 310.2	Total Alkalinity	213	mg/L		2.49	7.46	FSES
CCR-12	0070111-12	7/15/2020 10:02	7/20/2020 11:30	EPA 160.1	Total Dissolved Solids	2550	mg/L	J-7	20.0	40.0	CF
CCR-12	0070111-12	7/15/2020 10:02	7/15/2020 10:02	EPA 180.1	Turbidity	9.94	NTU		0.10	0.50	N_D
CCR-12	0070111-12	7/15/2020 10:02	7/15/2020 10:02	DEP-SOP	Water Level	133.49	FT		0.10	0.50	N_D
CCR-13	0070111-13	7/15/2020 9:19	7/22/2020 12:09	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
CCR-13	0070111-13	7/15/2020 9:19	7/27/2020 10:51	EPA 200.7	Barium	43.6	ug/L		5.03	20.0	CF
CCR-13	0070111-13	7/15/2020 9:19	7/27/2020 10:51	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-13	0070111-13	7/15/2020 9:19	7/22/2020 12:09	EPA 200.7	Boron	173	ug/L		1.04	10.0	FSES
CCR-13	0070111-13	7/15/2020 9:19	7/27/2020 10:51	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-13	0070111-13	7/15/2020 9:19	7/22/2020 13:47	EPA 200.7	Calcium	508000	ug/L		150	1250	FSES
CCR-13	0070111-13	7/15/2020 9:19	7/20/2020 18:23	EPA 300.0	Chloride	352	mg/L	J-7	2.84	20.0	CF
CCR-13	0070111-13	7/15/2020 9:19	7/27/2020 10:51	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-13	0070111-13	7/15/2020 9:19	7/22/2020 12:09	EPA 200.7	Cobalt	4.60	ug/L		0.293	1.00	FSES
CCR-13	0070111-13	7/15/2020 9:19	7/15/2020 9:19	Observation	Color	Clear	---		---	---	N_D
CCR-13	0070111-13	7/15/2020 9:19	7/15/2020 9:19	EPA 360.2	Dissolved Oxygen	0.48	mg/L		0.10	0.20	N_D
CCR-13	0070111-13	7/15/2020 9:19	7/21/2020 23:04	EPA 300.0	Fluoride	1.38	mg/L		0.00680	0.0500	FSES
CCR-13	0070111-13	7/15/2020 9:19	7/27/2020 10:51	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-13	0070111-13	7/15/2020 9:19	7/22/2020 15:28	EPA 200.7	Lithium	232	ug/L		7.22	25.0	FSES
CCR-13	0070111-13	7/15/2020 9:19	7/27/2020 14:05	EPA 245.1	Mercury	0.195	ug/L		0.152	0.456	FSES
CCR-13	0070111-13	7/15/2020 9:19	7/27/2020 10:51	EPA 200.7	Molybdenum	12.1	ug/L		2.95	10.0	CF

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CCR SAMPLING
Month / Year: July 2020
LAB ANALYSIS REPORT

SampleName	Sample ID	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Units	Qualifiers	Detection Limit	Reporting Limit	Analyst
CCR-13	0070111-13	7/15/2020 9:19	7/15/2020 9:19	EPA 150.1	pH	3.88	SU		0.05	0.05	N_D
CCR-13	0070111-13	7/15/2020 9:19	7/22/2020 12:09	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-13	0070111-13	7/15/2020 9:19	7/15/2020 9:19	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-13	0070111-13	7/15/2020 9:19	7/15/2020 9:19	EPA 120.1	Specific Conductance	3592	uS/cm		1	5	N_D
CCR-13	0070111-13	7/15/2020 9:19	7/20/2020 18:23	EPA 300.0	Sulfate as SO4	1370	mg/L	J-7	2.80	20.0	CF
CCR-13	0070111-13	7/15/2020 9:19	7/15/2020 9:19	EPA 170.1	Temperature	25.4	°C		0.1	0.1	N_D
CCR-13	0070111-13	7/15/2020 9:19	7/22/2020 12:09	EPA 200.7	Thallium	0.925	ug/L	U	0.925	4.00	FSES
CCR-13	0070111-13	7/15/2020 9:19	7/20/2020 11:32	EPA 160.1	Total Dissolved Solids	2710	mg/L	J-7	20.0	40.0	CF
CCR-13	0070111-13	7/15/2020 9:19	7/15/2020 9:19	EPA 180.1	Turbidity	4.87	NTU		0.10	0.50	N_D
CCR-13	0070111-13	7/15/2020 9:19	7/15/2020 9:19	DEP-SOP	Water Level	130.40	FT		0.10	0.50	N_D
CCR-15	0070111-15	7/16/2020 9:41	7/22/2020 12:12	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
CCR-15	0070111-15	7/16/2020 9:41	7/27/2020 10:56	EPA 200.7	Barium	77.1	ug/L		5.03	20.0	CF
CCR-15	0070111-15	7/16/2020 9:41	7/27/2020 10:56	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-15	0070111-15	7/16/2020 9:41	7/24/2020 12:33	EPA 310.2	Bicarbonate	2.49	mg/L	U	2.49	7.46	FSES
CCR-15	0070111-15	7/16/2020 9:41	7/22/2020 12:12	EPA 200.7	Boron	98.2	ug/L		1.04	10.0	FSES
CCR-15	0070111-15	7/16/2020 9:41	7/27/2020 10:56	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-15	0070111-15	7/16/2020 9:41	7/22/2020 13:50	EPA 200.7	Calcium	210000	ug/L		60.0	500	FSES
CCR-15	0070111-15	7/16/2020 9:41	7/20/2020 18:48	EPA 300.0	Chloride	220	mg/L		1.42	10.0	CF
CCR-15	0070111-15	7/16/2020 9:41	7/27/2020 10:56	EPA 200.7	Chromium	3.81	ug/L	I	3.70	10.0	CF
CCR-15	0070111-15	7/16/2020 9:41	7/22/2020 12:12	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-15	0070111-15	7/16/2020 9:41	7/16/2020 9:41	Observation	Color	Brown	---		---	---	N_D
CCR-15	0070111-15	7/16/2020 9:41	7/16/2020 9:41	EPA 360.2	Dissolved Oxygen	1.66	mg/L		0.10	0.20	N_D
CCR-15	0070111-15	7/16/2020 9:41	7/21/2020 23:21	EPA 300.0	Fluoride	0.134	mg/L		0.00680	0.0500	FSES
CCR-15	0070111-15	7/16/2020 9:41	7/27/2020 10:56	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-15	0070111-15	7/16/2020 9:41	7/22/2020 15:30	EPA 200.7	Lithium	7.22	ug/L	U	7.22	25.0	FSES
CCR-15	0070111-15	7/16/2020 9:41	7/22/2020 13:50	EPA 200.7	Magnesium	5810	ug/L		31.3	200	FSES
CCR-15	0070111-15	7/16/2020 9:41	7/27/2020 14:08	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-15	0070111-15	7/16/2020 9:41	7/27/2020 10:56	EPA 200.7	Molybdenum	11.3	ug/L		2.95	10.0	CF
CCR-15	0070111-15	7/16/2020 9:41	7/16/2020 9:41	EPA 150.1	pH	3.94	SU		0.05	0.05	N_D
CCR-15	0070111-15	7/16/2020 9:41	7/22/2020 12:12	EPA 200.7	Potassium	22100	ug/L		11.5	50.0	FSES
CCR-15	0070111-15	7/16/2020 9:41	7/22/2020 12:12	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-15	0070111-15	7/16/2020 9:41	7/16/2020 9:41	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-15	0070111-15	7/16/2020 9:41	7/22/2020 12:12	EPA 200.7	Sodium	28600	ug/L		420	2000	FSES
CCR-15	0070111-15	7/16/2020 9:41	7/16/2020 9:41	EPA 120.1	Specific Conductance	710	uS/cm		1	5	N_D
CCR-15	0070111-15	7/16/2020 9:41	7/20/2020 18:48	EPA 300.0	Sulfate as SO4	407	mg/L	J-7	1.40	10.0	CF
CCR-15	0070111-15	7/16/2020 9:41	7/16/2020 9:41	EPA 170.1	Temperature	26.2	°C		0.1	0.1	N_D
CCR-15	0070111-15	7/16/2020 9:41	7/22/2020 12:12	EPA 200.7	Thallium	0.925	ug/L	U	0.925	4.00	FSES
CCR-15	0070111-15	7/16/2020 9:41	7/24/2020 12:33	EPA 310.2	Total Alkalinity	2.49	mg/L	U	2.49	7.46	FSES
CCR-15	0070111-15	7/16/2020 9:41	7/20/2020 11:34	EPA 160.1	Total Dissolved Solids	1040	mg/L	J-7	20.0	40.0	CF
CCR-15	0070111-15	7/16/2020 9:41	7/16/2020 9:41	EPA 180.1	Turbidity	181	NTU		0.10	0.50	N_D
CCR-15	0070111-15	7/16/2020 9:41	7/16/2020 9:41	DEP-SOP	Water Level	127.75	FT		0.10	0.50	N_D
CCR-16	0070111-16	7/16/2020 10:03	7/22/2020 12:15	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
CCR-16	0070111-16	7/16/2020 10:03	7/27/2020 11:01	EPA 200.7	Barium	188	ug/L		5.03	20.0	CF
CCR-16	0070111-16	7/16/2020 10:03	7/27/2020 11:01	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-16	0070111-16	7/16/2020 10:03	7/24/2020 12:33	EPA 310.2	Bicarbonate	35.9	mg/L		2.49	7.46	FSES
CCR-16	0070111-16	7/16/2020 10:03	7/22/2020 12:15	EPA 200.7	Boron	530	ug/L		1.04	10.0	FSES
CCR-16	0070111-16	7/16/2020 10:03	7/27/2020 11:01	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-16	0070111-16	7/16/2020 10:03	7/22/2020 13:53	EPA 200.7	Calcium	1430000	ug/L		300	2500	FSES
CCR-16	0070111-16	7/16/2020 10:03	7/27/2020 11:01	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-16	0070111-16	7/16/2020 10:03	7/22/2020 12:15	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-16	0070111-16	7/16/2020 10:03	7/16/2020 10:03	Observation	Color	Yellow	---		---	---	N_D
CCR-16	0070111-16	7/16/2020 10:03	7/16/2020 10:03	EPA 360.2	Dissolved Oxygen	3.63	mg/L		0.10	0.20	N_D
CCR-16	0070111-16	7/16/2020 10:03	7/21/2020 23:37	EPA 300.0	Fluoride	0.0170	mg/L	U	0.0170	0.125	FSES
CCR-16	0070111-16	7/16/2020 10:03	7/27/2020 11:01	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-16	0070111-16	7/16/2020 10:03	7/22/2020 15:33	EPA 200.7	Lithium	7.22	ug/L	U	7.22	25.0	FSES
CCR-16	0070111-16	7/16/2020 10:03	7/22/2020 13:53	EPA 200.7	Magnesium	36600	ug/L		156	1000	FSES
CCR-16	0070111-16	7/16/2020 10:03	7/27/2020 14:11	EPA 245.1	Mercury	0.510	ug/L		0.152	0.456	FSES
CCR-16	0070111-16	7/16/2020 10:03	7/27/2020 11:01	EPA 200.7	Molybdenum	20.6	ug/L		2.95	10.0	CF
CCR-16	0070111-16	7/16/2020 10:03	7/16/2020 10:03	EPA 150.1	pH	3.69	SU		0.05	0.05	N_D
CCR-16	0070111-16	7/16/2020 10:03	7/22/2020 13:53	EPA 200.7	Potassium	563000	ug/L		575	2500	FSES
CCR-16	0070111-16	7/16/2020 10:03	7/22/2020 12:15	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-16	0070111-16	7/16/2020 10:03	7/16/2020 10:03	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-16	0070111-16	7/16/2020 10:03	7/22/2020 13:53	EPA 200.7	Sodium	632000	ug/L		21000	100000	FSES
CCR-16	0070111-16	7/16/2020 10:03	7/16/2020 10:03	EPA 120.1	Specific Conductance	12252	uS/cm		1	5	N_D
CCR-16	0070111-16	7/16/2020 10:03	7/20/2020 19:14	EPA 300.0	Sulfate as SO4	936	mg/L	J-7	2.80	20.0	CF
CCR-16	0070111-16	7/16/2020 10:03	7/16/2020 10:03	EPA 170.1	Temperature	26.6	°C		0.1	0.1	N_D
CCR-16	0070111-16	7/16/2020 10:03	7/22/2020 12:15	EPA 200.7	Thallium	0.925	ug/L	U	0.925	4.00	FSES
CCR-16	0070111-16	7/16/2020 10:03	7/24/2020 12:33	EPA 310.2	Total Alkalinity	35.9	mg/L		2.49	7.46	FSES
CCR-16	0070111-16	7/16/2020 10:03	7/20/2020 11:36	EPA 160.1	Total Dissolved Solids	7660	mg/L	J-7	40.0	80.0	CF
CCR-16	0070111-16	7/16/2020 10:03	7/16/2020 10:03	EPA 180.1	Turbidity	21.9	NTU		0.10	0.50	N_D
CCR-16	0070111-16	7/16/2020 10:03	7/16/2020 10:03	DEP-SOP	Water Level	128.55	FT		0.10	0.50	N_D
CCR-16	0070111-16RE1	7/16/2020 10:03	7/22/2020 16:59	EPA 300.0	Chloride	3650	mg/L	J-7	5.68	40.0	CF
CCR-17	0070111-17	7/16/2020 10:29	7/22/2020 12:18	EPA 200.7	Arsenic	12.7	ug/L		3.14	10.0	FSES
CCR-17	0070111-17	7/16/2020 10:29	7/27/2020 11:06	EPA 200.7	Barium	5.03	ug/L	U	5.03	20.0	CF
CCR-17	0070111-17	7/16/2020 10:29	7/27/2020 11:06	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-17	0070111-17	7/16/2020 10:29	7/24/2020 12:33	EPA 310.2	Bicarbonate	217	mg/L		2.49	7.46	FSES
CCR-17	0070111-17	7/16/2020 10:29	7/22/2020 12:18	EPA 200.7	Boron	153	ug/L		1.04	10.0	FSES
CCR-17	0070111-17	7/16/2020 10:29	7/27/2020 11:06	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-17	0070111-17	7/16/2020 10:29	7/22/2020 13:56	EPA 200.7	Calcium	326000	ug/L		60.0	500	FSES
CCR-17	0070111-17	7/16/2020 10:29	7/20/2020 19:40	EPA 300.0	Chloride	289	mg/L	J-7	0.710	5.00	CF
CCR-17	0070111-17	7/16/2020 10:29	7/27/2020 11:06	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-17	0070111-17	7/16/2020 10:29	7/22/2020 12:18	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-17	0070111-17	7/16/2020 10:29	7/16/2020 10:29	Observation	Color	Yellow	---		---	---	N_D

3030 E Lake Parker Dr
Lakeland, FL 33805
CCR SAMPLING
Month / Year: July 2020
LAB ANALYSIS REPORT

SampleName	Sample ID	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Units	Qualifiers	Detection Limit	Reporting Limit	Analyst
CCR-17	0070111-17	7/16/2020 10:29	7/16/2020 10:29	EPA 360.2	Dissolved Oxygen	1.82	mg/L		0.10	0.20	N_D
CCR-17	0070111-17	7/16/2020 10:29	7/21/2020 23:54	EPA 300.0	Fluoride	0.056	mg/L		0.00680	0.0500	FSES
CCR-17	0070111-17	7/16/2020 10:29	7/27/2020 11:06	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-17	0070111-17	7/16/2020 10:29	7/22/2020 15:36	EPA 200.7	Lithium	7.22	ug/L	U	7.22	25.0	FSES
CCR-17	0070111-17	7/16/2020 10:29	7/22/2020 13:56	EPA 200.7	Magnesium	19300	ug/L		31.3	200	FSES
CCR-17	0070111-17	7/16/2020 10:29	7/27/2020 14:14	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-17	0070111-17	7/16/2020 10:29	7/27/2020 11:06	EPA 200.7	Molybdenum	12.3	ug/L		2.95	10.0	CF
CCR-17	0070111-17	7/16/2020 10:29	7/16/2020 10:29	EPA 150.1	pH	6.36	SU		0.05	0.05	N_D
CCR-17	0070111-17	7/16/2020 10:29	7/22/2020 12:18	EPA 200.7	Potassium	36700	ug/L		11.5	50.0	FSES
CCR-17	0070111-17	7/16/2020 10:29	7/22/2020 12:18	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-17	0070111-17	7/16/2020 10:29	7/16/2020 10:29	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-17	0070111-17	7/16/2020 10:29	7/22/2020 12:18	EPA 200.7	Sodium	60200	ug/L		420	2000	FSES
CCR-17	0070111-17	7/16/2020 10:29	7/16/2020 10:29	EPA 120.1	Specific Conductance	2010	uS/cm		1	5	N_D
CCR-17	0070111-17	7/16/2020 10:29	7/20/2020 19:40	EPA 300.0	Sulfate as SO4	396	mg/L	J-7	0.700	5.00	CF
CCR-17	0070111-17	7/16/2020 10:29	7/16/2020 10:29	EPA 170.1	Temperature	27.2	°C		0.1	0.1	N_D
CCR-17	0070111-17	7/16/2020 10:29	7/22/2020 12:18	EPA 200.7	Thallium	0.925	ug/L	U	0.925	4.00	FSES
CCR-17	0070111-17	7/16/2020 10:29	7/24/2020 12:33	EPA 310.2	Total Alkalinity	217	mg/L		2.49	7.46	FSES
CCR-17	0070111-17	7/16/2020 10:29	7/20/2020 11:38	EPA 160.1	Total Dissolved Solids	1310	mg/L	J-7	10.0	20.0	CF
CCR-17	0070111-17	7/16/2020 10:29	7/16/2020 10:29	EPA 180.1	Turbidity	3.13	NTU		0.10	0.50	N_D
CCR-17	0070111-17	7/16/2020 10:29	7/16/2020 10:29	DEP-SOP	Water Level	131.25	FT		0.10	0.50	N_D
CCR-18	0070111-18	7/16/2020 10:54	7/22/2020 12:21	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
CCR-18	0070111-18	7/16/2020 10:54	7/27/2020 11:11	EPA 200.7	Barium	5.03	ug/L	U	5.03	20.0	CF
CCR-18	0070111-18	7/16/2020 10:54	7/27/2020 11:11	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-18	0070111-18	7/16/2020 10:54	7/24/2020 12:33	EPA 310.2	Bicarbonate	178	mg/L		2.49	7.46	FSES
CCR-18	0070111-18	7/16/2020 10:54	7/22/2020 12:21	EPA 200.7	Boron	42.2	ug/L		1.04	10.0	FSES
CCR-18	0070111-18	7/16/2020 10:54	7/27/2020 11:11	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-18	0070111-18	7/16/2020 10:54	7/22/2020 12:21	EPA 200.7	Calcium	73100	ug/L		6.00	50.0	FSES
CCR-18	0070111-18	7/16/2020 10:54	7/20/2020 21:24	EPA 300.0	Chloride	2.87	mg/L		0.142	1.00	CF
CCR-18	0070111-18	7/16/2020 10:54	7/27/2020 11:11	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-18	0070111-18	7/16/2020 10:54	7/22/2020 12:21	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-18	0070111-18	7/16/2020 10:54	7/16/2020 10:54	Observation	Color	Yellow	---		---	---	N_D
CCR-18	0070111-18	7/16/2020 10:54	7/16/2020 10:54	EPA 360.2	Dissolved Oxygen	2.35	mg/L		0.10	0.20	N_D
CCR-18	0070111-18	7/16/2020 10:54	7/22/2020 0:10	EPA 300.0	Fluoride	0.366	mg/L		0.00340	0.0250	FSES
CCR-18	0070111-18	7/16/2020 10:54	7/27/2020 11:11	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-18	0070111-18	7/16/2020 10:54	7/22/2020 15:38	EPA 200.7	Lithium	7.22	ug/L	U	7.22	25.0	FSES
CCR-18	0070111-18	7/16/2020 10:54	7/22/2020 12:21	EPA 200.7	Magnesium	4270	ug/L		3.13	20.0	FSES
CCR-18	0070111-18	7/16/2020 10:54	7/27/2020 14:16	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-18	0070111-18	7/16/2020 10:54	7/27/2020 11:11	EPA 200.7	Molybdenum	8.94	ug/L	I	2.95	10.0	CF
CCR-18	0070111-18	7/16/2020 10:54	7/16/2020 10:54	EPA 150.1	pH	6.26	SU		0.05	0.05	N_D
CCR-18	0070111-18	7/16/2020 10:54	7/22/2020 12:21	EPA 200.7	Potassium	2870	ug/L		11.5	50.0	FSES
CCR-18	0070111-18	7/16/2020 10:54	7/22/2020 12:21	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-18	0070111-18	7/16/2020 10:54	7/16/2020 10:54	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-18	0070111-18	7/16/2020 10:54	7/22/2020 12:21	EPA 200.7	Sodium	2260	ug/L		420	2000	FSES
CCR-18	0070111-18	7/16/2020 10:54	7/16/2020 10:54	EPA 120.1	Specific Conductance	394.1	uS/cm		1	5	N_D
CCR-18	0070111-18	7/16/2020 10:54	7/20/2020 21:24	EPA 300.0	Sulfate as SO4	32.5	mg/L		0.140	1.00	CF
CCR-18	0070111-18	7/16/2020 10:54	7/16/2020 10:54	EPA 170.1	Temperature	26.2	°C		0.1	0.1	N_D
CCR-18	0070111-18	7/16/2020 10:54	7/22/2020 12:21	EPA 200.7	Thallium	0.925	ug/L	U	0.925	4.00	FSES
CCR-18	0070111-18	7/16/2020 10:54	7/24/2020 12:33	EPA 310.2	Total Alkalinity	178	mg/L		2.49	7.46	FSES
CCR-18	0070111-18	7/16/2020 10:54	7/20/2020 11:40	EPA 160.1	Total Dissolved Solids	279	mg/L		10.0	20.0	CF
CCR-18	0070111-18	7/16/2020 10:54	7/16/2020 10:54	EPA 180.1	Turbidity	3.05	NTU		0.10	0.50	N_D
CCR-18	0070111-18	7/16/2020 10:54	7/16/2020 10:54	DEP-SOP	Water Level	132.01	FT		0.10	0.50	N_D
CCR-19	0070111-19	7/17/2020 10:13	7/22/2020 12:24	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
CCR-19	0070111-19	7/17/2020 10:13	7/27/2020 11:16	EPA 200.7	Barium	124	ug/L		5.03	20.0	CF
CCR-19	0070111-19	7/17/2020 10:13	7/27/2020 11:16	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-19	0070111-19	7/17/2020 10:13	7/24/2020 12:33	EPA 310.2	Bicarbonate	13.8	mg/L		2.49	7.46	FSES
CCR-19	0070111-19	7/17/2020 10:13	7/22/2020 12:24	EPA 200.7	Boron	305	ug/L		1.04	10.0	FSES
CCR-19	0070111-19	7/17/2020 10:13	7/27/2020 11:16	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-19	0070111-19	7/17/2020 10:13	7/22/2020 14:00	EPA 200.7	Calcium	753000	ug/L		60.0	500	FSES
CCR-19	0070111-19	7/17/2020 10:13	7/22/2020 17:25	EPA 300.0	Chloride	1380	mg/L	J-7	7.10	50.0	CF
CCR-19	0070111-19	7/17/2020 10:13	7/27/2020 11:16	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-19	0070111-19	7/17/2020 10:13	7/22/2020 12:24	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-19	0070111-19	7/17/2020 10:13	7/17/2020 10:13	Observation	Color	Brown	---		---	---	N_D
CCR-19	0070111-19	7/17/2020 10:13	7/17/2020 10:13	EPA 360.2	Dissolved Oxygen	0.10	mg/L	U	0.10	0.20	N_D
CCR-19	0070111-19	7/17/2020 10:13	7/22/2020 1:00	EPA 300.0	Fluoride	1.54	mg/L		0.0170	0.125	FSES
CCR-19	0070111-19	7/17/2020 10:13	7/27/2020 11:16	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-19	0070111-19	7/17/2020 10:13	7/22/2020 15:41	EPA 200.7	Lithium	7.22	ug/L	U	7.22	25.0	FSES
CCR-19	0070111-19	7/17/2020 10:13	7/22/2020 14:25	EPA 200.7	Magnesium	48700	ug/L		156	1000	FSES
CCR-19	0070111-19	7/17/2020 10:13	7/27/2020 14:19	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-19	0070111-19	7/17/2020 10:13	7/27/2020 11:16	EPA 200.7	Molybdenum	13.1	ug/L		2.95	10.0	CF
CCR-19	0070111-19	7/17/2020 10:13	7/17/2020 10:13	EPA 150.1	pH	4.35	SU		0.05	0.05	N_D
CCR-19	0070111-19	7/17/2020 10:13	7/22/2020 14:00	EPA 200.7	Potassium	301000	ug/L		115	500	FSES
CCR-19	0070111-19	7/17/2020 10:13	7/22/2020 12:24	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-19	0070111-19	7/17/2020 10:13	7/17/2020 10:13	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-19	0070111-19	7/17/2020 10:13	7/22/2020 14:00	EPA 200.7	Sodium	295000	ug/L		4200	20000	FSES
CCR-19	0070111-19	7/17/2020 10:13	7/17/2020 10:13	EPA 120.1	Specific Conductance	5309	uS/cm		1	5	N_D
CCR-19	0070111-19	7/17/2020 10:13	7/22/2020 17:25	EPA 300.0	Sulfate as SO4	1190	mg/L	J-7	7.00	50.0	CF
CCR-19	0070111-19	7/17/2020 10:13	7/17/2020 10:13	EPA 170.1	Temperature	25.3	°C		0.1	0.1	N_D
CCR-19	0070111-19	7/17/2020 10:13	7/22/2020 12:24	EPA 200.7	Thallium	0.925	ug/L	U	0.925	4.00	FSES
CCR-19	0070111-19	7/17/2020 10:13	7/24/2020 12:33	EPA 310.2	Total Alkalinity	13.8	mg/L		2.49	7.46	FSES
CCR-19	0070111-19	7/17/2020 10:13	7/20/2020 11:42	EPA 160.1	Total Dissolved Solids	4150	mg/L	J-7	40.0	80.0	CF
CCR-19	0070111-19	7/17/2020 10:13	7/17/2020 10:13	EPA 180.1	Turbidity	20.1	NTU		0.10	0.50	N_D
CCR-19	0070111-19	7/17/2020 10:13	7/17/2020 10:13	DEP-SOP	Water Level	131.12	FT		0.10	0.50	N_D
CCR-20	0070111-20	7/17/2020 10:46	7/22/2020 12:27	EPA 200.7	Arsenic	61.1	ug/L		3.14	10.0	FSES

3030 E Lake Parker Dr
Lakeland, FL 33805
CCR SAMPLING
Month / Year: July 2020
LAB ANALYSIS REPORT

SampleName	Sample ID	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Units	Qualifiers	Detection Limit	Reporting Limit	Analyst
CCR-20	0070111-20	7/17/2020 10:46	7/27/2020 11:21	EPA 200.7	Barium	69.4	ug/L		5.03	20.0	CF
CCR-20	0070111-20	7/17/2020 10:46	7/27/2020 11:21	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-20	0070111-20	7/17/2020 10:46	7/24/2020 12:33	EPA 310.2	Bicarbonate	21.7	mg/L		2.49	7.46	FSES
CCR-20	0070111-20	7/17/2020 10:46	7/22/2020 12:27	EPA 200.7	Boron	539	ug/L		1.04	10.0	FSES
CCR-20	0070111-20	7/17/2020 10:46	7/27/2020 11:21	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-20	0070111-20	7/17/2020 10:46	7/22/2020 14:37	EPA 200.7	Calcium	524000	ug/L		60.0	500	FSES
CCR-20	0070111-20	7/17/2020 10:46	7/20/2020 20:32	EPA 300.0	Chloride	494	mg/L	J-7	2.84	20.0	CF
CCR-20	0070111-20	7/17/2020 10:46	7/27/2020 11:21	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-20	0070111-20	7/17/2020 10:46	7/22/2020 12:27	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-20	0070111-20	7/17/2020 10:46	7/17/2020 10:46	Observation	Color	Clear	---		---	---	N_D
CCR-20	0070111-20	7/17/2020 10:46	7/17/2020 10:46	EPA 360.2	Dissolved Oxygen	0.36	mg/L		0.10	0.20	N_D
CCR-20	0070111-20	7/17/2020 10:46	7/22/2020 1:16	EPA 300.0	Fluoride	0.320	mg/L		0.0170	0.125	FSES
CCR-20	0070111-20	7/17/2020 10:46	7/27/2020 11:21	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-20	0070111-20	7/17/2020 10:46	7/22/2020 15:44	EPA 200.7	Lithium	7.22	ug/L	U	7.22	25.0	FSES
CCR-20	0070111-20	7/17/2020 10:46	7/22/2020 14:37	EPA 200.7	Magnesium	13700	ug/L		31.3	200	FSES
CCR-20	0070111-20	7/17/2020 10:46	7/27/2020 14:21	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-20	0070111-20	7/17/2020 10:46	7/27/2020 11:21	EPA 200.7	Molybdenum	12.0	ug/L		2.95	10.0	CF
CCR-20	0070111-20	7/17/2020 10:46	7/17/2020 10:46	EPA 150.1	pH	4.61	SU		0.05	0.05	N_D
CCR-20	0070111-20	7/17/2020 10:46	7/22/2020 14:37	EPA 200.7	Potassium	280000	ug/L		115	500	FSES
CCR-20	0070111-20	7/17/2020 10:46	7/22/2020 12:27	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-20	0070111-20	7/17/2020 10:46	7/17/2020 10:46	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-20	0070111-20	7/17/2020 10:46	7/22/2020 14:37	EPA 200.7	Sodium	251000	ug/L		4200	20000	FSES
CCR-20	0070111-20	7/17/2020 10:46	7/17/2020 10:46	EPA 120.1	Specific Conductance	3891	uS/cm		1	5	N_D
CCR-20	0070111-20	7/17/2020 10:46	7/20/2020 20:32	EPA 300.0	Sulfate as SO4	1610	mg/L	J-7	2.80	20.0	CF
CCR-20	0070111-20	7/17/2020 10:46	7/17/2020 10:46	EPA 170.1	Temperature	25.2	°C		0.1	0.1	N_D
CCR-20	0070111-20	7/17/2020 10:46	7/22/2020 12:27	EPA 200.7	Thallium	0.925	ug/L	U	0.925	4.00	FSES
CCR-20	0070111-20	7/17/2020 10:46	7/24/2020 12:33	EPA 310.2	Total Alkalinity	21.7	mg/L		2.49	7.46	FSES
CCR-20	0070111-20	7/17/2020 10:46	7/20/2020 11:44	EPA 160.1	Total Dissolved Solids	3300	mg/L	J-7	20.0	40.0	CF
CCR-20	0070111-20	7/17/2020 10:46	7/17/2020 10:46	EPA 180.1	Turbidity	17.0	NTU		0.10	0.50	N_D
CCR-20	0070111-20	7/17/2020 10:46	7/17/2020 10:46	DEP-SOP	Water Level	130.50	FT		0.10	0.50	N_D
CCR-21	0070111-21	7/17/2020 11:14	7/22/2020 12:32	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
CCR-21	0070111-21	7/17/2020 11:14	7/27/2020 11:25	EPA 200.7	Barium	42.7	ug/L		5.03	20.0	CF
CCR-21	0070111-21	7/17/2020 11:14	7/27/2020 11:25	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-21	0070111-21	7/17/2020 11:14	7/24/2020 12:33	EPA 310.2	Bicarbonate	261	mg/L		2.49	7.46	FSES
CCR-21	0070111-21	7/17/2020 11:14	7/22/2020 12:32	EPA 200.7	Boron	380	ug/L		1.04	10.0	FSES
CCR-21	0070111-21	7/17/2020 11:14	7/27/2020 11:25	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-21	0070111-21	7/17/2020 11:14	7/22/2020 14:40	EPA 200.7	Calcium	391000	ug/L		60.0	500	FSES
CCR-21	0070111-21	7/17/2020 11:14	7/20/2020 20:58	EPA 300.0	Chloride	21.7	mg/L		1.42	10.0	CF
CCR-21	0070111-21	7/17/2020 11:14	7/27/2020 11:25	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-21	0070111-21	7/17/2020 11:14	7/22/2020 12:32	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-21	0070111-21	7/17/2020 11:14	7/17/2020 11:14	Observation	Color	Clear	---		---	---	N_D
CCR-21	0070111-21	7/17/2020 11:14	7/17/2020 11:14	EPA 360.2	Dissolved Oxygen	0.10	mg/L	U	0.10	0.20	N_D
CCR-21	0070111-21	7/17/2020 11:14	7/22/2020 2:06	EPA 300.0	Fluoride	0.718	mg/L		0.00680	0.0500	FSES
CCR-21	0070111-21	7/17/2020 11:14	7/27/2020 11:25	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-21	0070111-21	7/17/2020 11:14	7/22/2020 15:46	EPA 200.7	Lithium	7.22	ug/L	U	7.22	25.0	FSES
CCR-21	0070111-21	7/17/2020 11:14	7/22/2020 14:40	EPA 200.7	Magnesium	14900	ug/L		31.3	200	FSES
CCR-21	0070111-21	7/17/2020 11:14	7/27/2020 14:24	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-21	0070111-21	7/17/2020 11:14	7/27/2020 11:25	EPA 200.7	Molybdenum	38.8	ug/L		2.95	10.0	CF
CCR-21	0070111-21	7/17/2020 11:14	7/17/2020 11:14	EPA 150.1	pH	6.15	SU		0.05	0.05	N_D
CCR-21	0070111-21	7/17/2020 11:14	7/22/2020 12:32	EPA 200.7	Potassium	19400	ug/L		11.5	50.0	FSES
CCR-21	0070111-21	7/17/2020 11:14	7/22/2020 12:32	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-21	0070111-21	7/17/2020 11:14	7/17/2020 11:14	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-21	0070111-21	7/17/2020 11:14	7/22/2020 12:32	EPA 200.7	Sodium	16100	ug/L		420	2000	FSES
CCR-21	0070111-21	7/17/2020 11:14	7/17/2020 11:14	EPA 120.1	Specific Conductance	1597	uS/cm		1	5	N_D
CCR-21	0070111-21	7/17/2020 11:14	7/20/2020 20:58	EPA 300.0	Sulfate as SO4	743	mg/L	J-7	1.40	10.0	CF
CCR-21	0070111-21	7/17/2020 11:14	7/17/2020 11:14	EPA 170.1	Temperature	25.9	°C		0.1	0.1	N_D
CCR-21	0070111-21	7/17/2020 11:14	7/22/2020 12:32	EPA 200.7	Thallium	0.925	ug/L	U	0.925	4.00	FSES
CCR-21	0070111-21	7/17/2020 11:14	7/24/2020 12:33	EPA 310.2	Total Alkalinity	261	mg/L		2.49	7.46	FSES
CCR-21	0070111-21	7/17/2020 11:14	7/20/2020 11:46	EPA 160.1	Total Dissolved Solids	1470	mg/L	J-7	10.0	20.0	CF
CCR-21	0070111-21	7/17/2020 11:14	7/17/2020 11:14	EPA 180.1	Turbidity	1.20	NTU		0.10	0.50	N_D
CCR-21	0070111-21	7/17/2020 11:14	7/17/2020 11:14	DEP-SOP	Water Level	130.27	FT		0.10	0.50	N_D
CCR-22	0070111-22	7/17/2020 11:47	7/22/2020 12:29	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
CCR-22	0070111-22	7/17/2020 11:47	7/27/2020 11:30	EPA 200.7	Barium	19.1	ug/L	I	5.03	20.0	CF
CCR-22	0070111-22	7/17/2020 11:47	7/27/2020 11:30	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-22	0070111-22	7/17/2020 11:47	7/24/2020 12:33	EPA 310.2	Bicarbonate	12.4	mg/L		2.49	7.46	FSES
CCR-22	0070111-22	7/17/2020 11:47	7/22/2020 12:29	EPA 200.7	Boron	379	ug/L		1.04	10.0	FSES
CCR-22	0070111-22	7/17/2020 11:47	7/27/2020 11:30	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-22	0070111-22	7/17/2020 11:47	7/22/2020 14:43	EPA 200.7	Calcium	245000	ug/L		60.0	500	FSES
CCR-22	0070111-22	7/17/2020 11:47	7/22/2020 17:51	EPA 300.0	Chloride	78.9	mg/L		1.42	10.0	CF
CCR-22	0070111-22	7/17/2020 11:47	7/27/2020 11:30	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-22	0070111-22	7/17/2020 11:47	7/22/2020 12:29	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-22	0070111-22	7/17/2020 11:47	7/17/2020 11:47	Observation	Color	Clear	---		---	---	N_D
CCR-22	0070111-22	7/17/2020 11:47	7/17/2020 11:47	EPA 360.2	Dissolved Oxygen	0.10	mg/L	U	0.10	0.20	N_D
CCR-22	0070111-22	7/17/2020 11:47	7/22/2020 2:22	EPA 300.0	Fluoride	0.925	mg/L		0.00340	0.0250	FSES
CCR-22	0070111-22	7/17/2020 11:47	7/27/2020 11:30	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-22	0070111-22	7/17/2020 11:47	7/22/2020 15:49	EPA 200.7	Lithium	73.8	ug/L		7.22	25.0	FSES
CCR-22	0070111-22	7/17/2020 11:47	7/22/2020 14:43	EPA 200.7	Magnesium	11200	ug/L		31.3	200	FSES
CCR-22	0070111-22	7/17/2020 11:47	7/27/2020 14:27	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-22	0070111-22	7/17/2020 11:47	7/27/2020 11:30	EPA 200.7	Molybdenum	9.75	ug/L	I	2.95	10.0	CF
CCR-22	0070111-22	7/17/2020 11:47	7/27/2020 11:30	EPA 200.7	Molybdenum	9.75	ug/L	J-6	2.95	10.0	CF
CCR-22	0070111-22	7/17/2020 11:47	7/17/2020 11:47	EPA 150.1	pH	4.38	SU		0.05	0.05	N_D
CCR-22	0070111-22	7/17/2020 11:47	7/22/2020 14:43	EPA 200.7	Potassium	109000	ug/L		115	500	FSES
CCR-22	0070111-22	7/17/2020 11:47	7/22/2020 12:29	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES

3030 E Lake Parker Dr
Lakeland, FL 33805
CCR SAMPLING
Month / Year: July 2020
LAB ANALYSIS REPORT

SampleName	Sample ID	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Units	Qualifiers	Detection Limit	Reporting Limit	Analyst
CCR-22	0070111-22	7/17/2020 11:47	7/17/2020 11:47	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-22	0070111-22	7/17/2020 11:47	7/22/2020 12:29	EPA 200.7	Sodium	34800	ug/L		420	2000	FSES
CCR-22	0070111-22	7/17/2020 11:47	7/17/2020 11:47	EPA 120.1	Specific Conductance	1547	uS/cm		1	5	N_D
CCR-22	0070111-22	7/17/2020 11:47	7/22/2020 17:51	EPA 300.0	Sulfate as SO4	763	mg/L	J-7	1.40	10.0	CF
CCR-22	0070111-22	7/17/2020 11:47	7/17/2020 11:47	EPA 170.1	Temperature	25.3	°C		0.1	0.1	N_D
CCR-22	0070111-22	7/17/2020 11:47	7/22/2020 12:29	EPA 200.7	Thallium	0.925	ug/L	U	0.925	4.00	FSES
CCR-22	0070111-22	7/17/2020 11:47	7/24/2020 12:33	EPA 310.2	Total Alkalinity	12.4	mg/L		2.49	7.46	FSES
CCR-22	0070111-22	7/17/2020 11:47	7/20/2020 11:48	EPA 160.1	Total Dissolved Solids	1360	mg/L	J-7	10.0	20.0	CF
CCR-22	0070111-22	7/17/2020 11:47	7/17/2020 11:47	EPA 180.1	Turbidity	26.2	NTU		0.10	0.50	N_D
CCR-22	0070111-22	7/17/2020 11:47	7/17/2020 11:47	DEP-SOP	Water Level	130.31	FT		0.10	0.50	N_D
CCR-23	0070111-23	7/17/2020 13:29	7/22/2020 12:52	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
CCR-23	0070111-23	7/17/2020 13:29	7/27/2020 12:13	EPA 200.7	Barium	9.19	ug/L	I	5.03	20.0	CF
CCR-23	0070111-23	7/17/2020 13:29	7/27/2020 12:13	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
CCR-23	0070111-23	7/17/2020 13:29	7/24/2020 12:33	EPA 310.2	Bicarbonate	50.9	mg/L		2.49	7.46	FSES
CCR-23	0070111-23	7/17/2020 13:29	7/22/2020 12:52	EPA 200.7	Boron	777	ug/L		1.04	10.0	FSES
CCR-23	0070111-23	7/17/2020 13:29	7/27/2020 12:13	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
CCR-23	0070111-23	7/17/2020 13:29	7/22/2020 14:45	EPA 200.7	Calcium	274000	ug/L		300	2500	FSES
CCR-23	0070111-23	7/17/2020 13:29	7/22/2020 18:17	EPA 300.0	Chloride	80.0	mg/L		1.42	10.0	CF
CCR-23	0070111-23	7/17/2020 13:29	7/27/2020 12:13	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
CCR-23	0070111-23	7/17/2020 13:29	7/22/2020 12:52	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
CCR-23	0070111-23	7/17/2020 13:29	7/17/2020 13:29	Observation	Color	Clear	---		---	---	N_D
CCR-23	0070111-23	7/17/2020 13:29	7/17/2020 13:29	EPA 360.2	Dissolved Oxygen	0.10	mg/L	U	0.10	0.20	N_D
CCR-23	0070111-23	7/17/2020 13:29	7/22/2020 2:39	EPA 300.0	Fluoride	0.492	mg/L		0.00340	0.0250	FSES
CCR-23	0070111-23	7/17/2020 13:29	7/27/2020 12:13	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
CCR-23	0070111-23	7/17/2020 13:29	7/22/2020 16:12	EPA 200.7	Lithium	7.22	ug/L	U	7.22	25.0	FSES
CCR-23	0070111-23	7/17/2020 13:29	7/22/2020 14:45	EPA 200.7	Magnesium	26000	ug/L		156	1000	FSES
CCR-23	0070111-23	7/17/2020 13:29	7/27/2020 14:45	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
CCR-23	0070111-23	7/17/2020 13:29	7/27/2020 12:13	EPA 200.7	Molybdenum	10.6	ug/L		2.95	10.0	CF
CCR-23	0070111-23	7/17/2020 13:29	7/17/2020 13:29	EPA 150.1	pH	5.04	SU		0.05	0.05	N_D
CCR-23	0070111-23	7/17/2020 13:29	7/22/2020 12:52	EPA 200.7	Potassium	15200	ug/L		11.5	50.0	FSES
CCR-23	0070111-23	7/17/2020 13:29	7/22/2020 12:52	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
CCR-23	0070111-23	7/17/2020 13:29	7/17/2020 13:29	Observation	Sheen	No Sheen	---		---	---	N_D
CCR-23	0070111-23	7/17/2020 13:29	7/22/2020 12:52	EPA 200.7	Sodium	33100	ug/L		420	2000	FSES
CCR-23	0070111-23	7/17/2020 13:29	7/17/2020 13:29	EPA 120.1	Specific Conductance	1344	uS/cm		1	5	N_D
CCR-23	0070111-23	7/17/2020 13:29	7/22/2020 18:17	EPA 300.0	Sulfate as SO4	679	mg/L	J-7	1.40	10.0	CF
CCR-23	0070111-23	7/17/2020 13:29	7/17/2020 13:29	EPA 170.1	Temperature	26.5	°C		0.1	0.1	N_D
CCR-23	0070111-23	7/17/2020 13:29	7/22/2020 12:52	EPA 200.7	Thallium	0.925	ug/L	U	0.925	4.00	FSES
CCR-23	0070111-23	7/17/2020 13:29	7/24/2020 12:33	EPA 310.2	Total Alkalinity	50.9	mg/L		2.49	7.46	FSES
CCR-23	0070111-23	7/17/2020 13:29	7/20/2020 13:30	EPA 160.1	Total Dissolved Solids	1200	mg/L	J-7	10.0	20.0	CF
CCR-23	0070111-23	7/17/2020 13:29	7/17/2020 13:29	EPA 180.1	Turbidity	4.88	NTU		0.10	0.50	N_D
CCR-23	0070111-23	7/17/2020 13:29	7/17/2020 13:29	DEP-SOP	Water Level	130.08	FT		0.10	0.50	N_D
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/22/2020 12:55	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/27/2020 12:18	EPA 200.7	Barium	21.3	ug/L		5.03	20.0	CF
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/27/2020 12:18	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/22/2020 12:55	EPA 200.7	Boron	32.4	ug/L		1.04	10.0	FSES
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/27/2020 12:18	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/22/2020 12:55	EPA 200.7	Calcium	13800	ug/L		6.00	50.0	FSES
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/22/2020 18:43	EPA 300.0	Chloride	1.08	mg/L		0.142	1.00	CF
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/27/2020 12:18	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/17/2020 14:09	Observation	Color	Cloudy	---		---	---	N_D
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/17/2020 14:09	EPA 360.2	Dissolved Oxygen	0.20	mg/L		0.10	0.20	N_D
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/22/2020 2:55	EPA 300.0	Fluoride	0.0260	mg/L		0.00340	0.0250	FSES
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/27/2020 12:18	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/22/2020 16:15	EPA 200.7	Lithium	7.22	ug/L	U	7.22	25.0	FSES
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/27/2020 12:18	EPA 200.7	Molybdenum	2.95	ug/L	U	2.95	10.0	CF
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/17/2020 14:09	EPA 150.1	pH	5.68	SU		0.05	0.05	N_D
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/17/2020 14:09	Observation	Sheen	No Sheen	---		---	---	N_D
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/17/2020 14:09	EPA 120.1	Specific Conductance	99.9	uS/cm		1	5	N_D
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/22/2020 18:43	EPA 300.0	Sulfate as SO4	9.70	mg/L		0.140	1.00	CF
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/17/2020 14:09	EPA 170.1	Temperature	23.3	°C		0.1	0.1	N_D
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/20/2020 13:34	EPA 160.1	Total Dissolved Solids	141	mg/L		10.0	20.0	CF
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/17/2020 14:09	EPA 180.1	Turbidity	130	NTU		0.10	0.50	N_D
SW-106 (CCR-24)	0070111-24	7/17/2020 14:09	7/17/2020 14:09	DEP-SOP	Water Level	---	FT		0.10	0.50	N_D
Equipment Blank	0070111-25	7/14/2020 14:45	7/22/2020 12:58	EPA 200.7	Arsenic	3.14	ug/L	U	3.14	10.0	FSES
Equipment Blank	0070111-25	7/14/2020 14:45	7/27/2020 12:23	EPA 200.7	Barium	5.03	ug/L	U	5.03	20.0	CF
Equipment Blank	0070111-25	7/14/2020 14:45	7/27/2020 12:23	EPA 200.7	Beryllium	2.83	ug/L	U	2.83	10.0	CF
Equipment Blank	0070111-25	7/14/2020 14:45	7/24/2020 12:33	EPA 310.2	Bicarbonate	2.49	mg/L	U	2.49	7.46	FSES
Equipment Blank	0070111-25	7/14/2020 14:45	7/22/2020 12:58	EPA 200.7	Boron	1.04	ug/L	U	1.04	10.0	FSES
Equipment Blank	0070111-25	7/14/2020 14:45	7/27/2020 12:23	EPA 200.7	Cadmium	2.80	ug/L	U	2.80	10.0	CF
Equipment Blank	0070111-25	7/14/2020 14:45	7/22/2020 12:58	EPA 200.7	Calcium	9.40	ug/L		6.00	50.0	FSES
Equipment Blank	0070111-25	7/14/2020 14:45	7/15/2020 21:21	EPA 300.0	Chloride	0.142	mg/L	U	0.142	1.00	CF
Equipment Blank	0070111-25	7/14/2020 14:45	7/27/2020 12:23	EPA 200.7	Chromium	3.70	ug/L	U	3.70	10.0	CF
Equipment Blank	0070111-25	7/14/2020 14:45	7/22/2020 12:58	EPA 200.7	Cobalt	0.293	ug/L	U	0.293	1.00	FSES
Equipment Blank	0070111-25	7/14/2020 14:45	7/14/2020 14:45	Observation	Color	Clear	---		---	---	N_D
Equipment Blank	0070111-25	7/14/2020 14:45	7/14/2020 14:45	EPA 360.2	Dissolved Oxygen	0.16	mg/L		0.10	0.20	N_D
Equipment Blank	0070111-25	7/14/2020 14:45	7/22/2020 3:12	EPA 300.0	Fluoride	0.00340	mg/L	U	0.00340	0.0250	FSES
Equipment Blank	0070111-25	7/14/2020 14:45	7/27/2020 12:23	EPA 200.7	Lead	4.15	ug/L	U	4.15	10.0	CF
Equipment Blank	0070111-25	7/14/2020 14:45	7/22/2020 16:17	EPA 200.7	Lithium	7.22	ug/L	U	7.22	25.0	FSES
Equipment Blank	0070111-25	7/14/2020 14:45	7/22/2020 12:58	EPA 200.7	Magnesium	3.13	ug/L		3.13	20.0	FSES
Equipment Blank	0070111-25	7/14/2020 14:45	7/27/2020 14:48	EPA 245.1	Mercury	0.152	ug/L	U	0.152	0.456	FSES
Equipment Blank	0070111-25	7/14/2020 14:45	7/27/2020 12:23	EPA 200.7	Molybdenum	2.95	ug/L	U	2.95	10.0	CF
Equipment Blank	0070111-25	7/14/2020 14:45	7/14/2020 14:45	EPA 150.1	pH	6.81	SU		0.05	0.05	N_D
Equipment Blank	0070111-25	7/14/2020 14:45	7/22/2020 12:58	EPA 200.7	Potassium	11.5	ug/L	U	11.5	50.0	FSES

3030 E Lake Parker Dr
Lakeland, FL 33805
CCR SAMPLING
Month / Year: July 2020
LAB ANALYSIS REPORT

SampleName	Sample ID	Date/Time Sampled	Date/Time Analyzed	Method	Analyte	Result	Units	Qualifiers	Detection Limit	Reporting Limit	Analyst
Equipment Blank	0070111-25	7/14/2020 14:45	7/22/2020 12:58	EPA 200.7	Selenium	4.39	ug/L	U	4.39	15.0	FSES
Equipment Blank	0070111-25	7/14/2020 14:45	7/14/2020 14:45	Observation	Sheen	No Sheen	---		---	---	N_D
Equipment Blank	0070111-25	7/14/2020 14:45	7/22/2020 12:58	EPA 200.7	Sodium	420	ug/L	U	420	2000	FSES
Equipment Blank	0070111-25	7/14/2020 14:45	7/14/2020 14:45	EPA 120.1	Specific Conductance	1	uS/cm	U	1	5	N_D
Equipment Blank	0070111-25	7/14/2020 14:45	7/15/2020 21:21	EPA 300.0	Sulfate as SO4	0.140	mg/L	U	0.140	1.00	CF
Equipment Blank	0070111-25	7/14/2020 14:45	7/14/2020 14:45	EPA 170.1	Temperature	26.2	°C		0.1	0.1	N_D
Equipment Blank	0070111-25	7/14/2020 14:45	7/22/2020 12:58	EPA 200.7	Thallium	0.925	ug/L	U	0.925	4.00	FSES
Equipment Blank	0070111-25	7/14/2020 14:45	7/24/2020 12:33	EPA 310.2	Total Alkalinity	2.49	mg/L	U	2.49	7.46	FSES
Equipment Blank	0070111-25	7/14/2020 14:45	7/20/2020 13:36	EPA 160.1	Total Dissolved Solids	10.0	mg/L	U	10.0	20.0	CF
Equipment Blank	0070111-25	7/14/2020 14:45	7/14/2020 14:45	EPA 180.1	Turbidity	0.47	NTU	J	0.10	0.50	N_D
Equipment Blank	0070111-25	7/14/2020 14:45	7/14/2020 14:45	DEP-SOP	Water Level	---	FT		0.10	0.50	N_D

I = The reported value is between the laboratory MDL and the laboratory PQL.
J = Estimated value. Quality control does not meet criteria.
J-2+ = Estimated value. Does not meet the quality control criteria for matrix spikes. The associated sample value is estimated to be greater than reported.
J-6 = Estimated value. Result does not meet the quality control criteria for duplicates.
J-7 = Result exceeds the regulatory MCL.
J-8 = Estimated value. Reported concentration is outside the standard calibration/calibration verification range.
U = Compound was analyzed for but not detected.
V = The analyte was detected at or above the method detection limit in both the sample and the associated method blank.
FSES = Subcontracted analysis conducted by Florida-Spectrum Environmental Services, Inc. (TNI Certificate No. E86006).
FRS = Subcontracted analysis conducted by Florida Radiochemistry Services, Inc. (TNI Certificate No. E83033).

The results detailed within this report apply only to those samples submitted for analysis and for which results are reported here.
Unless otherwise indicated, these test results meet all requirements of the TNI standards.

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	McIntosh Power Plant			Site Location:	Lakeland, FL
Well No:	CCR-1	Sample ID:	0010201-01	Date:	1/13/20

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.7	to	25.7	(feet):	9.79	PP

	total well depth		static depth to water		well capacity (gal/ft)			
Well Volume Purge:								
One well volume =		-	9.79	X		=	0	gal

	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
Equipment Volume Purge:									.315251
1 equipment volume =	.06	+	.101	gal +	25.7	X	.006	= 0	gal

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):
25.7	22.7	0937	0943	3.2

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
0937	2	2	0.20	9.91	25.0	195.8	4.78	Clear	1.87	2.43	NONE
0940	.6	2.6	0.26	9.92	25.0	198.5	4.79	"	1.79	2.31	NONE
0943	.6	3.2	0.20	9.92	25.0	203.2	4.81	"	1.68	1.71	NONE

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:
LAKELAND ELECTRIC D. Biggs		0943	0946

Pump or Tubing Depth in well (feet):	Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um

Field Decontamination: Y (N) — NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-01A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl	RFPP	
0010201-01B	1	PP	250mL	HNO3	None	None	NA	Cr, Cd, Pb, Mo, Ba	RFPP	
0010201-01C	1	PP	250mL	HNO3	None	None	NA	Sb, As, B, Co, Li, Hg, Se, Ti (LKLD Labs)	RFPP	
0010201-01D	1	PP	125 mL	Ice	None	None	NA	Fluoride	RFPP	
0010201-01E	1	PP	2000 ml	HNO3	None	None	NA	Ra 226+ 228	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant		Site Location:	Lakeland, FL
Well No:	CCR-2	Sample ID:	0010201-02	Date: 1/13/20

PURGING DATA

Well Diameter (inches)	Tubing Diameter (inches)	Well Screen Interval Depth:	to	Static depth to water (feet):	Purge pump type
2	3/8	15.7	25.7	~~9.6~~ 9.25	PP

	total well depth		static depth to water		well capacity (gal/ft)		
Well Volume Purge: One well volume =		-	9.25	X		= 0	gal

	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
Equipment Volume Purge: 1 equipment volume =	.06	+	.101	gal +	25.7	X	.006	= 0	gal .3152

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):
25.7	22.7	10:01	1017	3.2

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1011	2	2.0	0.20	9.51	26.3	455.6	4.74	CLEAR	2.85	5.89	NONE
1014	.6	2.6	0.20	9.52	26.3	471.4	4.77	" "	2.69	6.05	" "
1017	.6	3.2	0.20	9.52	26.3	467.3	4.84	" "	2.74	5.18	" "

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:
Lakeland Electric D. Bragg		1017	1021

Pump or Tubing Depth in well (feet):	Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: ____um

Field Decontamination: Y (N) — NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-02A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl	RFPP	
0010201-02B	1	PP	250mL	HNO3	None	None	NA	Cr, Cd, Pb, Mo, Ba	RFPP	
0010201-02C	1	PP	250mL	HNO3	None	None	NA	Sb, As, B, Co, Li, Hg, Se, Tl (LKLD Labs)	RFPP	
0010201-02D	1	PP	125 mL	Ice	None	None	NA	Fluoride	RFPP	
0010201-02E	1	PP	2000 ml	HNO3	None	None	NA	Ra 226+ 228	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	McIntosh Power Plant			Site Location:	Lakeland, FL
Well No:	CCR-3	Sample ID:	0010201-03	Date:	1/13/20

PURGING DATA

Well Diameter (inches)	Tubing Diameter (inches)	Well Screen Interval Depth:		to		Static depth to water (feet):	Purge pump type
2	3/8		15.9		25.8	6.05	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =		-	6.05	X		= 0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity	
1 equipment volume =	.06	+	.101	gal +	25.8	X	.006	= 0 gal

.3159 gal

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):
25.8	24.8	1050	1111	3.2

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1105	2	2.0	0.20	6.26	26.0	2100	5.34	CLEAR	.24	9.73	NONE
1108	.6	2.6	0.20	6.27	26.0	2136	5.34	"	.20	14.1	"
1111	.6	3.2	0.20	6.26	26.0	2148	5.35	"	.18	9.08	"

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:
Lakeland Electric D Biggs		1111	1115

Pump or Tubing Depth in well (feet):	Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: ____um

Field Decontamination: Y (N)	NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-03A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl	RFPP	
0010201-03B	1	PP	250mL	HNO3	None	None	NA	Cr, Cd, Pb, Mo, Ba	RFPP	
0010201-03C	1	PP	250mL	HNO3	None	None	NA	Sb, As, B, Co, Li, Hg, Se, Tl (LKLD Labs)	RFPP	
0010201-03D	1	PP	125 mL	Ice	None	None	NA	Fluoride	RFPP	
0010201-03E	1	PP	2000 ml	HNO3	None	None	NA	Ra 226+ 228	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	McIntosh Power Plant			Site Location:	Lakeland, FL		
Well No:	CCR-4	Sample ID:	0010201-04		Date:	1/13/26	

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.6	to	25.6	(feet):	14.48	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =		-	14.48	X		=	0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		= 3146 gal
1 equipment volume =	.06	+	.101	gal +	25.1	X	.006	= 0	gal

Initial pump or tubing Depth in well (feet):	25.6	Final pump or tubing Depth in well (feet):	20.6	Purging Initiated at:	1252	Purging Ended at:	1315	Total Volume Purged (gallons):	4.6

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1302	2.0	2.6	0.20	14.31	25.6	8877	3.75	CLEAR	1.48	9.8	NONE
1305	.6	2.6	0.20	14.33	25.7	9160	3.76	"	1.01	4.81	NONE
1308	.6	3.2	0.20	14.33	25.6	9286	3.77	"	.61	4.14	NONE
1312	.8	3.8	0.20	14.33	25.6	9371	3.78	"	.56	3.91	NONE
1315	.6	4.6	0.20	14.32	25.6	9455	3.78	"	.50	4.76	NONE
			D.O.	NOT	STABLE	AFTER		FIVE			
								OF			

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:
LAKELAND Electric D.Biggs		1315	1315

Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: ____um
Field Decontamination: Y (N)	NEW	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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-04A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl	RFPP	
0010201-04B	1	PP	250mL	HNO3	None	None	NA	Cr, Cd, Pb, Mo, Ba	RFPP	
0010201-04C	1	PP	250mL	HNO3	None	None	NA	Sb, As, B, Co, Li, Hg, Se, Ti (LKLD Labs)	RFPP	
0010201-04D	1	PP	125 mL	Ice	None	None	NA	Fluoride	RFPP	
0010201-04E	1	PP	2000 ml	HNO3	None	None	NA	Ra 226+ 228	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL
Well No:	CCR-5	Sample ID:	0010201-05	Date:	1/13/20

PURGING DATA

Well Diameter (inches)	Tubing Diameter (inches)	Well Screen Interval Depth:	to	Static depth to water (feet):	Purge pump type
2	3/8	16.2	25.7	10.21	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	26.2	-	10.21	X		= 0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	.06	+	.101	gal +	25.7	X	.006	= 0	gal

.3152 gal

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):
25.7	21.2	1330	1346	3.2

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1346	2	2.0	0.20	10.36	25.4	18698	4.96	CLEAR	.59	8.88	NONE
1343	.6	2.6	0.20	10.35	25.4	18318	4.95	CLEAR	.45	7.25	NONE
1346	.6	3.2	0.20	10.35	25.4	18396	4.95	CLEAR	.44	6.54	NONE

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:
Lakeland Electric D. Bass		1346	1350

Pump or Tubing Depth in well (feet):	Tubing Material Code	Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: ____um

Field Decontamination: Y (N) NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-05A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl	RFPP	
0010201-05B	1	PP	250mL	HNO3	None	None	NA	Cr, Cd, Pb, Mo, Ba	RFPP	
0010201-05C	1	PP	250mL	HNO3	None	None	NA	Sb, As, B, Co, Li, Hg, Se, Tl (LKLD Labs)	RFPP	
0010201-05D	1	PP	125 mL	ICE	None	None	NA	Fluoride	RFPP	
0010201-05E	1	PP	2000 ml	HNO3	None	None	NA	Ra 226+ 228	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	McIntosh Power Plant			Site Location:	Lakeland, FL	
Well No:	CCR-6	Sample ID:	0010201-06	Date:	1/13/20	

PURGING DATA

Well Diameter (inches)	Tubing Diameter (inches)		Well Screen Interval Depth:		to		Static depth to water (feet):	Purge pump type
2	3/8		15.7		25.2		8.44	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	25.7	-	8.44	X		= 0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		.3122.
1 equipment volume =	.06	+	.10	gal +	25.2	X	.006	= 0	gal

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):
25.2	30.5	1402	1422	4

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1410	1.6	1.6	0.20	8.54	25.8	2462	6.10	CLEAR	.58	19.8	NONE
1413	.6	2.2	0.20	8.52	25.9	2776	6.06	" "	1.26	20.3	NONE
1416	.6	2.8	0.20	8.54	25.8	3345	5.99	" "	0.63	19.6	NONE
1419	.6	3.4	0.20	8.54	25.7	3713	5.95	" "	0.40	16.3	NONE
1422	.6	4.0	0.20	8.54	25.8	3853	5.93	" "	0.33	11.8	NONE
				D.O.	NOT	STABLE	AFTER	FIVE			

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:
LAKELAND ELECTRIC G.S.		1422	1429

Pump or Tubing Depth in well (feet):	Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: ____um

Field Decontamination: Y (N) NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-06A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl	RFPP	
0010201-06B	1	PP	250mL	HNO3	None	None	NA	Cr, Cd, Pb, Mo, Ba	RFPP	
0010201-06C	1	PP	250mL	HNO3	None	None	NA	Sb, As, B, Co, Li, Hg, Se, Tl (LKLD Labs)	RFPP	
0010201-06D	1	PP	125 mL	ICE	None	None	NA	Fluoride	RFPP	
0010201-06E	1	PP	2000 ml	HNO3	None	None	NA	Ra 226+ 228	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL	
Well No:	CCR-7	Sample ID:	0010201-07	Date:	1/13/20	

PURGING DATA

Well Diameter (inches)	2	Tubing Diameter (inches)	3/8	Well Screen Interval Depth:	15.7	to	25.2	Static depth to water (feet):	8.77	Purge pump type	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	25.8	-	8.77	X		= 0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		.3122gal
1 equipment volume =	.06	+	.10	gal +	25.2	X	.006	= 0	gal

Initial pump or tubing Depth in well (feet):	25.2	Final pump or tubing Depth in well (feet):	20.5	Purging Initiated at:	1441	Purging Ended at:	1458	Total Volume Purged (gallons):	3.4

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1446	1	1	.20	8.88	25.5	2201	4.70	CLEAR	.39	18.9	NONE
1449	.6	1.6	.20	8.87	25.3	2020	4.69	"	.37	22.6	" "
1452	.6	2.2	.20	8.88	25.3	2027	4.68		.38	14.5	" "
1455	.6	2.8	.20	8.89	25.3	2060	4.67	CLEAR	.36	9.92	" "
1458	.6	3.4	.20	8.88	25.1	2125	4.66	CLEAR	.33	7.71	NONE
					TEMP.	NOT	STABL.				

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:
LAKELAND Electric D Riggs		1458	1502

Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: ____um
Field Decontamination: 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-07A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl	RFPP	
0010201-07B	1	PP	250mL	HNO3	None	None	NA	Cr, Cd, Pb, Mo, Ba	RFPP	
0010201-07C	1	PP	250mL	HNO3	None	None	NA	Sb, As, B, Co, Li, Hg, Se, Tl (LKLD Labs)	RFPP	
0010201-07D	1	PP	125 mL	ICE	None	None	NA	Fluoride	RFPP	
0010201-07E	1	PP	2000 ml	HNO3	None	None	NA	Ra 226+ 228	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	McIntosh Power Plant			Site Location:	Lakeland, FL	
Well No:	CCR-8	Sample ID:	0010201-08	Date:	1/13/20	

PURGING DATA

Well Diameter (inches)	Tubing Diameter (inches)	Well Screen Interval Depth:		to		Static depth to water (feet):	Purge pump type
2	3/8		15.9		25.9	7.99	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	25.9	-	7.99	X		= 0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	.06	+	.10	gal +	25.9	X	.006	= 0	gal

.3164 gal

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):
20.9	20.9	1514	1532	2.88

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1520	.96	.96	0.16	8.18	25.0	511	6.51	LT. Yellow	0.87	16.1	NAR
1523	.48	1.44	0.16	8.19	25.0	513	6.51	" "	0.70	17.3	NAR
1526	.48	1.92	0.16	8.18	25.0	520	6.51	" "	0.60	8.33	NAR
1529	.48	2.4	0.16	8.17	25.0	543	6.51	" "	0.59	4.76	NAR
1532	.48	2.88	0.16	8.18	25.0	556	6.50	" "	0.48	3.94	NAR

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:
AECOM/ Electric D. Bass		1537	1536

Pump or Tubing Depth in well (feet):	Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um

Field Decontamination: 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-08A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl	RFPP	
0010201-08B	1	PP	250mL	HNO3	None	None	NA	Cr, Cd, Pb, Mo, Ba	RFPP	
0010201-08C	1	PP	250mL	HNO3	None	None	NA	Sb, As, B, Co, Li, Hg, Se, Ti (LKLD Labs)	RFPP	
0010201-08D	1	PP	125 mL	ICE	None	None	NA	Fluoride	RFPP	
0010201-08E	1	PP	2000 ml	HNO3	None	None	NA	Ra 226+ 228	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL	
Well No:	CCR-9	Sample ID:	0010201-09	Date:	1/14/20	

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.5	to	25	(feet):	~~9.22~~ 8.86	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	25.6	-		X		=	0 gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		.311
1 equipment volume =	.06	+	.101	gal +	25.0	X	.006	=	0 gal

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):
~~25.0~~ 25.0	~~20~~ 25	0850	0912	4.4

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
0900	2.	2	0.20	9.13	24.6	6214	4.91	Milkish	.77	133	None
0903	.6	2.6	0.20	9.14	24.7	6125	4.92	" "	.66	50.8	None
0906	.6	3.2	0.20	9.13	24.7	6164	4.92	" "	.76	74.9	None
0909	.6	3.8	0.20	9.13	24.7	6185	4.93	" "	.70	43.2	None
0912	.6	4.4	0.20	9.13	24.9	6210	4.92	" "	.85	20.0	None
					TURBIDITY	NOT	STABLE				

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:
Lakeland Electric D. Biggs		0912	0915

Pump or Tubing Depth in well (feet):	Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um

Field Decontamination: Y (N)	NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-09A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl	RFPP	
0010201-09B	1	PP	250mL	HNO3	None	None	NA	Cr, Cd, Pb, Mo, Ba	RFPP	
0010201-09C	1	PP	250mL	HNO3	None	None	NA	Sb, As, B, Co, Li, Hg, Se, Tl (LKLD Labs)	RFPP	
0010201-09D	1	PP	125 mL	ICE	None	None	NA	Fluoride	RFPP	
0010201-09D	1	PP	2000 ml	HNO3	None	None	NA	Ra 226+ 228	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant		Site Location:	Lakeland, FL	
Well No:	CCR-10	Sample ID:	0010201-10	Date:	1/14/20

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	14.7	to	24.7	(feet):	1.24	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =	24.7	-	1.24	X		=	0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		.3092 gal/
1 equipment volume =	.06	+	.10	gal +	24.7	X	.006	= 0	gal

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):
24.7	19.7	0934	0948	2.8

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
0942	1.6	1.6	0.20	1.48	24.0	1204	5.12	CLEAR	0.22	1.82	NONE
0945	.6	2.2	0.20	1.49	24.0	1208	5.12	CLEAR	0.21	2.17	NONE
0948	.6	2.8	0.20	1.48	24.1	1201	5.12	CLEAR	0.19	1.22	NONE

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:
LAKELAND ELECTRIC DBiggs	DB	0948	0952

Pump or Tubing Depth in well (feet):	Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um

Field Decontamination: Y (N) NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-10A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl	RFPP	
0010201-10B	1	PP	250mL	HNO3	None	None	NA	Cr, Cd, Pb, Mo, Ba	RFPP	
0010201-10C	1	PP	250mL	HNO3	None	None	NA	Sb, As, B, Co, Li, Hg, Se, Ti (LKLD Labs)	RFPP	
0010201-10D	1	PP	125 mL	ICE	None	None	NA	Fluoride	RFPP	
0010201-10E	1	PP	2000 ml	HNO3	None	None	NA	Ra 226+ 228	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL		
Well No:	CCR-11	Sample ID:	0010201-11		Date:	1/14/20	

PURGING DATA

Well Diameter (inches)	2	Tubing Diameter (inches)	3/8	Well Screen Interval Depth:	15.6	to	25.6	Static depth to water (feet):	5.26	Purge pump type	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =	25.6	-		X	0.16	=	4.096	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity	.3146	
1 equipment volume =	~~0.25~~ .06	+	~~0.8~~ .18	gal +	25.6	X	0.006	= 0.9830	gal

Initial pump or tubing Depth in well (feet):	21	Final pump or tubing Depth in well (feet):	20.6	Purging Initiated	10:10	Purging Ended at:	10:30	Total Volume Purged (gallons):	4.0

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
10:18	1.6	1.6	.20	4.78	24.2	5653	3.81	MILKY	0.55	70.9	NONE
10:21	.6	2.2	.20	4.79	24.3	5150	3.96	MILKY	0.50	63.5	NONE
10:24	.6	2.8	.20	4.78	24.3	5547	3.95	MILKY	0.50	60.9	NONE
10:27	.6	3.4	.20	4.79	24.3	5520	4.04	MILKY	0.50	66.3	NONE
10:30	.6	4.0	.20	4.79	24.3	5502	4.07	MILKY	0.49	54.7	NONE
		~ TURBIDITY UNSTABLE - Sampled AFTER 5 PURGES									

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:	1034
ANDREW BARRON, LE					

Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type		Filter Size: ____um
Field Decontamination: 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-11A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl	RFPP	
0010201-11B	1	PP	250mL	HNO3	None	None	NA	Cr, Cd, Pb, Mo, Ba	RFPP	
0010201-11C	1	PP	250mL	HNO3	None	None	NA	Sb, As, B, Co, Li, Hg, Se, Tl (LKLD Labs)	RFPP	
0010201-11D	1	PP	125 mL	ICE	None	None	NA	Fluoride	RFPP	
0010201-11E	1	PP	2000 ml	HNO3	None	None	NA	Ra 226+ 228	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	McIntosh Power Plant		Site Location:	Lakeland, FL	
Well No:	CCR-12	Sample ID:	0010201-12	Date:	1/14/20

PURGING DATA

Well Diameter (inches)	Tubing Diameter (inches)	Well Screen Interval Depth:	to	Static depth to water (feet):	Purge pump type
2	3/8	15.7	25.7	5.3	PP

Well Volume Purge: One well volume = (total well depth 25.7 − static depth to water) X well capacity (gal/ft) = 0 gal

Equipment Volume Purge: 1 equipment volume = pump vol (gal) .06 + flow cell volume (gal) .101 gal + tubing length (ft) 25.7 X Tubing capacity .006 = .3152 gal. 0 gal

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):
~~21~~ 25.7	~~21~~ 22.7	10:47	11:01	2.8

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
10:55	1.6	1.6	0.20	5.68	24.5	2867	6:37	MILKY	0.66	24.2	NONE
10:58	.6	2.2	0.20	5.69	24.6	2867	6:37	MILKY	0.65	21.5	NONE
11:01	.6	2.8	0.20	5.69	24.6	2868	6:37	MILKY	0.67	20.4	NONE

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:
ANDREW BARRON, LE		11:01	11:05

Pump or Tubing Depth in well (feet):	Tubing Material Code	Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um

Field Decontamination: Y (N) Tubing (Y) N (replaced) Duplicate: Y (N)

Sample Container Specification				Sample Preservation						
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH	Intended Analysis and/or Method	Sampling Equipment Code	Sample pump flow rate (mL per minute) gpm x 3785
0010201-01A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl	RFPP	
0010201-01B	1	PP	250mL	HNO3	None	None	NA	Cr, Cd, Pb, Mo, Ba	RFPP	
0010201-01C	1	PP	250mL	HNO3	None	None	NA	Sb, As, B, Co, Li, Hg, Se, Tl (LKLD Labs)	RFPP	
0010201-01D	1	PP	125 mL	ICE	None	None	NA	Fluoride	RFPP	
0010201-01E	1	PP	2000 ml	HNO3	None	None	NA	Ra 226+ 228	RFPP	

Remarks:

A-BARRON 1/14/20

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = 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 = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL	
Well No:	CCR-13	Sample ID:	0010201-13	Date:	1/14/20	

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.6	to	25.6	(feet):	~~6.35~~ 5.58	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =	25.6	-	5.58	X	0.16	=	4.096	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		.3146 gal
1 equipment volume =	~~0.35~~ .06	+	~~0.5~~ .101	gal +	25.6	X	0.006	= 0.9036	gal

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):
~~24~~ 25.6	20.6	1303	1323	4.0

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1311	1.6	1.6	0.20	5.95	24.0	3895	3.86	CLEAR	2.15	5.84	NONE
1314	.6	2.2	0.20	5.96	24.1	3918	3.88	"	0.38	6.54	NONE
1317	.6	2.8	0.20	5.95	24.1	3880	3.85	"	1.35	4.06	NONE
1320	.6	3.4	0.20	5.96	24.0	3880	3.85	"	1.27	5.10	NONE
1323	.6	4.0	0.20	5.95	24.0	3894	3.85	"	1.26	2.58	

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:	Sampler(s) Signature(s):	Sampling Initiated at:	Sampling Ended at:
Lakeland Electric D.Biggs		1323	1327

Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type_____	Filter Size:_____um
Field Decontamination: Y (N)	NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-13A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl	RFPP	
0010201-13B	1	PP	250mL	HNO3	None	None	NA	Cr, Cd, Pb, Mo, Ba	RFPP	
0010201-13C	1	PP	250mL	HNO3	None	None	NA	Sb, As, B, Co, Li, Hg, Se, Tl (LKLD Labs)	RFPP	
0010201-13D	1	PP	125 mL	ICE	None	None	NA	Fluoride	RFPP	
0010201-13E	1	PP	2000 ml	HNO3	None	None	NA	Ra 226+ 228	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL	
Well No:	CCR-14	Sample ID:	0010201-14	Date:	1/14/20	

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.5	to	25.5	(feet):	8.1	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =	25.5	-		X	0.16	=	4.08	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		.314 SQI
1 equipment volume =	~~0.25~~ .06	+	~~0.5~~ .10	gal +	25.5	X	0.006	=	0.903 gal

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):
~~21~~ 25.5	~~20~~ .0	1341	1355	2.8

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1349	1.6	1.6	0.20	7.26	24.7	2633	5.10	CLEAR	0.18	8.05	NONE
1352	.6	2.2	0.20	7.27	24.7	2630	5.10	" "	0.16	5.31	NONE
1355	.6	2.8	0.20	7.26	24.7	2650	5.10	" "	0.15	5.13	NONE

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:
Lakeland Electric D. Biggs		1355	1359

Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: ____um
Field Decontamination: Y (N)	NEW	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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-14A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl	RFPP	
0010201-14B	1	PP	250mL	HNO3	None	None	NA	Cr, Cd, Pb, Mo, Ba	RFPP	
0010201-14C	1	PP	250mL	HNO3	None	None	NA	Sb, As, B, Co, Li, Hg, Se, Tl (LKLD Labs)	RFPP	
0010201-14D	1	PP	125 mL	ICE	None	None	NA	Fluoride	RFPP	
0010201-14E	1	PP	2000 ml	HNO3	None	None	NA	Ra 226+ 228	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL	
Well No:	CCR-16	Sample ID:	0010201-16	Date:	1/15/20	

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.6	to	25.6	(feet):	15.11	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =	25.6	-	15.11	X	0.16	=	4.096	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		.3146901
1 equipment volume =	~~0.25~~ .06	+	~~0.5~~ .101	gal +	25.6	X	0.006	= 0.9036	gal

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):
25.6	~~24~~ 20.6	10:00	10:14	28

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1006	1.6	1.6	0.20	15.24	25.5	12734	3.71	CLEAR	0.32	20.7	NONE
1011	.6	2.2	0.20	15.24	25.6	12669	3.71	" "	0.30	19.9	NONE
1014	.6	2.8	0.20	15.24	25.6	12018	3.72	" "	0.22	13.3	NONE

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:
Lakeland Electric DBaggs		1014	1015

Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: ____um
Field Decontamination: Y (N)		NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-16A	1	PP	250mL	HNO3	None	None	NA	Li	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL
Well No:	CCR-17	Sample ID:	0010201-17	Date:	1/15/20

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.6	to	25.6	(feet):		PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	25.6	-	13.87	X		=	0 gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		.3/4 OSA/
1 equipment volume =	.06	+	.10	gal +	25.6	X	.006	=	0 gal

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):
21	21			4.0

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1037	1.6	1.6	0.20	13.79	27.3	1019	6.52	BROWNISH	0.84	32.9	NONE
1040	.6	2.2	0.20	13.78	27.2	1005	6.52	" "	0.74	25.3	NONE
1043	.6	2.8	0.20	13.79	27.3	970	6.46	" "	0.73	17.3	NONE
1046	.6	3.4	0.20	13.75	27.3	970	6.45	" "	0.50	13.6	NONE
1049	.6	4.0	0.20	13.71	27.3	970	6.44	" "	0.50	13.4	

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:	Sampling Ended at:
Lakeland Electric D.B, GWS		1049	1053

Pump or Tubing Depth in well (feet):	Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um

Field Decontamination: Y (N)	NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-17A	1	PP	250mL	HNO3	None	None	NA	Li	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL	
Well No:	CCR-19	Sample ID:	0010201-19	Date:	1/15/20	

PURGING DATA

Well Diameter (inches)	2	Tubing Diameter (inches)	3/8	Well Screen Interval Depth:	15.8	to	25.8	Static depth to water (feet):	3.97	Purge pump type	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =	25.8	-	3.97	X		=	0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity			
1 equipment volume =		+		gal +		X		=	0	gal

Initial pump or tubing Depth in well (feet):	21	Final pump or tubing Depth in well (feet):	21	Purging Initiated at:	0918	Purging Ended at:	0935	Total Volume Purged (gallons):	3.4

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
0926	1.6	1.6	0.20	4.06	23.9	7036	4.30	Cloudy	0.22	29.4	
0929	.6	2.2	0.20	4.08	23.8	6944	4.31	" "	0.26	21.1	
0932	.6	2.8	0.20	4.09	23.8	6977	4.32	" "	0.26	19.2	
0935	.6	3.4	0.20	4.09	24.0	6983	4.32	" "	0.26	17.3	

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:	0935	Sampling Ended at:	0935
Lakeland Electric D. Briggs					

Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um
Field Decontamination: Y (N)		NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-19A	1	PP	250mL	HNO3	None	None	NA	Li	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL	
Well No:	CCR-20	Sample ID:	0010201-20	Date:	1/15/20	

PURGING DATA

Well Diameter (inches)	2	Tubing Diameter (inches)	3/8	Well Screen Interval Depth:	15.2	to	25.2	Static depth to water (feet):	3.46	Purge pump type	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =	25.2	-	3.46	X		=	0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity			
1 equipment volume =	0.25	+	0.5	gal +	25.2	X	0.006	=	0.9012	gal

Initial pump or tubing Depth in well (feet):	21	Final pump or tubing Depth in well (feet):	21	Purging Initiated at:	0826	Purging Ended at:	0840	Total Volume Purged (gallons):	2.8

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
0834	1.6	1.6	0.20	3.61	23.3	4524	4.77	CLEAR	0.51	5.16	NONE
0837	.6	2.2	0.20	3.61	23.3	4524	4.77	" "	0.51	5.84	NONE
0840	.6	2.8	0.20	3.60	23.4	4559	4.77	" "	0.50	4.88	NONE

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:	Lakeland Electric D. Biggs	Sampler(s) Signature(s):	DB	Sampling Initiated at:	0840	Sampling Ended at:	0844

Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type		Filter Size: ____um

Field Decontamination: Y (N)	New 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-20A	1	PP	250mL	HNO3	None	None	NA	Ar	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL		
Well No:	CCR-21	Sample ID:	0010201-21		Date:	1/14/20	

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.8	to	25.8	(feet):	4.77	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =	25.8	-	4.77	X	0.16	=	4.128	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	0.25 21	+	0.5	gal +	25.8	X	0.006	=	0.9048 gal

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):
21	21	1423	1437	2.8

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1431	1.6	1.6	0.26	5.02	24.1	1921	6.21	CLEAR	0.62	3.11	NONE
1434	.6	2.2	0.26	5.02	24.3	1930	6.21	CLEAR	0.42	1.79	NONE
1437	.6	2.8	0.20	5.03	24.2	1933	6.22	CLEAR	0.46	1.38	NONE

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:
Lakeland Electric D. Biggs		1437	1440

Pump or Tubing Depth in well (feet):	Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um

Field Decontamination: Y (N)	NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-21A	1	PP	250mL	HNO3	None	None	NA	Ar	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	McIntosh Power Plant		Site Location:	Lakeland, FL	
Well No:	CCR-22	Sample ID:	0010201-22	Date:	1/15/20

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.1	to	25.1	(feet):	5.25	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =	25.1	-	5.25	X		=	0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =		+		gal +		X		=	0 gal

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):
21	21	0852	0906	2.8

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
0900	1.6	1.6	0.20	5.41	23.7	1936	4.29	CLEAR	0.17	2.68	NONE
0903	.6	2.2	0.20	5.40	23.8	2002	4.34	" "	0.16	2.11	NONE
0906	.6	2.8	0.20	5.40	23.8	2087	4.40	" "	0.16	1.10	NONE

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:
Lakeland Electric D Biggs		0906	0916

Pump or Tubing Depth in well (feet):	Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um

Field Decontamination: Y (N) NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-22A	1	PP	250mL	HNO3	None	None	NA	Li	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

CCR

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant		Site Location:	Lakeland, FL	
Well No:	24S	Sample ID:	0010201-24	Date:	1-7-20

PURGING DATA

Well Diameter (inches)	Tubing Diameter (inches)	Well Screen Interval Depth:		to		Static depth to water (feet):	Purge pump type
4	3/8		16.54		21.54	10.62	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =		-	10.62	X		=	7.098 gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	0.06	+	0.101	gal +	21.54	X	0.006	=	0.29024 gal

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):
21.54	18.00	9:10	9:23	2.60

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO (mg/L or %)	Turbidity (NTUs)	Sheen by observation
9:15	1.00	1.00	.20	11.04	24.5	320.8	6.03	clear	3.28	1.99	None
9:19	.80	1.80	.20	11.12	24.5	321.2	6.01	clear	3.24	2.94	None
9:23	.80	2.60	.20	11.11	24.5	320.1	6.01	Clear	3.22	2.39	None

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:
Nina Driggers	Nina Driggers	9:24	9:29

Pump or Tubing Depth in well (feet):	Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um

Field Decontamination: 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-24A	1	PP	250mL	1:1 HNO3	None	None	NA	Li	~~ESP~~ RFPP	MS
Elevation Water									

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

CCR

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	McIntosh Power Plant		Site Location:	Lakeland, FL	
Well No:	25S	Sample ID:	0010201-25	Date:	1-7-20

PURGING DATA

Well Diameter (inches)	Tubing Diameter (inches)	Well Screen Interval Depth:		to		Static depth to water (feet):	Purge pump type
4	38		21.09		26.09	13.38	PP

	total well depth		static depth to water		well capacity (gal/ft)		
Well Volume Purge: One well volume =		-	13.38	X	0.65	= 8.697	gal

	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
Equipment Volume Purge: 1 equipment volume =	0.06	+	0.101	gal +	26.09	X	0.006	= 0.31754	gal

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):
26.09	23.59	9:40	10:01	4.20

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO (mg/L or %)	Turbidity (NTUs)	Sheen by observation
9:45	1.00	1.00	.20	14.57	25.1	2570	5.57	clear	4.73	3.20	None
9:49	.80	1.80	.20	14.56	24.9	973	5.95	clear	4.68	3.46	None
9:53	.80	2.60	.20	14.54	25.2	3260	5.29	clear	4.39	3.98	None
9:57	.80	3.40	.20	14.56	25.3	3720	5.33	clear	4.35	10.1	None
10:01	.80	4.20	.20	14.56	25.2	2186	5.68	clear	4.53	4.41	None
		Parameter unstable - sampled after								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; 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:
Nina Driggers	Nina Driggers	10:02	10:07

Pump or Tubing Depth in well (feet):	Tubing Material Code	Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um

Field Decontamination: 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)	Final pH			
0010201-25A	1	PP	250mL	1:1 HNO3	None	NA	Li	~~ESP~~ RFPP	(1A)

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	McIntosh Power Plant			Site Location:	Lakeland, FL	
Well No:	CCR-EQ BLK	Sample ID:	0010201-26	Date:	1/14/2020	

PURGING DATA

Well Diameter (inches)	—	Tubing Diameter (inches)	3/8	Well Screen Interval Depth:		to		Static depth to water (feet):		Purge pump type	RFPP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =		-		X		=	0 gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	.06	+	.101	gal +		X	0.006	=	0 gal

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 (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
15:00	—	—	—	—	22.7	1.8	7.95	clear	0.74	1.13	NONE

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:	ANDREW BARRON / LE	Sampler(s) Signature(s):		Sampling Initiated at:	15:01	Sampling Ended at:	15:04

Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type		Filter Size: ____um

Field Decontamination: 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0010201-26A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl	RFPP	
0010201-26B	1	PP	250mL	HNO3	None	None	NA	Cr, Cd, Pb, Mo, Ba	RFPP	
0010201-26C	1	PP	250mL	HNO3	None	None	NA	Sb, As, B, Co, Li, Hg, Se, Ti (LKLD Labs)	RFPP	
0010201-26D	1	PP	125 mL	ICE	None	None	NA	Fluoride	RFPP	
0010201-26E	1	PP	2000 ml	HNO3	None	None	NA	Ra 226+ 228	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL	
Well No:	CCR-1	Sample ID:	0070111-01	Date:	7/14/21	

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.7	to	25.7	(feet):	11.66	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =		-		X		=	0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	0.06	+	0.101	gal +	25.7	X	0.006	= 0.3152	gal

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):
25.7	21.0	0806	0821	2.4

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
0815	1.44	1.44	.16	11.74	25.7	181.6	5.43	CLEAR	0.62	3.66	NONE
0818	.48	1.92	.16	11.74	25.7	180.8	5.43	CLEAR	0.57	3.56	NONE
0821	.48	2.4	.16	11.75	25.7	178.0	5.43	CLEAR	0.62	3.86	NONE

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:
Lakeland Electric D. Bass		0821	0825

Pump or Tubing Depth in well (feet):	Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: ____um

Field Decontamination: Y (N)	NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-01 A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-01B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-01C	1	PP	250mL	HNO3	None	None	NA	metals II +	RFPP	
0070111-01D	1	PP	125 mL	Ice	None	None	NA	F	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL	
Well No:	CCR-2	Sample ID:	0070111-02	Date:	7/14/20	

PURGING DATA

Well Diameter (inches)	Tubing Diameter (inches)	Well Screen Interval Depth:	to		Static depth to water (feet):	Purge pump type
2	3/8	15.7	to	25.7	10.56	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =		-		X		= 0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	0.06	+	0.101	gal +	25.7	X	0.006	= 0.3152	gal

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):
25.7	22	0843	0904	3.4

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
0851	1.4	1.6	.20	10.71	27.0	559	4.65	CLEAR	0.56	4.45	NONE
0854	.6	2.2	.20	10.71	27.0	546	4.59	CLEAR	0.48	2.57	NONE
0857	.6	2.8	.20	10.71	27.0	561	4.57	CLEAR	0.45	2.98	NONE
0900	.6	3.4	.20	10.72	27.0	567	4.60	CLEAR	.41	1.35	NONE

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:
Lakeland Electric D. Barr		0900	0904

Pump or Tubing Depth in well (feet):	Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um

Field Decontamination: Y (N)	NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-02 A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-02B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-02C	1	PP	250mL	HNO3	None	None	NA	metals II +	RFPP	
0070111-02D	1	PP	125 mL	Ice	None	None	NA	F	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL
Well No:	CCR-3	Sample ID:	0070111-03	Date:	7/14/20

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.9	to	25.8	(feet):	3.05	PP

Well Volume Purge:	total well depth		static depth to water			well capacity (gal/ft)			
One well volume =		-		X			=	0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity			
1 equipment volume =	0.06	+	0.101	gal +	25.8	X	0.006	=	0.3158	gal

Initial pump or tubing Depth in well (feet):	25.8	Final pump or tubing Depth in well (feet):	20.9	Purging Initiated at:	0923
Purging Ended at:	0937	Total Volume Purged (gallons):	2.8		

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
0931	1.6	1.6	.20	3.42	26.5	1628	5.33	Clear	1.34	3.46	None
0934	.6	2.2	.20	3.43	26.6	1637	5.33	Clear	1.28	3.87	None
0937	.6	2.8	.20	3.44	26.6	1649	5.34	Clear	1.26	2.22	None

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: Lakeland Electric DB	Sampler(s) Signature(s):	Sampling Initiated at: 0937	Sampling Ended at: 0941

Pump or Tubing Depth in well (feet):	Tubing Material Code	Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: ____um
Field Decontamination: Y (N)	NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-03A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-03B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-03C	1	PP	250mL	HNO3	None	None	NA	metals II +	RFPP	
0070111-03D	1	PP	125 mL	Ice	None	None	NA	F	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 20% saturation(see Table FS 2200-2): optionally, +/-0.2 mg/L or 10% (whichever is greater). Tu
all readings ≤20 NTU: optionally +/- 5 NTU or +/- 10 % (whichever is greater)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:		Lakeland, FL
Well No:	CCR-4	Sample ID:	9062705-04			Date: 7/14/20

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.6	to	25.6	(feet):	14	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =		-		X		=	0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity			
1 equipment volume =	0.06	+	0.101	gal +	25.6	X	0.006	=	0.3146	gal

Initial pump or tubing Depth in well (feet):	25.6	Final pump or tubing Depth in well (feet):	20.6	Purging Initiated at:	0955	Purging Ended at:	1013	Total Volume Purged (gallons):	2.40

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1007	1.44	1.44	.16	14.77	25.9	11794	3.69	Clear	.49	2.70	None
1010	.48	1.92	.16	14.78	26.0	11762	3.69	"	.47	3.56	"
1013	.48	2.40	.16	14.75	26.1	11820	3.69	"	.43	3.62	"

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:
Lakeland Electric D. Biggs		1013	1017

Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um
Field Decontamination:	Y (N)	N/A 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-04A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-04B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-04C	1	PP	250mL	HNO3	None	None	NA	metals II +	RFPP	
0070111-04D	1	PP	125 mL	Ice	None	None	NA	F	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL	
Well No:	CCR-5	Sample ID:	0070111-05	Date:	7/14/20	

PURGING DATA

Well Diameter (inches)	Tubing Diameter (inches)	Well Screen Interval Depth:	to	Static depth to water (feet):	Purge pump type
2	3/8	16.2	25.7	10.92	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	26.2	-		X		= 0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	0.06	+	0.101	gal +	25.7	X	0.006	= 0.3152	gal

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):
26.2		1039	1054	24

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1048	1.44	1.44	.16	11.08	25.6	14986	4.86	Clear	.48	11.1	None
1051	.48	1.92	.16	11.09	25.6	15017	4.89	clear	.34	11.4	None
1054	.48	2.4	.16	11.08	25.5	15033	4.94	Clear	.29	9.23	None

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:
Lakeland Electric D. Bean		1054	1058

Pump or Tubing Depth in well (feet):	Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um

Field Decontamination: Y (N)	NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-05A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-05B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-05C	1	PP	250mL	HNO3	None	None	NA	metals II +	RFPP	
0070111-05D	1	PP	125 mL	Ice	None	None	NA	F, Bicarbonate, Alk	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL		
Well No:	CCR-6	Sample ID:	0070111-06		Date:	7/14/20	

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.7	to	25.2	(feet):	9.44	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	25.7	-		X		=	0 gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	0.06	+	0.101	gal +	25.2	X	0.006	=	0.3122 gal

Initial pump or tubing Depth in well (feet):		Final pump or tubing Depth in well (feet):		Purging Initiated at:	1238	Purging Ended at:	1258	Total Volume Purged (gallons):	4.0

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1246	1.60	1.60	0.20	~~9.54~~	26.1	4068	5.81	Clear	0.52	11.4	None
1249	.6	2.2	0.20	9.55	25.9	4758	5.75	Clear	0.42	9.72	None
1252	.6	2.8	0.20	9.56	26.1	5141	5.72	Clear	0.37	6.66	None
1255	.6	3.4	0.20	9.56	26.0	5481	5.69	Clear	.33	5.74	None
1258	.6	4.0	0.20	9.56	26.1	5638	5.68	Clear	.31	5.94	None
									~~.29~~		
									OP 7/14/20		

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:	1255	Sampling Ended at:	1302
Lakeland Electric D.Bragg					

Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um
Field Decontamination: Y (N)		NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-06A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-06B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-06C	1	PP	250mL	HNO3	None	None	NA	metals li +	RFPP	
0070111-06D	1	PP	125 mL	Ice	None	None	NA	F, Bicarbonate, Alk	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 20% saturation(see Table FS 2200-2): optionally, +/-0.2 mg/L or 10% (whichever is greater). Tur all readings ≤20 NTU: optionally +/- 5 NTU or +/- 10 % (whichever is greater)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL	
Well No:	CCR-7	Sample ID:	0070111-07	Date:	7/14/20	

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval			Static depth to water	Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.7	to 25.2	(feet):	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	25.8	-		X		= 0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	0.06	+	0.101	gal +	25.2	X	0.006	= 0.3122	gal

Initial pump or tubing Depth in well (feet):		Final pump or tubing Depth in well (feet):		Purging Initiated at:	1315	Purging Ended at:	1333	Total Volume Purged (gallons):	2.88

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1324	1.44	1.44	.16	9.84	26.2	1976	4.62	Clear	.42	7.19	None
1327	.48	1.92	.16	9.85	25.9	2053	4.59	"	.38	4.72	"
1330	.48	2.40	.16	9.85	26.1	2127	4.56	"	.36	2.65	"
1333	.48	2.88	.16	9.85	26.0	2146	4.53	"	.38	2.28	"

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:	1333	Sampling Ended at:	1337
Lakeland Electric D. Bragg					

Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: ____um
Field Decontamination: Y (N)		NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-07A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-07B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-07C	1	PP	250mL	HNO3	None	None	NA	metals II +	RFPP	
0070111-07D	1	PP	125 mL	Ice	None	None	NA	F, Bicarbonate, Alk	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL
Well No:	CCR-8	Sample ID:	0070111-08	Date:	7/14/26

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.9	to	25.9	(feet):		PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	25.9	-		X		= 0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	0.06	+	0.101	gal +	25.9	X	0.006	= 0.3164	gal

Initial pump or tubing Depth in well (feet):		Final pump or tubing Depth in well (feet):		Purging Initiated at:	1347	Purging Ended at:	1405	Total Volume Purged (gallons):	2.88

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1356	1.44	1.44	.16	9.49	26.3	464.4	6.38	CLEAR	3.64	13.4	NONE
1359	.48	1.92	.16	9.48	26.0	467.7	6.35	"	3.20	4.82	NONE
1402	.48	2.40	.16	9.48	26.1	471.3	6.35	"	3.14	4.76	NONE
1405	.48	2.88	.16	9.48	26.1	467.8	6.35	"	3.12	3.03	NONE

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:	1405	Sampling Ended at:	1409
Lakeland Electric D. Burg					

Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: ____um
Field Decontamination: Y (N)	NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-08A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-08B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-08C	1	PP	250mL	HNO3	None	None	NA	metals II +	RFPP	
0070111-08D	1	PP	125 mL	Ice	None	None	NA	F	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location: CCR/LE	Lakeland, FL		
Well No:	CCR-9	Sample ID:	9062705-09		Date:	7.15.20	

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.5	to	25	(feet):	~~9.22~~ 10.07	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =	25.6	-		X		=	0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity			
1 equipment volume =	0.06	+	0.101	gal +	25	X	0.006	=	0.311	gal

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):
21	21	1050	11:09	3.16

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
10.57	1.16	1.16	.166	10.22	27.4	1356	5.01	Clear	1.66	214	None
11.00	.5	1.66	.166	10.21	27.3	4650	5.02	Clear	1.72	117	None
11.03	.5	2.16	.166	10.22	27.3	4982	5.02	Clear	1.21	52	None
11.06	.5	2.66	.166	10.23	27.1	4870	5.00	Clear	1.45	45.7	None
11.09	.5	3.16	.166	10.23	27.1	4934	5.00	Clear	1.43	42.2	None
		Stopped after 5 purges; Turbidity & DO unstable.									

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:
Andrew Barron LE		11:09	1114

Pump or Tubing Depth in well (feet):	Tubing Material Code	Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um
	PE		

Field Decontamination: 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added In Field (mL)		Final pH			
0070111-09A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-09B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-09C	1	PP	250mL	HNO3	None	None	NA	metals II +	RFPP	
0070111-09D	1	PP	~~125 mL~~ 250	Ice	None	None	NA	F, Bicarbonate, Alk	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant	Site Location:	Lakeland, FL
Well No:	CCR-11	Sample ID:	0070111-11
Date:	7-15-20		

PURGING DATA

Well Diameter (inches)	Tubing Diameter (inches)	Well Screen Interval Depth:	to	Static depth to water (feet)	Purge pump type
2	3/8	15.6	25.6	~~5.20~~ 6.24	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	25.6	-		X		= 0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	0.06	+	0.101	gal +	25.6	X	0.006	= 0.3146	gal

Initial pump or tubing Depth in well (feet):	Final pump or tubing Depth in well (feet):	Purging Initiated	Purging Ended at:	Total Volume Purged (gallons):
25.6	20.6	10:03	10:32	3.16

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
10:20	1.16	1.16	.166	6.48	25.8	524	3.70	clear	0.66	76.8	None
10:23	.5	1.66	.166	6.47	25.8	524	3.94	clear	0.60	60.4	None
10:26	.5	2.16	.166	6.46	25.8	5.36	3.95	clear	0.57	50.8	None
10 29	.5	2.66	.166	6.47	25.7	5200	3.96	clear	0.50	53.7	NONE
10 32	.5	3.16	166	6.47	25.7	5204	3.96	Clear	0.49	48.1	NONE

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:
A. PARKER LE		1032	1035

Pump or Tubing Depth in well (feet):	Tubing Material Code: PE	Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: ____um
Field Decontamination: 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-11A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-11B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-11C	1	PP	250mL	HNO3	None	None	NA	metals li +	RFPP	
0070111-11D	1	PP	~~125 mL~~ 250 mL	Ice	None	None	NA	F, Bicarbonate, Alk	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL		
Well No:	CCR-12	Sample ID:	0070111-12		Date:	7-25-20	

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:	15.7	to	25.7	(feet):	~~5.3~~ 6.07	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =	25.7	-		X		=	0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity			
1 equipment volume =	0.06	+	0.101	gal +	25.7	X	0.006	=	0.3152	gal

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):
25.7	20.7	9:43	10:02	3.42

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
9:50	1.26	1.26	.19	6.92	28.1	2730	6.65	Brown	5.97	35.4	None
9:53	.54	1.8	.18	6.94	27.9	2755	6.64	Brown	5.78	22.5	None
9:56	.54	2.34	.18	6.84	27.9	2782	6.65	Brown	5.73	13.3	None
9:59	.54	2.88	.19	6.93	27.9	2748	6.64	Brown	5.61	11.7	None
10:02	.54	3.42	.18	6.94	27.9	2762	6.64	Brown	5.58	9.94	None

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:
Andrew Babrow LG		10:02	10:07

Pump or Tubing Depth in well (feet):	Tubing Material Code: PE	Field-Filtered: Y (N) Filtration Equipment Type:	Filter Size: ____um
Field Decontamination: 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-12A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-12B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-12C	1	PP	250mL	HNO3	None	None	NA	metals II +	RFPP	
0070111-12D	1	PP	~~250~~ 125 mL	Ice	None	None	NA	F, Bicarbonate, Alk	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant	Site Location:	LECCR	Lakeland, FL
Well No:	CCR-13	Sample ID:	0070111-13	Date: 7.15.20

PURGING DATA

Well Diameter (inches)	Tubing Diameter (inches)	Well Screen Interval Depth:		to		Static depth to water (feet):	Purge pump type
2	3/8		15.6		25.6	6.38 → 7.49	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	25.6	-		X		= 0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	0.06	+	0.101	gal +	25.6	X	0.006	= 0.3146	gal

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):
25.6	20.6	0907	9.19	2.16

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
0913	1.08	1.08	.18	7.79	25.5	3502	3.65	Clear	.60	9.29	None
916	.54	1.62	.18	7.78	25.4	3580	3.97	Clear	.57	4.31	None
919	.54	2.16	.18	7.79	25.4	3592	3.88	Clear	.48	4.97	None

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:
ANDREW BARRON LG		919	9.25

Pump or Tubing Depth in well (feet):	Tubing Material Code: RE	Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um
Field Decontamination: 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-13A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-13B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-13C	1	PP	250mL	HNO3	None	None	NA	metals II +	RFPP	
0070111-13D	1	PP	~~125 mL~~ 250	Ice	None	None	NA	F	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL		
Well No:	CCR-15	Sample ID:	0070111-15		Date:	7	16 20

PURGING DATA

Well Diameter (inches)	2	Tubing Diameter (inches)	3/8	Well Screen Interval Depth:	15.6	to	25.6	Static depth to water (feet):	17.54	Purge pump type	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =	25.6	-	17.54	X	0.16	=	4.096	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity			
1 equipment volume =	0.06	+	0.101	gal +	25.6	X	0.006	=	0.3146	gal

Initial pump or tubing Depth in well (feet):	25.6	Final pump or tubing Depth in well (feet):	21.6	Purging Initiated at:	922	Purging Ended at:	0941	Total Volume Purged (gallons):	3.16

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
0929	1.16	1.16	.166	16.78	26.1	1022	3.80	Brown	1.84	429	None
0932	.5	1.66	.166	16.79	26.1	2533	3.71	Brown	1.76	200	None
0935	.5	2.16	.166	16.78	26.2	2070	3.81	Brown	1.67	168	None
0938	.5	2.66	.166	16.77	26.4	1976	3.83	Brown	1.86	136	None
0941	.5	3.16	.166	16.78	26.2	710	3.94	Brown	1.66	181	None

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:	0941	Sampling Ended at:	0946
Lakeland Electric	Nina Duggins				

Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type		Filter Size: ____um
Field Decontamination: 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-15A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-15B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-15C	1	PP	250mL	HNO3	None	None	NA	metals II +	RFPP	
0070111-15D	1	PP	250 mL	Ice	None	None	NA	F, Bicarbonate, Alk	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL		
Well No:	CCR-16	Sample ID:	0070111-16	Date:	7	16	20

PURGING DATA

Well Diameter (inches)	2	Tubing Diameter (inches)	3/8	Well Screen Interval Depth:	15.6	to	25.6	Static depth to water (feet):	15.32	Purge pump type	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =	25.6	-	15.32	X	0.16	=	4.096	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity			
1 equipment volume =	0.06	+	0.101	gal +	25.6	X	0.006	=	0.3146	gal

Initial pump or tubing Depth in well (feet):	25.6	Final pump or tubing Depth in well (feet):	21.6	Purging Initiated at:	0951	Purging Ended at:	0957	Total Volume Purged (gallons):	1.96

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
0957	.966	.966	.166	15.48	26.7	12,277	3.68	Yellow	3.95	23.4	None
1000	.5	1.46	.166	15.47	26.5	12,460	3.68	Yellow	3.85	22.2	None
1003	.5	1.96	.166	15.48	26.6	12,252	3.69	Yellow	3.63	21.9	None

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:	1003	Sampling Ended at:	1008
Lakeland Electric	Mina Duggers				

Pump or Tubing Depth in well (feet): _____ Tubing Material Code _____ Field-Filtered: Y (N) Filtration Equipment Type_____ Filter Size:_____um

Field Decontamination: 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-16A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-16B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-16C	1	PP	250mL	HNO3	None	None	NA	metals II +	RFPP	
0070111-16D	1	PP	250 mL	Ice	None	None	NA	F, Bicarbonate, Alk	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤20% saturation(see Table FS 2200-2): optionally, +/-0.2 mg/L or 10% (whichever is greater). Turbidity: readings ≤20 NTU: optionally +/- 5 NTU or +/- 10 % (whichever is greater)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	McIntosh Power Plant			Site Location:	Lakeland, FL		
Well No:	CCR-17	Sample ID:	0070111-17		Date:	7/16/20	

PURGING DATA

Well Diameter (inches)	Tubing Diameter (inches)	Well Screen Interval Depth:	to	Static depth to water (feet):	Purge pump type
2	3/8	15.6	25.6	14.46	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	25.6	-	14.46	X		= 0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity	
1 equipment volume =		+		gal +		X		= 0 gal

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):
25.6	21.6	1015	1029	2.80

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
10:20	1.00	1.00	.20	14.51	27.2	2038	6.44	Lt. Yellow	1.99	8.68	None
10:23	.60	1.60	.20	14.52	27.2	2025	6.39	Lt. Yellow	1.92	4.55	None
10:26	.60	2.20	.20	14.52	27.2	2018	6.37	Lt. Yellow	1.73	8.87	None
10:29	.60	2.80	.20	14.51	27.2	2010	6.36	Lt Yellow	1.82	3.13	None

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:
Lakeland Electric	Nina Druggan	10:29	10:34

Pump or Tubing Depth in well (feet):	Tubing Material Code	Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um

Field Decontamination: 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-16A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-16B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-16C	1	PP	250mL	HNO3	None	None	NA	metals II +	RFPP	
0070111-16D	1	PP	250 mL	Ice	None	None	NA	F, Bicarbonate, Alk	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL	
Well No:	CCR-18	Sample ID:	0070111-18	Date:	7/16/20	

PURGING DATA

Well Diameter (inches)	Tubing Diameter (inches)	Well Screen Interval Depth:	to	Static depth to water (feet):	Purge pump type
2	3/8	15.9	25.9	7.92 ~~8.04~~	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	25.9	-	8.04	X	0.16	= 4.144	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	0.06	+	0.101	gal +	25.9	X	0.006	= 0.3164	gal

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):
25.9	20.9	10:43	10:54	2.20

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
10:48	1.00	1.00	.20	8.17	26.2	388.2	6.27	Yellow	2.41	4.46	None
10:51	.60	1.60	.20	8.17	26.3	392	6.26	Yellow	2.45	3.66	None
10:54	.60	2.20	.20	8.16	26.2	394.1	6.24	Yellow	2.35	3.05	None

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:
Lakeland Electric	Nina Druggeis	10:54	10:59

Pump or Tubing Depth in well (feet):	Tubing Material Code	Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um

Field Decontamination: 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-18A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-18B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-18C	1	PP	250mL	HNO3	None	None	NA	metals li +	RFPP	
0070111-18D	1	PP	250 mL	Ice	None	None	NA	, Bicarbonate, A	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant		Site Location:	Lakeland, FL	
Well No:	CCR-19	Sample ID:	0070111-19	Date:	7/17/20

PURGING DATA

Well Diameter	Tubing Diameter	Well Screen Interval			Static depth to water	Purge pump type
(inches) 2	(inches) 3/8	Depth: 15.8	to	25.8	(feet): 4.56	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	25.8	-		X		= 0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	0.06	+	0.101	gal +	25.8	X	0.006	= 0.3158	gal

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):
25.8	21	0949	1010	3.5

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
0958	1.5	1.5	0.167	4.86	25.3	5453	4.34	L. Brown	0.05	63.9	None
1001	0.5	2.0	0.167	4.86	25.2	5416	4.34	L Brown	0.05	49.1	None
1004	0.5	2.5	0.167	4.86	25.3	5736	4.35	L. Brown	0.06	36.6	None
1007	0.5	3.0	0.167	4.87	25.3	5353	4.35	L. Brown	0.06	21.5	None
1010	0.5	3.5	0.167	4.87	25.3	5309	4.35	L. Brown	0.07	20.1	None
								Unstable turbidity			

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:
Lakeland Electric Corey Fulgy		1013	1016

Pump or Tubing Depth in well (feet):	Tubing Material Code	Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um

Field Decontamination: Y (N) — NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-19A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-19B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-19C	1	PP	250mL	HNO3	None	None	NA	metals li +	RFPP	
0070111-19D	1	PP	250 mL	Ice	None	None	NA	F, Bicarbonate, Alk	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	McIntosh Power Plant		Site Location:	Lakeland, FL	
Well No:	CCR-20	Sample ID:	0070111-20	Date:	7.17.20

PURGING DATA

Well Diameter (inches)	Tubing Diameter (inches)	Well Screen Interval Depth:	to	Static depth to water (feet):	Purge pump type
2	3/8	15.2	25.2	5.06	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	25.2	-		X		= 0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	0.06	+	0.101	gal +	25.2	X	0.006	= 0.3122	gal

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):
25.2	21	1022	1043	3.5

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1031	1.5	1.5	0.167	5.24	25.2	3874	4.60	Clear	0.35	26.2	None
1034	0.5	20	0.167	5.24	25.2	3883	4.62	Clear	0.36	17.2	None
1037	0.5	2.5	0.167	5.24	25.2	3888	4.61	Clear	0.36	18.1	None
1040	0.5	3.0	0.167	5.24	25.2	3885	4.60	Clear	0.36	22.6	None
1043	0.5	3.5	0.167	5.24	25.2	3891	4.61	Clear	0.36	17.0	None
								Unstable	turbidity		

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:
Lakeland Electric Corey Falgas		1046	1049

Pump or Tubing Depth in well (feet): ____ Tubing Material Code: ____ Field-Filtered: Y (N) Filtration Equipment Type: ____ Filter Size: ____um

Field Decontamination: Y (N) NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-20A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-20B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-20C	1	PP	250mL	HNO3	None	None	NA	metals li +	RFPP	
0070111-20D	1	PP	250 mL	Ice	None	None	NA	F, Bicarbonate, Alk	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL
Well No:	CCR-21	Sample ID:	0070111-21	Date:	7.17.20

PURGING DATA

Well Diameter (inches)	2	Tubing Diameter (inches)	3/8	Well Screen Interval Depth:	15.8	to	25.8	Static depth to water (feet):	6.48	Purge pump type	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	25.8	-		X	0.16	=	4.128 gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	0.06	+	0.101	gal +	25.8	X	0.006	=	0.3158 gal

Initial pump or tubing Depth in well (feet):	25.8	Final pump or tubing Depth in well (feet):	21	Purging Initiated at:	1056	Purging Ended at:	1111	Total Volume Purged (gallons):	2.5

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1105	1.5	1.5	0.167	6.60	26.1	1594	6.16	Clear	0.03	2.68	None
1108	0.5	2.0	0.167	6.61	26.0	1596	6.16	Clear	0.03	1.40	None
1111	0.5	2.5	0.167	6.61	25.9	1597	6.15	Clear	0.02	1.20	None

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:	Lakeland Electric Corey Folgers	Sampler(s) Signature(s):		Sampling Initiated at:	1114	Sampling Ended at:	1117

Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type		Filter Size: ____um

Field Decontamination: Y (N)	NEW 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-21A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-21B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-21C	1	PP	250mL	HNO3	None	None	NA	metals li +	RFPP	
0070111-21D	1	PP	250 mL	Ice	None	None	NA	F, Bicarbonate, Alk	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL		
Well No:	CCR-22	Sample ID:	0070111-22		Date:	7-17-20	

PURGING DATA

Well Diameter (inches)	2	Tubing Diameter (inches)	3/8	Well Screen Interval Depth:	15.1	to	25.1	Static depth to water (feet):	7.05	Purge pump type	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =	25.1	-		X		=	0	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity			
1 equipment volume =	0.06	+	0.101	gal +	25.1	X	0.006	=	0.3116	gal

Initial pump or tubing Depth in well (feet):	25.1	Final pump or tubing Depth in well (feet):	21	Purging Initiated at:	1123	Purging Ended at:	1148	Total Volume Purged (gallons):	3.5

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1132	1.5	1.5	0.167	7.08	25.2	1480	4.37	Cloudy	0.01	54.4	None
1135	0.5	2.0	0.167	7.08	25.2	1535	4.37	Cloudy	0.01	62.7	None
1138	0.5	2.5	0.167	7.08	25.2	1552	4.38	Cloudy	0.01	57.8	None
1141	0.5	3.0	0.167	7.10	25.3	1551	4.38	Cloudy	0.01	37.9	None
1144	0.5	3.5	0.167	7.13	25.3	1547	4.38	Cloudy	0.01	26.2	None
								Unstable	turbidity		

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:	Lakeland Electric · Corey Falgas	Sampler(s) Signature(s):		Sampling Initiated at:	1147	Sampling Ended at:	1150
Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type		Filter Size:	um
Field Decontamination: Y (N)		NEW Tubing (M) 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-22A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-22B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-22C	1	PP	250mL	HNO3	None	None	NA	metals li +	RFPP	
0070111-22D	1	PP	250 mL	Ice	None	None	NA	F, Bicarbonate, Alk	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:		Lakeland, FL	
Well No:	CCR-23	Sample ID:	0070111-23		Date:	7.17.20	

PURGING DATA

Well Diameter (inches)	Tubing Diameter (inches)	Well Screen Interval Depth:	to	Static depth to water (feet):	Purge pump type
2	3/8	15.4	25.4	~~47~~ 5.71	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)		
One well volume =	25.4	-		X	0.16	= 4.064	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =	0.06	+	0.101	gal +	25.4	X	0.006	= 0.3134	gal

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):
25.4	21	1311	1326	2.5

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1320	1.5	1.5	0.167	6.12	26.6	1322	5.07	Clear	0.04	6.26	None
1323	0.5	2.0	0.167	6.18	26.6	1342	5.04	Clear	0.03	6.51	None
1326	0.5	2.5	0.167	6.19	26.5	1344	5.04	Clear	0.02	4.88	None

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:
Lakeland Electric Corey Forlgas		1329	1332

Pump or Tubing Depth in well (feet):	Tubing Material Code	Field-Filtered: Y (N) Filtration Equipment Type	Filter Size: um
	NEW		

Field Decontamination: 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-23A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-23B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-23C	1	PP	250mL	HNO3	None	None	NA	metals li +	RFPP	
0070111-23D	1	PP	250 mL	Ice	None	None	NA	F, Bicarbonate, Alk	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL		
Well No:	MW-106 (SW-106)	Sample ID:	0070111-24		Date:	7.17.20	

PURGING DATA

Well Diameter		Tubing Diameter		Well Screen Interval				Static depth to water		Purge pump type
(inches)	2	(inches)	3/8	Depth:		to	26.1	(feet):	10.6	PP

Well Volume Purge:	total well depth		static depth to water		well capacity (gal/ft)			
One well volume =	26.1	-	10.6	X	.16	=	2.48	gal

Equipment Volume Purge:	pump vol (gal)		flow cell volume (gal)		tubing length (ft)		Tubing capacity		
1 equipment volume =		+		gal +		X		= 0	gal

Initial pump or tubing Depth in well (feet):	26	Final pump or tubing Depth in well (feet):		Purging Initiated at:	1346	Purging Ended at:	1406	Total Volume Purged (gallons):	4.25

Time (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
1354	1.65	1.65	0.214	11.29	23.6	107.8	5.75	Cloudy	0.28	348	None
1357	0.65	2.3	0.214	11.30	23.7	105.1	5.72	Cloudy	0.26	250	None
1400	0.65	2.95	0.214	11.30	23.7	101.9	5.69	Cloudy	0.23	185	None
1403	0.65	3.6	0.214	11.30	23.6	101.7	5.69	Cloudy	0.22	150	None
1406	0.65	4.25	0.214	11.30	23.3	99.9	5.68	Cloudy	0.20	130	None
								Unstable turbidity			

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:	1409	Sampling Ended at:	1412
Lakeland Electric Corey Falgas					

Pump or Tubing Depth in well (feet):		Tubing Material Code		Field-Filtered: Y (N) Filtration Equipment Type_____	Filter Size:_____um

Field Decontamination: Y (N)	New 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-24A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-24B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-24C	1	PP	250mL	HNO3	None	None	NA	metals li +	RFPP	
0070111-24D	1	PP	250 mL	Ice	None	None	NA	F, Bicarbonate, Alk	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

DEP Form FD 9000-24; GROUNDWATER SAMPLING LOG

Site Name:	Mcintosh Power Plant			Site Location:	Lakeland, FL
Well No:	CCR-EQ BLK	Sample ID:	007011-25	Date:	7-14-20

PURGING DATA

Well Diameter (inches)		Tubing Diameter (inches)	3/8	Well Screen Interval Depth:		to		Static depth to water (feet):		Purge pump type	RFPP
Well Volume Purge: One well volume =		total well depth	−	static depth to water		X	well capacity (gal/ft)	=	0	gal	
Equipment Volume Purge: 1 equipment volume =		pump vol (gal)	+	flow cell volume (gal)	gal +	tubing length (ft)	X	Tubing capacity 0.006	= 0	gal	

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 (Military)	Vol. Purged (gal)	Cumul. Vol. Purged (gals)	Purge Rate (gpm)	Depth to Water (ft)	Temp ° C	Cond. (µS/cm)	pH (SU)	Color by observation	DO mg/L or %	Turbidity (NTUs)	Sheen by observation
14:45	−	−	−	−	26.2	0.1	6.8	clear	0.16	047	NONE

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: for LE BARRON	Sampler(s) Signature(s):	Sampling Initiated at: 14:45	Sampling Ended at: 14:50
Pump or Tubing Depth in well (feet):	Tubing Material Code: PE	Field-Filtered: Y (N) Filtration Equipment Type_____	Filter Size:_____um
Field Decontamination: 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) gpm x 3785
Sample I.D. Code	# Containers	Material Code	Volume	Preserv. Used	Total Volume Added in Field (mL)		Final pH			
0070111-25A	1	PP	500 ml	ICE	None	None	NA	TDS, Cl, SO4	RFPP	
0070111-25B	1	PP	250mL	HNO3	None	None	NA	metals in house	RFPP	
0070111-25C	1	PP	250mL	HNO3	None	None	NA	metals li +	RFPP	
0070111-25D	1	PP	125 mL	Ice	None	None	NA	F, Bicarbonate, Alk	RFPP	

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 (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = 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; Temperature = +/- 0.2° ; Specific Conductance = +/- 5%, Dissolved Oxygen = ≤ 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)

Lakeland Electric McIntosh Power Plant
Monitor Well Water Levels

Date Measured: 03-Jul-19 Measured by: Driggers, Biggs

Well ID	Elevation (NAVD88) Top	Elevation (NAVD88) Ground	Depth to Water Reading	Well Depth (BGS)	top-ground	Elevation (NAVD88) Water
CCR-1	141.30		10.00	25.71		131.30
CCR-2	140.57		9.60	25.79		130.97
CCR-3	137.04		6.15	25.80		130.89
CCR-4	143.13		14.00	25.69		129.13
CCR-5	141.07		10.18	26.21		130.89
CCR-6	141.34		8.40	25.72		132.94
CCR-7	142.10		8.71	25.79		133.39
CCR-8	142.12		8.40	25.96		133.72
CCR-9	141.67		9.22	25.61		132.45
CCR-10R	133.56		1.72	24.70		131.84
CCR-11	137.12		5.26	25.64		131.86
CCR-12	136.99		5.30	25.75		131.69
CCR-13	137.95		6.35	25.66		131.60
CCR-14	138.70		8.10	25.51		130.60
CCR-15	144.65		17.00	25.67		127.65
CCR-16	144.10		15.05	25.64		129.05
CCR-17	145.80		14.25	25.67		131.55
CCR-18	140.81		7.92	25.91		132.89
CCR-19	136.47		4.38	25.82		132.09
CCR-20	136.05		4.29	25.21		131.76
CCR-21	137.12		6.00	25.87		131.12
CCR-22	137.51		6.13	25.13		131.38
CCR-23	135.78		4.70	25.44		131.08

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Memorandum

Date:	17 November 2020
To:	Todd Kafka
From:	Matthew Richardson
CC:	J. Caprio
Subject:	**Stage 2A Data Validation - McIntosh CCR Power Plant Project**

SITE: McIntosh CCR Power Plant

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of twenty-four water samples, and one equipment blank, collected 14-17 July 2020, as part of the McIntosh CCR Power Plant project. The samples were analyzed at Lakeland Electric, Lakeland, Florida for the following tests:

- Metals by United States (US) Environmental Protection Agency (EPA) Method 200.7
- Mercury by US EPA Method 245.1
- Anions (Chloride, Fluoride and Sulfate as SO_4) by US EPA Method 300.0
- Bicarbonate and Total Alkalinity by US EPA Method 310.2
- Total Dissolved Solids by US EPA Method 160.1 and Standard Method (SM) 2540C

The laboratory also reported sample results for water level, color, sheen, specific conductance, dissolved oxygen, pH, temperature and turbidity. Since these are field parameters, these data were not validated.

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 the US EPA Contract Laboratory Program National Functional Guidelines for Organic Superfund Methods Data Review, January 2017 (US EPA 540-R-017-002), US EPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Methods Data Review, January 2017 (US EPA 540-R-2017-001), the pertinent methods referenced by the data package and professional and technical judgment.

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

Laboratory ID	Client ID
0070111-01	CCR-01
0070111-02	CCR-02
0070111-03	CCR-03
0070111-04	CCR-04
0070111-05	CCR-05
0070111-06	CCR-06
0070111-07	CCR-07
0070111-08	CCR-08
0070111-09	CCR-09
0070111-11	CCR-11
0070111-12	CCR-12
0070111-13	CCR-13

Laboratory ID	Client ID
0070111-15	CCR-15
0070111-16	CCR-16
0070111-17	CCR-17
0070111-18	CCR-18
0070111-19	CCR-19
0070111-20	CCR-20
0070111-21	CCR-21
0070111-22	CCR-22
0070111-23	CCR-23
0070111-24	SW-106
0070111-25	Eq. Blank
0070111-25	Equipment Blank

The laboratory provided an electronic data deliverable (EDD), a document identified as the chain of custody (COC), a document identified as the sample receipt and preservation checklist and laboratory bench sheets.

The COC did not have any sample transfer documentation; there were no signatures, dates or times documenting the sample transfer from the field collection to the laboratory.

The EDD was used for data validation purposes. Specifically, the data in the first worksheet of the EDD, identified as ‘without Ti’ was used to validate the data.

The samples were received between 2.1-14.3°C, both within and outside the criteria of 0-6°C. Since the samples were received by the laboratory the same day as collection and based on professional and technical judgment, no qualifications were applied to the data. No other sample preservation issues were noted by the laboratory.

Two sample identification (ID) discrepancies were noted between the COC and the EDD. The sample was identified as MW-106 on the COC and as SW-106 in the EDD. In addition, two sample IDs were used in the EDD for the equipment blank. The COC documented the ID as CCR-25 EQ. Blank, but both Eq. Blank and Equipment Blank were used in the EDD.

The sample concentrations that were I-flagged by the laboratory were J qualified as estimated in the EDD with qualifiers file.

1.0 METALS

The samples were analyzed for metals by US EPA methods 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
✓ Laboratory Duplicate
✓ Field Duplicate
✓ Sensitivity

1.1 Overall Assessment

The metals data reported 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 metals analysis of a preserved water sample is 180 days from sample collection to analysis. The holding time was 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). Seven method blanks were reported (batches 0072208, 0072209, 0772210, 20G0056, 20G0063, 20G0077 and 20G0081). Metals were not detected in the method blanks above the method detection limit (MDL).

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

Three sample set specific MS/MSD pairs were reported, using samples CCR-11, CCR-22 and Equipment Blank. The recovery and RPD results were within the laboratory specified acceptance criteria, with the following exceptions.

The recoveries of lead and molybdenum in the MS/MSD pair using sample CCR-11 were low and outside the laboratory specified acceptance criteria. Therefore, the molybdenum concentration in sample CCR-11 was J- qualified as estimated with a low bias, and the non-detect lead result in sample CCR-11 was UJ qualified as estimated less than the MDL.

Sample	Analyte	Laboratory Result (µg/L)	Laboratory Flag	Validation Result (µg/L)	Validation Qualifier*	Reason Code**
CCR-11	Lead	4.15	U	4.15	UJ	4
CCR-11	Molybdenum	14.9	J-2+	14.9	J-	4

µg/L - microgram per liter
U-not detected at the MDL
J-2+ - laboratory flag indicating the matrix spike recoveries were outside the QC criteria
* 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

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). Four LCSs and three LCS/LCS duplicate (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. Metals were not detected in the equipment blank above the MDL, with the following exception.

Calcium was detected in the equipment blank at an estimated concentration greater than the MDL and less than the reporting limit (RL). Since calcium was detected in the associated samples at concentrations greater than the RL no qualifications were applied to the data.

1.7 Laboratory Duplicate

Three sample set specific laboratory duplicates were reported, using samples CCR-11, and CCR-22 and Equipment Blank. The RPD results were within the laboratory specified acceptance criteria, with the following exceptions.

The RPD results for molybdenum in the laboratory duplicates using samples CCR-11 and CCR-22 were high and outside the laboratory specified acceptance criteria. However, since the molybdenum concentrations in samples CCR-11 and CCR-22 were less than the validation specified criteria of five times the RL and the differences between the samples and the laboratory duplicates were less than the absolute value of the RL, no qualifications were applied to the data.

1.8 Field Duplicate

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

1.9 Sensitivity

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

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

2.1 Overall Assessment

The mercury data 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 time was 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 20G0598 and 20G0713). 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). Two 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. 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.

3.0 WET CHEMISTRY

The samples were analyzed for anions (chloride, fluoride and sulfate as SO_4) by US EPA method 300.0, bicarbonate and total alkalinity by US EPA method 310.2, total dissolved solids by US EPA method 160.1 and SM 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

3.1 Overall Assessment

3.1.1 Completeness

The wet chemistry data 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%.

3.1.2 Analysis Anomaly

The chloride concentrations in samples CCR-04 and CCR-05 were J-8 flagged by the laboratory to indicate the concentrations exceeded the calibration range. Therefore, based on professional and technical judgment, the chloride concentrations in samples CCR-04 and CCR-05 were J qualified as estimated.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
CCR-04	Chloride	4260	J-7, J-8	4260	J	10
CCR-05	Chloride	5630	J-7, J-8	5630	J	10

mg/L-milligram per liter
J-7 – laboratory flag indicating the concentration exceeds the regulatory maximum contaminant level (MCL)

J-8 – laboratory flag indicating the concentration exceeds the calibration range

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 as SO_4) 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 (chloride batches 0071603, 0072006 and 0072205; fluoride batches 20G0564 and 20G0679; sulfate batches 0071603, 0072006 and 0072205; total dissolved solids batches 0071505, 0072001 and 0072002; and alkalinity batches 20G0700 and 20G0744). The wet chemistry parameters were not detected in the method blanks above the MDLs.

3.4 Matrix Spike/Matrix Spike Duplicate

Three sample set specific MS/MSD pairs were reported for chloride and sulfate using samples CR-01, CCR-18 and SW-106. Two sample set specific MSs were reported for fluoride, using samples CR-01 and CCR-18. Two sample set specific MSs were reported for total alkalinity, using samples CR-11 and CCR-19. The recovery and RPD results were within the laboratory specified acceptance criteria.

Batch MSs were reported for fluoride 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.

3.5 Laboratory Control Sample

LCSs and LCS/LCSD pairs were reported for anions and total alkalinity. 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. The wet chemistry parameters were not detected in the equipment blank above the MDLs.

3.7 Laboratory Duplicate

Three sample set specific laboratory duplicates were reported for chloride and sulfate, using samples CR-01, CCR-18 and SW-106. Two sample set specific laboratory duplicates were reported for alkalinity, using samples CCR-11 and CCR-19. One sample set specific laboratory duplicate was reported for fluoride, using sample CCR-18. The RPD result was within the laboratory specified acceptance criteria.

One batch laboratory duplicate was also reported for fluoride. Since this was 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 MDLs. An elevated non-detect fluoride result was reported in sample CCR-16 due to the dilution analyzed.

---

* * * * *

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

APPENDIX B

Statistical Analyses – July 2020 Semi-Annual Monitoring

APPENDIX B: STATISTICAL ANALYSES - JULY 2020 SEMI-ANNUAL MONITORING
Lakeland Electric - C.D. McIntosh Power Plant, Polk County, Florida

Monitoring Location	Analyte	Units	Total Samples	Total NDs	Percent NDs	Minimum Detected Result	Maximum Detected Result	Minimum Detection Limit	Maximum Detection Limit	Mean[1]	CV	Mann-Kendall Trend	LCL Distribution[2]	95% LCL
CCR-3	Arsenic	mg/L	20	10	50	0.00051	0.0101	0.00046	0.00586	0.0010	1.986	Decreasing	Nonparametric	0.0005
CCR-4	Arsenic	mg/L	20	6	30	0.001	0.0136	0.00289	0.013	0.0020	1.375	No Trend	Nonparametric	0.0012
CCR-4	Cadmium	mg/L	18	6	33	0.00046	0.0233	0.00034	0.0039	0.0043	1.560	No Trend	Lognormal	0.0025
CCR-4	Lithium	mg/L	20	4	20	0.0079	0.34	0.00333	0.022	0.0604	1.446	No Trend	Lognormal	0.0245
CCR-4	Thallium	mg/L	18	4	22	0.00026	0.0051	0.000925	0.0017	0.0006	1.756	No Trend	Nonparametric	0.0003
CCR-5	Arsenic	mg/L	20	5	25	0.00078	0.019	0.00046	0.013	0.0028	1.658	No Trend	Nonparametric	0.0009
CCR-5	Lithium	mg/L	20	0	0	2.3	5.35	--	--	3.1390	0.329	Increasing	Trend (Regression)	4.772
CCR-5	Thallium	mg/L	18	16	89	0.0036	0.0056	0.000085	0.0017	NA	NA	NA	Nonparametric - DL	0.000085
CCR-6	Lithium	mg/L	20	0	0	0.045	1.11	--	--	0.2530	0.868	No Trend	Lognormal	0.1905
CCR-7	Antimony	mg/L	17	16	94	0.0178	0.0178	0.001	0.0123	NA	NA	NA	Nonparametric - DL	0.001
CCR-7	Arsenic	mg/L	20	11	55	0.00051	0.0169	0.00046	0.00586	0.0014	2.614	No Trend	Nonparametric	0.0005
CCR-7	Lithium	mg/L	20	3	15	0.0032	0.34	0.0032	0.0032	0.0618	1.380	Increasing	Trend (Theil-Sen Slope)	0.0252
CCR-8	Arsenic	mg/L	20	5	25	0.0015	0.0135	0.00289	0.00586	0.0030	0.869	Stable	Nonparametric	0.0020
CCR-9	Arsenic	mg/L	20	1	5	0.003	0.0173	0.0075	0.0075	0.0061	0.573	Increasing	Trend (Theil-Sen Slope)	0.0031
CCR-9	Lithium	mg/L	20	0	0	0.056	0.19	--	--	0.1164	0.332	No Trend	Normal	0.1015
CCR-9	Thallium	mg/L	18	17	94	0.0048	0.0048	0.000085	0.0017	NA	NA	NA	Nonparametric - DL	0.000085
CCR-11	Arsenic	mg/L	20	0	0	0.06	0.14	--	--	0.0993	0.287	Stable	Normal	0.0883
CCR-12	Arsenic	mg/L	20	0	0	0.00089	0.08	--	--	0.0422	0.460	Increasing	Trend (Regression)	0.0360
CCR-12	Lithium	mg/L	20	16	80	0.0139	0.26	0.0032	0.011	0.0185	3.008	NA	Nonparametric - DL	0.0032
CCR-12	Thallium	mg/L	18	16	89	0.00035	0.0041	0.000085	0.0017	NA	NA	NA	Nonparametric - DL	0.000085
CCR-13	Arsenic	mg/L	20	8	40	0.00052	0.043	0.00046	0.00314	0.0039	1.719	No Trend	Lognormal	0.0024
CCR-13	Lithium	mg/L	20	1	5	0.011	0.32	0.0032	0.0032	0.2100	0.489	Stable	Normal	0.1665

Notes:
1. For data sets with any ND data, the lognormal mean and CV are provided for lognormal distributions and the Kaplan-Meier mean and CV are provided for normal or non-normal distributions.
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 = "Nonparametric - DL", the 95% LCL was equivalent to the MDL.
3. "--" indicates all data had detected concentrations.
4. "CV" indicates coefficient of variation; calculated as the ratio of the standard deviation to the mean.
5. "LCL" indicates lower confidence limit.
6. "mg/L" indicates milligrams per liter
7. "NA" indicates not applicable; statistic could not be calculated due to high percent of non-detects (>85% NDs).
8. "ND" indicates non-detect.

APPENDIX C

Alternate Source Demonstration for
Radium 226 & 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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Submitted by:

Golder Associates Inc.
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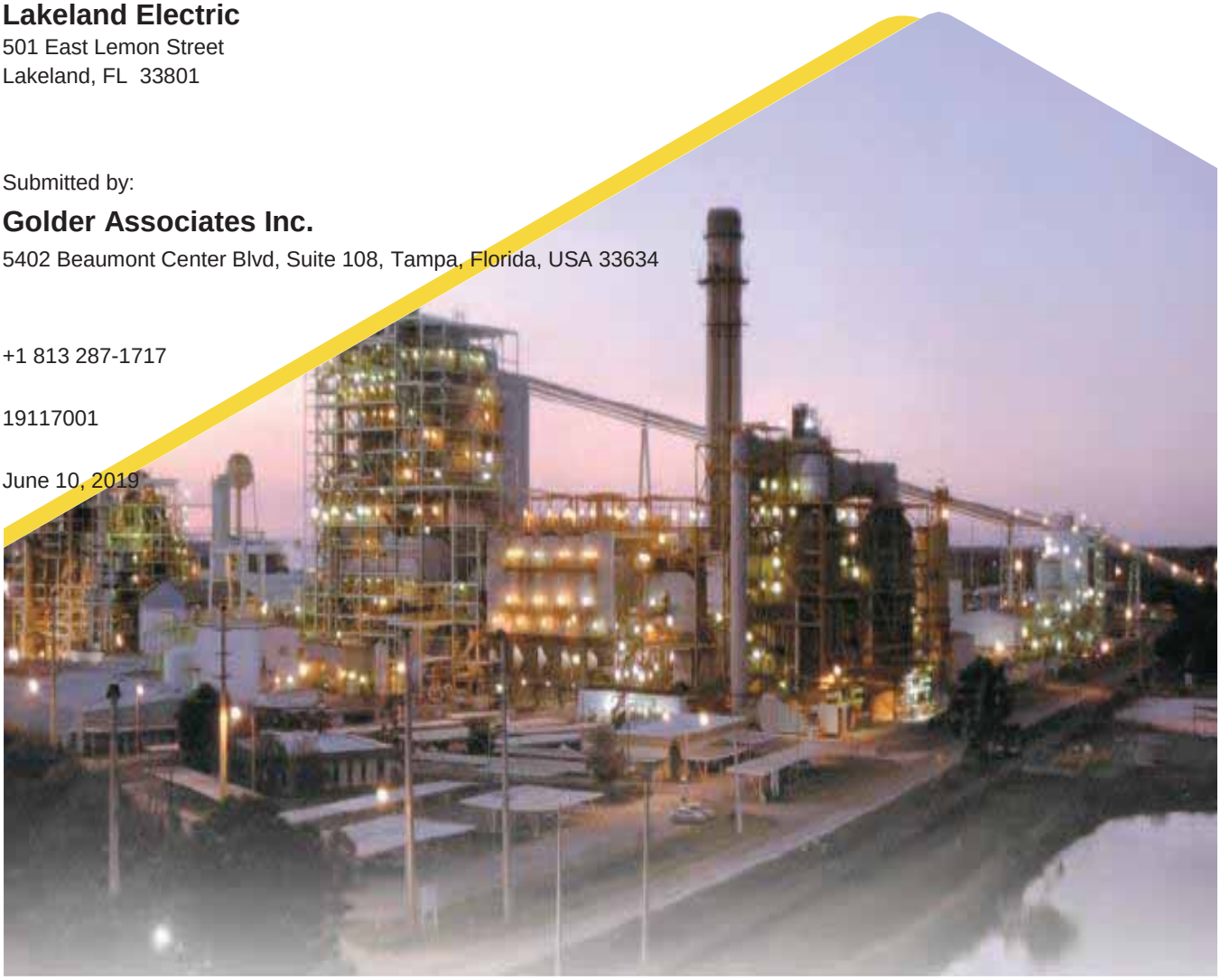
19117001

June 10, 2019



Distribution List

Sean P. McGinnis, CHMM, Lakeland Electric

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APPENDICES

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.

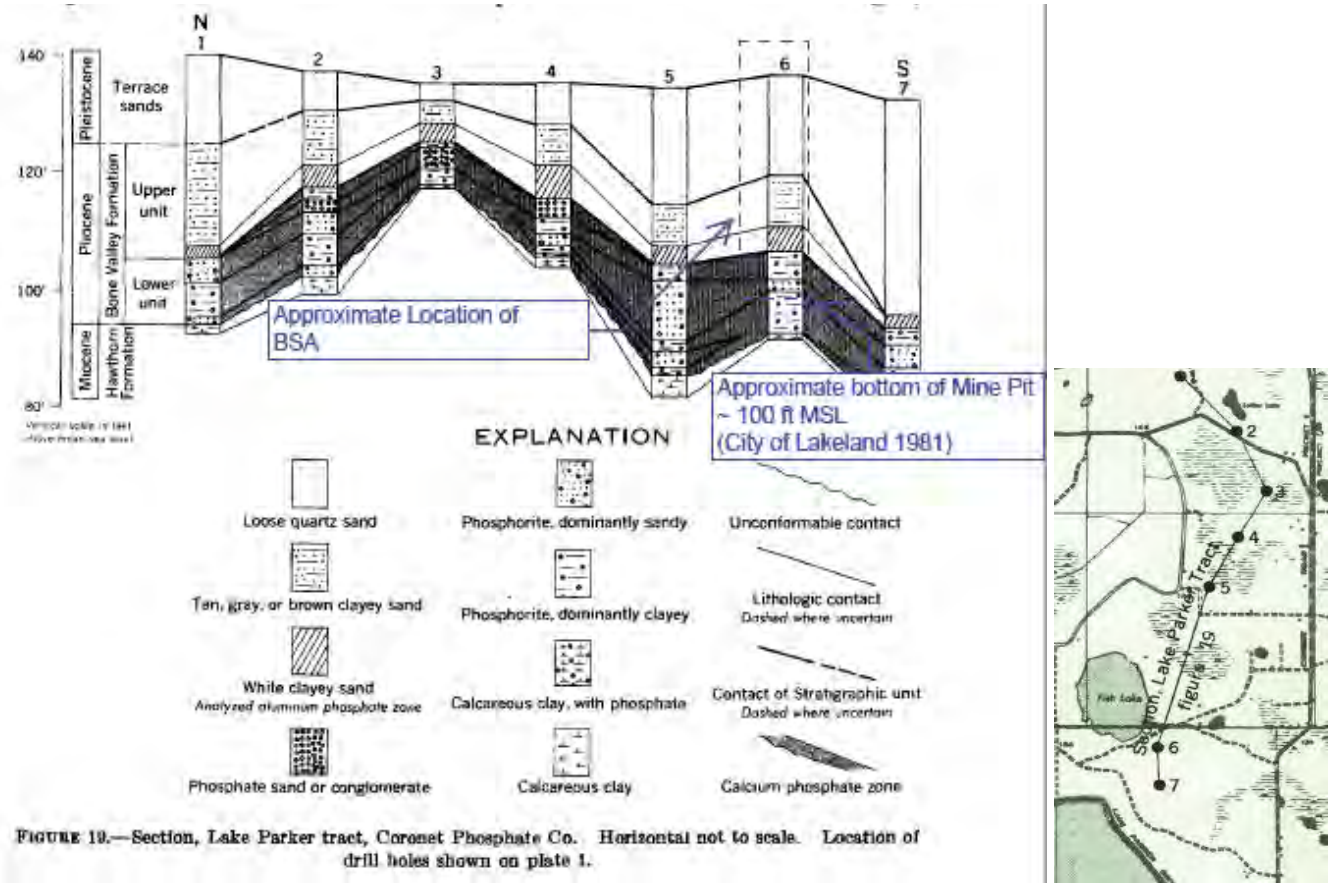


FIGURE 19.—Section, Lake Parker tract, Coronet Phosphate Co. Horizontal not to scale. Location of drill holes shown on plate 1.

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).

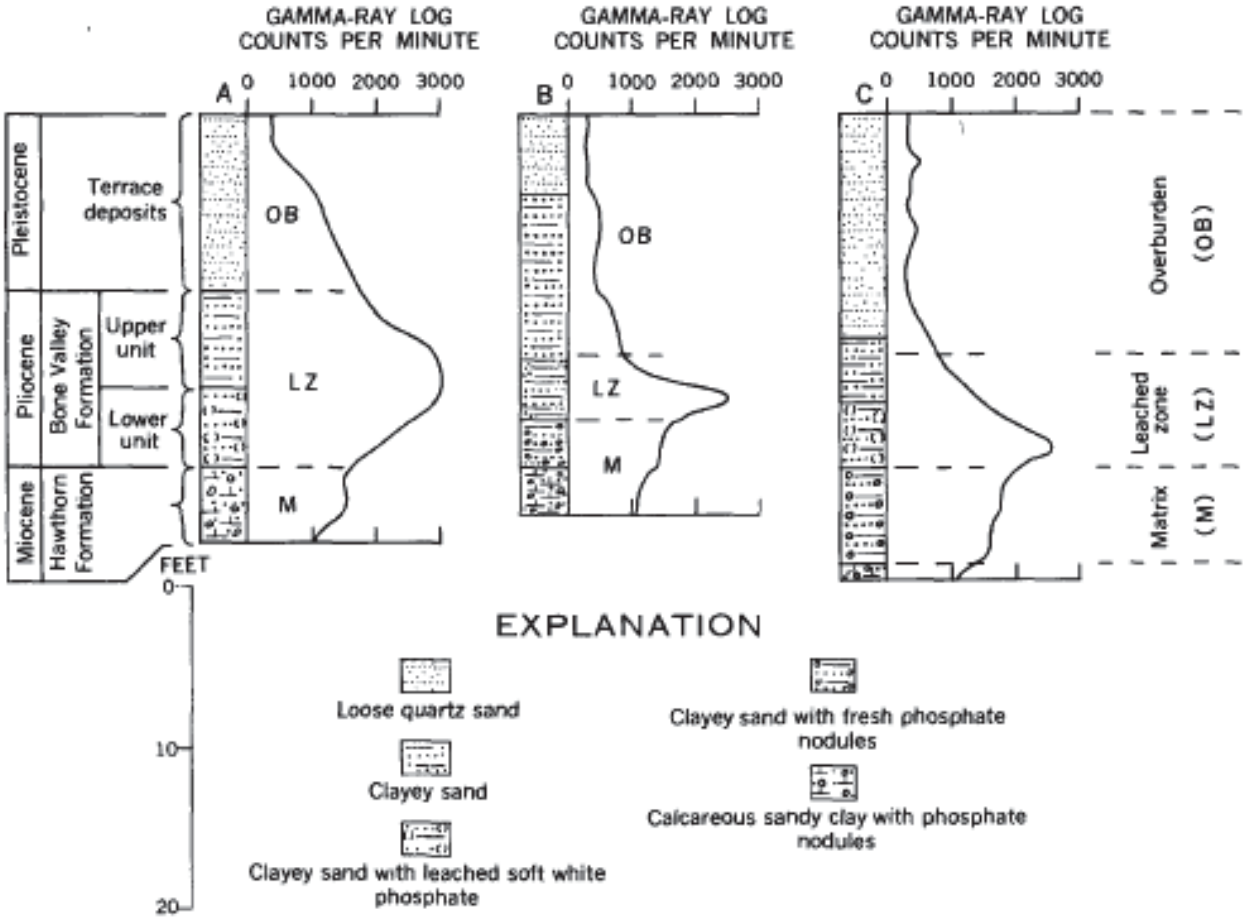


FIGURE 17.—Typical drill hole and gamma logs, Orange Park tract. Location of drill holes shown on plate 1.

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

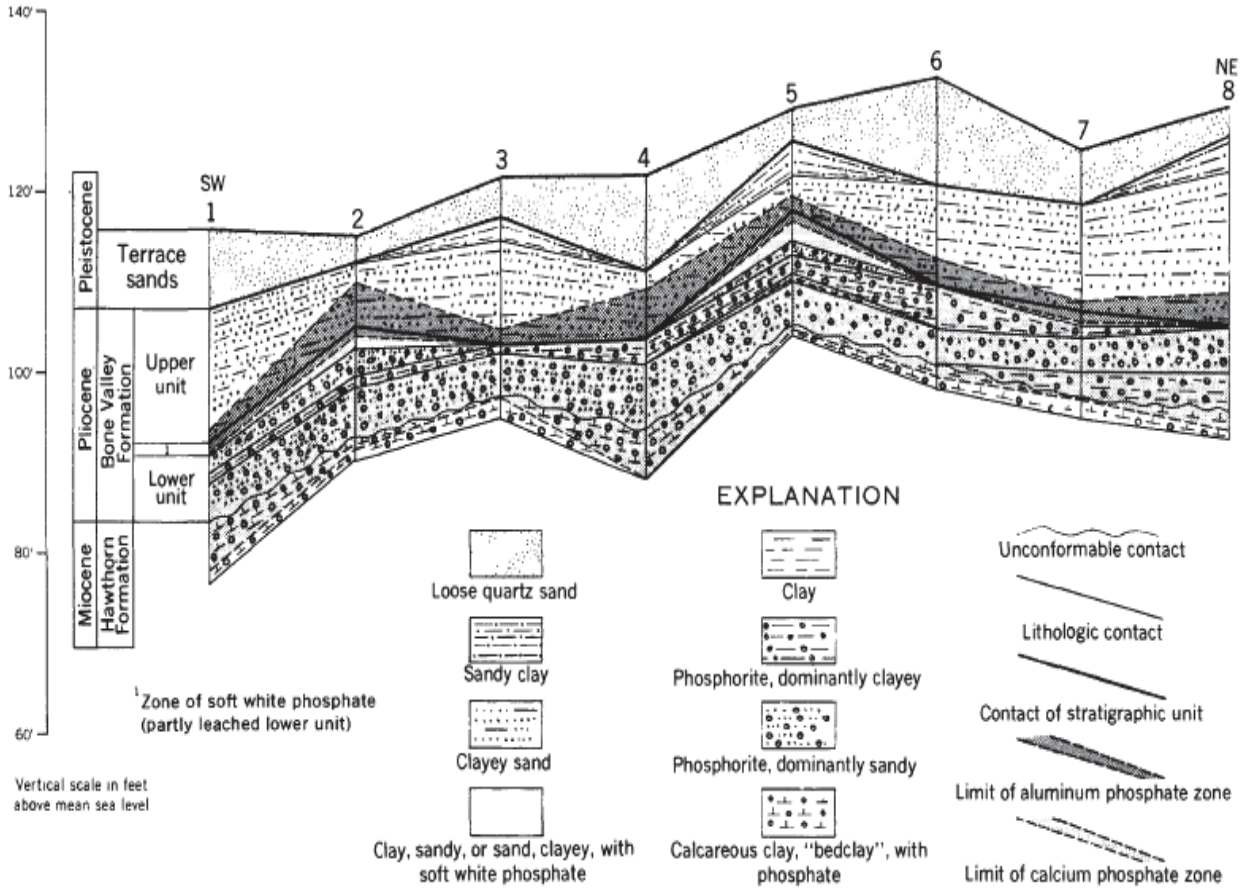


FIGURE 18.—Section, Tenoroc mine, showing relations of stratigraphy and economic geology. Horizontal not to scale. Location of drill holes shown on plate 1.

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:

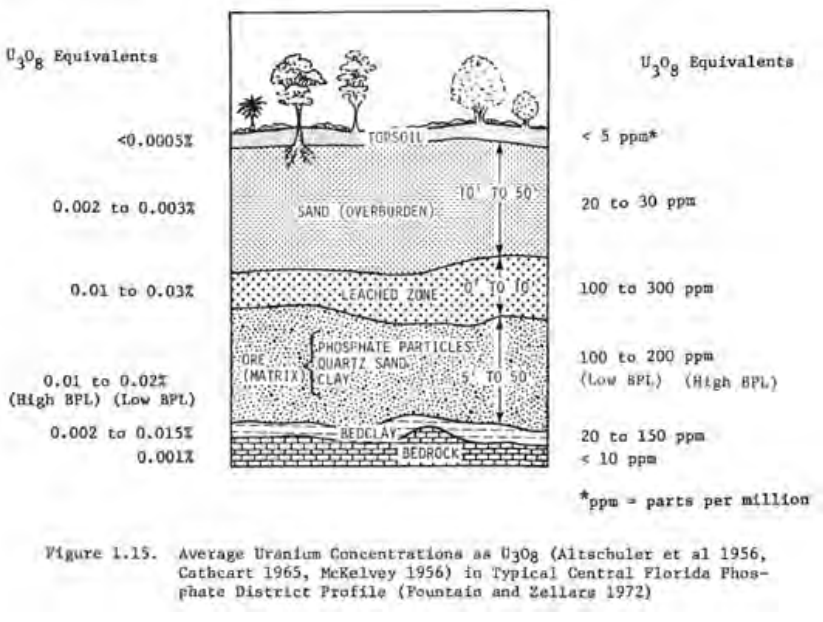


Figure 1.15. Average Uranium Concentrations as U_3O_8 (Altschuler et al 1956, Cathcart 1965, McKelvey 1956) in Typical Central Florida Phosphate District Profile (Fountain and Zellars 1972)

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):

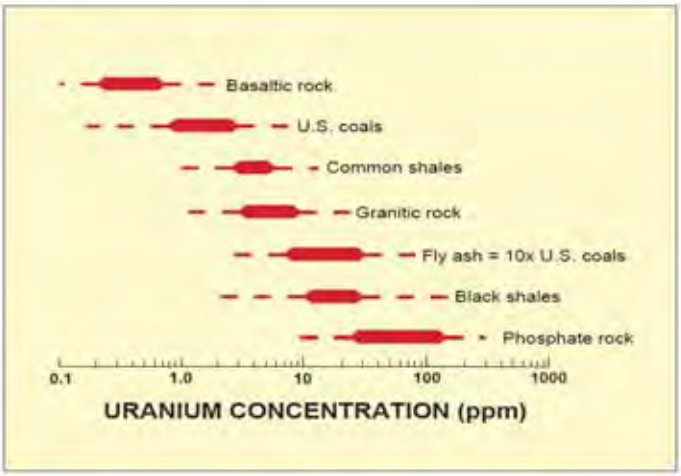
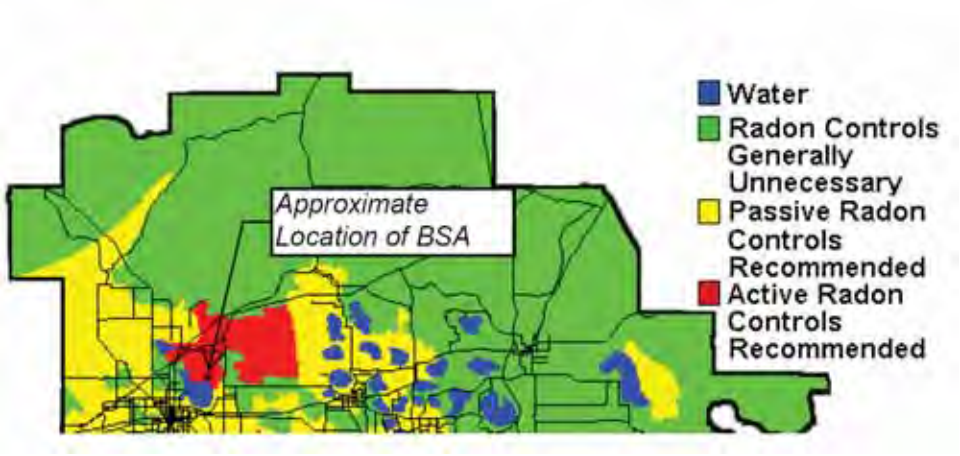


Figure 2. Typical range of uranium concentration in coal, fly ash, and a variety of common rocks.

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

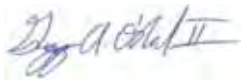
Certificate of Authorization No. 1670

Date 10 JUNE 2019

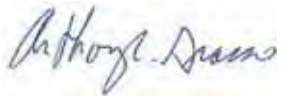
10.0 SIGNATURE PAGE

Golder Associates Inc.

Samuel F. Stafford, PE
Senior Project Engineer



Gregory A. O'Neal II, PG
Senior Geologist



Anthony L. Grasso, PG
Principal and Practice Leader

GAO/SFS/ALG/sjh

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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

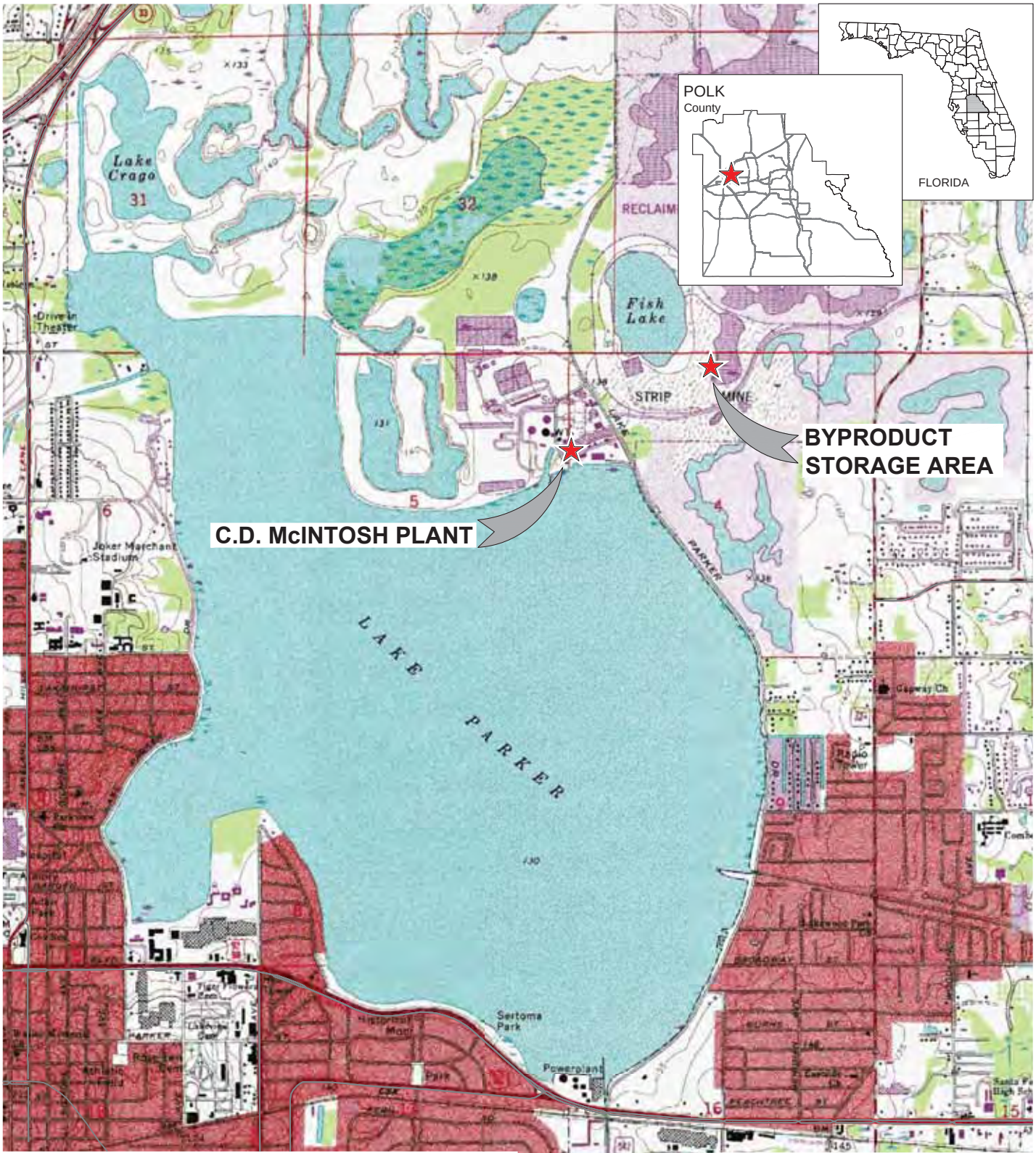
Table 4: Summary of Radium 228 & 228 Concentrations in Groundwater (CCR Monitoring Wells)
Byproduct Storage Area
Lakeland Electric - C.D. McIntosh Jr. Power Plant

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

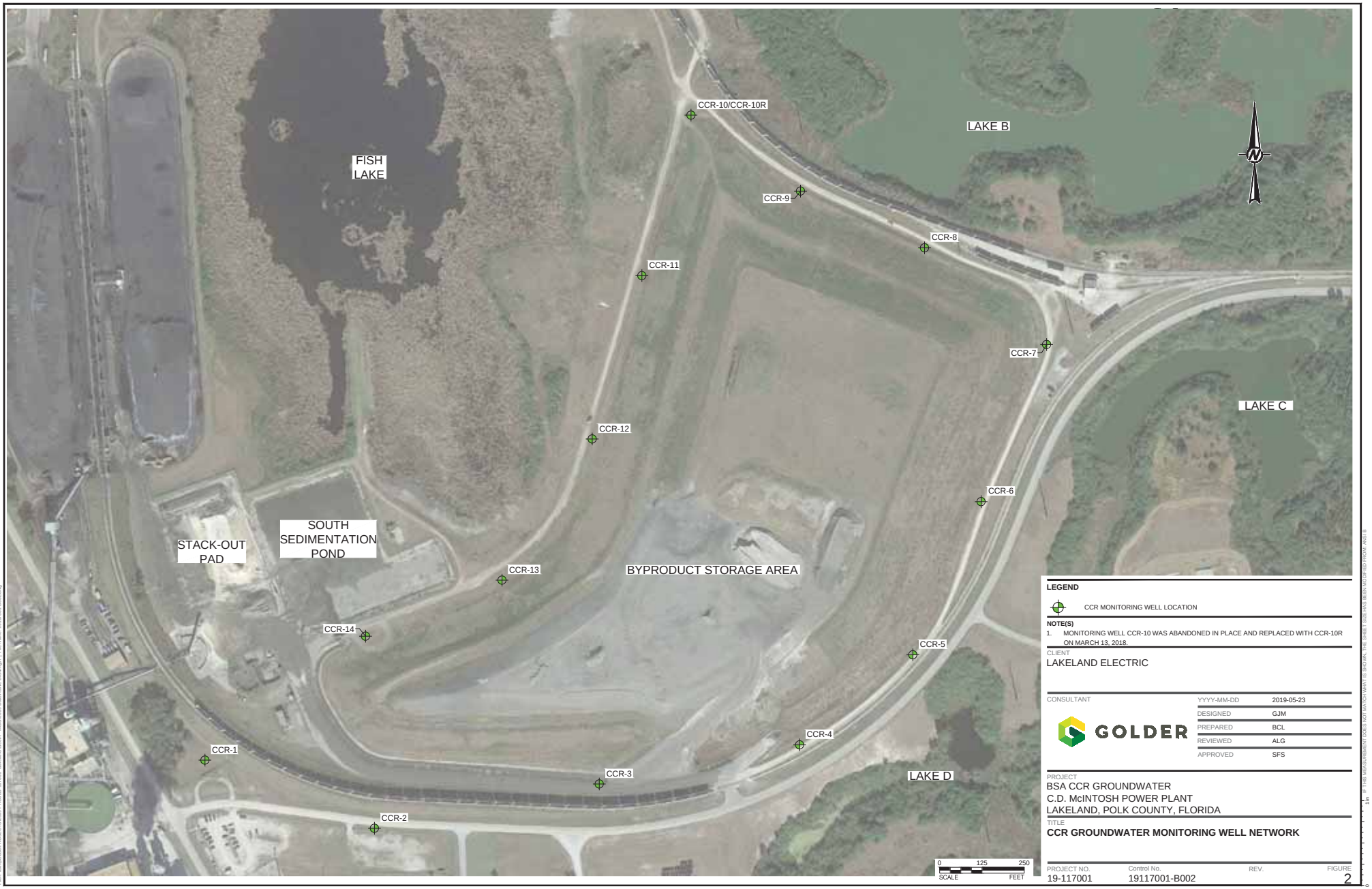
CONSULTANT
GOLDER

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

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

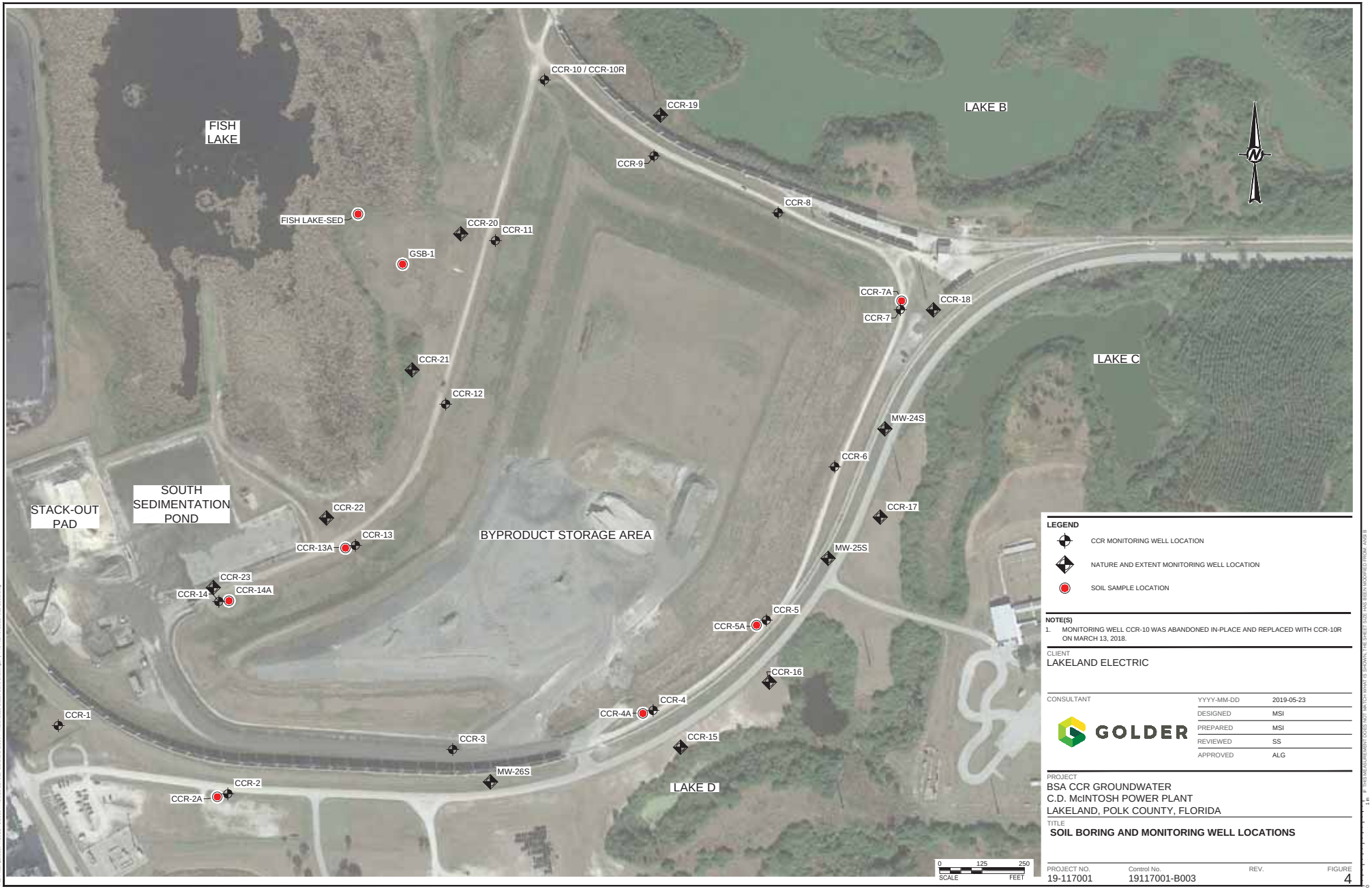
GOLDER

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



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

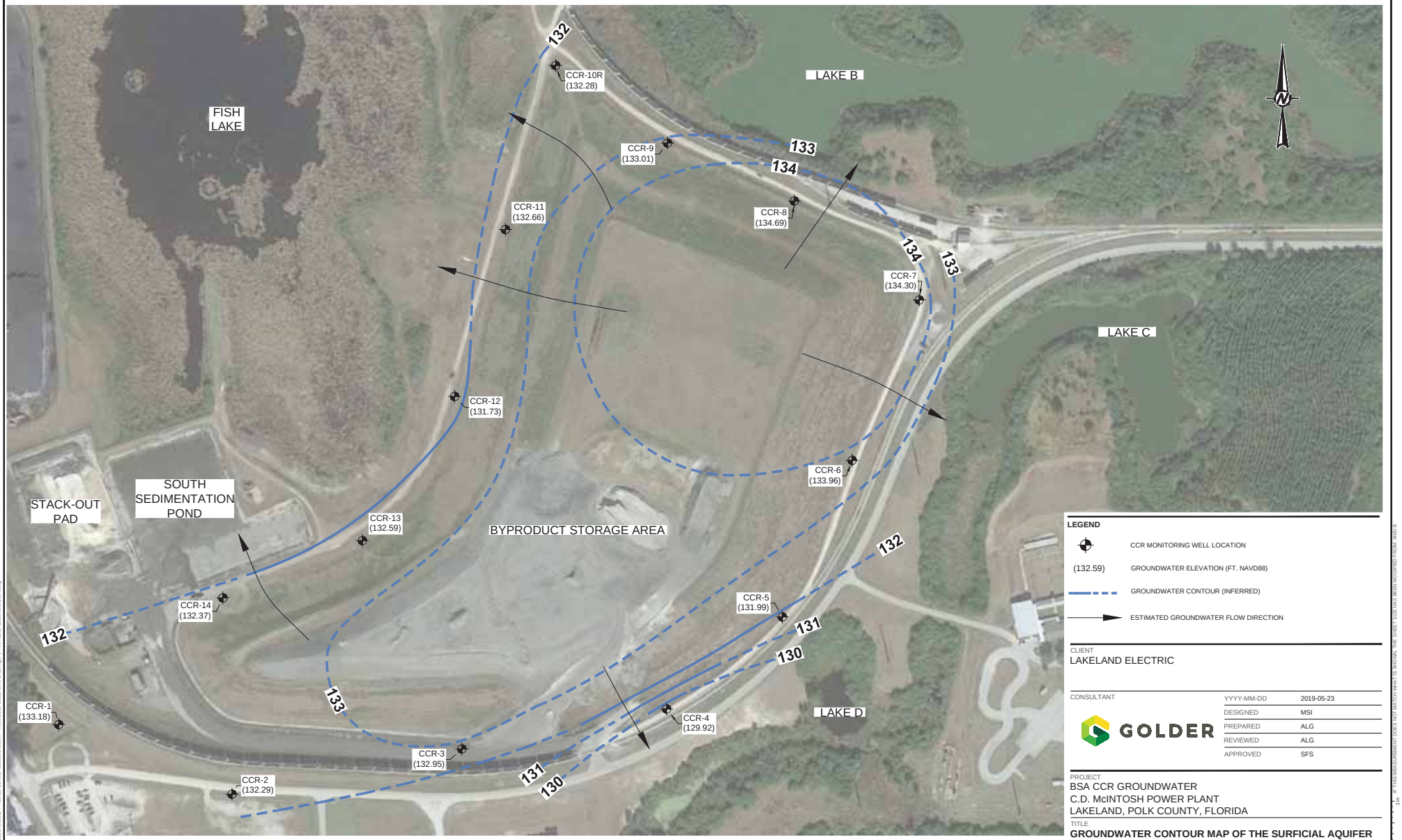
CONSULTANT
GOLDER

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



LEGEND

- CCR MONITORING WELL LOCATION
- (132.59) GROUNDWATER ELEVATION (FT. NAVD88)
- GROUNDWATER CONTOUR (INFERRED)
- ESTIMATED GROUNDWATER FLOW DIRECTION

SCALE 0 125 250 FEET

CLIENT
LAKELAND ELECTRIC

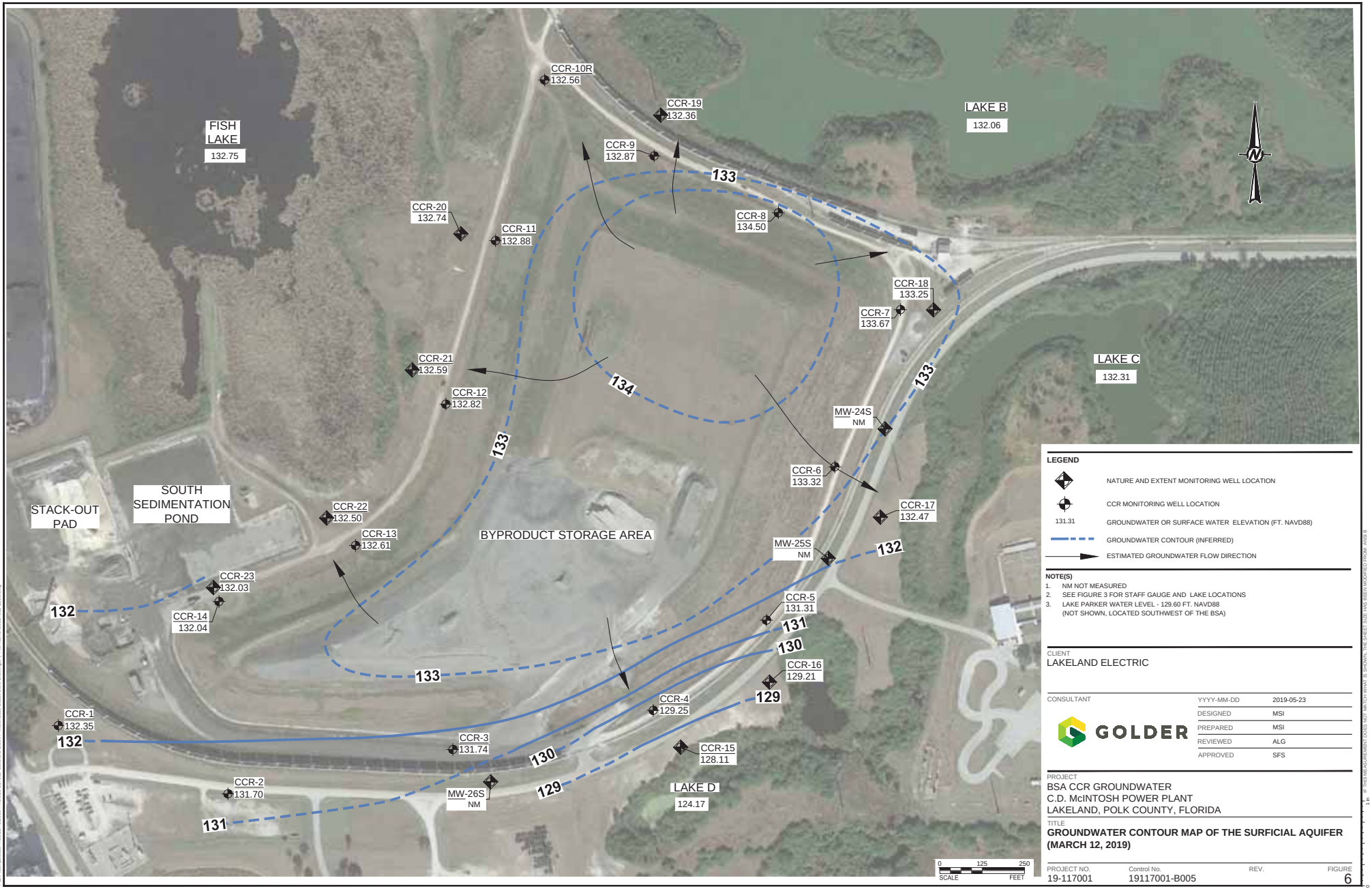
CONSULTANT
GOLDER

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



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

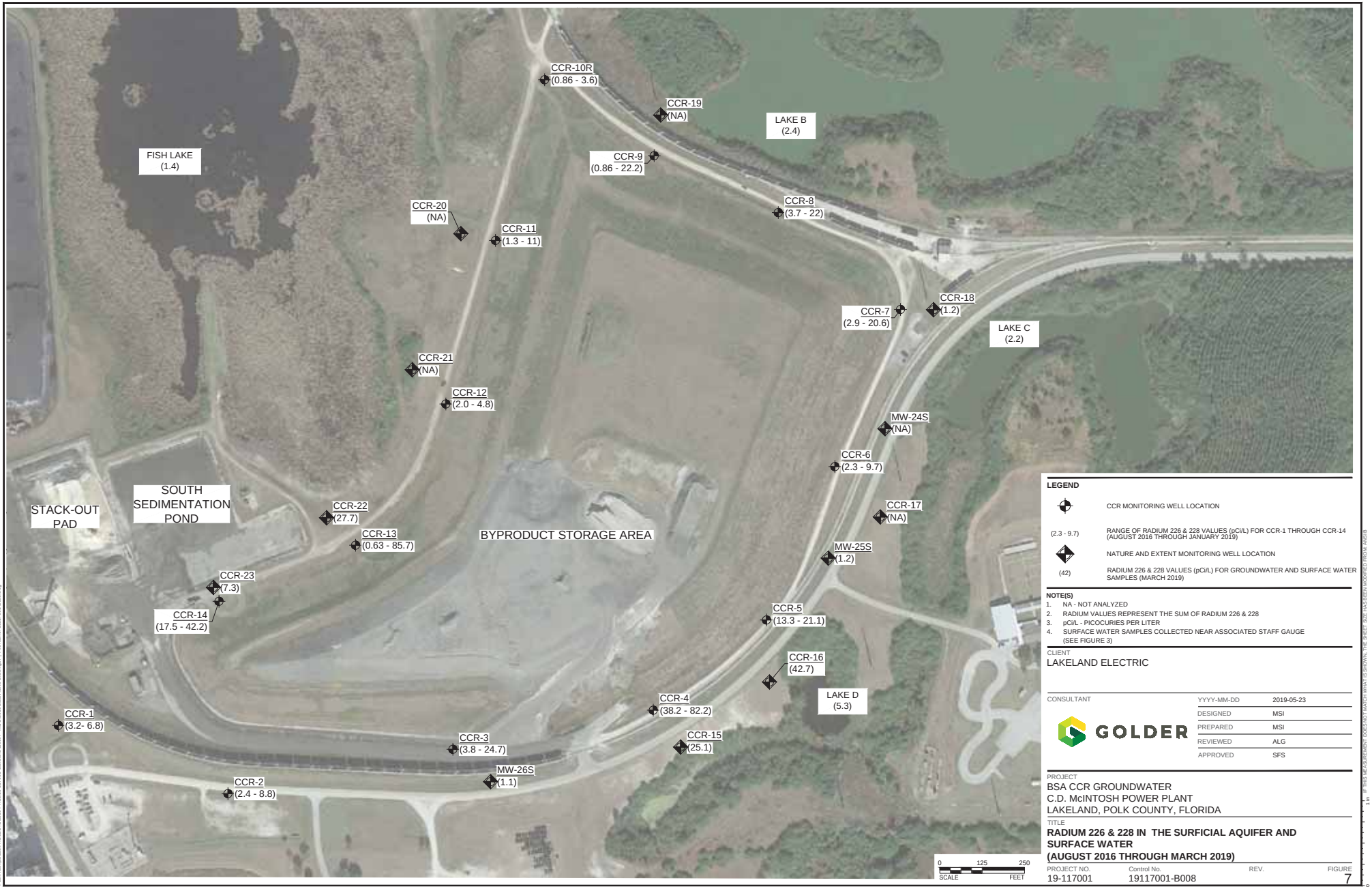
CONSULTANT
GOLDER

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

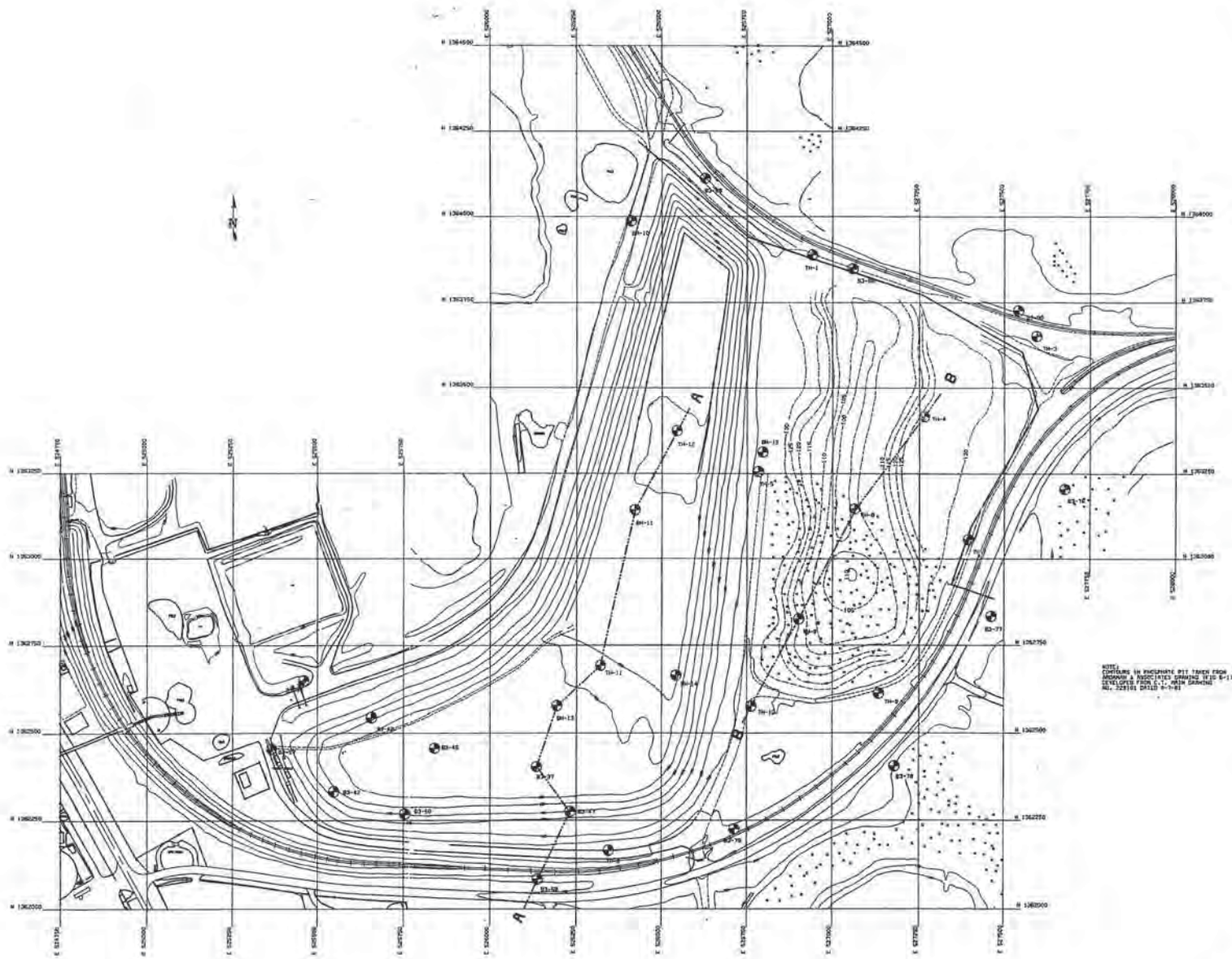
PROJECT
BSA CCR GROUNDWATER
C.D. McINTOSH POWER PLANT
LAKELAND, POLK COUNTY, FLORIDA

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

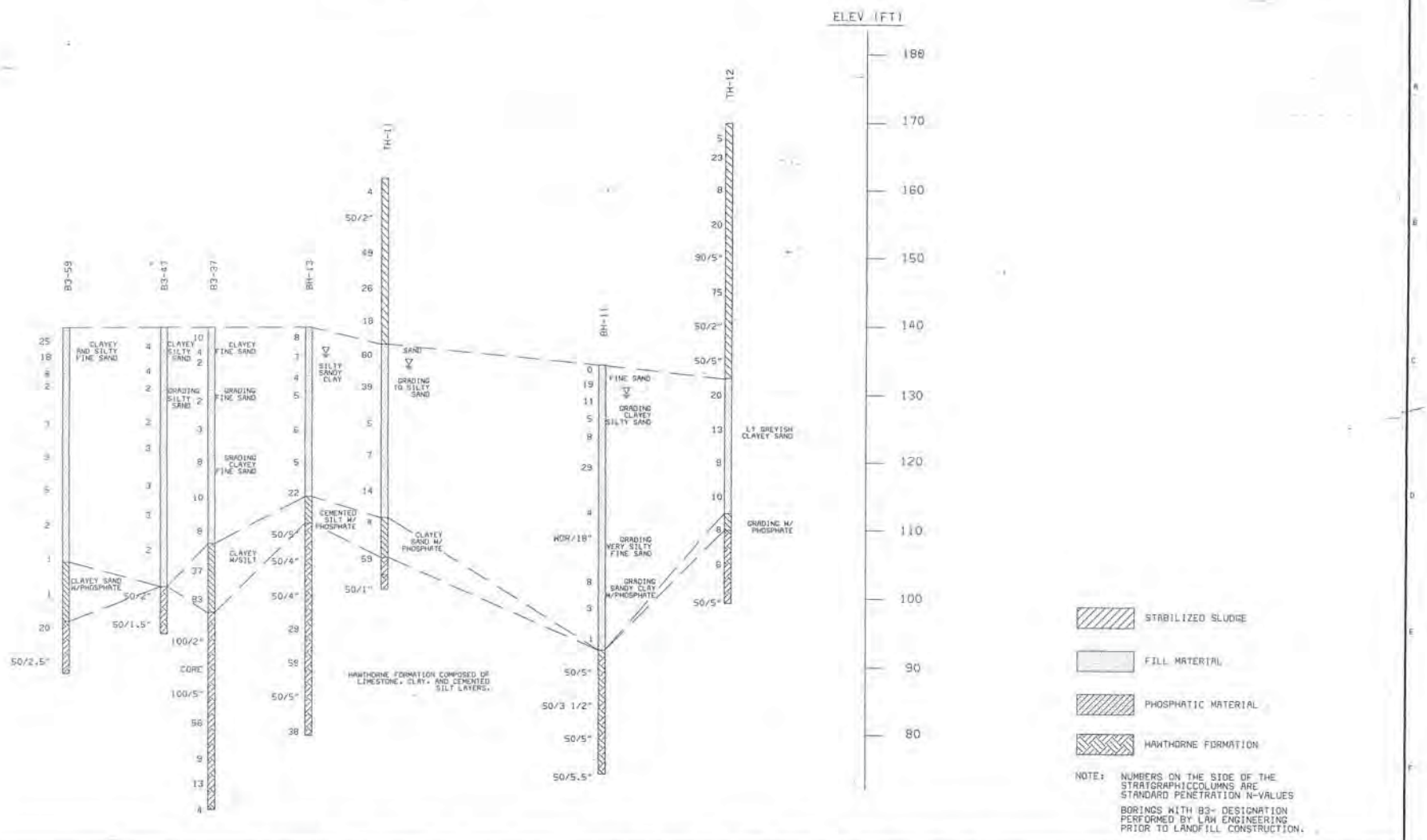
APPENDIX A

Soil Boring Logs and Location Map



SOIL BORING LOCATION PLAN

BLACK & VEATCH ENGINEERS-ARCHITECTS	LAKELAND ELECTRIC & WATER C.D. MCINTOSH PLANT LANDFILL STUDY	PROJECT 17757	REV A
	SOIL BORING LOCATION PLAN		FIGURE 2-1



NOTE: NUMBERS ON THE SIDE OF THE STRATIGRAPHICCOLUMNS ARE STANDARD PENETRATION N-VALUES

BORINGS WITH B3- DESIGNATION PERFORMED BY LAW ENGINEERING PRIOR TO LANDFILL CONSTRUCTION.

NO	DATE	REVISIONS AND RECORD OF ISSUE	BY	CH	APP	LM
A	02/27/91	GENERAL REVISIONS				

VERT= 1 1/2"=10'
HORIZ= 1"=100'

BLACK & VEATCH ENGINEERS-ARCHITECTS

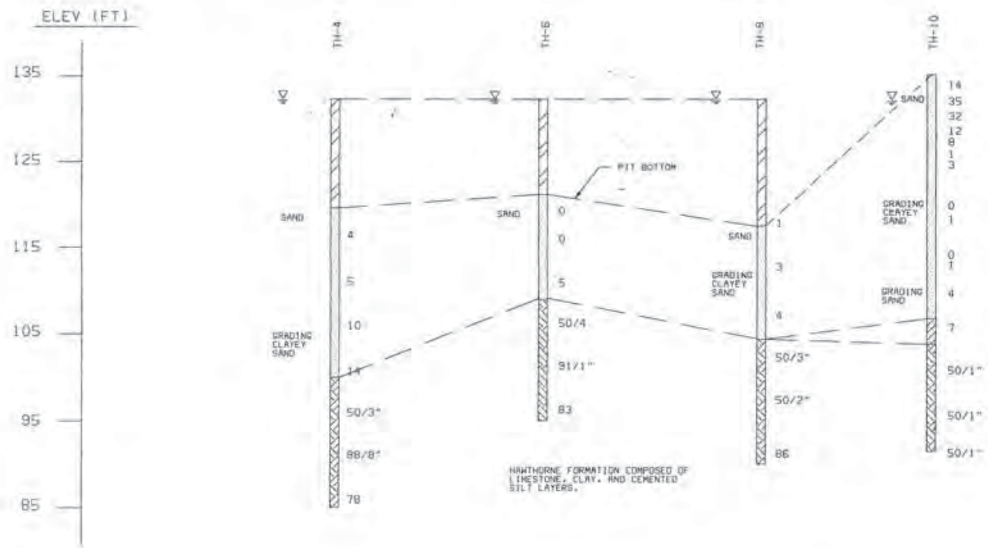
ENGINEER HRG DRAWN GRM CHECKED DATE 1-14-91

CITY OF LAKELAND
MCINTOSH LANDFILL

SOIL PROFILE SECTION A-A

PROJECT 17757

FIGURE 2-2



WATER

FILL MATERIAL

PHOSPHATIC MATERIAL

HAWTHORNE FORMATION

NOTE: NUMBERS ON THE SIDE OF THE STRATGRAPHIC COLUMNS ARE STANDARD PENETRATIONS N-VALUES.

A	02/27/91	GENERAL REVISIONS	
NO	DATE	REVISIONS AND RECORD OF ISSUE	BY CHK APP FLM

VERT= 1 1/2"=10'
HORIZ= 1"=100'

BLACK & VEATCH ENGINEERS-ARCHITECTS

ENGINEER MRD DRAWN GRM CHECKED DATE 1-14-91

CITY OF LAKELAND
MCINTOSH LANDFILL

SOIL PROFILE SECTION B-B

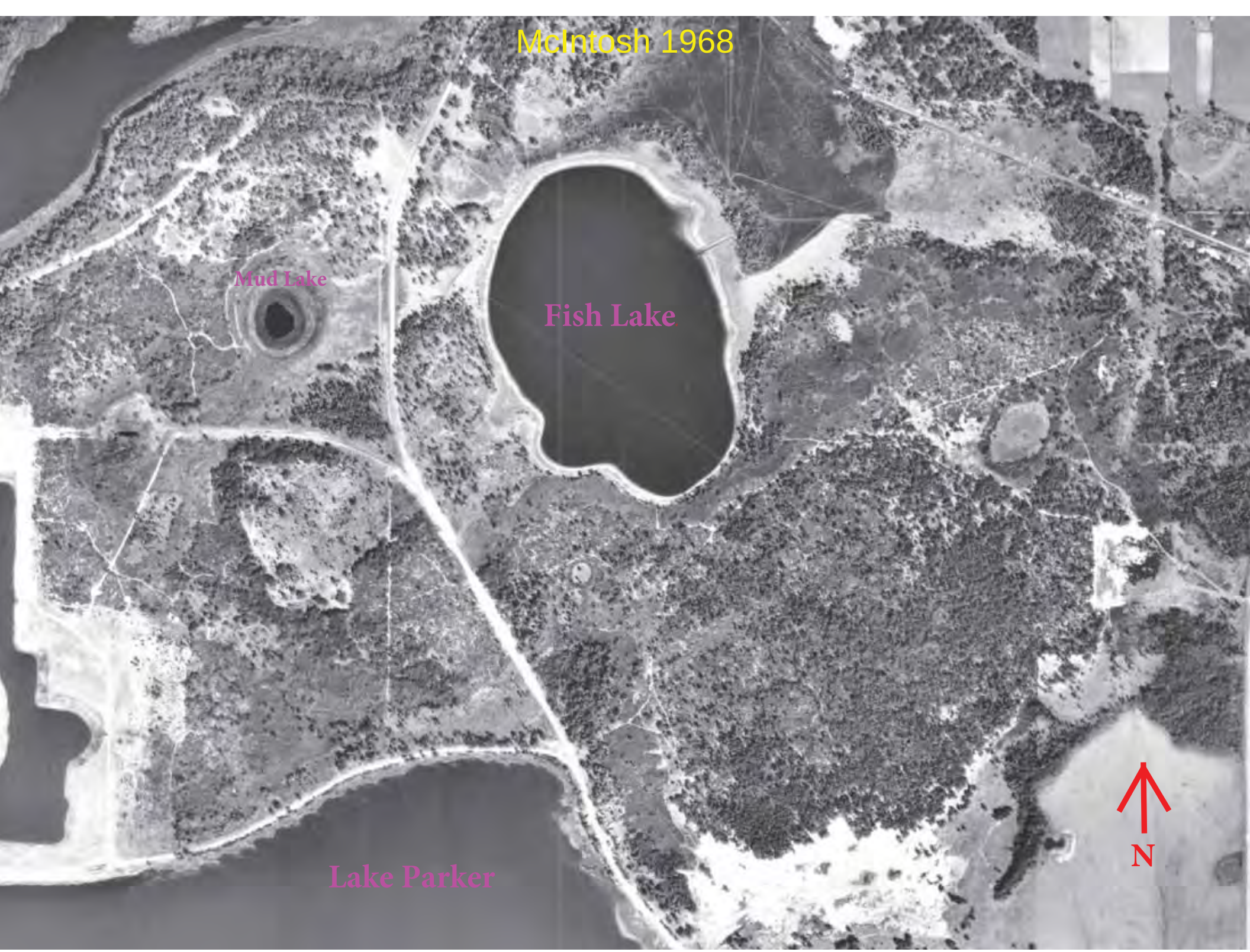
PROJECT 17757 DRAWING NUMBER REV A

FIGURE 2-3

APPENDIX B

Historical Aerial Photographs and Maps


UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
BULLETIN 1162-D
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)

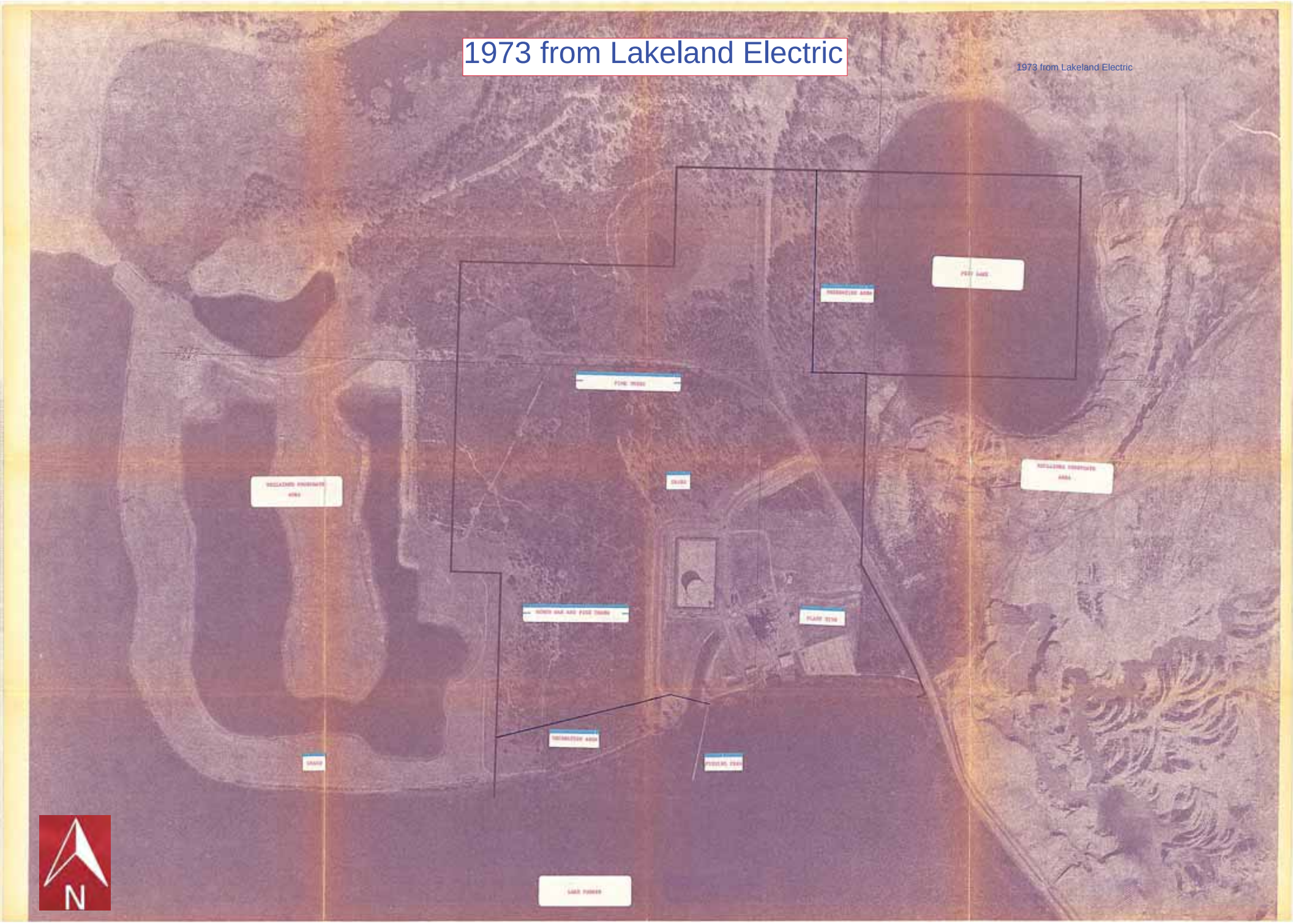
GeoSearch

JOB #: 227772 - 03/09/2018

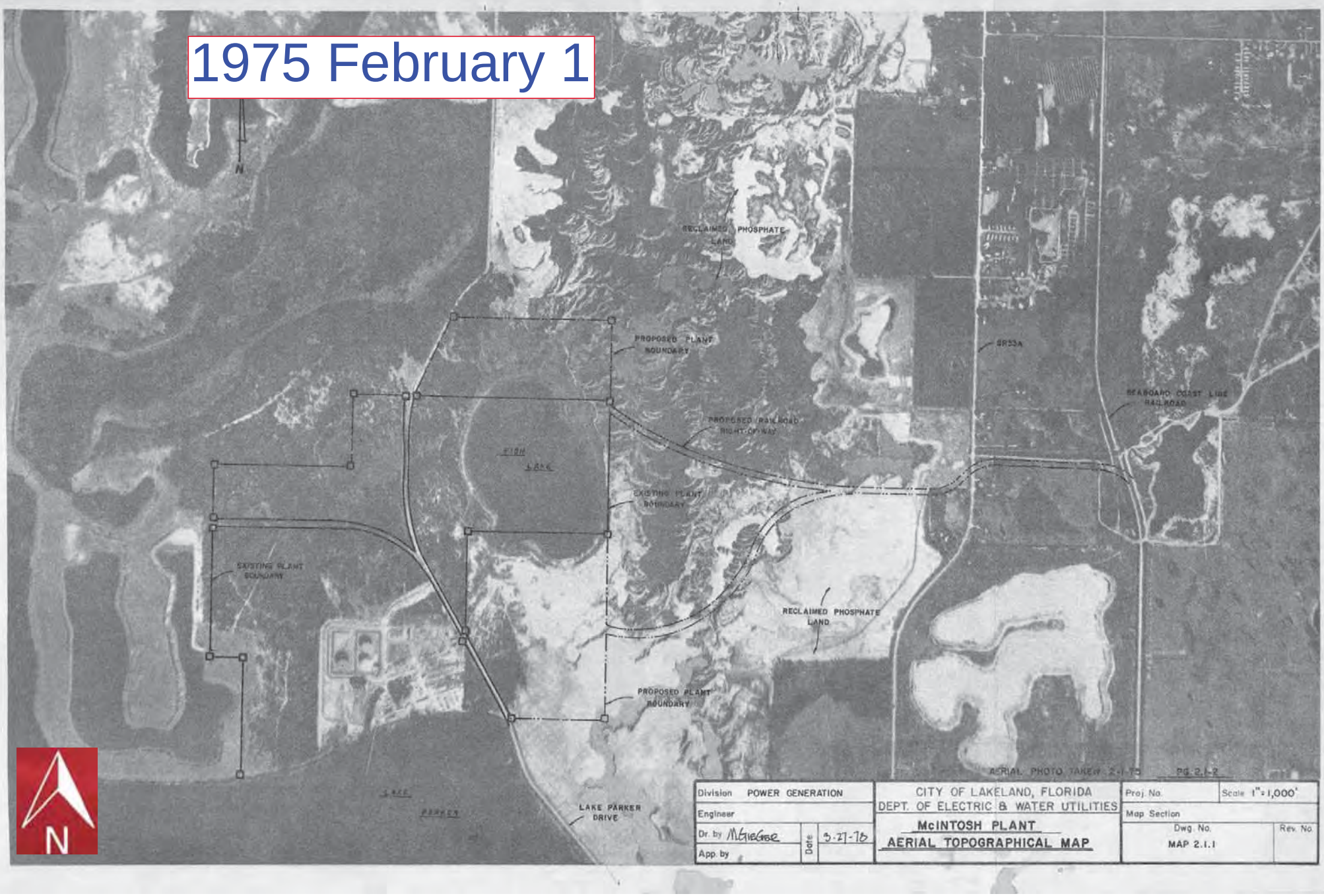
1975 USGS 7.5-minute topographic map including December 2, 1972 Aerial Photograph

1973 from Lakeland Electric

1973 from Lakeland Electric



1975 February 1



Division POWER GENERATION	CITY OF LAKELAND, FLORIDA DEPT. OF ELECTRIC & WATER UTILITIES		Proj. No.	Scale 1"=1,000'
Engineer			Map Section	
Dr. by MGieGee	McINTOSH PLANT AERIAL TOPOGRAPHICAL MAP	Date 5-27-76	Dwg. No. MAP 2.1.1	Rev. No.
App. by				

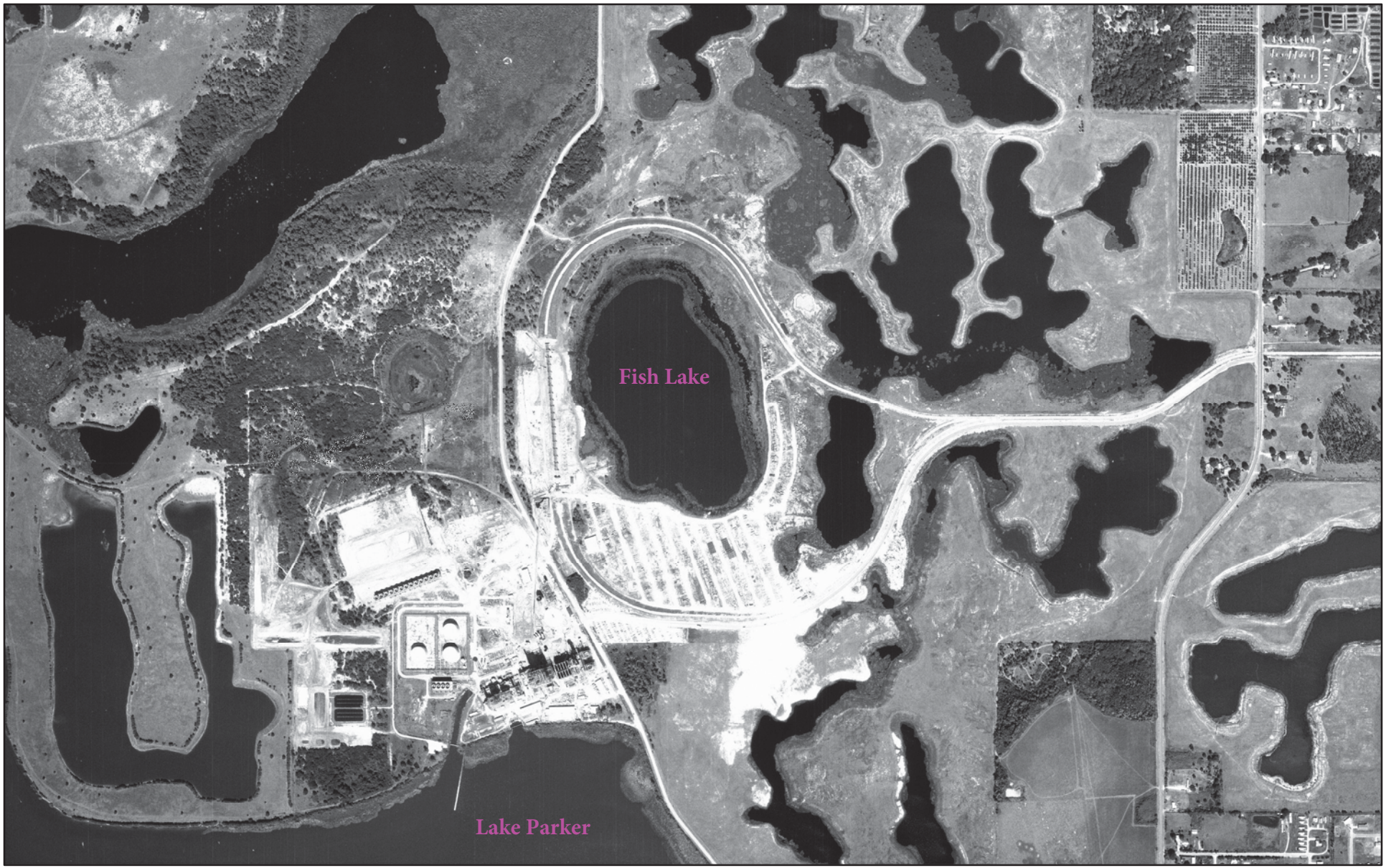
N
W E
S

BSA at Lakeland Electric USGS
11/26/1977
(Current boundary shown by dashed red line)

GeoSearch

JOB #: 227772 - 03/09/2018

McIntosh 1980



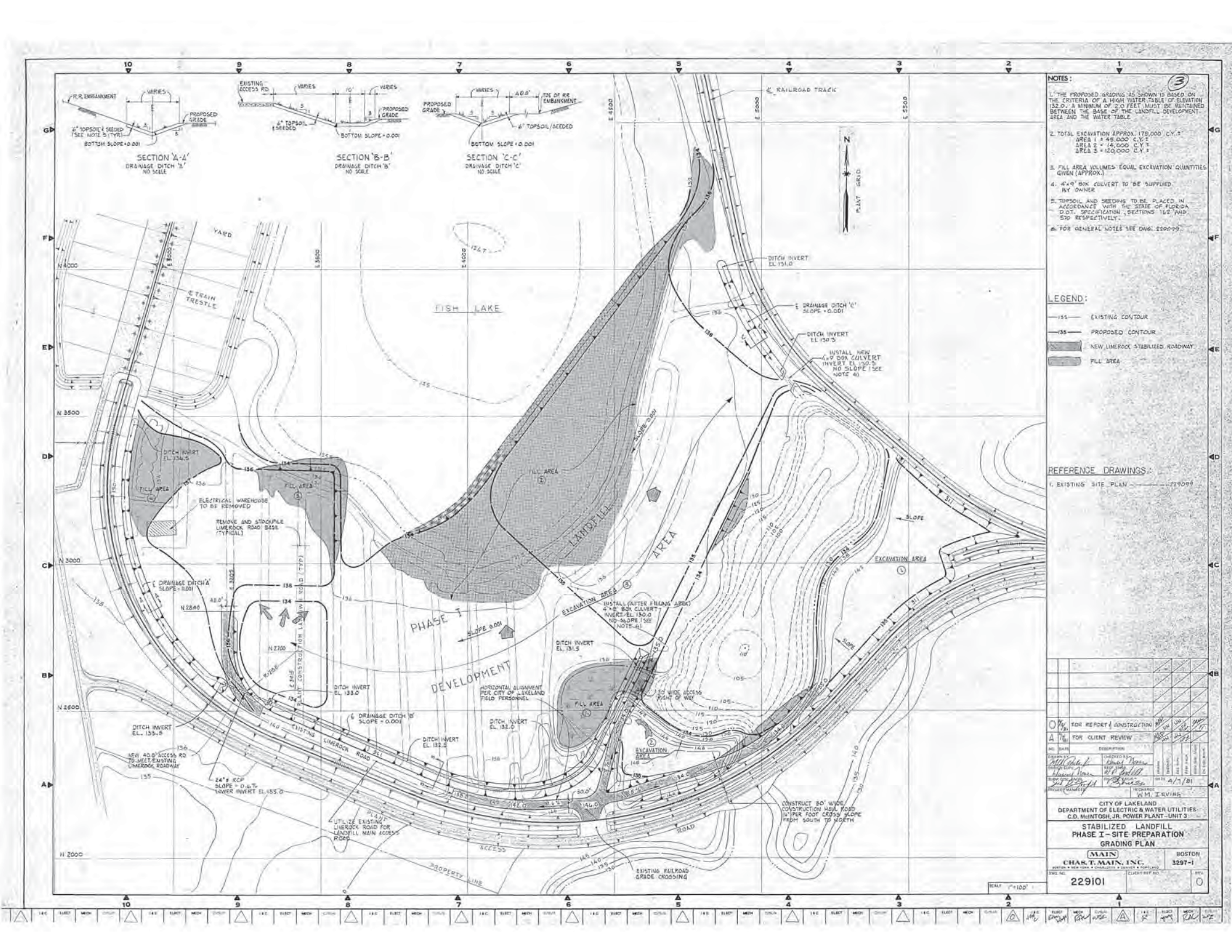
1:14,774

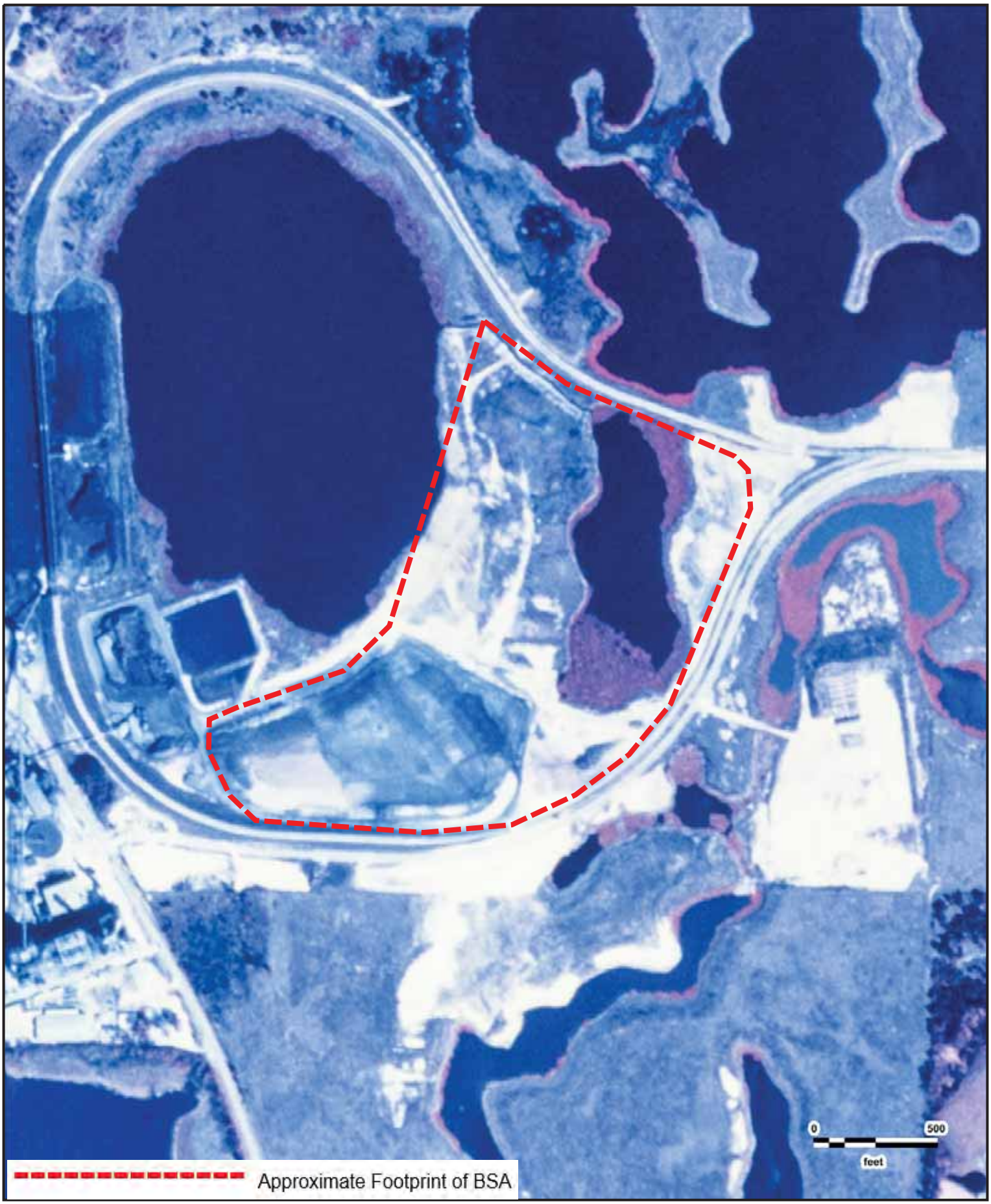
0 0.125 0.25 0.5 mi

0 0.2 0.4 0.8 km

N

Polk County BoCC


SECTION 'A-A'
DRAINAGE DITCH 'A'
NO SCALE
SECTION 'B-B'
DRAINAGE DITCH 'B'
NO SCALE
SECTION 'C-C'
DRAINAGE DITCH 'C'
NO SCALE
NOTES:
1. THE PROPOSED GRADING AS SHOWN IS BASED ON THE CRITERIA OF A HIGH WATER TABLE OF ELEVATION 132.0'. A MINIMUM OF 2.0 FEET MUST BE MAINTAINED BETWEEN THE BASE OF THE LANDFILL DEVELOPMENT AREA AND THE WATER TABLE.
2. TOTAL EXCAVATION APPROX. 170,000 C.Y.±
AREA 1 = 45,000 C.Y.±
AREA 2 = 14,000 C.Y.±
AREA 3 = 120,000 C.Y.±
3. FILL AREA VOLUMES EQUAL EXCAVATION QUANTITIES GIVEN (APPROX.)
4. 4'x9' BOX CULVERT TO BE SUPPLIED BY OWNER
5. TOPSOIL AND SEEDING TO BE PLACED IN ACCORDANCE WITH THE STATE OF FLORIDA D.O.T. SPECIFICATIONS, SECTIONS 162 AND 570 RESPECTIVELY.
6. FOR GENERAL NOTES SEE DWG. 229099
LEGEND:
EXISTING CONTOUR
PROPOSED CONTOUR
NEW LIMEROCK STABILIZED ROADWAY
FILL AREA
REFERENCE DRAWINGS:
1. EXISTING SITE PLAN — 229099
FISH LAKE
YARD
RAILROAD TRACK
PLANT GRID
DITCH INVERT EL. 131.0
DRAINAGE DITCH 'C' SLOPE = 0.001
DITCH INVERT EL. 130.5
INSTALL NEW 4'x9' BOX CULVERT INVERT EL. 130.5 NO SLOPE (SEE NOTE 4)
TRAIN TRESTLE
DITCH INVERT EL. 134.5
ELECTRICAL WAREHOUSE TO BE REMOVED
REMOVE AND STOCKPILE LIMEROCK ROAD BASE (TYPICAL)
DRAINAGE DITCH 'A' SLOPE = 0.001
FILL AREA
LANDFILL AREA
EXCAVATION AREA
INSTALL (AFTER FILLING AREA) 4'x6' BOX CULVERT INVERT EL. 130.0 NO SLOPE (SEE NOTE 4)
PHASE I DEVELOPMENT
SLOPE 0.001
DITCH INVERT EL. 131.5
DITCH INVERT EL. 133.0
DRAINAGE DITCH 'B' SLOPE = 0.001
DITCH INVERT EL. 132.0
DITCH INVERT EL. 135.5
NEW 40.0' ACCESS RD TO MEET EXISTING LIMEROCK ROADWAY
24" ø RCP SLOPE = 0.4% LOWER INVERT EL. 135.0
EXISTING LIMEROCK ROAD
HORIZONTAL ALIGNMENT PER CITY OF LAKELAND FIELD PERSONNEL
50' WIDE ACCESS RIGHT OF WAY
UTILIZE EXISTING LIMEROCK ROAD FOR LANDFILL MAIN ACCESS ROAD
CONSTRUCT 50' WIDE CONSTRUCTION HAUL ROAD (4" PER FOOT CROSS SLOPE FROM SOUTH TO NORTH)
PROPERTY LINE
EXISTING RAILROAD GRADE CROSSING
FOR REPORT & CONSTRUCTION
FOR CLIENT REVIEW
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
3297-1
229101
0



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			

COMMENTS

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)	SOIL PROFILE 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

SOIL PROFILE

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)	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

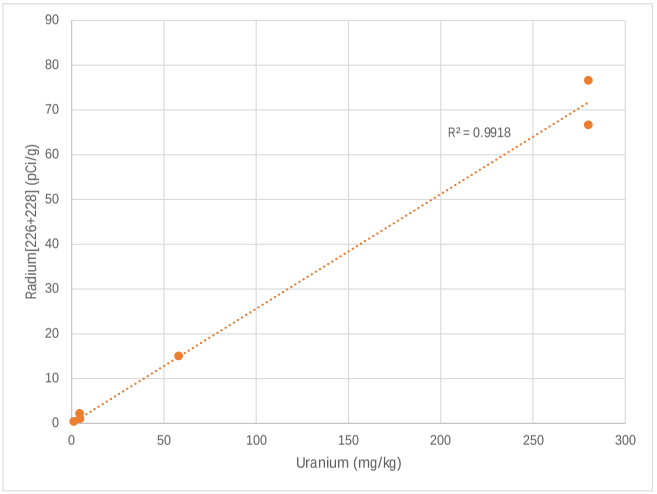
INSPECTOR: M. Boatman
CHECKED BY: G. Morelli
DATE: 5/30/19

GOLDER

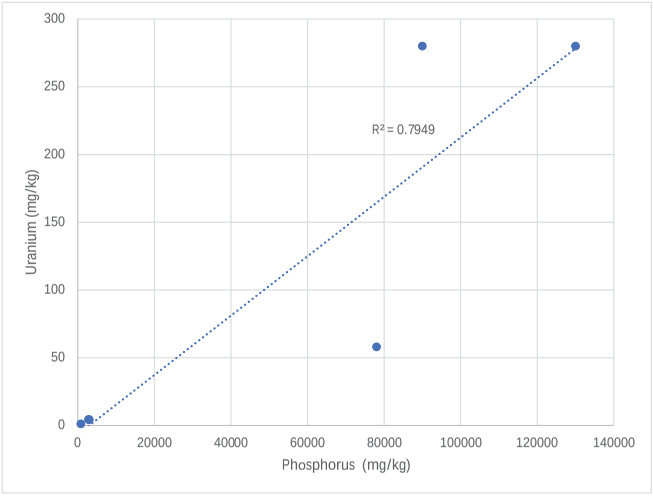
APPENDIX D

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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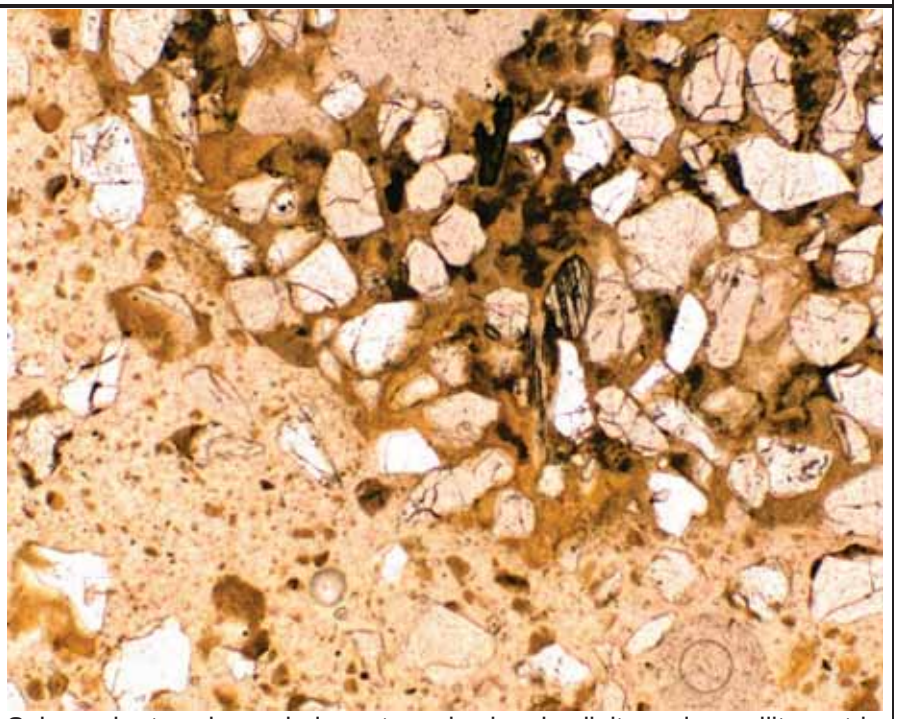
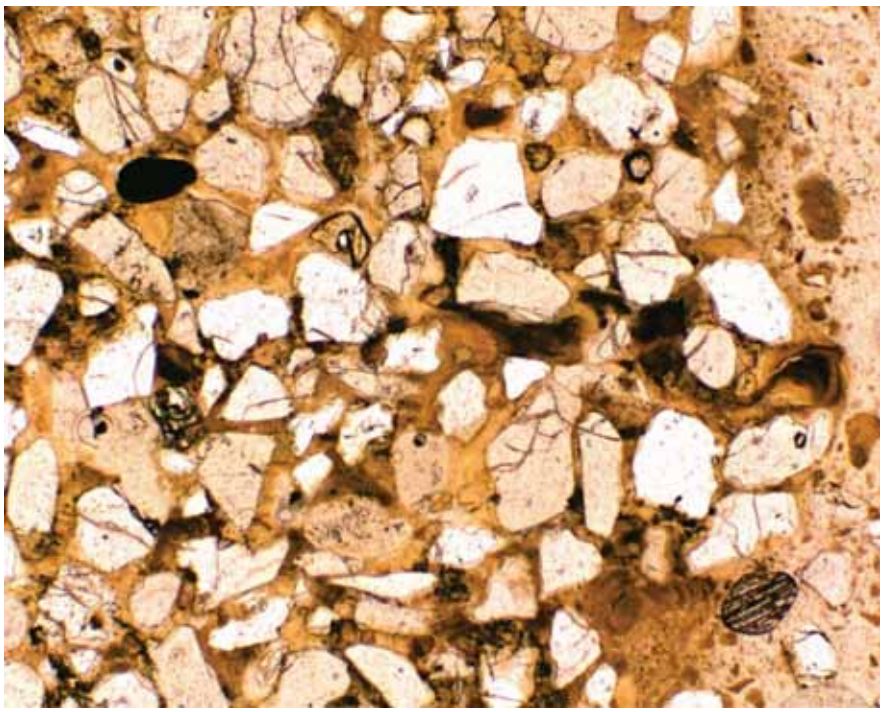
PHOTO 1 CCR2A 23.0-23.5	 Subangular to subrounded quartz grains in a kaolinite and wavellite matrix (brown). Striated high-relief mineral is kyanite. Minor rutile. Plane light.
PHOTO 2 CCR2A 23.0-23.5	 Subangular to subrounded quartz grains in a kaolinite and wavellite matrix (brown). Striated high-relief 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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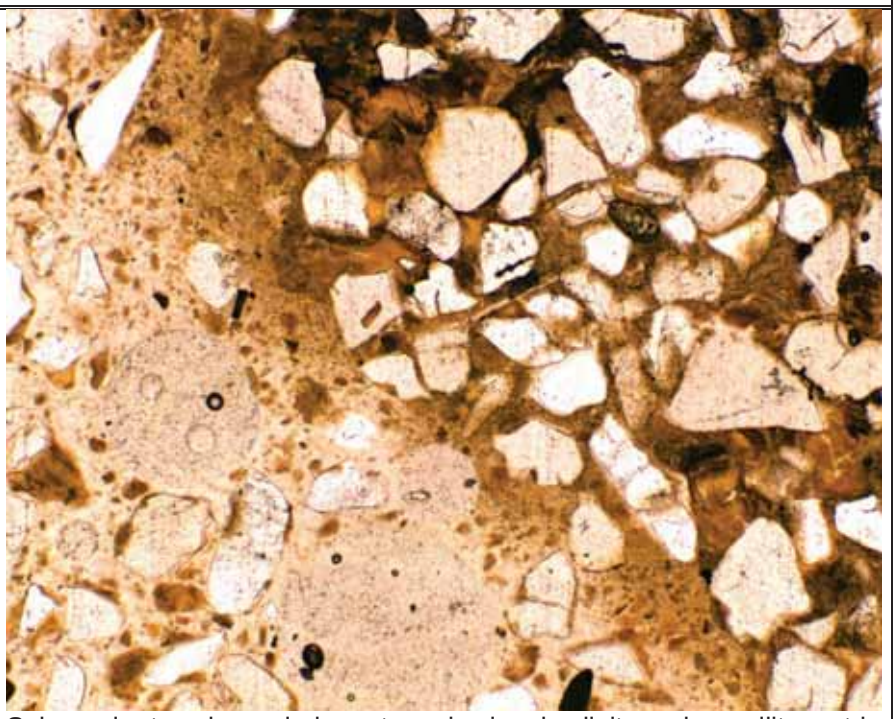
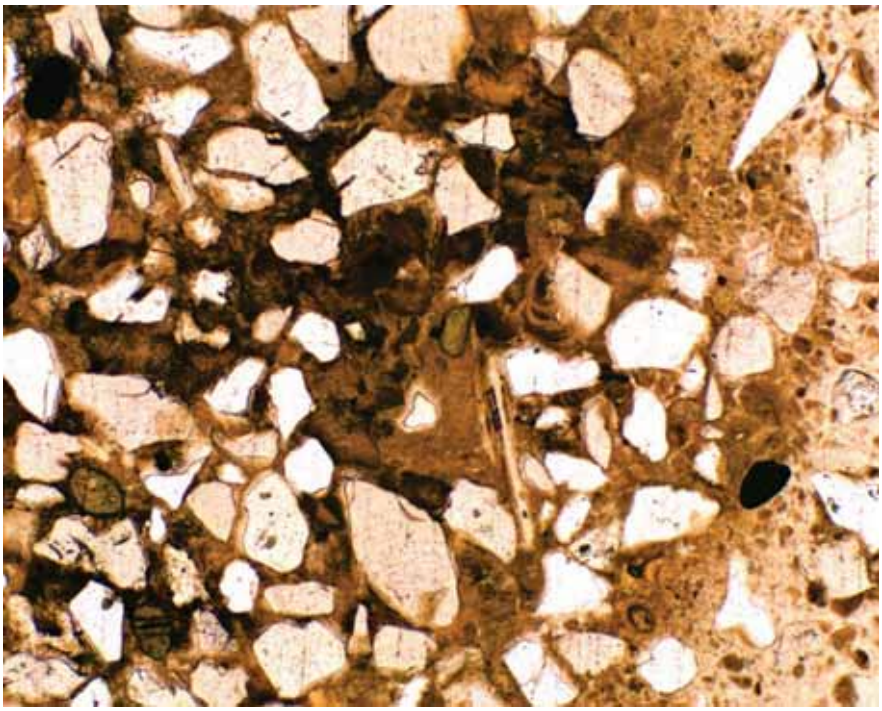
PHOTO 3 CCR2A 23.0-23.5	 Subangular to subrounded quartz grains in a kaolinite and wavellite matrix (brown). Greenish mineral is zircon; elongate mineral is muscovite Plane light.
PHOTO 4 CCR2A 23.0-23.5	 Subangular to subrounded quartz grains in a kaolinite and wavellite matrix (brown). Greenish minerals 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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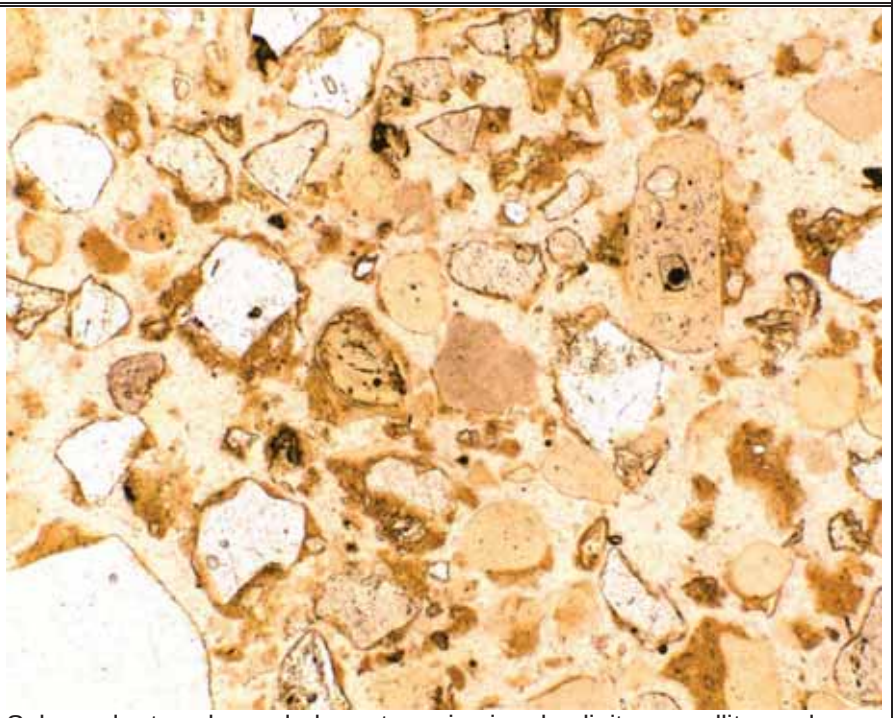
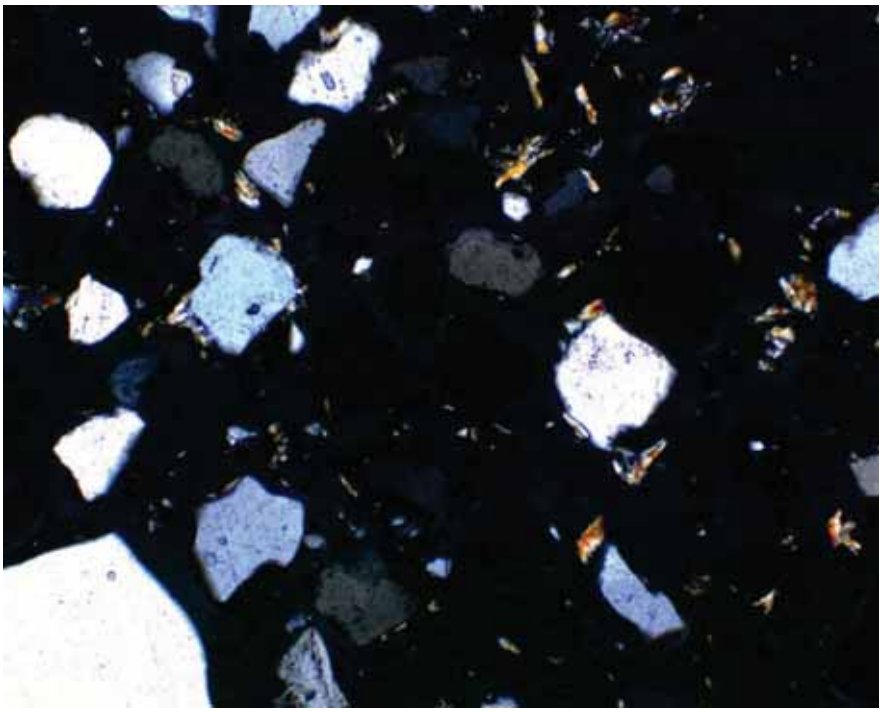
PHOTO 1 CCR4A 26.1-26.4	 Subangular to subrounded quartz grains in a kaolinite, wavellite, and apatite matrix (brown). Plane light.
PHOTO 2 CCR4A 26.1-26.4	 Subangular to subrounded quartz grains in a kaolinite, wavellite, and apatite matrix (brown). Polarized light.

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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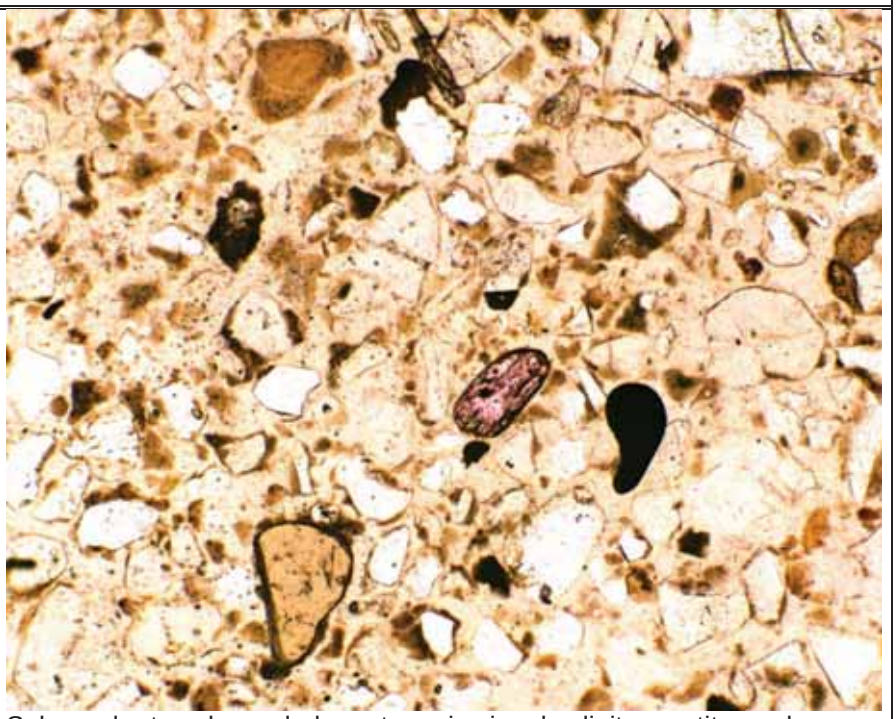
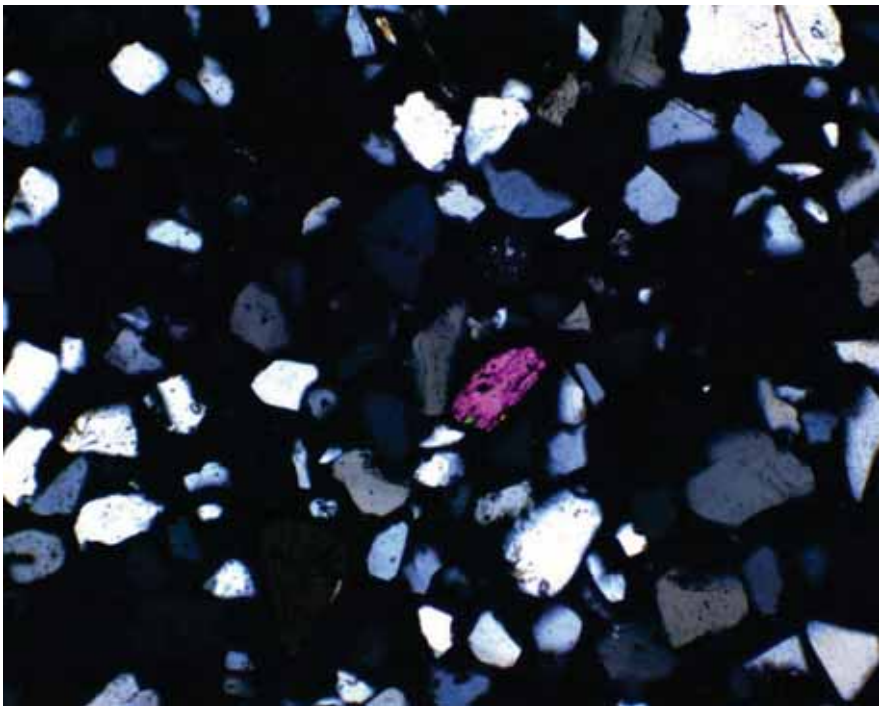
PHOTO 1 CCR7A 23.2-23.5	 Subangular to subrounded quartz grains in a kaolinite, apatite, and wavellite matrix (brown). Yellow and pleochroic minerals are staurolite; opaque mineral is ilmenite. Plane light.
PHOTO 2 CCR7A 23.2-23.5	 Subangular to subrounded quartz grains in a kaolinite, apatite, and wavellite 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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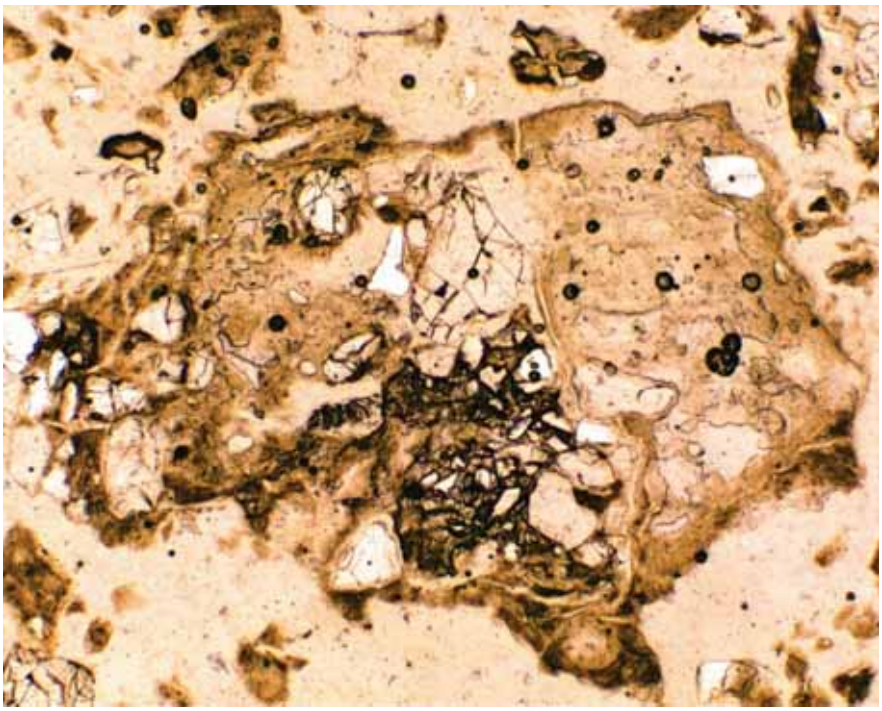
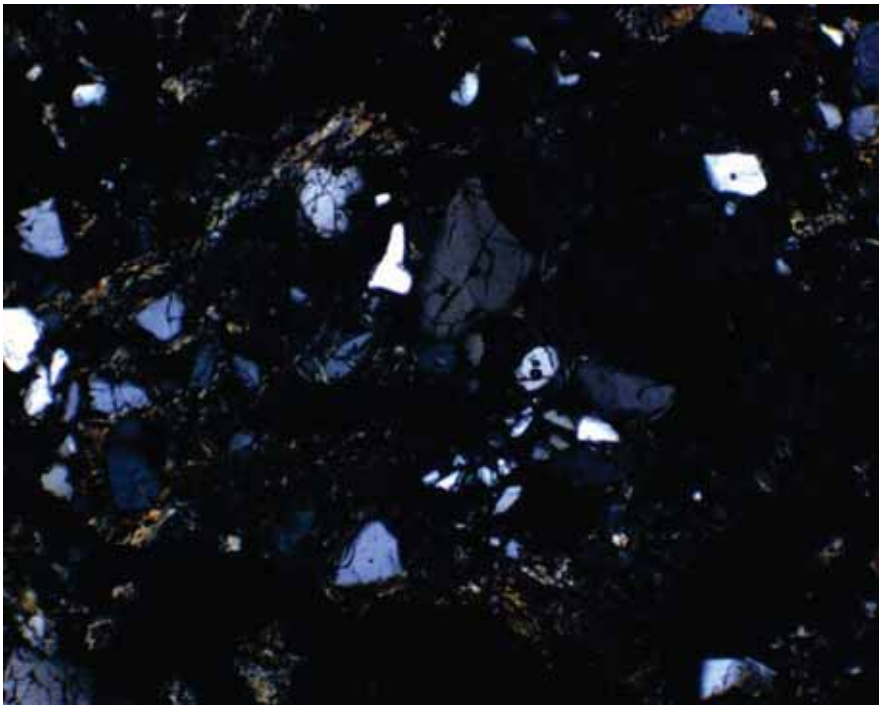
PHOTO 1 CCR13A 27.8-28.2	 Minor subangular quartz grins in a clay and wavellite matrix. Plane light.
PHOTO 2 CCR13A 27.8-28.2	 Minor subangular quartz grins in a clay and wavellite matrix. Polarized light.

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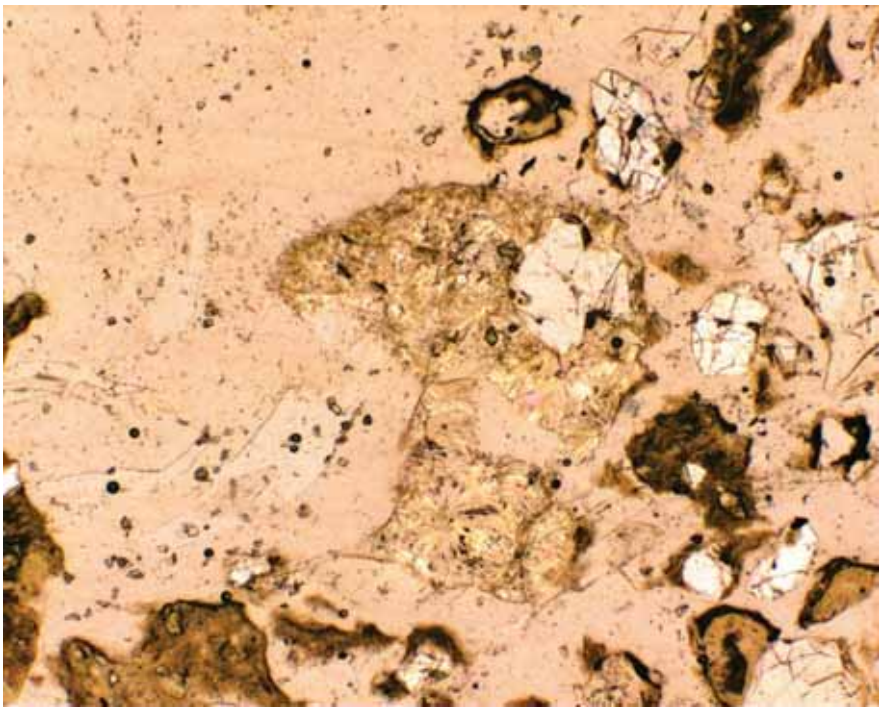
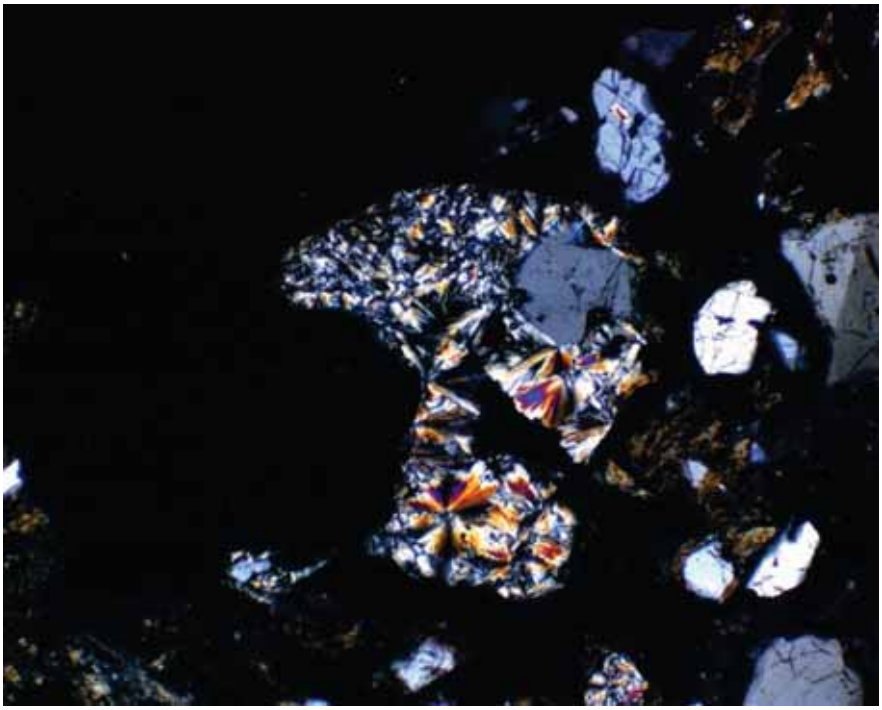
PHOTO 3 CCR13A 27.8-28.2	 Wavellite cement around an angular quartz grain. Plane light.
PHOTO 4 CCR13A 27.8-28.2	 Wavellite cement around an angular quartz grain. Polarized light.

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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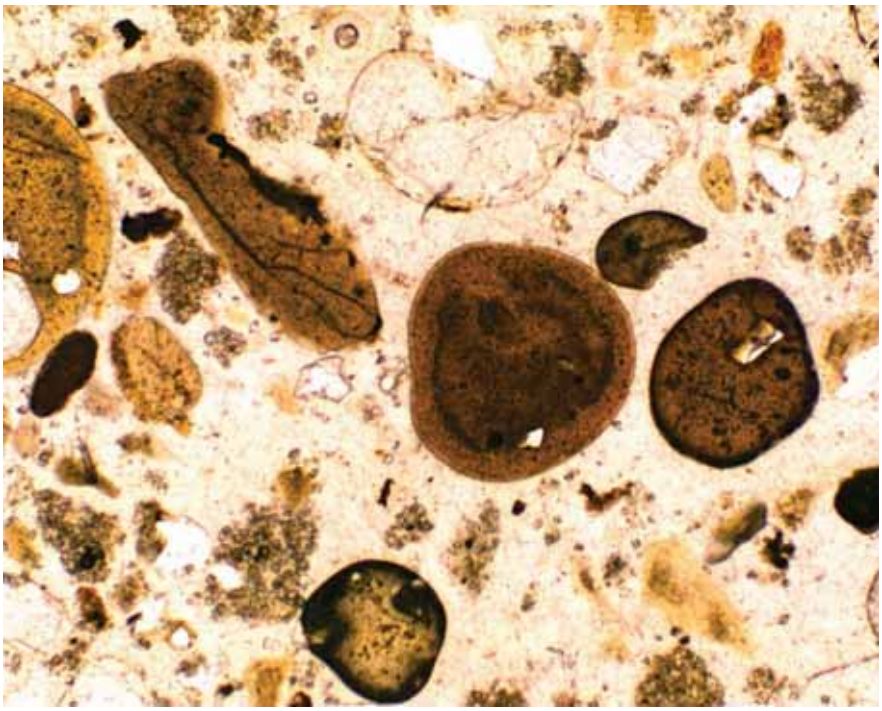
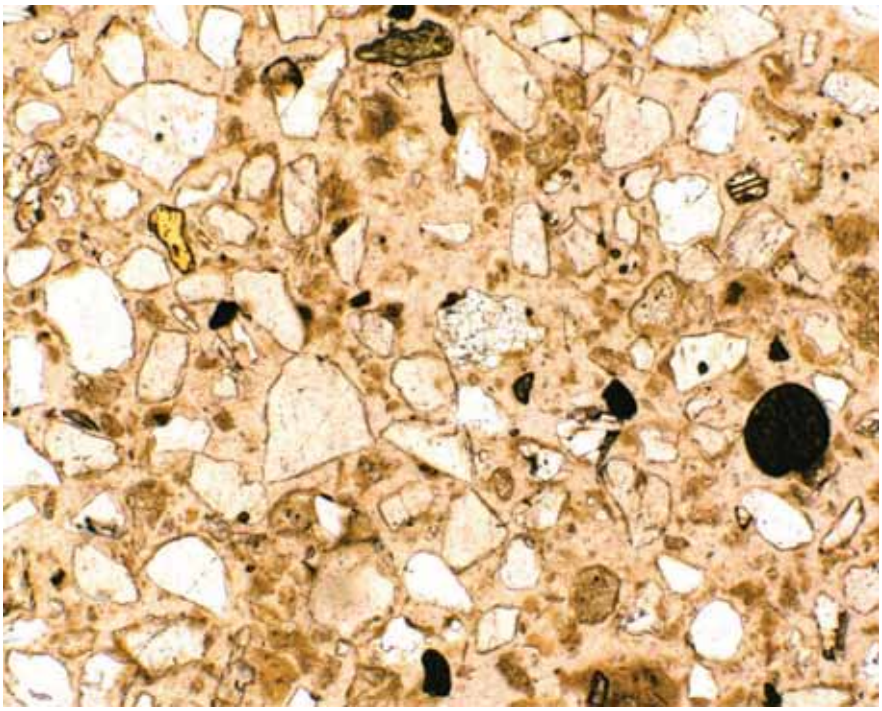
PHOTO 1 CCR14A 28.3-28.66	 Collophane apatite “balls” in a clay matrix. Plane light
PHOTO 2 CCR14A 16.5-18.0	 Subangular to subrounded quartz grains in a kaolinite and wavellite matrix (brown). Yellow mineral is staurolite, striated high-relief mineral is kyanite, and large round mineral is rutile. Plane 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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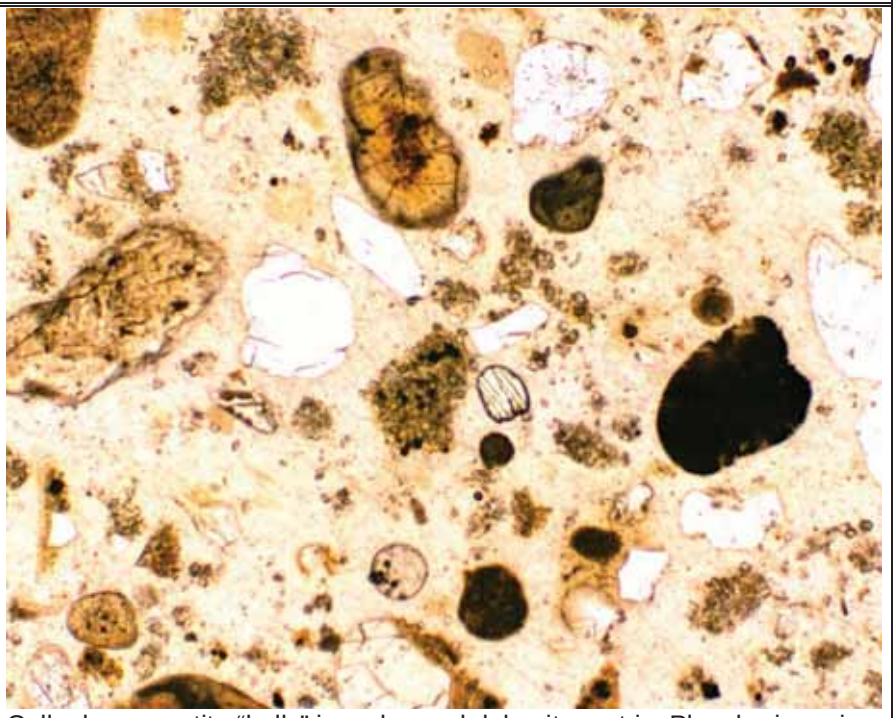
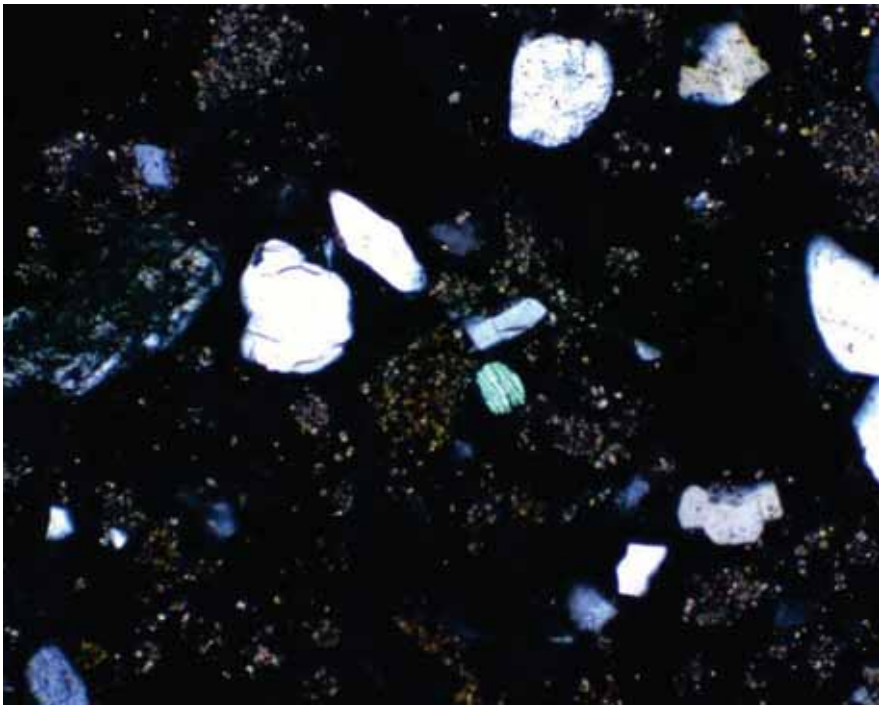
PHOTO 3 CCR14A 28.3-28.66	 Collophane apatite “balls” in a clay and dolomite matrix. Pleochroic grain near the center of the image is staurolite. Plane light.
PHOTO 4 CCR14A 16.5-18.0	 Collophane apatite “balls” in a clay and dolomite matrix. Greenish grain near the center of the image is staurolite. 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

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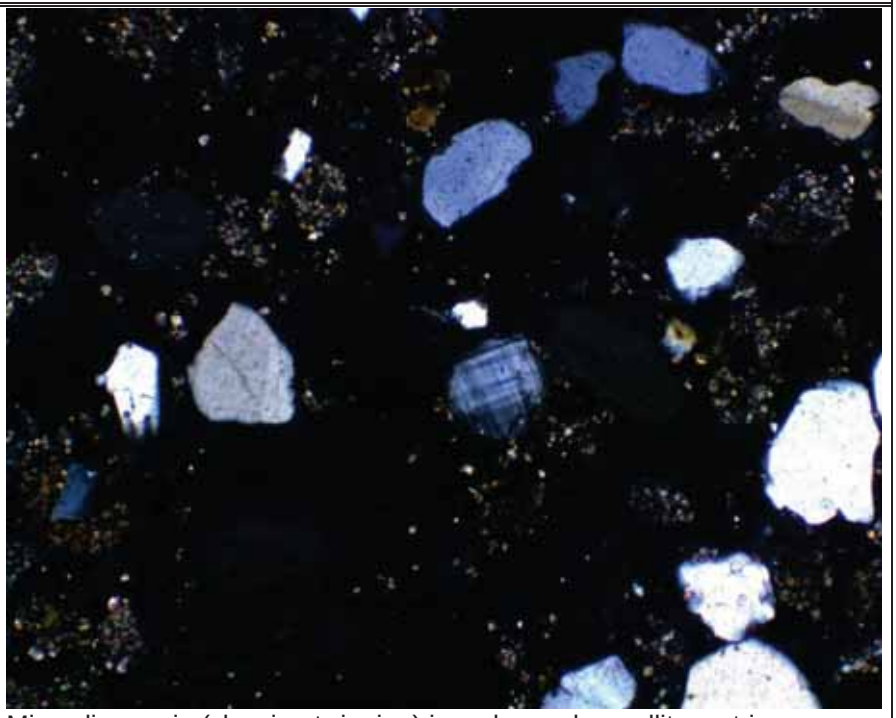
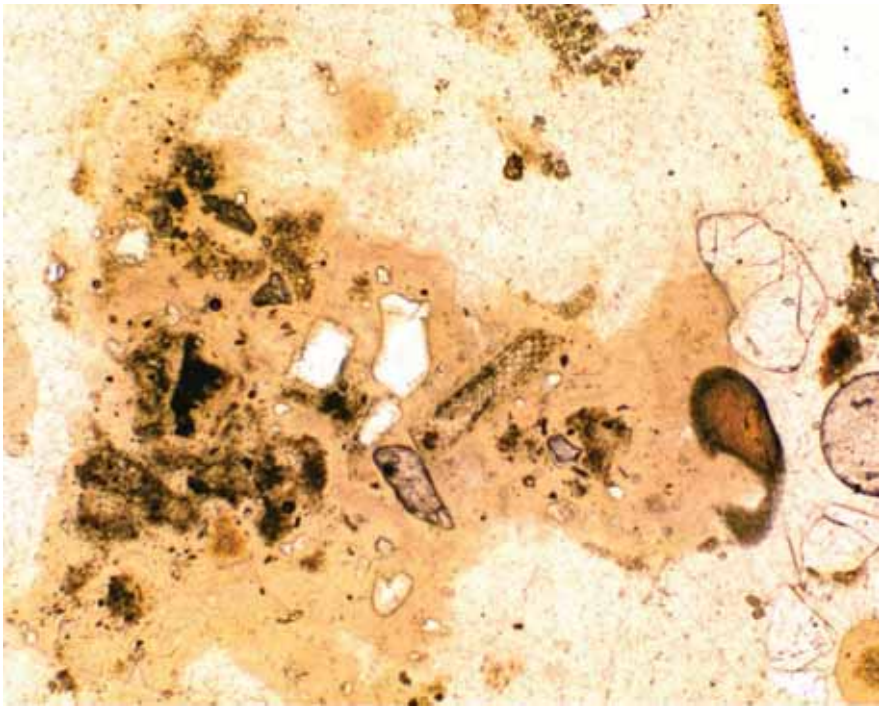
PHOTO 5 CCR14A 28.3-28.66	 Microcline grain (showing twinning) in a clay and wavellite matrix. Polarized light.
PHOTO 6 CCR14A 16.5-18.0	 Fossil fragment (bryozoan?) in a clay-rich matrix . Plane light.

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

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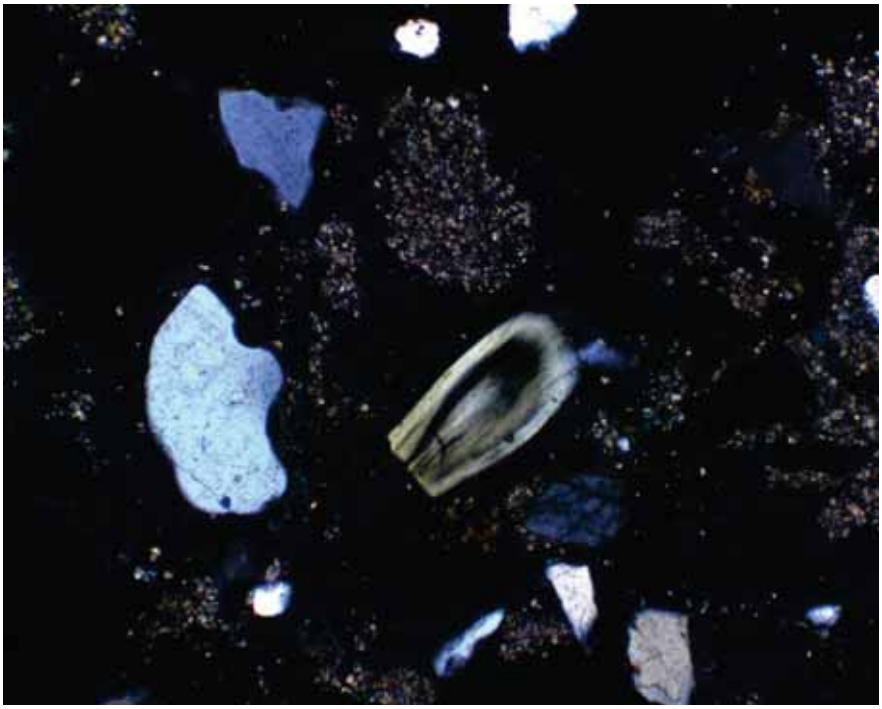
PHOTO 7 CCR14A 28.3-28.66	 Phosphatic bone fragment and collophane “balls” in a dolomitic, clay-rich matrix (brown). Polarized light.
PHOTO 8 CCR14A 16.5-18.0	 Phosphatic bone fragment and collophane “balls” in a dolomitic, clay-rich matrix (brown). Note undulatory extinction. Polarized light.

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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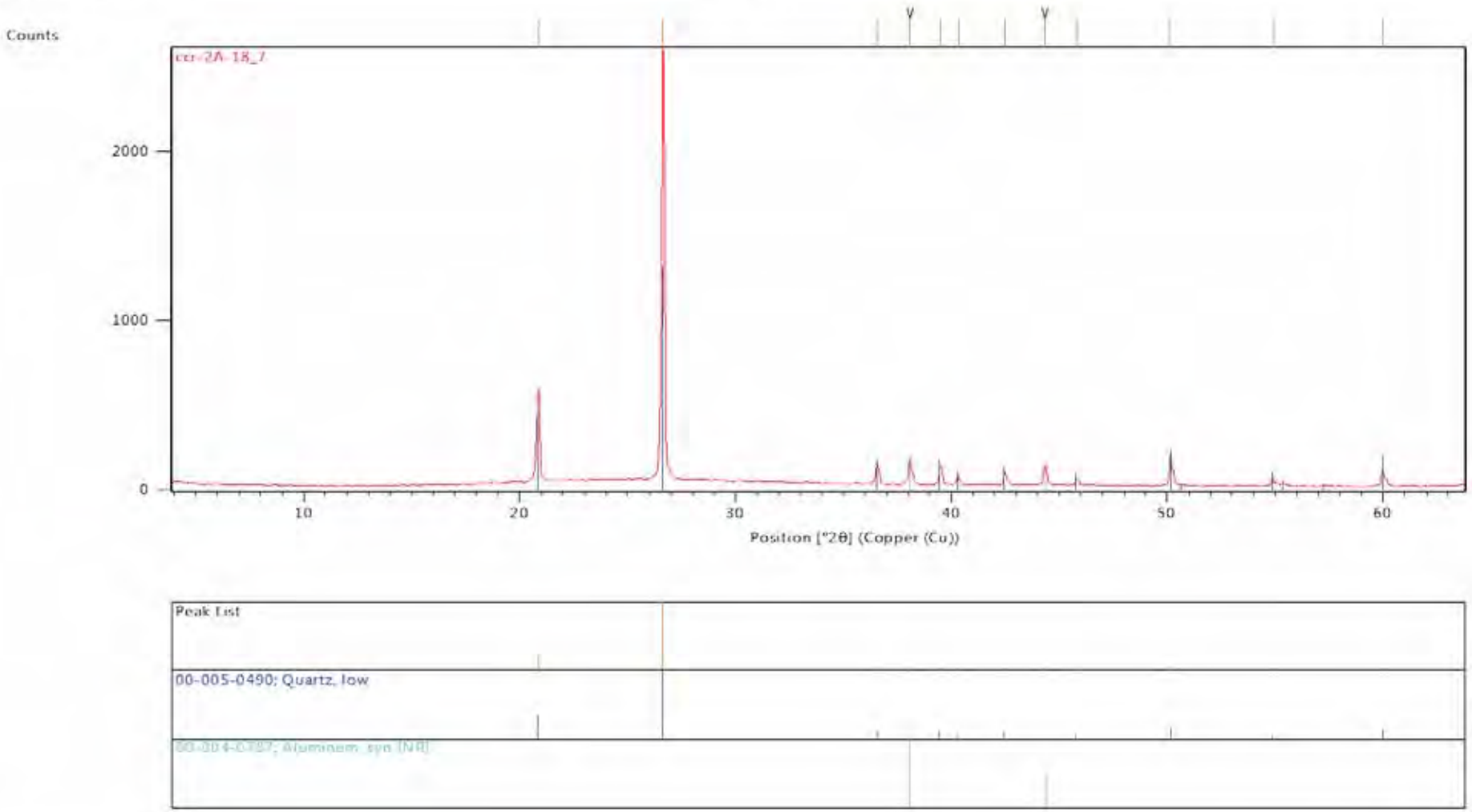
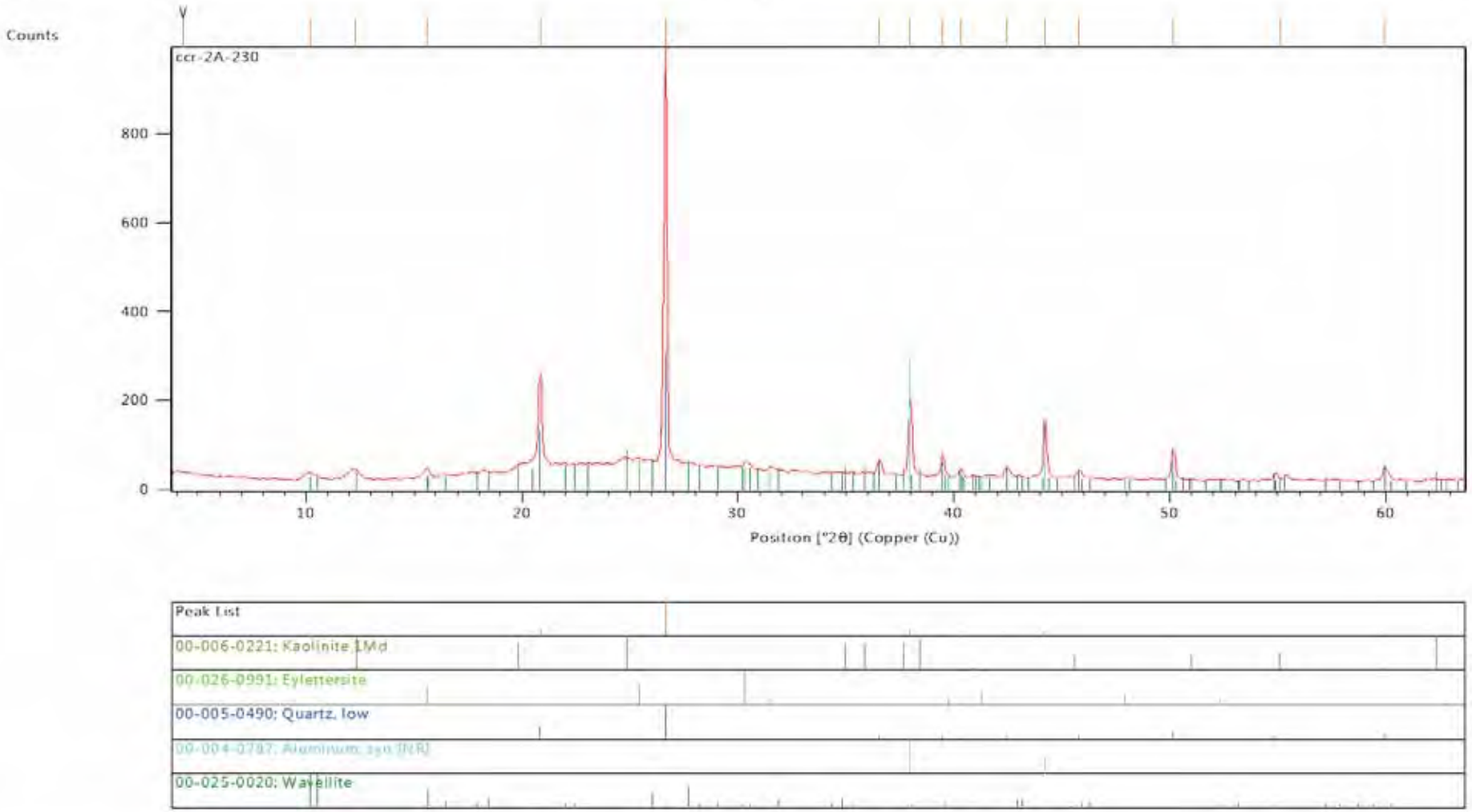
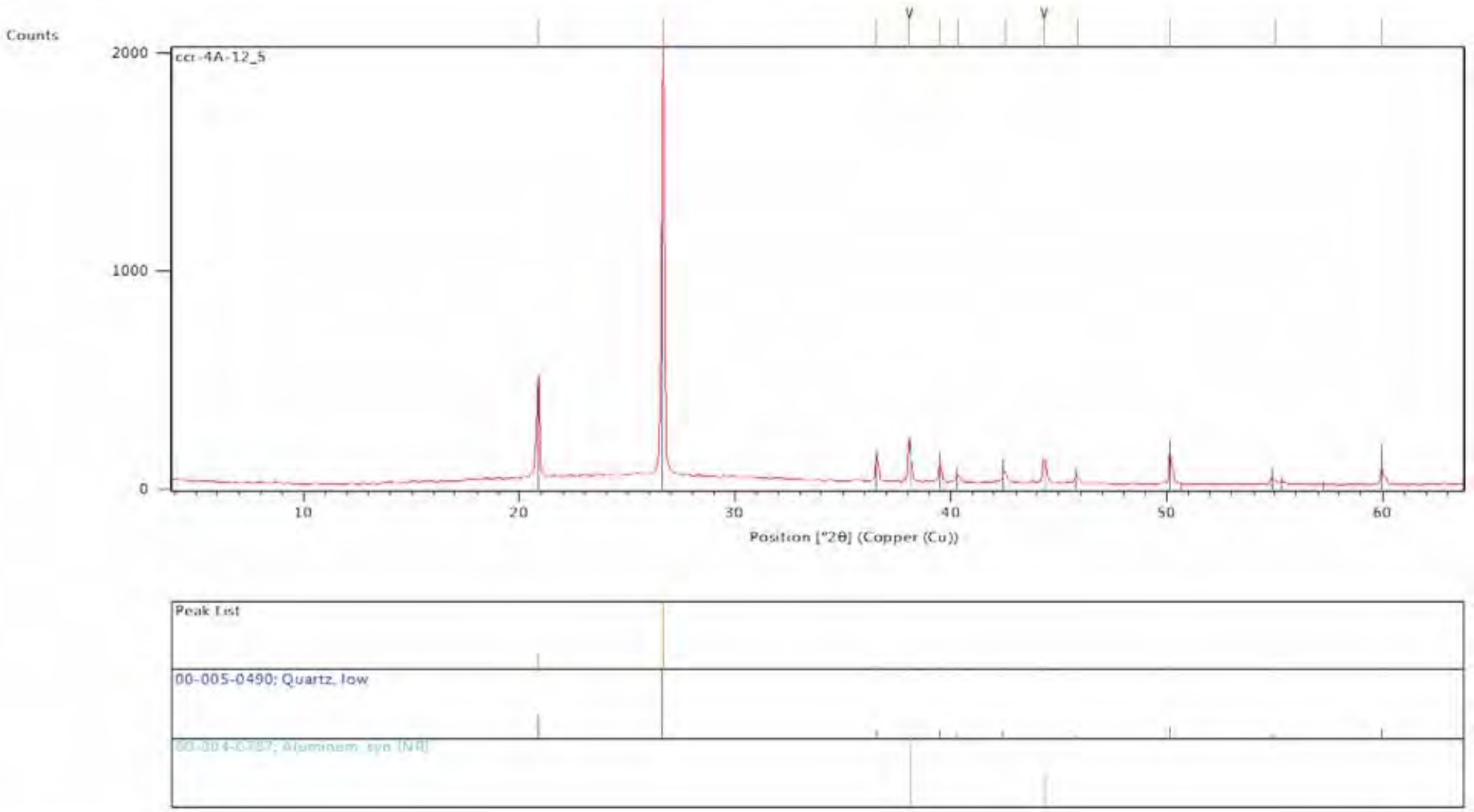
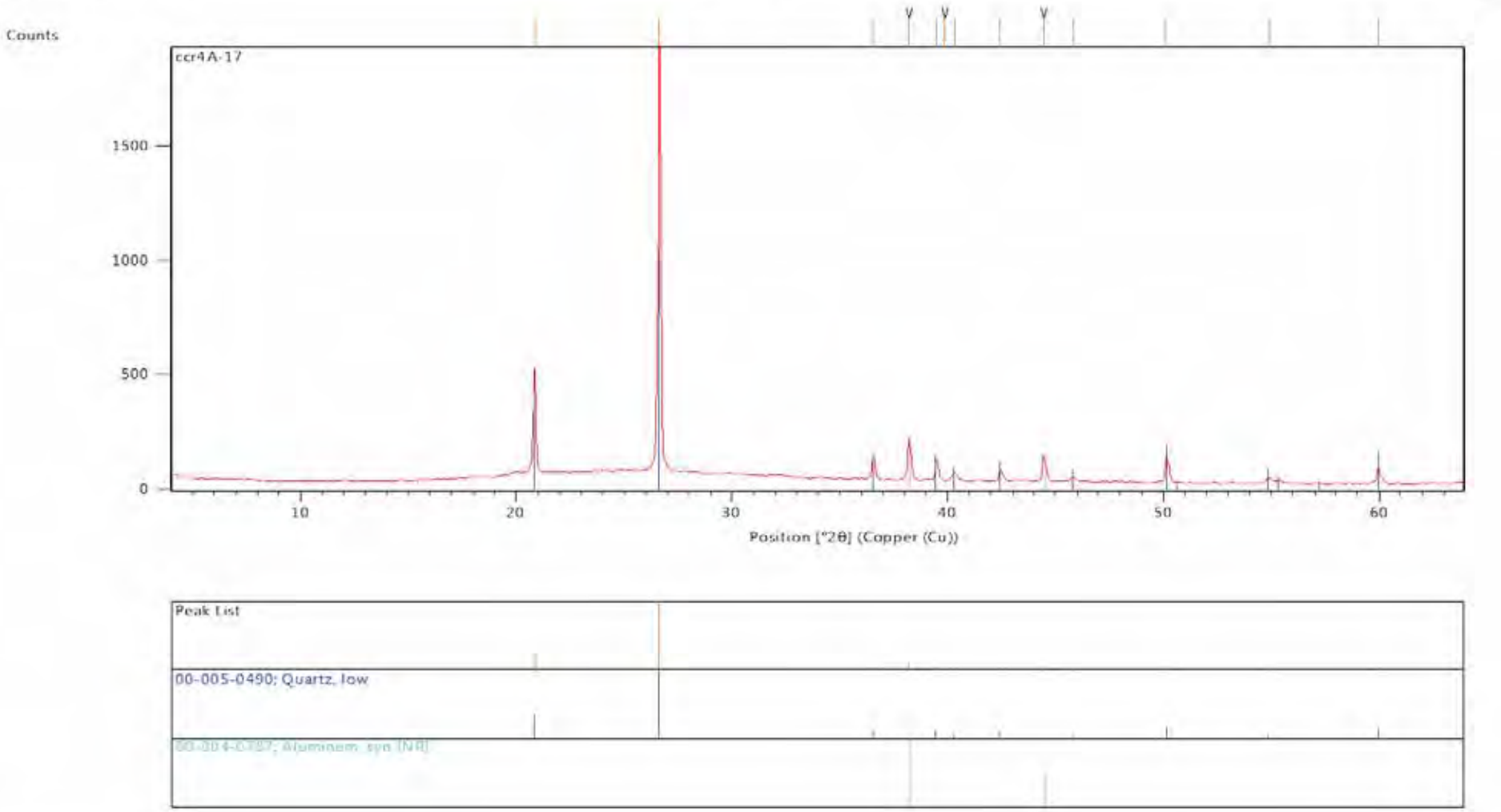
ATTACHMENT 2

QUALITATIVE X-RAY DIFFRACTION DATA

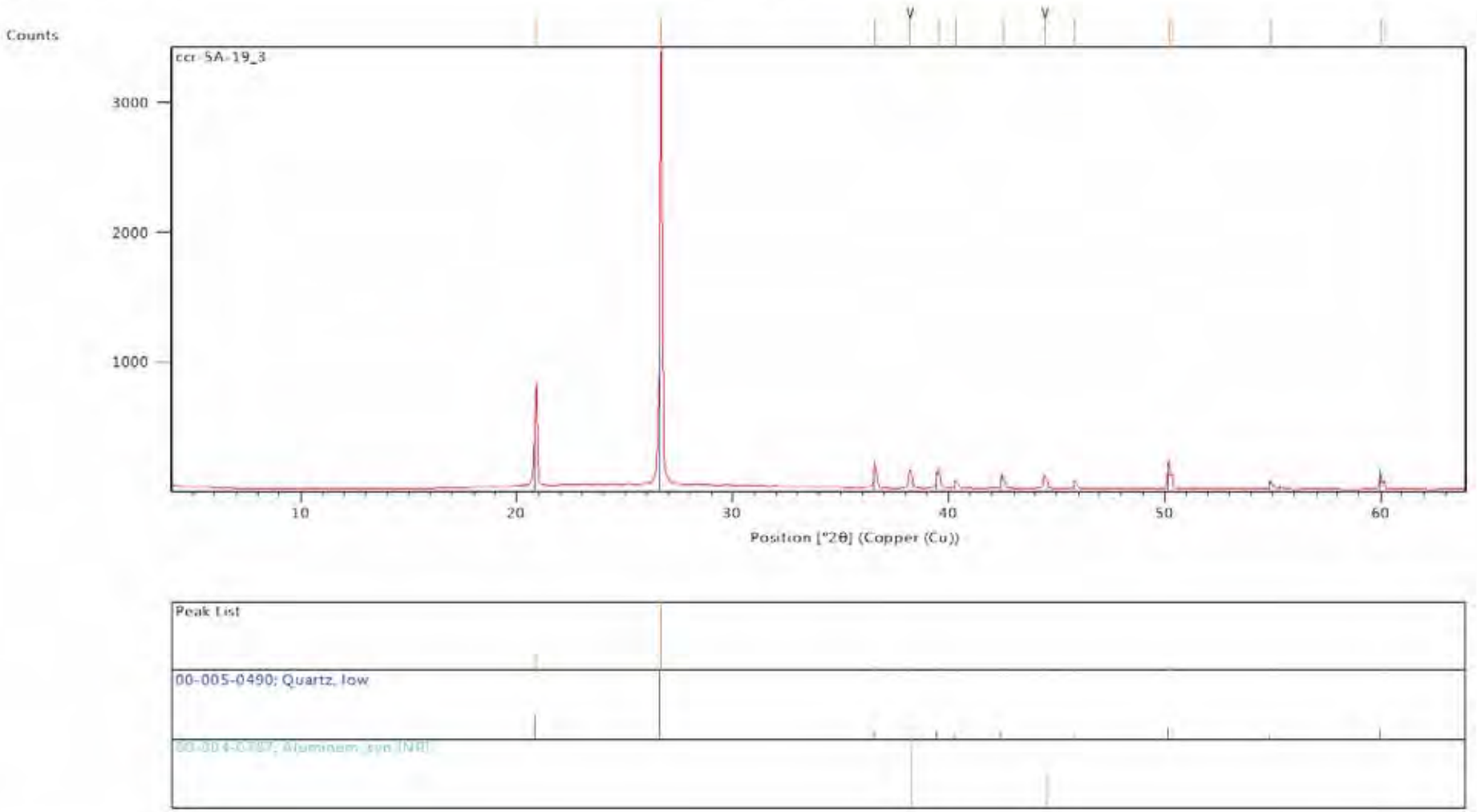

Counts
ccr-2A-18_7
2000
1000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490; Quartz, low
00-004-0787; Aluminum, syn [NR]

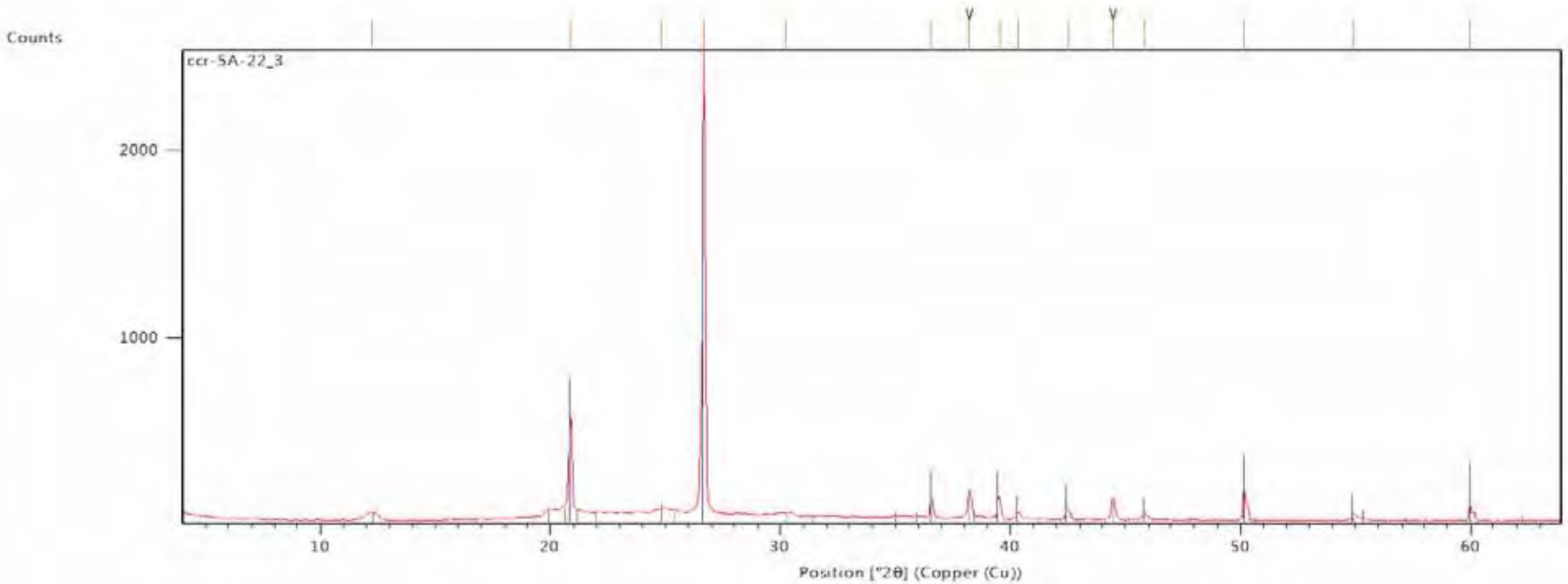

Counts
ccr-2A-230
800
600
400
200
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-006-0221: Kaolinite 1Md
00-026-0991: Eyelettersite
00-005-0490: Quartz, low
00-004-0787: Aluminum, syn [NR]
00-025-0020: Wavellite


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]

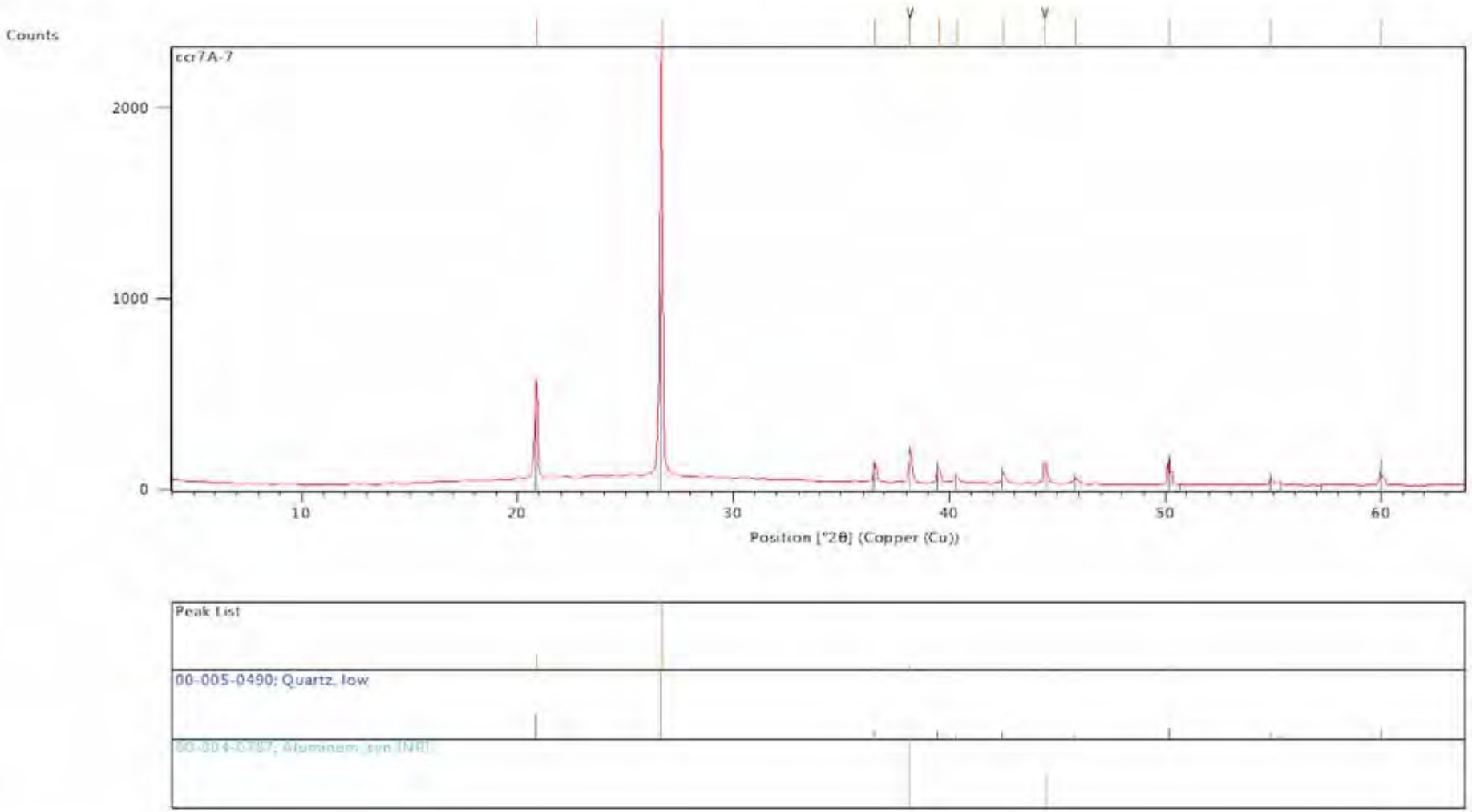

Counts
ccr4A-17
1500
1000
500
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490; Quartz, low
00-004-0787; Aluminum, syn [NR]

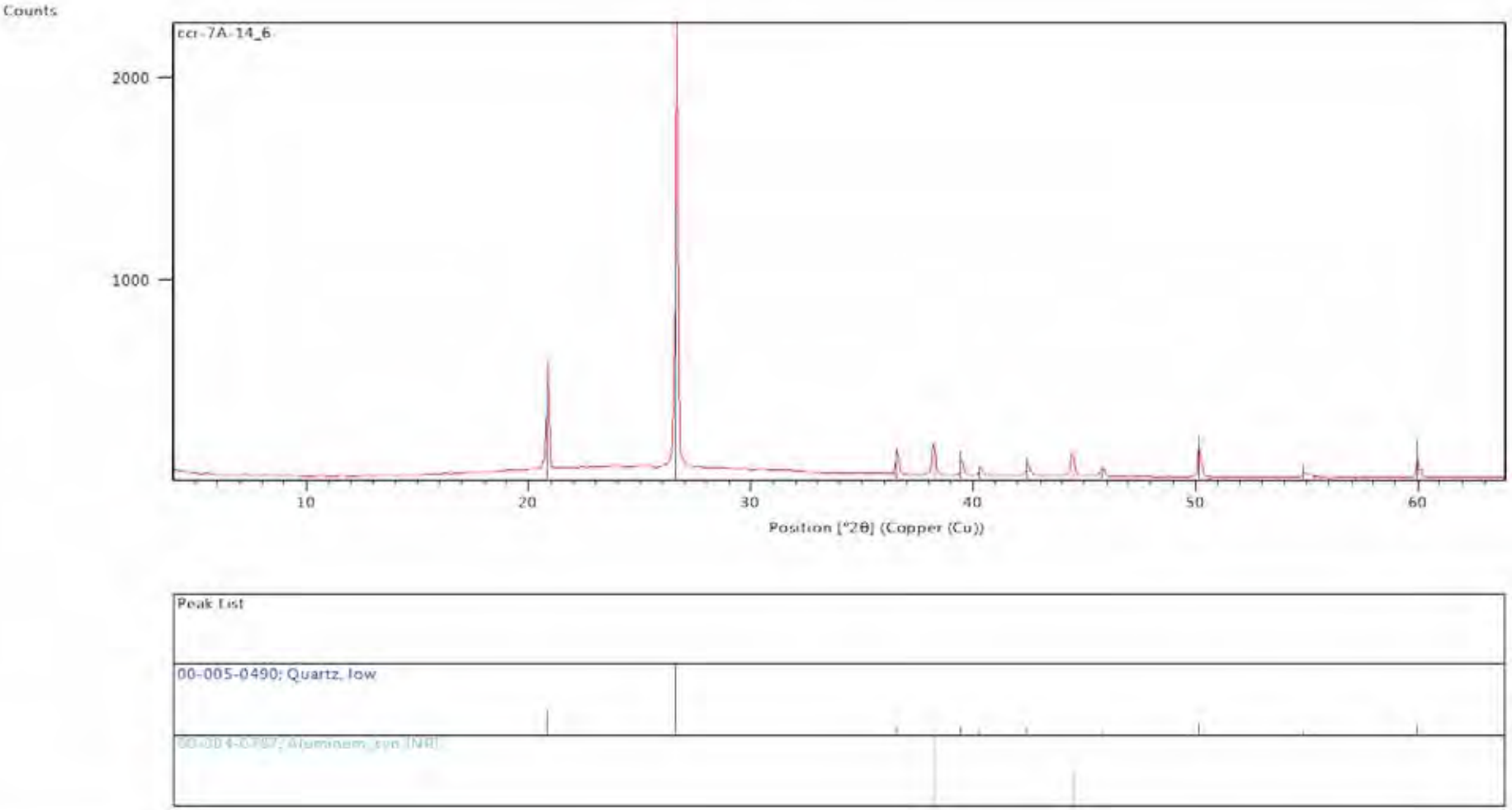

Counts
ccr4A-26_1
400
200
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490: Quartz, low
00-027-0019: Wavellite

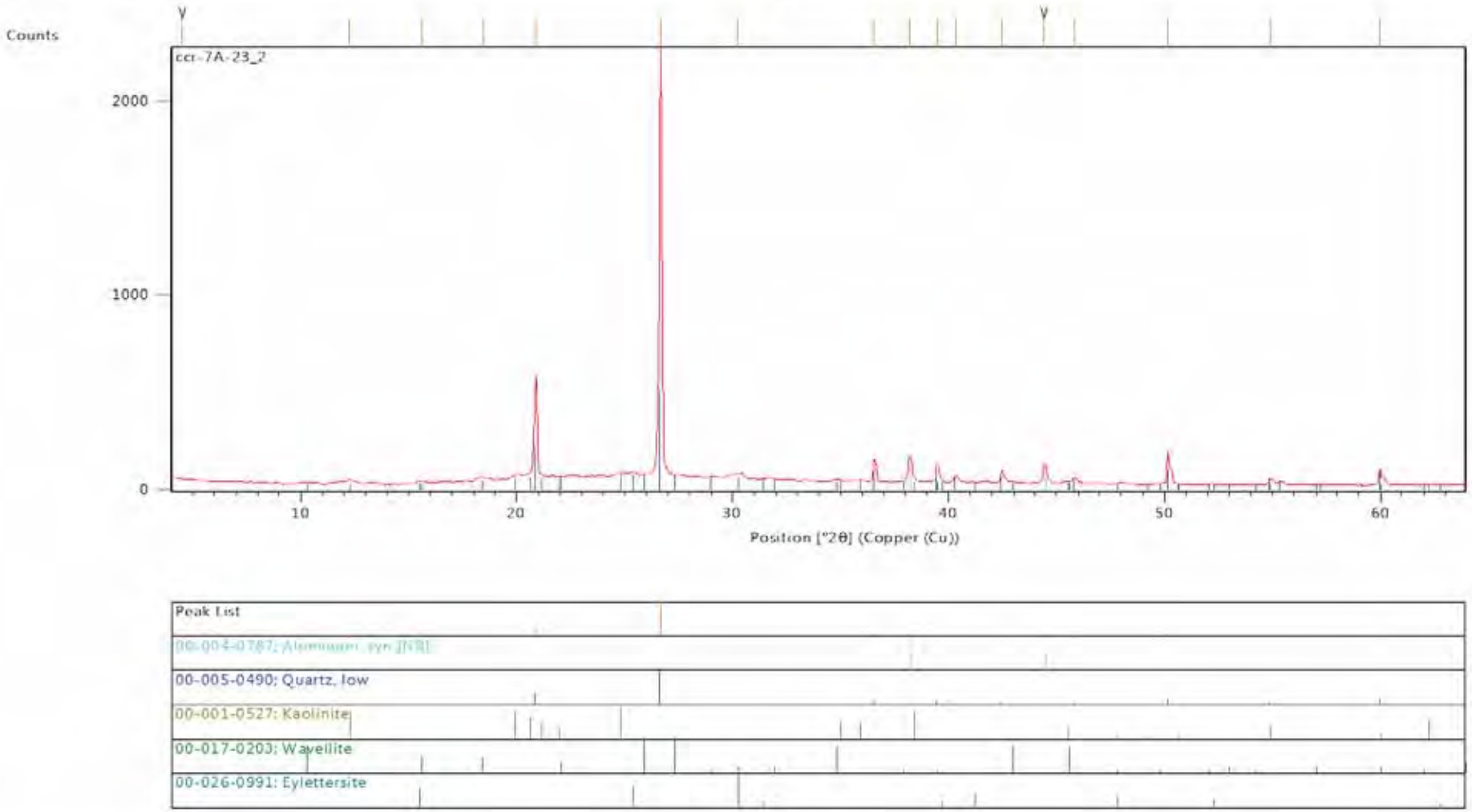

Counts
ccr-5A-19_3
3000
2000
1000
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490; Quartz, low
00-004-0787; Aluminum, syn (NR)

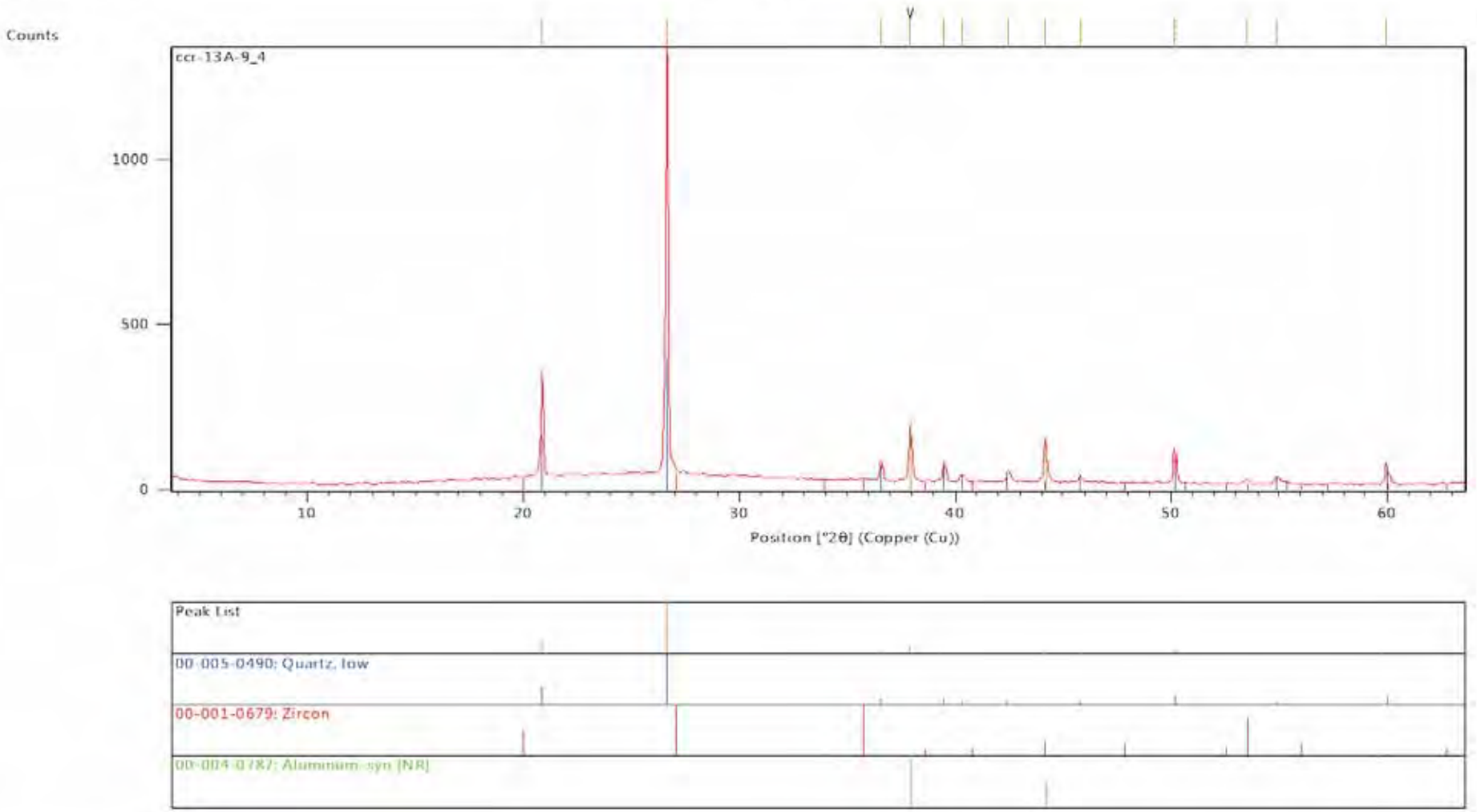

Counts
ccr-5A-22_3
2000
1000
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))

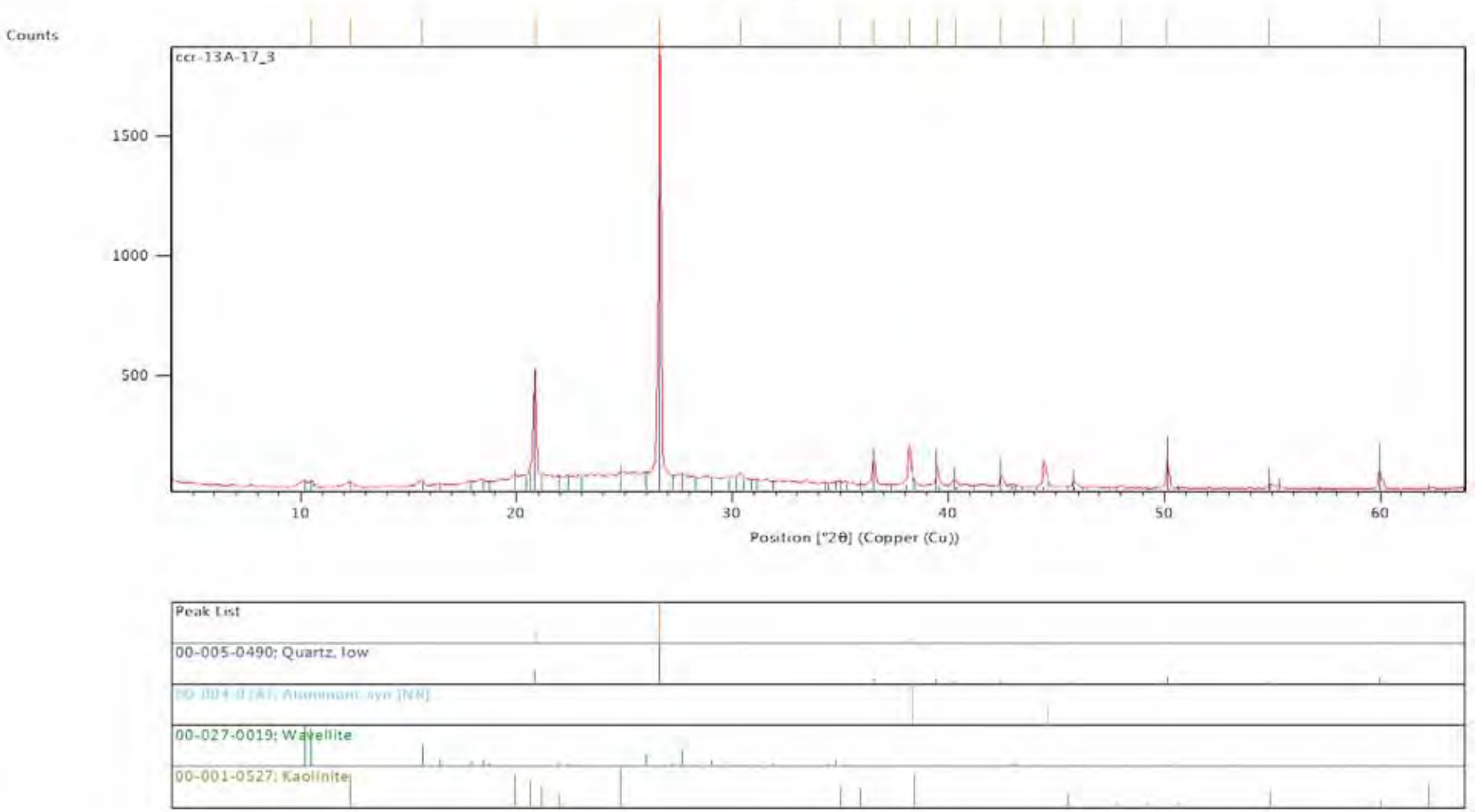

Residue + Peak List
00-005-0490: Quartz, low
00-026-0991: Eyelletersite
00-001-0527: Kaolinite

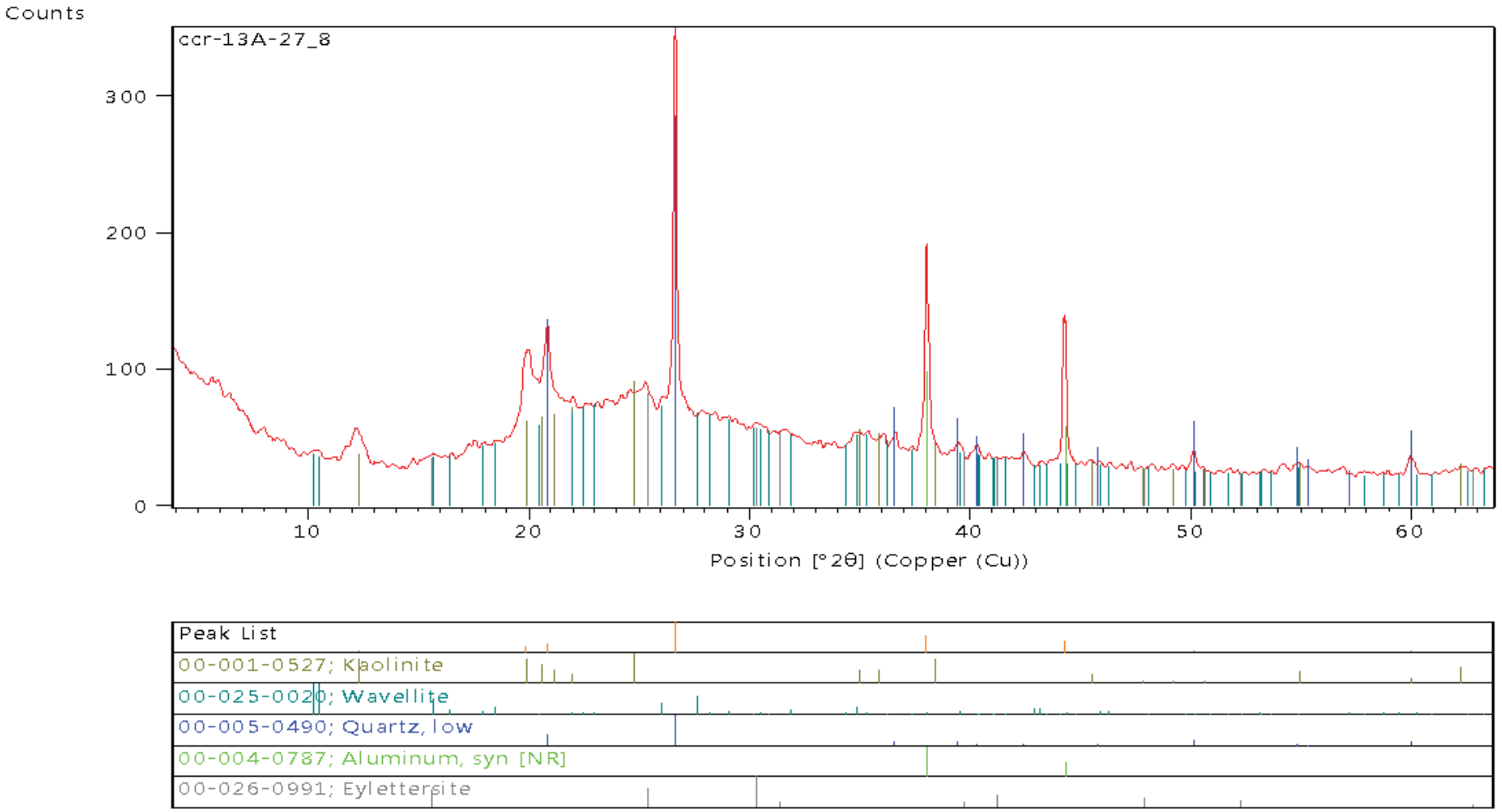

Counts
ccr7A-7
2000
1000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490; Quartz, low
00-004-0787; Aluminum, syn [NR]

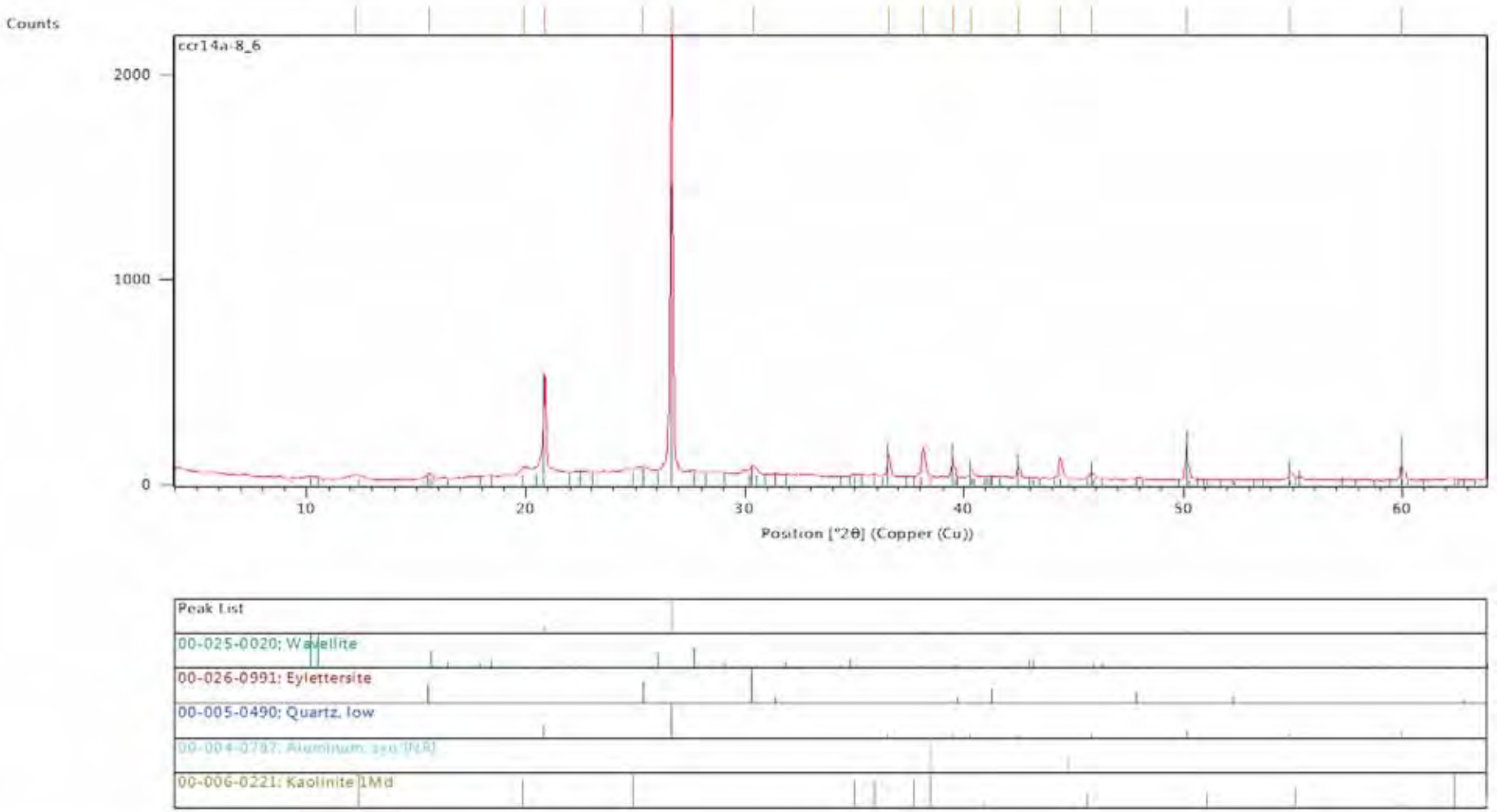

Counts
ccr-7A-14_6
2000
1000
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490; Quartz, low

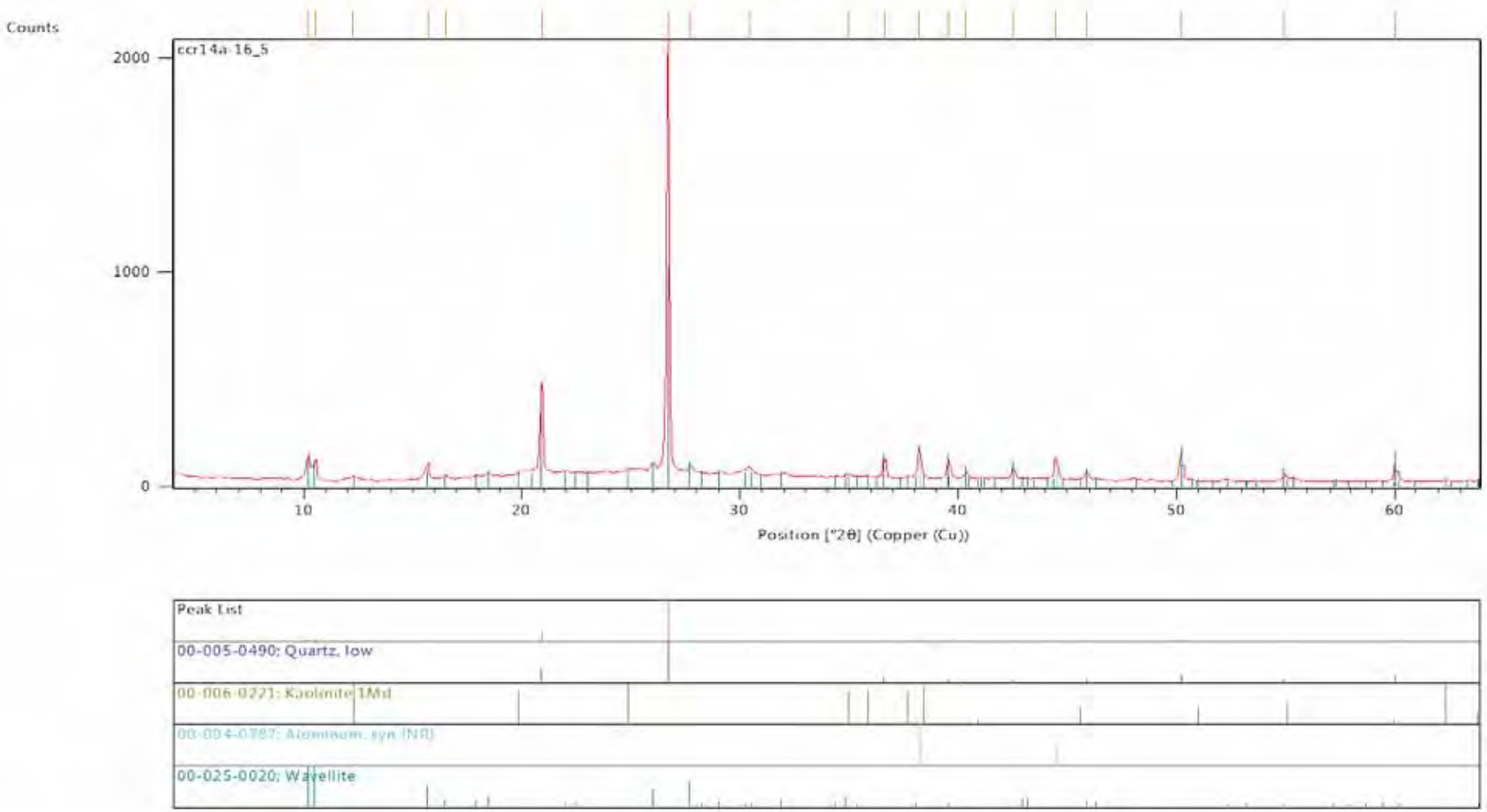

Counts
ccr-7A-23_2
2000
1000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490; Quartz, low
00-001-0527; Kaolinite
00-017-0203; Wavellite
00-026-0991; Eylettersite

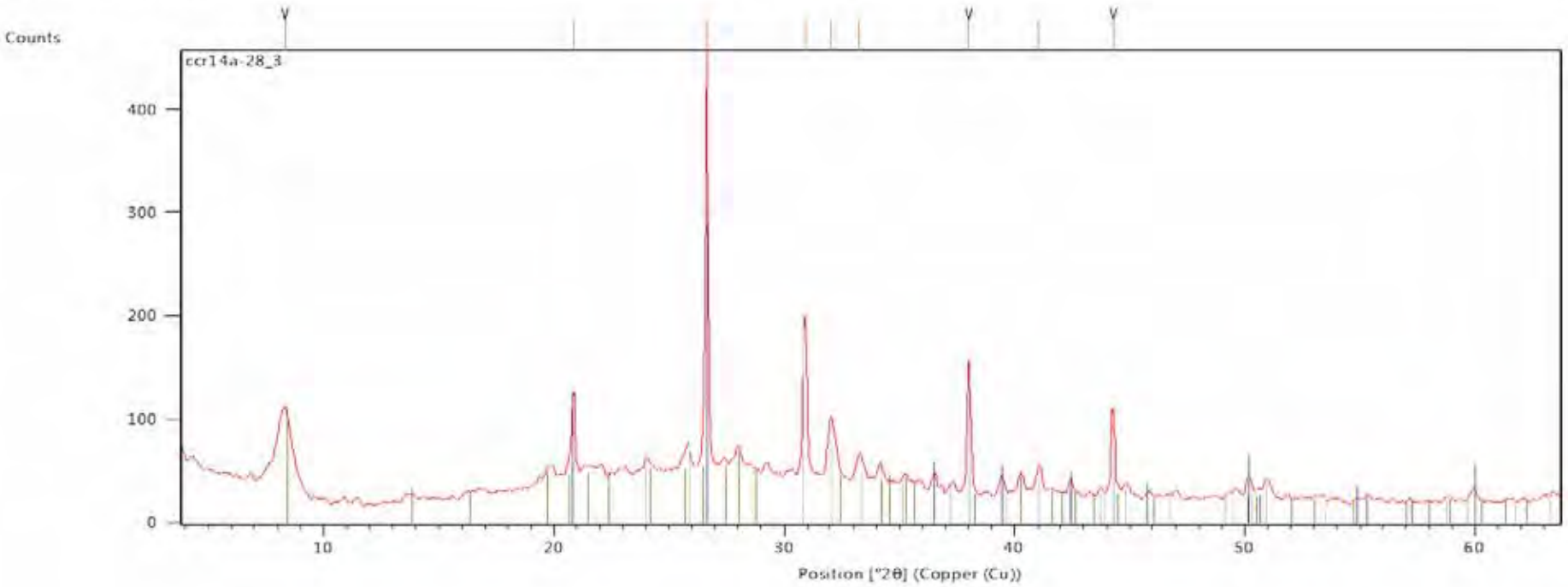

Counts
ccr-13A-9_4
1000
500
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-005-0490: Quartz, low
00-001-0679: Zircon
00-004-0787: Aluminum, syn [NR]


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
00-027-0019: 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



Peak List
[illegible]
00-005-0490; Quartz, low
00-029-0855; Palygorskite
[illegible]
[illegible]

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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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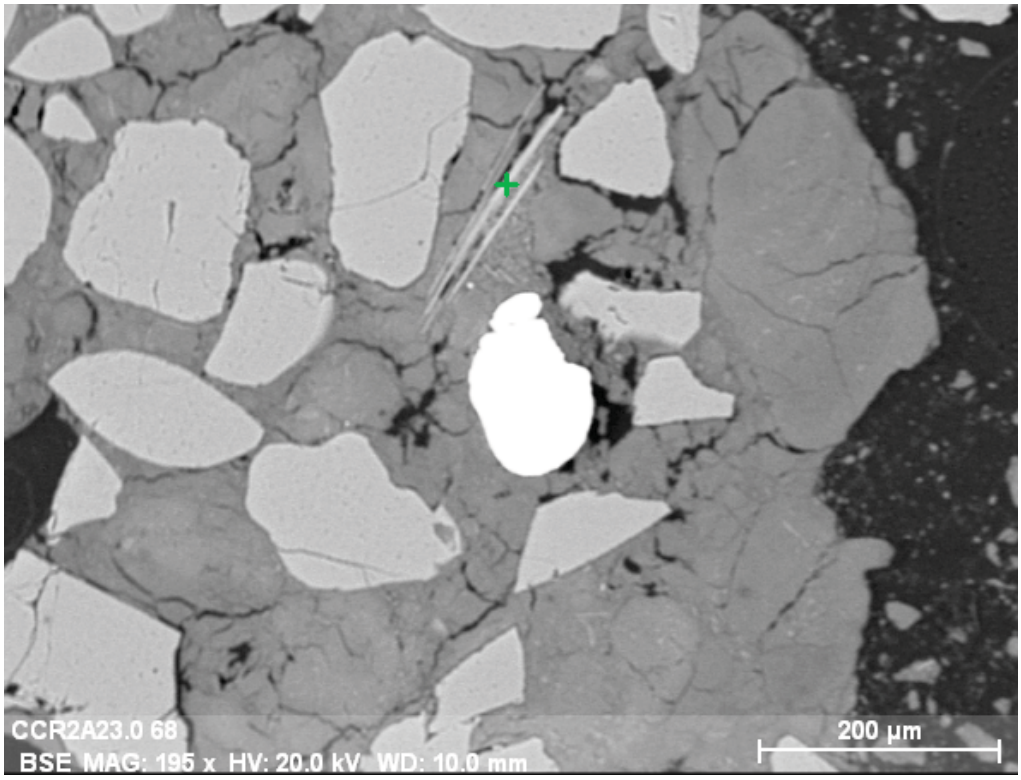
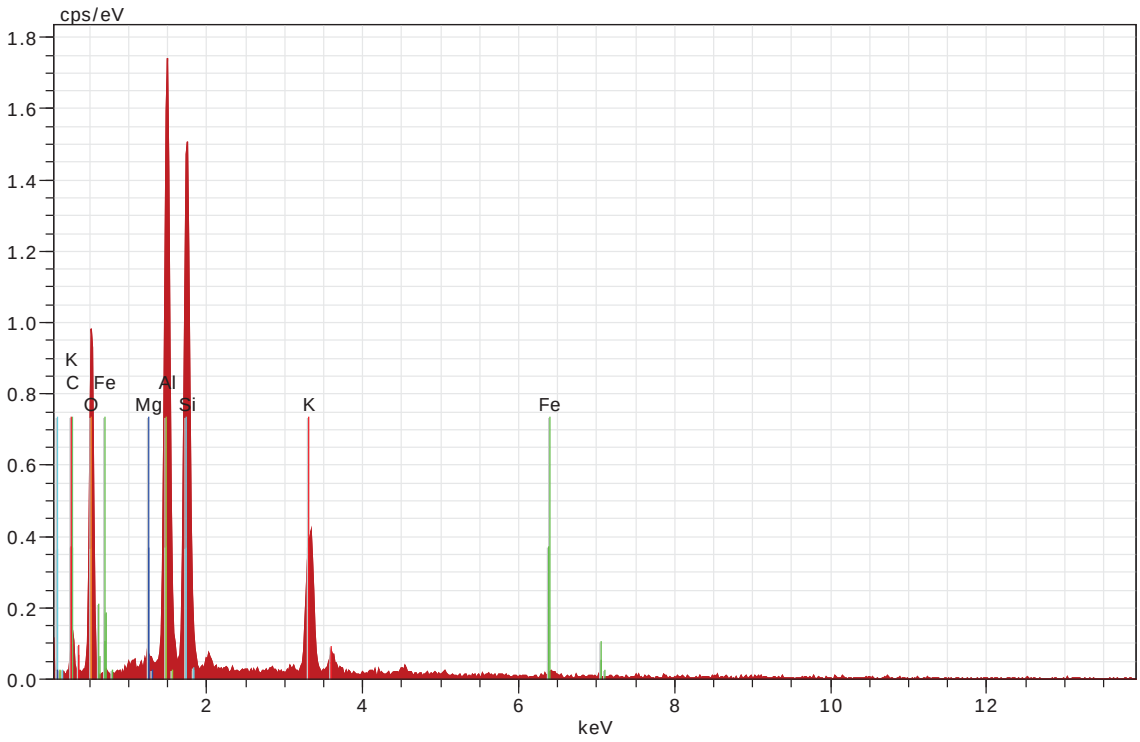
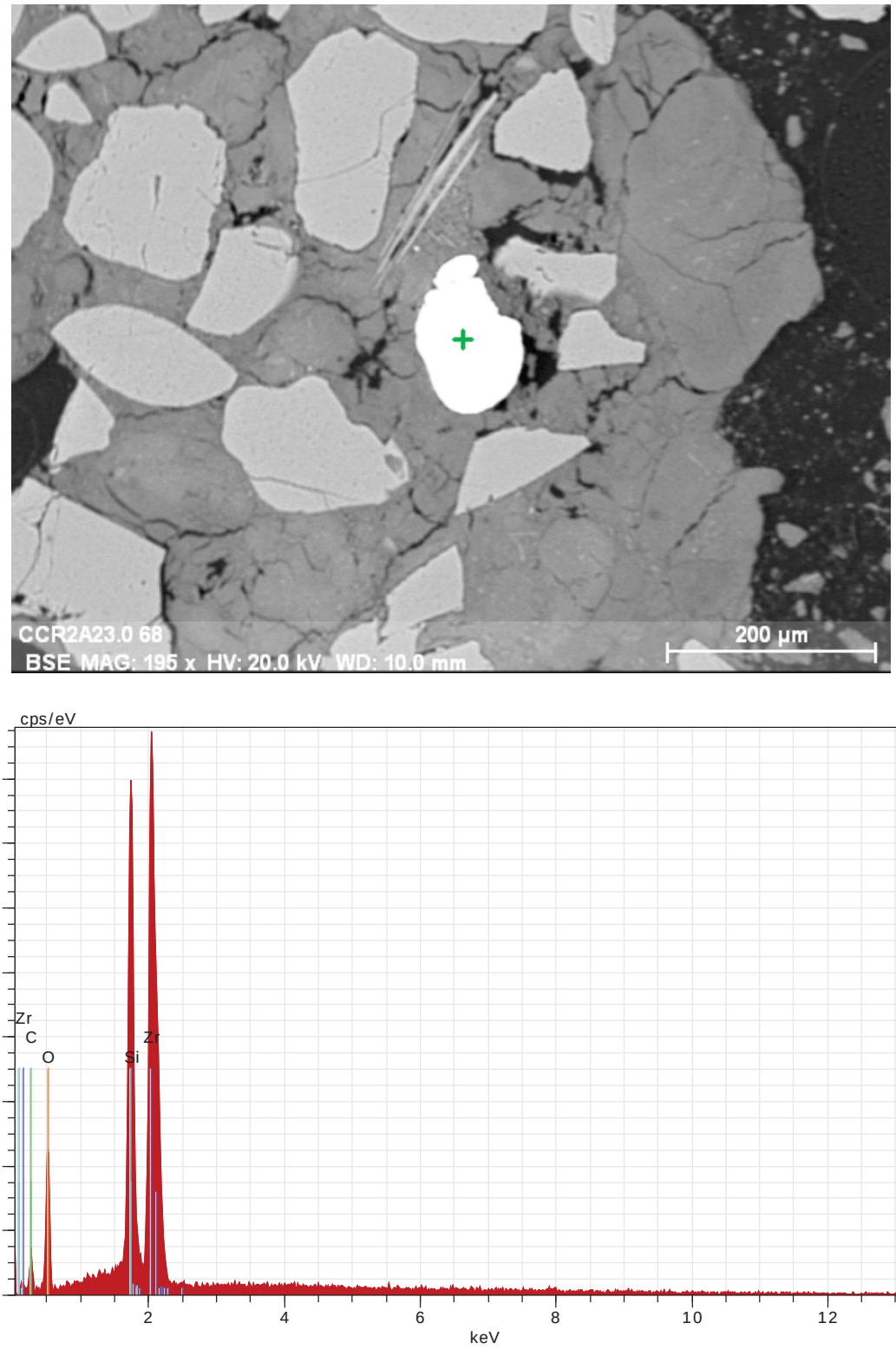
ATTACHMENT 4

SCANNING ELECTRON MICROSCOPY DATA

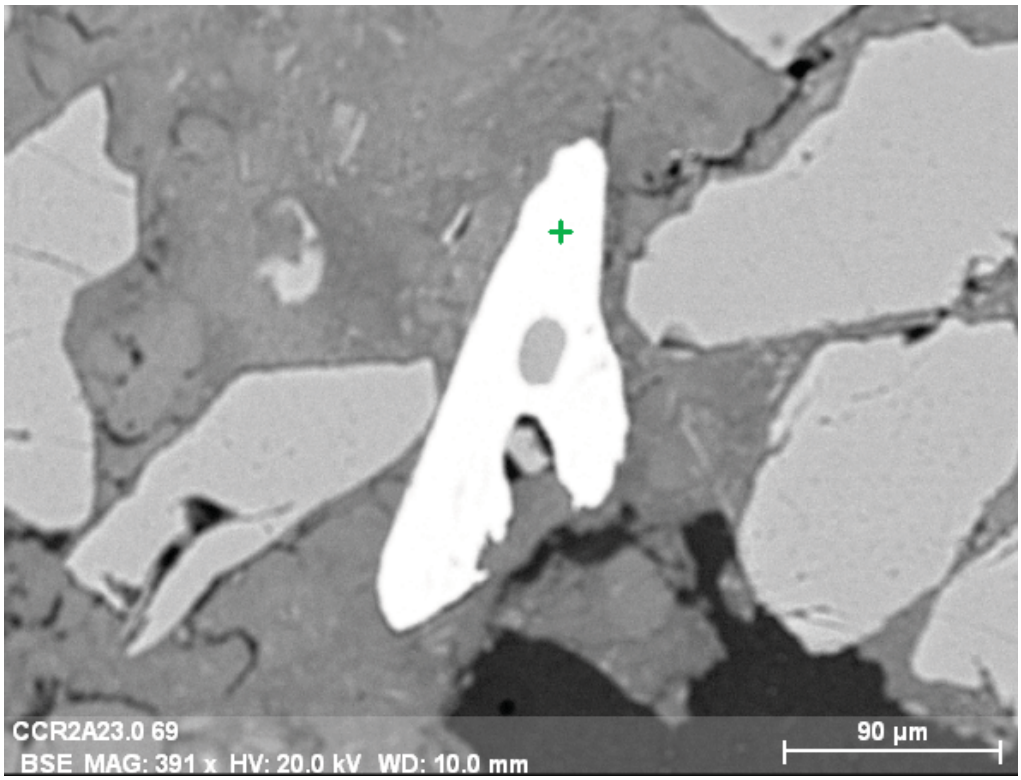


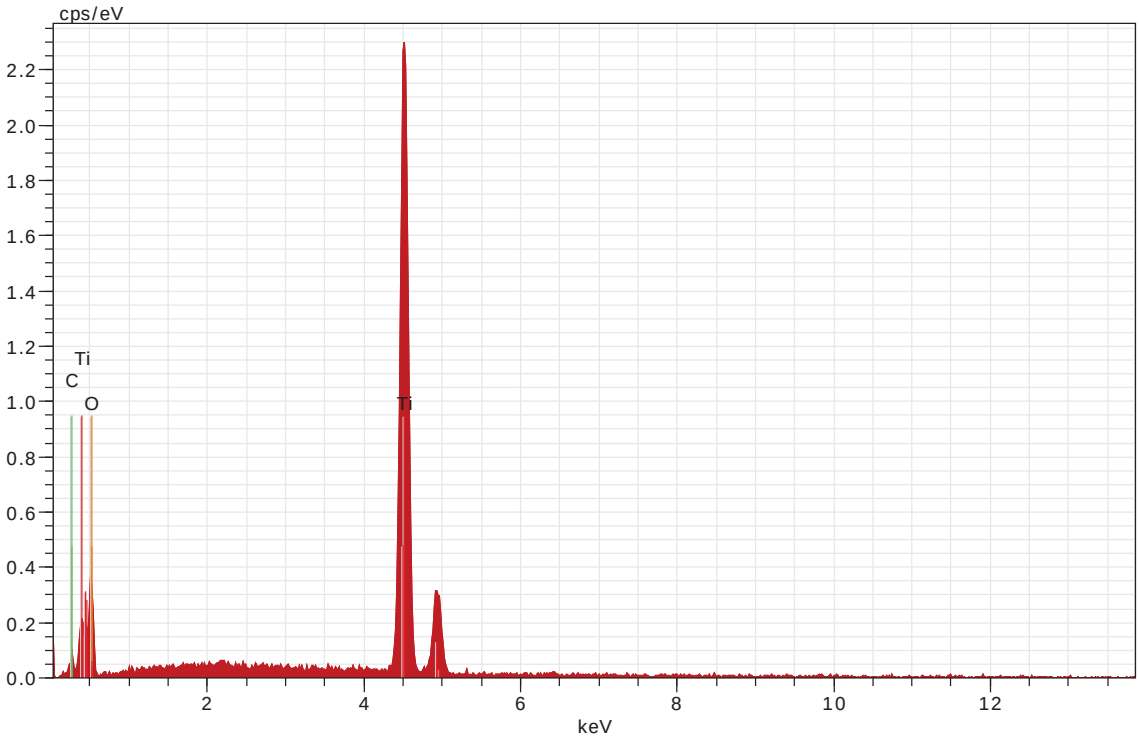


CCR2A 23.0-23.5: BSE image (top) and EDS spectrum (bottom) for muscovite; green crosshair on BSE image marks analysis location.

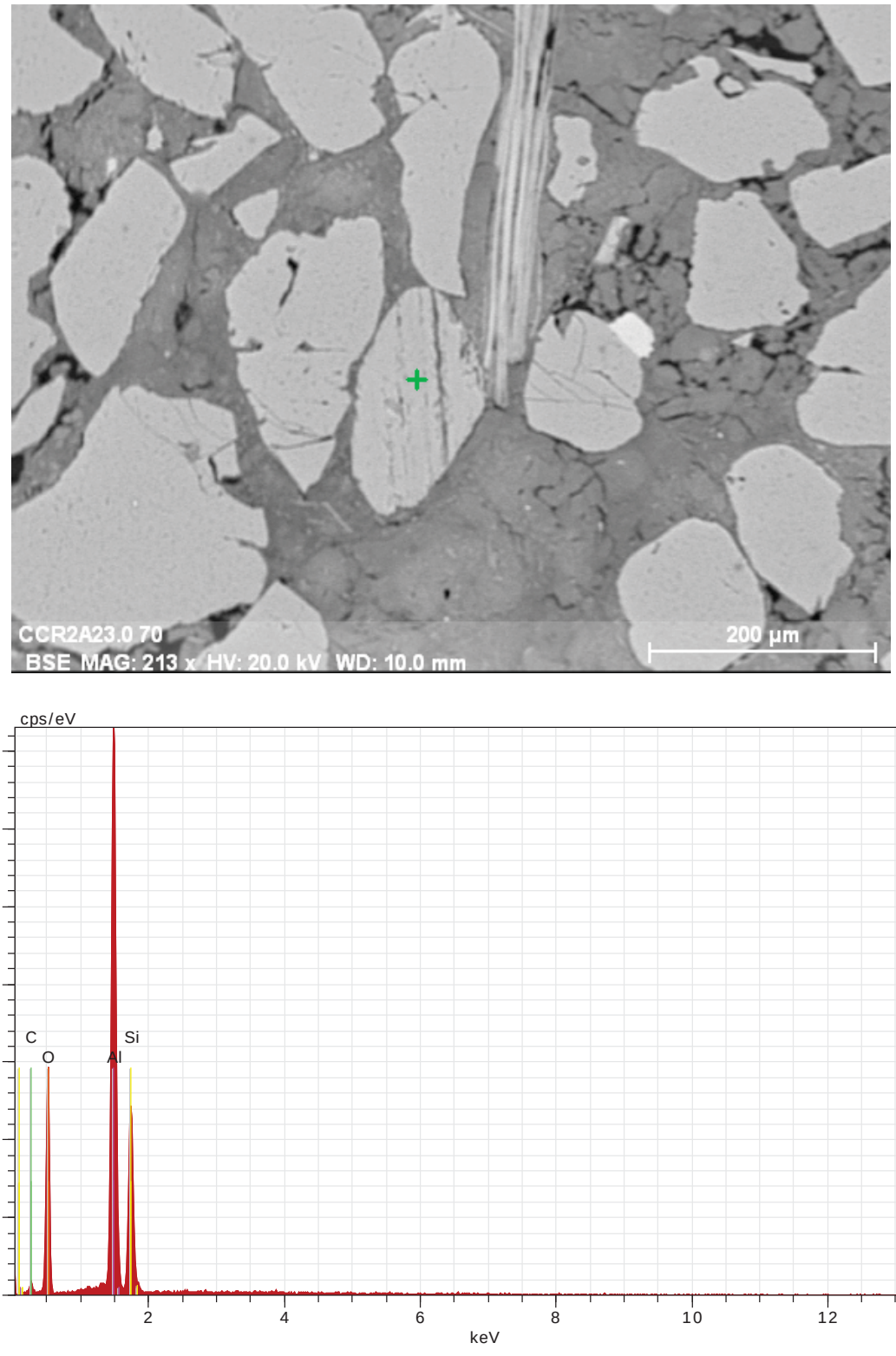


CCR2A 23.0-23.5: BSE image (top) and EDS spectrum (bottom) for zircon; green crosshair on BSE image marks analysis location.

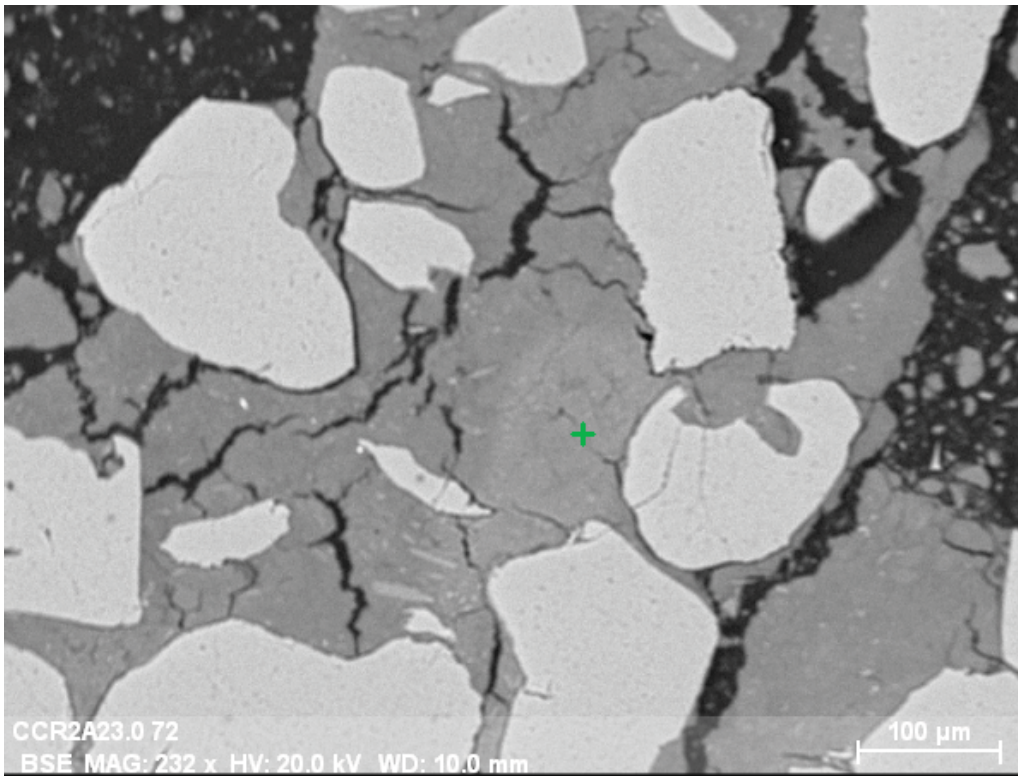


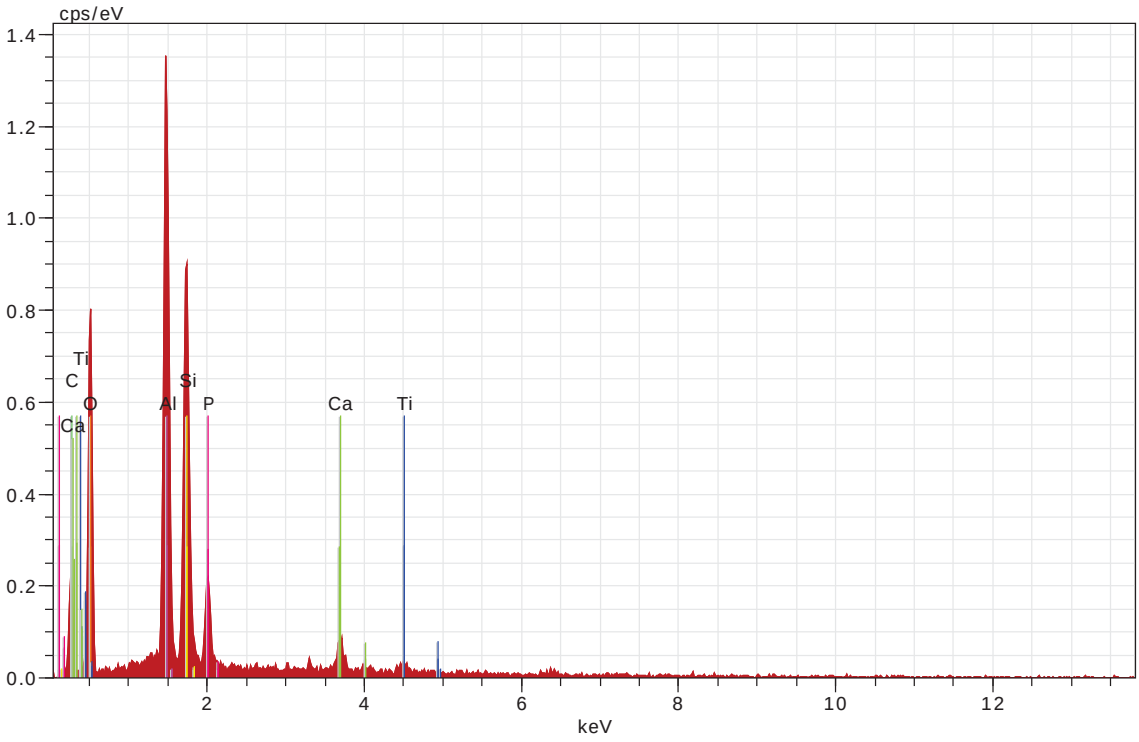


CCR2A 23.0-23.5: BSE image (top) and EDS spectrum (bottom) for rutile; green crosshair on BSE image marks analysis location.

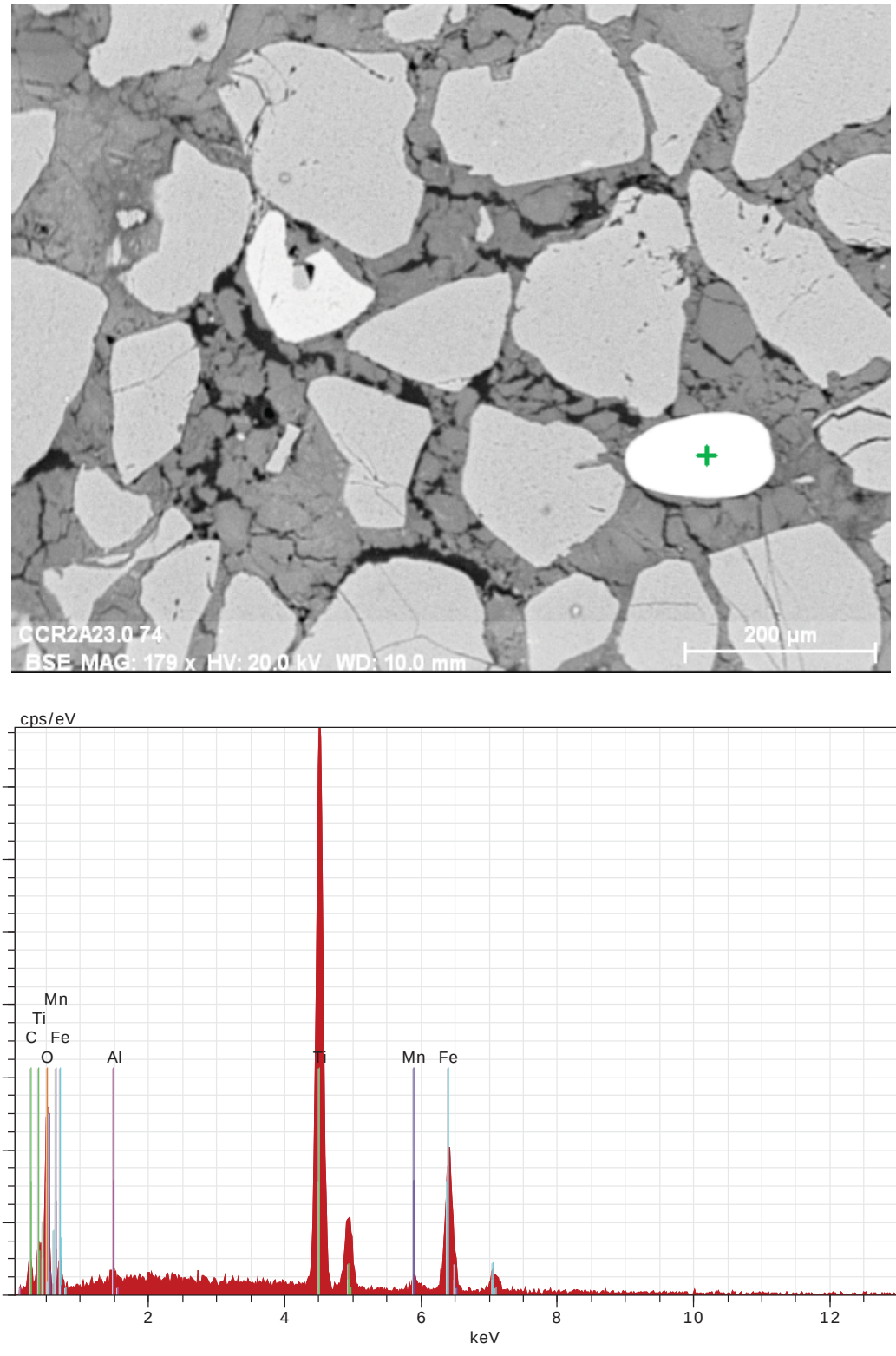


CCR2A 23.0-23.5: BSE image (top) and EDS spectrum (bottom) for kyanite; green crosshair on BSE image marks analysis location.

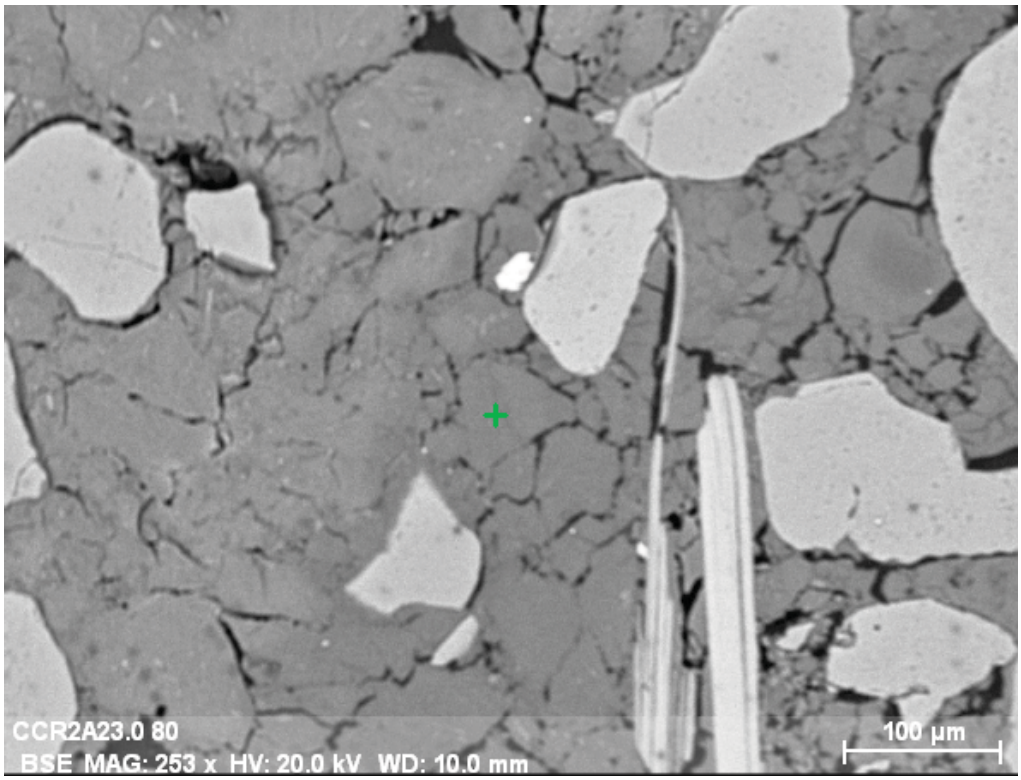


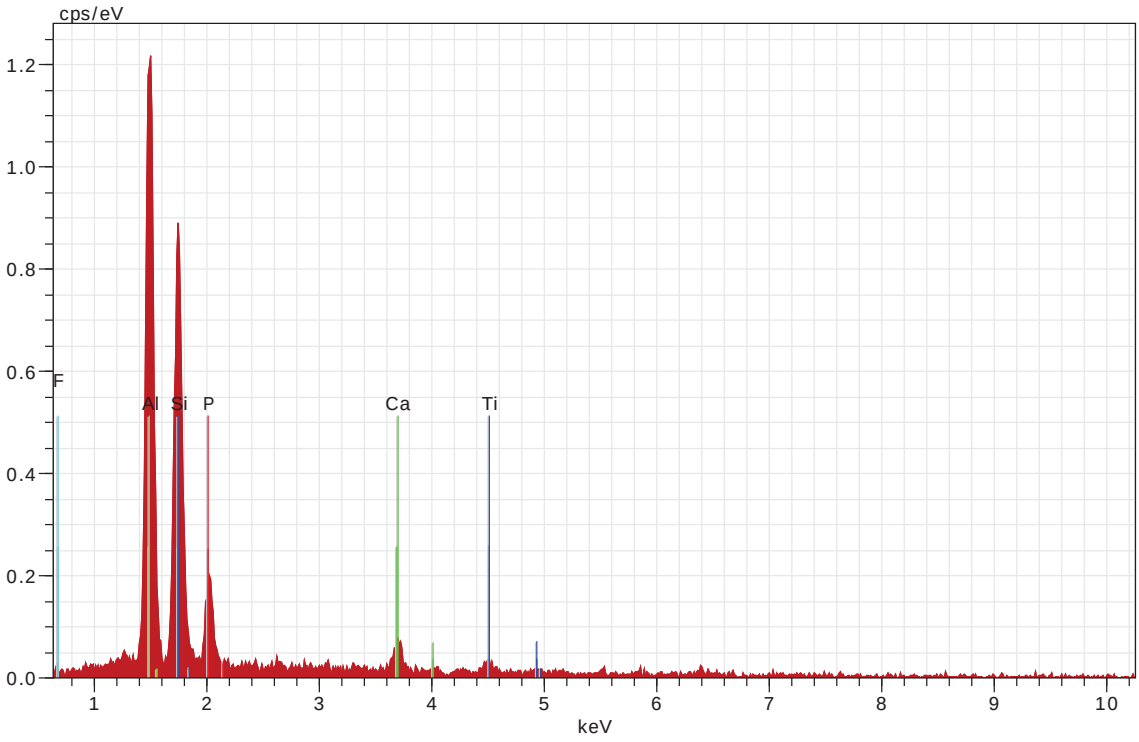


CCR2A 23.0-23.5: BSE image (top) and EDS spectrum (bottom) for wavellite and clay matrix; green crosshair on BSE image marks analysis location.

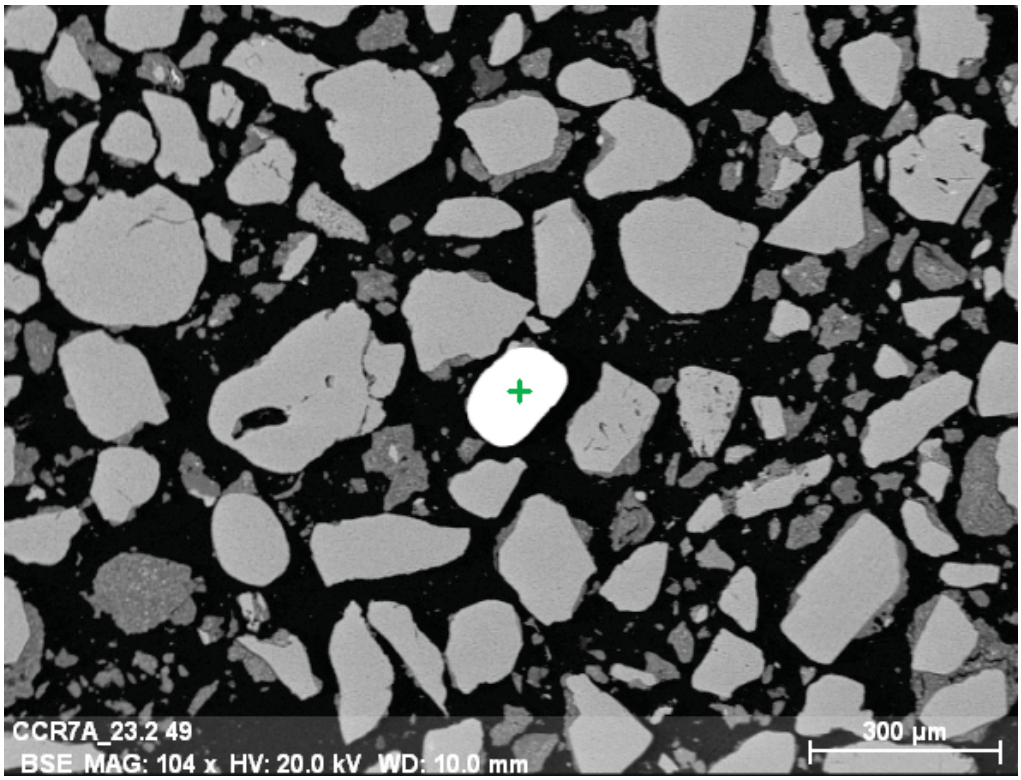


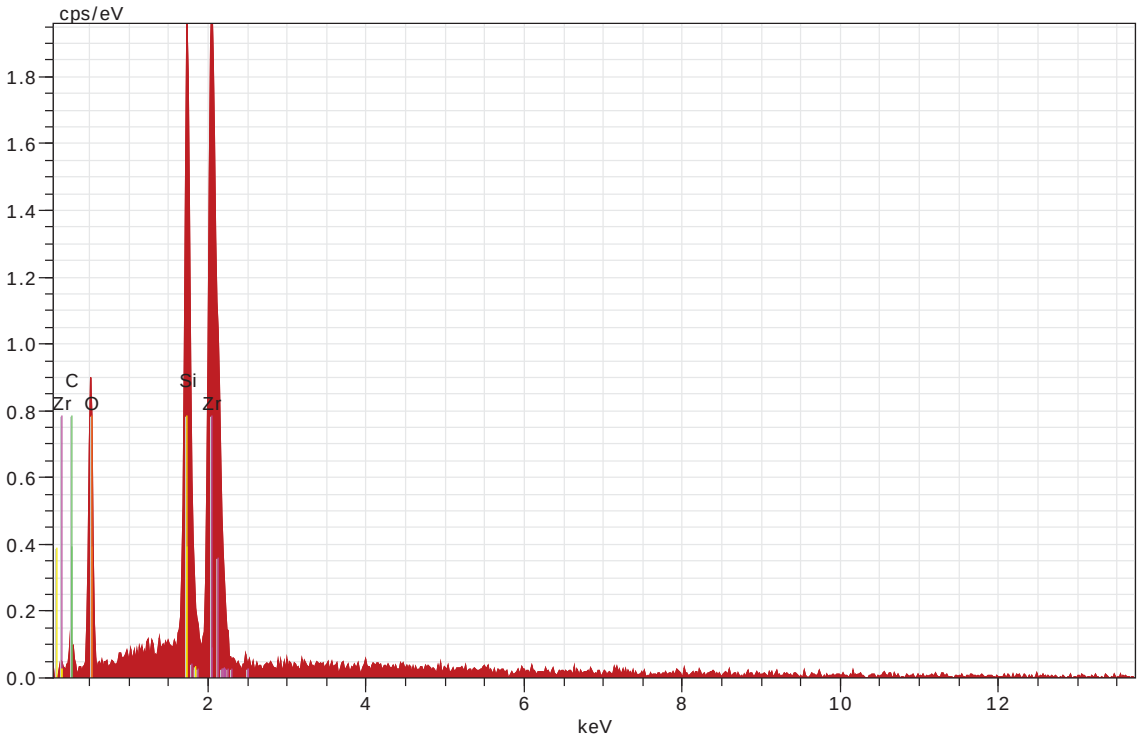
CCR2A 23.0-23.5: BSE image (top) and EDS spectrum (bottom) for ilmenite; green crosshair on BSE image marks analysis location.



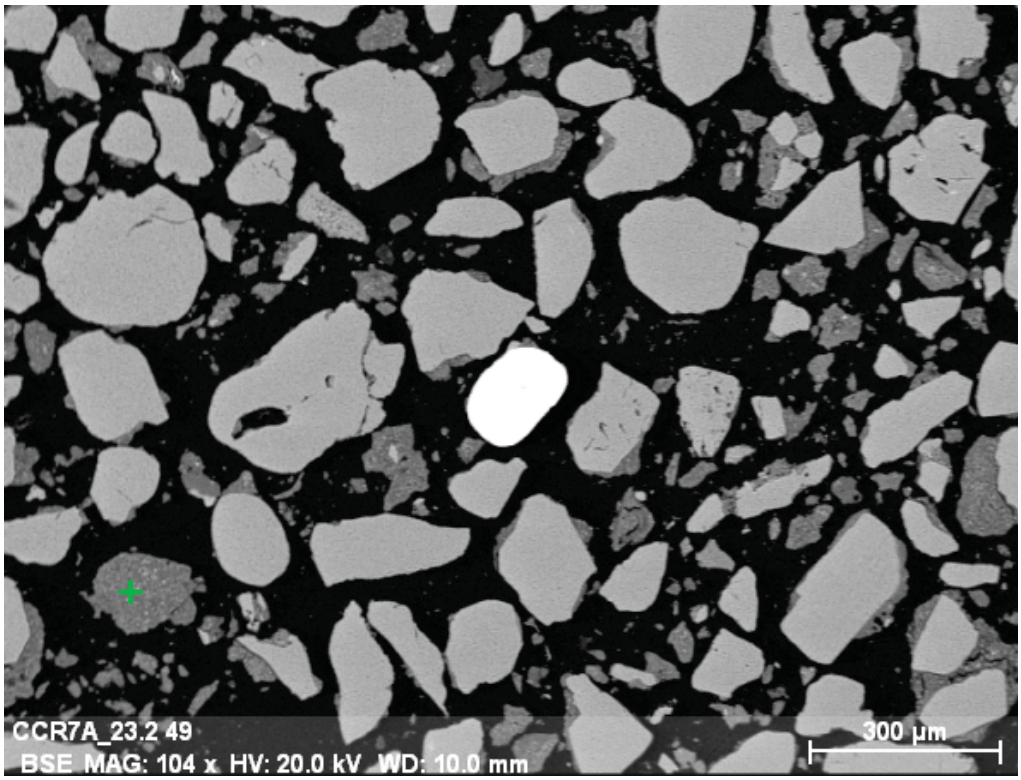


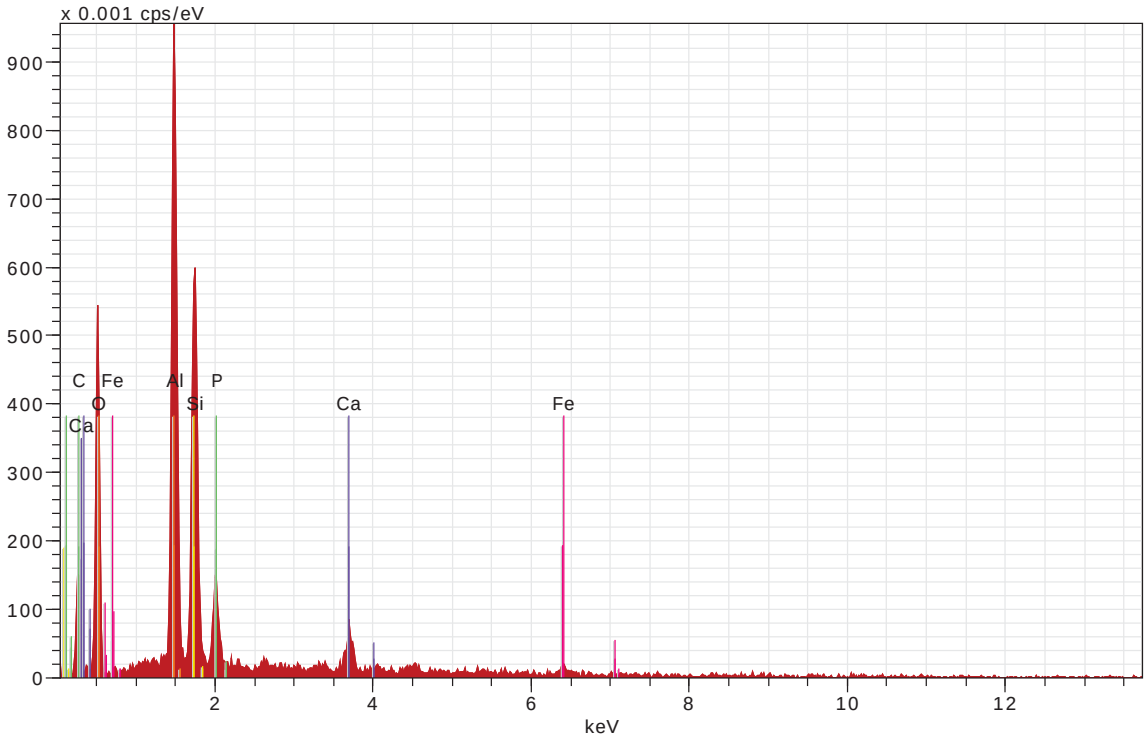
CCR2A 23.0-23.5: BSE image (top) and EDS spectrum (bottom) for wavellite and clay matrix; green crosshair on BSE image marks analysis location.



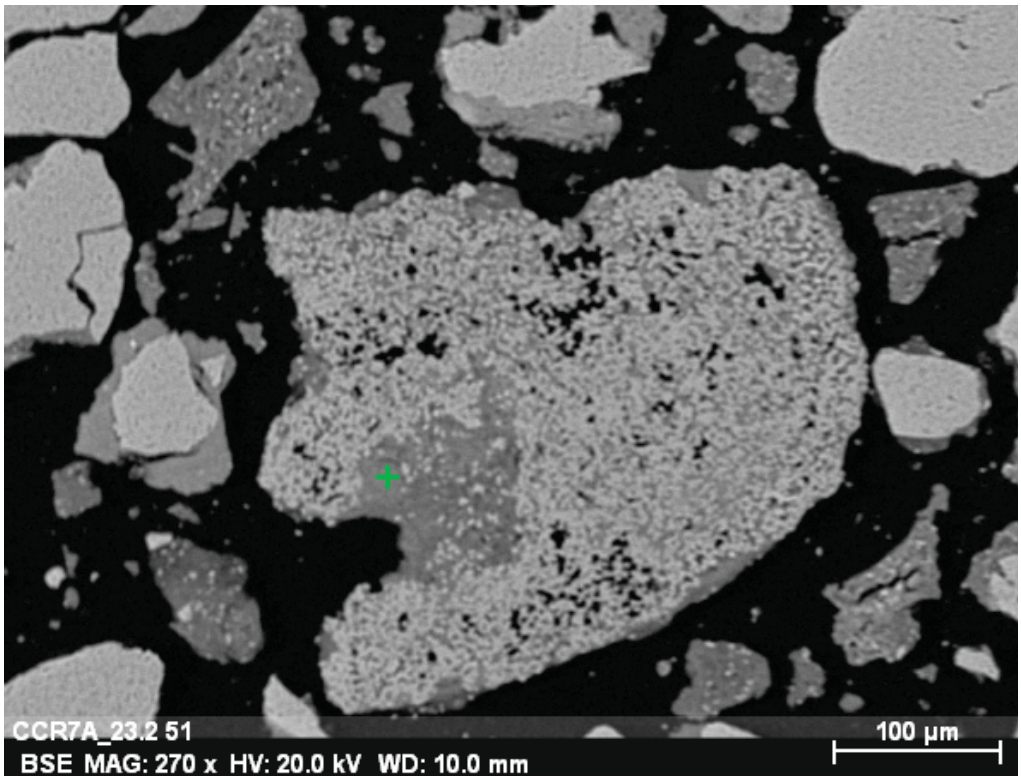


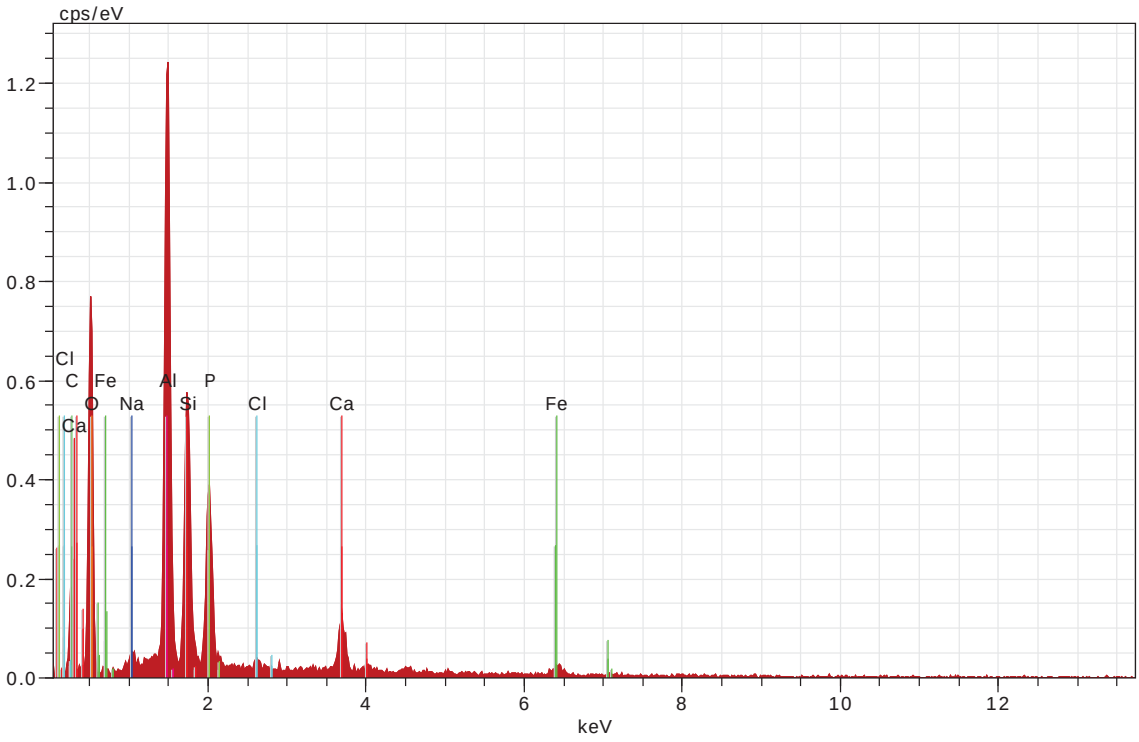
CCR7A 23.2-23.5: BSE image (top) and EDS spectrum (bottom) for zircon; green crosshair on BSE image marks analysis location.



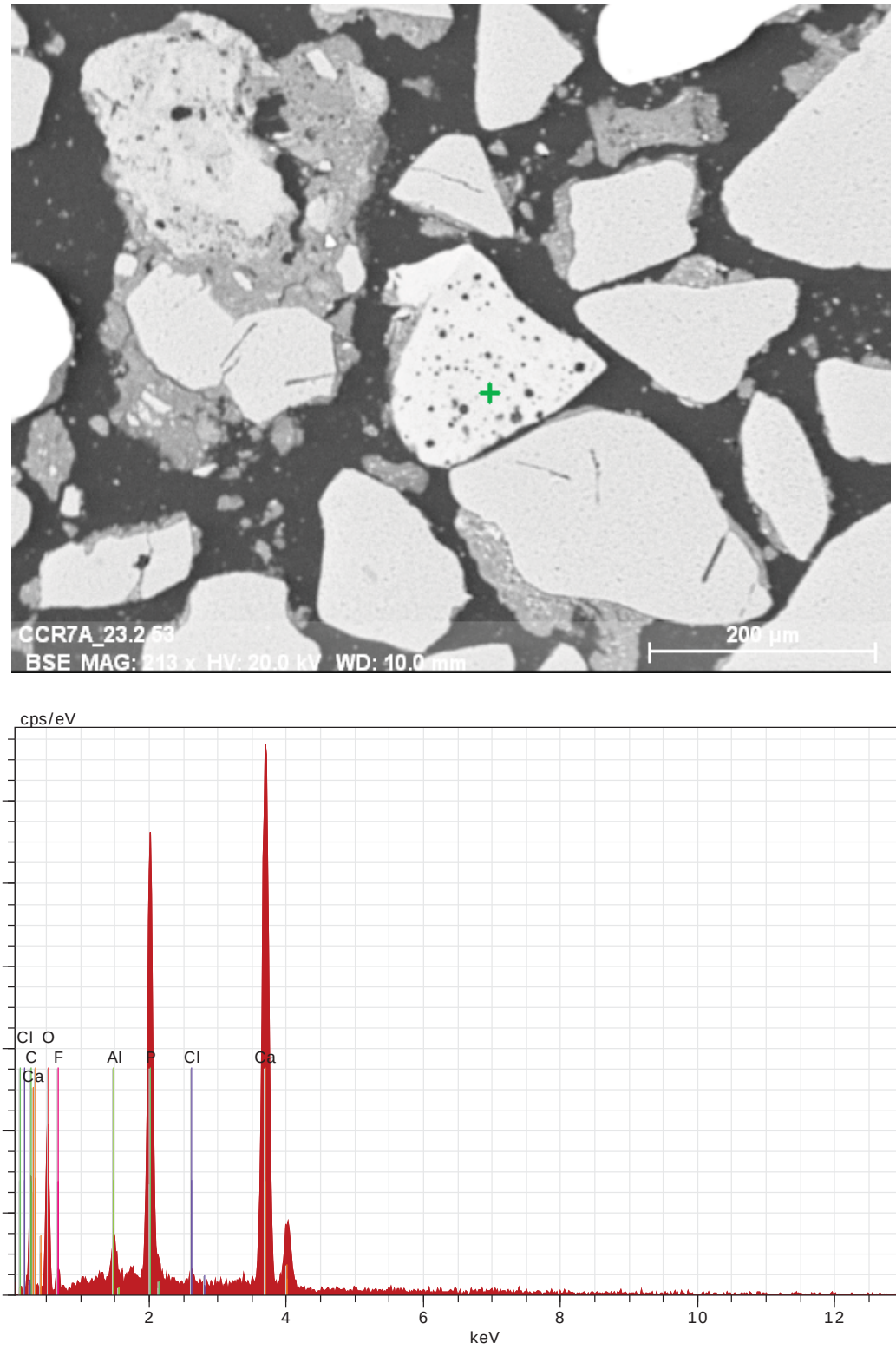


CCR7A 23.2-23.5: BSE image (top) and EDS spectrum (bottom) for Ca- and Al-phosphate matrix; green crosshair on BSE image marks analysis location.

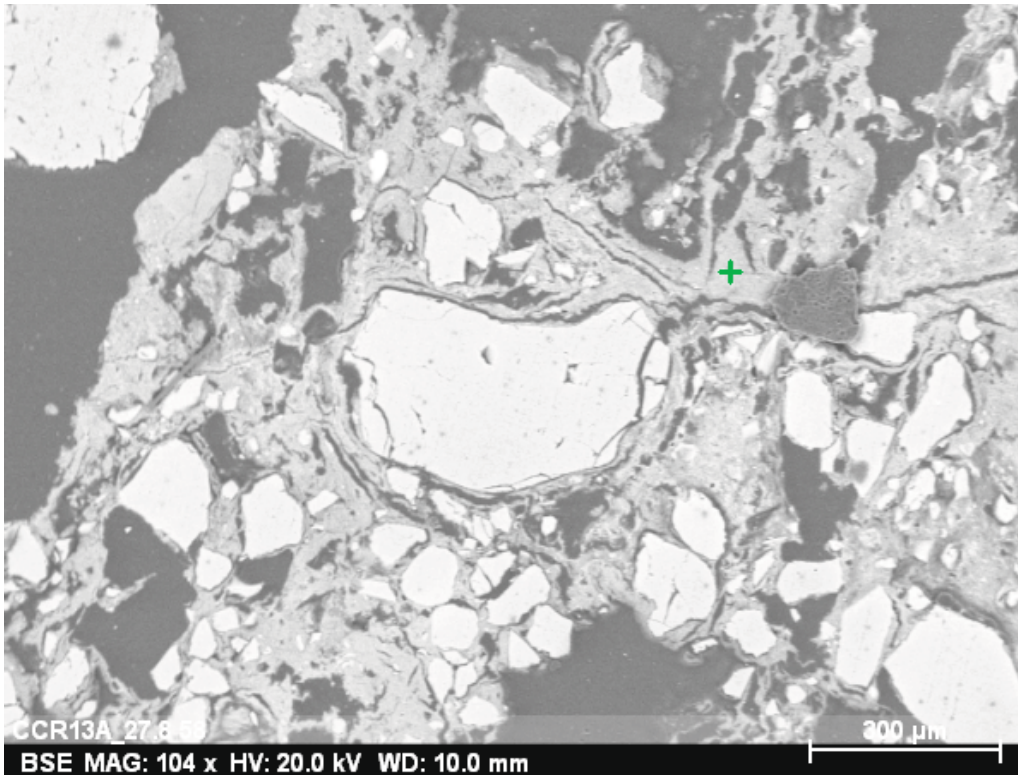


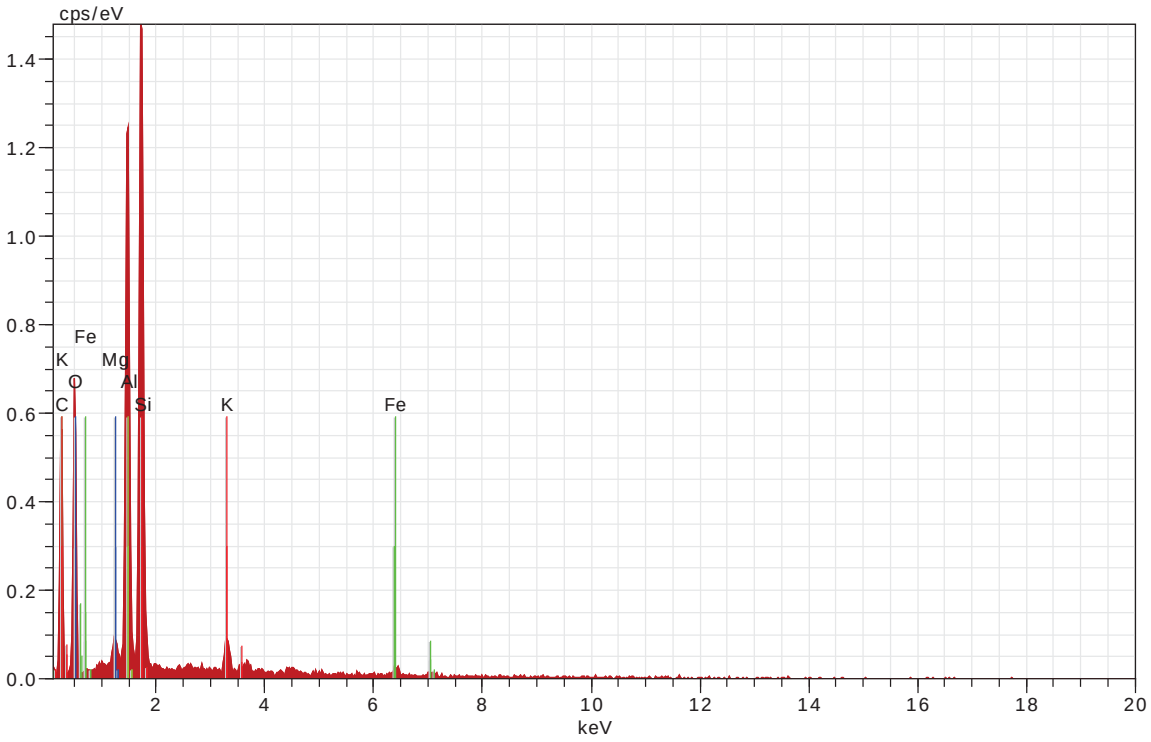


CCR7A 23.2-23.5: BSE image (top) and EDS spectrum (bottom) for wavellite and apatite matrix; green crosshair on BSE image marks analysis location.

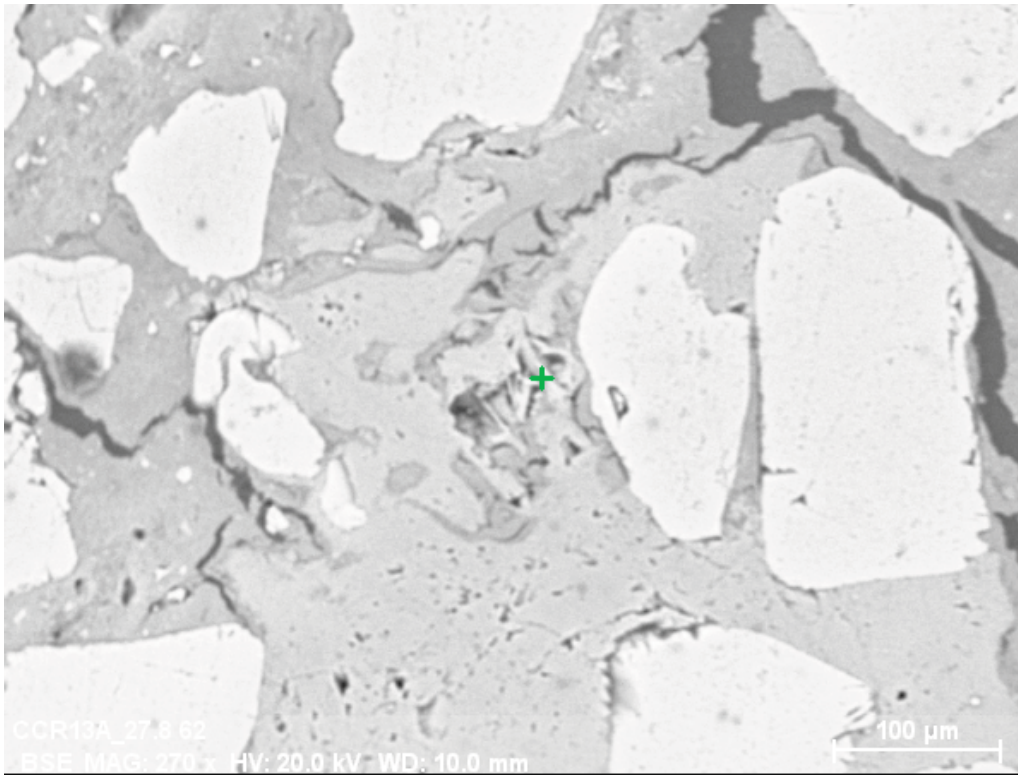


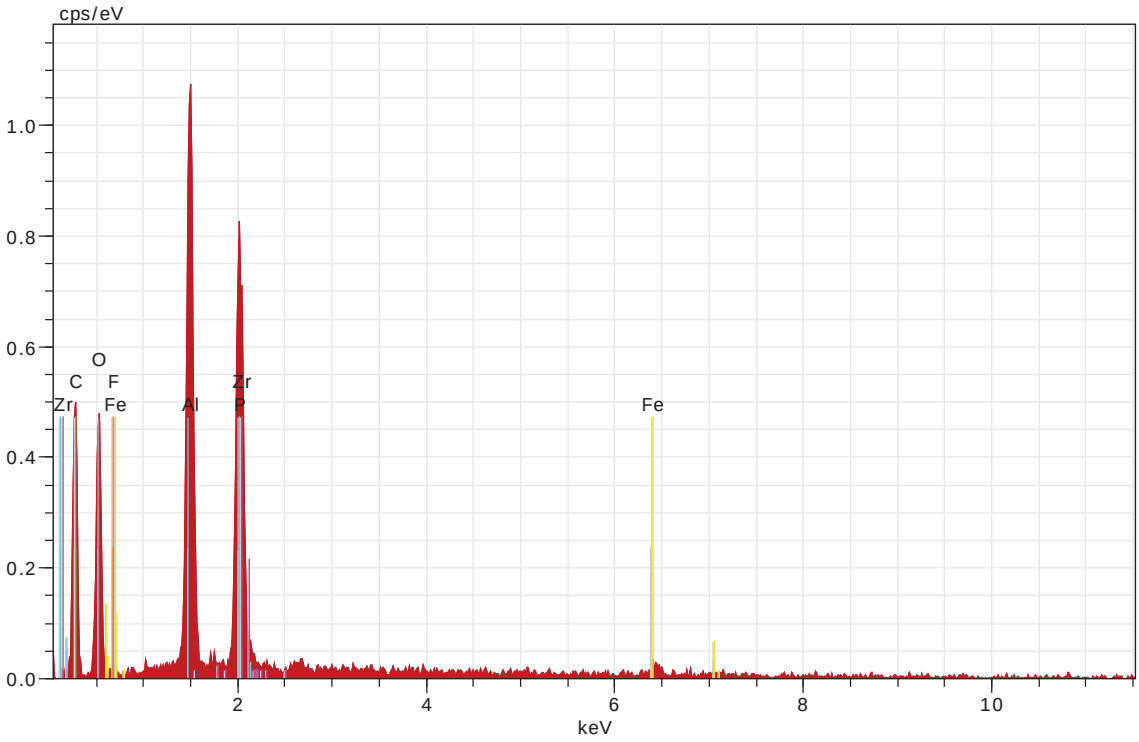
CCR7A 23.2-23.5: BSE image (top) and EDS spectrum (bottom) for apatite matrix; green crosshair on BSE image marks analysis location.



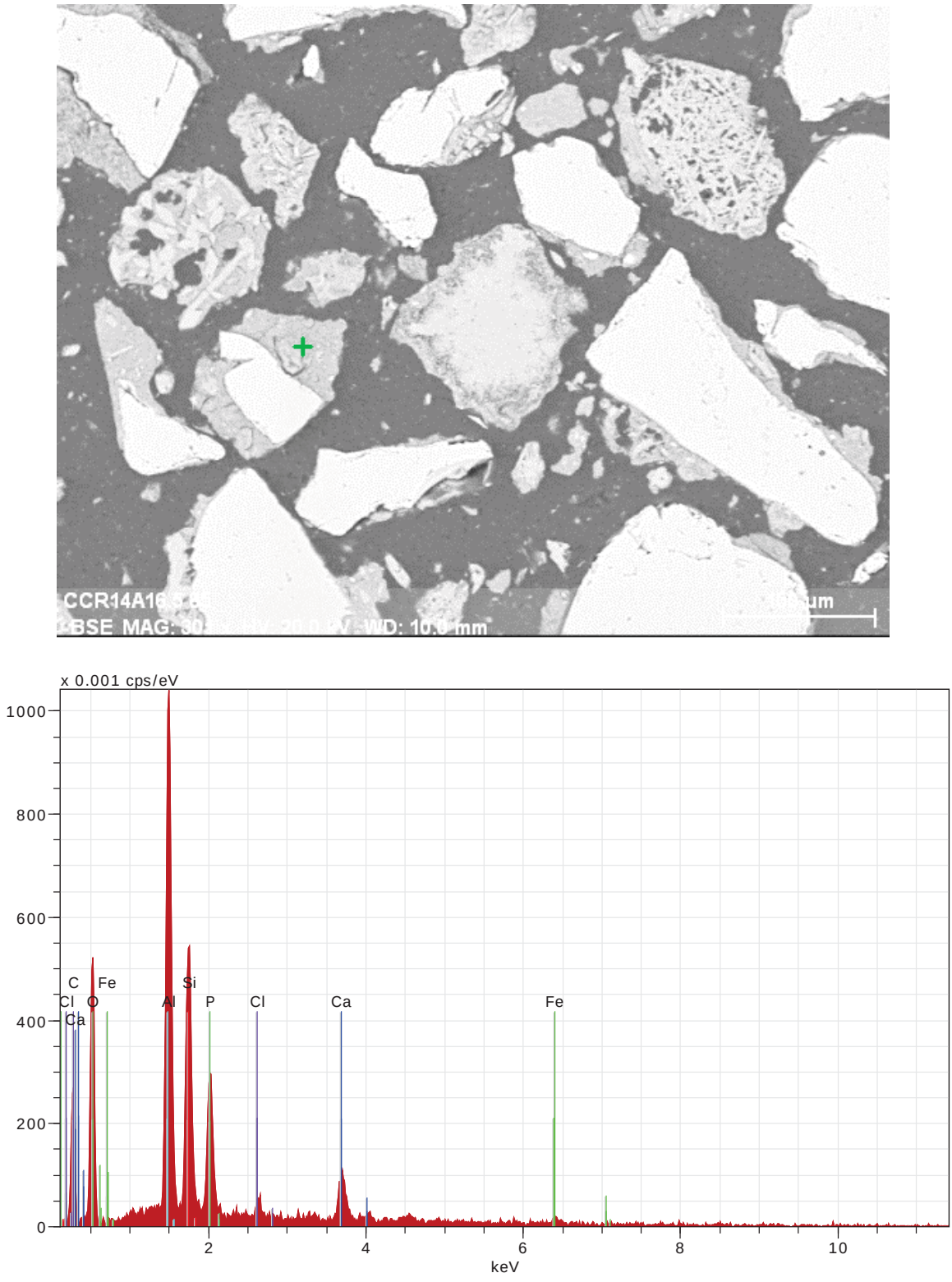


CCR13A 27.8-28.2: BSE image (top) and EDS spectrum (bottom) for kaolinite and muscovite matrix; green crosshair on BSE image marks analysis location.

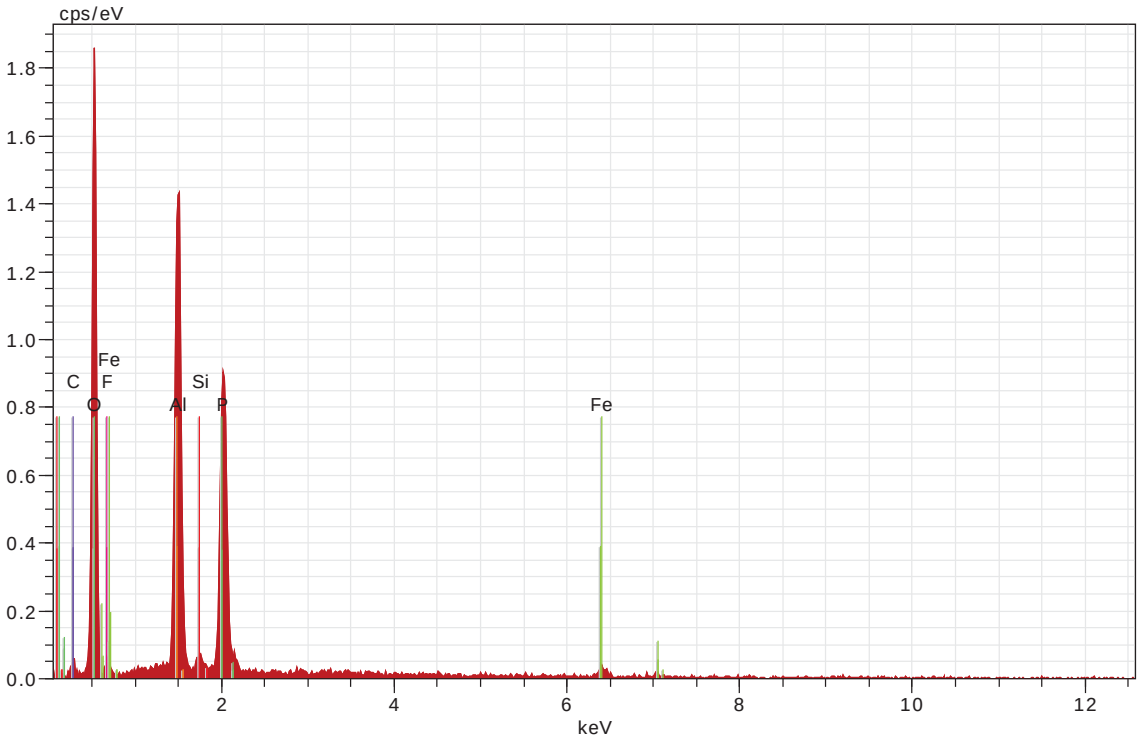




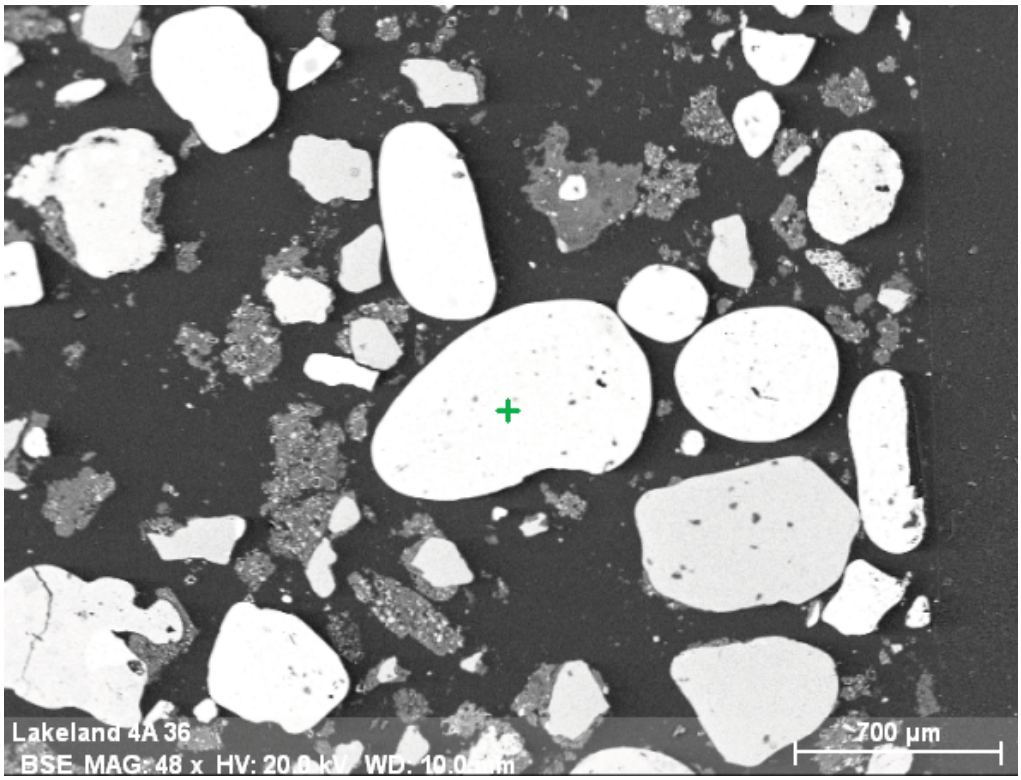
CCR13A 27.8-28.2: BSE image (top) and EDS spectrum (bottom) for wavellite; green crosshair on BSE image marks analysis location.

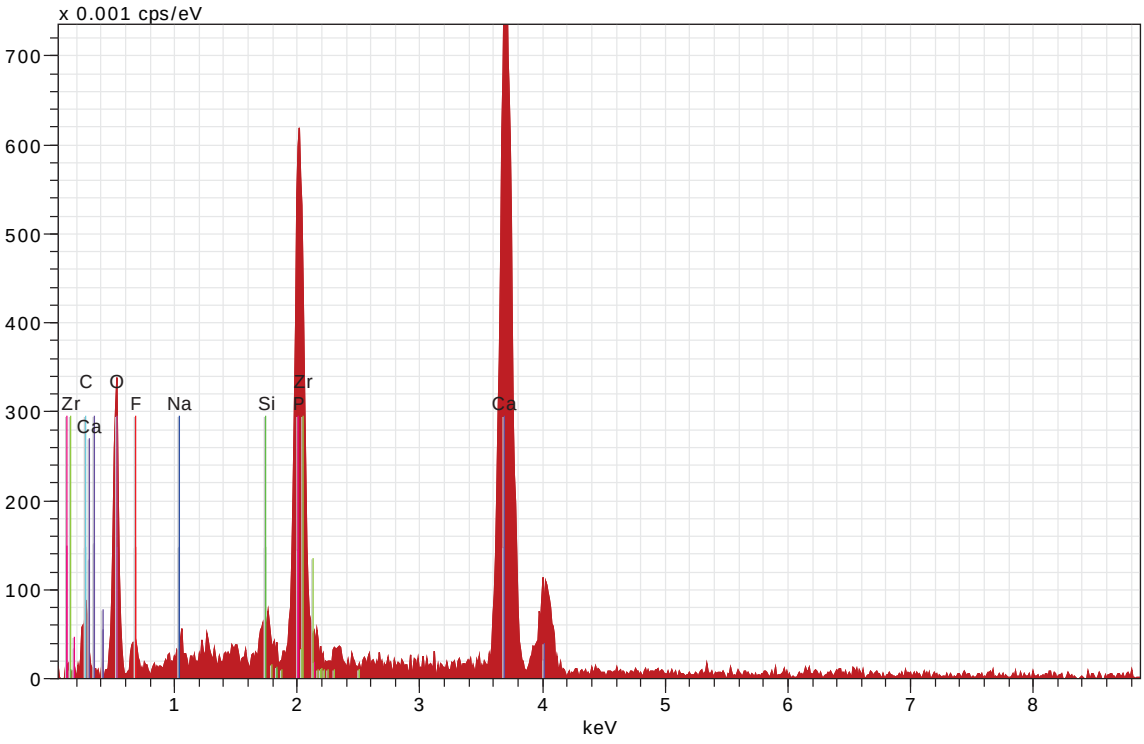


CCR14A 16.5-18.0: BSE image (top) and EDS spectrum (bottom) for apatite and wavellite matrix; green crosshair on BSE image marks analysis location.

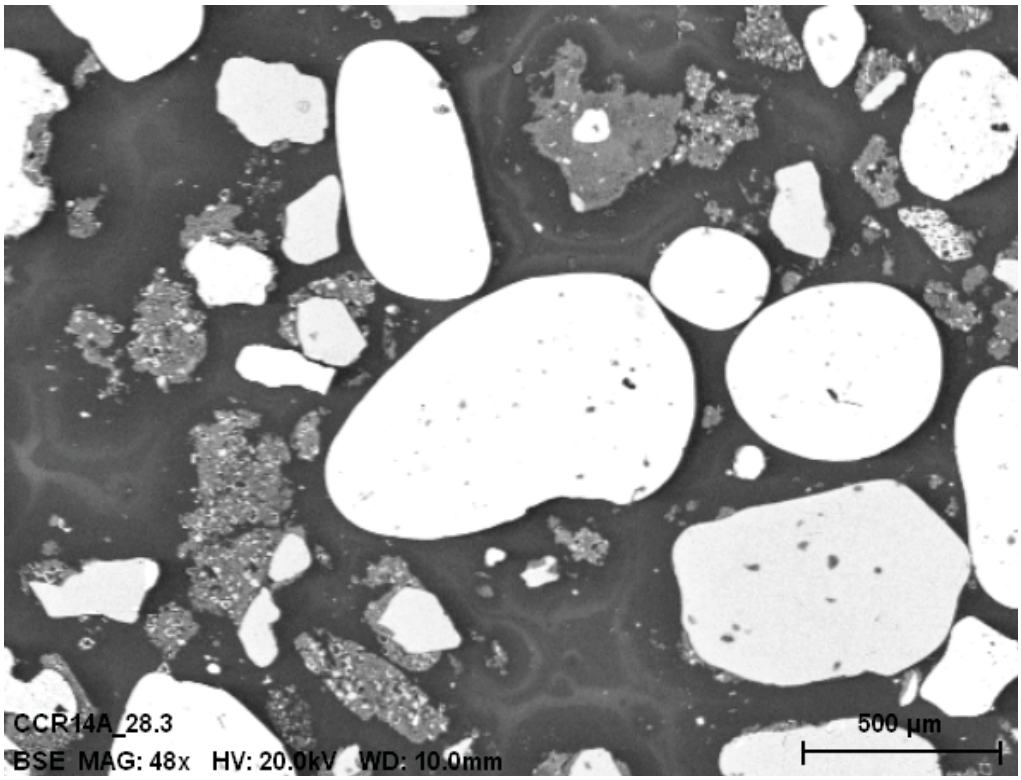


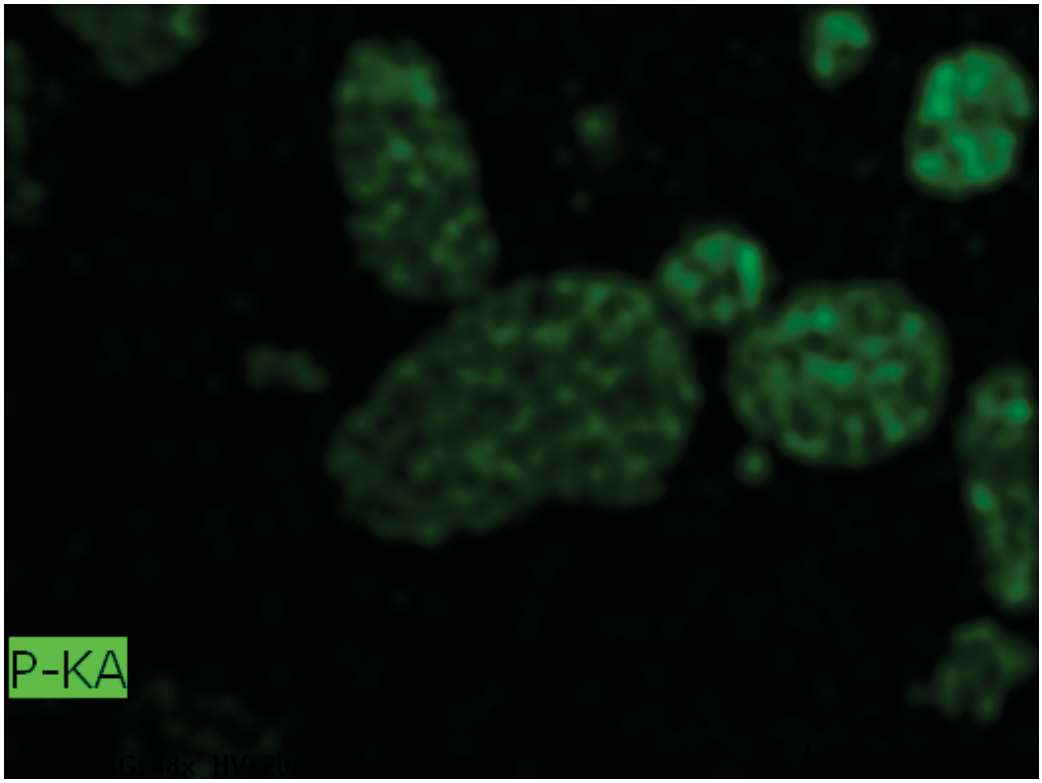
CCR14A 16.5-18.0: BSE image (top) and EDS spectrum (bottom) for wavellite; green crosshair on BSE image marks analysis location.



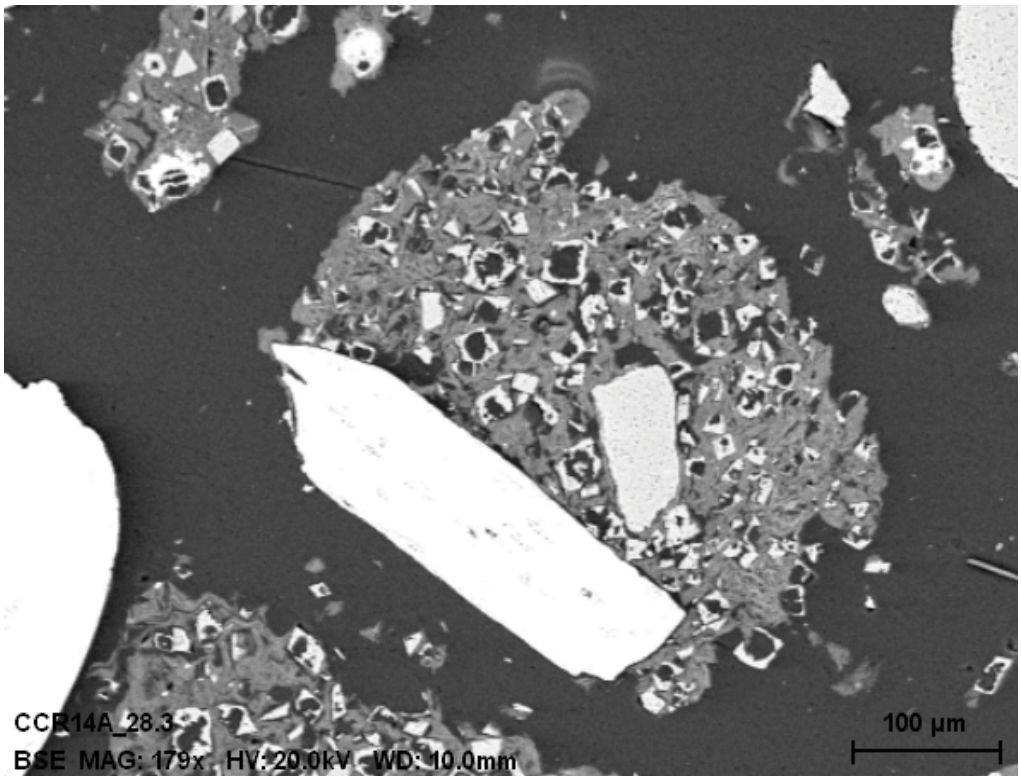


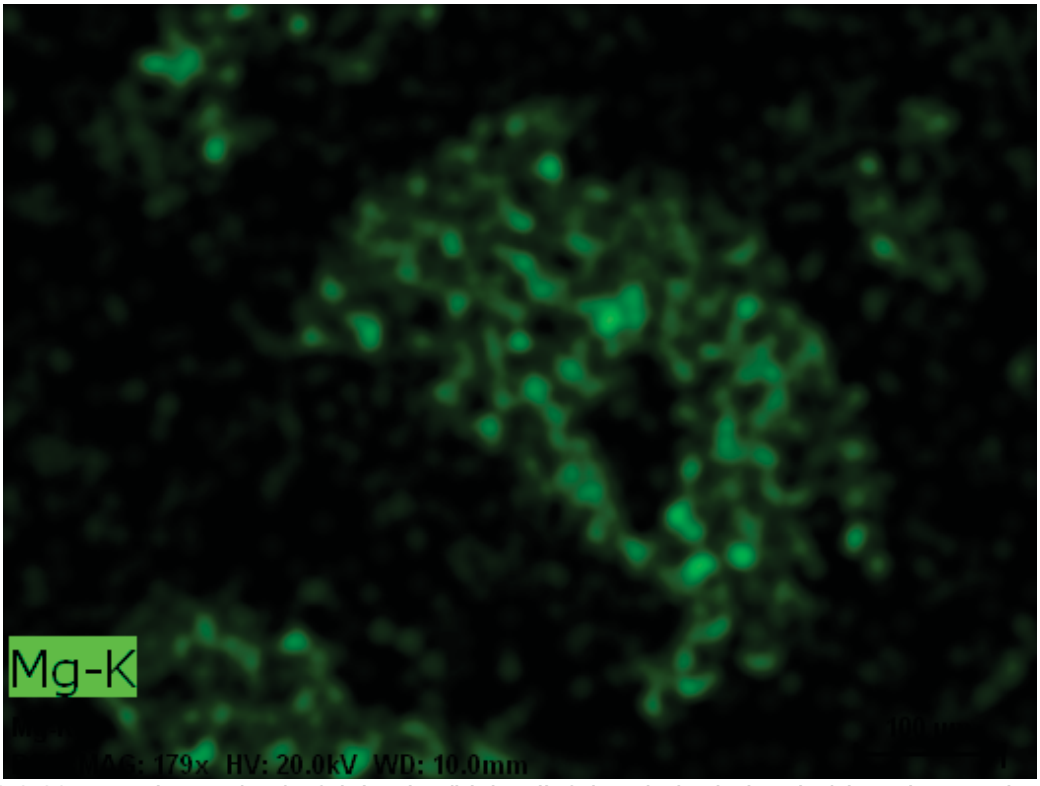
CCR14A 28.3-28.6: BSE image (top) and EDS spectrum (bottom) for collophane (apatite) "ball" with quartz inclusions (light gray); green crosshair on BSE image marks analysis location.





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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