COAL COMBUSTION RESIDUALS (CCR) GROUNDWATER MONITORING AND CORRECTIVE ACTION ANNUAL REPORT

CHOCTAW GENERATION LIMITED PARTNERSHIP, L.L.P. 2391 PENSACOLA ROAD ACKERMAN, MS 39735 (662) 387-5758

JANUARY 30, 2021





ENVIRONMENTAL COMPLIANCE & SAFETY, INC.

Post Office Box 356 Sherman, Mississippi 38869 Office: (662) 840-5945 Fax: (662) 840-5965 www.envirocomp.net

"FOR ALL YOUR ENVIRONMENTAL AND SAFETY CONSULTING NEEDS."

TABLE OF CONTENTS

1.0	INTRO	DUCTION	. 1
	1.1 1.2 1.3	Site Description and Regulatory Applicability Annual Report Requirements Professional Engineer Certification	. 2
2.0	OVEF	VIEW: DETECTION AND ASSESSMENT MONITORING	. 5
	2.1 2.2	Detection Monitoring Program Assessment Monitoring Program	
3.0	GRO	INDWATER MONITORING SYSTEM	. 7
	3.1 3.2 3.3	Current Groundwater Monitoring System Monitoring Well Installation Monitoring Well Decommissioning	. 8
4.0	GRO	INDWATER MONITORING DATA	10
	4.1	Sample Requirements	10
	4.2 4.3	Groundwater Elevation and Flow Groundwater Sampling Results	
5.0	4.3		12
5.0	4.3	Groundwater Sampling Results	12 16 16 16
5.0	4.3 ADDI 5.1 5.2 5.3	Groundwater Sampling Results	12 16 16 16 17

FIGURES:

- Figure 1: Site Location Map
- Figure 2: Facility Diagram

APPENDICES:

Appendix A:	Potentiometric Surface Maps
-------------	-----------------------------

- Appendix B: Analytical Results and Chain-of-Custody Forms
- Appendix C: Field Sampling Data
- Appendix D: 2020 Groundwater Monitoring Summary
- Appendix E: Alternate Source Demonstration

1.0 INTRODUCTION

1.1 SITE DESCRIPTION AND REGULATORY APPLICABILITY

The Choctaw Generation Limited Partnership, LLLP (Choctaw Generation) is located near the City of Ackerman in Choctaw County, Mississippi. Choctaw Generation is in north central Mississippi on a 170acre site. Choctaw Generation is bounded on the south by Pensacola Road, and is about ½ mile west of US Highway 9. Figure 1 shows the location of the site. Choctaw Generation operates a single unit electrical generation facility designed to generate electricity for dispatch to the Tennessee Valley Authority (TVA) electrical system. The primary boiler fuel is lignite coal. As a result of combusting lignite coal, ash is created and must be disposed or re-purposed. Choctaw Generation owns and operates an existing Ash Management Unit (AMU) for the placement and disposal of ash. The AMU (or CCR unit) is located in the northeastern portion of the property and consists of three (3) cells, as shown in Figure 2. The CCR unit encompasses approximately 64 acres of the Choctaw Generation site.

The site is currently regulated by the Mississippi Department of Environmental Quality (MDEQ) Solid Waste Regulations and Solid Waste Permit No. SW0100040462. The site is now also required to comply with the Groundwater Monitoring and Corrective Action requirements of 40 CFR Part 257, Subpart D – Standards for the Disposal of Coal Combustion Residuals (CCR) in Landfills and Surface Impoundments. As an existing CCR landfill, the site was required to be in compliance with the following groundwater monitoring requirements by October 17, 2017:

- □ Install a groundwater monitoring system as required by §257.91;
- Develop a groundwater sampling and analysis program to include selection of the statistical procedures to be used for evaluating groundwater monitoring data as required by §257.93;
- Initiate the detection monitoring program to include obtaining a minimum of eight (8) independent samples for each background and downgradient well as required by §257.94(b); and
- □ Evaluate groundwater monitoring data for statistically significant increases over background levels for the constituents listed in Appendix III of Subpart D as required by §257.94.

The Choctaw Generation groundwater monitoring system was completed in accordance with the groundwater monitoring performance standards of §257.91 by June 2016. The initial Choctaw Generation CCR unit groundwater monitoring system consisted of three (3) background or upgradient walls and eight (8) downgradient wells. A Groundwater Monitoring Plan was developed in August 2016 in accordance with the groundwater sampling and analysis program requirements of §257.93. The Groundwater Monitoring Plan was updated in January 2019 to address an additional well installed at the site and is available in the Choctaw Generation Operating Record and CCR Web Site. Sampling of the groundwater wells is conducted in accordance with the most current version of the Groundwater Monitoring Plan. Eight (8)

independent samples were collected and analyzed prior to October 17, 2017, initiating the groundwater monitoring program at the site.

Over time, wells have been replaced, added, and removed due to compromised well integrity as well as change in monitoring requirements. These changes are discussed further in Section 3.1. The current Choctaw Generation CCR unit groundwater monitoring system consists of three (3) background or upgradient wells and seven (7) downgradient wells which ensure complete coverage of the CCR unit. A facility diagram showing the monitoring well locations is included as Figure 2.

1.2 ANNUAL REPORT REQUIREMENTS

Choctaw Generation is required to prepare an annual groundwater monitoring and corrective action report (the Annual Report) no later than January 31, 2018, and annually thereafter, and place the report in the Operating Record. The Annual Report is also made available on the CCR Web Site within 30 days of filing the report in the Operating Record. The Annual Report must be maintained in the Operating Record and on the CCR Web Site for at least five (5) years.

Per §257.90(e), the Annual Report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. At a minimum, the Annual Report must contain the following information, to the extent available:

- A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;
- □ Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;
- □ In addition to all the monitoring data obtained under §§257.90 through 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;
- A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels); and
- □ Other information required to be included in the annual report as specified in §§257.90 through 257.98.

- □ A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:
 - At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95;
 - At the end of the current annual reporting period whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95;
 - If it was determined that there was a statistically significant increase over background for one or more constituents listed in appendix III to the part pursuant to §257.94(e);
 - Identify those constituents listed in appendix III to this part and the names of the monitoring wells associated with such an increase; and
 - Provide the date when the assessment monitoring program was initiated for the CCR unit.
 - If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in appendix IV to this part pursuant to §257.95(g) include all of the following:
 - Identify those constituents listed in appendix IV to this part and the names of the monitoring wells associated with such an increase;
 - Provide the date when the assessment of corrective measures was initiated for the CCR unit;
 - Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and
 - Provide the date when the assessment of corrective measures was completed for the CCR unit.
 - Whether a remedy was selected pursuant to §257.97 during the current annual reporting period, and if so, the date of the remedy selection; and
 - Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period.

To comply with the requirements above, a map of the CCR unit and all upgradient and downgradient monitoring wells that are part of the groundwater monitoring system are shown on Figure 2. Section 2 contains an overview and discussion of the status and any transition between monitoring programs (i.e., detection monitoring versus assessment monitoring) and the reason such monitoring program is in place. A discussion of the current monitoring well system and any monitoring wells installed or decommissioned is provided in Section 3.0. A summary of the monitoring data obtained during the annual reporting period is provided in Section 4.0. Section 5.0 presents additional information required by §§257.90 through 257.98 to be included in the Annual Report and which is not already addressed in the prior sections. Finally, Section 6.0 summarized actions completed during the reporting year and projects key activities planning for the following reporting year.

1.3 PROFESSIONAL ENGINEER CERTIFICATION

The undersigned Registered Professional Engineer is familiar with the requirements of 40 CFR Part 257, Subpart D and certifies that the Groundwater Monitoring and Corrective Action Annual Report was prepared under his/her direct supervision, in accordance with the requirements of 40 CFR 257.90 through 257.98. The undersigned Registered Professional Engineer certifies under penalty of the law that all information and statements provided in this report (including attachments), based on information and belief formed after reasonable inquiry, are true, accurate, and complete.

1/30/2021

Brian S. Ketchum, PE Registration Number: 13372 State of Mississippi Date Signed



(Seal)

2.0 OVERVIEW: DETECTION AND ASSESSMENT MONITORING

Choctaw Generation began the reporting year and is currently subject to the Assessment Monitoring Program requirements of §257.95, and groundwater monitoring as required by this program are discussed in Section 4.0. A description of both the Detection Monitoring Program and Assessment Monitoring Program is provided below and reflects changes occurring during the previous calendar year.

2.1 DETECTION MONITORING PROGRAM

For existing CCR landfills, including the Choctaw Generation AMU, a minimum of eight (8) independent samples from each background and downgradient well must be collected and analyzed for the constituents listed in Appendix III and Appendix IV of 40 CFR 257, Subpart D by no later than October 17, 2017. These constituents are listed in Tables 3-1 and 3-2. After the eight (8) initial sampling events are completed to develop background data, the detection monitoring must be performed on a semiannual basis during the active life of the CCR unit and the post-closure period unless assessment monitoring is triggered.

In accordance with the requirements of the Detection Monitoring Program in §257.94(b), one (1) sample from each background (or upgradient) and downgradient well was analyzed for the seven (7) parameters in Appendix III on February 6-7, 2018. An evaluation of these results indicated statistically significant increases (SSI) above the prediction limits established during background monitoring for the following parameters in the associated wells: chloride (MW-9, MW-12, and MW-16), fluoride (MW-9 and OW-2), sulfate (CCR-3, MW-9, MW-12, MW-16, and OW-2), and TDS (CCR-3, MW-9, and MW-16). Therefore, the requirements of the Assessment Monitoring Program were triggered.

2.2 ASSESSMENT MONITORING PROGRAM

Due to SSI exceedances determined during the initial detection monitoring event of February 6-7, 2018, Choctaw Generation triggered the Assessment Monitoring Program under §257.95. Choctaw Generation conducted the initial annual assessment monitoring event on May 15-16, 2018 for all Appendix IV constituents. Choctaw Generation then conducted the first semiannual assessment monitoring event on September 10-11, 2018 and the subsequent semiannual assessment monitoring event on March 19-20, 2019 for all Appendix III constituents and the ten (10) Appendix IV constituents previously detected during the annual Appendix IV monitoring event. The annual monitoring for all Appendix IV constituents was conducted again on May 29-30, 2019. Based on the sampling results, twelve (12) Appendix IV constituents were detected, adding selenium and molybdenum to the Appendix IV constituents to be monitoring events were conducted on September 10-11, 2019 and March 25-26, 2020. These events included sampling for all Appendix III constituents and those Appendix IV constituents detected during the conducted on September 10-11, 2019 and March 25-26, 2020. These events included sampling for all Appendix III constituents and those Appendix IV constituents was conducted on May 18, 2020, in

which no new Appendix IV constituents were detected requiring no new constituents to be sampled in subsequent semiannual assessment monitoring events. All current Appendix IV constituents that are sampled during the semiannual assessment monitoring events are listed in Section 4.3, with the following semiannual assessment monitoring event conducted on September 28, 2020.

If the concentrations of all constituents listed in Appendix III and Appendix IV are shown to be at or below background concentrations for two consecutive monitoring events, Choctaw Generation may return to detection monitoring. If the concentration of any Appendix III or IV constituent is verified to be above the background values, but all concentrations are below the GWPS, Choctaw Generation must continue assessment monitoring. If one or more Appendix IV constituents are detected at a SSL above the GWPS in any monitoring event, Choctaw Generation must implement correction actions. GWPS for all constituents detected during the initial and subsequent assessment monitoring were established per the procedures in §257.95(h). The Appendix III and Appendix IV results from the sampling conducted during the reporting period, the background concentrations (or "prediction limits") established under §257.94(b), and the GWPS established under §257.95(d)(2) are included as Appendix D of the Annual Report.

Due to a verified statistically significant increase (SSI) of Appendix IV constituents above the GWPS (lithium in monitoring wells CCR-3 and MW-9 and cobalt in monitoring wells MW-9, MW-12, and MW-15), Choctaw Generation initiated an assessment of corrective measures on January 30, 2019. The Assessment of Corrective Measures (ACM) Report was completed on June 29, 2019 after a 60-day extension.

After review of the monitoring analytical data from the 2019 period, trends in groundwater concentration led to the prospect that the detection of lithium, cobalt, beryllium (not verified), and molybdenum (not verified) at a SSL above the GWPS could have been from an alternate source rather than a potential release of the CCR unit or associated AMU basin. As discussed in Section 5.2, An Alternate Source Demonstration (ASD) was then successfully completed on December 17, 2019, providing an evidential conclusion that cobalt and lithium detected at SSLs were indeed a result of an alternate source. Due to the successful ASD, Choctaw Generation immediately ceased and discontinued corrective measure activities and continued assessment monitoring. Beryllium was then detected at a SSL above the GWPS in MW-9 during the 2020 annual assessment monitoring event and verified in the second semiannual assessment monitoring event on September 28, 2020. After research and review of analytical data, the ASD was then revised on August 20, 2020 to successfully address beryllium. Therefore, Choctaw Generation will continue in assessment monitoring.

3.0 GROUNDWATER MONITORING SYSTEM

3.1 CURRENT GROUNDWATER MONITORING SYSTEM

The owner or operator of a CCR unit must install a groundwater monitoring system that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield groundwater samples from the uppermost aquifer. The system should accurately represent the quality of background groundwater that has not been affected by leakage from a CCR unit (i.e., upgradient wells). In addition, the system should accurately represent the quality of the CCR unit (i.e., downgradient wells). The downgradient wells should be installed at the waste boundary to ensure detection of groundwater contamination in the uppermost aquifer. The number, spacing, and depths of groundwater monitoring wells within the system were determined based upon site-specific technical information that included an assessment of items such as:

- Aquifer thickness and groundwater flow direction; and
- Saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer, including, but not limited to, thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.

The groundwater monitoring system must include a minimum number of monitoring wells necessary to meet the performance standards and information specified above. The direction of groundwater flow through the CCR unit is to the north-northwest, which has been consistently determined through ongoing solid waste permit groundwater monitoring events. The locations for the monitoring wells were based upon the known direction of groundwater movement. The monitoring wells screen the uppermost laterally continuous aquifer below the base of ash fill. The base of ash fill is at an approximate elevation of 480 feet mean sea level (msl). The zone is screened and monitored at an approximate elevation of 470 feet msl, but varies across the site and through the unit.

The system must contain a minimum of at least one (1) upgradient and three (3) downgradient monitoring wells. The initial Choctaw Generation CCR unit groundwater monitoring system consisted of three (3) background or upgradient wells and eight (8) downgradient wells to ensure complete coverage of the CCR unit, which consists of three (3) ash disposal cells covering approximately 64 acres. An additional downgradient well was added in August 2018 and three more downgradient wells were installed in May 2019, as discussed further in Section 3.2. Additionally, one downgradient well (MW-16) was replaced in May 2019 by MW-17 due to subsidence of the surface soils, which compromised the well integrity. In 2020, MW-15 and MW-17 were removed due to compromised well integrity and the wells located on the mine (i.e., CCR-6, CCR-7, and CCR-8) were removed from the current groundwater system as they are no longer needed for delineation in response to corrective measure requirements. As a result, the current CCR unit

groundwater monitoring system consists of three (2) background or upgradient wells and seven (7) downgradient wells. A map showing the monitoring well locations is included as Figure 2, and a summary of the current wells is included as Table 2-1 below. Monitoring wells were installed according to the guidelines established in the 1994 USEPA Region IV RCRA Subtitle D Training Manual (SDTM, 1994), or other generally accepted guidelines, and are believed to meet the requirements of 40 CFR Part 257, Subpart D. For more detailed procedures related to the installation of the current groundwater monitoring system, refer to the CCR Groundwater Monitoring Plan available in the facility Operating Record and CCR Web Site.

Well No.	Background or Down-gradient	Elevation* (ft)	Well Depth (ft)	Well Dia. (inches)
CCR-2	Downgradient	542.50	84.50	4
CCR-3	Downgradient	504.78	53.00	4
CCR-4	Downgradient	505.68	53.00	4
CCR-5	Downgradient	470.46	34.55	4
MW-7	Background (Upgradient)	571.76	56.92	4
MW-9	Downgradient	480.04	21.74	4
MW-12	Downgradient	474.19	19.09	4
MW-13	Background (Upgradient)	584.48	106.00	4
MW-14	Background (Upgradient)	593.84	60.97	4
OW-2	Downgradient	489.40	27.05	4

Table 2-1: Groundwater Monitoring W	Vells
-------------------------------------	-------

*Elevations were re-surveyed on November 14, 2019. Updated elevations will be used to determine groundwater elevation in subsequent monitoring events.

Sections 3.2 and 3.3 discuss changes to the groundwater monitoring system that took place during the reporting period.

3.2 MONITORING WELL INSTALLATION

There were no new wells installed during the 2020 period. For any future well installations, MDEQ will be notified of the groundwater installation project using a State Well Report along with a Soil Boring Log and a Monitoring Well Schematic for each of the groundwater monitoring wells installed.

3.3 MONITORING WELL DECOMMISSIONING

Monitoring wells must be maintained and appropriately cased in a manner that maintains the integrity of the monitoring well borehole throughout the life of the monitoring program. As noted in Section 3.1, the integrity of downgradient wells MW-15 and MW-17 were compromised during the 2020 period. The wells

ware scheduled to be plugged and fully decommissioned in 2021 in accordance with the Mississippi water well plugging guidelines.

Additionally, the wells that were installed downgradient from the CCR unit on the property of the Mississippi Lignite Mining Company in the direction of potential contaminant migration and in response to corrective measure requirements (i.e., CCR-6, CCR-7, and CCR-8) will no longer be monitored as part of the groundwater monitoring system. CCR-6, CCR-7, and CCR-8 wells were installed to help assess the nature and extent of potential groundwater contamination as a result of elevated concentrations of Appendix III and Appendix IV parameters in CCR-5, the downgradient facility boundary well installed in 2018. Since corrective measure activities are no longer required due to a successful ASD, these wells are no longer needed. Although they are not included in monitoring at this time, they will not be decommissioned as long as the integrity is maintained in case they are needed for future monitoring requirements.

4.0 GROUNDWATER MONITORING DATA

4.1 SAMPLING REQUIREMENTS

The monitoring well samples collected for laboratory analysis along with the duplicate samples and field blanks were submitted to Micro-Methods Laboratories in Ocean Springs, Mississippi. Sampling was conducted in accordance with the CCR Groundwater Monitoring Plan. The samples were analyzed for constituents listed in Appendix III and/or Appendix IV of 40 CFR 257, Subpart D (depending on the type of monitoring event) as listed in Tables 4-1 and 4-2 below. Metals were analyzed as total recoverable metals from unfiltered samples.

40 CFR 257, Subpart D, Appendix III – Constituents for Background and Subsequent Detection and Assessment Monitoring									
Parameter	Analytical Method	С	container	Preservative	Holding Time				
Boron	200.7	Р	500mL	NA	6 months				
Calcium	200.7	Р	500mL	NA	6 months				
Chloride	4500-CI-B	Р	1000mL	NA	28 days				
Fluoride	4500-F-D	Р	1000mL	NA	28 days				
pH		Meas	sured and monitor	red in the field.					
Sulfate	4110B	Р	1000mL	NA	28 days				
TDS	2540C	Р	1000mL	NA	7 days				

Table 4-1: Appendix III Constituents

Table 4-2: Appendix IV Constituents

0 CFR 257, Subpart D, Appendix IV – Constituents for Background and Assessment Monitoring									
Parameter	Analytical Method	Container		- Loniainer Preservali				Preservative	Holding Time
Antimony	200.8	Р	500mL	NA	6 months				
Arsenic	200.8	Р	500mL	NA	6 months				
Barium	200.8	Р	500mL	NA	6 months				
Beryllium	200.8	Р	500mL	NA	6 months				
Cadmium	200.8	Р	500mL	NA	6 months				
Chromium	200.8	Р	500mL	NA	6 months				
Cobalt	200.8	Р	500mL	NA	6 months				
Fluoride	4500-F-C	Р	1000mL	NA	28 days				
Lead	200.8	Р	500mL	NA	6 months				
Lithium	200.7	Р	500mL	NA	6 months				
Mercury	245.1	Р	500mL	NA	28 days				
Molybdenum	200.8	Р	500mL	NA	6 months				
Selenium	200.8	Р	500mL	NA	6 months				

40 CFR 257, Subpart D, Appendix IV – Constituents for Background and Assessment Monitoring									
Parameter	Analytical Method	Co	ontainer	Preservative	Holding Time				
Thallium	200.8	Р	500mL	NA	6 months				
Radium 226/228	901.1	Р	1000mL	NA	NA				

T = Teflon, P = Plastic, G = Glass, NA = Not Applicable

4.2 GROUNDWATER ELEVATION AND FLOW

Groundwater elevation is measured in each monitoring well immediately prior to purging each time groundwater is sampled. Table 4-3 provides a summary of the groundwater elevation recorded for each well during each of the monitoring events. A potentiometric surface map was developed for each monitoring event based on the measured static water levels and the top-of-case (TOC) elevations. Also, the rate of groundwater flow is determined for each event and the direction of flow is summarized in the table and provided on the potentiometric surface maps included in Appendix A. Groundwater flow velocity (v) is estimated using the hydraulic conductivity (K) of the groundwater zone, the effective porosity (η_e), and the hydraulic gradient (dh/dl). The groundwater flow velocity in feet/year is estimated using the following

equation: $v = \frac{K}{\eta_e} \left(\frac{dh}{dl}\right)$.

Conductivity and porosity are dependent on the soil type in the saturated zone. Based on boring logs, the soils in the screened saturated zone are predominantly silt, clay, and silty-clay units. These Clayey Wilcox sediments were investigated and found to have hydraulic conductivities generally less than 1.0 x 10⁻⁶ cm/sec, and in many cases 1.0 x 10⁻⁸ cm/sec or less, as noted in the Special/Industrial Waste Permit Application prepared by Malcolm Pirnie (March 1998). As a conservative measure of groundwater flow the highest permeability measured at site of 2.0 x 10⁻⁵ cm/sec has been used. An effective porosity of 0.44 was used based on a mix of silty clay and clay of varying plasticity found in the saturated zone. Previously, the hydraulic gradient was determined for each monitoring event using the difference in groundwater elevations at upgradient monitoring well, MW-14, and downgradient well, MW-15, was compromised, the hydraulic gradient is now determined for each monitoring event using an average of the difference in groundwater elevations at upgradient well, MW-14, and downgradient monitoring well, CCR-2, which are approximately 1,800 feet apart, and of the difference in groundwater elevations at upgradient well, MW-14, and downgradient monitoring well, MW-13, and downgradient monitoring well, CCR-2, which are approximately 1,800 feet apart, and of the difference in groundwater elevations at upgradient well, MW-14, which are approximately 1,860 feet apart.

As noted in Table 4-3 and from the potentiometric surface maps (provided in Appendix A), groundwater in the vicinity of the CCR unit flows north-northwest. Also, as noted during the background sampling period, groundwater elevation changed very little in each monitoring well sampled during the 2020 reporting period, indicating that seasonal variability does not significantly impact groundwater at the site. Groundwater flow

is relatively slow due to the low hydraulic conductivity of the soils and was calculated to be 1.5 feet per year based on the 2020 data. This is consistent with the flows calculated for previous monitoring events, as shown in Table 4-3.

4.3 GROUNDWATER SAMPLING RESULTS

The analytical results from the collected samples, the chain-of-custody, and the laboratory quality assurance and quality control (QA/QC) information are provided in Appendix B. In addition to the groundwater samples taken from each of the monitoring wells, a duplicate sample and field blank were collected and analyzed for the required constituents. Temperature, pH, conductivity, turbidity, purge volume, and elapsed purge time were monitored while purging each well. The field data collected while purging and sampling each well using the low stress purging and sampling methodology is included in Appendix C. The data includes monitored field parameters (pH, temperature, turbidity, conductivity), water levels, well depth, drawdown, purge rate, purge volume, and purge time.

The summary of results for sampling conducted during the reporting year is available in Appendix D. For those constituents not detected during a given monitoring event, the value is indicated as "less than" (or <) the minimum reporting level (MRL). Results from the upgradient wells were used to establish the background groundwater quality for each constituent, which is the interwell prediction limit determined using the approved statistical procedures. Because statistically significant increases (SSI) of constituents were verified during the initial detection monitoring event in 2018, GWPS were established per the requirements of §257.95(d)(2) for Appendix IV constituents and are compared to current and future sampling results.

A semiannual assessment monitoring event was conducted on March 25-26, 2020. During this event, all Appendix III constituents and those Appendix IV constituents detected during monitoring conducted May 29-30, 2019, were analyzed. During this sampling event, MW-15 was unable to be sampled due to compromise of the well's integrity discussed in Sections 3.1 and 3.3. The following Appendix IV constituents exceeded the GWPS at the well locations noted below for this monitoring event:

- Beryllium: MW-9
- Cobalt: CCR-2, CCR-3, CCR-5, MW-9, and MW-12
- Lithium: CCR-3 and MW-9

The annual monitoring for all Appendix IV constituents, required by §257.95(b), was conducted May 18, 2020. Based on these results, the following Appendix IV constituents will be monitored during the next two semiannual assessment monitoring events:

- Antimony
- Arsenic
- Barium

- Beryllium
- Cadmium
- Chromium
- Cobalt
- Fluoride
- Lead
- Lithium
- Molybdenum
- Selenium
- Radium 226 and 228 combined

Additionally, the results from this annual event were compared to the GWPS. The following Appendix IV constituents exceeded the GWPS at the well locations noted below for this monitoring event:

- Beryllium: MW-9
- Cobalt: CCR-3, CCR-5, MW-9, and MW-12
- Lithium: CCR-3 and MW-9

The next semiannual assessment monitoring event was conducted on September 28, 2020. During this sampling event, MW-17 was unable to be sampled due to compromise of the well's integrity discussed in Sections 3.1 and 3.3. The following Appendix IV constituents exceeded the GWPS at the well locations noted below for this monitoring event:

- Cobalt: CCR-5, MW-9, and MW-12
- Lithium: CCR-5

Although antimony, cadmium, chromium, lead, molybdenum, and selenium were not detected in the 2020 annual monitoring event, these Appendix IV constituents will still be monitored during the semiannual events since they were detected in the previous assessment monitoring event. Antimony, lead, mercury, molybdenum, and thallium were not detected in any of the monitoring events during the 2020 period. Chromium was only detected in CCR-2 in one event at a level slightly above the prediction limit. Arsenic was detected in CCR-5 in the first two events. The detected concentrations were an order of magnitude below the GWPS, and the location of the well, the property boundary, suggests that arsenic is not a result of site operations. Barium is naturally occurring and has been detected in all monitoring wells, both upgradient and downgradient. However, the results have generally been at least an order of magnitude lower than the GWPS and have shown decreasing trends in most wells. Cadmium was detected in MW-9 during the last 2020 assessment monitoring event. This constituent has not been detected in AW-9 during the last 2020 assessment monitoring event. This constituent has not been detected in any other well, and the detected level in MW-9 is below the GWPS, which is only 5 parts per billion (ppb). Although fluoride was not detected in any of the upgradient wells during the 2020 period, it has previously been

detected in one of the three upgradient wells as well as most downgradient wells. Therefore, there may be sources of naturally occurring fluoride in the area. Concentrations of fluoride in both upgradient and downgradient wells are approximately an order of magnitude below the GWPS, with trends varying across the wells. Selenium was detected during one (1) monitoring event in one (1) property boundary well, CCR-5. The concentration was an order of magnitude below the GWPS and dropped below the detection limit by the annual and second semiannual monitoring events.

Cobalt exceeded the GWPS during the 2020 assessment monitoring events in five (5) downgradient wells, including CCR-2, CCR-3, CCR-5, MW-9, and MW-12. Cobalt has been prevalent in these wells, including the background sampling. Lithium exceeded the GWPS in two (2) wells, CCR-3 and MW-9, during the first two (2) 2020 assessment monitoring events, and in one (1) well, CCR-5, during the second semiannual assessment monitoring event in September. The concentrations of lithium in CCR-3 and MW-9 declined over the 2020 period with CCR-3 being below the GWPS and MW-9 being non-detect in the second semiannual event. Lithium was also detected in OW-2 during the first two assessment monitoring events, but the detection level was below both the prediction limit and the GWPS for this constituent. Beryllium exceeded the GWPS, which is only 5 ppb, in MW-9 in the first two (2) assessment monitoring events of 2020. The beryllium concentration in MW-9 dropped below the GWPS for the second semiannual monitoring event and has not been verified or detected in any other well during any monitoring event.

Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2	Flow Rate	Flow Direction
	Background Monitoring																	
7/26-27/16	488.60	473.59	478.46					538.60	471.49	466.92	499.10	564.91	477.50	480.26		476.80	1.4	NNW
8/22-23/16	488.63	473.33	478.41					538.03	471.74	466.97	498.85	563.94	477.19	480.49		476.50	1.3	NNW
9/12-13/16	488.22	472.96	478.36					538.02	470.97	466.09	498.82	563.12	476.74	480.15		476.20	1.3	NNW
10/17-18/16	488.05	472.69	478.61					537.93	471.17	465.56	498.48	560.56	476.19	479.24		476.00	1.3	NNW
11/9-10/16	487.69	472.41	478.16					537.52	471.32	465.45	497.83	559.08	475.78	479.10		475.50	1.3	NNW
11/28-29/16	487.55	472.38	478.17					536.13	471.47	465.97	497.60	560.51	476.16	479.61		475.64	1.3	NNW
2/8-9/17	488.17	474.06	478.95					537.95	473.34	471.27	498.21	563.49	478.87	481.70		477.60	1.3	NNW
3/29-30/17	488.36	474.82	478.81					537.74	472.44	470.17	498.58	565.88	478.83	486.60		477.40	1.4	NNW
								Detec	tion Mon	itoring								
2/6-7/18	489.83	475.11	478.84					537.58	473.60	471.47	499.40	562.15	478.92	481.87		477.49	1.3	NNW
								Assess	sment Mo	nitoring								
5/15-16/18	489.73	476.19	478.98					538.66	472.82	468.07	501.08	566.41	478.93	481.36		478.19	1.4	NNW
9/10-11/18	488.34	473.95	478.28	460.73				537.84	472.98	468.60	499.16	562.19	477.16	480.72		476.59	1.3	NNW
3/19-20/19 ⁽¹⁾	491.92	479.69	481.38	463.41				538.06	482.28	470.24	521.24	565.69	480.70	NS		478.80	1.3	NNW
5/29-30/19(1)	491.62	478.76	480.84	462.75	459.91	487.14	462.79	538.47	471.56	466.67	521.42	565.63	480.20	NS	478.65	478.98	1.3	NNW
9/10-11/19 ⁽¹⁾	491.28	479.91	480.43	462.02	458.71	487.01	462.04	538.35	470.61	466.33	521.15	565.16	478.83	NS	477.73	477.57	1.3	NNW
3/25-26/20(2)	493.83	479.8	481.27	463.93	NS	NS	NS	541.78	472.53	470.5	525.6	565.94	NS	NS	479.84	479.48	1.5	NNW
5/18/20 ⁽²⁾	491.75	477.25	480.78	463.05	NS	NS	NS	538.71	471.23	468.88	526.48	565.59	NS	NS	480.64	479.36	1.5	NNW
9/28/20(2)	493.95	478	480.41	463.57	NS	NS	NS	537.85	471.24	468.51	525.58	565.01	NS	NS	NS	478.59	1.5	NNW

Table 4-3: Groundwater Elevation (feet) and Flow Rate (feet/yr)

TOC elevations were resurveyed on November 14, 2019 and groundwater elevations were revised using the correct TOC elevations.
 Flow rate calculated using an average hydraulic gradient between MW-14 and CCR-2 as well as MW-13 and CCR-4.

5.0 ADDITIONAL INFORMATION

5.1 ALTERNATIVE MONITORING FREQUENCY

Based on the availability of groundwater, an alternative monitoring frequency may be proposed under both the detection monitoring program and the assessment monitoring program per §§257.94(d) and 257.95(c), respectively. In lieu of semiannual sampling, sampling may be conducted less frequently but no less than annually. Choctaw Generation must obtain a certification from a qualified professional engineer stating that the demonstration for an alternative groundwater sampling and analysis frequency meets the requirements of §§257.94(d) or 257.95(c). Choctaw Generation must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer in the Annual Report. With this Annual Report, Choctaw Generation is not making an alternative monitoring frequency demonstration.

5.2 DEMONSTRATION OF INVALID STATISTICALLY SIGNIFICANT INCREASE

Within 90 days of finding that any of the Appendix III or IV constituents have been detected at a statistically significant level, Choctaw Generation may demonstrate that a source other than the CCR unit caused the contamination or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Such demonstration is allowed by both the detection monitoring program and assessment monitoring program per \$257.94(e)(2) and \$257.95(g)(3), respectively. Any such demonstration must be supported by a report that includes the factual or evidentiary basis for any conclusions and must be certified to be accurate by a qualified professional engineer. If a successful demonstration is made, Choctaw Generation must continue monitoring in accordance with the detection or assessment monitoring program, as applicable. Choctaw Generation must also include the demonstration in the Annual Report, as well as the certification by a qualified professional engineer. With this Annual Report, Choctaw Generation is demonstrating at this time that beryllium detected at a SSL above the GWPS resulted from an alternate source. Sampling to evaluate the composition of the natural soil at the site was conducted on October 29, 2019 which included drilling soil borings in three (3) locations at the Choctaw Generation site. The samples were collected at a variety of depths ranging from four (4) to twenty (20) feet to capture the natural, differing geologies in the soil and material near and within the monitored aquifer. Based on review of the analytical results, the initial ASD was developed and certified on December 17, 2019 demonstrating that elevated lithium and cobalt concentrations above each GWPS were a result of natural variation in the groundwater quality as a result of the aquifer material rather than a potential release from the CCR unit. Beryllium was then detected above the GWPS in March 2020 and then verified in the following event in May of 2020. In response, the analytical results from the soil sampling event were used along with the findings outlined in the revised ASD to provide an evidential conclusion that elevated beryllium concentration detected above the GWPS was a result of natural variation in the groundwater quality as a result of the aquifer material rather than a potential release from the CCR unit.

Additionally, the molybdenum exceedance was never confirmed or verified upon resampling events; therefore, molybdenum is not believed to have exceeded the GWPS. The revised ASD along with the certification by a qualified professional engineer is included in Appendix E of the Annual Report. As a result of the successful revised ASD, Choctaw Generation will continue in assessment monitoring.

5.3 TIME EXTENSION FOR CORRECTIVE MEASURES ASSESSMENT

An assessment of corrective measures must be completed within 90 days of finding any Appendix IV constituent has been detected at a statistically significant level exceeding the GWPS. A demonstration of need for up to an additional 60 days to complete this assessment may be made as a result of site-specific conditions or circumstances. Certification from a qualified professional engineer attesting that this demonstration is accurate must be provided, and both the demonstration and certification must be included in the Annual Report. *With this Annual Report, Choctaw Generation is not requesting additional time to assess corrective measures, since such assessment was not required during the period covered by the report.*

6.0 CONCLUSION

6.1 SUMMARY OF KEY ACTIONS COMPLETED

During the reporting period, two semiannual assessment monitoring events were conducted, revealing continued exceedances of the GWPS for cobalt and lithium. Additionally, the GWPS for beryllium was exceeded in two (2) instances at one (1) well, therefore verifying the exceedance. Since corrective measure activities were ceased due to the successful ASD addressing lithium and cobalt, the three monitoring wells that were installed on the Mississippi Lignite Mine's property to delineate the nature and extent of the potential contamination have been removed from the groundwater monitoring system.

In response to the verified beryllium exceedance above the GWPS, the ASD was successfully amended on August 20, 2020 to include evidence that detections of beryllium at a SSL above the GWPS are a result of an alternate source. Due to the successful ASD, assessment monitoring was continued.

6.2 KEY ACTIVITIES FOR UPCOMING YEAR

During calendar year 2021, Choctaw Generation anticipates conducting at least two (2) semiannual monitoring events and an annual Appendix IV monitoring event in accordance with the assessment monitoring program as outlined by §257.95(g). Monitoring wells MW-15 and MW-17 will be properly decommissioned as described in Section 3.3. If any constituent, other than those addressed by the revised ASD, is detected at a SSL above the GWPS, the ASD will be amended or corrective measures will be initiated to address the constituents of concern.

FIGURE 1

SITE LOCATION MAP

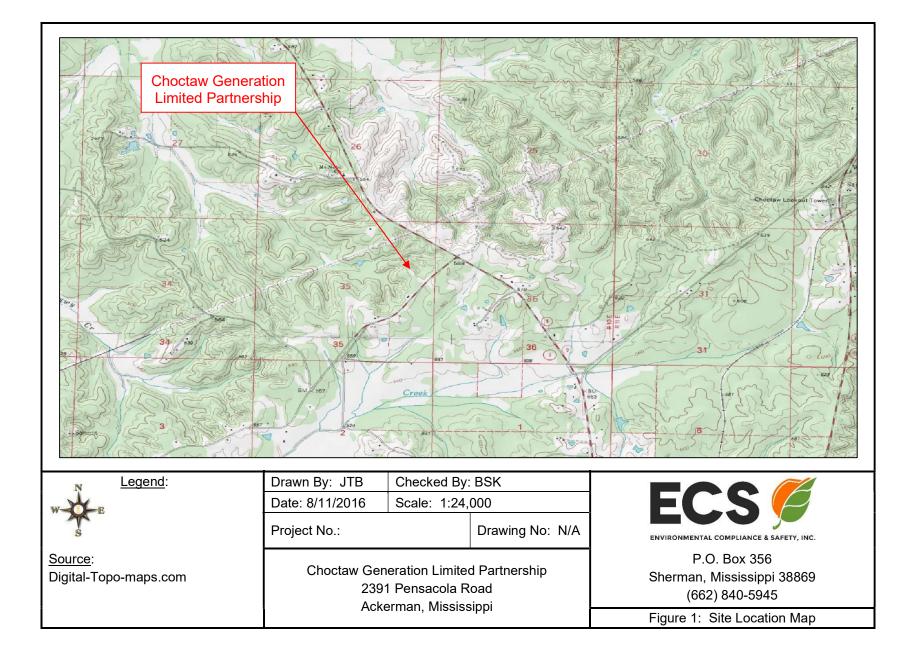
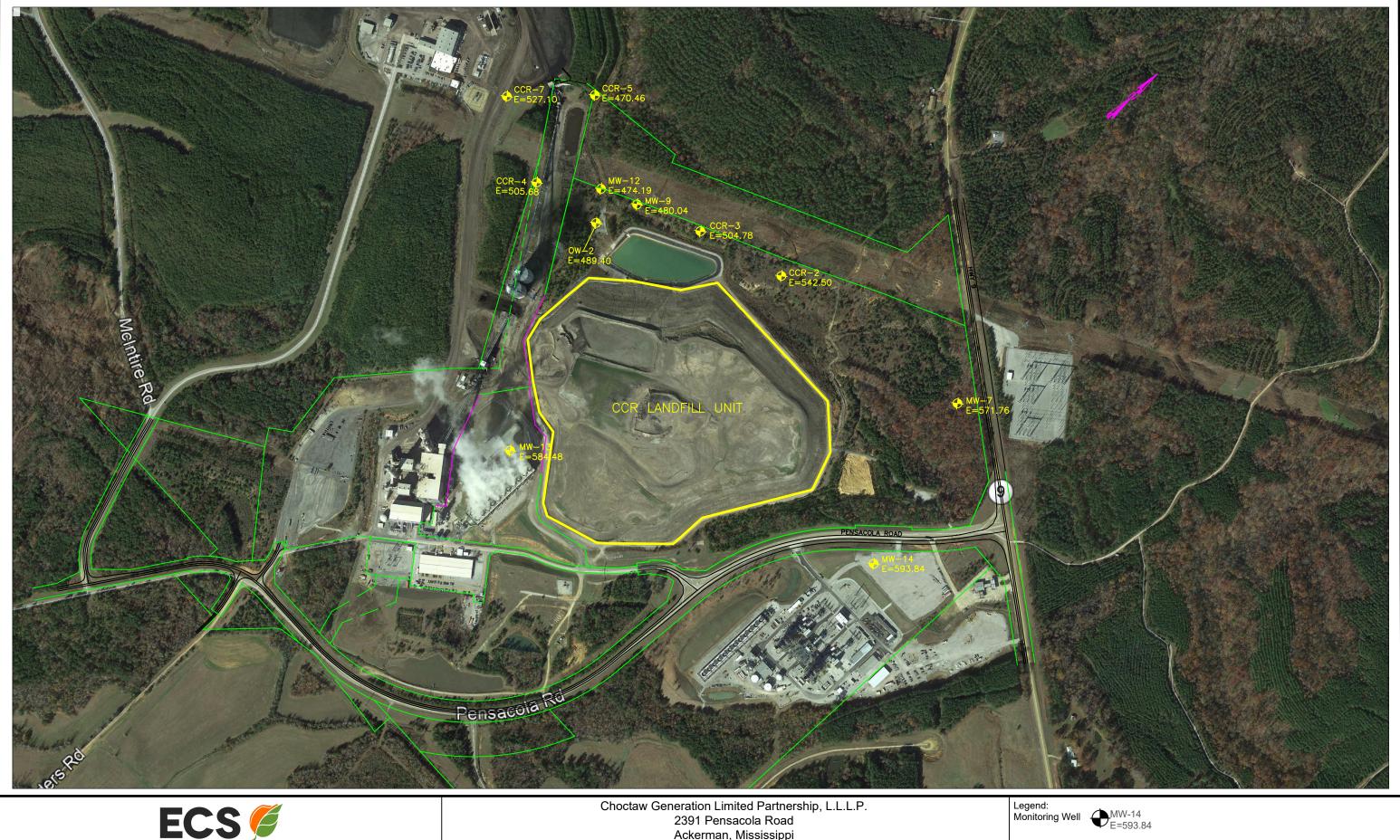


FIGURE 2

FACILITY DIAGRAM



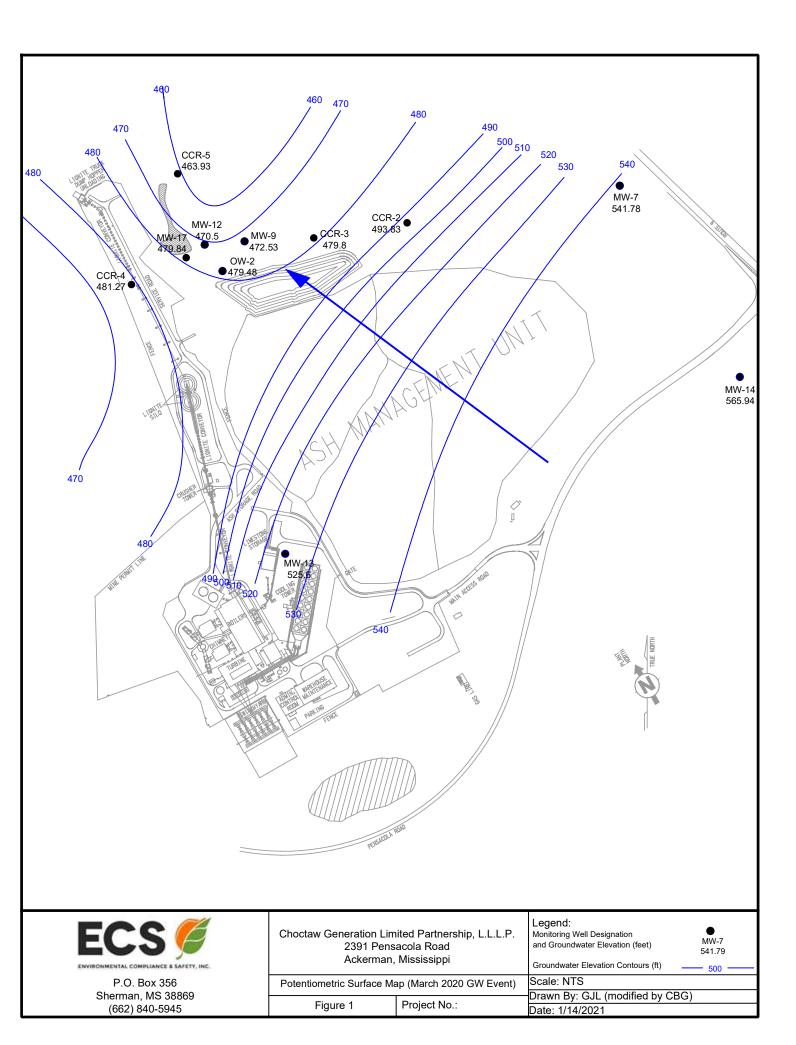


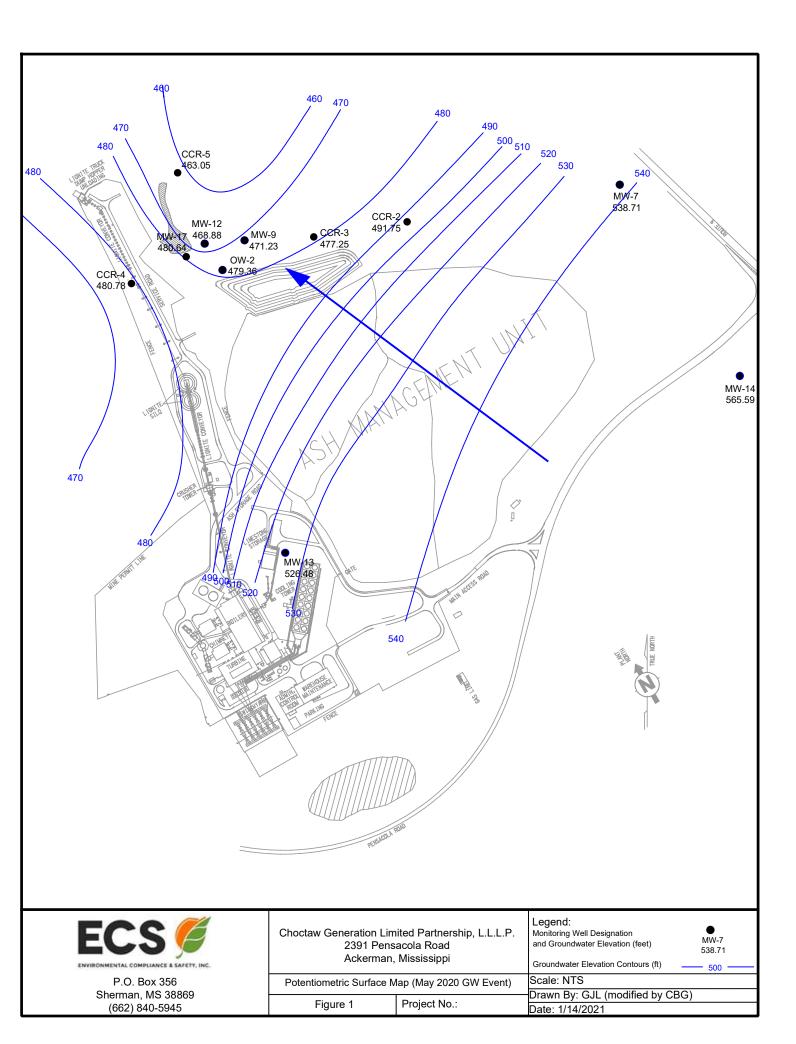
2391 Pensacola Road Ackerman, Mississippi				
Facility	Diagram	Scale:		
		Drawn		
Figure 2	Project No.:	Date: 8		

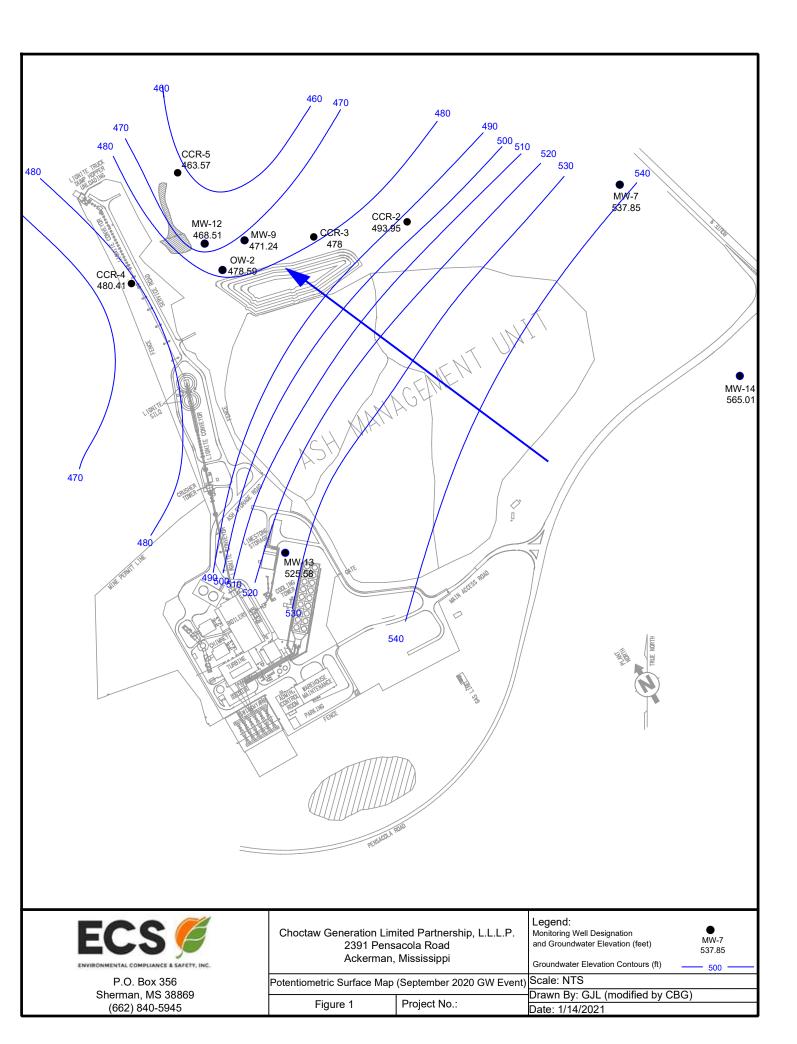
e: Not Determined		
n By: JTB	Revised By: CBG	
8/27/2018	Date: 1/14/2021	

APPENDIX A

POTENTIOMETRIC SURFACE MAPS







APPENDIX B

ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FORMS

Lab ID# MS00021 TNI ID # TNI01397 LELAP Certification # 01960 MICRO-METHODS **Mailing Address: 6500 Sunplex Drive PO Box 1410** Ocean Springs, MS 39564 DOCUMENT CHANGE NOTICE 228.875.6420 Phone **Ocean Springs, MS** 39566-1410 228.875.6423 Fax **Revised Report** April 23, 2020 Jim Ward Work Order # : 2003539 **Choctaw Generation LP** RHD12930 Purchase Order # 2391 Pensacola Rd. Ackerman, MS 39735 **RE: CGLP CCR** Enclosed is the revised report for samples received by the laboratory on 03/27/2020 08:12. This report supercedes any previous version of the above noted work order. If you have any questions concerning this report, please feel free to contact the office. Sincerely,

87

Clyde Woodward

President

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR Project Number: March 2020 1st CCR Event Project Manager: Jim Ward

Reported: 04/23/2020 10:52

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
MW-9	2003539-01	Water	03/26/2020 13:34	Kirk Shelton	03/27/2020 08:12
MW-17	2003539-02	Water	03/26/2020 12:20	Kirk Shelton	03/27/2020 08:12
OW-2	2003539-03	Water	03/26/2020 11:25	Kirk Shelton	03/27/2020 08:12
MW-13	2003539-04	Water	03/25/2020 09:11	Kirk Shelton	03/27/2020 08:12
MW-7	2003539-05	Water	03/25/2020 12:35	Kirk Shelton	03/27/2020 08:12
MW-14	2003539-06	Water	03/25/2020 11:16	Kirk Shelton	03/27/2020 08:12
Field Blank	2003539-07	Water	03/26/2020 14:35	Kirk Shelton	03/27/2020 08:12
Duplicate	2003539-08	Water	03/25/2020 00:00	Kirk Shelton	03/27/2020 08:12
MW-12	2003539-09	Water	03/26/2020 12:18	Kirk Shelton	03/27/2020 08:12
CCR-5	2003539-10	Water	03/25/2020 10:15	Kirk Shelton	03/27/2020 08:12
CCR-2	2003539-11	Water	03/26/2020 09:29	Kirk Shelton	03/27/2020 08:12
CCR-3	2003539-12	Water	03/26/2020 10:05	Kirk Shelton	03/27/2020 08:12
CCR-4	2003539-13	Water	03/26/2020 14:30	Kirk Shelton	03/27/2020 08:12

COC meets acceptance criteria

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR Project Number: March 2020 1st CCR Event Project Manager: Jim Ward 6500 Sunplex Drive Ocean Springs, MS 39564 228-875-6420 Phone 228-875-6423 Fax

Reported: 04/23/2020 10:52

Sample Receipt Conditions

Date/Time Received: 3/27/2020 8:12:00AM		Shipped by: Fed Ex	
Received by: Sarah E. Tomek		Submitted by: Kirk Shelton	
Date/Time Logged: 3/27/2020 9:49:00AM		Logged by: Stella S Kleist	
Cooler ID: #1104	_	Receipt Temperature:0.1 °C	
Cooler Custody Seals Present	Yes	Received on Ice but Not Frozen	Yes
Containers Intact	Yes	No Ice, Short Trip	No
COC/Labels Agree	Yes	Obvious Contamination	No
Labels Complete	Yes	Rush to meet HT	No
COC Complete	Yes	Received within HT	Yes
Volatile Vial Headspace >6mm	No	Proper Containers for Analysis	Yes
Field Sheet/Instructions Included	No	Correct Preservation	Yes
Samples Rejected/Documented in Log	No	Adequate Sample for Analysis	No
Temp Taken From Temp Blank	No	Sample Custody Seals Present	No
Temp Taken From Sample Container	No	Samples Missing from COC/Cooler	No
Temp Taken From Cooler	No		

No

6500 Sunplex Drive Ocean Springs, MS 39564 228-875-6420 Phone 228-875-6423 Fax

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR Project Number: March 2020 1st CCR Event Project Manager: Jim Ward

Reported: 04/23/2020 10:52

Cooler ID: #1134	_	Receipt Temperature:0.1 °C	
Cooler Custody Seals Present	Yes	Received on Ice but Not Frozen	Yes
Containers Intact	Yes	No Ice, Short Trip	No
COC/Labels Agree	Yes	Obvious Contamination	No
Labels Complete	Yes	Rush to meet HT	No
COC Complete	Yes	Received within HT	Yes
Volatile Vial Headspace >6mm	No	Proper Containers for Analysis	Yes
Field Sheet/Instructions Included	No	Correct Preservation	Yes
Samples Rejected/Documented in Log	No	Adequate Sample for Analysis	No
Temp Taken From Temp Blank	No	Sample Custody Seals Present	No
Temp Taken From Sample Container	No	Samples Missing from COC/Cooler	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	No		

6500 Sunplex Drive Ocean Springs, MS 39564 228-875-6420 Phone 228-875-6423 Fax

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR Project Number: March 2020 1st CCR Event Project Manager: Jim Ward

Reported: 04/23/2020 10:52

Cooler ID:#515	-	Receipt Temperature:0.9 °C	
Cooler Custody Seals Present	Yes	Received on Ice but Not Frozen	Yes
Containers Intact	Yes	No Ice, Short Trip	No
COC/Labels Agree	Yes	Obvious Contamination	No
Labels Complete	Yes	Rush to meet HT	No
COC Complete	Yes	Received within HT	Yes
Volatile Vial Headspace >6mm	No	Proper Containers for Analysis	Yes
Field Sheet/Instructions Included	No	Correct Preservation	Yes
Samples Rejected/Documented in Log	No	Adequate Sample for Analysis	No
Temp Taken From Temp Blank	No	Sample Custody Seals Present	No
Temp Taken From Sample Container	No	Samples Missing from COC/Cooler	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	No		

COC meets acceptance criteria

6500 Sunplex Drive Ocean Springs, MS 39564 228-875-6420 Phone 228-875-6423 Fax

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR Project Number: March 2020 1st CCR Event Project Manager: Jim Ward

Reported: 04/23/2020 10:52

Cooler ID: Client cooler	_	Receipt Temperature: 0.9 °C	
Cooler Custody Seals Present	Yes	Received on Ice but Not Frozen	Yes
Containers Intact	Yes	No Ice, Short Trip	No
COC/Labels Agree	Yes	Obvious Contamination	No
Labels Complete	Yes	Rush to meet HT	No
COC Complete	Yes	Received within HT	Yes
Volatile Vial Headspace >6mm	No	Proper Containers for Analysis	Yes
Field Sheet/Instructions Included	No	Correct Preservation	Yes
Samples Rejected/Documented in Log	No	Adequate Sample for Analysis	No
Temp Taken From Temp Blank	No	Sample Custody Seals Present	No
Temp Taken From Sample Container	No	Samples Missing from COC/Cooler	No
Temp Taken From Cooler	No		

No



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR Project Number: March 2020 1st CCR Event Project Manager: Jim Ward Ocean Springs, MS 39564 228-875-6420 Phone 228-875-6423 Fax

6500 Sunplex Drive

Reported: 04/23/2020 10:52

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

See attached results from Sub-Contract Laboratory

REVISION - Samples analyzed for Antimony but was omitted from report. Antimony added - revised report issued TPT 4-23-2020

Qualification:

Fluoride-SM 4500-F C 2011

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

Fluoride

2003539-01[MW-9], 2003539-02[MW-17], 2003539-03[OW-2], 2003539-04[MW-13], 2003539-05[MW-7], 2003539-06[MW-14], 2003539-07[Field Blank], 2003539-08[Duplicate], 2003539-09[MW-12], 2003539-10[CCR-5], 2003539-11[CCR-2], 2003539-12[CCR-3], 2003539-13[CCR-4]

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735

Project: CGLP CCR Project Number: March 2020 1st CCR Event

Narch 2020 ISLOCK EV

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

MW-9

2003539-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch A	nalyst	Date Time Prepared	Date Time Analyzed	Method	Notes
Classical Chemistry Param	eters									
Chloride	612	10.0	mg/L	20.0	0C27021	DLW	03/27/2020 12:03	03/27/2020 12:20	SM 4110B 2011	
Sulfate as SO4	204	100	"	"	"	DLW				
Fluoride	0.58	0.22	"	1.0	0C30045	GMS	03/30/2020 09:00	03/30/2020 11:30	SM 4500-F C 2011	CC-03
Total Dissolved Solids	1552	2	"	"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
Metals by EPA 200 Series M	lethods ICP-MS [Analysis N	lode]							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0C30032	ABT	03/30/2020 09:05	03/30/2020 21:11	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.00200	"	"	"	ABT				
Barium [He]	0.137	0.00100	"	"	"	ABT				
Beryllium [He]	0.00529	0.00100	"	"	"	ABT				
Boron [NG]	ND	0.0500	"		"	ABT		03/31/2020 13:47	"	
Cadmium [HHe]	ND	0.00100	"	"	"	ABT		03/30/2020 21:11	"	
Chromium [He]	ND	0.00100	"		"	ABT				
Cobalt [He]	0.0306	0.00100	"	"	"	ABT				
Lead [He]	ND	0.00100	"		"	ABT				
Molybdenum [He]	ND	0.00100	"	"	"	ABT				
Selenium [HHe]	ND	0.00100	"	"	"	ABT				
Lithium [He]	0.113	0.0400	"	"		ABT				
Calcium [He]	96.4	1.25	"	50.0	"	ABT		03/31/2020 22:45	"	

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735

Project: CGLP CCR

Project Number: March 2020 1st CCR Event

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

MW-17

			20035	39-02 (\	Nater)					
Analyte	Result	MRL	Units	Dil	Batch A	nalyst	Date Time Prepared	Date Time Analyzed	Method	Notes
			Onits	Dii	Datch A	naryst		,	Method	NOLES
Classical Chemistry Parame		0.00								
Chloride	41.2	2.00	mg/L	4.0	0C27021	DLW	03/27/2020 12:03	03/27/2020 12:38	SM 4110B 2011	
Sulfate as SO4	140	20.0		"	"	DLW				
Fluoride	ND	0.22	"	1.0	0C30045	GMS	03/30/2020 09:00	03/30/2020 11:30	SM 4500-F C 2011	CC-03
Total Dissolved Solids	402	1		"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
Metals by EPA 200 Series M	lethods ICP-MS [Analysis N	lode]							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0C30032	ABT	03/30/2020 09:05	03/30/2020 21:35	EPA 200.8 Rev 5.4	
Arsenic [HHe]	0.00245	0.00200	"	"	"	ABT				
Barium [He]	0.0962	0.00100	"	"	"	ABT				
Beryllium [He]	ND	0.00100	"	"	"	ABT			"	
Boron [NG]	0.0843	0.0500	"		"	ABT				
Cadmium [HHe]	ND	0.00100	"	"	"	ABT			"	
Chromium [He]	ND	0.00100	"	"	"	ABT				
Cobalt [He]	0.00506	0.00100		"	"	ABT				
Lead [He]	ND	0.00100		"	"	ABT	"			
Molybdenum [He]	ND	0.00100		"	"	ABT				
Selenium [HHe]	ND	0.00100		"	"	ABT				
Lithium [He]	ND	0.0400		"	"	ABT			"	
Calcium [He]	55.1	0.625	"	25.0	"	ABT		03/31/2020 23:11	"	

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735

Project: CGLP CCR Project Number: March 2020 1st CCR Event

oject Number March 2020 ISI CCR EV

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

OW-2

2003539-03 (Water)

							Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch A	Analyst	Prepared	Analyzed	Method	Notes
Classical Chemistry Parameter	rs									
Chloride	35.2	2.00	mg/L	4.0	0C27021	DLW	03/27/2020 12:03	03/27/2020 12:56	SM 4110B 2011	
Sulfate as SO4	136	20.0	"	"	"	DLW				
Fluoride	0.23	0.22	"	1.0	0C30045	GMS	03/30/2020 09:00	03/30/2020 11:30	SM 4500-F C 2011	CC-03
Total Dissolved Solids	376	1	"	"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
Metals by EPA 200 Series Meth	ods ICP-MS [Analysis N	lode]							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0C30032	ABT	03/30/2020 09:05	03/30/2020 21:43	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.00200	"	"	"	ABT				
Barium [He]	0.0927	0.00100	"		"	ABT		"		
Beryllium [He]	ND	0.00100	"	"	"	ABT			"	
Boron [NG]	ND	0.0500	"	"	"	ABT		"	"	
Cadmium [HHe]	ND	0.00100	"	"	"	ABT				
Chromium [He]	ND	0.00100	"	"	"	ABT				
Cobalt [He]	ND	0.00100	"	"	"	ABT				
Lead [He]	ND	0.00100	"	"	"	ABT		"		
Molybdenum [He]	ND	0.00100	"	"	"	ABT				
Selenium [HHe]	ND	0.00100	"	"	"	ABT				
Lithium [He]	0.0460	0.0400	"	"	"	ABT				
Calcium [He]	41.6	0.625	"	25.0	"	ABT		03/31/2020 23:20	"	

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735

Project: CGLP CCR

Project Number: March 2020 1st CCR Event

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

MW-13

2003539-04 (Water)

	D "			5			Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch A	nalyst	Prepared	Analyzed	Method	Notes
Classical Chemistry Paramete	rs									
Chloride	3.55	0.500	mg/L	1.0	0C27021	DLW	03/27/2020 12:03	03/27/2020 13:14	SM 4110B 2011	
Sulfate as SO4	7.13	5.00	"	"	"	DLW			"	
Fluoride	ND	0.22	"	"	0C30045	GMS	03/30/2020 09:00	03/30/2020 11:30	SM 4500-F C 2011	CC-03
Total Dissolved Solids	155	1	"	"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
Metals by EPA 200 Series Met	hods ICP-MS	Analysis N	lode]							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0C30032	ABT	03/30/2020 09:05	03/30/2020 22:25	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.00200	"	"	"	ABT				
Barium [He]	0.160	0.00100	"	"	"	ABT				
Beryllium [He]	ND	0.00100	"	"	"	ABT		"		
Boron [NG]	ND	0.0500	"	"	"	ABT				
Cadmium [HHe]	ND	0.00100	"	"	"	ABT				
Chromium [He]	ND	0.00100	"	"	"	ABT				
Cobalt [He]	ND	0.00100	"	"	"	ABT				
Lead [He]	ND	0.00100	"	"	"	ABT				
Molybdenum [He]	ND	0.00100	"	"	"	ABT				
Selenium [HHe]	ND	0.00100	"	"	"	ABT				
Lithium [He]	ND	0.0400	"	"	"	ABT				
Calcium [He]	24.4	0.250	"	10.0		ABT		03/31/2020 23:29	"	

ND

ND

ND

ND

ND

ND

ND

ND

ND

45.0

0.00100

0.0500

0.00100

0.00100

0.00100

0.00100

0.00100

0.00100

0.0400

0.625

...

...

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735

Beryllium [He]

Cadmium [HHe]

Chromium [He]

Molybdenum [He]

Selenium [HHe]

Lithium [He]

Calcium [He]

Boron [NG]

Cobalt [He]

Lead [He]

Project: CGLP CCR

Project Number: March 2020 1st CCR Event

ABT

03/31/2020 23:38

...

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

Notes

CC-03

				MW-7	,				
			20035	39-05 (\	Nater)				
Analyte	Result	MRL	Units	Dil	Batch Ar	nalyst	Date Time Prepared	Date Time Analyzed	Method
Classical Chemistry Param	eters								
Chloride	2.72	0.500	mg/L	1.0	0C27021	DLW	03/27/2020 12:03	03/27/2020 14:02	SM 4110B 2011
Sulfate as SO4	40.8	10.0	"	2.0	"	DLW		03/27/2020 14:21	n
Fluoride	ND	0.22	"	1.0	0C30045	GMS	03/30/2020 09:00	03/30/2020 11:30	SM 4500-F C 2011
Total Dissolved Solids	185	1	"	"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011
Metals by EPA 200 Series M	lethods ICP-MS [Analysis N	lode]						
Antimony [HHe]	ND	0.00500	mg/L	1.0	0C30032	ABT	03/30/2020 09:05	03/30/2020 22:33	EPA 200.8 Rev 5.4
Arsenic [HHe]	ND	0.00200	"	"	"	ABT			
Barium [He]	0.0713	0.00100	"	"	"	ABT			"

...

...

25.0

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735

Project: CGLP CCR

Project Number: March 2020 1st CCR Event

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

2003539-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch A	nalyst	Date Time Prepared	Date Time Analyzed	Method	Notes
Classical Chemistry Param	eters									
Chloride	19.1	0.500	mg/L	1.0	0C27021	DLW	03/27/2020 12:03	03/27/2020 14:39	SM 4110B 2011	
Sulfate as SO4	11.1	5.00		"	"	DLW				
Fluoride	ND	0.22	"	"	0C30045	GMS	03/30/2020 09:00	03/30/2020 11:30	SM 4500-F C 2011	CC-03
Total Dissolved Solids	89	1		"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
Metals by EPA 200 Series N	lethods ICP-MS	Analysis N	lode]							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0C30032	ABT	03/30/2020 09:05	03/30/2020 22:42	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.00200	"	"	"	ABT			"	
Barium [He]	0.0112	0.00100		"	"	ABT				
Beryllium [He]	ND	0.00100		"	"	ABT		"	"	
Boron [NG]	ND	0.0500		"	"	ABT				
Cadmium [HHe]	ND	0.00100	"	"	"	ABT			"	
Chromium [He]	ND	0.00100		"	"	ABT				
Cobalt [He]	ND	0.00100			"	ABT		"		
Lead [He]	ND	0.00100		"	"	ABT			"	
Molybdenum [He]	ND	0.00100			"	ABT		"		
Selenium [HHe]	ND	0.00100		"	"	ABT			"	
_ithium [He]	ND	0.0400		"	"	ABT			"	
Calcium [He]	0.734	0.0250		"	"	ABT		03/31/2020 23:46	"	

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735

Project: CGLP CCR

Project Number: March 2020 1st CCR Event

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

Field Blank

2003539-07 (Water)

Analyte	Result	MRL	Units	Dil	Batch A	nalyst	Date Time Prepared	Date Time Analyzed	Method	Notes
Classical Chemistry Parameters	s					-				
Chloride	0.714	0.500	mg/L	1.0	0C27021	DLW	03/27/2020 12:03	03/27/2020 15:50	SM 4110B 2011	
Sulfate as SO4	ND	5.00	"	"	"	DLW				
Fluoride	ND	0.22	"	"	0C30045	GMS	03/30/2020 09:00	03/30/2020 11:30	SM 4500-F C 2011	CC-03
Total Dissolved Solids	11	1	"	"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
Metals by EPA 200 Series Metho	ods ICP-MS	Analysis N	lode]							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0C30032	ABT	03/30/2020 09:05	03/30/2020 22:50	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.00200	"	"	"	ABT	-			
3arium [He]	ND	0.00100	"	"	"	ABT				
3eryllium [He]	ND	0.00100	"	"	"	ABT				
Boron [NG]	ND	0.0500	"	"	"	ABT				
Cadmium [HHe]	ND	0.00100	"	"	"	ABT				
Chromium [He]	ND	0.00100	"	"	"	ABT				
Cobalt [He]	ND	0.00100	"	"	"	ABT				
ead [He]	ND	0.00100	"	"	"	ABT				
/lolybdenum [He]	ND	0.00100	"	"	"	ABT				
Selenium [HHe]	ND	0.00100	"	"	"	ABT				
.ithium [He]	ND	0.0400	"	"	"	ABT				
Calcium [He]	ND	0.0250	"	"	"	ABT		04/01/2020 00:31		

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735

Project: CGLP CCR Project Number: March 2020 1st CCR Event

Narch 2020 ISLUCK E

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

Duplicate

2003539-08 (Water)

Analyte	Result	MRL	Units	Dil	Batch A	nalyst	Date Time Prepared	Date Time Analyzed	Method	Notes
Classical Chemistry Parameters										
Chloride	18.9	0.500	mg/L	1.0	0C27021	DLW	03/27/2020 12:03	03/27/2020 16:08	SM 4110B 2011	
Sulfate as SO4	11.8	5.00	"	"	"	DLW				
luoride	ND	0.22	"	"	0C30045	GMS	03/30/2020 09:00	03/30/2020 11:30	SM 4500-F C 2011	CC-03
otal Dissolved Solids	86	1	"	"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
Metals by EPA 200 Series Metho	ds ICP-MS [Analysis N	lode]							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0C30032	ABT	03/30/2020 09:05	03/30/2020 23:08	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.00200	"	"	"	ABT			"	
Barium [He]	0.0112	0.00100	"	"	"	ABT			•	
3eryllium [He]	ND	0.00100	"	"	"	ABT			"	
Boron [NG]	ND	0.0500	"	"	"	ABT				
Cadmium [HHe]	ND	0.00100	"	"	"	ABT				
Chromium [He]	ND	0.00100	"	"	"	ABT				
Cobalt [He]	ND	0.00100	"		"	ABT			"	
ead [He]	ND	0.00100	"	"	"	ABT				
/lolybdenum [He]	ND	0.00100	"	"	"	ABT			"	
Selenium [HHe]	ND	0.00100	"	"		ABT			"	
.ithium [He]	ND	0.0400	"	"		ABT				
Calcium [He]	0.741	0.0250	"	"	"	ABT		04/01/2020 00:40	n	

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735

Project: CGLP CCR Project Number: March 2020 1st CCR Event

Narch 2020 Ist CCR E

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

MW-12

2003539-09 (Water)

	Develt		1.1	0.1	Detail		Date Time Propored	Date Time		
Analyte	Result	MRL	Units	Dil	Batch A	nalyst	Prepared	Analyzed	Method	Notes
Classical Chemistry Parameters										
Chloride	71.1	1.00	mg/L	2.0	0C27021	DLW	03/27/2020 12:03	03/27/2020 16:44	SM 4110B 2011	
Sulfate as SO4	74.8	10.0	"	"	"	DLW				
Fluoride	ND	0.22	"	1.0	0C30045	GMS	03/30/2020 09:00	03/30/2020 11:30	SM 4500-F C 2011	CC-03
Total Dissolved Solids	335	1	"	"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
Metals by EPA 200 Series Method	ds ICP-MS	[Analysis N	lode]							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0C30032	ABT	03/30/2020 09:05	03/30/2020 23:16	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.00200	"	"	"	ABT				
Barium [He]	0.259	0.00200	"	2.0	"	ABT		03/31/2020 14:09	u	
Beryllium [He]	ND	0.00100	"	1.0		ABT		03/30/2020 23:16	"	
Boron [NG]	ND	0.0500	"	"	"	ABT				
Cadmium [HHe]	ND	0.00100	"	"	"	ABT				
Chromium [He]	ND	0.00100	"	"	"	ABT				
Cobalt [He]	0.0236	0.00100	"	"	"	ABT	"		"	
₋ead [He]	ND	0.00100	"	"	"	ABT				
Molybdenum [He]	ND	0.00100	"	"	"	ABT	"			
Selenium [HHe]	ND	0.00100	"	"	"	ABT				
_ithium [He]	ND	0.0400	"	"	"	ABT	"			
Calcium [He]	36.9	0.625	"	25.0	"	ABT		04/01/2020 00:49	"	

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735

Project: CGLP CCR Project Number: March 2020 1st CCR Event

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

2003539-10 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Notes
Classical Chemistry Parameters										
Chloride	7.39	0.500	mg/L	1.0	0C27021	DLW	03/27/2020 12:03	03/27/2020 17:38	SM 4110B 2011	
Sulfate as SO4	1320	250	"	50.0	"	DLW		03/27/2020 17:56	"	
Fluoride	ND	0.22	"	1.0	0C30045	5 GMS	03/30/2020 09:00	03/30/2020 11:30	SM 4500-F C 2011	CC-03
Total Dissolved Solids	1930	2	"	"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
Metals by EPA 200 Series Metho	ds ICP-MS [Analysis N	lode]							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0C30032	2 ABT	03/30/2020 09:05	03/30/2020 23:24	EPA 200.8 Rev 5.4	
Arsenic [HHe]	0.00407	0.00200	"	"	"	ABT				
Barium [He]	0.0246	0.00100	"	"	"	ABT			•	
Beryllium [He]	ND	0.00100	"	"	"	ABT				
Boron [NG]	0.0871	0.0500	"	"		ABT			"	
Cadmium [HHe]	ND	0.00100	"	"		ABT				
Chromium [He]	ND	0.00100	"	"		ABT			"	
Cobalt [He]	0.0517	0.00100	"	"		ABT		"		
Lead [He]	ND	0.00100	"	"		ABT				
Molybdenum [He]	ND	0.00100	"	"	"	ABT				
Selenium [HHe]	0.00189	0.00100	"			ABT		"		
Lithium [He]	ND	0.0400	"	"		ABT				
Calcium [He]	259	2.50	"	100.0	"	ABT		04/01/2020 00:57	"	

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735

Project: CGLP CCR Project Number: March 2020 1st CCR Event

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

CCR-2

2003539-11 (Water)

							Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch A	Analyst	Prepared	Analyzed	Method	Notes
Classical Chemistry Parame	eters									
Chloride	2.19	0.500	mg/L	1.0	0C27021	DLW	03/27/2020 12:03	03/27/2020 18:14	SM 4110B 2011	
Sulfate as SO4	11.4	5.00	"	"	"	DLW	•			
Fluoride	ND	0.22	"	"	0C30045	GMS	03/30/2020 09:00	03/30/2020 11:30	SM 4500-F C 2011	CC-03
Total Dissolved Solids	135	1	"		0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
Metals by EPA 200 Series M	ethods ICP-MS [Analysis N	lode]							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0C30032	ABT	03/30/2020 09:05	03/30/2020 23:33	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.00200	"	"	"	ABT				
Barium [He]	0.120	0.00100	"		"	ABT				
Beryllium [He]	ND	0.00100	"		"	ABT			"	
Boron [NG]	ND	0.0500	"		"	ABT		"	"	
Cadmium [HHe]	ND	0.00100	"		"	ABT				
Chromium [He]	0.00111	0.00100	"	"	"	ABT				
Cobalt [He]	0.0141	0.00100	"	"	"	ABT	-			
_ead [He]	ND	0.00100	"	"	"	ABT		"	"	
Molybdenum [He]	ND	0.00100	"	"	"	ABT				
Selenium [HHe]	ND	0.00100	"	"	"	ABT				
Lithium [He]	ND	0.0400	"	"	"	ABT				
Calcium [He]	18.5	0.250	"	10.0	"	ABT		04/01/2020 01:06	"	

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735

Project: CGLP CCR Project Number: March 2020 1st CCR Event

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

2003539-12 (Water)

							Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch A	Analyst	Prepared	Analyzed	Method	Notes
Classical Chemistry Parameter	s									
Chloride	4.65	0.500	mg/L	1.0	0C27021	DLW	03/27/2020 12:03	03/27/2020 18:32	SM 4110B 2011	
Sulfate as SO4	263	50.0	"	10.0		DLW		03/30/2020 11:19	"	
luoride	ND	0.22	"	1.0	0C30045	GMS	03/30/2020 09:00	03/30/2020 11:30	SM 4500-F C 2011	CC-03
otal Dissolved Solids	486	1	"	"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
Metals by EPA 200 Series Methe	ods ICP-MS [Analysis N	lode]							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0C30032	ABT	03/30/2020 09:05	03/30/2020 23:50	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.00200	"	"	"	ABT			"	
Barium [He]	0.0796	0.00100	"	"	"	ABT				
3eryllium [He]	ND	0.00100	"	"	"	ABT			"	
Boron [NG]	ND	0.0500	"		"	ABT				
Cadmium [HHe]	ND	0.00100	"	"	"	ABT				
Chromium [He]	ND	0.00100	"	"	"	ABT				
Cobalt [He]	0.0116	0.00100	"	"	"	ABT				
ead [He]	ND	0.00100	"	"	"	ABT				
/lolybdenum [He]	ND	0.00100	"	"	"	ABT				
Selenium [HHe]	ND	0.00100	"		"	ABT			"	
.ithium [He]	0.115	0.0400	"	"	"	ABT				
Calcium [He]	50.9	1.25	"	50.0		ABT		04/01/2020 01:15		

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735

Project: CGLP CCR

Project Number: March 2020 1st CCR Event

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

CCR-4

2003539-13 (Water)

Analyte	Result	MRL	Units	Dil	Batch A	nalyst	Date Time Prepared	Date Time Analyzed	Method	Notes
Classical Chemistry Parameter	rs									
Chloride	7.84	0.500	mg/L	1.0	0C27021	DLW	03/27/2020 12:03	03/27/2020 19:07	SM 4110B 2011	
Sulfate as SO4	30.6	5.00	"	"		DLW				
Fluoride	ND	0.22	"	"	0C30045	GMS	03/30/2020 09:00	03/30/2020 11:30	SM 4500-F C 2011	CC-03
Total Dissolved Solids	210	1	"	"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
Metals by EPA 200 Series Meth	ods ICP-MS [Analysis N	lode]							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0C30032	ABT	03/30/2020 09:05	03/30/2020 23:58	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.00200	"	"		ABT			"	
Barium [He]	0.152	0.00100	"	"	"	ABT			•	
Beryllium [He]	ND	0.00100	"	"		ABT			"	
Boron [NG]	ND	0.0500	"	"		ABT				
Cadmium [HHe]	ND	0.00100	"	"	"	ABT				
Chromium [He]	ND	0.00100	"	"	"	ABT				
Cobalt [He]	0.00424	0.00100	"	"	"	ABT				
_ead [He]	ND	0.00100	"	"		ABT				
Molybdenum [He]	ND	0.00100	"	"	"	ABT			"	
Selenium [HHe]	ND	0.00100	"	"	"	ABT			"	
_ithium [He]	ND	0.0400	"	"		ABT				
Calcium [He]	30.9	0.625	"	25.0	"	ABT		04/01/2020 01:24	"	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR Project Number: March 2020 1st CCR Event Project Manager: Jim Ward

Reported: 04/23/2020 10:52

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C27021 - Default Prep Gen0	Chem										
Blank (0C27021-BLK1)											
Chloride	3/27/20 10:14	ND	0.500	mg/L							
Sulfate as SO4	3/27/20 10:14	ND	5.00								
Blank (0C27021-BLK2)											
Sulfate as SO4	3/30/20 11:01	ND	5.00	mg/L							
LCS (0C27021-BS1)											
Chloride	3/27/20 9:38	2.88	0.500	mg/L	3.00		96.0	81.8-111			
Sulfate as SO4	3/27/20 9:38	15.1	5.00		15.0		101	85.6-111			
LCS (0C27021-BS2)											
Sulfate as SO4	3/30/20 10:25	14.0	5.00	mg/L	15.0		93.5	85.6-111			
LCS Dup (0C27021-BSD1)											
Chloride	3/27/20 9:56	2.88	0.500	mg/L	3.00		96.0	81.8-111	0.00	20	
Sulfate as SO4	3/27/20 9:56	15.1	5.00		15.0		101	85.6-111	0.00663	20	
LCS Dup (0C27021-BSD2)											
Sulfate as SO4	3/30/20 10:43	14.2	5.00	mg/L	15.0		94.6	85.6-111	1.17	20	
Duplicate (0C27021-DUP1)			Source: 20035	39-06							
Chloride	3/27/20 14:57	19.1	0.500	mg/L		19.1			0.157	20	
Sulfate as SO4	3/27/20 14:57	11.4	5.00			11.1			2.56	20	
Matrix Spike (0C27021-MS1)			Source: 20035	39-06							
Chloride	3/27/20 15:15	115	5.00	mg/L	100	19.1	96.3	75.3-124			
Sulfate as SO4	3/27/20 15:15	133	50.0		100	ND	133	60.6-139			

Project: CGLP CCR

Project Number: March 2020 1st CCR Event

2391 Pensacola Rd. Ackerman MS, 39735

Choctaw Generation LP

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C27021 - Default Prep Ger	nChem										
Matrix Spike Dup (0C27021-MSD1)		Source: 20035	39-06							
Chloride	3/27/20 15:33	116	5.00	mg/L	100	19.1	96.9	75.3-124	0.501	20	
Sulfate as SO4	3/27/20 15:33	136	50.0	•	100	ND	136	60.6-139	1.87	20	
Batch 0C30039 - Default Prep Ger	nChem										
Blank (0C30039-BLK1)											
Total Dissolved Solids	3/31/20 0:00	ND	1	mg/L							
LCS (0C30039-BS1)											
Total Dissolved Solids	3/31/20 0:00	94	1	mg/L	104		90.4	82.2-100			
LCS Dup (0C30039-BSD1)											
Total Dissolved Solids	3/31/20 0:00	98	1	mg/L	104		94.2	82.2-100	4.17	15	
Duplicate (0C30039-DUP1)			Source: 20035	39-08							
Total Dissolved Solids	3/31/20 0:00	87	1	mg/L		86			1.16	5	
Duplicate (0C30039-DUP2)			Source: 20035	39-13							
Total Dissolved Solids	3/31/20 0:00	207	1	mg/L		210			1.44	5	
Batch 0C30045 - Default Prep Ger	nChem										
Blank (0C30045-BLK1)											
Fluoride	3/30/20 11:30	ND	0.22	mg/L							
LCS (0C30045-BS1)											
Fluoride	3/30/20 11:30	2.16	0.22	mg/L	2.00		108	84.5-110			

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR

Project Number: March 2020 1st CCR Event

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C30045 - Default Prep GenChen	1										
LCS Dup (0C30045-BSD1)											
Fluoride	3/30/20 11:30	1.94	0.22	mg/L	2.00		97.0	84.5-110	10.7	30	
Duplicate (0C30045-DUP1)			Source: 20035	39-13							
Fluoride	3/30/20 11:30	ND	0.22	mg/L		ND				35	
Matrix Spike (0C30045-MS1)			Source: 20035	39-13							
Fluoride	3/30/20 11:30	1.95	0.22	mg/L	2.00	ND	97.5	58.5-128			
Matrix Spike Dup (0C30045-MSD1)			Source: 20035	39-13							
Fluoride	3/30/20 11:30	1.99	0.22	mg/L	2.00	ND	99.5	58.5-128	2.03	30	

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR

Project Number: March 2020 1st CCR Event

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C30032 - EPA 200.2 DC	CN 1017 Rev 9										
Blank (0C30032-BLK1)											
Antimony [HHe]	3/30/20 18:15	ND	0.00500	mg/L							
Arsenic [HHe]	3/30/20 18:15	ND	0.00200								
Barium [He]	3/30/20 18:15	ND	0.00100								
Beryllium [He]	3/30/20 18:15	ND	0.00100								
Boron [NG]	3/31/20 12:40	ND	0.0500								
Cadmium [HHe]	3/30/20 18:15	ND	0.00100								
Chromium [He]	3/30/20 18:15	ND	0.00100								
Cobalt [He]	3/30/20 18:15	ND	0.00100								
Lead [He]	3/30/20 18:15	ND	0.00100								
Molybdenum [He]	3/30/20 18:15	ND	0.00100								
Selenium [HHe]	3/30/20 18:15	ND	0.00100								
Lithium [He]	3/30/20 18:15	ND	0.0400								
Calcium [He]	3/31/20 22:18	ND	0.0250								
LCS (0C30032-BS1)											
Antimony [HHe]	3/30/20 18:23	0.099	0.00500	mg/L	0.100		99.4	85-115			
Arsenic [HHe]	3/30/20 18:23	0.099	0.00200		0.100		98.5	85-115			
Barium [He]	3/30/20 18:23	0.101	0.00100		0.100		101	85-115			
Beryllium [He]	3/30/20 18:23	0.098	0.00100		0.100		98.3	85-115			
Boron [NG]	3/31/20 12:48	0.105	0.0500		0.100		105	85-115			
Cadmium [HHe]	3/30/20 18:23	0.095	0.00100		0.100		95.4	85-115			
Chromium [He]	3/30/20 18:23	0.103	0.00100		0.100		103	85-115			
Cobalt [He]	3/30/20 18:23	0.103	0.00100		0.100		103	85-115			
Lead [He]	3/30/20 18:23	0.101	0.00100		0.100		101	85-115			
Molybdenum [He]	3/30/20 18:23	0.101	0.00100		0.100		101	85-115			
Selenium [HHe]	3/30/20 18:23	0.100	0.00100		0.100		100	85-115			
Lithium [He]	3/30/20 18:23	0.207	0.0400		0.200		104	85-115			

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR

Project Number: March 2020 1st CCR Event

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C30032 - EPA 200.2 DCN 10	117 Rev 9										
LCS (0C30032-BS2)											
Calcium [He]	3/31/20 22:27	0.197	0.0250	mg/L	0.200		98.3	85-115			
LCS Dup (0C30032-BSD1)											
Antimony [HHe]	3/30/20 18:31	0.101	0.00500	mg/L	0.100		101	85-115	1.26	20	
Arsenic [HHe]	3/30/20 18:31	0.099	0.00200		0.100		99.3	85-115	0.810	20	
Barium [He]	3/30/20 18:31	0.100	0.00100		0.100		100	85-115	0.314	20	
Beryllium [He]	3/30/20 18:31	0.096	0.00100		0.100		95.7	85-115	2.72	20	
Boron [NG]	3/31/20 12:55	0.107	0.0500		0.100		107	85-115	1.99	20	
Cadmium [HHe]	3/30/20 18:31	0.095	0.00100		0.100		94.6	85-115	0.819	20	
Chromium [He]	3/30/20 18:31	0.102	0.00100		0.100		102	85-115	1.46	20	
Cobalt [He]	3/30/20 18:31	0.103	0.00100		0.100		103	85-115	0.757	20	
Lead [He]	3/30/20 18:31	0.101	0.00100		0.100		101	85-115	0.0929	20	
Molybdenum [He]	3/30/20 18:31	0.102	0.00100		0.100		102	85-115	0.737	20	
Selenium [HHe]	3/30/20 18:31	0.099	0.00100		0.100		98.8	85-115	1.18	20	
Lithium [He]	3/30/20 18:31	0.203	0.0400		0.200		102	85-115	1.98	20	
LCS Dup (0C30032-BSD2)											
Calcium [He]	3/31/20 22:36	0.202	0.0250	mg/L	0.200		101	85-115	2.70	20	
Duplicate (0C30032-DUP1)			Source: 20035	39-01							
Calcium [He]	3/31/20 23:02	92.7	1.25	mg/L		96.4			3.89	20	
Duplicate (0C30032-DUP2)			Source: 20035	39-13							
Calcium [He]	4/1/20 1:41	30.6	0.625	mg/L		30.9			0.917	20	
Matrix Spike (0C30032-MS1)			Source: 20035	39-01							
Antimony [HHe]	3/30/20 21:19	0.105	0.00500	mg/L	0.100	ND	105	70-130			
Arsenic [HHe]	3/30/20 21:19	0.098	0.00200		0.100	ND	98.3	70-130			
Barium [He]	3/30/20 21:19	0.244	0.00100		0.100	0.137	108	70-130			
Beryllium [He]	3/30/20 21:19	0.094	0.00100		0.100	0.005	88.6	70-130			
Boron [NG]	3/31/20 13:55	0.119	0.0500		0.100	0.021	98.3	70-130			
Cadmium [HHe]	3/30/20 21:19	0.091	0.00100		0.100	0.0009	90.2	70-130			
Chromium [He]	3/30/20 21:19	0.097	0.00100		0.100	0.0004	97.4	70-130			
Cobalt [He]	3/30/20 21:19	0.125	0.00100		0.100	0.031	94.4	70-130			
Lead [He]	3/30/20 21:19	0.106	0.00100		0.100	0.001	105	70-130			
Molybdenum [He]	3/30/20 21:19	0.113	0.00100		0.100	ND	113	70-130			
Selenium [HHe]	3/30/20 21:19	0.093	0.00100		0.100	0.0004	92.6	70-130			
	3/30/20 21:19	0.298									

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR

Project Number: March 2020 1st CCR Event

Project Manager: Jim Ward

Reported: 04/23/2020 10:52

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C30032 - EPA 200.2 DCN ⁻	1017 Rev 9										
Matrix Spike (0C30032-MS2)			Source: 20035	39-13							
Antimony [HHe]	3/31/20 0:06	0.096	0.00500	mg/L	0.100	ND	96.2	70-130			
Arsenic [HHe]	3/31/20 0:06	0.095	0.00200		0.100	0.001	94.1	70-130			
Barium [He]	3/31/20 0:06	0.252	0.00100		0.100	0.152	100	70-130			
Beryllium [He]	3/31/20 0:06	0.089	0.00100		0.100	ND	89.3	70-130			
Boron [NG]	3/31/20 0:06	0.122	0.0500		0.100	0.035	86.4	70-130			
Cadmium [HHe]	3/31/20 0:06	0.089	0.00100	•	0.100	ND	88.5	70-130			
Chromium [He]	3/31/20 0:06	0.098	0.00100		0.100	ND	97.8	70-130			
Cobalt [He]	3/31/20 0:06	0.103	0.00100		0.100	0.004	99.0	70-130			
.ead [He]	3/31/20 0:06	0.098	0.00100		0.100	ND	97.9	70-130			
folybdenum [He]	3/31/20 0:06	0.103	0.00100		0.100	ND	103	70-130			
Selenium [HHe]	3/31/20 0:06	0.093	0.00100		0.100	ND	92.8	70-130			
ithium [He]	3/31/20 0:06	0.212	0.0400		0.200	0.025	93.5	70-130			
atrix Spike Dup (0C30032-MSD1)		Source: 20035	39-01							
ntimony [HHe]	3/30/20 21:27	0.100	0.00500	mg/L	0.100	ND	100	70-130	5.13	20	
rsenic [HHe]	3/30/20 21:27	0.095	0.00200		0.100	ND	95.0	70-130	3.46	20	
arium [He]	3/30/20 21:27	0.244	0.00100		0.100	0.137	107	70-130	0.197	20	
eryllium [He]	3/30/20 21:27	0.092	0.00100		0.100	0.005	86.5	70-130	2.27	20	
oron [NG]	3/31/20 14:02	0.119	0.0500		0.100	0.021	97.9	70-130	0.307	20	
admium [HHe]	3/30/20 21:27	0.088	0.00100		0.100	0.0009	87.4	70-130	3.13	20	
Chromium [He]	3/30/20 21:27	0.096	0.00100		0.100	0.0004	96.3	70-130	1.16	20	
Cobalt [He]	3/30/20 21:27	0.124	0.00100		0.100	0.031	93.5	70-130	0.776	20	
ead [He]	3/30/20 21:27	0.105	0.00100		0.100	0.001	104	70-130	0.725	20	
/olybdenum [He]	3/30/20 21:27	0.111	0.00100		0.100	ND	111	70-130	2.05	20	
Selenium [HHe]	3/30/20 21:27	0.090	0.00100		0.100	0.0004	89.5	70-130	3.41	20	
ithium [He]	3/30/20 21:27	0.299	0.0400		0.200	0.113	93.1	70-130	0.358	20	
/atrix Spike Dup (0C30032-MSD2	2)		Source: 20035	39-13							
ntimony [HHe]	3/31/20 0:14	0.100	0.00500	mg/L	0.100	ND	99.7	70-130	3.58	20	
rsenic [HHe]	3/31/20 0:14	0.097	0.00200		0.100	0.001	95.9	70-130	1.90	20	
arium [He]	3/31/20 0:14	0.262	0.00100		0.100	0.152	110	70-130	3.75	20	
eryllium [He]	3/31/20 0:14	0.091	0.00100		0.100	ND	90.8	70-130	1.74	20	
oron [NG]	3/31/20 0:14	0.139	0.0500		0.100	0.035	104	70-130	13.5	20	
admium [HHe]	3/31/20 0:14	0.091	0.00100		0.100	ND	91.1	70-130	2.88	20	
hromium [He]	3/31/20 0:14	0.100	0.00100		0.100	ND	99.6	70-130	1.86	20	
obalt [He]	3/31/20 0:14	0.105	0.00100		0.100	0.004	101	70-130	1.69	20	
.ead [He]	3/31/20 0:14	0.101	0.00100		0.100	ND	101	70-130	3.19	20	
Molybdenum [He]	3/31/20 0:14	0.106	0.00100		0.100	ND	106	70-130	3.41	20	
Selenium [HHe]	3/31/20 0:14	0.094	0.00100		0.100	ND	94.5	70-130	1.80	20	
ithium [He]	3/31/20 0:14	0.215	0.0400		0.200	0.025	95.0	70-130	1.35	20	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR Project Number: March 2020 1st CCR Event Project Manager: Jim Ward 6500 Sunplex Drive Ocean Springs, MS 39564 228-875-6420 Phone 228-875-6423 Fax

Reported: 04/23/2020 10:52



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735

Project: CGLP CCR Project Number: March 2020 1st CCR Event Project Manager: Jim Ward

Reported: 04/23/2020 10:52

Certified Analyses Included in this Report

Analyte	Certification Code	
EPA 200.8 Rev 5.4 in Water		
Aluminum [He]	C01,C02	
Antimony [He]	C01,C02	
Antimony [HHe]	C01,C02	
Antimony [NG]	C01,C02	
Arsenic [HHe]	C01,C02	
Arsenic [NG]	C01,C02	
Barium [He]	C01,C02	
Beryllium [He]	C01,C02	
Boron [NG]	C01,C02	
Cadmium [HHe]	C01,C02	
Cadmium [NG]	C01,C02	
Chromium [He]	C01,C02	
Cobalt [He]	C01,C02	
Copper [He]	C01,C02	
Copper [NG]	C01,C02	
Iron [He]	C01,C02	
Lead [He]	C01,C02	
Lead [NG]	C01,C02	
Manganese [He]	C01,C02	
Molybdenum [He]	C01,C02	
Nickel [He]	C01,C02	
Selenium [HHe]	C01,C02	
Selenium [NG]	C01,C02	
Silver [He]	C01,C02	
Silver [NG]	C01,C02	
Strontium [He]	C01,C02	
Thallium [He]	C01,C02	
Vanadium [He]	C01,C02	
Zinc [He]	C01,C02	

Total Dissolved Solids

C01,C02

Only compounds included in this list are associated with accredited analyses



6500 Sunplex Drive Ocean Springs, MS 39564 228-875-6420 Phone 228-875-6423 Fax

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR Project Number: March 2020 1st CCR Event Project Manager: Jim Ward

Reported: 04/23/2020 10:52

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	LA Environmental Lab Accreditation Program	01960	06/30/2020
C02	The NELAC Institute (NELAP)	TNI01397	06/30/2020
C03	Ms Dept of Health (Drinking Water Microbiology)	MS00021	12/31/2020
C04	Ms Dept of Health (Drinking Water Chemistry)	MS00021	12/31/2020
C05	Ms DEQ Lead Firm Certification	PBF-00000028	03/24/2021
C06	MsDEQ Asbestos Inspector : C.D. Bingham	ABI-00001348	02/12/2021
C07	MsDEQ Air Monitor : C.D. Bingham	AM-011572	02/13/2021
C08	MsDEQ Asbestos Inspector: C. W. Meins	ABI-00001821	09/04/2020
C09	MsDEQ Air Monitor : C.W. Meins	AM-011189	02/13/2021
C12			
C14	MsDEQ Lead Paint Inspector : C.D. Bingham	PBI-00003690	03/24/2021
C15	MsDEQ Lead Paint Inspector : C.W. Meins	PBI-00001740	03/24/2021
Not Ce	rtiNot certified by an accrediting body	No certification held	06/30/2020

Report Definitions

DET ND NR	Analyte DETECTED Analyte NOT DETECTED at or above the minimum reporting limit Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Micro-Methods Laboratory, Inc.

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR Project Number: March 2020 1st CCR Event Project Manager: Jim Ward

Reported: 04/23/2020 10:52

Analyst Initials Key

FullName	<u>Initials</u>
Alyssa B Timbs Charles L Vorhoff Dortha L. Wells Gayle M. Sparling Harry P. Howell Sarah E. Tomek Stella S Kleist Teresa Meins Tina Tomek	ABT CLV DLW GMS HPH SET SSK TKM TPT

MICRO-METHODS	S	Chain of Custody Record	Print Form	of 48
	, MS 75-6423	Lab ID# MS0000 LELAP ID # 0190	NO# 208539	Page 31
www.micromethodslab.com			!	ŀ
Company Name: Rod Hills Power Plant	Int	Project Manager: Jim Ward	Our normal turn around time is 10 working days	
Address: 2391 Pensacola Road	ad	Purchase Order #. XCSRDH6883	Our normal turn around time is To working days	
City: Ackerman State: MS	^{Zip:} 39735	Email Address : jimward@southernco.com	Normal *All rush orderPhone	
Phone: 662-387-5758		Sampler Name Printed: Kick, Shellow / B.J. Hrik	ay requests must be	
Fax:		Sampler Name Signed:	Other	
		List Analysés Requested	Field Testing / QC Reporting	
Project Name: Locha Construction	2070 ISTCORE	fate	Fiel	
	March	TDS, TDS, Information imony rsenic m, Boi nyllium dmium romiur Merce im, Co thium, nallium bdenu lenium	adia 22 Field D.O. Collect Time Read Time C & Field Temp Collect Time Read Time	
Sample Identification	Sampling Matrix Date/Time Code	Grab (Comp Cl Fluorici Anti Bariu Bea Ca Ca Ch Lead Calciu Lii Th Moly Se	QC Level: Level 1 Level 2	
6-MW	N 45:51 92/m/8	ZCXXXXXXXXXXXX	X Matrix Codes: Preservation Codes:	
LI X.MW	3/26/20 12:20 W	5 6 X X X X X X X X X X		
OW-2	20 1	5 G X X X X X X X X X	S = Solid 3=Sodium Hydroxide	
MW-13	3/25/20 9:11 W	XXXXXXXX		
MW-7	20 12:35	xxxxxx	L = Liquid 6=Nitric Acid	
MW-14 Field Blank	3/25/20 11:16 W	4 6 7 × × × × × × × × × ×	A = Air 0 = Oil 8=Hydrochloric Acid	
Duplicate	•	A X X X X X X 4 8	SL = Sludge 9=Sodium Bisulfate	
MW-12	3/26/20 12:18 W	5 c X X X X X X X X X X	structions / Co	
- ccr-5	3/25/20 10:15 W	4 G X X X X X X X X X X	-	
CCR-2	3/26/10 9:29 W	XXXX	K COC not previously wee.	
CCR-3	20 10:05	XXXX	× plance Check voir PO # for	
CCR-4	3/26/20 14:30 W	XXXXXXXXXX	X MIERSECTER	
Printed	I Name	te Time	Accuracy Intervence	_
Relinguished by Kon/CSho	M Motor	& My ECS, In 3/26/20 1	In Murch 2020 1St CCK B	Vent
Received by TELEY -			Yes No	
Relinquished by D Fed E	× 1		emp (°C)	
Received by	male XI	AN BERTHER WIN - THURS WAY		
Relinguished by		-	Date • Ime	
Received by			By: ())	
DCN# F316 Rev.#2 COOLEY =	١	~		
	Dal'0- Louis	Client cooler 0.9°C		



April 20, 2020

Tina Tomek Micro Methods Laboratory, Inc. P. O. Box 1410 Ocean Springs, MS 39566

RE: Project: 2003539 Pace Project No.: 20148617

Dear Tina Tomek:

Enclosed are the analytical results for sample(s) received by the laboratory on March 31, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Greensburg

4-20-20 This is a revised report to correct the sample IDs

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

KauntBrour

Karen Brown karen.brown@pacelabs.com (504)469-0333 Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.

Page 1 of 17 Page 32 of 48



CERTIFICATIONS

 Project:
 2003539

 Pace Project No.:
 20148617

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601 ANAB DOD-ELAP Rad Accreditation #: L2417 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California Certification #: 04222CA Colorado Certification #: PA01547 Connecticut Certification #: PH-0694 **Delaware Certification** EPA Region 4 DW Rad Florida/TNI Certification #: E87683 Georgia Certification #: C040 **Guam Certification** Florida: Cert E871149 SEKS WET Hawaii Certification Idaho Certification **Illinois Certification** Indiana Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133 KY WW Permit #: KY0098221 KY WW Permit #: KY0000221 Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086 Maine Certification #: 2017020 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991

Missouri Certification #: 235 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14 Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617 New Jersey/TNI Certification #: PA051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249 Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282 South Dakota Certification Tennessee Certification #: 02867 Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

Pa	an '	2 ∩f	17
Page	33	of	48



SAMPLE SUMMARY

 Project:
 2003539

 Pace Project No.:
 20148617

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20148617001	2003539-01	Water	03/26/20 13:34	03/31/20 14:21
20148617002	2003539-02	Water	03/26/20 12:20	03/31/20 14:21
20148617003	2003539-03	Water	03/26/20 11:25	03/31/20 14:21
20148617004	2003539-04	Water	03/25/20 09:11	03/31/20 14:21
20148617005	2003539-05	Water	03/25/20 12:35	03/31/20 14:21
20148617006	2003539-06	Water	03/25/20 11:16	03/31/20 14:21
20148617007	2003539-07	Water	03/26/20 14:35	03/31/20 14:21
20148617008	2003539-08	Water	03/25/20 00:00	03/31/20 14:21
20148617009	2003539-09	Water	03/26/20 12:18	03/31/20 14:21
20148617010	2003539-10	Water	03/25/20 10:15	03/31/20 14:21
20148617011	2003539-11	Water	03/26/20 09:29	03/31/20 14:21
20148617012	2003539-12	Water	03/26/20 10:05	03/31/20 14:21
20148617013	2003539-13	Water	03/26/20 14:30	03/31/20 14:21

REPORT OF LABORATORY ANALYSIS



SAMPLE ANALYTE COUNT

 Project:
 2003539

 Pace Project No.:
 20148617

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20148617001	2003539-01	EPA 903.1		1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20148617002	2003539-02	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20148617003	2003539-03	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20148617004	2003539-04	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
0148617005	2003539-05	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
0148617006	2003539-06	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
0148617007	2003539-07	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
0148617008	2003539-08	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
0148617009	2003539-09	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
0148617010	2003539-10	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
0148617011	2003539-11	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
0148617012	2003539-12	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
0148617013	2003539-13	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS



PROJECT NARRATIVE

 Project:
 2003539

 Pace Project No.:
 20148617

Method:	EPA 903.1
Description:	903.1 Radium 226
Client:	Micro Methods
Date:	April 20, 2020

General Information:

13 samples were analyzed for EPA 903.1 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Pa	ap P	5 of	17
Page	36	of	48



PROJECT NARRATIVE

 Project:
 2003539

 Pace Project No.:
 20148617

Method:	EPA 904.0
Description:	904.0 Radium 228
Client:	Micro Methods
Date:	April 20, 2020

General Information:

13 samples were analyzed for EPA 904.0 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS



	t No.: 20148617							
Sample: 20	03539-01	Lab ID: 201486	517001	Collected: 03/26/20 13:34	Received:	03/31/20 14:21	Matrix: Water	
WS: Comments:	Upon receipt at th	Site ID: le laboratory, 5 mls of nitric	: acid we	Sample Type: re added to the sample to me	et the sampl	e preservation requ	irement of pH	
				preserved <2 within the requ				
	Parameters	Method	Ac	t ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical S	ervices -	Greensburg				
Radium-226		EPA 903.1		± 0.432 (0.607) T:91%	pCi/L	04/20/20 14:25	5 13982-63-3	
		Pace Analytical S	ervices -	Greensburg				
Radium-228		EPA 904.0		± 0.479 (0.830) % T:83%	pCi/L	04/17/20 14:34	15262-20-1	
Sample: 20 PWS:	003539-02	Lab ID: 201486 Site ID:	51 7002	Collected: 03/26/20 12:20 Sample Type:	Received:	03/31/20 14:21	Matrix: Water	
Comments:				vere added to the sample to n preserved <2 within the requ			quirement of pH	
	Parameters	Method	Ac	t ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical S	ervices -	Greensburg				
Radium-226		EPA 903.1		± 0.483 (0.691) T:89%	pCi/L	04/20/20 14:25	5 13982-63-3	
		Pace Analytical S	ervices -	Greensburg				
Radium-228		EPA 904.0		± 0.527 (1.000) % T:83%	pCi/L	04/17/20 14:33	3 15262-20-1	
Sample: 20	003539-03	Lab ID: 201486	317003	Collected: 03/26/20 11:25	Received:	03/31/20 14:21	Matrix: Water	
PWS:		Site ID:		Sample Type:				
Comments:				vere added to the sample to n preserved <2 within the requ			quirement of pH	
	Parameters	Method		t ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical S	ervices -	Greensburg				
Radium-226		EPA 903.1	0.068	4 ± 0.520 (1.03) T:81%	pCi/L	04/20/20 14:10	13982-63-3	
		Pace Analytical S	ervices -	Greensburg				
Radium-228		EPA 904.0		± 0.363 (0.806) % T:81%	pCi/L	04/17/20 14:33	3 15262-20-1	
Sample: 20 PWS:	03539-04	Lab ID: 201486 Site ID:	3 17004	Collected: 03/25/20 09:11 Sample Type:	Received:	03/31/20 14:21	Matrix: Water	
Comments:				vere added to the sample to n preserved <2 within the requ			quirement of pH	
	Parameters	Method	Ac	t ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical S	ervices -	Greensburg				

REPORT OF LABORATORY ANALYSIS



Sample: 2003539-04 PWS:	Lab ID: 201486	61 7004	Collected: 03/25/20 09:11	Received:	03/31/20 14:21 N	Matrix: Water	
-	Site ID: at the laboratory, 2.5 mls of nit	tric acid w	Sample Type: vere added to the sample to n	neet the sam	ple preservation rec	uirement of pH	
<2 for radioche	mistry analysis. The samples	were not	preserved <2 within the requ	ired 5 days o	of collection.		
Parameters	Method	Ac	t ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	ervices -	Greensburg				
Radium-228	EPA 904.0		± 0.365 (0.751) % T:83%	pCi/L	04/17/20 14:33	15262-20-1	
Sample: 2003539-05	Lab ID: 201486 Site ID:	617005	Collected: 03/25/20 12:35 Sample Type:	Received:	03/31/20 14:21	Matrix: Water	
Comments: • Upon receipt	at the laboratory, 2.5 mls of nit mistry analysis. The samples		vere added to the sample to n			quirement of pH	
Parameters	Method	Ac	t ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	ervices -	Greensburg				
Radium-226	EPA 903.1		± 0.459 (0.698) T:96%	pCi/L	04/20/20 14:10	13982-63-3	
	Pace Analytical S	ervices -	Greensburg				
Radium-228	EPA 904.0		± 0.402 (0.746) % T:98%	pCi/L	04/17/20 14:33	15262-20-1	
PWS:	Lab ID: 201486 Site ID:		Collected: 03/25/20 11:16 Sample Type:			Matrix: Water	
PWS: Comments: • Upon receipt a		tric acid w	Sample Type: vere added to the sample to n	neet the sam	ple preservation rec		
PWS: Comments: • Upon receipt a	Site ID: at the laboratory, 2.5 mls of nit	tric acid w were not	Sample Type: vere added to the sample to n	neet the sam	ple preservation rec		Qual
PWS: Comments: • Upon receipt <2 for radioche	Site ID: at the laboratory, 2.5 mls of nit mistry analysis. The samples	ric acid w were not Act	Sample Type: vere added to the sample to n preserved <2 within the requ t ± Unc (MDC) Carr Trac	neet the sam ired 5 days o	ple preservation rec of collection.	quirement of pH	Qual
PWS: Comments: • Upon receipt <2 for radioche Parameters	Site ID: at the laboratory, 2.5 mls of nit mistry analysis. The samples Method	tric acid w were not Act ervices - 0.133	Sample Type: vere added to the sample to n preserved <2 within the requ t ± Unc (MDC) Carr Trac	neet the sam ired 5 days o	ple preservation rec of collection.	Quirement of pH	Qual
PWS: Comments: • Upon receipt = <2 for radioche Parameters Radium-226	Site ID: at the laboratory, 2.5 mls of nit mistry analysis. The samples <u>Method</u> Pace Analytical S EPA 903.1 Pace Analytical S	ervices - 0.133 0:NA	Sample Type: vere added to the sample to m preserved <2 within the requ t ± Unc (MDC) Carr Trac Greensburg ± 0.304 (0.490) T:85% Greensburg	neet the sam ired 5 days o Units pCi/L	ople preservation rec of collection. Analyzed 04/20/20 14:10	Quirement of pH CAS No. 13982-63-3	Qual
PWS: Comments: • Upon receipt = <2 for radioche Parameters Radium-226	Site ID: at the laboratory, 2.5 mls of nit mistry analysis. The samples Method Pace Analytical S EPA 903.1	ervices - 0.133 C:NA ervices - 0.669	Sample Type: vere added to the sample to n preserved <2 within the requ t ± Unc (MDC) Carr Trac Greensburg ± 0.304 (0.490) T:85%	neet the sam ired 5 days o Units	ple preservation rec of collection. Analyzed	Quirement of pH CAS No. 13982-63-3	Qual
<2 for radioche	Site ID: at the laboratory, 2.5 mls of nit mistry analysis. The samples <u>Method</u> Pace Analytical S EPA 903.1 Pace Analytical S	ervices - 0.133 C:NA ervices - 0.669 C:669	Sample Type: vere added to the sample to n preserved <2 within the requ t ± Unc (MDC) Carr Trac Greensburg ± 0.304 (0.490) T:85% Greensburg ± 0.579 (1.18)	neet the sam ired 5 days o Units pCi/L pCi/L	04/17/20 14:33	Quirement of pH CAS No. 13982-63-3	Qual
PWS: Comments: • Upon receipt a <2 for radioche Parameters Radium-226 Radium-228 Sample: 2003539-07 PWS: Comments: • Upon receipt a	Site ID: at the laboratory, 2.5 mls of nit mistry analysis. The samples Method Pace Analytical S EPA 903.1 Pace Analytical S EPA 904.0 Lab ID: 201486 Site ID: at the laboratory, 2.5 mls of nit	ervices - 0.133 C:NA ervices - 0.669 C:669 617007	Sample Type: vere added to the sample to n preserved <2 within the requ t ± Unc (MDC) Carr Trac Greensburg ± 0.304 (0.490) T:85% Greensburg ± 0.579 (1.18) % T:75% Collected: 03/26/20 14:35 Sample Type: vere added to the sample to n	peet the sam ired 5 days o Units pCi/L pCi/L Received:	04/20/20 14:10 04/17/20 14:33 03/31/20 14:21	Quirement of pH CAS No. 13982-63-3 15262-20-1 Matrix: Water	Qual
PWS: Comments: • Upon receipt a <2 for radioche	Site ID: at the laboratory, 2.5 mls of nit mistry analysis. The samples Method Pace Analytical S EPA 903.1 Pace Analytical S EPA 904.0 Lab ID: 201486 Site ID: at the laboratory, 2.5 mls of nit mistry analysis. The samples	tric acid w were not Act ervices - 0.133 C:NA ervices - 0.669 C:669	Sample Type: vere added to the sample to m preserved <2 within the requ t ± Unc (MDC) Carr Trac Greensburg ± 0.304 (0.490) T:85% Greensburg ± 0.579 (1.18) % T:75% Collected: 03/26/20 14:35 Sample Type: vere added to the sample to m preserved <2 within the requ	pCi/L pCi/L pCi/L Received:	04/20/20 14:10 04/17/20 14:33 03/31/20 14:21	Quirement of pH CAS No. 13982-63-3 15262-20-1 Matrix: Water Quirement of pH	
PWS: • Upon receipt a Comments: • Upon receipt a Parameters Parameters Radium-226 Radium-228 Sample: 2003539-07 PWS: • Upon receipt a Comments: • Upon receipt a	Site ID: at the laboratory, 2.5 mls of nit mistry analysis. The samples Method Pace Analytical S EPA 903.1 Pace Analytical S EPA 904.0 Lab ID: 201486 Site ID: at the laboratory, 2.5 mls of nit mistry analysis. The samples Method	tric acid w were not Active ervices - 0.133 C:NA ervices - 0.669 C:669 C:669 C:669	Sample Type: vere added to the sample to m preserved <2 within the requ t ± Unc (MDC) Carr Trac Greensburg ± 0.304 (0.490) T:85% Greensburg ± 0.579 (1.18) % T:75% Collected: 03/26/20 14:35 Sample Type: vere added to the sample to m preserved <2 within the requ t ± Unc (MDC) Carr Trac	peet the sam ired 5 days o Units pCi/L pCi/L Received:	04/20/20 14:10 04/17/20 14:33 03/31/20 14:21	Quirement of pH CAS No. 13982-63-3 15262-20-1 Matrix: Water	Qual
PWS: Comments: • Upon receipt = <pre></pre>	Site ID: at the laboratory, 2.5 mls of nit mistry analysis. The samples Method Pace Analytical S EPA 903.1 Pace Analytical S EPA 904.0 Lab ID: 201486 Site ID: at the laboratory, 2.5 mls of nit mistry analysis. The samples	tric acid w were not Act ervices - 0.133 C:NA ervices - 0.669 C:66	Sample Type: vere added to the sample to m preserved <2 within the requ t ± Unc (MDC) Carr Trac Greensburg ± 0.304 (0.490) T:85% Greensburg ± 0.579 (1.18) % T:75% Collected: 03/26/20 14:35 Sample Type: vere added to the sample to m preserved <2 within the requ t ± Unc (MDC) Carr Trac Greensburg ± 0.324 (0.628)	pCi/L pCi/L pCi/L Received:	04/20/20 14:10 04/17/20 14:33 03/31/20 14:21	Quirement of pH CAS No. 13982-63-3 15262-20-1 Matrix: Water Quirement of pH CAS No.	
PWS: Comments: • Upon receipt = <pre><2 for radioche Parameters</pre> Radium-226 Radium-228 Sample: 2003539-07 PWS: Comments: • Upon receipt = <pre><2 for radioche</pre>	Site ID: at the laboratory, 2.5 mls of nit mistry analysis. The samples Method Pace Analytical S EPA 903.1 Pace Analytical S EPA 904.0 Lab ID: 201486 Site ID: at the laboratory, 2.5 mls of nit mistry analysis. The samples Method Pace Analytical S	tric acid w were not Act ervices - 0.133 C:NA ervices - 0.669 C:669 617007 tric acid w were not Act ervices - 0.105 C:NA	Sample Type: vere added to the sample to m preserved <2 within the requ t ± Unc (MDC) Carr Trac Greensburg ± 0.304 (0.490) T:85% Greensburg ± 0.579 (1.18) % T:75% Collected: 03/26/20 14:35 Sample Type: vere added to the sample to m preserved <2 within the requ t ± Unc (MDC) Carr Trac Greensburg ± 0.324 (0.628) T:105%	pCi/L pCi/L pCi/L Received: neet the sam ired 5 days of Units	04/20/20 14:10 04/20/20 14:10 04/17/20 14:33 03/31/20 14:21 M ople preservation reconf collection. Analyzed	Quirement of pH CAS No. 13982-63-3 15262-20-1 Matrix: Water Quirement of pH CAS No.	

REPORT OF LABORATORY ANALYSIS



Sample: 20 PWS:	03539-08	Lab ID: 20148 Site ID:	617008	Collected: 03/25/20 00:00 Sample Type:	Received:	03/31/20 14:21	Matrix: Water	
Comments:		he laboratory, 2.5 mls of ni		vere added to the sample to n t preserved <2 within the requ			quirement of pH	
	Parameters	Method	Ac	t ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical S	services -	Greensburg				
Radium-226		EPA 903.1		5 ± 0.444 (0.972) . T:98%	pCi/L	04/20/20 14:10	13982-63-3	
		Pace Analytical S		0				
Radium-228		EPA 904.0		⊦ ± 0.393 (0.784) % T:101%	pCi/L	04/17/20 14:32	2 15262-20-1	
Sample: 20 PWS:	03539-09	Lab ID: 20148 Site ID:	617009	Collected: 03/26/20 12:18 Sample Type:	Received:	03/31/20 14:21	Matrix: Water	
Comments:		he laboratory, 2.5 mls of ni		vere added to the sample to n t preserved <2 within the requ			quirement of pH	
	Parameters	Method	Ac	t ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical S	ervices -	Greensburg				
Radium-226		EPA 903.1		± 0.369 (0.549) T:93%	pCi/L	04/20/20 14:25	5 13982-63-3	
		Pace Analytical S		0				
Radium-228		EPA 904.0		5 ± 0.386 (0.642) % T:93%	pCi/L	04/17/20 14:33	3 15262-20-1	
Sample: 20	03539-10	Lab ID: 20148	617010	Collected: 03/25/20 10:15	Received:	03/31/20 14:21	Matrix: Water	
PWS: Comments:				Sample Type: vere added to the sample to n t preserved <2 within the requ			quirement of pH	
	Parameters	Method		t ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical S	ervices -	Greensburg				
Radium-226		EPA 903.1	0.231	± 0.278 (0.424) T:95%	pCi/L	04/20/20 14:10	13982-63-3	
		Pace Analytical S	ervices -	Greensburg				
Radium-228		EPA 904.0		± 0.450 (0.912) % T:84%	pCi/L	04/17/20 14:33	3 15262-20-1	
Sample: 20 PWS:	03539-11	Lab ID: 20148 Site ID:	617011	Collected: 03/26/20 09:29 Sample Type:	Received:	03/31/20 14:21	Matrix: Water	
Comments:				vere added to the sample to n t preserved <2 within the requ			quirement of pH	
	Parameters	Method	Ac	t ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical S	ervices -	Greensburg				

REPORT OF LABORATORY ANALYSIS



Project: 2003539						
Pace Project No.: 20148617						
Sample: 2003539-11 PWS:	Lab ID: 2014861 Site ID:	7011 Collected: 03/26/20 09:29 Sample Type:	Received:	03/31/20 14:21	Matrix: Water	
		acid were added to the sample to n ere not preserved <2 within the requ			quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Ser	vices - Greensburg				
Radium-228	EPA 904.0	0.746 ± 0.474 (0.909) C:71% T:86%	pCi/L	04/17/20 14:33	3 15262-20-1	
Sample: 2003539-12 PWS:	Lab ID: 2014861 Site ID:	7012 Collected: 03/26/20 10:05 Sample Type:	Received:	03/31/20 14:21	Matrix: Water	
		acid were added to the sample to n ere not preserved <2 within the requ			quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Ser	vices - Greensburg				
Radium-226	EPA 903.1	-0.0548 ± 0.443 (0.913) C:NA T:103%	pCi/L	04/20/20 14:10) 13982-63-3	
	Pace Analytical Ser	vices - Greensburg				
Radium-228	EPA 904.0	0.474 ± 0.436 (0.895) C:71% T:89%	pCi/L	04/17/20 14:33	3 15262-20-1	
Sample: 2003539-13	Lab ID: 2014861	7013 Collected: 03/26/20 14:30	Received:	03/31/20 14:21	Matrix: Water	
PWS: Comments: • Upon receipt at the la	Site ID: aboratory, 2.5 mls of nitric	Sample Type: acid were added to the sample to n ere not preserved <2 within the requ	neet the sam	ple preservation re	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Faranielers	·		UTIIIS			Quai
Radium-226	Pace Analytical Serv EPA 903.1	0.810 ± 0.567 (0.748)	pCi/L	04/20/20 14:25	5 13982-63-3	
	Pace Analytical Ser	C:NA T:84% vices - Greensburg				
Radium-228	EPA 904.0	0.724 ± 0.476 (0.908) C:63% T:85%	pCi/L	04/17/20 14:34	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pao	<u>1</u>	ിറ	17
Page	41	of	48



QUALITY CONTROL - RADIOCHEMISTRY

Project:	20035	39				
Pace Project No .:	20148	617				
QC Batch:	3908	353	Analysis Method:	EPA 903.1		
QC Batch Method:	EPA	903.1	Analysis Description:	903.1 Radium-22	26	
			Laboratory:	Pace Analytical	Services - Greensbur	g
Associated Lab Sa	mples:	,	02, 20148617003, 2014861700 09, 20148617010, 201486170	, ,	,	617007,
METHOD BLANK:	18925	504	Matrix: Water			
Associated Lab Samples: 20148617001, 20148617002, 20148617003, 20148617004, 20148617005, 20148617006, 20148617007, 20148617008, 20148617009, 20148617010, 20148617011, 20148617012, 20148617013						
Para	meter	Act ± 0	Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226		-0.0448 ± 0.264	(0.587) C:NA T:96%	pCi/L	04/20/20 13:51	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS



QUALITY CONTROL - RADIOCHEMISTRY

Project:	20035	39				
Pace Project No .:	20148	617				
QC Batch:	3908	354	Analysis Method:	EPA 904.0		
QC Batch Method:	EPA	904.0	Analysis Description:	904.0 Radium 2	28	
			Laboratory:	Pace Analytical	Services - Greensbu	ırg
Associated Lab Sa	mples:		002, 20148617003, 20148617 009, 20148617010, 20148617	, , ,	,	8617007,
METHOD BLANK:	18925	20	Matrix: Water			
Associated Lab Sa	Associated Lab Samples: 20148617001, 20148617002, 20148617003, 20148617004, 20148617005, 20148617006, 20148617007, 20148617008, 20148617009, 20148617010, 20148617011, 20148617012, 20148617013					
Para	meter	Act :	± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228		0.0791 ± 0.334	4 (0.762) C:67% T:87%	pCi/L	04/17/20 14:33	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS





QUALIFIERS

 Project:
 2003539

 Pace Project No.:
 20148617

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

REPORT OF LABORATORY ANALYSIS

Pan	<u>1</u> م	₹ Of	17
Page	44	of	48



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	2003539
Pace Project No.:	20148617

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20148617001	2003539-01	EPA 903.1	390853		
20148617002	2003539-02	EPA 903.1	390853		
20148617003	2003539-03	EPA 903.1	390853		
20148617004	2003539-04	EPA 903.1	390853		
20148617005	2003539-05	EPA 903.1	390853		
20148617006	2003539-06	EPA 903.1	390853		
20148617007	2003539-07	EPA 903.1	390853		
20148617008	2003539-08	EPA 903.1	390853		
20148617009	2003539-09	EPA 903.1	390853		
20148617010	2003539-10	EPA 903.1	390853		
20148617011	2003539-11	EPA 903.1	390853		
20148617012	2003539-12	EPA 903.1	390853		
20148617013	2003539-13	EPA 903.1	390853		
20148617001	2003539-01	EPA 904.0	390854		
20148617002	2003539-02	EPA 904.0	390854		
20148617003	2003539-03	EPA 904.0	390854		
20148617004	2003539-04	EPA 904.0	390854		
20148617005	2003539-05	EPA 904.0	390854		
20148617006	2003539-06	EPA 904.0	390854		
20148617007	2003539-07	EPA 904.0	390854		
20148617008	2003539-08	EPA 904.0	390854		
20148617009	2003539-09	EPA 904.0	390854		
20148617010	2003539-10	EPA 904.0	390854		
20148617011	2003539-11	EPA 904.0	390854		
20148617012	2003539-12	EPA 904.0	390854		
20148617013	2003539-13	EPA 904.0	390854		

REPORT OF LABORATORY ANALYSIS



Sending Laboratory:

Micro-Methods Laboratory, Inc. 6500 Sunplex Drive Ocean Springs, MS 39564 Phone: 228.875.6420 Fax: 228.875.6423

Project Manager: Teresa Meins

Subcontracted Laboratory:

Pace Analytical	
1000 Riverbend Blvd. Suite F St. Rose, LA 70087	
Phone: -	
^{Fax: -} WO#:20148617	
20148617	······

ORDER

Work Order: 2003539

Analysis		Du	e Ex	cpires	Comments		
Sample ID: 2003539-01	Water	Sampled:	03/26/2020	13:34	Sample Name:	MW-9	
Radium, Total 226 & 228 by EPA	903.1 &	9C 04/06/2	2020 04/23/2	2020 13:34	· · ·		
Containers Supplied: 1000mL Plastic (A) 100	00mL Plasti	с (В)					
Sample ID: 2003539-02	Water	Sampled:	03/26/2020	12:20	Sample Name:	MW-17	<u> </u>
Radium, Total 226 & 228 by EPA	903.1 &	9C 04/06/2	2020 04/23/2	2020 12:20			
Containers Supplied: 1000mL Plastic (A) 100	00mL Plasti	c (B)		i			
Sample ID: 2003539-03	Water	Sampled:	03/26/2020	11:25	Sample Name:	<i>OW-2</i>	
Radium, Total 226 & 228 by EPA	903.1 &	9C 04/06/2	2020 04/23/2	2020 11:25			·····
Containers Supplied: 1000mL Plastic (A) 100	0mL Plasti	с (В)					
Sample ID: 2003539-04	Water	Sampled:	03/25/2020	09:11	Sample Name:	MW-13	
Radium, Total 226 & 228 by EPA	903.1 &	90 04/06/2	2020 04/22/2	020 09:11			· · · · · · · · · · · · · · · · · · ·
Containers Supplied: 1000mL Plastic (A) 100)0mL Plasti	c (B)					
Sample ID: 2003539-05	Water	Sampled:	03/25/2020	12:35	Sample Name:	MW-7	
Radium, Total 226 & 228 by EPA	903.1 & 9	90 04/06/2	2020 04/22/2	020 12:35			
Containers Supplied: 1000mL Plastic (A) 100	0mL Plasti	c (B)					
Sample ID: 2003539-06	Water	Sampled:	03/25/2020	11:16	Sample Name:	MW-14	
Radium, Total 226 & 228 by EPA	903.1 & 9	9C 04/06/2	2020 04/22/2	020 11:16			· · · · · · · · · · · · · · · · · · ·
Containers Supplied: 1000mL Plastic (A) 100	0mL Plastic	: (B)					
Sample ID: 2003539-07	Water	Sampled:	03/26/2020	14:35	Sample Name:	Field Blank	
Eleased By Jonut	3/30	2020 () Date	1630	Receiv	UPS ed By	3/30/2020	0/1630 Date 104
	31/202			2	mill	. Pace	3-31-20
eleased By		Date	Page	Receiv e 1 of 2	ed By	/ ·	Date am bien
			1 4 9				

P.C. CE

SUBCONTRACT ORDER (Continued)

Work Order: 2003539 (Continued)

Analysis		Due	Expires	Comments	
Sample ID: 2003539-07	Water S	Sampled: 03/2	26/2020 14:35	Sample Name:	Field Blank
Radium, Total 226 & 228 by EPA 9	03.1 & 90	04/06/2020	04/23/2020 14:35		
Containers Supplied: 1000mL Plastic (A) 1000m	mL Plastic (В)			
Sample ID: 2003539-08	Water S	Sampled: 03/2	5/2020 00:00	Sample Name:	Duplicate
Radium, Total 226 & 228 by EPA 9	03.1 & 90	04/06/2020	04/22/2020 00:00		
Containers Supplied: 1000mL Plastic (A) 1000r	nL Plastic (I	B)			
Sample ID: 2003539-09	Water S	Sampled: 03/2	6/2020 12:18	Sample Name:	MW-12
Radium, Total 226 & 228 by EPA 9	03.1 & 90	04/06/2020	04/23/2020 12:18		
Containers Supplied: 1000mL Plastic (A) 1000r	nL Plastic (I	В)			
Sample ID: 2003539-10	Nater S	ampled: 03/2	5/2020 10:15	Sample Name:	CCR-5
Radium, Total 226 & 228 by EPA 9	03.1 & 90	04/06/2020	04/22/2020 10:15		
Containers Supplied: 1000mL Plastic (A) 1000m	nL Plastic (I	B)			
Sample ID: 2003539-11	Nater S	ampled: 03/2	6/2020 09:29	Sample Name:	CCR-2
Radium, Total 226 & 228 by EPA 9	03.1 & 90	04/06/2020	04/23/2020 09:29		
Containers Supplied: 1000mL Plastic (A) 1000n	nL Plastic (E	3)			
Sample ID: 2003539-12	Vater S	ampled: 03/2	6/2020 10:05	Sample Name:	CCR-3
Radium, Total 226 & 228 by EPA 90	03.1 & 90	04/06/2020	04/23/2020 10:05		
Containers Supplied: 1000mL Plastic (A) 1000m	nL Plastic (E	3)			
Sample ID: 2003539-13	Vater S	ampled: 03/2	6/2020 14:30	Sample Name:	CCR-4
Radium, Total 226 & 228 by EPA 90	03.1 & 90	04/06/2020	04/23/2020 14:30		
Containers Supplied: 1000mL Plastic (A) 1000m	nL Plastic (E	3)			

<u>020 ^A 1630</u> Date <u>~ 3|30|</u>2 ^{3|}31|2020⁰ Date sed Bv Date

Received By Bate By Received By Date By Date By Date By Received By Date By Received By Received By Received By Date By Date By Received By Date By Da 10:40 Page 2 of 2

Page 47 of 48

Released By

							<u>MU</u>	<u>‡:20</u>	148	61	7
Face Analytical	-	ample	e Co	nditio	on Vį	poní (PM: KH		Due D		94/22/20
	1000 Riverbend, Bivd., 5 St. Rose, LA 70087	Suite F			~	Pro,		F ¹¹	<u>-</u>		
Courier: Pace Courier			Fed X		UPS		DHL		Cus		Other
Custody Seal on Cooler/Box F	Present: [se	e COC]	_					Custody	/ Seals in	tact: 🗖	Yes ⊡No
Therometer D Therm F Used: D Therm F	isher IR 7 isher IR 10	Туре	e of Ico	•:	Wet	Blue M	None	·	ples on ic		
Cooler Temperature: [see (COC] Te	mp sho	uid be	above	freezir	ng to 6°C	:	Date and In contents:	itials of pe	rson exa	mining
emp must be measured from Ter	mperature blank when	ı present	:		Com	ments:					
emperature Blank Present"?					<u>1</u>						
Chain of Custody Present:		/	No		12	17 14					
hain of Custody Complete:		Yes		ÜN/A	3						
hain of Custody Relinquished	. <u></u>	⊡Yes		<u>_</u> □N/A	4	-			•		
ampler Name & Signature on	COC:	□Yes	⊘ N₀	□N/A	5						<u> </u>
amples Arrived within Hold Ti	me:	₽Yes	_ □No	⊡n/A	6						
ufficient Volume:		Yes		□n/A	7						
orrect Containers Used:	, <u>.</u>	Yes	□No		8						
Itered vol. Rec. for Diss. tests		□Yes	No		9						
ample Labels match COC:		⊡res		_ □ N/A	10						
I containers received within m ecautionary and/or expiration		Pres	⊡No	□n/a	11						
l containers needing chemical en checked (except VOA, col	preservation have		□No	/	h	<u> </u>			. <u></u>		<u></u>
l containers preservation cheo mpliance with EPA recommer		□Yes	⊡No		13			serative add d lot no.: Hl		s ¤No H2S(04
adspace in VOA Vials (>6mr	n):	⊡Yes	□No		14						1
p Blank Present:		□Yes			15		U	npre	ser	ved	\mathcal{L}_{-}
ient Notification/ Resolution	- <u> </u>	- 4490									
rson Contacted:	<u></u>							Date/T	ime:		
mments/ Resolution:											
								 :			
<u> </u>											
				<u> </u>							
<u> </u>											

. .

ALLC003rev.08, 15Feb2013 SCUR Form-mod

Page Page 48 of 48

17



Mailing Address: PO Box 1410 Ocean Springs, MS 39566-1410 6500 Sunplex Drive Ocean Springs, MS 39564 228.875.6420 Phone 228.875.6423 Fax

June 16, 2020

Jim Ward

Work Order #: 2005302

Choctaw Generation LP 2391 Pensacola Rd. Ackerman, MS 39735 *RE: CGLP CCR*

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 05/19/2020 08:08. If you have any questions concerning this report, please feel free to contact the office.



Clyde Woodward

President Micro-Methods Laboratory, Inc. Purchase Order #: RDH12930



DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.



Choctaw Generation LP	Project: CGLP CCR	
2391 Pensacola Rd.	Project Number: [none]	Reported:
Ackerman MS, 39735	Project Manager: Jim Ward	06/16/2020 12:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
MW-7	2005302-01	Water	05/18/2020 13:50	Kirk Shelton	05/19/2020 08:08
MW-9	2005302-02	Water	05/18/2020 13:00	Kirk Shelton	05/19/2020 08:08
MW-12	2005302-03	Water	05/18/2020 10:42	Kirk Shelton	05/19/2020 08:08
MW-13	2005302-04	Water	05/18/2020 10:50	Kirk Shelton	05/19/2020 08:08
MW-14	2005302-05	Water	05/18/2020 15:00	Kirk Shelton	05/19/2020 08:08
MW-17	2005302-06	Water	05/18/2020 11:41	Kirk Shelton	05/19/2020 08:08
Field Blank	2005302-07	Water	05/18/2020 11:00	Kirk Shelton	05/19/2020 08:08
Duplicate	2005302-08	Water	05/18/2020 00:00	Kirk Shelton	05/19/2020 08:08
OW-2	2005302-09	Water	05/18/2020 12:22	Kirk Shelton	05/19/2020 08:08
CCR-2	2005302-10	Water	05/18/2020 14:01	Kirk Shelton	05/19/2020 08:08
CCR-3	2005302-11	Water	05/18/2020 14:51	Kirk Shelton	05/19/2020 08:08
CCR-4	2005302-12	Water	05/18/2020 15:49	Kirk Shelton	05/19/2020 08:08
CCR-5	2005302-13	Water	05/18/2020 12:30	Kirk Shelton	05/19/2020 08:08



COC meets acceptance criteria

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735

Sample Receipt Conditions

Project: CGLP CCR Project Number: [none] Project Manager: Jim Ward

Reported: 06/16/2020 12:54

5/19/2020 8:08:00AM Date/Time Received: Shipped by: Fed Ex Received by: Stella S Kleist Submitted by: Kirk Shelton Date/Time Logged: 5/19/2020 11:50:00AM Logged by: Stella S Kleist **Receipt Temperature:** -0.3 °C Cooler ID: #1134 Yes Cooler Custody Seals Present Yes Received on Ice but Not Frozen Containers Intact Yes No Ice, Short Trip No COC/Labels Agree Yes **Obvious Contamination** No Labels Complete Rush to meet HT Yes No COC Complete Yes Received within HT Yes Volatile Vial Headspace >6mm Proper Containers for Analysis No Yes Field Sheet/Instructions Included Correct Preservation No Yes Samples Rejected/Documented in Log No Adequate Sample for Analysis Yes Temp Taken From Temp Blank Yes Sample Custody Seals Present Yes Temp Taken From Sample Container Samples Missing from COC/Cooler No No Temp Taken From Cooler No

Yes



Choctaw Generation LP Project: CGLP CCR 2391 Pensacola Rd. Project Number: [none] Ackerman MS, 39735 Project Manager: Jim Ward

Reported: 06/16/2020 12:54

Cooler ID: #1141

Cooler Custody Seals Present	No
Containers Intact	Yes
COC/Labels Agree	Yes
Labels Complete	Yes
COC Complete	Yes
Volatile Vial Headspace >6mm	No
Field Sheet/Instructions Included	No
Samples Rejected/Documented in Log	No
Temp Taken From Temp Blank	Yes
Temp Taken From Sample Container	No
Temp Taken From Cooler	No
COC meets acceptance criteria	Yes

Receipt Temperature:	-1.1 °C	
Received on Ice	but Not Frozen	Yes
No Ice, Short Trip)	No
Obvious Contam	ination	No
Rush to meet HT		No
Received within I	ΗT	Yes
Proper Container	rs for Analysis	Yes
Correct Preserva	tion	Yes
Adequate Sample	e for Analysis	Yes
Sample Custody	Seals Present	Yes
Samples Missing	from COC/Cooler	No



Choctaw Generation LPProject: CGLP CCR2391 Pensacola Rd.Project Number: [none]Ackerman MS, 39735Project Manager: Jim Ward

Reported: 06/16/2020 12:54

Cooler ID: #309

Cooler Custody Seals Present	Yes
Containers Intact	Yes
COC/Labels Agree	Yes
Labels Complete	Yes
COC Complete	Yes
Volatile Vial Headspace >6mm	No
Field Sheet/Instructions Included	No
Samples Rejected/Documented in Log	No
Temp Taken From Temp Blank	Yes
Temp Taken From Sample Container	No
Temp Taken From Cooler	No
COC meets acceptance criteria	Yes

Receipt Temperature:1.6 °C	
Received on Ice but Not Frozen	Yes
No Ice, Short Trip	No
Obvious Contamination	No
Rush to meet HT	No
Received within HT	Yes
Proper Containers for Analysis	Yes
Correct Preservation	Yes
Adequate Sample for Analysis	Yes
Sample Custody Seals Present	Yes
Samples Missing from COC/Cooler	No



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR

Project Number: [none]

Project Manager: Jim Ward

Reported: 06/16/2020 12:54

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

As per conversation with C. Golding 5-28-2020 - Calcium and Boron added to CoC. T. Tomek 5-28-2020

See attached results from Sub-Contract Laboratory

Total Metals-EPA 200.8 Rev 5.4

Qualifiers:

L1 LCS and/or LCSD Recovery Limit exceeded.

Boron [NG] 0E21042-BSD1



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			roject Nur	oject: CG nber: [no ager: Jim	ne]				Reported 06/16/2020	
				MW-7						
			20053	02-01 (Wa	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Paramet	ers									
luoride	ND	0.22	mg/L	1.0	0E22012	GMS	05/22/2020 00:40	05/22/2020 13:00	SM 4500-F C 2011	
Metals by EPA 200 Series Me	thods ICP-MS	Analysis M	lode]							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0E21042	ABT	05/21/2020 09:00	05/21/2020 14:25	EPA 200.8 Rev 5.4	
Arsenic [NG]	ND	0.00200	"		"	ABT			"	
Barium [He]	0.0775	0.00100	"		"	ABT				
Beryllium [He]	ND	0.00100	"	"	"	ABT				
Boron [NG]	ND	0.0500	"		"	ABT				
Cadmium [HHe]	ND	0.00100	"		"	ABT				
Chromium [He]	ND	0.00100	"		"	ABT				
Cobalt [He]	ND	0.00100	"		"	ABT				
ead [He]	ND	0.00100	"		"	ABT				
/olybdenum [He]	ND	0.00100	"		"	ABT			"	
Selenium [NG]	ND	0.00500	"		"	ABT		•	"	
hallium [He]	ND	0.00100	"		"	ABT		•	"	
ithium [He]	ND	0.0400	"		"	ABT			"	
calcium [He]	48.0	0.625	"	25.0		ABT		05/21/2020 20:25	"	
Mercury by EPA 200 Series N	lethods CVAAS	5						20.20		
lercury	ND	0.002	mg/L	1.0	0E20054	CLV	05/20/2020 10:30	05/20/2020 15:52	EPA 245.1 Rev 3.0	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735	Project: CGLP CCR Project Number: [none] Project Manager: Jim Ward								Reported 06/16/2020	
				MW-9						
			20053	02-02 (Wa	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parame	ters									
Fluoride	0.53	0.22	mg/L	1.0	0E22012	GMS	05/22/2020 00:40	05/22/2020 13:00	SM 4500-F C 2011	
Metals by EPA 200 Series Me	ethods ICP-MS [Analysis N								
Antimony [HHe]	ND	0.00500	mg/L	1.0	0E21042	ABT	05/21/2020 09:00	05/21/2020 14:56	EPA 200.8 Rev 5.4	
Arsenic [NG]	ND	0.00200	"		"	ABT			"	
Barium [He]	0.172	0.00100	"	"	"	ABT	•		"	
Beryllium [He]	0.00537	0.00100	"		"	ABT			"	
Boron [NG]	ND	0.0500	"	"	"	ABT	•			
Cadmium [HHe]	0.00114	0.00100	"	"	"	ABT			"	
Chromium [He]	ND	0.00100	"	"	"	ABT	•			
Cobalt [He]	0.0285	0.00100	"		"	ABT			"	
Lead [He]	ND	0.00100	"	"	"	ABT				
Molybdenum [He]	ND	0.00100	"		"	ABT			•	
Selenium [NG]	ND	0.00500	"		"	ABT				
Thallium [He]	ND	0.00100	"		"	ABT			"	
Lithium [He]	0.114	0.0400	"		"	ABT			"	
Calcium [He]	89.3	0.625	"	25.0	"	ABT		05/21/2020 21:01	"	
Mercury by EPA 200 Series I	Methods CVAAS	1						21.01		
Mercury	ND	0.002	mg/L	1.0	0E20054	CLV	05/20/2020 10:30	05/20/2020 15:52	EPA 245.1 Rev 3.0	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			Project Nur roject Man	-	ne]				Reported 06/16/2020	
				MW-12						
			20053	02-03 (Wa	iter)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Paramet	ters									
luoride	ND	0.22	mg/L	1.0	0E22012	GMS	05/22/2020 00:40	05/22/2020 13:00	SM 4500-F C 2011	
Metals by EPA 200 Series Me			-							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0E21042	ABT	05/21/2020 09:00	05/21/2020 15:03	EPA 200.8 Rev 5.4	
Arsenic [NG]	ND	0.00200	"	"	"	ABT	"		"	
Barium [He]	0.283	0.00100	"		"	ABT			"	
Beryllium [He]	ND	0.00100	"		"	ABT		•		
Boron [NG]	ND	0.0500	"		"	ABT				
Cadmium [HHe]	ND	0.00100	"		"	ABT				
Chromium [He]	ND	0.00100	"		"	ABT				
Cobalt [He]	0.0138	0.00100	"		"	ABT			"	
.ead [He]	ND	0.00100	"		"	ABT				
/lolybdenum [He]	ND	0.00100	"		"	ABT				
Selenium [NG]	ND	0.00500	"	"	"	ABT			"	
[hallium [He]	ND	0.00100	"	"	"	ABT			"	
.ithium [He]	ND	0.0400	"		"	ABT			"	
Calcium [He]	38.6	0.625	"	25.0	"	ABT	-	05/21/2020 21:09	"	
Mercury by EPA 200 Series M	lethods CVAAS	5						21.00		
Mercury	ND	0.002	mg/L	1.0	0E20054	CLV	05/20/2020 10:30	05/20/2020 15:52	EPA 245.1 Rev 3.0	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			Project Nur roject Man	-	ne]				Reported 06/16/2020	
				MW-13						
			20053	02-04 (Wa	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Paramet	ers									
luoride	ND	0.22	mg/L	1.0	0E22012	GMS	05/22/2020 00:40	05/22/2020 13:00	SM 4500-F C 2011	
Aetals by EPA 200 Series Me	thods ICP-MS	[Analysis N	lode]				00.40	10.00	2011	
ntimony [HHe]	ND	0.00500	mg/L	1.0	0E21042	ABT	05/21/2020 09:00	05/21/2020 15:11	EPA 200.8 Rev 5.4	
Arsenic [NG]	ND	0.00200	"		"	ABT			"	
Barium [He]	0.168	0.00100	"	"	"	ABT	•			
Beryllium [He]	ND	0.00100	"	"	"	ABT			"	
Boron [NG]	ND	0.0500	"		"	ABT				
Cadmium [HHe]	ND	0.00100	"		"	ABT				
Chromium [He]	ND	0.00100	"	"	"	ABT				
Cobalt [He]	ND	0.00100	"	"	"	ABT			"	
ead [He]	ND	0.00100	"		"	ABT			"	
/lolybdenum [He]	ND	0.00100	"		"	ABT			"	
Selenium [NG]	ND	0.00500	"		"	ABT				
hallium [He]	ND	0.00100	"		"	ABT			"	
ithium [He]	ND	0.0400	"		"	ABT			"	
Calcium [He]	24.0	0.250	"	10.0	"	ABT		05/21/2020	"	
Mercury by EPA 200 Series M	lethods CVAAS	6						21:18		
lercury	ND	0.002	mg/L	1.0	0E20054	CLV	05/20/2020 10:30	05/20/2020 15:52	EPA 245.1 Rev 3.0	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735										l: 12:54
				MW-14						
			20053	02-05 (Wa	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parame	eters									
Fluoride	ND	0.22	mg/L	1.0	0E22012	GMS	05/22/2020 00:40	05/22/2020 13:00	SM 4500-F C 2011	
Metals by EPA 200 Series M	ethods ICP-MS	Analysis N	lode]							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0E21042	ABT	05/21/2020 09:00	05/21/2020 15:50	EPA 200.8 Rev 5.4	
Arsenic [NG]	ND	0.00200			"	ABT				
Barium [He]	0.0123	0.00100			"	ABT			"	
Beryllium [He]	ND	0.00100		"	"	ABT		05/26/2020 17:15	"	
Boron [NG]	ND	0.0500		"		ABT		05/21/2020 15:50		
Cadmium [HHe]	ND	0.00100				ABT		"		
Chromium [He]	ND	0.00100			"	ABT				
Cobalt [He]	ND	0.00100				ABT				
Lead [He]	ND	0.00100				ABT				
Molybdenum [He]	ND	0.00100			"	ABT				
Selenium [NG]	ND	0.00500				ABT				
Thallium [He]	ND	0.00100			"	ABT				
Lithium [He]	ND	0.0400	"	"	"	ABT		05/26/2020 17:15	"	
Calcium [He]	0.683	0.0250	"		"	ABT		05/21/2020 21:36	"	
Mercury by EPA 200 Series	Methods CVAAS	5						21.50		
Mercury	ND	0.002	mg/L	1.0	0E20054	CLV	05/20/2020 10:30	05/20/2020 15:52	EPA 245.1 Rev 3.0	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735	Project: CGLP CCR Project Number: [none] Project Manager: Jim Ward								Reporte 06/16/2020	
				MW-17						
			20053	02-06 (Wa	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Param	eters									
Fluoride	ND	0.22	mg/L	1.0	0E22012	GMS	05/22/2020 00:40	05/22/2020 13:00	SM 4500-F C 2011	
Metals by EPA 200 Series M		-	-							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0E21042	ABT	05/21/2020 09:00	05/21/2020 15:58	EPA 200.8 Rev 5.4	
Arsenic [NG]	0.00356	0.00200	"		"	ABT				
Barium [He]	0.130	0.00100	"	"	"	ABT				
Beryllium [He]	ND	0.00100	"		"	ABT		05/26/2020 17:23		
Boron [NG]	0.119	0.0500		"	"	ABT		05/21/2020 15:58	"	
Cadmium [HHe]	ND	0.00100			"	ABT		15.56		
Chromium [He]	ND	0.00100	"		"	ABT			"	
Cobalt [He]	0.00549	0.00100	"	"	"	ABT			"	
Lead [He]	ND	0.00100	"		"	ABT				
Molybdenum [He]	ND	0.00100	"		"	ABT				
Selenium [NG]	ND	0.00500	"		"	ABT			"	
Thallium [He]	ND	0.00100	"		"	ABT			"	
Lithium [He]	ND	0.0400	"	"	"	ABT		05/26/2020 17:23		
Calcium [He]	57.2	0.625	"	25.0	"	ABT		05/21/2020 21:45	"	
Mercury by EPA 200 Series	Methods CVAAS	;						21.40		
Mercury	ND	0.002	mg/L	1.0	0E20054	CLV	05/20/2020 10:30	05/20/2020 15:52	EPA 245.1 Rev 3.0	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			Project Nur roject Man	-	ne]				Reporte 06/16/2020	
			Fi	eld Blan	k					
			20053	02-07 (Wa	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Paramet	ers									
		0.22	mg/L	1.0	0E22012	GMS	05/22/2020 00:40	05/22/2020 13:00	SM 4500-F C 2011	
letals by EPA 200 Series Me			-							
ntimony [HHe]	ND	0.00500	mg/L	1.0	0E21042	ABT	05/21/2020 09:00	05/21/2020 16:05	EPA 200.8 Rev 5.4	
rsenic [NG]	ND	0.00200	"	"	"	ABT		•	"	
arium [He]	ND	0.00100	"		"	ABT		•	"	
eryllium [He]	ND	0.00100	"	"	"	ABT		05/26/2020 17:30	"	
oron [NG]	ND	0.0500	"	"	"	ABT		05/21/2020 16:05	"	
admium [HHe]	ND	0.00100	"	"	"	ABT				
Chromium [He]	ND	0.00100	"		"	ABT		•	"	
Cobalt [He]	ND	0.00100	"		"	ABT		•		
ead [He]	ND	0.00100	"		"	ABT				
lolybdenum [He]	ND	0.00100	"		"	ABT			"	
elenium [NG]	ND	0.00500	"		"	ABT			"	
hallium [He]	ND	0.00100	"		"	ABT			"	
ithium [He]	ND	0.0400	"		"	ABT		05/26/2020 17:30	"	
alcium [He]	9.31	0.125	"	5.0		ABT		05/27/2020 21:30	"	
lercury by EPA 200 Series N	lethods CVAAS	8								
lercury	ND	0.002	mg/L	1.0	0E20054	CLV	05/20/2020 10:30	05/20/2020 15:52	EPA 245.1 Rev 3.0	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			Pro roject Nur oject Man	-	ne]				Reported 06/16/2020	
			۵	ouplicate)					
			20053	02-08 (Wa	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Paramet	ters									
iluoride	ND	0.22	mg/L	1.0	0E22012	GMS	05/22/2020 00:40	05/22/2020 13:00	SM 4500-F C 2011	
Metals by EPA 200 Series Me Intimony [HHe]	ND	0.00500	mg/L	1.0	0E21042	ABT	05/21/2020	05/21/2020	EPA 200.8 Rev	
	ND	0.00500	mg/∟	1.0	0E21042	ADI	05/21/2020 09:00	16:21	5.4	
rsenic [NG]	ND	0.00200	"	"	"	ABT				
arium [He]	0.0116	0.00100			"	ABT			"	
eryllium [He]	ND	0.00100	"		"	ABT		05/26/2020 17:46	"	
Boron [NG]	ND	0.0500	"	"	"	ABT		05/21/2020	"	
Cadmium [HHe]	ND	0.00100	"		"	ABT				
Chromium [He]	ND	0.00100			"	ABT				
cobalt [He]	ND	0.00100	"			ABT				
ead [He]	ND	0.00100			"	ABT			"	
lolybdenum [He]	ND	0.00100			"	ABT			"	
elenium [NG]	ND	0.00500			"	ABT			"	
hallium [He]	ND	0.00100			"	ABT			"	
ithium [He]	ND	0.0400		"		ABT		05/26/2020 17:46	"	
alcium [He]	0.636	0.0250		"	"	ABT		05/21/2020 22:48	"	
lercury by EPA 200 Series N	lethods CVAAS	6								
lercury	ND	0.002	mg/L	1.0	0E20054	CLV	05/20/2020 10:30	05/20/2020 15:52	EPA 245.1 Rev 3.0	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			roject Nur	oject: CG nber: [no ager: Jim	ne]				Reported 06/16/2020	
				OW-2						
			20053	02-09 (Wa	iter)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Paramet	ters									
luoride	0.24	0.22	mg/L	1.0	0E22012	GMS	05/22/2020 00:40	05/22/2020 13:00	SM 4500-F C 2011	
Metals by EPA 200 Series Me Intimony [HHe]	ND	0.00500	-	1.0	0504040	ADT		05/04/0000		
	ND	0.00500	mg/L	1.0	0E21042	ABT	05/21/2020 09:00	05/21/2020 16:29	EPA 200.8 Rev 5.4	
rsenic [NG]	ND	0.00200	"	"	"	ABT	•			
arium [He]	0.0981	0.00100	"	"	"	ABT			"	
eryllium [He]	ND	0.00100	"	"	"	ABT		05/26/2020 17:54	"	
Boron [NG]	ND	0.0500	"	"		ABT		05/21/2020 16:29	"	
admium [HHe]	ND	0.00100	"		"	ABT		"		
Chromium [He]	ND	0.00100	"	"	"	ABT			"	
Cobalt [He]	ND	0.00100	"		"	ABT			"	
ead [He]	ND	0.00100	"		"	ABT			"	
lolybdenum [He]	ND	0.00100	"		"	ABT			"	
Selenium [NG]	ND	0.00500	"		"	ABT			"	
hallium [He]	ND	0.00100	"		"	ABT			"	
ithium [He]	0.0450	0.0400	"	"		ABT		05/26/2020 17:54	"	
alcium [He]	41.1	0.625	"	25.0	"	ABT		05/21/2020 22:57	"	
Nercury by EPA 200 Series N	lethods CVAAS	6								
lercury	ND	0.002	mg/L	1.0	0E20054	CLV	05/20/2020 10:30	05/20/2020 15:52	EPA 245.1 Rev 3.0	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			roject Nur	oject: CG mber: [no ager: Jim	ne]			Reported: 06/16/2020 12:54		
				CCR-2						
			20053	02-10 (Wa	iter)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Paramet	ers									
luoride letals by EPA 200 Series Me	ND	0.22	mg/L	1.0	0E22012	GMS	05/22/2020 00:40	05/22/2020 13:00	SM 4500-F C 2011	
Intimony [HHe]	ND	0.00500	mg/L	1.0	0E21042	ABT	05/21/2020 09:00	05/21/2020 16:37	EPA 200.8 Rev 5.4	
rsenic [NG]	ND	0.00200	"		"	ABT			"	
arium [He]	0.0976	0.00100	"	"	"	ABT	•		"	
eryllium [He]	ND	0.00100	"		"	ABT		05/26/2020 18:02	"	
oron [NG]	ND	0.0500	"	"	"	ABT		05/21/2020 16:37	"	
admium [HHe]	ND	0.00100	"		"	ABT	•	"	"	
hromium [He]	ND	0.00100	"		"	ABT	•		"	
obalt [He]	ND	0.00100	"		"	ABT	•		"	
ead [He]	ND	0.00100	"		"	ABT	•		"	
lolybdenum [He]	ND	0.00100	"		"	ABT			"	
elenium [NG]	ND	0.00500	"		"	ABT	•		"	
hallium [He]	ND	0.00100	"		"	ABT	•		"	
ithium [He]	ND	0.0400	"	"	"	ABT		05/26/2020 18:02		
calcium [He]	15.5	0.250	"	10.0	"	ABT		05/21/2020 23:14	"	
Nercury by EPA 200 Series M										
lercury	ND	0.002	mg/L	1.0	0E20054	CLV	05/20/2020 10:30	05/20/2020 15:52	EPA 245.1 Rev 3.0	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735		Project: CGLP CCR Project Number: [none] Project Manager: Jim Ward								l: 12:54
				CCR-3						
			20053	02-11 (Wa	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Param	eters									
Fluoride	0.25	0.22	mg/L	1.0	0E22012	GMS	05/22/2020 00:40	05/22/2020 13:00	SM 4500-F C 2011	
Metals by EPA 200 Series N	lethods ICP-MS [Analysis N	lode]							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0E21042	ABT	05/21/2020 09:00	05/21/2020 16:52	EPA 200.8 Rev 5.4	
Arsenic [NG]	ND	0.00200	"		"	ABT	•		"	
Barium [He]	0.0689	0.00100	"	"	"	ABT			"	
Beryllium [He]	ND	0.00100	"	"	"	ABT		05/26/2020 18:17	"	
Boron [NG]	ND	0.0500	"	"	"	ABT		05/21/2020 16:52	"	
Cadmium [HHe]	ND	0.00100	"		"	ABT			"	
Chromium [He]	ND	0.00100	"		"	ABT			"	
Cobalt [He]	0.00955	0.00100	"		"	ABT			"	
Lead [He]	ND	0.00100	"		"	ABT			"	
Molybdenum [He]	ND	0.00100	"		"	ABT				
Selenium [NG]	ND	0.00500	"		"	ABT				
Thallium [He]	ND	0.00100	"		"	ABT			"	
Lithium [He]	0.0973	0.0400	"	"	"	ABT		05/26/2020 18:17	"	
Calcium [He]	39.5	0.625	"	25.0	"	ABT		05/21/2020 23:23	"	
Mercury by EPA 200 Series	Methods CVAAS									
Mercury	ND	0.002	mg/L	1.0	0E20054	CLV	05/20/2020 10:30	05/20/2020 15:52	EPA 245.1 Rev 3.0	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			roject Nur	oject: CG nber: [no ager: Jim	ne]				Reported 06/16/2020	
				CCR-4						
			20053	02-12 (Wa	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Param	eters									
Fluoride	ND	0.22	mg/L	1.0	0E22012	GMS	05/22/2020 00:40	05/22/2020 13:00	SM 4500-F C 2011	
Metals by EPA 200 Series M										
Antimony [HHe]	ND	0.00500	mg/L	1.0	0E21042	ABT	05/21/2020 09:00	05/21/2020 17:00	EPA 200.8 Rev 5.4	
Arsenic [NG]	ND	0.00200	"		"	ABT				
Barium [He]	0.161	0.00100	"	"	"	ABT			"	
Beryllium [He]	ND	0.00100	"		"	ABT		05/26/2020 18:25	"	
Boron [NG]	ND	0.0500	"	"	"	ABT		05/21/2020 17:00	"	
Cadmium [HHe]	ND	0.00100	"		"	ABT			"	
Chromium [He]	ND	0.00100	"		"	ABT			"	
Cobalt [He]	0.00371	0.00100	"		"	ABT			"	
Lead [He]	ND	0.00100	"	"	"	ABT	•			
Molybdenum [He]	ND	0.00100	"	"	"	ABT				
Selenium [NG]	ND	0.00500	"		"	ABT				
Thallium [He]	ND	0.00100	"		"	ABT				
Lithium [He]	ND	0.0400	"	"		ABT		05/26/2020 18:25	"	
Calcium [He]	28.3	0.625	"	25.0	"	ABT		05/21/2020 23:32	"	
Mercury by EPA 200 Series	Methods CVAAS									
Mercury	ND	0.002	mg/L	1.0	0E20054	CLV	05/20/2020 10:30	05/20/2020 15:52	EPA 245.1 Rev 3.0	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			roject Nur	oject: CG mber: [noi ager: Jim	ne]				Reported 06/16/2020	
				CCR-5						
			20053	02-13 (Wa	ter)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parame	ters									
	ND	0.22	mg/L	1.0	0E22012	GMS	05/22/2020 00:40	05/22/2020 13:00	SM 4500-F C 2011	
Metals by EPA 200 Series Me			-							
Antimony [HHe]	ND	0.00500	mg/L	1.0	0E21042	ABT	05/21/2020 09:00	05/21/2020 17:08	EPA 200.8 Rev 5.4	
rsenic [NG]	0.00204	0.00200	"	"	"	ABT			"	
arium [He]	0.0263	0.00100	"	"	"	ABT			"	
eryllium [He]	ND	0.00100	"	"	"	ABT		05/26/2020 18:33	"	
Boron [NG]	0.0964	0.0500	"	"		ABT		05/21/2020	"	
Cadmium [HHe]	ND	0.00100	"		"	ABT		"	•	
Chromium [He]	ND	0.00100	"	"	"	ABT				
obalt [He]	0.0514	0.00100	"		"	ABT			"	
ead [He]	ND	0.00100	"		"	ABT			•	
lolybdenum [He]	ND	0.00100	"	"	"	ABT				
elenium [NG]	ND	0.00500	"	"	"	ABT			"	
hallium [He]	ND	0.00100	"		"	ABT			"	
ithium [He]	ND	0.0400	"	"	"	ABT		05/26/2020 18:33	"	
Calcium [He]	258	2.50	"	100.0		ABT		05/21/2020 23:50	"	
Mercury by EPA 200 Series M	lethods CVAAS	6								
<i>l</i> ercury	ND	0.002	mg/L	1.0	0E20054	CLV	05/20/2020 10:30	05/20/2020 15:52	EPA 245.1 Rev 3.0	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735	. Project Number: [none]						06	Reported: 06/16/2020 12:54			
		Classical Cl	hemistry	Param	eters - C	Quality (Control				
Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0E22012 - Default Prep GenChe	em										
Blank (0E22012-BLK1)											
Fluoride	5/22/20 13:00	ND	0.22	mg/L							
LCS (0E22012-BS1)											
Fluoride	5/22/20 13:00	1.93	0.22	mg/L	2.00		96.5	84.5-110			
LCS Dup (0E22012-BSD1)											
Fluoride	5/22/20 13:00	2.00	0.22	mg/L	2.00		100	84.5-110	3.56	30	
Duplicate (0E22012-DUP1)			Source: 20053	02-01							
Fluoride	5/22/20 13:00	0.18	0.22	mg/L		0.18			1.09	35	
Matrix Spike (0E22012-MS1)			Source: 20053	02-01							
Fluoride	5/22/20 13:00	5.27	0.22	mg/L	5.00	0.18	102	58.5-128			
Matrix Spike Dup (0E22012-MSD1)			Source: 20053	02-01							
Fluoride	5/22/20 13:00	5.23	0.22	mg/L	5.00	0.18	101	58.5-128	0.762	30	



Ackerman MS, 39735	Project Manager: Jim Ward	06/16/2020 12:54
2391 Pensacola Rd.	Project Number: [none]	Reported:
Choctaw Generation LP	Project: CGLP CCR	

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0E21042 - EPA 200.2 DC	CN 1017 Rev 9										
Blank (0E21042-BLK1)											
Antimony [HHe]	5/21/20 13:15	ND	0.00500	mg/L							
Barium [He]	5/21/20 13:15	ND	0.00100								
Beryllium [He]	5/21/20 13:15	ND	0.00100								
Boron [NG]	5/21/20 13:15	ND	0.0500								
Cadmium [HHe]	5/21/20 13:15	ND	0.00100								
Chromium [He]	5/21/20 13:15	ND	0.00100								
Cobalt [He]	5/21/20 13:15	ND	0.00100								
Lead [He]	5/21/20 13:15	ND	0.00100								
Molybdenum [He]	5/21/20 13:15	ND	0.00100								
Thallium [He]	5/21/20 13:15	ND	0.00100								
Lithium [He]	5/21/20 13:15	ND	0.0400								
Calcium [He]	5/27/20 21:04	ND	0.0250								
LCS (0E21042-BS1)											
Antimony [HHe]	5/21/20 13:22	0.101	0.00500	mg/L	0.100		101	85-115			
Barium [He]	5/21/20 13:22	0.111	0.00100		0.100		111	85-115			
Beryllium [He]	5/21/20 13:22	0.103	0.00100		0.100		103	85-115			
Boron [NG]	5/21/20 13:22	0.115	0.0500		0.100		115	85-115			
Cadmium [HHe]	5/21/20 13:22	0.095	0.00100		0.100		95.1	85-115			
Chromium [He]	5/21/20 13:22	0.101	0.00100		0.100		101	85-115			
Cobalt [He]	5/21/20 13:22	0.097	0.00100		0.100		97.1	85-115			
Lead [He]	5/21/20 13:22	0.100	0.00100		0.100		99.8	85-115			
Molybdenum [He]	5/21/20 13:22	0.101	0.00100		0.100		101	85-115			
Thallium [He]	5/21/20 13:22	0.104	0.00100		0.100		104	85-115			
Lithium [He]	5/21/20 13:22	0.213	0.0400		0.200		107	85-115			
LCS (0E21042-BS2)											
Calcium [He]	5/27/20 21:12	0.206	0.0250	mg/L	0.200		103	85-115			



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR Project Number: [none] Project Manager: Jim Ward

Reported: 06/16/2020 12:54

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0E21042 - EPA 200.2 DCN 1	017 Rev 9										
LCS Dup (0E21042-BSD1)											
Antimony [HHe]	5/21/20 13:30	0.104	0.00500	mg/L	0.100		104	85-115	2.71	20	
Barium [He]	5/21/20 13:30	0.111	0.00100	•	0.100		111	85-115	0.259	20	
Beryllium [He]	5/21/20 13:30	0.102	0.00100		0.100		102	85-115	1.50	20	
Boron [NG]	5/21/20 13:30	0.116	0.0500		0.100		116	85-115	0.523	20	L1
Cadmium [HHe]	5/21/20 13:30	0.096	0.00100	•	0.100		95.8	85-115	0.765	20	
Chromium [He]	5/21/20 13:30	0.100	0.00100		0.100		100	85-115	1.14	20	
Cobalt [He]	5/21/20 13:30	0.096	0.00100		0.100		95.7	85-115	1.45	20	
Lead [He]	5/21/20 13:30	0.099	0.00100	•	0.100		99.2	85-115	0.519	20	
Molybdenum [He]	5/21/20 13:30	0.101	0.00100	•	0.100		101	85-115	0.00138	20	
Thallium [He]	5/21/20 13:30	0.104	0.00100		0.100		104	85-115	0.325	20	
Lithium [He]	5/21/20 13:30	0.210	0.0400	•	0.200		105	85-115	1.28	20	
LCS Dup (0E21042-BSD2)											
Calcium [He]	5/27/20 21:21	0.195	0.0250	mg/L	0.200		97.4	85-115	5.54	20	
Duplicate (0E21042-DUP1)			Source: 20053	02-01							
Calcium [He]	5/21/20 20:34	47.9	0.625	mg/L		48.0			0.231	20	
Duplicate (0E21042-DUP2)			Source: 20053	02-13							
Calcium [He]	5/21/20 23:59	257	2.50	mg/L		258			0.159	20	
Matrix Spike (0E21042-MS1)			Source: 20053	02-01							
Antimony [HHe]	5/21/20 14:32	0.104	0.00500	mg/L	0.100	ND	104	70-130			
Barium [He]	5/21/20 14:32	0.194	0.00100		0.100	0.077	117	70-130			
Beryllium [He]	5/21/20 14:32	0.109	0.00100		0.100	ND	109	70-130			
Boron [NG]	5/21/20 14:32	0.125	0.0500		0.100	ND	125	70-130			
Cadmium [HHe]	5/21/20 14:32	0.094	0.00100	•	0.100	ND	94.1	70-130			
Chromium [He]	5/21/20 14:32	0.102	0.00100		0.100	ND	102	70-130			
Cobalt [He]	5/21/20 14:32	0.097	0.00100		0.100	ND	96.7	70-130			
Lead [He]	5/21/20 14:32	0.101	0.00100		0.100	ND	101	70-130			
Molybdenum [He]	5/21/20 14:32	0.105	0.00100		0.100	0.00009	105	70-130			
Thallium [He]	5/21/20 14:32	0.106	0.00100		0.100	ND	106	70-130			
Lithium [He]	5/21/20 14:32	0.242	0.0400	•	0.200	0.024	109	70-130			



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR Project Number: [none] Project Manager: Jim Ward

Reported: 06/16/2020 12:54

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0E21042 - EPA 200.2 DCN 10	17 Rev 9										
Matrix Spike (0E21042-MS2)			Source: 20053	02-13							
Antimony [HHe]	5/21/20 17:23	0.106	0.00500	mg/L	0.100	ND	106	70-130			
Barium [He]	5/21/20 17:23	0.145	0.00100		0.100	0.026	118	70-130			
Beryllium [He]	5/26/20 18:48	0.105	0.00100		0.100	ND	105	70-130			
Boron [NG]	5/21/20 17:23	0.189	0.0500		0.100	0.096	92.7	70-130			
Cadmium [HHe]	5/21/20 17:23	0.091	0.00100		0.100	0.0002	90.8	70-130			
Chromium [He]	5/21/20 17:23	0.102	0.00100		0.100	ND	102	70-130			
Cobalt [He]	5/21/20 17:23	0.149	0.00100		0.100	0.051	97.9	70-130			
Lead [He]	5/21/20 17:23	0.103	0.00100		0.100	0.0006	102	70-130			
Molybdenum [He]	5/21/20 17:23	0.108	0.00100		0.100	0.0002	108	70-130			
Thallium [He]	5/21/20 17:23	0.107	0.00100		0.100	ND	107	70-130			
Lithium [He]	5/26/20 18:48	0.219	0.0400		0.200	0.017	101	70-130			
Matrix Spike Dup (0E21042-MSD1)			Source: 20053	02-01							
Antimony [HHe]	5/21/20 14:40	0.103	0.00500	mg/L	0.100	ND	103	70-130	0.170	20	
Barium [He]	5/21/20 14:40	0.193	0.00100		0.100	0.077	115	70-130	0.860	20	
Beryllium [He]	5/21/20 14:40	0.108	0.00100		0.100	ND	108	70-130	0.378	20	
Boron [NG]	5/21/20 14:40	0.126	0.0500		0.100	ND	126	70-130	0.923	20	
Cadmium [HHe]	5/21/20 14:40	0.094	0.00100		0.100	ND	93.7	70-130	0.354	20	
Chromium [He]	5/21/20 14:40	0.103	0.00100		0.100	ND	103	70-130	0.111	20	
Cobalt [He]	5/21/20 14:40	0.097	0.00100		0.100	ND	97.2	70-130	0.495	20	
Lead [He]	5/21/20 14:40	0.100	0.00100		0.100	ND	100	70-130	1.08	20	
Molybdenum [He]	5/21/20 14:40	0.104	0.00100		0.100	0.00009	104	70-130	0.769	20	
Thallium [He]	5/21/20 14:40	0.104	0.00100		0.100	ND	104	70-130	1.44	20	
Lithium [He]	5/21/20 14:40	0.241	0.0400		0.200	0.024	108	70-130	0.728	20	
Matrix Spike Dup (0E21042-MSD2)			Source: 20053	02-13							
Antimony [HHe]	5/21/20 17:31	0.106	0.00500	mg/L	0.100	ND	106	70-130	0.161	20	
Barium [He]	5/21/20 17:31	0.147	0.00100		0.100	0.026	120	70-130	1.36	20	
Beryllium [He]	5/26/20 18:56	0.103	0.00100		0.100	ND	103	70-130	1.94	20	
Boron [NG]	5/21/20 17:31	0.192	0.0500		0.100	0.096	96.0	70-130	1.70	20	
Cadmium [HHe]	5/21/20 17:31	0.090	0.00100		0.100	0.0002	90.4	70-130	0.440	20	
Chromium [He]	5/26/20 18:56	0.103	0.00100		0.100	ND	103	70-130	1.39	20	
Cobalt [He]	5/26/20 18:56	0.157	0.00100		0.100	0.051	106	70-130	4.94	20	
Lead [He]	5/21/20 17:31	0.104	0.00100		0.100	0.0006	103	70-130	0.636	20	
Molybdenum [He]	5/21/20 17:31	0.108	0.00100		0.100	0.0002	108	70-130	0.000834	20	
Thallium [He]	5/21/20 17:31	0.109	0.00100		0.100	ND	109	70-130	1.41	20	
Lithium [He]	5/26/20 18:56	0.227	0.0400		0.200	0.017	105	70-130	3.53	20	
			5.0400		2.200						



L

Choctaw Generation LP				oject: CG									
2391 Pensacola Rd.			Project Nur	nber: [no	nej					Reported			
Ackerman MS, 39735		Project Manager: Jim Ward								06/16/2020 12:54			
	Mercu	ry by EPA 2	200 Series	s Metho	ods CVA	AS - Qu	ality Co	ontrol					
Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers		
Batch 0E20054 - EPA 245.1 DCN 1017	Rev 9												
Blank (0E20054-BLK1)													
Mercury	5/20/20 15:52	ND	0.002	mg/L									
LCS (0E20054-BS1)													
Mercury	5/20/20 15:52	0.005	0.002	mg/L	0.00500		106	85-115					
LCS Dup (0E20054-BSD1)													
Mercury	5/20/20 15:52	0.006	0.002	mg/L	0.00500		110	85-115	3.70	20			
Matrix Spike (0E20054-MS1)			Source: 20053	02-01									
Mercury	5/20/20 15:52	0.005	0.002	mg/L	0.00500	ND	104	70-130					
Matrix Spike (0E20054-MS2)			Source: 20053	02-13									
Mercury	5/20/20 15:52	0.006	0.002	mg/L	0.00500	ND	122	70-130					
Matrix Spike Dup (0E20054-MSD1)			Source: 20053	02-01									
Mercury	5/20/20 15:52	0.006	0.002	mg/L	0.00500	ND	112	70-130	7.41	20			
Matrix Spike Dup (0E20054-MSD2)			Source: 20053	02-13									
Mercury	5/20/20 15:52	0.006	0.002	mg/L	0.00500	ND	122	70-130	0.00	20			



Choctaw Generation LP	Project: CGLP CCR	
2391 Pensacola Rd.	Project Number: [none]	Reported:
Ackerman MS, 39735	Project Manager: Jim Ward	06/16/2020 12:54

Certified Analyses Included in this Report

Analyte	Certification Code	
EPA 200.8 Rev 5.4 in Water		
Aluminum [He]	C01,C02	
Antimony [He]	C01,C02	
Antimony [HHe]	C01,C02	
Antimony [NG]	C01,C02	
Arsenic [HHe]	C01,C02	
Arsenic [NG]	C01,C02	
Barium [He]	C01,C02	
Beryllium [He]	C01,C02	
Boron [NG]	C01,C02	
Cadmium [HHe]	C01,C02	
Cadmium [NG]	C01,C02	
Chromium [He]	C01,C02	
Cobalt [He]	C01,C02	
Copper [He]	C01,C02	
Copper [NG]	C01,C02	
Iron [He]	C01,C02	
Lead [He]	C01,C02	
Lead [NG]	C01,C02	
Manganese [He]	C01,C02	
Molybdenum [He]	C01,C02	
Nickel [He]	C01,C02	
Selenium [HHe]	C01,C02	
Selenium [NG]	C01,C02	
Silver [He]	C01,C02	
Silver [NG]	C01,C02	
Strontium [He]	C01,C02	
Thallium [He]	C01,C02	
Vanadium [He]	C01,C02	
Zinc [He]	C01,C02	
EPA 245.1 Rev 3.0 in Water		

Mercury

C01,C02

Only compounds included in this list are associated with accredited analyses



6500 Sunplex Drive Ocean Springs, MS 39564 228-875-6420 Phone 228-875-6423 Fax

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR Project Number: [none] Project Manager: Jim Ward

Reported: 06/16/2020 12:54

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	LA Environmental Lab Accreditation Program	01960	06/30/2020
C02	The NELAC Institute (NELAP)	TNI01397	06/30/2020
C03	Ms Dept of Health (Drinking Water Microbiology)	MS00021	12/31/2020
C04	Ms Dept of Health (Drinking Water Chemistry)	MS00021	12/31/2020
C05	Ms DEQ Lead Firm Certification	PBF-00000028	03/24/2021
C06	MsDEQ Asbestos Inspector : C.D. Bingham	ABI-00001348	02/12/2021
C07	MsDEQ Air Monitor : C.D. Bingham	AM-011572	02/13/2021
C08	MsDEQ Asbestos Inspector: C. W. Meins	ABI-00001821	09/04/2020
C09	MsDEQ Air Monitor : C.W. Meins	AM-011189	02/13/2021
C12			
C14	MsDEQ Lead Paint Inspector : C.D. Bingham	PBI-00003690	03/24/2021
C15	MsDEQ Lead Paint Inspector : C.W. Meins	PBI-00001740	03/24/2021
Not Ce	rtiNot certified by an accrediting body	No certification held	06/30/2020

Report Definitions

TNC DET	Too Numerous To Count Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.



Choctaw Generation LP	Project: CGLP CCR	
2391 Pensacola Rd.	Project Number: [none]	Reported:
Ackerman MS, 39735	Project Manager: Jim Ward	06/16/2020 12:54

Analyst Initials Key

<u>FullName</u>	<u>Initials</u>
Alyssa B Timbs	ABT
Charles L Vorhoff	CLV
Gayle M. Sparling	GMS
Harry P. Howell	HPH
Stella S Kleist	SSK
Teresa Meins	TKM
Tina Tomek	TPT

		have Million and	No.
	Chain of Custody Record	M-M Lab	
PO Box 1410, Ocean Springs, MS 39566-1410 (228) 875-6420 FAX (228) 875-6423	B. 18, 1	202309, "	
ed Partnership LLL	Project Manager: Jim Ward	Turn Around Time & Repo	no davs
	Purchase Order #: ROH 12930	Normal *All rush order	Phone
Zip: 39735	Email Address	*	Fax
	Sampler Name Printed: Kink Shilton/BJ Hulan		Email
	Sampler Name Signed: MUJAUT / BISH	QC Level: Level 1 Level 2 Level 3	Ξ
	List Analyses Requested	Field Testing	のないのないのである
CCR	e inic, iium natt aad ury h, m 26 &	eld Test Field Test Field Test	W = Water
	(G) or posite (LOFID ony. Arse n. Berrytt ium, Cot mium, Cot mium, Cot mium, Cot mium, Mercu ybdenum elenium alliuu tadium 2: 228	= S	S = Solid
	# of C Grab Comp Fli Antime Bariuu Cadrr Chro Chro Chro S Th Total F	S S S S S S S S S S S S S S S S S S S	SO = Soil SE = Sediment
ŝ	4		L=Līquid A=Air
18/20 13:00 V		0	0=01
24:01 02/31		St	SL = Sludge
19/20 10:50			
0051 02/61		P	Preservation:
14:11 0131			1= H2SO4
NO 11 2/8/		2=	2= H3PO4
19/20 1		5	3=NaUH 4≓ZnC4H1006
- 6		S	5=ZnC4H1006 &
2	+ X X X X X X A +	6=	6=HNO3
'd Coole	Receipt Temp Corrected		8=HCI
SK		L	9=NaHSO4
Name	Signature Company Date Time	Notes:	
1 401 1	MA JULA ECS SIMONIA	(226
		-	
eist 5	tulia killinti MM 5Handrids	1	
1			
Phy	ical Address: 6500 Sunplex Drive, Ocean Springs MS 39564		
	9735 9735 9735	Lab ID# MS00021 ILELAP ID # 01960 INI ID # TNI01397 Ig735 Email Address: Sampler Name Pinitel: Sampler Name Signet: IST Analyses Requested Jim Ward 13.00 (C,S) W 4 6 (Code in free or containers) (C,S) W 4 6 (Code in free or containers) (Code in free or containers) (Code in free or containers) (C,S) W 4 6 (Code in free or containers) (Code in	Lab ID # MS0021 INI ID # MN0021 INI ID # MN00

F310 F

AA BURGERS LANDER			Print Form
WHICKO-WHEIHODS		Chain of Custody Record	M.M.Lab
PO Box 1410, Ocean Springs, MS 39566-1410 (228) 875-6420 FAX (228) 875-6423	66-1410	LAD ID# MISUUUZI LELAP ID # 01960	1000304
www.micromethodslab.com			
Company Name: Choctaw Generation Limited Partnership LLLP	ted Partnership LLLP	Project Manager: Jim Ward	Turn Around Time & Reporting
Address: 2391 Pensacola Rd.		Purchase Order #:	
City: Ackerman State: MS	^{Zip:} 39735	Email Address :	Next Day* requests must beMail 2nd Day* prior approvedFax
Phone: 662-387-5758		Sampler Name Printed: Ky (Shilton/1) Thuly	
Fax:		Sampler Name Signed: M. J. Hulow IBAL	QC Level 1 Level 2 Level 3
「「「「「「「「「「「「」」」」」」「「「「」」」」」」」		List Analyses Requested	Field Testing
Project Name: CGLP (CCR	C) C C C C C C C C C C C C C C C C C C	Field Test Field Test Field Test W = Water
Project #:		ontaine (G) or osite ((IOrid ony, Arser allorid mium, Cob mium, Cob mium, Cob mium, Le m, Mercu allium 228 010	DW = Drinking Water S = Solid
Sample Identification	Sampling Matrix Date/Time Code	Grab Comp Fli Antim Bariuu Cadn Chrec Lithii Molos S Thh Total F	
CCR-4	18/20 15:49 W		L = Liquid
CCR-5	5/19/20 12:30 W		0 = Oil SL = Sludge
			Preservation:
			1= H2SO4 2= H3PO4
			3=NaOH
			5=ZnC4H1006 &
			6=HNO3
Received on Ice? Y N Thermometer#	# Cooler #	Receipt Temp Corrected	8=HC
Date & Time By:		SampleBlankCooler	**All Temps are Corrected Values** 9=NaHSO4
Printed Name	ame	Signafure Company Date Time	Notes:
Relinquished by Kick Shu	tor M	COM 6281-5 5721 MMA	
Received by Stellar H	edEx +		
Relinquished by Federa			1
Received by Stella K	Jeist t	TUD KUUUT MM 58-10008:08	
Relinquished by			
Received by			
	Physic	Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564	

DCN# F316 Rev #5

Page 29 of 46



Pace Analytical Services, LLC 1000 Riverbend Blvd - Suite F St. Rose, LA 70087 (504)469-0333

June 12, 2020

Tina Tomek Micro Methods Laboratory, Inc. P. O. Box 1410 Ocean Springs, MS 39566

RE: Project: 2005302 Pace Project No.: 20155536

Dear Tina Tomek:

Enclosed are the analytical results for sample(s) received by the laboratory on May 21, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

KauntBour

Karen Brown karen.brown@pacelabs.com (504)469-0333 Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.

Page 1 of 17 Page 30 of 46



Pace Analytical Services, LLC 1000 Riverbend Blvd - Suite F St. Rose, LA 70087 (504)469-0333

CERTIFICATIONS

 Project:
 2005302

 Pace Project No.:
 20155536

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601 ANAB DOD-ELAP Rad Accreditation #: L2417 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California Certification #: 04222CA Colorado Certification #: PA01547 Connecticut Certification #: PH-0694 **Delaware Certification** EPA Region 4 DW Rad Florida/TNI Certification #: E87683 Georgia Certification #: C040 Florida: Cert E871149 SEKS WET **Guam Certification** Hawaii Certification Idaho Certification **Illinois Certification** Indiana Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133 KY WW Permit #: KY0098221 KY WW Permit #: KY0000221 Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086 Maine Certification #: 2017020 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991

Missouri Certification #: 235 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14 Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617 New Jersey/TNI Certification #: PA051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249 Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282 South Dakota Certification Tennessee Certification #: 02867 Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

- Pa	nae (2 ∩f	17
Page	31	of	46



Pace Analytical Services, LLC 1000 Riverbend Blvd - Suite F St. Rose, LA 70087 (504)469-0333

SAMPLE SUMMARY

 Project:
 2005302

 Pace Project No.:
 20155536

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20155536001	2005302-01	Water	05/18/20 13:50	05/21/20 13:15
20155536002	2005302-02	Water	05/18/20 13:00	05/21/20 13:15
20155536003	2005302-03	Water	05/18/20 10:42	05/21/20 13:15
20155536004	2005302-04	Water	05/18/20 10:50	05/21/20 13:15
20155536005	2005302-05	Water	05/18/20 15:00	05/21/20 13:15
20155536006	2005302-06	Water	05/18/20 11:41	05/21/20 13:15
20155536007	2005302-09	Water	05/18/20 12:22	05/21/20 13:15
20155536008	2005302-10	Water	05/18/20 14:01	05/21/20 13:15
20155536009	2005302-11	Water	05/18/20 14:51	05/21/20 13:15
20155536010	2005302-12	Water	05/18/20 15:49	05/21/20 13:15
20155536011	2005302-13	Water	05/18/20 12:30	05/21/20 13:15

REPORT OF LABORATORY ANALYSIS



Pace Analytical Services, LLC 1000 Riverbend Blvd - Suite F St. Rose, LA 70087 (504)469-0333

SAMPLE ANALYTE COUNT

Project:	2005302
Pace Project No.:	20155536

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20155536001	2005302-01	EPA 903.1		1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20155536002	2005302-02	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20155536003	2005302-03	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20155536004	2005302-04	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20155536005	2005302-05	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20155536006	2005302-06	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20155536007	2005302-09	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20155536008	2005302-10	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20155536009	2005302-11	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20155536010	2005302-12	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20155536011	2005302-13	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg



PROJECT NARRATIVE

 Project:
 2005302

 Pace Project No.:
 20155536

Method:	EPA 903.1
Description:	903.1 Radium 226
Client:	Micro Methods
Date:	June 12, 2020

General Information:

11 samples were analyzed for EPA 903.1 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:



PROJECT NARRATIVE

Project:	2005302
Pace Project No.:	20155536

Method:	EPA 904.0
Description:	904.0 Radium 228
Client:	Micro Methods
Date:	June 12, 2020

General Information:

11 samples were analyzed for EPA 904.0 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.



Sample: 2005302-01 PWS:	Lab ID: 2015553		Received:	05/21/20 13:15	Matrix: Water	
		Sample Type: c acid were added to the sample to	meet the sam	ple preservation re	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical Ser	vices - Greensburg				
Radium-226	EPA 903.1	0.390 ± 0.519 (0.834) C:NA T:86%	pCi/L	06/12/20 14:09	9 13982-63-3	
	Pace Analytical Ser	Ũ				
Radium-228	EPA 904.0	0.519 ± 0.542 (1.13) C:67% T:76%	pCi/L	06/11/20 13:00) 15262-20-1	
Sample: 2005302-02	Lab ID: 2015553 Site ID:	6002 Collected: 05/18/20 13:00 Sample Type:	Received:	05/21/20 13:15	Matrix: Water	
Comments: • Upon receipt a <2 for radiochem		c acid were added to the sample to	meet the sam	ple preservation re	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical Ser	vices - Greensburg				
Radium-226	EPA 903.1	1.34 ± 0.707 (0.714) C:NA T:88%	pCi/L	06/12/20 14:09	9 13982-63-3	
	Pace Analytical Ser	Ū.				
Radium-228	EPA 904.0	1.24 ± 0.549 (0.924) C:66% T:87%	pCi/L	06/11/20 13:01	15262-20-1	
Sample: 2005302-03	Lab ID: 2015553		Received:	05/21/20 13:15	Matrix: Water	
PWS: Comments: • Upon receipt a <2 for radiochen		Sample Type: c acid were added to the sample to	meet the sam	ple preservation re	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical Ser	vices - Greensburg				
Radium-226	EPA 903.1	0.449 ± 0.363 (0.203) C:NA T:91%	pCi/L	06/12/20 14:09	9 13982-63-3	
	Pace Analytical Ser	vices - Greensburg				
Radium-228	EPA 904.0	0.105 ± 0.596 (1.36) C:63% T:84%	pCi/L	06/11/20 16:05	5 15262-20-1	
Sample: 2005302-04 PWS:	Lab ID: 2015553 Site ID:	6004 Collected: 05/18/20 10:50 Sample Type:	Received:	05/21/20 13:15	Matrix: Water	
Comments: • Upon receipt a <2 for radiochem		c acid were added to the sample to	meet the sam	ple preservation re	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	De la Arceletie el Ora					
	Pace Analytical Ser	vices - Greensburg				

REPORT OF LABORATORY ANALYSIS



Project: 2005302 Pace Project No.: 20155536	3					
Sample: 2005302-04 PWS:	Lab ID: 20155536 Site ID:	6004 Collected: 05/18/20 10:50 Sample Type:	Received:	05/21/20 13:15 M	Matrix: Water	
Comments: • Upon receipt at <2 for radiochem		acid were added to the sample to r	neet the sam	ple preservation rec	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Serv	ices - Greensburg				
Radium-228	EPA 904.0	0.971 ± 0.657 (1.27) C:64% T:92%	pCi/L	06/11/20 16:05	15262-20-1	
Sample: 2005302-05 PWS:	Lab ID: 20155536 Site ID:	005 Collected: 05/18/20 15:00 Sample Type:	Received:	05/21/20 13:15 M	Matrix: Water	
Comments: • Upon receipt at <2 for radiochem		acid were added to the sample to r	neet the sam	ple preservation rec	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Serv	ices - Greensburg				
Radium-226	EPA 903.1	0.0575 ± 0.344 (0.561) C:NA T:87%	pCi/L	06/12/20 14:09	13982-63-3	
	Pace Analytical Serv	ices - Greensburg				
Radium-228	EPA 904.0	-0.0432 ± 0.392 (0.920) C:69% T:77%	pCi/L	06/11/20 12:58	15262-20-1	
Sample: 2005302-06 PWS: Comments: • Upon receipt at	Lab ID: 20155536 Site ID:	2006 Collected: 05/18/20 11:41 Sample Type: acid were added to the sample to r			Matrix: Water	
Comments. • Opon receipt at <2 for radiochem		acid were added to the sample to r	neet the Sam	ple preservation rec		
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Serv	ices - Greensburg			_	
Radium-226	EPA 903.1	-0.0698 ± 0.478 (0.984) C:NA T:89%	pCi/L	06/12/20 14:09	13982-63-3	
	Pace Analytical Serv	ices - Greensburg				
Radium-228	EPA 904.0	0.297 ± 0.475 (1.03) C:68% T:77%	pCi/L	06/11/20 12:58	15262-20-1	
Sample: 2005302-09 PWS:	Lab ID: 20155536 Site ID:	6007 Collected: 05/18/20 12:22 Sample Type:	Received:	05/21/20 13:15 M	Matrix: Water	
Comments: • Upon receipt at <2 for radiochem		acid were added to the sample to r	neet the sam	ple preservation rec	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Serv	ices - Greensburg				
Radium-226	EPA 903.1	0.261 ± 0.507 (0.885) C:NA T:85%	pCi/L	06/12/20 14:09	13982-63-3	
	Pace Analytical Serv	ices - Greensburg				
Radium-228	EPA 904.0	-0.426 ± 0.631 (1.49) C:61% T:79%	pCi/L	06/11/20 12:52	15262-20-1	

REPORT OF LABORATORY ANALYSIS



Sample: 2005302-10 PWS:	Lab ID: 20155 Site ID:	536008 Collected: 05/18/20 14:0 Sample Type:	1 Received:	05/21/20 13:15	Matrix: Water	
	t the laboratory, 2.5 mls of ni	tric acid were added to the sample to	meet the sam	ple preservation re	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical S	Services - Greensburg	_			
Radium-226	EPA 903.1	-0.0941 ± 0.322 (0.666) C:NA T:89%	pCi/L	06/12/20 14:29	9 13982-63-3	
		Services - Greensburg				
Radium-228	EPA 904.0	0.276 ± 0.474 (1.03) C:66% T:82%	pCi/L	06/11/20 12:52	2 15262-20-1	
Sample: 2005302-11 PWS:	Lab ID: 20155 Site ID:	536009 Collected: 05/18/20 14:5 Sample Type:	1 Received:	05/21/20 13:15	Matrix: Water	
Comments: • Upon receipt at <2 for radiochem		tric acid were added to the sample to	meet the sam	ple preservation re	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 903.1	0.569 ± 0.427 (0.220) C:NA T:80%	pCi/L	06/12/20 14:29	9 13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	0.232 ± 0.523 (1.15) C:71% T:77%	pCi/L	06/11/20 12:52	2 15262-20-1	
Sample: 2005302-12	Lab ID: 20155		9 Received:	05/21/20 13:15	Matrix: Water	
PWS: Comments: • Upon receipt at <2 for radiochem		Sample Type: tric acid were added to the sample to	meet the sam	ple preservation re	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical S	Services - Greensburg			·	
Radium-226	EPA 903.1	0.380 ± 0.376 (0.512) C:NA T:96%	pCi/L	06/12/20 14:29	9 13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	-0.0331 ± 0.456 (1.05) C:66% T:92%	pCi/L	06/11/20 12:52	2 15262-20-1	
			0 Pacaivad:	05/21/20 13:15	Matrix: Water	
•	Lab ID: 20155 Site ID:	536011 Collected: 05/18/20 12:30 Sample Type:	o Receiveu.	03/21/20 13.13		
Sample: 2005302-13 PWS: Comments: • Upon receipt at <2 for radiochem	Site ID: t the laboratory, 2.5 mls of ni					
PWS: Comments: • Upon receipt at	Site ID: t the laboratory, 2.5 mls of ni	Sample Type:				Qua
PWS: Comments: • Upon receipt at <2 for radiochem	Site ID: t the laboratory, 2.5 mls of ni nistry analysis. Method	Sample Type: tric acid were added to the sample to	meet the sam	ple preservation re	quirement of pH	Qua

REPORT OF LABORATORY ANALYSIS



Project:	2005302								
Pace Project No.:	20155536								
Sample: 2005302- PWS:	13	Lab ID: 2015 Site ID:	55536011	Collected: Sample Ty	05/18/20 12:30 /pe:	Received:	05/21/20 13:15	Matrix: Water	
	n receipt at the lab r radiochemistry an		nitric acid w	ere added	to the sample to n	neet the sam	ple preservation re	quirement of pH	
Parame	eters	Method	Act	± Unc (MD	C) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytica	I Services -	Greensburg					
Radium-228	E	PA 904.0		3 ± 0.466 % T:74%	(1.06)	pCi/L	06/11/20 12:58	15262-20-1	

REPORT OF LABORATORY ANALYSIS



QUALITY CONTROL - RADIOCHEMISTRY

Project:	2005302					
Pace Project No.:	20155536					
QC Batch:	398513		Analysis Method:	EPA 903.1		
QC Batch Method:	EPA 903.1	903.1 Analysis Description:			26	
			Laboratory:	Pace Analytical S	Services - Greensbu	rg
Associated Lab Sa		,)02, 20155536003, 20155536)09, 20155536010, 20155536	, , ,	0155536006, 20155	536007,
METHOD BLANK:	1930183		Matrix: Water			
Associated Lab Samples: 20155536001, 20155536002, 20155536003, 20155536004, 20155536005, 20155536006, 20155536007, 20155536008, 20155536009, 20155536010, 20155536011						
Para	meter	Act ±	Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226		-0.236 ± 0.353	(0.834) C:NA T:90%	pCi/L	06/12/20 14:09	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS



QUALITY CONTROL - RADIOCHEMISTRY

Project:	2005302						
Pace Project No.:	20155536						
QC Batch:	398514	Analysis Method:	EPA 904.0				
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 2	28			
		Laboratory:	Pace Analytical	Services - Greensbu	g		
Associated Lab Sa		I, 20155536002, 20155536003, 2015553600 3, 20155536009, 20155536010, 201555360		20155536006, 20155	536007,		
METHOD BLANK:	1930184	Matrix: Water					
Associated Lab Samples: 20155536001, 20155536002, 20155536003, 20155536004, 20155536005, 20155536006, 20155536007, 20155536008, 20155536009, 20155536010, 20155536011							
Para	neter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers		
Radium-228	0.6	652 ± 0.421 (0.798) C:69% T:86%	pCi/L	06/11/20 13:00			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS



QUALIFIERS

 Project:
 2005302

 Pace Project No.:
 20155536

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

Pane 13	Lof 17
Page 42	of 46



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	2005302
Pace Project No.:	20155536

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20155536001	2005302-01	EPA 903.1	398513		
20155536002	2005302-02	EPA 903.1	398513		
20155536003	2005302-03	EPA 903.1	398513		
20155536004	2005302-04	EPA 903.1	398513		
20155536005	2005302-05	EPA 903.1	398513		
20155536006	2005302-06	EPA 903.1	398513		
20155536007	2005302-09	EPA 903.1	398513		
20155536008	2005302-10	EPA 903.1	398513		
20155536009	2005302-11	EPA 903.1	398513		
20155536010	2005302-12	EPA 903.1	398513		
20155536011	2005302-13	EPA 903.1	398513		
20155536001	2005302-01	EPA 904.0	398514		
20155536002	2005302-02	EPA 904.0	398514		
20155536003	2005302-03	EPA 904.0	398514		
20155536004	2005302-04	EPA 904.0	398514		
20155536005	2005302-05	EPA 904.0	398514		
20155536006	2005302-06	EPA 904.0	398514		
20155536007	2005302-09	EPA 904.0	398514		
20155536008	2005302-10	EPA 904.0	398514		
20155536009	2005302-11	EPA 904.0	398514		
20155536010	2005302-12	EPA 904.0	398514		
20155536011	2005302-13	EPA 904.0	398514		



Sending Laboratory:

Micro-Methods Laboratory, Inc. 6500 Sunplex Drive Ocean Springs, MS 39564 Phone: 228.875.6420 Fax: 228.875.6423

Subcontracted Laboratory:

Pace Analytical
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
Phone: -
Fax: -

Project Manager: Teresa Meins

Work Order: 2005302

Analysis	······	Due	Expires	Comments		
Sample ID: 2005302-01	Water S	ampled: 05/1	8/2020 13:50	Sample Name:	MW-7	· · · · · · · · · · · · · · · · · · ·
Radium, Total 226 & 228 by EPA	903.1 & 90	65/27/202 0	06/15/2020 13:5	60		
Containers Supplied: 1000mL Plastic (A) 100	Oml. Plastic (E	3)				
Sample ID: 2005302-02	Water Sa	ampled: 05/1	8/2020 13:00	Sample Name:	MW-9	
Radium, Total 226 & 228 by EPA	903.1 & 90	05/27/2020	06/15/2020 13:0	0		
Containers Supplied:100mL Plastic (A)100	OmL Plastic (B	3)				
Sample ID: 2005302-03	Water Sa	ampled: 05/1	8/2020 10:42	Sample Name:	MW-12	
Radium, Total 226 & 228 by EPA	903.1 & 90	-6-5-7072 - 05/27/2020	06/15/2020 10:4	2		
Containers Supplied: 1000mL Plastic (A) 100	OmL Plastic (B	3)				
Sample ID: 2005302-04	Water Sa	ampled: 05/18	8/2020 10:50	Sample Name:	MW-13	
Radium, Total 226 & 228 by EPA	903.1 & 90	05/27/2020	06/15/2020 10:5	0		
Containers Supplied: 1000mL Plastic (A) 1000	0mL Plastic (B))				
Sample ID: 2005302-05	Water Sá	ampled: 05/18	8/2020 15:00	Sample Name:	MW-14	
Radium, Total 226 & 228 by EPA	903.1 & 90	.0 5/27/2 020	06/15/2020 15:0	0	······································	·
Containers Supplied: 1000mL Plastic (A) 1000	OmL Plastic (B)				
Sample ID: 2005302-06	Water Sa	ampled: 05/18	8/2020 11:41	Sample Name:	MW-17	
Radium, Total 226 & 228 by EPA	903.1 & 90	0 5/27/202 0	06/15/2020 11:4	1 .		
Containers Supplied: 1000mL Plastic (A) 1000)mL Plastic (B)				
Sample ID: 2005302-09	Water Sa	ampled: 05/18	3/2020 12:22	Sample Name:	OW-2	·
Stolla Killeist		5-20-202) 110:20 11	PS	,	5.20.1020 1630
Released By		Date		ived By		Date
UPS		5.31.3030	K	NBuc	un/Pac	
Released By		Date		Ved By	γ	Date Pare
			Page 1 of 2		Ambien	Page 15 of 17
					V	Page 44 of 46



SUBCONTRACT ORDER (Continued)

Work Order: 2005302 (Continued)

Analysis		Due	Ex	pires	Comments		
Sample ID: 2005302-09	Water Sa	mpled; 05/		12:22	Sample Name:	OW-2	
Radium, Total 226 & 228 by EPA	903.1 & 9C	- 65/27/2020	ں 06/15/2	020 12:22	2		
Containers Supplied: 1000mL Plastic (A) 1000)mi. Plastic (B)					
Sample ID: 2005302-10	Water Sa	mpled: 05/	18/2020	14:01	Sample Name:	CCR-2	
Radium, Total 226 & 228 by EPA	903.1 & 90	-6-5-30-6 -6 5/27/2020		020 14:01	L		
Containers Supplied: 1000mL Plastic (A) 1000)mL Plastic (B))					
Sample ID: 2005302-11	Water Sa	mpled; 05/	18/2020	14:51	Sample Name:	CCR-3	
Radium, Total 226 & 228 by EPA	903.1 & 90	10-5-303 - 05/27/2020		020 14:51	· · · · · · · · · · · · · · · · · · ·		
Containers Supplied: 1000mL Plastic (A) 1000	ImL Plastic (B)	I					
Sample ID: 2005302-12	Water Sa	mpled: 05/.	18/2020	15:49	Sample Name:	CCR-4	
Radium, Total 226 & 228 by EPA	903.1 & 90	-10-5-70/X -05/27/2020	• 06/15/2	020 15:49]		
Containers Supplied: 1000mL Plastic (A) 1000	mL Plastic (B)						
Sample ID: 2005302-13	Water Sa	mpled:_05/	18/2020	12:30	Sample Name:	CCR-5	
Radium, Total 226 & 228 by EPA	903.1 & 90	-05/27/2020	06/15/2	020 12:30			
Containers Supplied: 1000mL Plastic (A) 1000	mL Plastic (B)						
•							
Stella Killist	<u></u>	5-20-202	<u>D 16</u> 3		R		5-20-2020 16:3
Released By		Date		Receiv	red By		Date
UP		5-31-2030	<u> </u>	K	Hono	n/pae	5/21/20
Released By		Date		Receiv	red By		Date
			Page	2 of 2		Ambre	Page 45 of 46

					WO#:20	015553	36
AND CONTRACT OF A CONTRACT	Sa	mple Con	dition				05/15/20
Pace Analytical	1000 Riverbend. Blvd., Su St. Rose, LA 70087	lite F		Proje	CLIENT: 20-M	ICRO	
Courier: □ Pace Courier		□ Fed X			L 🗆 USPS	Customer	□ Other
Custody Seal on Cooler/Box F	Present: [see	COC]			Custody	y Seals intact:	∏Yes ⊡No
Therometer Dised:	isher IR 7 isher IR 10	Type of Ice:	: Wel	t Blue No	ne Sam	ples on ice: [se	e COC]
Cooler Temperature: [see (COC] Ten	np should be a	above free	zing to 6°C	Date and In contents:	itials of person e_{2}	camining 1-20M
Temp must be measured from Ter	mperature blank when	present	Ca	omments:			
Temperature Blank Present"?		□Yes □No					
Chain of Custody Present:	·	Ves 🗆 No	□N/A 2				
Chain of Custody Complete:			⊡n/a 3				
Chain of Custody Relinquished	1:	Yes DNo	□n/a 4				<u> </u>
Sampler Name & Signature on	COC:	Dyes DNo	□n/a 5			<u></u>	
Samples Arrived within Hold Ti	ime:	No ⊡Xes	□n/A 6				- <u></u>
Sufficient Volume:		ĨXes ⊡No	□n/A 7				· · · _ · · · · · · · · · · · · · · · ·
Correct Containers Used:			□n/A 8	·			
Filtered vol. Rec. for Diss. tests	3	□Yes □No	DN/A 9		·		<u></u>
Sample Labels match COC:		Yes DNo	□N/A 10			·	
All containers received within more cautionary and/or expiration			□N/A 11				
All containers needing chemica been checked (except VOA, co	liform, & O&G).		□N/A 12				
All containers preservation che compliance with EPA recomme			□N/A 13	lf No, wa If added	as preserative ad record lot no.: H		
Headspace in VOA Vials (>6m	m):	□Yes □No	DN/A 14				
Trip Blank Present:			15		=	<u> </u>	
Client Notification/ Resolution	n:					·	
Person Contacted:					Date/	Time:	
Comments/ Resolution:							
				<u>.</u>			
<u></u>					1.12.ut		
	75			<u></u>			
				··			
<i></i>	<u></u>	~					



Mailing Address: PO Box 1410 Ocean Springs, MS 39566-1410 6500 Sunplex Drive Ocean Springs, MS 39564 228.875.6420 Phone 228.875.6423 Fax

October 27, 2020

Jim Ward

Work Order #: 2009494

Purchase Order #:

Choctaw Generation LP 2391 Pensacola Rd. Ackerman, MS 39735 *RE: CGLP CCR*

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 09/29/2020 10:58. If you have any questions concerning this report, please feel free to contact the office.



Clyde Woodward

President Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.





Г

Choctaw Generation LP	Project: CGLP CCR	
2391 Pensacola Rd.	Project Number: [none]	Reported:
Ackerman MS, 39735	Project Manager: Jim Ward	10/27/2020 14:58

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
MW-9	2009494-01	Water	09/28/2020 08:47	Kirk Shelton	09/29/2020 10:58
OW-2	2009494-02	Water	09/28/2020 11:24	Kirk Shelton	09/29/2020 10:58
MW-13	2009494-03	Water	09/28/2020 11:39	Kirk Shelton	09/29/2020 10:58
MW-7	2009494-04	Water	09/28/2020 13:14	Kirk Shelton	09/29/2020 10:58
MW-14	2009494-05	Water	09/28/2020 09:12	Kirk Shelton	09/29/2020 10:58
Field Blank	2009494-06	Water	09/28/2020 09:40	Kirk Shelton	09/29/2020 10:58
Duplicate	2009494-07	Water	09/28/2020 00:00	Kirk Shelton	09/29/2020 10:58
MW-12	2009494-08	Water	09/28/2020 10:04	Kirk Shelton	09/29/2020 10:58
CCR-2	2009494-09	Water	09/28/2020 12:43	Kirk Shelton	09/29/2020 10:58
CCR-3	2009494-10	Water	09/28/2020 13:33	Kirk Shelton	09/29/2020 10:58
CCR-4	2009494-11	Water	09/28/2020 14:42	Kirk Shelton	09/29/2020 10:58
CCR-5	2009494-12	Water	09/28/2020 14:28	Kirk Shelton	09/29/2020 10:58



Choctaw Generation LP

2391 Pensacola Rd.

Ackerman MS, 39735

Project: CGLP CCR Project Number: [none] Project Manager: Jim Ward

Reported: 10/27/2020 14:58

Sample Receipt Conditions 9/29/2020 10:58:00AM Fed Ex Date/Time Received: Shipped by: Received by: Samantha C. Hall Submitted by: Kirk Shelton Date/Time Logged: 9/29/2020 12:07:00PM Logged by: Samantha C. Hall **Receipt Temperature:** 1.7 °C Cooler ID: 1104 Received on Ice but Not Frozen Yes Cooler Custody Seals Present Yes Containers Intact Yes No Ice, Short Trip No COC/Labels Agree Yes **Obvious Contamination** No Labels Complete Rush to meet HT Yes No COC Complete Yes Received within HT Yes Volatile Vial Headspace >6mm Proper Containers for Analysis No Yes Field Sheet/Instructions Included Correct Preservation No Yes Samples Rejected/Documented in Log No Adequate Sample for Analysis Yes Temp Taken From Temp Blank Yes Sample Custody Seals Present Yes Temp Taken From Sample Container Samples Missing from COC/Cooler No No Temp Taken From Cooler No COC meets acceptance criteria Yes



Choctaw Generation LPProject: CGLP CCR2391 Pensacola Rd.Project Number: [none]Ackerman MS, 39735Project Manager: Jim Ward

Reported: 10/27/2020 14:58

Cooler ID:	1129
------------	------

Cooler Custody Seals Present	Yes
Containers Intact	Yes
COC/Labels Agree	Yes
Labels Complete	Yes
COC Complete	Yes
Volatile Vial Headspace >6mm	No
Field Sheet/Instructions Included	No
Samples Rejected/Documented in Log	No
Temp Taken From Temp Blank	Yes
Temp Taken From Sample Container	No
Temp Taken From Cooler	No
COC meets acceptance criteria	Yes

Receipt Temperature:	0.3 °C	
Received on Ice b	out Not Frozen	Yes
No Ice, Short Trip		No
Obvious Contami	nation	No
Rush to meet HT		No
Received within H	IT	Yes
Proper Containers	s for Analysis	Yes
Correct Preservat	ion	Yes
Adequate Sample	e for Analysis	Yes
Sample Custody	Seals Present	Yes
Samples Missing	from COC/Cooler	No



Choctaw Generation LP Project: CGLP CCR 2391 Pensacola Rd. Project Number: [none] Ackerman MS, 39735 Project Manager: Jim Ward

Reported: 10/27/2020 14:58

Coo	ler IC	D:	1135

Cooler Custody Seals Present	Yes
Containers Intact	Yes
COC/Labels Agree	Yes
Labels Complete	Yes
COC Complete	Yes
Volatile Vial Headspace >6mm	No
Field Sheet/Instructions Included	No
Samples Rejected/Documented in Log	No
Temp Taken From Temp Blank	Yes
Temp Taken From Sample Container	No
Temp Taken From Cooler	No
COC meets acceptance criteria	Yes

Receipt Temperature:0.8 °C	
Received on Ice but Not Frozen	Yes
No Ice, Short Trip	No
Obvious Contamination	No
Rush to meet HT	No
Received within HT	Yes
Proper Containers for Analysis	Yes
Correct Preservation	Yes
Adequate Sample for Analysis	Yes
Sample Custody Seals Present	Yes
Samples Missing from COC/Cooler	No



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735

Project: CGLP CCR

Project Number: [none]

Project Manager: Jim Ward

Reported: 10/27/2020 14:58

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

See attached Radiological results from Sub-Contract Laboratory

Total Metals-EPA 200.7 Rev 4.4

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.

Lithium 610.362 [Axial]

0J01044-MS2, 0J01044-MSD2

Qualifiers:

Qualifiers:

Total Dissolved Solids-SM 2540 C-2011

RPD04 The RPD between the sample and sample duplicate exceeded the acceptance limits.

Total Dissolved Solids

0I30041-DUP1



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			roject Nur oject Man	•	ne]				Reported 10/27/2020	
				MW-9						
			20094	94-01 (Wa	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Paramet	ters									
hloride	451	10.0	mg/L	20.0	0J08053	DLW	10/07/2020	10/07/2020	SM 4110B 2011	
ulfate as SO4	154	100			"	DLW	13:13 "	13:13 "	"	
luoride	0.68	0.22	"	1.0	0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
otal Dissolved Solids	1014	2	"	"	0 30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	
letals by EPA 200 Series Me	thods ICP-AES									
arium 455.403 [Radial]	0.158	0.010	mg/L	1.0	0J01044	ABT	10/01/2020 10:30	10/02/2020 10:40	EPA 200.7 Rev 4.4	
oron 249.773 [Radial]	ND	0.050	"		"	ABT	"	"	ч. ч	
alcium 315.887 [Radial]	61.7	0.050	"	"	"	ABT		"	"	
ithium 610.362 [Axial]	ND	0.040	"		"	ABT				
letals by EPA 200 Series Me	thods ICP-MS	Analysis N	lode]							
ntimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT		10/01/2020 16:43	EPA 200.8 Rev 5.4	
rsenic [NG]	ND	0.00200	"	"	"	ABT		"		
eryllium [He]	0.00367	0.00100	"	"	"	ABT				
admium [He]	0.00292	0.00100	"	"	"	ABT			"	
Chromium [He]	ND	0.00100	"	"	"	ABT				
obalt [He]	0.0217	0.00100	"	"	"	ABT		"	"	
ead [He]	ND	0.00100	"	"	"	ABT				
lolybdenum [He]	ND	0.00100	"		"	ABT	•		"	
elenium [NG]	ND	0.00500	"		"	ABT			"	
hallium [He]	ND	0.00100	"	"	"	ABT				



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			Pro roject Nur oject Man	-	ne]			Reported: 10/27/2020 14:58		
				OW-2						
			20094	94-02 (Wa	ater)		Date	Date		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Time Prepared	Time Analyzed	Method	Qualifiers
lassical Chemistry Paramet	ers									
hloride	35.5	2.00	mg/L	4.0	0J08053	DLW	10/07/2020 13:33	10/07/2020 13:33	SM 4110B 2011	
ulfate as SO4	135	20.0			"	DLW			"	
luoride	0.26	0.22	"	1.0	0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
otal Dissolved Solids	345	1	"	"	0 30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	
letals by EPA 200 Series Me	thods ICP-AES	5								
arium 455.403 [Radial]	0.073	0.010	mg/L	1.0	0J01044	ABT	10/01/2020 10:30	10/02/2020 10:51	EPA 200.7 Rev 4.4	
oron 249.773 [Radial]	ND	0.050			"	ABT			•	
alcium 315.887 [Radial]	35.7	0.050			"	ABT			"	
ithium 610.362 [Axial]	ND	0.040	"		"	ABT				
letals by EPA 200 Series Me	thods ICP-MS	[Analysis N	lode]							
ntimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT		10/01/2020 17:03	EPA 200.8 Rev 5.4	
rsenic [NG]	ND	0.00200	"		"	ABT			•	
eryllium [He]	ND	0.00100	"		"	ABT			"	
admium [He]	ND	0.00100			"	ABT			"	
hromium [He]	ND	0.00100	"		"	ABT			"	
obalt [He]	ND	0.00100			"	ABT	•		"	
ead [He]	ND	0.00100			"	ABT				
lolybdenum [He]	ND	0.00100			"	ABT	•		"	
elenium [NG]	ND	0.00500			"	ABT			"	
hallium [He]	ND	0.00100			"	ABT				



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			Pro roject Nur oject Man	-	ne]				Reported 10/27/2020	
				MW-13						
			20094	94-03 (Wa	ater)		Date	Date		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Time Prepared	Time Analyzed	Method	Qualifiers
lassical Chemistry Paramet	ers									
hloride	3.59	0.500	mg/L	1.0	0J08053	DLW	10/07/2020 13:53	10/07/2020 13:53	SM 4110B 2011	
ulfate as SO4	6.68	5.00			"	DLW			"	
luoride	ND	0.22	"	"	0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
otal Dissolved Solids	151	1	"		0130041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	
letals by EPA 200 Series Me	thods ICP-AES									
arium 455.403 [Radial]	0.173	0.010	mg/L	1.0	0J01044	ABT	10/01/2020 10:30	10/02/2020 10:54	EPA 200.7 Rev 4.4	
oron 249.773 [Radial]	ND	0.050	"		"	ABT	•			
alcium 315.887 [Radial]	20.1	0.050			"	ABT		"	"	
ithium 610.362 [Axial]	ND	0.040		"	"	ABT				
letals by EPA 200 Series Me	thods ICP-MS	[Analysis N	lode]							
ntimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT		10/01/2020 17:36	EPA 200.8 Rev 5.4	
rsenic [NG]	ND	0.00200			"	ABT			"	
eryllium [He]	ND	0.00100			"	ABT			•	
admium [He]	ND	0.00100			"	ABT	•			
hromium [He]	ND	0.00100	"		"	ABT			"	
obalt [He]	ND	0.00100			"	ABT	•		"	
ead [He]	ND	0.00100			"	ABT				
lolybdenum [He]	ND	0.00100			"	ABT			"	
elenium [NG]	ND	0.00500			"	ABT			"	
hallium [He]	ND	0.00100				ABT				



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			Pro roject Nur oject Man	-	ne]			Reported: 10/27/2020 14:58		
				MW-7						
			20094	94-04 (Wa	ater)					
							Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzed	Method	Qualifiers
Classical Chemistry Paramete										
hloride	2.66	0.500	mg/L	1.0	0J08053	DLW	10/07/2020 13:13	10/09/2020 18:49	SM 4110B 2011	
ulfate as SO4	43.6	10.0		2.0	"	DLW	"	10/07/2020 20:31	"	
luoride	ND	0.22	"	1.0	0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
otal Dissolved Solids	183	1			0130041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	
letals by EPA 200 Series Met	hods ICP-AES	1					13.00	00.00	0-2011	
arium 455.403 [Radial]	0.083	0.010	mg/L	1.0	0J01044	ABT	10/01/2020 10:30	10/02/2020 10:58	EPA 200.7 Rev 4.4	
oron 249.773 [Radial]	ND	0.050			"	ABT			"	
alcium 315.887 [Radial]	39.7	0.050	"		"	ABT			"	
ithium 610.362 [Axial]	ND	0.040			"	ABT			"	
letals by EPA 200 Series Met	hods ICP-MS	Analysis M	lode]							
ntimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT		10/01/2020 17:43	EPA 200.8 Rev 5.4	
rsenic [NG]	ND	0.00200			"	ABT				
eryllium [He]	ND	0.00100		"	"	ABT				
admium [He]	ND	0.00100			"	ABT			•	
Chromium [He]	ND	0.00100			"	ABT			"	
Cobalt [He]	ND	0.00100			"	ABT			"	
ead [He]	ND	0.00100			"	ABT				
lolybdenum [He]	ND	0.00100			"	ABT			"	
elenium [NG]	ND	0.00500			"	ABT			"	
hallium [He]	ND	0.00100				ABT				



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			Pro roject Nur oject Man	-	ne]			Reported: 10/27/2020 14:58		
				MW-14						
			20094	94-05 (Wa	ater)		Date	Date		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Time Prepared	Time Analyzed	Method	Qualifiers
Classical Chemistry Paramet	ers									
hloride	19.5	0.500	mg/L	1.0	0J08053	DLW	10/07/2020 16:12	10/07/2020 16:12	SM 4110B 2011	
ulfate as SO4	7.52	5.00			"	DLW				
luoride	ND	0.22	"		0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
otal Dissolved Solids	75	1		"	0 30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	
letals by EPA 200 Series Me	thods ICP-AES									
arium 455.403 [Radial]	0.011	0.010	mg/L	1.0	0J01044	ABT	10/01/2020 10:30	10/02/2020 11:02	EPA 200.7 Rev 4.4	
oron 249.773 [Radial]	ND	0.050	"		"	ABT	•			
alcium 315.887 [Radial]	0.542	0.050			"	ABT			"	
ithium 610.362 [Axial]	ND	0.040	"		"	ABT				
letals by EPA 200 Series Me	thods ICP-MS	Analysis N	lode]							
ntimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT		10/01/2020 17:50	EPA 200.8 Rev 5.4	
rsenic [NG]	ND	0.00200		"	"	ABT				
eryllium [He]	ND	0.00100	"		"	ABT				
admium [He]	ND	0.00100			"	ABT			"	
hromium [He]	ND	0.00100			"	ABT			"	
obalt [He]	ND	0.00100			"	ABT			"	
ead [He]	ND	0.00100			"	ABT			"	
lolybdenum [He]	ND	0.00100			"	ABT			"	
elenium [NG]	ND	0.00500			"	ABT			"	
hallium [He]	ND	0.00100				ABT				



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			Project Nur oject Man	-	ne]				Reported 10/27/2020	
			Fi	eld Blan	k					
			20094	94-06 (Wa	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Paramet	ers									
Chloride	ND	0.500	mg/L	1.0	0J08053	DLW	10/07/2020 16:32	10/07/2020 16:32	SM 4110B 2011	
ulfate as SO4	ND	5.00	"	"	"	DLW			"	
luoride	ND	0.22		"	0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
otal Dissolved Solids	5	1	"	"	0 30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	
letals by EPA 200 Series Me	thods ICP-AES									
arium 455.403 [Radial]	ND	0.010	mg/L	1.0	0J01044	ABT	10/01/2020 10:30	10/02/2020 11:05	EPA 200.7 Rev 4.4	
oron 249.773 [Radial]	ND	0.050		"	"	ABT			"	
alcium 315.887 [Radial]	ND	0.050	"	"	"	ABT			"	
ithium 610.362 [Axial]	ND	0.040		"	"	ABT			"	
letals by EPA 200 Series Me	thods ICP-MS	[Analysis N	lode]							
ntimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT		10/01/2020 17:56	EPA 200.8 Rev 5.4	
rsenic [NG]	ND	0.00200		"	"	ABT	•		"	
eryllium [He]	ND	0.00100	"	"	"	ABT	•		"	
Cadmium [He]	ND	0.00100		"	"	ABT			"	
Chromium [He]	ND	0.00100		"	"	ABT			"	
Cobalt [He]	ND	0.00100		"	"	ABT			"	
ead [He]	ND	0.00100		"	"	ABT			"	
lolybdenum [He]	ND	0.00100		"	"	ABT			"	
elenium [NG]	ND	0.00500			"	ABT			"	
hallium [He]	ND	0.00100	"	"	"	ABT			"	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			Pro roject Nur oject Man	-	ne]			Reported: 10/27/2020 14:58		
			C	Ouplicate)					
			20094	94-07 (Wa	ater)		Data	Data		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Paramet	ers									
hloride	19.3	0.500	mg/L	1.0	0J08053	DLW	10/07/2020 16:52	10/07/2020 16:52	SM 4110B 2011	
ulfate as SO4	8.75	5.00	"	"	"	DLW			"	
luoride	ND	0.22	"	"	0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
otal Dissolved Solids	80	1		"	0 30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	
letals by EPA 200 Series Me	thods ICP-AES									
arium 455.403 [Radial]	0.011	0.010	mg/L	1.0	0J01044	ABT	10/01/2020 10:30	10/02/2020 11:09	EPA 200.7 Rev 4.4	
oron 249.773 [Radial]	ND	0.050	"		"	ABT	•			
alcium 315.887 [Radial]	0.534	0.050			"	ABT			"	
ithium 610.362 [Axial]	ND	0.040	"	"	"	ABT				
letals by EPA 200 Series Me	thods ICP-MS	Analysis N	lode]							
ntimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT		10/01/2020 18:03	EPA 200.8 Rev 5.4	
rsenic [NG]	ND	0.00200		"	"	ABT				
eryllium [He]	ND	0.00100		"	"	ABT				
Cadmium [He]	ND	0.00100			"	ABT				
Chromium [He]	ND	0.00100	"		"	ABT				
Cobalt [He]	ND	0.00100			"	ABT			"	
ead [He]	ND	0.00100			"	ABT			"	
lolybdenum [He]	ND	0.00100			"	ABT			"	
elenium [NG]	ND	0.00500			"	ABT			"	
hallium [He]	ND	0.00100			"	ABT				



Г

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			Pro roject Nur oject Man	-	ne]				Reported 10/27/2020	
				MW-12						
			20094	94-08 (Wa	ater)					
	Deset	MDI	11		Datak	A	Date Time Prepared	Date Time Analyzed		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Flepaleu	Analyzeu	Method	Qualifiers
Classical Chemistry Parameters		4.00								
Chloride	36.0	1.00	mg/L	2.0	0J08053	DLW	10/07/2020 17:12	10/07/2020 17:12	SM 4110B 2011	
Sulfate as SO4	35.4	10.0			"	DLW			"	
Fluoride	ND	0.22	"	1.0	0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
Total Dissolved Solids	221	1	"	"	0 30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	
Metals by EPA 200 Series Method	s ICP-AES									
Barium 455.403 [Radial]	0.197	0.010	mg/L	1.0	0J01044	ABT	10/01/2020 10:30	10/02/2020 11:20	EPA 200.7 Rev 4.4	
Boron 249.773 [Radial]	ND	0.050	"		"	ABT				
Calcium 315.887 [Radial]	26.9	0.050		"	"	ABT			"	
Lithium 610.362 [Axial]	ND	0.040	"	"	"	ABT				
Metals by EPA 200 Series Method	s ICP-MS [Analysis N	lode]							
Antimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT		10/01/2020 18:09	EPA 200.8 Rev 5.4	
Arsenic [NG]	ND	0.00200	"		"	ABT				
Beryllium [He]	ND	0.00100	"		"	ABT				
Cadmium [He]	ND	0.00100			"	ABT				
Chromium [He]	ND	0.00100			"	ABT				
Cobalt [He]	0.00738	0.00100			"	ABT			"	
Lead [He]	ND	0.00100	"	"	"	ABT				
Molybdenum [He]	ND	0.00100			"	ABT			"	
Selenium [NG]	ND	0.00500	"		"	ABT			"	
Thallium [He]	ND	0.00100	"	"	"	ABT			"	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			Pro roject Nur oject Man	-	ne]				Reported 10/27/2020	
				CCR-2						
			20094	94-09 (Wa	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Paramet			01110	2	Baton	,	•	,	moulou	Qualifiero
Chloride	2.44	0.500	mg/L	1.0	0J08053	DLW	10/07/2020 17:00	10/09/2020 19:09	SM 4110B 2011	
Sulfate as SO4	10.6	5.00			"	DLW		10/07/2020 17:32	"	
Fluoride	ND	0.22			0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
Fotal Dissolved Solids	100	1			0130041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	
Metals by EPA 200 Series Met	thods ICP-AES	;					13.00	00.00	0-2011	
3arium 455.403 [Radial]	0.107	0.010	mg/L	1.0	0J01044	ABT	10/01/2020 10:30	10/02/2020 11:23	EPA 200.7 Rev 4.4	
3oron 249.773 [Radial]	ND	0.050			"	ABT			"	
Calcium 315.887 [Radial]	13.1	0.050			"	ABT				
ithium 610.362 [Axial]	ND	0.040			"	ABT				
Metals by EPA 200 Series Met	thods ICP-MS	[Analysis M	lode]							
Antimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT		10/01/2020 18:16	EPA 200.8 Rev 5.4	
Arsenic [NG]	ND	0.00200			"	ABT				
Beryllium [He]	ND	0.00100			"	ABT				
Cadmium [He]	ND	0.00100			"	ABT			•	
Chromium [He]	ND	0.00100			"	ABT				
Cobalt [He]	ND	0.00100			"	ABT				
.ead [He]	ND	0.00100			"	ABT			"	
/lolybdenum [He]	ND	0.00100			"	ABT			"	
Selenium [NG]	ND	0.00500			"	ABT			"	
[hallium [He]	ND	0.00100		"	"	ABT				



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735		P Pr		Reported: 10/27/2020 14:58						
				CCR-3						
			20094	94-10 (Wa	iter)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameter	ers									
Chloride	5.17	0.500	mg/L	1.0	0J08053	DLW	10/07/2020 18:11	10/09/2020 19:29	SM 4110B 2011	
ulfate as SO4	63.0	50.0		10.0	"	DLW		10/07/2020 18:31	"	
luoride	ND	0.22	"	1.0	0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
otal Dissolved Solids	216	1	"		0130041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	
letals by EPA 200 Series Met	hods ICP-AES									
arium 455.403 [Radial]	0.069	0.010	mg/L	1.0	0J01044	ABT	10/01/2020 10:30	10/02/2020 11:27	EPA 200.7 Rev 4.4	
oron 249.773 [Radial]	ND	0.050	"		"	ABT				
alcium 315.887 [Radial]	23.1	0.050		"	"	ABT			"	
ithium 610.362 [Axial]	0.046	0.040	"	"	"	ABT				
letals by EPA 200 Series Met	hods ICP-MS [Analysis N	lode]							
ntimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT		10/01/2020 18:23	EPA 200.8 Rev 5.4	
rsenic [NG]	ND	0.00200		"	"	ABT				
eryllium [He]	ND	0.00100	"	"	"	ABT				
Cadmium [He]	ND	0.00100			"	ABT			"	
Chromium [He]	ND	0.00100		"	"	ABT			"	
obalt [He]	0.00295	0.00100			"	ABT			"	
ead [He]	ND	0.00100			"	ABT			"	
lolybdenum [He]	ND	0.00100		"	"	ABT			"	
elenium [NG]	ND	0.00500			"	ABT				
hallium [He]	ND	0.00100			"	ABT		"		



Г

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			Pro roject Nur oject Man	-	ne]				Reported 10/27/2020	
				CCR-4						
			20094	94-11 (Wa	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameter	rs									
Chloride	6.59	0.500	mg/L	1.0	0J08053	DLW	10/07/2020 18:00	10/09/2020 20:09	SM 4110B 2011	
Sulfate as SO4	23.3	5.00	"	"	"	DLW		10/07/2020 18:51	"	
Fluoride	ND	0.22	"		0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
Total Dissolved Solids	180	1	"		0 30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	
Metals by EPA 200 Series Meth	ods ICP-AES									
Barium 455.403 [Radial]	0.159	0.010	mg/L	1.0	0J01044	ABT	10/01/2020 10:30	10/02/2020 11:31	EPA 200.7 Rev 4.4	
Boron 249.773 [Radial]	ND	0.050		"	"	ABT				
Calcium 315.887 [Radial]	24.8	0.050			"	ABT				
Lithium 610.362 [Axial]	ND	0.040	"		"	ABT				
Metals by EPA 200 Series Meth	ods ICP-MS [Analysis N	lode]							
Antimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT		10/01/2020 18:30	EPA 200.8 Rev 5.4	
Arsenic [NG]	ND	0.00200		"	"	ABT				
Beryllium [He]	ND	0.00100		"	"	ABT				
Cadmium [He]	ND	0.00100	"		"	ABT				
Chromium [He]	ND	0.00100			"	ABT				
Cobalt [He]	0.00310	0.00100			"	ABT				
Lead [He]	ND	0.00100			"	ABT	•			
Molybdenum [He]	ND	0.00100			"	ABT			"	
Selenium [NG]	ND	0.00500			"	ABT				
Thallium [He]	ND	0.00100	"	"	"	ABT			"	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735		P	Reported: 10/27/2020 14:58							
				CCR-5						
			20094	94-12 (Wa	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Paramet	ers									
Chloride	7.03	0.500	mg/L	1.0	0J08053	DLW	10/07/2020 19:51	10/07/2020 20:11	SM 4110B 2011	
Sulfate as SO4	937	250	"	50.0	"	DLW		10/07/2020 19:51	"	
Fluoride	ND	0.22	"	1.0	0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
Total Dissolved Solids	1356	2	"	"	0 30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	
Metals by EPA 200 Series Me	thods ICP-AES									
Barium 455.403 [Radial]	0.030	0.010	mg/L	1.0	0J01044	ABT	10/01/2020 10:30	10/02/2020 11:34	EPA 200.7 Rev 4.4	
Boron 249.773 [Radial]	0.089	0.050	"	"	"	ABT				
Calcium 315.887 [Radial]	174	0.250	"	5.0	"	ABT		10/02/2020 11:56	"	
Lithium 610.362 [Axial]	0.091	0.040	"	1.0		ABT		10/02/2020 11:34		
Metals by EPA 200 Series Me	thods ICP-MS	[Analysis N	lode]							
Antimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT		10/01/2020 18:37	EPA 200.8 Rev 5.4	
Arsenic [NG]	ND	0.00200	"	"	"	ABT				
Beryllium [He]	ND	0.00100	"	"	"	ABT			"	
Cadmium [He]	ND	0.00100		"	"	ABT			"	
Chromium [He]	ND	0.00100	"	"	"	ABT		•	"	
Cobalt [He]	0.0190	0.00100	"	"	"	ABT				
Lead [He]	ND	0.00100	"	"	"	ABT			"	
Molybdenum [He]	ND	0.00100	"	"	"	ABT			"	
Selenium [NG]	ND	0.00500	"	"	"	ABT			"	
Thallium [He]	ND	0.00100	"	"	"	ABT			"	



2391 Pensacola Rd. Ackerman MS, 39735	Project: CGLP CCR Project Number: [none] Project Manager: Jim Ward								10	Reported: 10/27/2020 14:58		
		Classical Cl	hemistry	Param	eters - G	Quality (Control					
Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers	
Batch 0I30041 - Default Prep GenChem	l											
Blank (0I30041-BLK1)												
Total Dissolved Solids	10/2/20 0:00	ND	1	mg/L								
LCS (0I30041-BS1)												
Total Dissolved Solids	10/2/20 0:00	94	1	mg/L	104		90.4	82.2-100				
_CS Dup (0I30041-BSD1)												
Total Dissolved Solids	10/2/20 0:00	96	1	mg/L	104		92.3	82.2-100	2.11	15		
Duplicate (0I30041-DUP1)			Source: 20094	194-05								
Total Dissolved Solids	10/2/20 0:00	79	1	mg/L		75			5.19	5	RPD04	
Duplicate (0I30041-DUP2)			Source: 20095	508-01								
Total Dissolved Solids	10/2/20 0:00	880	1	mg/L		878			0.228	5		
Batch 0J01034 - Default Prep GenCher	n											
Blank (0J01034-BLK1)												
Fluoride	9/30/20 15:30	ND	0.22	mg/L								
_CS (0J01034-BS1)												
Fluoride	9/30/20 15:30	1.95	0.22	mg/L	2.00		97.5	84.5-110				
LCS Dup (0J01034-BSD1)												
Fluoride	9/30/20 15:30	1.86	0.22	mg/L	2.00		93.0	84.5-110	4.72	30		
Duplicate (0J01034-DUP1)			Source: 20094	101-01								
Fluoride	9/30/20 15:30	ND	0.22	mg/L		ND				35		



												
Choctaw Generation LF	c			oject: CG								
2391 Pensacola Rd.		Project Number: [none]								Reported:		
Ackerman MS, 39735		Project Manager: Jim Ward							10/27/2020 14:58			
Classical Chemistry Parameters - Quality Control												
Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers	
Batch 0J01034 - Default Prep GenCh	nem											
Matrix Spike (0J01034-MS1)			Source: 20094	01-01								
Fluoride	9/30/20 15:30	0.85	0.22	mg/L	1.00	ND	84.7	58.5-128				
Matrix Spike Dup (0J01034-MSD1)			Source: 20094	01-01								
Fluoride	9/30/20 15:30	0.86	0.22	mg/L	1.00	ND	86.1	58.5-128	1.64	30		
Batch 0J08053 - Default Prep GenCh	nem											
Blank (0J08053-BLK1)												
Chloride	10/7/20 10:32	ND	0.500	mg/L								
Sulfate as SO4	10/7/20 10:32	ND	5.00									
Blank (0J08053-BLK2)												
Chloride	10/9/20 10:55	ND	0.500	mg/L								
LCS (0J08053-BS1)												
Chloride	10/7/20 9:33	9.77	0.500	mg/L	10.0		97.7	81.8-111				
Sulfate as SO4	10/7/20 9:33	9.29	5.00		10.0		92.9	85.6-111				
LCS (0J08053-BS2)												
Chloride	10/9/20 10:06	9.80	0.500	mg/L	10.0		98.0	81.8-111				
LCS Dup (0J08053-BSD1)												
Chloride	10/7/20 9:53	9.28	0.500	mg/L	10.0		92.8	81.8-111	5.05	20		
Sulfate as SO4	10/7/20 9:53	9.27	5.00		10.0		92.7	85.6-111	0.259	20		
LCS Dup (0J08053-BSD2)												
Chloride	10/9/20 10:35	9.87	0.500	mg/L	10.0		98.7	81.8-111	0.722	20		



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735	Project: CGLP CCR Project Number: [none] Project Manager: Jim Ward								Reported: 10/27/2020 14:58			
	Classical C	hemistry	Param	eters - C	Quality (Control						
Analyte	. Posult	MDI	Unite	Spike	Source	%PEC	%REC	PDD	RPD	Qualifiers		

Analyte	Analyzed	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch 0J08053 - Default Prep	GenChem										
Duplicate (0J08053-DUP1)			Source: 20094	94-03							
Chloride	10/7/20 14:13	3.56	0.500	mg/L		3.59			0.811	20	
Sulfate as SO4	10/7/20 14:13	6.63	5.00			6.68			0.842	20	
Matrix Spike (0J08053-MS1)			Source: 20094	94-03							
Chloride	10/7/20 14:33	22.9	0.500	mg/L	20.0	3.59	96.6	75.3-124			
Sulfate as SO4	10/7/20 14:33	26.4	5.00		20.0	6.68	98.5	60.6-139			
Matrix Spike Dup (0J08053-MS	SD1)		Source: 20094	94-03							
Chloride	10/7/20 14:52	24.0	0.500	mg/L	20.0	3.59	102	75.3-124	4.66	20	
Sulfate as SO4	10/7/20 14:52	26.7	5.00		20.0	6.68	100	60.6-139	1.27	20	



Calcium 315.887 [Radial]

Barium 455.403 [Radial]

Boron 249.773 [Radial]

Lithium 610.362 [Axial]

Matrix Spike (0J01044-MS1)

10/2/20 12:00

10/2/20 10:43

10/2/20 10:43

10/2/20 10:43

172

0.360

0.239

0.229

0.250

0.010

0.050

0.040

Source: 2009494-01

mg/L

mg/L

...

0.200

0.200

0.200

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735			Pr Project Nu Project Man	-	ne]				Reported: 10/27/2020 14:58		
	Metals	s by EPA 20	00 Series	Method	Is ICP-A	ES - Qu	ality Co	ontrol			
Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0J01044 - EPA 200.2 DCN 1017	Rev 9										
Blank (0J01044-BLK1)											
Barium 455.403 [Radial]	10/2/20 10:29	ND	0.010	mg/L							
Boron 249.773 [Radial]	10/2/20 10:29	ND	0.050								
Calcium 315.887 [Radial]	10/2/20 10:29	ND	0.050								
Lithium 610.362 [Axial]	10/2/20 10:29	ND	0.040								
LCS (0J01044-BS1)											
Barium 455.403 [Radial]	10/2/20 10:32	0.203	0.010	mg/L	0.200		101	85-115			
Boron 249.773 [Radial]	10/2/20 10:32	0.211	0.050	•	0.200		105	85-115			
Calcium 315.887 [Radial]	10/2/20 10:32	0.197	0.050		0.200		98.4	85-115			
Lithium 610.362 [Axial]	10/2/20 10:32	0.178	0.040		0.200		89.1	85-115			
LCS Dup (0J01044-BSD1)											
Barium 455.403 [Radial]	10/2/20 10:36	0.204	0.010	mg/L	0.200		102	85-115	0.289	20	
Boron 249.773 [Radial]	10/2/20 10:36	0.211	0.050		0.200		106	85-115	0.378	20	
Calcium 315.887 [Radial]	10/2/20 10:36	0.194	0.050		0.200		97.1	85-115	1.38	20	
Lithium 610.362 [Axial]	10/2/20 10:36	0.179	0.040		0.200		89.7	85-115	0.709	20	
Duplicate (0J01044-DUP1)			Source: 20094	94-01							
Calcium 315.887 [Radial]	10/2/20 10:43	62.4	0.050	mg/L		61.7			1.15	20	
Duplicate (0J01044-DUP2)			Source: 20094	94-12							

174

0.158

0.021

0.033

101

109

98.0

70-130

70-130

70-130

0.739

20



Choctaw Generation LP Project: CGLP CCR 2391 Pensacola Rd. Project Number: [none] **Reported:** Ackerman MS, 39735 Project Manager: Jim Ward

10/27/2020 14:58

Metals by EPA 200 Series Methods ICP-AES - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0J01044 - EPA 200.2 DCN 10	017 Rev 9										
Matrix Spike (0J01044-MS2)			Source: 20094	194-12							
Barium 455.403 [Radial]	10/2/20 11:38	0.236	0.010	mg/L	0.200	0.030	103	70-130			
Boron 249.773 [Radial]	10/2/20 11:38	0.312	0.050		0.200	0.089	112	70-130			
Lithium 610.362 [Axial]	10/2/20 11:38	0.138	0.040		0.200	0.091	23.6	70-130			QM-05
Matrix Spike Dup (0J01044-MSD1)			Source: 20094	194-01							
Barium 455.403 [Radial]	10/2/20 10:47	0.354	0.010	mg/L	0.200	0.158	97.8	70-130	1.75	20	
Boron 249.773 [Radial]	10/2/20 10:47	0.235	0.050		0.200	0.021	107	70-130	1.52	20	
Lithium 610.362 [Axial]	10/2/20 10:47	0.208	0.040		0.200	0.033	87.7	70-130	9.43	20	
Matrix Spike Dup (0J01044-MSD2)			Source: 20094	194-12							
Barium 455.403 [Radial]	10/2/20 11:42	0.243	0.010	mg/L	0.200	0.030	106	70-130	2.66	20	
Boron 249.773 [Radial]	10/2/20 11:42	0.317	0.050		0.200	0.089	114	70-130	1.46	20	
Lithium 610.362 [Axial]	10/2/20 11:42	0.158	0.040		0.200	0.091	33.2	70-130	13.0	20	QM-05



Project N	ct Manage	er: Jim Ward	d	10/27/2020 14:58	
Project	ect Numbe	er: [none]		Reported:	
	Projec	ct: CGLP CO	CR		

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0J01045 - EPA 200.2 DC	N 1017 Rev 9										
Blank (0J01045-BLK1)											
Antimony [He]	10/1/20 14:58	ND	0.00200	mg/L							
Arsenic [NG]	10/1/20 14:58	ND	0.00200								
Beryllium [He]	10/1/20 14:58	ND	0.00100								
Cadmium [He]	10/1/20 14:58	ND	0.00100								
Chromium [He]	10/1/20 14:58	ND	0.00100								
Cobalt [He]	10/1/20 14:58	ND	0.00100								
_ead [He]	10/1/20 14:58	ND	0.00100								
Molybdenum [He]	10/1/20 14:58	ND	0.00100								
Selenium [NG]	10/1/20 14:58	ND	0.00500								
Fhallium [He]	10/1/20 14:58	ND	0.00100								
_CS (0J01045-BS1)											
ntimony [He]	10/1/20 15:05	0.104	0.00200	mg/L	0.100		104	85-115			
rsenic [NG]	10/1/20 15:05	0.103	0.00200		0.100		103	85-115			
Beryllium [He]	10/1/20 15:05	0.103	0.00100		0.100		103	85-115			
admium [He]	10/1/20 15:05	0.096	0.00100		0.100		96.4	85-115			
Chromium [He]	10/1/20 15:05	0.102	0.00100		0.100		102	85-115			
Cobalt [He]	10/1/20 15:05	0.105	0.00100		0.100		105	85-115			
ead [He]	10/1/20 15:05	0.103	0.00100		0.100		103	85-115			
Nolybdenum [He]	10/1/20 15:05	0.101	0.00100		0.100		101	85-115			
Selenium [NG]	10/1/20 15:05	0.100	0.00500		0.100		99.7	85-115			
[hallium [He]	10/1/20 15:05	0.102	0.00100		0.100		102	85-115			
_CS Dup (0J01045-BSD1)											
Antimony [He]	10/1/20 15:11	0.096	0.00200	mg/L	0.100		95.6	85-115	8.09	20	
Arsenic [NG]	10/1/20 15:11	0.095	0.00200		0.100		95.4	85-115	7.70	20	
Beryllium [He]	10/1/20 15:11	0.097	0.00100		0.100		97.2	85-115	5.77	20	
Cadmium [He]	10/1/20 15:11	0.089	0.00100		0.100		89.3	85-115	7.65	20	
Chromium [He]	10/1/20 15:11	0.095	0.00100		0.100		94.7	85-115	7.75	20	
Cobalt [He]	10/1/20 15:11	0.098	0.00100		0.100		97.7	85-115	7.49	20	
ead [He]	10/1/20 15:11	0.097	0.00100		0.100		96.8	85-115	6.58	20	
Molybdenum [He]	10/1/20 15:11	0.094	0.00100		0.100		93.5	85-115	7.67	20	
Selenium [NG]	10/1/20 15:11	0.093	0.00500		0.100		92.5	85-115	7.43	20	
hallium [He]	10/1/20 15:11	0.096	0.00100		0.100		96.2	85-115	6.08	20	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR Project Number: [none] Project Manager: Jim Ward

Reported: 10/27/2020 14:58

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0J01045 - EPA 200.2 DCN 1	017 Rev 9										
Matrix Spike (0J01045-MS1)			Source: 200949	94-01							
Antimony [He]	10/1/20 16:50	0.104	0.00200	mg/L	0.100	ND	104	70-130			
Arsenic [NG]	10/1/20 16:50	0.104	0.00200		0.100	ND	104	70-130			
Beryllium [He]	10/1/20 16:50	0.098	0.00100		0.100	0.004	94.6	70-130			
Cadmium [He]	10/1/20 16:50	0.094	0.00100		0.100	0.003	90.9	70-130			
Chromium [He]	10/1/20 16:50	0.096	0.00100		0.100	ND	95.6	70-130			
Cobalt [He]	10/1/20 16:50	0.117	0.00100		0.100	0.022	95.2	70-130			
Lead [He]	10/1/20 16:50	0.107	0.00100		0.100	0.0007	107	70-130			
Molybdenum [He]	10/1/20 16:50	0.110	0.00100		0.100	0.0005	110	70-130			
Selenium [NG]	10/1/20 16:50	0.097	0.00500		0.100	ND	97.2	70-130			
Thallium [He]	10/1/20 16:50	0.107	0.00100		0.100	ND	107	70-130			
Matrix Spike (0J01045-MS2)	Source: 200949	94-12									
Antimony [He]	10/1/20 18:44	0.103	0.00200	mg/L	0.100	ND	103	70-130			
Arsenic [NG]	10/1/20 18:44	0.106	0.00200		0.100	0.002	104	70-130			
Beryllium [He]	10/1/20 18:44	0.089	0.00100		0.100	ND	89.4	70-130			
Cadmium [He]	10/1/20 18:44	0.090	0.00100		0.100	ND	90.1	70-130			
Chromium [He]	10/1/20 18:44	0.095	0.00100		0.100	ND	95.4	70-130			
Cobalt [He]	10/1/20 18:44	0.116	0.00100		0.100	0.019	97.2	70-130			
Lead [He]	10/1/20 18:44	0.104	0.00100		0.100	0.0004	104	70-130			
Molybdenum [He]	10/1/20 18:44	0.108	0.00100		0.100	0.0003	108	70-130			
Selenium [NG]	10/1/20 18:44	0.105	0.00500		0.100	0.002	105	70-130			
Thallium [He]	10/1/20 18:44	0.106	0.00100		0.100	ND	106	70-130			
Matrix Spike Dup (0J01045-MSD1)		Source: 200949	94-01							
Antimony [He]	10/1/20 16:57	0.105	0.00200	mg/L	0.100	ND	105	70-130	0.614	20	
Arsenic [NG]	10/1/20 16:57	0.102	0.00200		0.100	ND	102	70-130	2.30	20	
Beryllium [He]	10/1/20 16:57	0.095	0.00100		0.100	0.004	91.0	70-130	3.73	20	
Cadmium [He]	10/1/20 16:57	0.093	0.00100		0.100	0.003	90.3	70-130	0.690	20	
Chromium [He]	10/1/20 16:57	0.094	0.00100		0.100	ND	94.2	70-130	1.50	20	
Cobalt [He]	10/1/20 16:57	0.114	0.00100		0.100	0.022	92.8	70-130	2.14	20	
Lead [He]	10/1/20 16:57	0.105	0.00100		0.100	0.0007	105	70-130	1.86	20	
Molybdenum [He]	10/1/20 16:57	0.110	0.00100		0.100	0.0005	110	70-130	0.111	20	
Selenium [NG]	10/1/20 16:57	0.095	0.00500		0.100	ND	95.2	70-130	2.05	20	
Fhallium [He]	10/1/20 16:57	0.105	0.00100		0.100	ND	105	70-130	1.74	20	



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR Project Number: [none] Project Manager: Jim Ward

Reported: 10/27/2020 14:58

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0J01045 - EPA 200.2 DCN 1017 Rev 9											
Matrix Spike Dup (0J01045-MSD2)		Source: 20094	94-12							
Antimony [He]	10/1/20 18:50	0.103	0.00200	mg/L	0.100	ND	103	70-130	0.354	20	
Arsenic [NG]	10/1/20 18:50	0.104	0.00200		0.100	0.002	103	70-130	1.37	20	
Beryllium [He]	10/1/20 18:50	0.093	0.00100		0.100	ND	93.2	70-130	4.22	20	
Cadmium [He]	10/1/20 18:50	0.090	0.00100		0.100	ND	90.2	70-130	0.132	20	
Chromium [He]	10/1/20 18:50	0.096	0.00100		0.100	ND	96.1	70-130	0.737	20	
Cobalt [He]	10/1/20 18:50	0.118	0.00100		0.100	0.019	99.4	70-130	1.91	20	
Lead [He]	10/1/20 18:50	0.105	0.00100		0.100	0.0004	105	70-130	0.740	20	
Molybdenum [He]	10/1/20 18:50	0.109	0.00100		0.100	0.0003	108	70-130	0.501	20	
Selenium [NG]	10/1/20 18:50	0.102	0.00500		0.100	0.002	102	70-130	2.43	20	
Thallium [He]	10/1/20 18:50	0.107	0.00100		0.100	ND	107	70-130	0.776	20	



Choctaw Generation LP	Project: CGLP CCR	
2391 Pensacola Rd.	Project Number: [none]	Reported:
Ackerman MS, 39735	Project Manager: Jim Ward	10/27/2020 14:58

Certified Analyses Included in this Report

Г

Analyte	Certification Code	
EPA 200.8 Rev 5.4 in Water		
Aluminum [He]	C01,C02	
Antimony [He]	C01,C02	
Antimony [HHe]	C01,C02	
Antimony [NG]	C01,C02	
Arsenic [He]	C01	
Arsenic [HHe]	C01,C02	
Arsenic [NG]	C01,C02	
Barium [He]	C01,C02	
Beryllium [He]	C01,C02	
Boron [NG]	C01,C02	
Cadmium [He]	C01	
Cadmium [HHe]	C01,C02	
Cadmium [NG]	C01,C02	
Chromium [He]	C01,C02	
Cobalt [He]	C01,C02	
Copper [He]	C01,C02	
Copper [NG]	C01,C02	
Iron [He]	C01,C02	
Lead [He]	C01,C02	
Lead [NG]	C01,C02	
Manganese [He]	C01,C02	
Molybdenum [He]	C01,C02	
Nickel [He]	C01,C02	
Selenium [He]	C01	
Selenium [HHe]	C01,C02	
Selenium [NG]	C01,C02	
Silver [He]	C01,C02	
Silver [NG]	C01,C02	
Strontium [He]	C01,C02	
Thallium [He]	C01,C02	
Vanadium [He]	C01,C02	
Zinc [He]	C01,C02	
SM 2540 C-2011 in Water		

Total Dissolved Solids

C01,C02

Only compounds included in this list are associated with accredited analyses



Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735 Project: CGLP CCR Project Number: [none] Project Manager: Jim Ward

Reported: 10/27/2020 14:58

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	LA Environmental Lab Accreditation Program	01960	06/30/2021
C02	The NELAC Institute (NELAP)	TNI01397	06/30/2021
C03	Ms Dept of Health (Drinking Water Microbiology)	MS00021	12/31/2020
C04	Ms Dept of Health (Drinking Water Chemistry)	MS00021	12/31/2020
C05	Ms DEQ Lead Firm Certification	PBF-00000028	03/24/2021
C06	MsDEQ Asbestos Inspector : C.D. Bingham	ABI-00001348	02/12/2021
C07	MsDEQ Air Monitor : C.D. Bingham	AM-011572	02/13/2021
C08	MsDEQ Asbestos Inspector: C. W. Meins	ABI-00001821	09/04/2020
C09	MsDEQ Air Monitor : C.W. Meins	AM-011189	02/13/2021
C12			
C14	MsDEQ Lead Paint Inspector : C.D. Bingham	PBI-00003690	03/24/2021
C15	MsDEQ Lead Paint Inspector : C.W. Meins	PBI-00001740	03/24/2021
Not Ce	rti		06/30/2020

Report Definitions

TNC DET ND	Too Numerous To Count Analyte DETECTED Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.



Choctaw Generation LP	Project:	CGLP CCR	
2391 Pensacola Rd.	Project Number:	[none]	Reported:
Ackerman MS, 39735	Project Manager:	Jim Ward	10/27/2020 14:58

Analyst Initials Key

Г

<u>FullName</u>	<u>Initials</u>
Alyssa B Timbs	ABT
Charles L Vorhoff	CLV
Dortha L. Wells	DLW
Gayle M. Sparling	GMS
Harry P. Howell	HPH
Samantha C. Hall	SCH
Teresa Meins	TKM
Tina Tomek	TPT

MICRO-METHODS	LTHODS -		Chain of Custody Record	of Cust	odv Re	cord			-	5		Print Form
PO Box 1410, Ocean Springs, MS 39566-1410 (228) 875-6420 FAX (228) 875-6423 www.micromethoddab.com	ngs, MS 39566-1410) 875-6423		115	Lab ID# MS00021 LELAP ID # 01960 TNI ID # TNI01397	500021 + 01960 1101397				WO #	1600	hot	
Company Name:	Chortaw Ganaration I imited Bortonochin I - 1	-	Project Manager:	1		IN/			F	- Puttory usi	Time o	and the second
ddress.					ר		D			Turn Around Time & Reporting		sporting
2391 Pensac			Purchase Order #:	r #:					Mormal	our riorrial turn around time is 10 working days al *All rush order Ph	*All rush order	orking days Phone
City: Ackerman	State: MS Zip: 39735		Email Address						Next Day*		requests must be	Mail
Phone: 662-387-5758			Sampler Name Printed	Printed:	1/23	- La			Other*	prior ap	prior approved.	Email
Fax:			Samper Nam	Signed:	H	X	A		QC Level: Level 1	el 1		-evel 3
				List A	Analyses Requested	Réqueste	P	Strate La		Field Testing		
Project Name:	CGLP CCR		servat					5	ID# ID#	D# ID# ID# ID# ID# ID#	10# Fi-13 T	Matrix:
Project #:			DS () or (C) or (C) (C) (C)	e, Fluoride ulfate 17, Arseni	oran, Berytlium muimori, Chromium	,muialeO Mait	muine muine muine	823 823	2			W = Water DW = Drinking Water
Sample Identification	Sampling Date/Time	Matrix Code) dɛrəð Dqmoð	Chloridi S	8 .muns8	c	Molyb					S = Solid SO = Soil
6-MW	9/28/20 8:47	M	-	X	×	X	X					bt = bediment L = Liquid
41-MIN		A	0	X	X	X	X	*				A = Air
OW-2	9/28/20 11:24	M	4 G	X	X	X	X	×				0 = 0il SL = Sludge
MW-13	128:11 02/82/6	M	4 G	×	××	×	××	×				
7-WM	3		4 G	X	X	XX	X X	×				
MW-14	9/28/20 9:12		+	\times		X	\times	×				Preservation:
Prieto blank	22	3	+			X	×	×		_		1= H2504 2= H3P04
MM/L12	° 1		-				\times	\times		_		3=NaOH
CCR-2	8 2	141	+					<)				5=ZnC4H1006 &
CCR-3	a 178/12 12:23		2 C				\times	×>				NaOH
Received on Ice?(V) N The	1	0	64	eipt Tem	Receipt Temp Corrected(°C)	d(°C)	145	<				7=Na252O3
Date & Time 9-19-2020	BY: THL		Sample		Blank C	Cooler			**All Temps ar	**All Temps are Corrected Values**	l Jes**	8=HCI 9=NaHSO4
4	inted Name	1	Signature		Company			Time	Notes:			
Kelinquished by		4	7 44	3	7		11810	19:30	Dilnot		Samole Mall	217
Received by	HANNIN JOH	-2	- AA		- NA	4	h.	Ja			e E	
Relinquished by	P, d DX		0			Ē	1		キシック	mpp a	1996	UUKNyl
Received by	Figurthe Hurri		plan.		MV	16	2/2	108	Can Mar	12 L 13	シビへ	1. K) R'
Relinquished by						-	ŀ		dw.o		Ż	
Received by												
DCN# F316 Rev.#5	Δ.	Physical /	Address: 6500 Sunplex Drive, Ocean Springs	Sunplex	Drive, Oce	an Spring	SMS 395	564 00/	44	25		-0.8.0-
							3	2 de la	020	2020 als	3905	at
								5)		-		

MICRO-METHODS	FTHODS						-				[Jal	\square	Print Form
LABORATO	RY INC.			nai	101	Cust	oay	Lnain or Lustoay Record	bra]	M-M Lab		
PO Box 1410, Ocean Springs, MS 39566-1410 (228) 875-6420 FAX (228) 875-6423	ings, MS 39566-1410 3) 875-6423						Lab ID# MS00021 LELAP ID # 01960	21				Bee	nonb	
www.micromethodslab.com	com					1 # 1	19210INI # 011N1	16						
Company Name: Choctaw Generation Limited Partnership LLLP	eneration Limited Partners	nip LLLP	Proje	Project Manager:	ager:			Lin	Jim Ward	2		Turn Around Time & Reporting	d Time & R	eporting
Address: 2391 Pensacola Rd.	ola Rd.		Purc	Purchase Order #	rder #:							Our normal turn around time is 10 working days All rush order Ph	rn around time is 10 w *All rush order	vorking days Phone
City: Ackerman	State: MS Zip: 39735	55	Ema	Email Address	SSS :							*~ *	requests must be	Mail
Phone: 662-387-5758			Sam	pler Na	Sampler Name Printed:	12	. K.	Lita		5	A.L.		prior approved.	Email
Fax:			Sam	pler Na	Sampler Name Signed	1	67	Z	K	de la		QC Level: Level 1	Level 2	evel 3
	and the second second	States a				ListA	nalvs	List Analyses Requested	dues	ed be	b	Field Testing	いたいのないとの	
Project Name:	CGLP CCR		Prese	Preservative:			╟			$\left \right $		10# 10# 10# 10#	#01	1
Project #;			ntainer	o (כ) Site (C)	SO	, Fluoride, Ilfate	y, Arsenic mullina	muimorit) ,	,muiole) fladt	[.] wnpue	տուտ 8 822 տու 82	rivid test held test held lest held lest	lest Held lest	W = Water DW = Drinking Water
Sample Identification	n Date/Time	Matrix Code	-) dene)) dene	1	าร		mumbeD		100	beA leto			S = Solid SO = Soil
CCR-4	1/28/20 14:42	N Z	4		×	×	×	×	×	×				L = Liauid
CCR-5	1.21		4	U	X				\times					A = Air
	~													U = UI SL = Sludge
						+	+	-		+	+			
										+-				Preservation:
		_					\square							1= H2504 2= H3P04
						+	+	_		+	+			3=NaOH
		_				+	+			╉				5=ZnC4H1006 &
					1		+			+	+			6=HNO3
Received on Ice/Y/N Th	Thermometer#	Cooler #	1	29 F	eceip	t Ter	p Cor	Receipt Temp Corrected(°C)	•C)	-	.0.0			7=Na2S2O3
Date & Time 4.14-20	By: An			S	Sample		Blank		Cooler	D.	200	**All Temps are Corrected Values**	'alues**	9=NaHSO4
	Printed Name	-	Sig	Signature		Sec.	ŭ	Company		Date	Time	Notes:		
1 by	2	Z	A V	Z	Z		N/	5		9/24	1930			
Received by	Od W -										_			
Relinquished by	ch gr		4				1			-				
Received by	Dimonstre Hall	/	R	au				M	8	hal	120 Jots			
Relinquished by														
Received by														
DCN# F316 Rev.#5		Physical	I Add	ess: 6	500 SL	nplex	Drive	, Ocear	n Sprin	gs MS	Address: 6500 Sunplex Drive, Ocean Springs MS 39564			

Page 31 of 49

DOCN Print Form



October 27, 2020

Tina Tomek Micro Methods Laboratory, Inc. P. O. Box 1410 Ocean Springs, MS 39566

RE: Project: 2009494 Pace Project No.: 20173920

Dear Tina Tomek:

Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

KauntBour

Karen Brown karen.brown@pacelabs.com (504)469-0333 Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS



CERTIFICATIONS

 Project:
 2009494

 Pace Project No.:
 20173920

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601 ANAB DOD-ELAP Rad Accreditation #: L2417 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California Certification #: 04222CA Colorado Certification #: PA01547 Connecticut Certification #: PH-0694 **Delaware Certification** EPA Region 4 DW Rad Florida/TNI Certification #: E87683 Georgia Certification #: C040 Florida: Cert E871149 SEKS WET **Guam Certification** Hawaii Certification Idaho Certification **Illinois Certification** Indiana Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133 KY WW Permit #: KY0098221 KY WW Permit #: KY0000221 Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086 Maine Certification #: 2017020 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991

Missouri Certification #: 235 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14 Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617 New Jersey/TNI Certification #: PA051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249 Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282 South Dakota Certification Tennessee Certification #: 02867 Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

- Pa	na (2 ∩f	18
Page	33	of	49



SAMPLE SUMMARY

 Project:
 2009494

 Pace Project No.:
 20173920

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20173920001	2009494-01	Water	09/28/20 08:47	10/02/20 10:10
20173920002	2009494-02	Water	09/28/20 11:24	10/02/20 10:10
20173920003	2009494-03	Water	09/28/20 11:39	10/02/20 10:10
20173920004	2009494-04	Water	09/28/20 13:14	10/02/20 10:10
20173920005	2009494-05	Water	09/28/20 09:12	10/02/20 10:10
20173920006	2009494-06	Water	09/28/20 09:40	10/02/20 10:10
20173920007	2009494-07	Water	09/28/20 00:00	10/02/20 10:10
20173920008	2009494-08	Water	09/28/20 10:04	10/02/20 10:10
20173920009	2009494-09	Water	09/28/20 12:43	10/02/20 10:10
20173920010	2009494-10	Water	09/28/20 13:33	10/02/20 10:10
20173920011	2009494-11	Water	09/28/20 14:42	10/02/20 10:10
20173920012	2009494-12	Water	09/28/20 14:28	10/02/20 10:10

REPORT OF LABORATORY ANALYSIS



SAMPLE ANALYTE COUNT

Project:	2009494
Pace Project No .:	20173920

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20173920001	2009494-01	EPA 903.1	 MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20173920002	2009494-02	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20173920003	2009494-03	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20173920004	2009494-04	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20173920005	2009494-05	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20173920006	2009494-06	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20173920007	2009494-07	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20173920008	2009494-08	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20173920009	2009494-09	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20173920010	2009494-10	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20173920011	2009494-11	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20173920012	2009494-12	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

Pa	na /	1 of	18
Page	35	of	49



PROJECT NARRATIVE

 Project:
 2009494

 Pace Project No.:
 20173920

Method:EPA 903.1Description:903.1 Radium 226Client:Micro MethodsDate:October 27, 2020

General Information:

12 samples were analyzed for EPA 903.1 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS



PROJECT NARRATIVE

 Project:
 2009494

 Pace Project No.:
 20173920

Method:	EPA 904.0
Description:	904.0 Radium 228
Client:	Micro Methods
Date:	October 27, 2020

General Information:

12 samples were analyzed for EPA 904.0 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS



Sample: 20	09494-01	Lab ID: 20173	920001	Collected: 09/28/20 08:47	Received:	10/02/20 10:10	Matrix: Water	
PWS:		Site ID:		Sample Type:				
comments:				ere added to the sample to m preserved <2 within the requ			quirement of pH	
	Parameters	Method	Act	± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
		Pace Analytical S	ervices - (Greensburg				
Radium-226		EPA 903.1	C:NA	: 0.633 (0.706) T:91%	pCi/L	10/21/20 15:51	13982-63-3	
		Pace Analytical S		0				
Radium-228		EPA 904.0		± 0.487 (0.920) 6 T:78%	pCi/L	10/21/20 11:46	15262-20-1	
Sample: 20 PWS:	09494-02	Lab ID: 20173	320002	Collected: 09/28/20 11:24	Received:	10/02/20 10:10	Matrix: Water	
Comments:		e laboratory, 2.5 mls of ni		Sample Type: ere added to the sample to n preserved <2 within the requ			quirement of pH	
	Parameters	Method	Act	± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical S	ervices - (Greensburg				
Radium-226		EPA 903.1		0 ± 0.494 (0.976) T:79%	pCi/L	10/21/20 15:51	13982-63-3	
		Pace Analytical S		C C				
Radium-228		EPA 904.0		± 0.408 (0.894) % T:76%	pCi/L	10/21/20 12:05	15262-20-1	
Sample: 20	09494-03	Lab ID: 20173	920003	Collected: 09/28/20 11:39	Received:	10/02/20 10:10	Matrix: Water	
PWS: Comments:				Sample Type: ere added to the sample to m			quirement of pH	
		ry analysis. The samples Method		preserved <2 within the requ			CAS No.	Qual
	Parameters			± Unc (MDC) Carr Trac	Units	Analyzed		Qual
Dadium 200		Pace Analytical S EPA 903.1	0.298	Greensburg ± 0.507 (0.894) T:83%	pCi/L	10/21/20 16:05	13982-63-3	
~auium-226		Dees Analytical C						
Radium-226		Pace Analytical S	ervices - v	Greensburg				
		Pace Analytical S EPA 904.0	0.395	Greensburg ± 0.380 (0.781) 6 T:86%	pCi/L	10/21/20 11:13	15262-20-1	
Radium-228 Sample: 20			0.395 C:78%	± 0.380 (0.781)			15262-20-1 Matrix: Water	
Radium-228 Sample: 20 PWS:	• Upon receipt at the	EPA 904.0 Lab ID: 20173 Site ID: e laboratory, 2.5 mls of nit	0.395 C:78% 920004 tric acid w	± 0.380 (0.781) 6 T:86% Collected: 09/28/20 13:14	Received:	10/02/20 10:10 I	Matrix: Water	
Radium-228 Sample: 20 PWS: Comments:	• Upon receipt at the	EPA 904.0 Lab ID: 20173 Site ID: e laboratory, 2.5 mls of nit	0.395 C:78% 920004 tric acid w were not	± 0.380 (0.781) 6 T:86% Collected: 09/28/20 13:14 Sample Type: ere added to the sample to m	Received:	10/02/20 10:10 I	Matrix: Water	Qua
Radium-228 Sample: 20 PWS: Comments:	• Upon receipt at the <2 for radiochemist	EPA 904.0 Lab ID: 20173 Site ID: e laboratory, 2.5 mls of nir ry analysis. The samples	0.395 C:78% 920004 tric acid w were not Act	± 0.380 (0.781) 6 T:86% Collected: 09/28/20 13:14 Sample Type: ere added to the sample to m preserved <2 within the requ ± Unc (MDC) Carr Trac	Received: neet the sam ired 5 days c	10/02/20 10:10 I ple preservation red of collection.	Matrix: Water quirement of pH	Qua

REPORT OF LABORATORY ANALYSIS



Sample: 2009494-04 PWS:	Lab ID: 20173920 Site ID:		Received:	10/02/20 10:10 M	Aatrix: Water	
Comments: • Upon receipt	at the laboratory, 2.5 mls of nitric	Sample Type: acid were added to the sample to r ere not preserved <2 within the requ			uirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Serv	vices - Greensburg				
Radium-228	EPA 904.0	0.382 ± 0.525 (1.13) C:81% T:71%	pCi/L	10/21/20 12:04	15262-20-1	
Sample: 2009494-05 PWS:	Lab ID: 20173920 Site ID:	0005 Collected: 09/28/20 09:12 Sample Type:	Received:	10/02/20 10:10 M	Aatrix: Water	
		acid were added to the sample to ree not preserved <2 within the requ			uirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Serv	vices - Greensburg				
Radium-226	EPA 903.1	0.389 ± 0.362 (0.477) C:NA T:83%	pCi/L	10/21/20 15:51	13982-63-3	
	Pace Analytical Serv	vices - Greensburg				
Radium-228	EPA 904.0	1.06 ± 0.444 (0.678) C:75% T:78%	pCi/L	10/21/20 11:11	15262-20-1	
	Lab ID: 20173920 Site ID:		Received:	10/02/20 10:10 M	Aatrix: Water	
PWS: Comments: • Upon receipt	Site ID: at the laboratory, 2.5 mls of nitric	0006 Collected: 09/28/20 09:40 Sample Type: cacid were added to the sample to rere not preserved <2 within the requ	meet the sam	ple preservation rec		
PWS: Comments: • Upon receipt	Site ID: at the laboratory, 2.5 mls of nitric	Sample Type: acid were added to the sample to r	meet the sam	ple preservation rec		Qual
PWS: Comments: • Upon receipt <2 for radioche	Site ID: at the laboratory, 2.5 mls of nitric mistry analysis. The samples we	Sample Type: acid were added to the sample to r ere not preserved <2 within the requ Act ± Unc (MDC) Carr Trac	meet the sam uired 5 days o	ple preservation rec of collection.	uirement of pH	Qual
PWS: Comments: • Upon receipt <2 for radioche Parameters	Site ID: at the laboratory, 2.5 mls of nitric mistry analysis. The samples we Method	Sample Type: acid were added to the sample to r ere not preserved <2 within the requ Act ± Unc (MDC) Carr Trac	meet the sam uired 5 days o	ple preservation rec of collection.	uirement of pH	Qual
PWS: Comments: • Upon receipt <2 for radioche Parameters	Site ID: at the laboratory, 2.5 mls of nitric mistry analysis. The samples we Method Pace Analytical Serv	Sample Type: c acid were added to the sample to r ere not preserved <2 within the requ Act ± Unc (MDC) Carr Trac vices - Greensburg -0.0631 ± 0.371 (0.827) C:NA T:87%	neet the sam uired 5 days o Units	ple preservation rec of collection. Analyzed	uirement of pH	Qual
PWS: Comments: • Upon receipt <2 for radioche Parameters Radium-226	Site ID: at the laboratory, 2.5 mls of nitric mistry analysis. The samples we Method Pace Analytical Serv EPA 903.1	Sample Type: c acid were added to the sample to r ere not preserved <2 within the requ Act ± Unc (MDC) Carr Trac vices - Greensburg -0.0631 ± 0.371 (0.827) C:NA T:87%	neet the sam uired 5 days o Units	ple preservation rec of collection. Analyzed	UVICAS No.	Qual
PWS: Comments: • Upon receipt <2 for radioche Parameters Radium-226 Radium-228 Sample: 2009494-07	Site ID: at the laboratory, 2.5 mls of nitric mistry analysis. The samples we Method Pace Analytical Serv EPA 903.1 Pace Analytical Serv	Sample Type: c acid were added to the sample to r ere not preserved <2 within the requ Act ± Unc (MDC) Carr Trac vices - Greensburg -0.0631 ± 0.371 (0.827) C:NA T:87% vices - Greensburg 0.240 ± 0.417 (0.910) C:77% T:76%	neet the sam uired 5 days o Units pCi/L pCi/L	nple preservation rec of collection. Analyzed 10/21/20 15:51 10/21/20 11:13	UVICAS No.	Qual
PWS: Comments: • Upon receipt <2 for radioche Parameters Radium-226 Radium-228 Sample: 2009494-07 PWS: Comments: • Upon receipt	Site ID: at the laboratory, 2.5 mls of nitric mistry analysis. The samples we Method Pace Analytical Serv EPA 903.1 Pace Analytical Serv EPA 904.0 Lab ID: 20173920 Site ID: at the laboratory, 2.5 mls of nitric	Sample Type: c acid were added to the sample to r ere not preserved <2 within the requ Act ± Unc (MDC) Carr Trac vices - Greensburg -0.0631 ± 0.371 (0.827) C:NA T:87% vices - Greensburg 0.240 ± 0.417 (0.910) C:77% T:76% 0007 Collected: 09/28/20 00:00 Sample Type: c acid were added to the sample to r	neet the sam Jired 5 days of Units pCi/L pCi/L Received: neet the sam	10/21/20 11:13 10/02/20 10:10	Quirement of pH CAS No. 13982-63-3 15262-20-1 Matrix: Water	Qual
PWS: Comments: • Upon receipt <2 for radioche Parameters Radium-226 Radium-228 Sample: 2009494-07 PWS: Comments: • Upon receipt	Site ID: at the laboratory, 2.5 mls of nitric mistry analysis. The samples we Method Pace Analytical Serv EPA 903.1 Pace Analytical Serv EPA 904.0 Lab ID: 20173920 Site ID: at the laboratory, 2.5 mls of nitric	Sample Type: c acid were added to the sample to r ere not preserved <2 within the requ Act ± Unc (MDC) Carr Trac vices - Greensburg -0.0631 ± 0.371 (0.827) C:NA T:87% vices - Greensburg 0.240 ± 0.417 (0.910) C:77% T:76%	neet the sam Jired 5 days of Units pCi/L pCi/L Received: neet the sam	10/21/20 11:13 10/02/20 10:10	Quirement of pH CAS No. 13982-63-3 15262-20-1 Matrix: Water	Qual
PWS: Comments: • Upon receipt <2 for radioche Parameters Radium-226 Radium-228 Sample: 2009494-07 PWS: Comments: • Upon receipt <2 for radioche	Site ID: at the laboratory, 2.5 mls of nitric mistry analysis. The samples we Method Pace Analytical Serv EPA 903.1 Pace Analytical Serv EPA 904.0 Lab ID: 20173920 Site ID: at the laboratory, 2.5 mls of nitric mistry analysis. The samples we	Sample Type: cacid were added to the sample to rere not preserved <2 within the requered Act ± Unc (MDC) Carr Trac vices - Greensburg -0.0631 ± 0.371 (0.827) C:NA T:87% vices - Greensburg 0.240 ± 0.417 (0.910) C:77% T:76%	neet the sam uired 5 days of Units pCi/L pCi/L Received: neet the sam	Analyzed 10/21/20 15:51 10/21/20 11:13 10/02/20 10:10 M apple preservation reconstruction reconstruction.	University of pH CAS No. 13982-63-3 15262-20-1 Matrix: Water Quirement of pH	
PWS: Comments: • Upon receipt <2 for radioche Parameters Radium-226 Radium-228 Sample: 2009494-07 PWS: Comments: • Upon receipt <2 for radioche Parameters	Site ID: at the laboratory, 2.5 mls of nitric mistry analysis. The samples we Method Pace Analytical Serv EPA 903.1 Pace Analytical Serv EPA 904.0 Lab ID: 20173920 Site ID: at the laboratory, 2.5 mls of nitric mistry analysis. The samples we Method	Sample Type: cacid were added to the sample to rere not preserved <2 within the requered Act ± Unc (MDC) Carr Trac vices - Greensburg -0.0631 ± 0.371 (0.827) C:NA T:87% vices - Greensburg 0.240 ± 0.417 (0.910) C:77% T:76% 0007 Collected: 09/28/20 00:00 Sample Type: cacid were added to the sample to refere not preserved <2 within the requered Act ± Unc (MDC) Carr Trac	neet the sam uired 5 days of Units pCi/L pCi/L Received: neet the sam	Analyzed 10/21/20 15:51 10/21/20 11:13 10/02/20 10:10 M apple preservation reconstruction reconstruction.	Quirement of pH CAS No. 13982-63-3 15262-20-1 Matrix: Water Quirement of pH CAS No.	
<pre><2 for radioche Parameters Radium-226 Radium-228 Sample: 2009494-07 PWS: Comments: • Upon receipt <2 for radioche</pre>	Site ID: at the laboratory, 2.5 mls of nitric mistry analysis. The samples we Method Pace Analytical Serv EPA 903.1 Pace Analytical Serv EPA 904.0 Lab ID: 20173920 Site ID: at the laboratory, 2.5 mls of nitric mistry analysis. The samples we Method Pace Analytical Serv	Sample Type: cacid were added to the sample to rere not preserved <2 within the requered Act ± Unc (MDC) Carr Trac vices - Greensburg -0.0631 ± 0.371 (0.827) C:NA T:87% vices - Greensburg 0.240 ± 0.417 (0.910) C:77% T:76% 0007 Collected: 09/28/20 00:00 Sample Type: cacid were added to the sample to refere not preserved <2 within the requered Act ± Unc (MDC) Carr Trac vices - Greensburg -0.146 ± 0.495 (1.09) C:NA T:87%	neet the sam uired 5 days of Units pCi/L pCi/L Received: neet the sam uired 5 days of Units	apple preservation reco of collection. Analyzed 10/21/20 15:51 10/21/20 11:13 10/02/20 10:10 M apple preservation reco of collection. Analyzed	Quirement of pH CAS No. 13982-63-3 15262-20-1 Matrix: Water Quirement of pH CAS No.	

REPORT OF LABORATORY ANALYSIS



Sample: 20	09494-08	Lab ID: 201739	920008	Collected: 09/28/20 10:04	Received:	10/02/20 10:10	Matrix: Water	
PWS:		Site ID:		Sample Type:				
Comments:				were added to the sample to r t preserved <2 within the requ			quirement of pH	
	Parameters	Method	Ac	ct ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical S	ervices -	Greensburg				
Radium-226		EPA 903.1		9 ± 0.617 (0.878) \ T:81%	pCi/L	10/21/20 16:05	5 13982-63-3	
		Pace Analytical S	ervices -	Greensburg				
Radium-228		EPA 904.0		2 ± 0.500 (1.04) % T:68%	pCi/L	10/21/20 12:04	15262-20-1	
Sample: 20 PWS:	09494-09	Lab ID: 201739 Site ID:	920009	Collected: 09/28/20 12:43 Sample Type:	Received:	10/02/20 10:10	Matrix: Water	
Comments:				were added to the sample to r t preserved <2 within the requ			quirement of pH	
	Parameters	Method	Ac	t ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical S	ervices -	Greensburg				
Radium-226		EPA 903.1		↓±0.281 (0.167) \T:86%	pCi/L	10/21/20 16:05	5 13982-63-3	
		Pace Analytical S		0				
Radium-228		EPA 904.0		3 ± 0.464 (0.945) % T:82%	pCi/L	10/21/20 11:14	15262-20-1	
Sample: 20	09494-10	Lab ID: 20173	920010	Collected: 09/28/20 13:33	Received:	10/02/20 10:10	Matrix: Water	
PWS: Comments:				Sample Type: are added to the sample to me t preserved <2 within the requ			uirement of pH	
	Parameters	Method		t ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical S	ervices -	Greensburg				
Radium-226		EPA 903.1	0.433	3 ± 0.502 (0.811) A T:83%	pCi/L	10/21/20 16:05	5 13982-63-3	
		Pace Analytical S	ervices -	Greensburg				
Radium-228		EPA 904.0		7 ± 0.497 (0.935) % T:75%	pCi/L	10/21/20 11:14	15262-20-1	
Sample: 20 PWS:	09494-11	Lab ID: 201739 Site ID:	920011	Collected: 09/28/20 14:42 Sample Type:	Received:	10/02/20 10:10	Matrix: Water	
Comments:				ere added to the sample to me t preserved <2 within the requ			uirement of pH	
	Parameters	Method	Ac	t ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical S	ervices -	Greensburg				
				0				

REPORT OF LABORATORY ANALYSIS



Project:	2009494							
Pace Project No .:	20173920							
Sample: 2009494-1 PWS:	1	Lab ID: 2017392 Site ID:	20011 Collecte Sample	ed: 09/28/20 14:42 e Type:	Received:	10/02/20 10:10 I	Matrix: Water	
		oratory, 5 mls of nitric alysis. The samples v					irement of pH	
Paramete	ers	Method	Act ± Unc (I	MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Se	rvices - Greensb	urg				
Radium-228	E	PA 904.0	0.277 ± 0.381 C:78% T:84%	(0.816)	pCi/L	10/21/20 15:06	5 15262-20-1	
Sample: 2009494-12 PWS:	2	Lab ID: 2017392 Site ID:	20012 Collecte Sample	ed: 09/28/20 14:28 e Type:	Received:	10/02/20 10:10 I	Matrix: Water	
		oratory, 5 mls of nitric alysis. The samples v					irement of pH	
Paramete	ers	Method	Act ± Unc (I	MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Se	rvices - Greensb	urg				
Radium-226	E	PA 903.1	0.205 ± 0.484 C:NA T:83%	(0.897)	pCi/L	10/21/20 16:20	13982-63-3	
		Pace Analytical Se	rvices - Greensb	urg				
Radium-228	E	PA 904.0	0.219 ± 0.453 C:77% T:77%	(0.999)	pCi/L	10/21/20 15:06	5 15262-20-1	

REPORT OF LABORATORY ANALYSIS





QUALITY CONTROL - RADIOCHEMISTRY

Project:	200949	94				
Pace Project No.:	201739	920				
QC Batch:	4181	03	Analysis Method:	EPA 903.1		
QC Batch Method:	EPA	903.1	Analysis Description:	903.1 Radium-22	26	
			Laboratory:	Pace Analytical S	Services - Greensbu	rg
Associated Lab Samples: 20173920001, 20173920002, 20173920003, 20173920004, 20173920005, 20173920006, 20173920007, 20173920008, 20173920009, 20173920010, 20173920011, 20173920012						920007,
METHOD BLANK:	202127	73	Matrix: Water			
Associated Lab Sa	mples:	,	02, 20173920003, 201739200 09, 20173920010, 201739200	, ,	0173920006, 20173	920007,
Para	meter	Act ±	Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226		-0.205 ± 0.285	(0.722) C:NA T:83%	pCi/L	10/21/20 15:51	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS



QUALITY CONTROL - RADIOCHEMISTRY

Project:	200949	94				
Pace Project No.:	201739	920				
QC Batch:	4181	04	Analysis Method:	EPA 904.0		
QC Batch Method:	EPA	904.0	Analysis Description:	904.0 Radium 2	28	
			Laboratory:	Pace Analytical	Services - Greensbu	g
Associated Lab Samples: 20173920001, 20173920002, 20173920003, 20173920004, 20173920005, 20173920006, 2 20173920008, 20173920009, 20173920010, 20173920011, 20173920012					20173920006, 20173	920007,
METHOD BLANK:	20212	74	Matrix: Water			
Associated Lab Sa	mples:	,	02, 20173920003, 2017392000 09, 20173920010, 2017392001	, ,	20173920006, 20173	920007,
Para	meter	Act ±	Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228		-0.252 ± 0.281	(0.715) C:81% T:83%	pCi/L	10/21/20 11:12	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS





QUALIFIERS

 Project:
 2009494

 Pace Project No.:
 20173920

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

REPORT OF LABORATORY ANALYSIS

Pao	1	₹ ∩t	18	
Page	44	of	49	

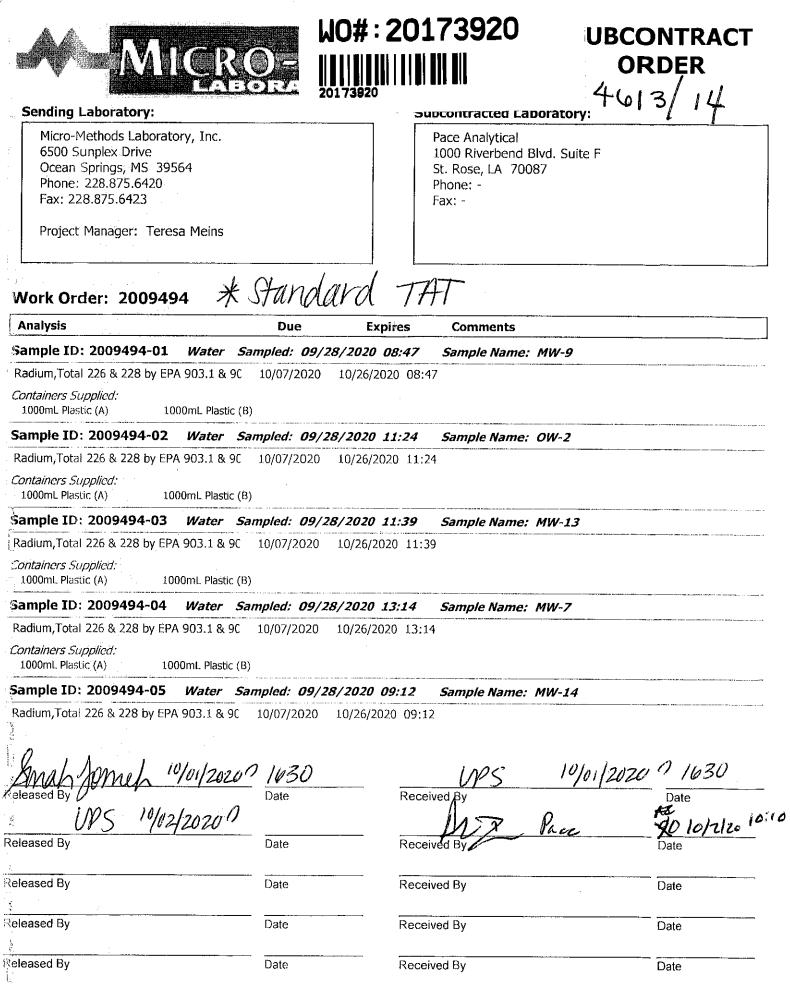


QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	2009494
Pace Project No.:	20173920

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20173920001	2009494-01	EPA 903.1	418103		
20173920002	2009494-02	EPA 903.1	418103		
20173920003	2009494-03	EPA 903.1	418103		
20173920004	2009494-04	EPA 903.1	418103		
20173920005	2009494-05	EPA 903.1	418103		
20173920006	2009494-06	EPA 903.1	418103		
20173920007	2009494-07	EPA 903.1	418103		
20173920008	2009494-08	EPA 903.1	418103		
20173920009	2009494-09	EPA 903.1	418103		
20173920010	2009494-10	EPA 903.1	418103		
20173920011	2009494-11	EPA 903.1	418103		
20173920012	2009494-12	EPA 903.1	418103		
20173920001	2009494-01	EPA 904.0	418104		
20173920002	2009494-02	EPA 904.0	418104		
20173920003	2009494-03	EPA 904.0	418104		
20173920004	2009494-04	EPA 904.0	418104		
20173920005	2009494-05	EPA 904.0	418104		
20173920006	2009494-06	EPA 904.0	418104		
20173920007	2009494-07	EPA 904.0	418104		
20173920008	2009494-08	EPA 904.0	418104		
20173920009	2009494-09	EPA 904.0	418104		
20173920010	2009494-10	EPA 904.0	418104		
20173920011	2009494-11	EPA 904.0	418104		
20173920012	2009494-12	EPA 904.0	418104		

REPORT OF LABORATORY ANALYSIS



 (\cdot)





ORDER (Continued)

Work Order: 2009494 (Continued)

Containers Supplied: 1000mL Pastic (B) Sample D: 2009494-06 Water Sampled: 09/28/2020 09:40 Sample Name: Field Blank Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 00:00 Sample Name: Duplicate Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 00:00 Sample Name: Duplicate Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 00:00 Cantoiners Supplied: Sample ID: 2009494-08 Water Sampled: 09/28/2020 10:04 Sample Name: MW-12 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 10:04 Contributers Supplied: 1000mL Pastic (B) Sample ID: 2009494-09 Water Sampled: 09/28/2020 12:43 Sample Name: CCR-2 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 12:43 Sample Name: CCR-2 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample Name: CCR-3 Sample ID: 2009494-10 Water Sampled: 09/28/2020 14:42 Sample Name: CCR-3 Cont intros Supplied: 1000mL Pastic (B) 1000mL Pastic (B) Sample Name: CCR-4 Red'im, Total 226 & 228 by EPA 903.1 & 9C 10/07/2	Analysis	<u></u>	Due	Expires	Comments		
Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 09:40 Containers Supplied: Sample ID: 2009494-07 Water Sampled: 09/28/2020 00:00 Sample Name: Duplicate Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 00:00 Containers Supplied: Sample ID: 2009494-08 Water Sampled: 09/28/2020 10:04 Sample Name: MW-12 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 10:04 Containers Supplied: 1000mL Pastic (A) 1000mL Plastic (B) Sample ID: 2009494-09 Water Sampled: 09/28/2020 12:43 Sample Name: CCR-2 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 12:43 Sample Name: CCR-2 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Canter Supplied: 1000mL Plastic (A) 1000mL Plastic (B) Sample Name: CCR-4 Red'um, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020)00mL Plastic	: (B)				
Containers Supplied: Sample ID: 2009494-07 Water Sampled: Output: Radium, Total 226 & 228 by EPA 903.1 & 90 10/07/2020 10/26/2020 00:00 Containers Supplied: Sample ID: 2009494-08 Water Sampled: 09/26/2020 10:04 Sample Name: MW-12 Radium, Total 226 & 228 by EPA 903.1 & 90 10/07/2020 10/26/2020 10:04 Sample Name: MW-12 Radium, Total 226 & 228 by EPA 903.1 & 90 10/07/2020 10/26/2020 12:43 Sample Name: CCR-2 Radium, Total 226 & 228 by EPA 903.1 & 90 10/07/2020 10/26/2020 12:43 Sample Name: CCR-2 Radium, Total 226 & 228 by EPA 903.1 & 90 10/07/2020 10/26/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 90 10/07/2020 10/26/2020 13:33 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 90 10/07/2020 10/26/2020 13:33 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 90 10/07/2020 10/26/2020 14:42 Sample Name:	Sample ID: 2009494-06	Water	Sampled: 09,	28/2020 09:40	Sample Name:	Field Blank	
Sample ID: 2009494-07 Water Sampled: 09/28/2020 00:00 Sample Name: Duplicate Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 00:00 Containers Sample ID: 2009494-08 Water Sampled: 09/28/2020 10:04 Sample Name: MW-12 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 10:04 Containers Sample Name: CR-2 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 12:43 Sample Name: CR-2 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 12:43 Sample Name: CR-2 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 12:43 Sample Name: CR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample Name: CR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42	Radium, Total 226 & 228 by EP	A 903.1 & 9	C 10/07/2020	10/26/2020 09:	40		
Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 00:00 Containers Supplied: Sample ID: 2009494-08 Water Sampled: 09/28/2020 10:04 Sample Name: MW-12 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 10:04 Containers Supplied: 1000mL Plastic (A) 1000mL Plastic (B) Sample ID: 2009494-09 Water Sampled: 09/28/2020 12:43 Sample Name: CCR-2 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 12:43 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CC	Containers Supplied:						
Containers Supplied: Sample ID: 2009494-08 Water Sampled: 09/28/2020 10:04 Sample Name: MW-12 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 10:04 Containers Supplied: 1000mL Plastic (B) Sample ID: 2009494-09 Water Sampled: 09/28/2020 12:43 Sample Name: CCR-2 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 12:43 Containers Supplied: 1000mL Plastic (B) Sample ID: 2009494-10 Water Sampled: 09/28/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 1	Sample ID: 2009494-07	Water	Sampled: 09/	28/2020 00:00	Sample Name:	Duplicate	
Sample ID: 2009494-08 Water Sampled: 09/28/2020 10:04 Sample Name: MW-12 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 10:04 Containers Supplied: 1000mL Plastic (8) 3ample Name: CCR-2 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 12:43 Sample Name: CCR-2 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 12:43 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 <	Radium, Total 226 & 228 by EP	A 903.1 & 9	00 10/07/2020	10/26/2020 00:0	00		
Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 10:04 Containers Supplied: 1000mL Plastic (B) 1000mL Plastic (CR-2 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 12:43 Sample Name: CCR-2 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 12:43 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020<	Containers Supplied:						
Containers Supplied: 1000mL Plastic (8) iam: 16 ID: 2009494-09 Water Sampled: 09/28/2020 12:43 Sample Name: CCR-2 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 12:43 Containers Supplied: 1000mL Plastic (8) Sample ID: 2009494-10 Water Sampled: 09/28/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample ID: 2009494-10 Water Sampled: 09/28/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Containers Supplied: 1000mL Plastic (B) Sample ID: 2009494-11 Water Sampled: 09/28/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample ID: 2009494-11 Water Sampled: 09/28/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Mach Journal Plastic (A) 1000mL Plastic (B) Date Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Mach Journal Plastic (B) Date Date Sample ID: 2009494-12	Sample ID: 2009494-08	Water	Sampled: 09/	28/2020 10:04	Sample Name:	MW-12	
1000mL Plastic (A) 1000mL Plastic (B) Sample ID: 2009494-09 Water Sampled: 09/28/2020 12:43 Sample Name: CCR-2 Radkum, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 12:43 Containers Supplied: 1000mL Plastic (B) Sample ID: 2009494-10 Water Sampled: 09/28/2020 13:33 Sample Name: CCR-3 Radkum, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Containers Supplied: 1000mL Plastic (B) Sample ID: 2009494-11 Water Sampled: 09/28/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample ID: 2009494-11 Water Sampled: 09/28/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:42 Sample Name: CCR-5 Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Sample ID: 2009494-12 Water Sample ID: 2020^0 1/0.30 IV/0/1/2020 1/0.30	Radium, Total 226 & 228 by EP	4 903.1 & 9	10/07/2020	10/26/2020 10:0)4	· · ·	
Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 12:43 Contineners Supplied: 1000mL Plastic (A) 1000mL Plastic (B) Sample ID: 2009494-10 Water Sampled: 09/28/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Continuers Supplied: 1000mL Plastic (A) 1000mL Plastic (B) 1000mL Plastic (A) 1000mL Plastic (B) Sample ID: 2009494-11 Water Sampled: 09/28/2020 14:42 Sample Name: CCR-4 Refrance: Suppled: 10/07/2020 10/26/2020 14:42 Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:42 Sample Name: CCR-5 Mach Journ Plastic (A) 1000mL Plastic (B) Image: CCR-5 Image: CCR-5 Mach Journ Plastic (A) 1000mL Plastic (B) Image: CCR-5 Image: CCR-5 Mach Journ Plastic (B) Date Received By Date Image: Suppled: Image: CCR-5 Image: CCR-5 Image: CCR-5 Image: Suppled: Image: CCR-5 Image: CCR-	- ,	00mL Plastic	(B)				
Contribuers Supplied: 1000mL Plastic (B) Sample ID: 2009494-10 Water Sampled: 09/28/2020 13:33 Sample Name: CCR-3 Radian, Fotal 226 & 228 by EPA 903.1 & 90 10/07/2020 10/26/2020 13:33 Contribuers Supplied: 1000mL Plastic (B) Sample ID: 2009494-11 Water Sampled: 09/28/2020 14:42 Contribuers Supplied: 1000mL Plastic (B) Sample ID: 2009494-12 Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Mach Multiple ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Mach Multiple ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Mach Multiple ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Mach Multiple ID: 200001 Date Received By Date WS 10/02/20201 Hotal Received By Date	Sample ID: 2009494-09	Water	Sampled: 09/	28/2020 12:43	Sample Name:	CCR-2	
1000mL Plastic (A) 1000mL Plastic (B) Sample ID: 2009494-10 Water Sampled: 09/28/2020 13:33 Sample Name: CCR-3 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Continuers Supplied: 1000mL Plastic (B) Sample ID: 2009494-11 Water Sampled: 09/28/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-5 Mach Journel Plastic (A) 1000mL Plastic (B) Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Mach Journel Plastic (A) 1000mL Plastic (B) Date Received By Date Mach Journel Plastic (B) Date Received By Date Date Mach Journel Plastic (B) Date Received By Date Date Mach Journel Plastic (B) Date Received By Date	Radium, Total 226 & 228 by EP/	4 903.1 & 9	C 10/07/2020	10/26/2020 12:4	13		
Rad::::n, Fotal 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 13:33 Cont::::::::::::::::::::::::::::::::::::		00mL Plastic	(B)	• •			
Continuers Supplied: 1000mL Plastic (B) Sample ID: 2009494-11 Water Sampled: 09/28/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Sample Name: CCR-4 Contineers Supplied: 1000mL Plastic (B) 1000mL Plastic (B) I000mL Plastic (B) I000mL Plastic (B) I000mL Plastic (B) Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Mach John J I/0/01/2020 / 1/030 I/05 I/001/2020 / 1/030 Date Bier sed By Date Date Received By Date IPS I/0/02/2020 / Date Date Date Date IPS I/0/02/2020 / Date Date Date Date Date IPS I/0/02/2020 / Date Received By Date Date Date	Sample ID: 2009494-10	Water	Sampled: 09/	28/2020 13:33	Sample Name:	CCR-3	
1000mL Plastic (A) 1000mL Plastic (B) Sample ID: 2009494-11 Water Sampled: 09/28/2020 14:42 Sample Name: CCR-4 Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Contributers Supplied: 1000mL Plastic (B) 1000mL Plastic (CR-5 Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Mach Junch 10/01/2020 1/030 IVS 10/01/2020 1/030 Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Sample Name: CCR-5 Mach Junch 10/01/2020 1/030 IVS 10/01/2020 1/030 Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Sample Name: CCR-5 Mach Junch 10/01/2020 1/030 IVS 10/01/2020 1/030 Sample ID: 2009494-12 Date Received By Date Date Date IVS 10/12/2020 Date Received By Date Date ID: Sample ID: 2020 Date Received By Date Date ID: Sample ID: 2020 Date Received By Date Date<	Radion, Fotal 226 & 228 by EPA	4 903.1 & 9	C 10/07/2020	10/26/2020 13:3	3		· · · · · · · · · · · · · · · · · · ·
Rad'um, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:42 Containers Supplied: 1000mL Plastic (B) 1000mL Plastic (B) Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Much Journal 10/01/2020 / 1/030 IVS 10/01/2020 / 1/030 IVS 10/01/2020 / 1/030 Blee sed By Date Received By Date Date Io/Z1 zo IO? Blee sed By Date Received By Date Date Date Blee sed By Date Received By Date Date Date Blee sed By Date Received By Date Date Date Blee sed By Date Received By Date Date Date Blee sed By Date Received By Date Date Date Blee sed By Date Received By Date Date Date		00mL Plastic	(B)				
Continients Supplied: 1000ml Plastic (A) 1000mL Plastic (B) Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Much formula 10/01/2020 1/030 IVS 1/01/2020 1/030 Much formula 10/01/2020 1/030 IVS 1/01/2020 1/030 Much formula 10/01/2020 1/030 IVS 1/01/2020 1/030 Deleased By Date Received By Date Io/21 co 107 eleased By Date Received By Date Date Date eleased By Date Received By Date Date eleased By Date Received By Date Date Received By Date Date Date Received By Date Date	Sample ID: 2009494-11	Water	Sampled: 09/	28/2020 14:42	Sample Name:	CCR-4	
1000ml Plastic (A) 1000mL Plastic (B) Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5 Much Journal 10/01/2020 1630 IVS 10/01/2020 1630 Jobs 10/01/2020 1630 JVS 10/01/2020 1630 Jobs 10/01/2020 1630 Date Received By Date JVS 10/02/2020 1 Gate Received By Date JVS 10/02/2020 1 Gate IO/21 co IO/21 elected By Date Received By Date Date elected By Date Received By Date elected By Date Received By Date elected By Date Received By Date	Radium,Total 226 & 228 by EPA	¥ 903.1 & 9	C 10/07/2020	10/26/2020 14:4	2		
Imation Mail		00mL Plastic	(B)				
Bleased By Date Received By Date IVS 10/12/2020 1 Date Add Added 10/21 co 10% eleased By Date Received By Date	Sample (D: 2009494-12	Water	Sampled: 09/	28/2020 14:28	Sample Name:	CCR-5	
Bleased By Date Received By Date IVS 10/12/2020 Date Io/2120 10% eleased By Date Received By Date	Smah Jamah	10/01/20	200 1630		INS	10/01/20	20 1 1 430
elected By Date Received By Date elected By Date Received By Date elected By Date Received By Date	eleased By	1 100	Date		ived By		
elected By Date Received By Date	1125 10	102/202	g 1		AFT Par	1. 10/	zen 10:10
elesed By Date Date Date	elecsed By		Date	Rece		· · · · ·	
ele. sed By Date Date Date							
	elensed By		Date	Rece	ived By		Date
				<u></u>			
eleused isy Date Received By Date	eleursed By		Date	Rece	ived By		Date
Date Received by Date	eleused By		 Date	Rece	ived By		
			Part	NCCC	NGU Dy		Uale
				Page 2 of 3			Page 16 of Page 47 of



SUBCONTRACT ORDER (Continued)

Work Order: 2009494 (Continued)

i A N

Ë,

Reclum, 1-rd 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:28 Contriner: Supplied: 1000mL Plastic (B) 1000mL Plastic (B) 1000mL Plastic (C) Semand: Mark 10/61/2020 1/03.0 MPS 10/61/2020 1/03.0 MPS 10/61/2020 1/03.0 Semand: Mark 10/61/2020 1/03.0 Date MPS 10/61/2020 1/03.0 Date Bestand 11/y Date Received By Date Date Received By Date Received By Date Bestand 11/y Date Received By Date	An organi	Due	Expires	Comments		
Burnall Institution Supplied: Inste	Sample ID: 2009494-12 Water	Sampled: 09/2	8/2020 14:28	Sample Name:	CCR-5	
In ministry LOBORIL Prastic (B) Image: Stand	Radium, I otal 226 & 228 by EPA 903.1 &	9C 10/07/2020	10/26/2020 14:2	8		
Small Jameh 10/01/2020 7 1030 Shared 19 Date Received By	Containers Supplied:					
Amah Jameh 19/61/2020 7 1630 Behabad 19 Date Date Received By Date Belasad 19 Date Received By Date Belasad 19 Date Received By Date Belasad 19 Date Received By Date	1000mL Plast	ic (B)			·····	
Image: Second By 10/b1/2020/7 163.0 Image: Second By 16/b1/2020/7 16/b3.0 Image: Second By Date Received By Date						
Image: Second By 10/b1/2020/7 163.0 Image: Second By 16/b1/2020/7 16/b3.0 Image: Second By Date Received By Date						
Smah Jameh ^{10/b1/2020¹⁷/b30} UPS ^{10/b1/2020} 1630 Ekrased By Date Received By Date 10/2/20 10:10 elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elc	R					
Smah Jameh ^{10/b1/2020¹⁷/b30} UPS ^{10/b1/2020} 1630 Ekrased By Date Received By Date 10/2/20 10:10 elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elc						
Smah Jameh ^{10/b1/2020¹⁷/b30} UPS ^{10/b1/2020} 1630 Ekrased By Date Received By Date 10/2/20 10:10 elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elc						
Smah Jameh ^{10/b1/2020¹⁷/b30} UPS ^{10/b1/2020} 1630 Ekrased By Date Received By Date 10/2/20 10:10 elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elc						
Smah Jameh ^{10/b1/2020¹⁷/b30} UPS ^{10/b1/2020} 1630 Ekrased By Date Received By Date 10/2/20 10:10 elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elc						
Smah Jameh ^{10/b1/2020¹⁷/b30} UPS ^{10/b1/2020} 1630 Ekrased By Date Received By Date 10/2/20 10:10 elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elc						
Smah Jameh ^{10/b1/2020¹⁷/b30} UPS ^{10/b1/2020} 1630 Ekrased By Date Received By Date 10/2/20 10:10 elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elc						
Smah Jameh ^{10/b1/2020¹⁷/b30} UPS ^{10/b1/2020} 1630 Ekrased By Date Received By Date 10/2/20 10:10 elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elcased By Date Received By Date Elcased By Date Elc						
Image: Amage of the section of the						
Image: Amage of the section of the						
Smah Jomeh 10/01/2020'? /03.0 VPS 10/01/2020'? /03.0 Bate Date Received By Date VPS 10/02/2020' VPS 10/02/20 eleased 13y Date Received By Date	FC.					
Smah Jomeh 10/01/2020'? /03.0 VPS 10/01/2020'? /03.0 Bate Date Received By Date VPS 10/02/2020' VPS 10/02/20 eleased 13y Date Received By Date						
Amply Much 10/01/2020*7 163.0 MS 10/01/2020*7 163.0 eleased By Date Received By Date 10/2/20 10:10 eleased By Date Received By Date 10/2/20 10:10 eleased By Date Received By Date Date Date eleased By Date Received By Date Date eleased By Date Received By Date eleased By Date Received By Date eleased By Date Received By Date	10					
Amply Much 10/01/2020*7 163.0 MS 10/01/2020*7 163.0 eleased By Date Received By Date 10/2/20 10:10 eleased By Date Received By Date 10/2/20 10:10 eleased By Date Received By Date Date Date eleased By Date Received By Date Date eleased By Date Received By Date eleased By Date Received By Date eleased By Date Received By Date						
Amply Much 10/01/2020*7 163.0 MS 10/01/2020*7 163.0 eleased By Date Received By Date 10/2/20 10:10 eleased By Date Received By Date 10/2/20 10:10 eleased By Date Received By Date Date Date eleased By Date Received By Date Date eleased By Date Received By Date eleased By Date Received By Date eleased By Date Received By Date	N 7					
Amply Much 10/01/2020*7 163.0 MS 10/01/2020*7 163.0 eleased By Date Received By Date 10/2/20 10:10 eleased By Date Received By Date 10/2/20 10:10 eleased By Date Received By Date Date Date eleased By Date Received By Date Date eleased By Date Received By Date eleased By Date Received By Date eleased By Date Received By Date						
Amply Much 10/01/2020*7 163.0 MS 10/01/2020*7 163.0 eleased By Date Received By Date 10/2/20 10:10 eleased By Date Received By Date 10/2/20 10:10 eleased By Date Received By Date Date Date eleased By Date Received By Date Date eleased By Date Received By Date eleased By Date Received By Date eleased By Date Received By Date						
Amply Much 10/01/2020*7 163.0 MS 10/01/2020*7 163.0 eleased By Date Received By Date 10/2/20 10:10 eleased By Date Received By Date 10/2/20 10:10 eleased By Date Received By Date Date Date eleased By Date Received By Date Date eleased By Date Received By Date eleased By Date Received By Date eleased By Date Received By Date						
Mah Much 10/01/2020*7/03.0 MS 10/01/2020* 1030 Beleased By Date Received By Date Date IVS 10/02/2020* Date Received By Date Beleased By Date Received By Date	秋 一					
Mah Much 10/01/2020*7/03.0 MS 10/01/2020* 1030 Beleased By Date Received By Date Date IVS 10/02/2020* Date Received By Date Beleased By Date Received By Date	ά η					
eleased ByDateReceived ByDateeleased ByDateReceived ByDateeleased ByDateReceived ByDateeleased ByDateReceived ByDateeleased ByDateReceived ByDateeleased ByDateReceived ByDate		1/2001/2/11/2	\mathcal{A}	INC	1010,1000	A 4 20
eleased ByDateReceived ByDateeleased ByDateReceived ByDateeleased ByDateReceived ByDateeleased ByDateReceived ByDateeleased ByDateReceived ByDateeleased ByDateReceived ByDate	Belagerd By	1/2020 - 103		18-5	101/200	1630
eleased ByDateReceived ByDateeleased ByDateReceived ByDateeleased ByDateReceived ByDateeleased ByDateReceived ByDateeleased ByDateReceived ByDateeleased ByDateReceived ByDate	1000 10/10/00		Recei	/ed By	n	Date
Date Received By Date eloased By Date Received By Date eloased By Date Received By Date eloased By Date Received By Date eleased By Date Received By Date				the B	ha	10/2/20 10.00
eleased By Date Received By Date eleased By Date Received By Date	Released By	Date	Réceiv	red By		Date
eleased By Date Received By Date eleased By Date Received By Date	2eleoned Live					
eleased By Date Received By Date Date	ligeidaeda (⊳y	Date	Receiv	еа Ву		Date
eleased By Date Received By Date Date	Released By	Date	Receiv	ind By		
	3.	Date	IVECEIA	ou by		Date
	seleased By	Date	Receiv	red Bv		Date
Page 3 of 3				;		

			<u>W0#:201739</u>	320
Face Analytical St. Rose, LA 70087		on Upon Re Proje		.e: 10/26/20
Courier: Pace Courier Hired Cou	rier 🗆 Fed X 🍾		. 🗆 USPS 🗆 Customer	□ Other
Custody Seal on Cooler/Box Present:	[see COC]		Custody Seals intact:	Mes □No
Therometer□Therm Fisher IR 7Used:□Therm Fisher IR 10	Type of Ice:	Wet Blue Nor	Samples on ice: [see	→ COC]
Cooler Temperature: [see COC]	Temp should be above	freezing to 6°C	Date and Initials of person ex contents:	amining
Temp must be measured from Temperature blank w	hen present	Comments:		_
Temperature Blank Present"?		(1		
Chain of Custody Present:		2		
Chain of Custody Complete:		3		
Chain of Custody Relinquished:	Kes □No □N/A	4		
Sampler Name & Signature on COC:		5		
Samples Arrived within Hold Time:		6		
Sufficient Volume:	Yes DNO DN/A	7		
Correct Containers Used:	res ⊡No □N/A	8		
Filtered vol. Rec. for Diss. tests		9		
Sample Labels match COC:		10		
All containers received within manafacture's precautionary and/or expiration dates.		11		
All containers needing chemical preservation h been checked (except VOA, coliform, & O&G).		12		
All containers preservation checked found to b compliance with EPA recommendation.	e in □Yes □No	If No, wa 13 If added	s preserative added? □Yes □No record lot no.: HNO3 H2	
Headspace in VOA Vials (>6mm):		14		
Trip Blank Present:		15		<u></u> _
Client Notification/ Resolution: Person Contacted: Comments/ Resolution:			Date/Time:	
			· · · · · · · · · · · · · · · · · · ·	
	····			
			······································	
<u>_</u>				

j.

APPENDIX C

FIELD SAMPLING DATA

Monitor Well:	CCR-2	Well Diameter:4inches
Date: 3/3	26/2020	Water Column Height: 35,83 ft
Sampling Method:	Pumped	(Measured Well Depth - Static Water Level)
Measured Well Depth:	84.5 ft	TOC Elevation ⁽¹⁾ :542.50ft
Static Water Level:	48.67 ft	GW Elevation: 493.83 ft
(Depth to Water)	10.01	(TOC Elevation - Static Water Level)
Maximum Drawdown Depth	5 d. dS ft	Well Volume: 23,29 gal
(10% of WCH + SWL)	<u> </u>	(Water Column Height x Well Casing Volume Factor)

	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	ŖН	Conductivity (uS/cm)
Start Pump	3/26/20		9:01	2	18 3201				10-11
		4.0	9:17			122	19.1	7.38	175.6
			9:20 9:23			97.7 86.8	19.1	7.03	170.8
			9:26			8515	19.1	7.00	170.8
		6.0	9:29			87.7	19.0	6.86	172.0
		0.0	1.01				11.0	0.00	1100
			i						
			·)		
	1								

Sample Time: Sample Analyzed for: 9:19 am

.0

Appendix III (Boron, Calcium, Chloride, Fluoride, Sulfate, & TDS). pH measured in the field. Appendix IV (Arsenic,

Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228). FINAL DEOR 50,72 H

Total Drawdown (ft): Drawdown/Water Column (%):

Sampler Signature

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well Stabilization				
pH:	0.1 standard units			
conductivity:	within 3%			
temperature:	0.1 deg. C			
turbidity:	<5 NTU or 10%			

	Well Casing	Volumes (gal/ft)	
1* = 0.041	1 1/2 * = 0.10	2" = 0.16	2 1/2" = 0.24
3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46
8" = 2.61	10" = 4.08	12" = 5.87	

#REF!

HAD to pull blodder pump for montenace and return to call. This could be reason for higher turbidity.

Spople Tim: 9:29 am

Monitor Well:	CCR-	3	-		Well Diame	eter:	4	inches	
Date:	3/26/	20	-				28.02	ft	
Sampling Method:		Pumped	-			ll Depth - Static Wa	ter Level)		
Measured Well Dep	oth:	53	ft		TOC Elevat	tion ⁽¹⁾ :	504.78		
Static Water Level:		24.98	ft		GW Elevati	on:	479.8	ft	
(Depth to Water)						n - Static Water Lev	el)	-	
Maximum Drawdov	wn Depth	21.18	ft		Well Volum		18.21	gal	
(10% of WCH + SWL)	-	<u>27.78</u> 26.95	4		(Water Columr	n Height x Well Casi	ing Volume Fac	ctor)	
1		Volume		Elapsed	Water				
	Date	Purged	Time	Time	Level	Turbidity	Temp	pН	Conductivity
	1	(L)		(min)	(ft)	(NTU)	(C)		(uS/cm)
Start Pump	3/26/20		9:20			Construction of the second			
	1 1		9:40			12.96	19.4	6.12	566.9
			9:44			11.24	19.3	6:13	530.7
			9.48			9,11	19.2	5.91	535.9
			9.52			7.74	19,1	5.90	512.9
			956			6.70	19.1	586	501.4
		6.0	16:00		26.95	7.14	19.2	5.80	503.6
								[]	
Samula Timor		10	1:00						

Sample Time: Sample Analyzed for:

Appendix III (Boron, Calcium, Chloride, Fluoride, Sulfate, & TDS). pH measured in the field. Appendix IV (Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228).

Total Drawdown (ft): Drawdown/Water Column (%):

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well	Stabilization		Well Casing Volumes (gal/ft)							
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24					
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46					
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87						
turbidity:	<5 NTU or 10%									

20

9-

. 63

10

Monitor Well:	CCR-	4	e -		Well Diame	ter:	4	inches	
Date:	3/26	20			Water Colu	mn Height:	28,59	ft	
Sampling Method:		Pumped				II Depth - Static Wa			
Measured Well Dep		53	ft		TOC Elevat		505.68		
Static Water Level:		24.41	ft		GW Elevati	on:	481,27	_#	
(Depth to Water) Maximum Drawdow	un Donth	27.26	#		Well Volum		18.58	nal	
(10% of WCH + SWL)	wn Deptn		"			h Height x Well Casi			
(10% 01 WOIT - OTTE)		25.78				-	·		
		Volume		Elapsed	Water				
	Date	Purged	Time	Time	Level	Turbidity	Temp	рH	Conductivity
		(Ľ)	111.0	(min)	(ft)	(NTU)	(C)		(uS/cm)
Start Pump	3-262	0	14:05		and the second	200	010	1 01	201111
			1415			2:59	21.7	6,24	394.4
			1419			2.43	20.0	6.50	342, D
			1423			2:38	19.9	6,54	345.5
			1427		25.18	2.39	14.9	6.51	341.5
								-	
									· · · · · · · · · · · · · · · · · · ·
						-			
								a	
'			1430						
Sample Time:		•		Oblasida, Elua del	Culture 0 TD		the field Ar	ndiv IV/Arra	
Sample Analyzed for	or:	Barium Bendl	ium Cadmium	Chromium Cohe	t. Fluoride Lear	 pH measured in Lithium, Molybdei 	une neiu. Appe 1um. Selenium	& Radium 2	26/228).
Total Prawdown (fi	AAA	Canoni, Deryi	ian, oaumum,	371	A, / NOTING, LOOK	2,, woybuch	any evenant	,	
Drawdown/Water C				7910					

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well Stabilization		Well Casing Volumes (gal/ft)						
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24			
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46			
emperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87				
turbidity:	<5 NTU or 10%	1						

Monitor Well:	CCR	-5			Well Diame	eter:	4	inches	
Date:	3/25/	20			Water Colu	ımn Height: 🛛	20, <u>28</u>	-ft	
Sampling Method:		Pumped			(Measured We	ell Depth - Static Wat	ter Level)	-	
Measured Well De		the second se	ft		TOC Elevat	tion ⁽¹⁾ :	470.46	ft	
Static Water Level		6.53	ft		GW Elevati	ion:	463.93	ft	
(Depth to Water)					(TOC Elevation	n - Static Water Leve	el)	•	
Maximum Drawdov	wn Depth	9.33	ft		Well Volum		18.21	gal	
(10% of WCH + SWL)		7.04			(Water Colum	n Height x Well Casi	ng Volume Fac	tor)	
		Volume		Elapsed	Water				
	Date	Purged (L)	Time	Time (min)	Levei (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
Start Pump	3/25		931				1.00		11. (
		5.5	959			448	11.5	5.72	1664
			10 03			430	175	5.70	(675
		1 44	10.07		# ~ //	427	17,5	569	1677
		6.75	10 1		7.04	439	17.5	570	7681
				/					
							-		
		-		10	TE	Sample	Tim	0	
						Junit		C	
	-								
		-							
	r					· · · · · · · · · · · · · · · · · · ·			
	1								
		1							
		1							
		1							

Sample Time: Sample Analyzed for:

1015

Appendix III (Boron, Calcium, Chloride, Fluoride, Sulfate, & TDS). pH measured in the field. Appendix IV (Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228).

Very Colora 2 Water (i.e., Relformese)

Total Drawdown (ft): Drawdown/Water Column (%):

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well Stabilization			Well Casing Volumes (gal/ft)							
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24					
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46					
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87						
turbidity:	<5 NTU or 10%									

Monitor Well:	MW	7	<		Well Diame	eter:	4	inches	
Date:	3/25	5/20	0		Watan Calu		26,94	4	
Sampling Method:		Pumped			(Measured We	I mn Height: Il Depth - Static Wa	ter Level)		
Measured Well Dep	oth:		ft		TOC Elevat		571.76	ft	
Static Water Level:		29.98	ft		GW Elevati		541.73	ft	
(Depth to Water)						n - Static Water Lev	el)	-	
Maximum Drawdov	vn Depth	32.61	ft		Well Volum	1e: n Height x Well Casi	17, SI	gal	
(10% of WCH + SWL)		31.39				Theight X Wen Case	ng volume rat		
l		Volume		Elapsed	Water				
	Date	Purged (L)	Time	Time (min)	Level (ft)	Turbidity (NTU)	Temp (C)	pH	Conductivity (uS/cm)
Start Pump	3/25		1200				1.1.1.1.1.1.1.1	a	
	1 -		1221			1,46	11.0	6.58	3010
			1225		0100	1.22	18.0	6.56	297.8
		5,75	1229		31.39	1.34	18.0	6.55	295.1
		1			-				
		-							
						· · · · · · · · · · · · · · · · · · ·			
		17-	25						
Sample Time: Sample Analyzed for	05	Appendix III /	J Coloium	Chlorido, Eluoria	- Sulfato 8 TD	S). pH measured in	the field Anna	ndiv N/ (Aree)	aic
Sample Analyzeu I						d, Lithium, Molybde			
Total Drawdown (f	n Ac		(2.5	1,41				,
Drawdown/Water	olumn (%):		5	.23%	(C)	e e			

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well Stabilization			Well Casing Volumes (gal/ft)						
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2				
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" =				
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87					
turbidity:	<5 NTU or 10%	Na							

Monitor Well:	MW-9	We
Date:	3/26/20	
	1	Wa
Sampling Method:	Pumped	(Me
Measured Well Depth:	21.74 ft	то
Static Water Level:	7.5/ ft	GW
(Depth to Water)	200	(TO
Maximum Drawdown I	Depth 0,73 ft	We

Well Diameter:	4	inches
Water Column Height: (Measured Well Depth - Static Wat	14.23 ter Level)	ft
TOC Elevation ⁽¹⁾ :	480.04	
GW Elevation:	472.53	³ ft
(TOC Elevation - Static Water Leve	el)	
Well Volume:	9.25	gal
(Water Column Height x Well Casi	ng Volume Fac	tor)

Start Pump

(10% of WCH + SWL)

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
3/26/20		13:12		EL DE F		1.00		
. /	2.25	13:22			3.76	21.2	4.18	1786
		13:25			1.9	19.9	4.01	1833
	1.1.001	13:28			2,30	19.6	3.57	1829
	4.75	13:31			4.39	20:0	3,96	1830
								2

Sample Time: Sample Analyzed for:

Appendix III (Boron, Calcium, Chloride, Fluoride, Sulfate, & TDS). pH measured in the field. Appendix IV (Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228).

> Sample Tine: 13:34 Finne Dephi: 8.38/1

Total Drawdown (ft):

Drawdown/Water Column (%):

1917

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft. If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well Stabilization		Well Casing Volumes	(gal/ft)		
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	
turbidity:	<5 NTU or 10%				

0,5

Monitor Well:	MW-12	Well Diameter: 4	inc
Date: 3	126/20	Water Column Height: 15,4	ft
Sampling Method:	Pumped	(Measured Well Depth - Static Water Level)	4: "
Measured Well Depth:	19.09 ft	TOC Elevation ⁽¹⁾ :474.19	ft
Static Water Level: (Depth to Water)	<u>3.69</u> ft	GW Elevation: 470.55 (TOC Elevation - Static Water Level)	ft
Maximum Drawdown Dep (10% of WCH + SWL)	th <u>5.23</u> ft	Well Volume: [/b.o] (Water Column Height x Well Casing Volume Fac	_ga

Volume Elapsed Water Date Purged Time Time Level Turbidity Temp pН Conductivity (NTU) (uS/cm) (min) (ft) (C) (L) Start Pump 11:53 3/26/20 12:02 '48 19.2 5.97 521.4 2,0 6.01 12:05 126 17.4 523.2 516.4 41 7. 3 6102 12:08 31 6.05 17.2 518. 12:11 4, 26 12:44 v 5.93 520,

Sample Time: Sample Analyzed for:

18 1 12

Appendix III (Boron, Calcium, Chloride, Fluoride, Sulfate, & TDS). pH measured in the field. Appendix IV (Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228).

Total Drawdown (ft): Drawdown/Water Column (%):

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft. If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well Stabilization		Well Casing Volumes (gal/ft)				
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.2	
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46	
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87		
turbidity:	<5 NTU or 10%					

#REF!

Sough Tin: 12:18 Fond Darth ! 4.8961

inches

<u>(0,0)</u>gal

5 11

Monitor Well:	MW	-13			Well Diame	eter:	4	inches	
Date: Sampling Method: Measured Well De Static Water Level (Depth to Water) Maximum Drawdou (10% of WCH + SWL)	pth: :	<u>Pumped</u> 106 <u>58.88</u> <u>63.60</u> 59.83 -			(Measured We TOC Elevat GW Elevatio (TOC Elevatio Well Volum	ell Depth - Static Wa tion ⁽¹⁾ : ion: n - Static Water Lev	584.48 <u>\$2\$,(</u> 'el) 30,62	ft ft Vgal	
	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
Start Pump		6.0	\$:30 \$:50 \$:50 \$:54 9:52 9:02		59.83	0.49 0.27 0.30 0.10	18.4 18.9 18.3 18.2		225.4 227.3 229.5 220.1
Sample Time: Sample Analyzed f	or:	Appendix III (B	loron, Calcium,	Chloride, Fluoride	, Sulfate, & TDS	6). pH measured in t	the field. Apper	ıdix IV (Arsen	С,

Total Drawdown (ft): /

Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228). .95' \cap

Drawdown/Water Column (%): ¢. LЛ.

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Weli	Stabilization		Well Casing Volumes (gal/ft)				
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24		
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46		
temperature:	0.1 deg. C	8* = 2.61	10" = 4.08	12" = 5.87			
turbidity:	<5 NTU or 10%						

Monitor Well:	MW-	14			Well Diame	eter:	4	inches	
Date:	3/25/	120	-		Water Colu	ımn Height:	33.07	ft	
Sampling Method:		Pumped	_		(Measured We	ell Depth - Static Wa	iter Level)	-	
Measured Well Dep	th:	60.97	ft		TOC Elevat	tion ⁽¹⁾ :	593.84	ft	
Static Water Level:		27.90	ft		GW Elevati			ft	
(Depth to Water)		5/25				n - Static Water Lev	/el)		
Maximum Drawdov (10% of WCH + SWL)	vn Depth	3/20			Well Volum (Water Column	ne: n Height x Well Cas	ing Volume Fa	_gal ctor)	
(10% 01 WCH + SVVL)		29.31			(11010) 0000111			,	
[Volume	1	Elapsed	Water				
	Date	Purged	Time	Time (min)	Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
01.15	2/20	(Ľ)	1040	(11111)	(11)	(110)	(0)		(uoreni)
Start Pump	210	the state of the state	1101			0.15	701	5:04	1491
	· /		1105			0114	19.7	HAS	1195
ŀ			109			0120	19.8	4.99	115.7
		6,5	1112		29.39	0.23	19.7	4,89	116 3
		412				VI E	1111		
	(
	l								
						·			
		r	INC						
Sample Time:			1.16						
Sample Analyzed for	or:					S). pH measured in			
	Sec. 2	Barium, Beryl	lium, Cadmium,	Chromium, Coba	lt, Fluoride, Lea	d, Lithium, Molybde	num, Selenium	, & Radium 22	26/228).

Total Drawdown (ft): .49 Drawdown/Water Column 4 5 D

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft. If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Wel	Stabilization		Well Casing Volumes (gal/ft)				
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" =		
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.4		
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87			
turbidity:	<5 NTU or 10%						

Monitor Well: MW-1	5	Well Diameter:4	inches
Date: <u>3/26</u>	120	Water Column Height: 1/A	ft
Sampling Method:	Pumped	(Measured Well Depth - Static Water Level)	
Measured Well Depth:	22.74 ft	TOC Elevation ⁽¹⁾ :	ft
Static Water Level:	<u>//A</u> ft	GW Elevation: <u>NA</u>	ft
(Depth to Water)	111	(TOC Elevation - Static Water Level)	
Maximum Drawdown Depth	NA ft	Well Volume: NH	gal
(10% of WCH + SWL)		(Water Column Height x Well Casing Volume Fact	or)

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рH	Conductivity (uS/cm)
3/26/20	2				tisatuc.u	Zinflugi	-	2.671,81,3
$\overline{}$								
/		4						
	-	CIT						
		N/s	1					
		X	Q _a					
		-	947.9	~ 1				
			57.	Red				
	-			\sim				
					/			
	_							
						$\overline{\ }$		
							~	
	-				_			

Sample Time: Sample Analyzed for:

Appendix III (Boron, Calcium, Chloride, Fluoride, Sulfate, & TDS). pH measured in the field. Appendix IV (Arsenic, Barium, Bervilium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228).

Total Drawdown (ft); Drawdown/Water Column (%): IA.

_ MA	ter Column (%):		//	There appears Subsidirma	puzzt wh	Ve around
Sampler Signa	(ure:			000001010		
	wdown will not exceed 0.33 ft. ds 10% of water column heigh	t, flow will be stopped and well :		low MWIS MO Icl/Cysing 45	it is for	i of soil
Well	Stabilization		Well Cas	ing Volumes (gal/ft)		0.1
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24	-C/2
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46	Below
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87		Below
turbidity:	<5 NTU or 10%					TOC.

#REF!

Monitor Well:	MW-1	7			Well Diame	eter:	4	inches	
Date:	3/26/	20	-		Water Colu	umn Height: ell Depth - Static Wa	14.74	F ft	
Sampling Method		Pumped	-						
Measured Well De	pth:		ft		TOC Eleva		483.85		
Static Water Level	l:	4.01	ft		GW Elevati	ion:	479.8	ft	
(Depth to Water)					(TOC Elevatio	ion: n - Static Water Lev ne:	^{rel)} 9.58		
Maximum Drawdo	wn Depth	5,47	ft		tron roran	10.		gal	
(10% of WCH + SWL)		5.22	\checkmark		(Water Colum	n Height x Well Cas	ing Volume Fa	ctor)	
		Volume		Elapsed	Water		1	T	
	Date	Purged (L)	Time	Time (min)	Levei (ft)	Turbidity (NTU)	Temp (C)	рH	Conductivity (uS/cm)
Start Pump	3/26/20		1141	1.1 112	1224			111111	
-			1201			61.4	201	6.14	535.6
			1205			52 6	18.9	6.35	534.3
	-		1209			44.8	18.8	6.30	459.1
			1213			44.6	18.9	6.24	451.1
		7.0	1211		5.22	423	19.0	6.25	446.2
	-								
		J							

Sample Time: Sample Analyzed for:

Appendix III (Boron, Calcium, Chloride, Fluoride, Sulfate, & TDS). pH measured in the field. Appendix IV (Arsenic,

Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228).

Total Drawdown (ft): Drawdown/Water Column (%):

Z % 8 . >

1

the Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft. If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well	Stabilization		Well Casing Volumes (gal/ft)				
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" =		
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46		
emperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87			
turbidity:	<5 NTU or 10%						

Well Diameter

Monitor Well:	OW-2
Date:	3/26/20
Sampling Method:	Pumped
Measured Well Depth:	27.05 ft
Static Water Level:	9.92 ft
(Depth to Water)	1112
Maximum Drawdown De	pth <u>[[-[0</u>]ft
(10% of WCH + SWL)	

ŀ

Water Column Height: (Measured Well Depth - Static W	11.13 ater Level) ft
TOC Elevation ⁽¹⁾ :	ft
GW Elevation:	479,48ft
(TOC Elevation - Static Water Le	vel)
Well Volume:	(1,13 gal
(Water Column Height x Well Ca	sing Volume Factor)

Λ

inches

(....,

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
3/26/20		11:03	VIII S MET	- 12 - Up		1 <u>6</u> 11 18		
2013 X 1	2,0	11:12			2.07	20.0	6.00	496.5
		11:15			2.07	18.8	602	492.2
	3,75	11:18			0.05	18.7	5.91 5.94	484.0
	2112	11:2			0.05	1101	3.74	703,3
					·			
	-				·			

Sample Time: Sample Analyzed for: 11:2

0

Appendix III (Boron, Calcium, Chloride, Fluoride, Sulfate, & TDS). pH measured in the field. Appendix IV (Arsenic, Barium, Beryliium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228).

Total Drawdown (ft):

Drawdown/Water Column (%):

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft. If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well	Stabilization		Well Casing	Volumes (gal/ft)	
pH: 0.1 standard units		1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.2
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	
turbidity:	<5 NTU or 10%				

Finise Depth: 10,99 ft Spuple Times 11:25

Element I

101-4---

÷

Monitor Well: CC	R-2	Well Diameter:4inches
Date: <u>5-/8-</u>	20	Water Column Height: <u>36.35</u> ft
Sampling Method:	Pumped	(Measured Well Depth - Static Water Level)
Measured Well Depth:	84.5 ft	TOC Elevation: 542.50 ft
Static Water Level: (Depth to Water) Maximum Drawdown Depth (10% of WCH + SWL)	<u>48.15</u> ft <u>57. 79</u> ft	GW Elevation: 441.75 ft (TOC Elevation - Static Water Level) 3.63 gal Well Volume: 3.63 gal (Water Column Height x Well Casing Volume Factor)

	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	pН	Conductivity (uS/cm)
Start Pump	5/16/20		13:40		Distant,				
	/ .	2,25	13:50			1.76	20.8	6.55	192.0
			13:53			1.91	20.2	6.64	176.6
			13:56			1.80		6.71	172.3
		3.5	13:59		49,61	2.12	19.9	6.70	172.5
								Į	
								L	
d			1.1						

Sample Time: Sample Analyzed for: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium,

Total Drawdown (ft):

Drawdown/Water Column (%);

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Thallium, Radium 226/228

4

0

Wel	Stabilization		Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6"
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	
turbidity:	<5 NTU or 10%	1.920			

V

Finn Dgot : 49.61

	R-3	Well Diameter: 4 inches
Date:	8-20	Water Column Height: 27.65 ft
Sampling Method:	Pumped	(Measured Well Depth - Static Water Level)
Measured Well Depth:	53 ft	TOC Elevation: 504.78 ft
Static Water Level: (Depth to Water) Maximum Drawdown Depth (10% of WCH + SWL)	<u>25,35</u> tt <u>28,12</u> tt	GW Elevation: 477,25 ft (TOC Elevation - Static Water Level) Well Volume: 17,97 gal (Water Column Height x Well Casing Volume Factor)

Start	Pump
-------	------

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	pН	Conductivity (uS/cm)
5/16/20		14:26			212	NE	1 21	(12 0
1	2.5	14:25			2,62	21.5	6.21	533.3
		14:42			2,10 3,04	20.5	6.16	520.0
	-	14:45			0,98	19.7	6.21	576.4
	3.15	14:48		26.72	1.34	19.8	6,22	576.4 518.4
	211	17.10		201		1.11.9		
			_					

Sample Time: Sample Analyzed for: 14:51

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226/228

Total Drawdown (ft): Drawdown/Water Column (%):

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft. If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Wel	Stabilization		Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" =
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	
turbidity:	<5 NTU or 10%	71			

Find Det: 26.72

Monitor Well:	CCR-	4	Well Diameter:	4	inches
Date:	5-18-2	20	Water Column Height:	28.1	ft
Sampling Method:		Pumped	(Measured Well Depth - Static Wa	ter Level)	
Measured Well Dep	oth:	ft	TOC Elevation:	505.68	ft
Static Water Level: (Depth to Water) Maximum Drawdow (10% of WCH + SWL)	-	<u>27,71</u> ft 27, <u>71</u> ft	t GW Elevation: (TOC Elevation - Static Water Lev Well Volume: (Water Column Height x Well Cas	18.27	_ft _gal tor)

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
5/18/20		15:21	kon élyett					
<u>8</u> . 0	2.0	15:31			15.49	22.4	6.40	340.8
		15:34		<u> </u>	16.33	20,3	6.55	332:7
	+	15:37			10.30	19.7	6.57	325.0
		15:40			28.0	19,6	6.45	328.6
	4.25	15.46		26.09	23.4	19.5	6.58	329,1
	7.005	12-74		20.01	0317	11.2	2.3 0	50.11
	-							
	-							
				<u> </u>				
	-							

Sample Time: Sample Analyzed for: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226/228

Total Drawdown (ft):

Sampler Signature:

Drawdown/Water Column (%):

4, 3 9 2

19

Finne 26.091 Death: 26.091

If possible, total drawdown will not exceed 0.33 %

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well	Stabilization		Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	
onductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	
temperature:	,0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	
turbidity:	<5 NTU or 10%				

CCR-5 Well Diameter: **Monitor Well:** inches Ц 5-18-20 Date: HA KAS Water Column Height: (Measured Well Depth - Static Water Level) **Sampling Method:** Pumped 470.46 ft Measured Well Depth: 34.55 **TOC Elevation:** ft 463.05 ft Static Water Level: L ft GW Elevation: (TOC Elevation - Static Water Level) (Depth to Water) Maximum Drawdown Depth Well Volume: gal (Water Column Height x Well Casing Volume Factor) (10% of WCH + SWL)

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conduct (uS/cm
5-18-20		125						
	8	1210			162	20.0	5,63	7.90
		1214			1.58	20,1	5,76	801,
		1218		_	146		5,77	812,
	10	1222		9,97	137	20,1	5.8	807.3

Sample Time: Sample Analyzed for:

Sampler Signature:

12.30

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226/228

Total Drawdown (ft):/ Drawdown Water Column (%):

* Pump off@ 1150 Pump on e 1210 Find Depth 9.97

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well	Stabilization		Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	
turbidity:	<5 NTU or 10%				

2.56

9.43

10

Monitor Well:	MW-7		Well	Diameter:	4	inches
Date:	5-18-2	0		er Column Height:	23.87	ft
Sampling Method:		Pumped	,	sured Well Depth - Static Wate		
Measured Well Dep	oth:		TOC	Elevation:	571.76	ft
Static Water Level:		33,05 ft	GW	Elevation:	538.71	ft
(Depth to Water)	-		(TOC	Elevation - Static Water Leve	=) = 62	
Maximum Drawdov (10% of WCH + SWL)	wn Depth	35.44 ft	-	I Volume: er Column Height x Well Casir	15.52 ng Volume Fac	gal tor)

Volume Elapsed Water Conductivity рΗ Turbidity Temp Purged Time Time Level Date (uS/cm) (NTU) (C) (min) (ft) (Ľ) 310 5-18-20 Start Pump 6.69374-4 20.4 20.0 19.9 39 3.0 335 331.4 ,79 .69 1339 6 2 .,01 374.6 1743 59 2 6. 2,47 19.9 6.64 33 37.98 746 5

Sample Time: Sample Analyzed for:

1350

0.93

39/2

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226/228

Total Drawdown (ft): Drawdown/Water Column (%):

MS U

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well	Stabilization		Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	
turbidity:	<5 NTU or 10%				

Monitor Well:	MW-9	Well Diam	eter:4	inches
Date:	8/20		umn Height: 12.93	ft
Sampling Method:	Pumped	(Measured W	ell Depth - Static Water Level)	
Measured Well Depth:	21.74	TOC Eleva	ation:	ft
Static Water Level: (Depth to Water) Maximum Drawdown Depth (10% of WCH + SWL)	<u> </u>	Well Volu	on - Static Water Level)	ft gal
		(

Start	Pump
-------	------

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
5/18/20	2.0	12:39 12:48			1.48	20.3	4.63	1659.0
	CIO	12:51			0.78	19.7	4.45	1105
	3.25	12:54		9.49	0.67	19.3 19.2	4,42	1713
							+	

Sample Time: Sample Analyzed for:

13:00

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226/228

5,26%

Total Drawdown (ft):

Drawdown/Water Column

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft. If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Vell Stabilization		Well Casing Volumes	(gal/ft)		
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	
turbidity:	<5 NTU or 10%				

0.68

Fina Depth: 9.49

Monitor Well:	MW-12	Well Diameter:	inches
Date: 5/1	18/20	Water Column Height:	13,78 ft
Sampling Method:	Pumped	(Measured Well Depth - Static Wa	iter Level)
Measured Well Depth:	19.09 ft	TOC Elevation:	474.19 ft
Static Water Level: (Depth to Water)	<u>573/</u> ft	GW Elevation: (TOC Elevation - Static Water Lev	<u>468.8</u> ft
Maximum Drawdown Depth (10% of WCH + SWL)	<u>6,69</u> ft	Well Volume: (Water Column Height x Well Cas	gal ing Volume Factor)

Start	Pum	p
-------	-----	---

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
5/18/20		10:14				181		151 4
	2.0	10:25			24.6	18.0	6.05	48/02
		10:29			39.3	17.7	5.90	493.5
		10:35			8,79	17.5	5.90	492,2
	4.0	10:38		6.3	4.54	Mis	5.87	496.5
					· ·			
· · · · · · · · · · · · · · · · · · ·								
							1	
					-			

Sample Time: Sample Analyzed for:

2 10:4

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226/228 0.996

Total Drawdown (ft):

Drawdown/Water Column (%): Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft. If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well	Stabilization		Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" =
conductivity:	within 3%	3" = 0.37	3 1/2* = 0.50	4" = 0.65	6" = 1.46
emperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	
turbidity:	<5 NTU or 10%				

.2%

FINAL Depthile.3 ft

Monitor Well:	MW-13	Well Diameter:	4	inches
Date: $S - l$	8-20	Water Column Height: (Measured Well Depth - Static Wat	48	_ft
Sampling Method: Measured Well Depth:	Pumped 106 ft	TOC Elevation:	584.48	ft
Static Water Level: (Depth to Water)	<u>\$8.00</u> ft		526,48	_ft
Maximum Drawdown Depth (10% of WCH + SWL)	62.30 ft	Well Volume: (Water Column Height x Well Casir	3 I. Z 1g Volume Fac	_gal ctor)

Start Pu

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	pН	Conductivity (uS/cm)
5/18		10:15			920	iac	(2)	200 -
		1. 2			201		6.41	288.5
					3,62	19.6		226.5
		1042			3.47		6.51	219.0
	101	1045		59,52	3.33	19.6	5.52	217.8
					·			1
· · · · · · · · ·								
	_							
		Date Purged (L)	Date Purged (L) Time 5/18 10:15 10:20 10:20 10:30 10:32 10:38 10:42	Date Purged (L) Time (min) 5/18 /0:15 1030 1034 1038 1038 1038	Date Purged (L) Time (min) Time (ft) 5/18 10:15 10:15 10:20 10:14 10:14 10:38 10:42 10:42	Date Purged (L) Time (min) Time (ft) Turbidity (NTU) 5/18 10:15 3.20 10:14 3.01 3.62 10:42 3.147	Date Purged (L) Time (min) Time (ft) Level (NTU) Turbidity (NTU) Temp (C) 5/18 /0:15 3.20 19.5 10.74 3.01 19.5 10.38 3.62 19.6	DatePurged (L)Time Time (min)Level (ft)Turbidity (NTU)Temp (C)pH $5/18$ $0:15$ 3.20 $9.56.21$ 1030 3.20 $9.56.21$ 1034 3.62 $9.56.33$ 1038 3.62 $9.66.49$ 1042 3.47 $19.66.51$

Sample Time 10:50

3.17%

Sample Time: Sample Analyzed for:

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226/228 1.52

Total Prawdown (ft): Drawdown/Water Column (%): WA

Finl Black tallin @ MW13

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well	Stabilization		Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" =
onductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.4
emperature:	0.1 deg. C	8 [#] = 2.61	10" = 4.08	12" = 5.87	
turbidity:	<5 NTU or 10%				

		ono	OTAN OLI							
Monitor Well:	MW-1		2		Well Diame	eter:	4	inches		
Date:	5-18-20			Water Column Height: 32,72ft						
Sampling Method:	1	Pumped	_			ell Depth - Static Wa	iter Level)			
Measured Well De	pth:	60.97	ft		TOC Elevat	tion ⁽¹⁾ :	593.84	ft		
Static Water Level	:	28.25	ft		GW Elevati	ion:	565.59	ft		
(Depth to Water) Maximum Drawdo (10% of WCH + SWL)	wn Depth	COOR 31-	52_ _ft		Well Volum	n - Static Water Lev n e: n Height x Well Cas	Z[.27	gal		
	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)	
Start Pump	5-18-20		1430							
			450			1,20	210	4.51	138.2	
			1454			2.02	210	4.48	136.7	
		5.01	458		29.45	1.10	21.0	9,41	135.2	
		С 1								
									· · · · · · · · · · · · · · · · · · ·	
		L								
		·								

Sample Time: Sample Analyzed for: 1500

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226/228

Total Drawdown (ft):

Sampler Signa	ter Column (%):	t, flow will be stopped and well a	allowed to recover. Fr 4 D	Dupt +1 #29.45	Kine MW14
Well	Stabilization		Well Casing	g Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4* = 0.65	6" = 1.46
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12* = 5.87	
turbidity:	<5 NTU or 10%	1-			

Monitor Well:

Date:

MW-17 20

Pumped

18.75

2

ft

ft

Sampling Method:	
Measured Well Depth:	
Static Water Level:	
(Depth to Water)	
Maximum Drawdown Depth	
(10% of WCH + SWL)	

Well Diameter:	4	inches
Water Column Height: (Measured Well Depth - Static V	15.59 Vater Level)	ft
TOC Elevation:	483.85	_ft
GW Elevation: (TOC Elevation - Static Water Lo	480 64 evel)	ft
Well Volume: (Water Column Height x Well Ca	asing Volume Fa	_gal actor)

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
5/18/20		11:11	No. of Lot			CONTRACT.		
7. 7	2.0	11:20			476	20.9	6.43	6/1.3
		11:23			481	MIG	6.49	627.8
		11:26			133	19.8	6.49	626.6
		11:25			52.9	1111	652	622.4
		11:32			301	19.9	653	626.6
	1011	11:35		.7 .7	210	19.9	4.55	628.0
	5.5	11:78		3.3	30.5	20.0	601	667.1
						-		
						1		
						-		

Sample Time: Sample Analyzed for:

11:41

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226/228

Total Drawdown (ft): Drawdown/Water Column (%):

5 Sampler Signature:

pH: conductivity:

temperature:

turbidity:

Well Stabilization

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water coldmn height, flow will be stopped and well allowed to recover.

bilization		Well Casing	Volumes (gal/ft)	
0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24
within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46
0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	
<5 NTU or 10%	0 - 2.01	10 - 4.00		

0,04 0

Final Depthi 3.307+

Monitor Well:

Sampling Method:

Static Water Level:

(10% of WCH + SWL)

(Depth to Water)

Measured Well Depth:

Date:

OW-2 20

Pumped 27.05 10.04 Maximum Drawdown Depth

ft

ft

Well Diameter:	4	inches
Water Column Height: (Measured Well Depth - Static Wa	17.01 ater Level)	_ft
TOC Elevation:	489.40	ft
GW Elevation:	479.31	_ft
(TOC Elevation - Static Water Levent	vel)	
Well Volume:	11,06	gal
(Water Column Height x Well Cas	sing Volume Fa	ctor)

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
5/18/20		12:02						0/1
	2,5	12:10			1.14	20.7	5.83	506.1
		12:13			0.14 0.36	19.9	5189	485.2
	4,0	12:14		11.31	0.51	18.5	5.76	481.3
	710	1-71		1112	0,01	11.0	2010	70113
					·			

Sample Time: Sample Analyzed for:

12:22

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226/228

Total Drawdown (ft): Drawdown/Water Column (%):

0 Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well Stabilization		Well Casing Volumes (gal/ft)				
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24	
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46	
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87		
turbidity:	<5 NTU or 10%					

2

2 47

Final Depth: 11.31

Monitor Well: CC	R-2	Well Diameter:4 inches
Date: <u>9/28</u>	3/20	Water Column Height: 35.95 ft
Sampling Method:	Pumped	(Measured Well Depth - Static Water Level)
Measured Well Depth:	84.5 ft	TOC Elevation ⁽¹⁾ :542.50 ft
Static Water Level: (Depth to Water)	48.55 ft	GW Elevation: 493.95 ft (TOC Elevation - Static Water Level) 72 27
Maximum Drawdown Depth	52.15 ft	Well Volume: 23.37 gal
(10% of WCH + SWL)		(Water Column Height x Well Casing Volume Factor)
	Volume	Elapsed Water

Start Pum

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
9/28/20	al a second	12:12						1
	2.5	12:24			7.22	19.2	6.49	206.5
	1	12:27			0.90	18.9	6.56	124.3
		12:36			0.66	19.0	6.68	93.7
	5:0	12:33		50.39	1.95	19,1	6:62	191.8

Sample Time: Sample Analyzed for:

2:4 3

8

<

Appendix III (Boron, Calcium, Chloride, Fluoride, Sulfate, & TDS). pH measured in the field. Appendix IV (Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228).

Total Drawdown (ft):

Drawdown/Water Column (%):

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well Stabilization					
pH:	0.1 standard units				
conductivity:	within 3%				
temperature:	0.1 deg. C				
turbidity:	<5 NTU or 10%				

Well Casing Volumes (gal/ft) 2 1/2" = 0.24 1" = 0.041 1 1/2 " = 0.10 2" = 0.16 3 1/2" = 0.50 4" = 0.65 6* = 1.46 3" = 0.37 10" = 4.08 12" = 5.87 8" = 2.61

Firm Dorth: 50.38 ft

Monitor Well: CCF	२-३	Well Diameter:	inches
Date: <u>9/28/20</u>	>	Water Column Height:	<u>26.22</u> ft
Sampling Method:	Pumped	(Measured Well Depth - Static Wa	ater Level)
Measured Well Depth:	53 ft	TOC Elevation ⁽¹⁾ :	504.78 ft
Static Water Level: (Depth to Water)	<u>26.78</u> ft	GW Elevation: (TOC Elevation - Static Water Lev	<u>478</u> ft vel)
Maximum Drawdown Depth (10% of WCH + SWL)	<u>29,40</u> ft	Well Volume: (Water Column Height x Well Cas	<u>17.04</u> gal sing Volume Factor)

Start	Pump	

	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
)	9/28/20		13:07						
		2.75	13:18			13.13	18.9	6.45	377.7
		1	13:21			4,40	18.9	6.47	379.4
			13:24			20.7	18.7	6.52	377.5
		1	13:27			7.40	18.7	6.46	377.3
		5.5	13:30			5.90	18.7	6.48	377.0
							1		

Sample Time: Sample Analyzed for:

13:33

1.62ff

6.18

Appendix III (Boron, Calcium, Chloride, Fluoride, Sulfate, & TDS). pH measured in the field. Appendix IV (Arsenic, Barlum, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228).

Final Depth 28.40Ft

Total Drawdown (ft):

Drawdown/Water Column (%):

Sampler Signature

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Wel	Stabilization	Well Casing Volumes (gal/ft)					
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 '		
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" =		
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87			
turbidity:	<5 NTU or 10%						

Monitor Well: CCR-	4	Well Diameter:	4 inches
Date: <u>9/28/20</u>)		27.73 ft
Sampling Method:	Pumped	(Measured Well Depth - Static Wa	ater Level)
Measured Well Depth:	53 ft	TOC Elevation ⁽¹⁾ :	505.68 ft
Static Water Level: (Depth to Water) Maximum Drawdown Depth (10% of WCH + SWL)	<u>25.27</u> ft <u>28.04</u> ft	GW Elevation: (TOC Elevation - Static Water Lev Well Volume: (Water Column Height x Well Cas	18.02 gal

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
9/28/20		14:05					14.00	
	2.0	14:15			93.8	17.9	6.52	351.3
	1	14.18			129	17.8	6.62	346.8
		14:21			120	17.9	6.57	346.8
		14:24			84.1	17.9	6.60	347 0
		14:27			99.8	18.0	6.59	348.0
		14:30			175	18.0	6.60	346.7
		14:33			120	18.0	6.57	347.2
		14.36			86.3	18.1	6.60	345.9
	5.1	14:39			118.0	18.3	6.63	345.3

Sample Time: Sample Analyzed for:

14:42

1.43 67

5.16%

Appendix III (Boron, Calcium, Chloride, Fluoride, Sulfate, & TDS). pH measured in the field. Appendix IV (Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228).

Final Depth : 26.7 ft

Total Drawdown (ft):

Drawdown/Water Column (%):

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft. If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well	Stabilization		Well Casing Volumes (gal/ft)					
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2			
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1			
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87				
turbidity:	<5 NTU or 10%							

Monitor Well:	CCR-5
Date:	1/28/20
Sampling Method:	Pumped
Measured Well Depth:	34.55 ft
Static Water Level:	<u>6.89</u> ft
(Depth to Water)	alt.
Maximum Drawdown	Depth <u>7.65</u> ft
(10% of WCH + SWL)	

Well Diameter:	4	inches
Water Column Height: (Measured Well Depth - Static Wa	27.66 ter Level)	ft
TOC Elevation ⁽¹⁾ :		ft
GW Elevation:	463,57	ft
(TOC Elevation - Static Water Lev	el)	
Well Volume: (Water Column Height x Well Case	17.97 ing Volume Fac	gal tor)

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
9128/20		13.59						4 s
		14,19			61.6	19.4	6.70	374.9
		14,23			64.5	19.5	6.64	340,9
	5.0	14.27		801	66.2	19.5	6.71	332.3
		·						
		·						
				-				
							<u> </u>	

Sample Time: Sample Analyzed for:

L

Ĺ

Appendix III (Boron, Calcium, Chloride, Fluoride, Sulfate, & TDS). pH measured in the field. Appendix IV (Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228).

Total Drawdown (ff): Drawdown/Water Column (%):

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well	Stabilization		Well Casing Volumes (gal/ft)					
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24			
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46			
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87				
turbidity:	<5 NTU or 10%							

D

Monitor Well:	MW-7	Well Diam	ieter:	4inches
Date: _	9/28/20	Water Col	lumn Height: 27	01 ft
Sampling Method:	Pumped	(Measured W	/ell Depth - Static Water Le	vel)
Measured Well Dept	h: 56.92	ft TOC Eleva	ation ⁽¹⁾ : 57	71.76 ft
Static Water Level: (Depth to Water)	33.91	ft GW Eleva (TOC Elevatio	tion: 53 on - Static Water Level)	7.85 ft
Maximum Drawdown (10% of WCH + SWL)	n Depth 36.21	ft Well Volum (Water Colum	me: <u>14</u> nn Height x Well Casing Vo	. <u>95</u> gal Iume Factor)

	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
Start Pump	9/28/20	-1. se 11	1242			The second	3-14-21		
	• •		1301			1.18	18.0	6,89	200.9
			1305			1.26	18.0	6.77	197.6
	1	100	1709		21/41	1.17	18.D	6.14	195.3
		6.5	1313		34,96	1.14	18.0	6.81	197.1
		12							

Sample Time: Sample Analyzed for:

13:1

Appendix III (Boron, Calcium, Chloride, Fluoride, Sulfate, & TDS). pH measured in the field. Appendix IV (Arsenic,

Total Drawdown(ft): Drawdown/Water Column (%):

Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228). .05 1+ 4

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft. If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well Stabilization Well Casing Volumes (gal/ft) 2 1/2" = 0.24 2" = 0.16 pH: 1" = 0.041 1 1/2 " = 0.10 0.1 standard units conductivity: 3 1/2" = 0.50 10" = 4.08 within 3% 3" = 0.37 4" = 0.65 6" = 1.46 12" = 5.87 8" = 2.61 temperature: 0.1 deg. C <5 NTU or 10% turbidity:

inches

Monitor Well:	onitor Well: MW-9			Well Diameter:	4in	IC
Date:	9/28/20	ð		Water Column Height:	12.94 ft	
Sampling Method	:	Pumped		(Measured Well Depth - Static W	(ater Level)	
Measured Well De	pth:	21.74	ft	TOC Elevation ⁽¹⁾ :	480.04 ft	
Static Water Leve (Depth to Water)	l:	8.80	ft	GW Elevation: (TOC Elevation - Static Water Le	471.24 ft	
Maximum Drawdo (10% of WCH + SWL)	own Depth	10.094	ft	Well Volume: (Water Column Height x Well Ca	8.411 ga sing Volume Factor)	

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
9/28/20		8:19			A DESCRIPTION OF THE OWNER			
	2.8	8:31			11.26	21.3	4.68	1512
	1				28.0	21.2	4.70	1505
· · · · · · · · · · · · · · · · · · ·		8:37			5.05	20.9	4.66	1501
	4.75	8:40		9.74	19.3	20.9	4.67	1502
				-			· a	
					·			
	Date 9/28/20	Date Purged (L) 9/28/20	Date Purged (L) Time 9/28/20 \$\$\frac{19}{31}\$ 2.8 \$\$\frac{31}{31}\$ 1 \$\$\frac{32}{37}\$	Date Purged (L) Time (min) 9/28/20 \$\% : 19 2.8 \$\% : 31 1 \$\% : 34 8':37	Date Purged (L) Time (min) Time (ft) 9/28/20 \$\% : 19 \$ 2.8 \$\% :31 \$ 1 \$\% :37 \$	Date Purged (L) Time (min) Time (ft) Level (ft) Turbidity (NTU) 9/28/20 \$\$\frac{1}{2}\$ \$	Date Purged (L) Time (L) Time (min) Level (ft) Turbidity (NTU) Temp (C) 9/28/20 \$\$\frac{3}{9}\$ \$\$	Date Purged (L) Time (L) Time (min) Level (ft) Turbidity (NTU) Temp (C) pH 9/28/20 \$\$\frac{1}{2}\$ \$\$

Sample Time: Sample Analyzed for:

8:47

Appendix III (Boron, Calcium, Chloride, Fluoride, Sulfate, & TDS). pH measured in the field. Appendix IV (Arsenic,

Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228).

Total Drawdown (ft):

0.94f+ 7.3%

Drawdown/Water Column (%):

Final Depth: 9.74"

Sampler Signature:

If possible, total drawdown will not exceed 0.33 h If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

£

Vell Stabilization		Well Casing Volumes (gal/ft)						
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24			
conductivity:	within 3%	3* = 0.37	3 1/2" = 0.50	4" = 0.65	6* = 1.46			
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87				
turbidity:	<5 NTU or 10%	N						

Monitor Well:	MW-12	Well Diameter:	4inches
Date:	9/28/20	Water Column Heigh	nt: /3,4/ ft
Sampling Method:	Pumped	(Measured Well Depth - Sta	tic Water Level)
Measured Well Dep	oth: 19.09	ft TOC Elevation ⁽¹⁾ :	474.19 ft
Static Water Level: (Depth to Water)		(TOC Elevation - Static Wat	<u>468.51</u> ft er Level)
Maximum Drawdov (10% of WCH + SWL)	vn Depth 7,02	ft Well Volume: (Water Column Height x We	8.72 gal Il Casing Volume Factor)

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	pН	Conductivity (uS/cm)
9/28/20		9 13		1.1.1.1		134.0		
	2.25	9:22			71.7	1.55	6.05	
		9:25			11.16	21.7	6.18	397.9
		9.28			7.82	21.7	6.15	394.3
		9:31			25.3	21.8	6.16	394.8
	1	9:34			34 2	21.9	6.17	392.1
	1	9:37			4.16	22.0	6.20	393.1
	6.0	9.46			13.46	22.0	6.13	392.4
	_							
								·
	-							
	-							
	-							
	-							
	-							1.
	-							

Sample Time: Sample Analyzed for:

10:04

Appendix III (Boron, Calcium, Chloride, Fluoride, Sulfate, & TDS). pH measured in the field. Appendix IV (Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228).

Total Drawdown (ft):

Drawdown/Water Column (%):

1.30ff 9.69%0

Final Dupth: 6.98 Ft

Sampler Signature: If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well	Stabilization		Well Casing Volumes (gal/ft)						
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24				
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46				
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87					
turbidity:	<5 NTU or 10%								

#REF!

RED HILLS AMU MONITOR WELLS											
Monitor Well:	MW-1	3	-		Well Diame	eter:	4	inches			
Date: Sampling Method:		Pumped			(Measured We	mn Height: II Depth - Static Wa	·	_ft			
Measured Well De Static Water Level: (Depth to Water)		106 58.9			TOC Elevati GW Elevati (TOC Elevation		584.48 52,5,52	-			
Maximum Drawdov (10% of WCH + SWL)	wn Depth	63.61	_ft		Well Volum (Water Column	ie: h Height x Well Cas	30,61 ing Volume Fac	_gal tor)			
	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)		
Start Pump	7/28/20	5.04	10:00					1. 2. 2. 2. 4			
Rain Ooley * X Rest-1 Pump.	*1	210-	11.10			7.1	21.5 21.0	6.71	223,00		
* × Rest-1		11.0	11:74		60.05	0.98	210	6.70	216.3		
Pump.						:					
Sample Time: Sample Analyzed f	or:		> 7 Boron, Calcium, (). pH measured in t , Lithium, Molybden					
Total Drawdown (fi Drawdown/Water f		banuni, beryi		1.15 H	a					Jelay	
14AA	la					Ľ	1	vhere	the pamp in	is stoppil	
Sampler Signature							4	r Cuse	2/1000.2.1	Puno	
If possible, total drawdown If drawdown exceeds 10			l be stopped and	well allowed to r	ecover.		ſ	esund	the pomp in the pomp in 2/courses Q 11:10.	Υ Γ	

Sampler Signature:

Weil	Stabilization	1	Well Casing Volumes (gal/ft)					
pH;	0.1 standard units	1" = 0.041	1 1/2 * = 0.10	2" = 0.16	2 1/2" = 0.24			
onductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46			
emperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87				
turbidity:	<5 NTU or 10%							

Monitor Well:	MW-1	4			Well Diame	eter:	4	inches	
Date:	09-28-				Water Column Height: <u>32,14</u> ft (Measured Well Depth - Static Water Level)				
Sampling Method:		Pumped			(ivieasured vve	ell Depth - Static wa	ter Level)		
Measured Well De	pth:	60.97			TOC Eleva	tion ⁽¹⁾ :	593.84	ft	
Static Water Level:		28.83 ft			GW Elevati		\$65.0L	ft	
(Depth to Water)		a1 //			(TOC Elevatio	n - Static Water Lev			
Maximum Drawdo	wn Depth	31.66	ft		Well Volum	ne:	20.81	gal	
(10% of WCH + SWL)					(Water Colum	n Height x Well Casi	ng Volume Fac	tor)	
								,	_
		Volume		Elapsed	Water				
	Date	Purged	Time	Time	Level	Turbidity	Temp	pH	
		(L)		(min)	(ft)	(NTU)	(C)		
	1 1 A A A	the second se	A 1/-						

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)	
9/28/20		8.47	1. J. C. M.						1
1		8.59			0.7	22.2	7.98	011	54
		903			0.04	210	5.09	133.3	<u>ا</u>
		9:07			0.02	20.9	511	132.2	1
	6.5	911			0.02	20.8	S.11	129.3	1
	NG. L. al.	1		29.81		-			1
				4					1
		Samala	Time	9.	12				1
									1
									1
						1			
									i
									() ()
									6
	9.1	7			2.9.81 F	Sal D	All		
:	1.1	6			S). pH measured in				

Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228).

Popkale Taka Here. Full Blook Takan 9:40

Sample Time: Sample Analyzed for:

Total Drawdown (ff) Drawdown/Water Column (%):

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Well	Stabilization		Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.2
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	
turbidity:	<5 NTU or 10%				

9/2

0.98

3

Monitor Well:	OW-2	Well Diameter:4 inches
Date: <u>9/28/</u>	20	Water Column Height: 16, 24 ft
Sampling Method:	Pumped	(Measured Well Depth - Static Water Level)
Measured Well Depth:	27.05 ft	TOC Elevation ⁽¹⁾ : 489.40 ft
Static Water Level: (Depth to Water)	<u>10.81</u> ft	GW Elevation: 478.57 ft (TOC Elevation - Static Water Level)
Maximum Drawdown Depth (10% of WCH + SWL)	<u>/2.43</u> ft	Well Volume: <u>(0,56</u> gai (Water Column Height x Well Casing Volume Factor)

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	pН	Conductivit (uS/cm)
9/28/20		11:02						1. M
105	2.0	11:14			4.80	20,2	5.5	536.0
		11:17			3.69	19.9	5.73	522.0
		11:20			3.15	20.1	5.81	520.5
	4.0							

Sample Time: Sample Analyzed for:

11:24

1.2917

7.947-

Appendix III (Boron, Calcium, Chloride, Fluoride, Sulfate, & TDS). pH measured in the field. Appendix IV (Arsenic, Barlum, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Molybdenum, Selenium, & Radium 226/228).

Total Drawdown (ft):

Drawdown/Water Column (%)+

Sampler Signature;

Final Depth 12.10ft

If possible, total drawdown will not exceed 0.33 ft.

If drawdown exceeds 10% of water column height, flow will be stopped and well allowed to recover.

Wel	1 Stabilization		Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	
turbidity:	<5 NTU or 10%				

APPENDIX D

2020 GROUNDWATER MONITORING SUMMARY

Detection and Assessment Monitoring Results:

Detected



Detected above Prediction Limit

Detected above Prediction Limit and Groundwater Protection Standard (GWPS)

NS = Not Sampled

						Antin	nony (Sb) N	Ionitoring I	Results (mg	g/L)						
	Monitoring Well															
														OW-2		
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	<0.005	<0.005	<0.005	<0.005	NS	NS	NS	<0.005	<0.005	<0.005	<0.005	<0.005	NS	NS	<0.005	<0.005
5/18/20	<0.005	<0.005	<0.005	<0.005	NS	NS	NS	<0.005	<0.005	<0.005	<0.005	<0.005	NS	NS	<0.005	<0.005
9/28/20	<0.005	<0.005	<0.005	<0.005	NS	NS	NS	<0.005	<0.005	<0.005	<0.005	<0.005	NS	NS	NS	<0.005
						Pre	ediction Lim	it = 0.002, G	WPS = 0.006	;						

Arsenic (As) Monitoring Results (mg/L)

							Мо	nitoring Wel	I							
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	<0.002	<0.002	<0.002	0.00407	NS	NS	NS	<0.002	<0.002	<0.002	<0.002	<0.002	NS	NS	0.00245	<0.002
5/18/20	<0.002	<0.002	<0.002	0.00204	NS	NS	NS	<0.002	<0.002	<0.002	<0.002	<0.002	NS	NS	0.00356	<0.002
9/28/20	<0.002	<0.002	<0.002	<0.002	NS	NS	NS	<0.002	<0.002	<0.002	<0.002	<0.002	NS	NS	NS	<0.002
						Pre	ediction Lim	it = 0.002, G	WPS = 0.010)						

Barium (Ba) Monitoring Results (mg/L)

							Мо	nitoring We	II							
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	0.12	0.0796	0.152	0.0246	NS	NS	NS	0.0713	0.137	0.259	0.16	0.0112	NS	NS	0.0962	0.0927
5/18/20	0.0976	0.0689	0.161	0.0263	NS	NS	NS	0.0775	0.172	0.283	0.168	0.0123	NS	NS	0.13	0.0981
9/28/20	0.107	0.0690	0.159	0.03	NS	NS	NS	0.083	0.158	0.197	0.173	0.011	NS	NS	NS	0.073
						Р	rediction Li	mit = 0.2558	, GWPS = 2							

Beryllium (Be) Monitoring Results (mg/L)

							Мо	nitoring We	1							
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	0.00529	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
5/18/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	0.00537	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
9/28/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	0.00367	<0.001	<0.001	<0.001	NS	NS	NS	<0.001
						Pre	ediction Lim	it = 0.001, G	WPS = 0.004	ļ						

Boron (B) Monitoring Results (mg/L)

							Мо	nitoring Wel	I							
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	<0.050	<0.050	<0.050	0.0871	NS	NS	NS	<0.050	<0.050	<0.050	<0.050	<0.050	NS	NS	0.0843	<0.050
5/18/20 ⁽²⁾	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/28/20	<0.050	<0.050	<0.050	0.089	NS	NS	NS	<0.050	<0.050	<0.050	<0.050	<0.050	NS	NS	NS	<0.050
							Predict	ion Limit = (0.050							

(1) Appendix III constituent not required to be monitored during initial assessment monitoring event.

(2) Appendix III constituent not required to be monitored during the annual assessment monitoring event.

							Мо	nitoring Wel	1							
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	18.5	50.9	30.9	259	NS	NS	NS	45	96.4	36.9	24.4	0.734	NS	NS	55.1	41.6
5/18/20 ⁽²⁾	-	-	-	-	-	-	-	-	-	-	-	-	NS	NS	-	-
9/28/20	13.1	23.1	24.8	174	NS	NS	NS	39.7	61.7	26.9	20.1	0.542	NS	NS	NS	35.7
							Predicti	on Limit = 8	5.8879							

Calcium (Ca) Monitoring Results (mg/L)

(1) Appendix III constituent not required to be monitored during initial assessment monitoring event.

(2) Appendix III constituent not required to be monitored during the annual assessment monitoring event.

Cadmium (Cd) Monitoring Results (mg/L)

							Мо	nitoring We	I							
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
5/18/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
9/28/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	0.00292	<0.001	<0.001	<0.001	NS	NS	NS	<0.001
						Pre	ediction Lim	it = 0.001, G	WPS = 0.005	5						

(1) Appendix IV constituent not required to be monitored during detection monitoring.

Chloride (CI) Monitoring Results (mg/L)

							Мо	nitoring Wel	I							
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	2.19	4.65	7.84	7.39	NS	NS	NS	2.72	612	71.1	3.55	19.1	NS	NS	41.2	35.2
5/18/20 ⁽²⁾	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/28/20	2.44	5.17	6.59	7.03	NS	NS	NS	2.66	451	36	3.59	19.5	NS	NS	NS	35.5
							Predicti	on Limit = 20	6.6034							

(1) Appendix III constituent not required to be monitored during initial assessment monitoring event.

(2) Appendix III constituent not required to be monitored during the annual assessment monitoring event.

Chromium (Cr) Monitoring Results (mg/L)

							Мо	nitoring Wel	II							
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	0.00111	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
5/18/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
9/28/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001
						Р	rediction Lir	nit = 0.001, (GWPS = 0.1							

Cobalt (Co) Monitoring Results (mg/L)

							Мо	nitoring Wel	I							
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	0.0141	0.0116	0.00424	0.0517	NS	NS	NS	<0.001	0.0306	0.0236	<0.001	<0.001	NS	NS	0.00506	<0.001
5/18/20	<0.001	0.00955	0.00371	0.0514	NS	NS	NS	<0.001	0.0285	0.0138	<0.001	<0.001	NS	NS	0.00549	<0.001
9/28/20	<0.001	0.00295	0.0031	0.019	NS	NS	NS	<0.001	0.0217	0.00738	<0.001	<0.001	NS	NS	NS	<0.001
						Pre	ediction Lim	it = 0.001, G	WPS = 0.006	3						

Fluoride (F) Monitoring Results (mg/L)

							Мо	nitoring We	11							
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	<0.22	<0.22	<0.22	<0.22	NS	NS	NS	<0.22	0.58	<0.22	<0.22	<0.22	NS	NS	<0.22	0.23
5/18/20	<0.22	0.25	<0.22	<0.22	NS	NS	NS	<0.22	0.53	<0.22	<0.22	<0.22	NS	NS	<0.22	0.24
9/28/20	<0.22	<0.22	<0.22	<0.22	NS	NS	NS	<0.22	0.68	<0.22	<0.22	<0.22	NS	NS	NS	0.26
						F	Prediction Li	mit = 0.30, C	WPS = 4.0							

Lead (Pb) Monitoring Results (mg/L)

							Мо	nitoring Wel	I							
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
5/18/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
9/28/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001
						Pre	ediction Lim	it = 0.001, G	WPS = 0.015	5						

Lithium (Li) Monitoring Results (mg/L)

							Мо	nitoring Wel	I							
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	<0.050	0.115	<0.050	<0.050	NS	NS	NS	<0.050	0.113	<0.050	<0.050	<0.050	NS	NS	<0.050	0.046
5/18/20	<0.050	0.0973	<0.050	<0.050	NS	NS	NS	<0.050	0.114	<0.050	<0.050	<0.050	NS	NS	<0.050	0.045
9/28/20	<0.050	0.046	<0.050	0.091	NS	NS	NS	<0.050	<0.050	<0.050	<0.050	<0.050	NS	NS	NS	<0.050
						Pre	ediction Lim	it = 0.050, G	WPS = 0.050)						

Mercury (Hg) Monitoring Results (mg/L)

							Мо	nitoring Wel	I							
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20 ⁽²⁾	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/18/20	<0.002	<0.002	<0.002	<0.002	NS	NS	NS	<0.002	<0.002	<0.002	<0.002	<0.002	NS	NS	<0.002	<0.002
9/28/2020 ⁽²⁾	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-		-		-	Pre	ediction Lim	it = 0.002. G	WPS = 0.002	2	-	-	-			

(1) Appendix IV constituent not required to be monitored during detection monitoring.

(2) Constituent not previously detected; therefore, not included in further assessment monitoring.

Molybdenum (Mo) Monitoring Results (mg/L)

							Мо	nitoring Wel	II							
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
5/18/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
9/28/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001
						Pr	ediction Lim	nit = 0.001, G	WPS =0.100	1						

Selenium (Se) Monitoring Results (mg/L)

							Мо	nitoring Wel		. ,						
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	<0.001	<0.001	<0.001	0.00189	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
5/18/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
9/28/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001
						Pr	ediction Lin	nit = 0.001, G	WPS = 0.05							

Sulfate (SO4) Monitoring Results (mg/L)

							Мо	nitoring We	11							
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	11.4	263	30.6	1320	NS	NS	NS	40.8	204	74.8	7.13	11.1	NS	NS	140	136
5/18/2020 ⁽²⁾	-	-	-	-	NS	NS	NS	-	-	-	-	-	NS	NS	-	-
9/28/20	10.6	63	23.3	937	NS	NS	NS	43.6	154	35.4	6.68	7.52	NS	NS	NS	135
							Prediction	on Limit = 44	4.8102							

(1) Appendix III constituent not required to be monitored during initial assessment monitoring event.

(2) Appendix III constituent not required to be monitored during the annual assessment monitoring event.

Thallium (TI) Monitoring Results (mg/L)

							Мо	nitoring Wel	I							
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20 ⁽²⁾	-	-	-	-	NS	NS	NS	-	-	-	-	-	NS	NS	-	-
5/18/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
9/28/20	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
						Pre	ediction Lim	it = 0.001, G	WPS = 0.002	2						

(1) Appendix IV constituent not required to be monitored during detection monitoring.

(2) Constituent not previously detected; therefore, not included in further assessment monitoring.

Total Dissolved Solids (TDS) Monitoring Results (mg/L)

							Мо	nitoring We	I	,						
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	135	486	210	1930	NS	NS	NS	185	1552	335	155	89	NS	NS	402	376
5/18/20	-	-	-	-	NS	NS	NS	-	-	-	-	-	NS	NS	-	-
9/28/20	100	216	180	1356	NS	NS	NS	183	1014	221	151	75	NS	NS	NS	345
							Predictio	on Limit = 32	0.8384							

pH Monitoring Results (S.U.)

Monitoring Well																
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	6.86	5.8	6.51	5.7	NS	NS	NS	6.55	3.96	5.93	6.67	4.89	NS	NS	6.25	5.94
5/18/20	6.7	6.22	6.58	5.81	NS	NS	NS	6.64	4.42	5.87	5.52	4.47	NS	NS	6.53	5.7
9/28/20	6.62	6.48	6.63	6.71	NS	NS	NS	6.81	4.67	6.13	6.7	5.11	NS	NS	NS	5.81
Prediction Limit = 3.77 – 9.97																

Radium 226 and 228 Combined (Ra) Monitoring Results (pCi/L) ⁽¹⁾

Monitoring Well																
Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Down	Down	Down	Down/ Boundary	Mine Property	Mine Property	Mine Property	Up	Down	Down	Up	Up	Down	Down	MW16 Replacement Well/Down	Down
3/25-26/20	1.657	1.808	1.656	1.336	NS	NS	NS	1.444	1.44	1.191	1.4	1.67	NS	NS	1.69	1.836
5/18/20	1.696	1.370	1.562	1.913	NS	NS	NS	1.964	1.64	1.563	1.448	1.481	NS	NS	2.01	2.375
9/28/20	1.112	1.746	1.693	1.896	NS	NS	NS	1.75	1.63	1.918	1.675	1.155	NS	NS	NS	1.87
Prediction Limit = X, GWPS = 5 pCi/L																

(1) Per MS Dept. of Health (BJ Smith) and EPA guidance for drinking water standards, Radium 226/228 Combined is calculated by adding Radium 226 and Radium 228 Activity (Act) concentrations together if they are detected above the MDC; otherwise, the MDC is used.

APPENDIX E

ALTERNATE SOURCE DEMONSTRATION

CCR ALTERNATE SOURCE DEMONSTRATION (ASD)

ASH MANAGEMENT UNIT (AMU) Choctaw Generation Limited Partnership, LLLP 2391 Pensacola Road Ackerman, MS 39735

December 17, 2019 (Amended August 20, 2020)





ENVIRONMENTAL COMPLIANCE & SAFETY, INC.

Post Office Box 356 Sherman, Mississippi 38869 Office: (662) 840-5945 Fax: (662) 840-5965 www.envirocomp.net

"FOR ALL YOUR ENVIRONMENTAL AND SAFETY CONSULTING NEEDS."

TABLE OF CONTENTS

RECO	RD OF	REVISIONSi	i					
1.0	ALTEF	RNATE SOURCE DEMONSTRATION (ASD) CERTIFICATION	1					
2.0	EXEC	JTIVE SUMMARY	2					
3.0	SITE D	DESCRIPTION	3					
	3.1	Site Geology	3					
	3.2	Site Geology Site Hydrogeology	3					
4.0	GROU	NDWATER MONITORING SYSTEM	5					
	4.1 Groundwater Monitoring Well Network							
	4.2 Cor	nstituents Detected at SSLs in Groundwater	6					
5.0	ALTEF	RNATE SOURCE DEMONSTRATION	7					
	5.1	Liner System	7					
	5.2	Constituents Naturally Occurring in Subsurface Soils						
6.0	CONC	LUSION10	0					
7.0	REFE	RENCES1	1					

FIGURES:

Figure 1:	Site Location Map
Figure 2:	CCR Monitoring Well Locations
Figure 3:	USGS Geochemical Map for Lithium
Figure 4:	USGS Geochemical Map for Cobalt
Figure 5:	USGS Geochemical Map for Beryllium

Tables:

Table 1:	CCR Groundwater Sampling Results (5/2018 – 5/2020)
Table 2:	ASD Soil Sampling Event Results
Table 3:	Groundwater pH Measurements vs. Cobalt Concentrations – Downgradient Wells
Table 4:	Groundwater pH Measurements vs. Beryllium Concentrations – Downgradient Wells

APPENDICES:

Appendix A:	ASD Soil Sampling Field Notes
Appendix B:	ASD Soil Sample Analytical Results

RECORD OF REVISIONS

Revision Date	Reason for Revision	Revised Pages, Tables, Figures, or Appendices	Person(s) Responsible for Revision
12/17/2019	Initial Development of Alternate Source Demonstration.	Entire document.	Brian Ketchum (ECS) Caitlin Golding (ECS)
8/20/2020	Revised to address Beryllium.	Entire document.	Brian Ketchum (ECS) Caitlin Golding (ECS)

1.0 ALTERNATE SOURCE DEMONSTRATION (ASD) CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

11>

Signature

Rob Watson Name (Printed)

Asset Manager Title

PE-Choctaw, Inc. Company

The Alternate Source Demonstration (ASD) was prepared for the Choctaw Generation Limited Partnership, LLLP (Choctaw Generation) Ash Management Unit (AMU) in accordance with requirements of the United States Environmental Protection Agency Coal Combustion Residual (CCR) Rule defined in 40 Code of Federal Regulations (CFR) §257, Subpart D. The ASD was developed under the direction of a licensed Professional Engineer to effectively satisfy the requirements of 40 CFR §257.95(g)(3). The information presented herein constitutes a true and accurate representation of the information, findings, and observations made during the investigation and preparation of the determination.

Brian S. Ketchum, P.E. Principal, Senior Engineer Environmental Compliance & Safety, Inc.

8/20/2020

Date



State of Mississippi Registration No. 13372 (Seal)

2.0 EXECUTIVE SUMMARY

This Alternate Source Demonstration (ASD) has been developed pursuant to Federal Regulations codified in 40 CFR Part 257 Subpart D to address lithium, cobalt, beryllium, and molybdenum detected at statistically significant levels (SSL) over each respective groundwater protection standard (GWPS) established per §257.95(h). In accordance with §257.95(g), Choctaw Generation prepared the proper notifications, installed additional monitoring wells and collected sampling results, notified adjacent landowners, and began initiating an assessment of corrective actions. An Assessment of Corrective Measures Report was completed on June 29, 2019.

After additional time to consider all sampling data, including the new monitoring wells, and to perform a subsurface soil sampling event, Choctaw Generation decided to pursue the option provided in §257.95(g)(3)(ii), where the site is allowed to demonstrate that a source other than the Ash Management Unit (AMU) caused an SSL in the groundwater. The purpose of this document is to satisfy the requirements defined by the regulations and demonstrate that an alternative source other than the CCR unit caused the exceedance of GWPS for the specified constituents. Molybdenum was only measured above the GWPS on one (1) occasion and those results were not confirmed or verified upon resampling events. The exceedance occurred in a new well (CCR-8) during the initial monitoring event that took place immediately after drilling and installation of the well. On this basis, molybdenum has not been confirmed or verified at a SSL above GWPS at this time.

Data outlined in this ASD demonstrates that lithium, cobalt, and beryllium are naturally occurring metals found in the subsurface soils and within the aquifer material at the site. Soil samples were collected at three (3) locations at various depths downgradient of the AMU. The samples collected are believed to be widely representative of the nature of the soil in the area, consisting of various geological material (including lignite seams). After review of the sampling data, the data illustrates that lithium, cobalt, and beryllium naturally occurring in the site's subsurface soils and aquifer materials are not believed to be caused by a release from the AMU (or CCR unit). Based on this demonstration, Choctaw Generation immediately ceased corrective measure activities and has continued in assessment monitoring.

3.0 SITE DESCRIPTION

Choctaw Generation is located near the City of Ackerman in Choctaw County, Mississippi. Choctaw Generation is in north central Mississippi on a 170-acre site. Choctaw Generation is bounded on the south by Pensacola Road, and is about ½ mile west of US Highway 9. **Figure 1** shows the location of the site. Choctaw Generation operates a single unit electrical generation facility designed to generate electricity for dispatch to the Tennessee Valley Authority (TVA) electrical system. The primary boiler fuel is lignite coal. As a result of combusting lignite coal, ash is created and must be disposed or re-purposed. Choctaw Generation owns and operates an existing AMU for the placement and disposal of ash. The CCR unit is located in the northeastern portion of the property and currently consists of three (3) cells encompassing approximately 64 acres of the Choctaw Generation site.

3.1 Site Geology

The CCR unit is underlain by mixtures of clays, silts, silty sands, and lignite of the Tuscahoma Formation. The clays are typically thicker and more continuous than the silts and sands. The lignite seams are also very correlative and are labeled alphabetically. The major seams underlying the site are the F through J seams, which are at approximately 400 to 550 feet mean sea level (msl). Some minor sands do exist, but these typically contain a considerable portion of fines. Due to the complexity presented by correlating the largely discontinuous interbedded clays, silts, and silty sand units, the geologic interpretation of the AMU was simplified using a combination of lithologic logs (constructed from samples in the field), geophysical logs, and geotechnical data. Correlatable lithologies derived from use of these tools include three basic units: (1) generally fine grained material, having interbedded clayey, fine sands with silts of low permeability (1.0 E-7 cm/sec to 9.0 E-9 cm/sec); (2) generally clayey silts, interbedded with silty fine sands with clay; and (3) lignite. The clays encountered under and around the CCR unit are light gray in color and are stiff-to-blocky in texture. Some minor sands occur, and these generally have a considerable portion of fines and are tan-to-gray in color.

3.2 Site Hydrogeology

Data indicates that there are two groundwater zones; the shallow or upper zone is a non-continuous perched water table zone, and the deeper water zone well below the base of the AMU. The hydrogeologic conditions for the AMU are based upon data collected during the installation of the 13 piezometers and monthly water level data collected from June 1997 through November 1997. The piezometers monitored localized permeable zones between the lignite seams. Reviews of hydrographs generated from the water level measurements indicate that the eight (8) piezometers monitored permeable zones between the G and H lignite seams which are not hydraulically connected. This permeable zone generally exists between 400 to 460 feet msl. The shallowest or upper groundwater zone is a perched water table zone that has been

eroded away on the north part of the AMU and is not continuous. This is evidenced by the four seeps or springs that were identified during construction of the AMU liner. This potentiometric surface was initially mapped using November 1997 water level data from piezometers screened in a silty zone between the G and H lignite seams. Groundwater flow direction is to the northwest which correlates with the regional groundwater flow direction. However, these surficial deposits do not contain groundwater that would be used as a drinking water source. The shallowest stratigraphic units containing groundwater used as a drinking water source is the Hatchetigbee Formation, about 100 feet below ground surface (bgs) and up to 170 feet thick, followed by the Tuscahoma Formation, about 300 feet bgs and up to 110 feet thick, both in the Wilcox Group.

4.0 GROUNDWATER MONITORING SYSTEM

4.1 Groundwater Monitoring Well Network

A certified groundwater monitoring system is in place that meets the requirements of 40 CFR 257 Subpart D. The groundwater monitoring system consists of a sufficient number of wells, installed at appropriate locations and depths, to yield groundwater samples from the uppermost aquifer. The system represents the quality of background groundwater that has not been affected by the CCR unit (i.e., upgradient wells) and the quality of groundwater passing under the CCR unit (i.e., downgradient wells). The downgradient wells were installed at the waste boundary and beyond to ensure detection of groundwater contamination in the uppermost aquifer. The number, spacing, and depths of groundwater monitoring wells within the system were determined based upon site-specific geological and hydrogeological information.

The direction of groundwater flow passes under the CCR unit to the north-northwest, which has been consistently determined through ongoing CCR and MDEQ Solid Waste Permit groundwater monitoring events. The locations for the monitoring wells were based upon the known direction of groundwater movement. The monitoring wells screen the uppermost laterally continuous aquifer below the base of the AMU, which is at an approximate elevation of 480 feet msl but varies across the site.

The initial Choctaw Generation CCR unit groundwater monitoring system consisted of three (3) background or upgradient wells and eight (8) downgradient wells to ensure complete coverage of the CCR unit. An additional downgradient well (CCR-5) was added in August 2018 and three (3) more downgradient wells were installed in May 2019 (CCR-6, CCR-7, and CCR-8) on the property of the Mississippi Lignite Mining Company in the direction of potential contaminant migration and in response to corrective measure requirements. The downgradient well (MW-16) was replaced in May 2019 with MW-17. Then, two (2) downgradient wells (MW-15 and MW-17) were decommissioned in 2020 due to compromised well integrity and the three (3) wells on the mine property were decommissioned due to the initial successful ASD. As a result, the current groundwater monitoring system now reflects the initial system, comprising three (3) background or upgradient wells (i.e., MW-7, MW-13, and MW-14) and seven (7) downgradient wells (i.e., CCR-2, CCR-3, CCR-4, CCR-5, MW-9, MW-12, and OW-2). A facility diagram showing the current monitoring well locations is included as **Figure 2**. Monitoring wells were installed according to the guidelines established in the 1994 USEPA Region IV RCRA Subtitle D Training Manual (SDTM, 1994), or other generally accepted guidelines, and are believed to meet the requirements of 40 CFR Part 257, Subpart D.

4.2 Constituents Detected at SSLs in Groundwater

Lithium, cobalt, beryllium, and molybdenum have been detected at SSLs above the GWPS in groundwater at the Choctaw Generation facility. SSLs for each specified metal were detected in the following monitoring wells:

- □ Lithium concentrations have been detected at SSLs above the GWPS of 0.050 mg/L in CCR-3, CCR-8, and MW-9.
- □ Cobalt concentrations have been detected at SSLs above the GWPS of 0.006 mg/L in CCR-3, CCR-5, CCR-7, MW-9, MW-12, MW-15, MW-16 (before closure of the well), and MW-17.
- Beryllium concentrations have been detected at SSLs above the GWPS of 0.004 mg/L in MW-9.
- Molybdenum was detected at a concentration above the GWPS of 0.100 mg/L in CCR-8 during the initial monitoring event for that particular well. This exceedance was not verified and remains the only detection above the GWPS in any well for any monitoring event for molybdenum.

Molybdenum were only measured above the GWPS on one (1) occasion and those results were not verified or confirmed upon resampling events. The exceedance for molybdenum occurred in a CCR-8 during the initial monitoring event that took place immediately after drilling and installation of the well. On this basis, molybdenum has not been confirmed or verified at SSL above GWPS.

The concentrations of lithium and cobalt detected at SSLs occurred during assessment monitoring events from May 2018 to September 2019, and the concentrations of beryllium detected at SSLs occurred during consecutive assessment monitoring events (March 2020 and May 2020). Groundwater monitoring analytical results from all assessment monitoring events for these metals are provided in **Table 1.** After analyzing the results, the concentrations for each metal do not exhibit an increasing trend but appear to be rather stable.

5.0 ALTERNATE SOURCE DEMONSTRATION

This Alternate Source Demonstration (ASD) shows constituents (cobalt, lithium, and beryllium) detected at SSLs above the GWPS during previous assessment monitoring events are attributed to naturally occurring cobalt, lithium, and beryllium in the subsurface soils and aquifer material at the site. This is demonstrated by the following supportive evidence:

- 1. The CCR unit (AMU) and associated AMU Basin are lined.
- 2. The unit has gone through the state solid waste permitting process multiple times which included a comprehensive and conservative approach during the initial permit application process to ensure adequate safeguards were implemented during construction.
- 3. Lithium, cobalt, and beryllium are known to be naturally occurring in soils as seen by documented literature (see Figures 3-5).
- 4. Subsurface soils and aquifer materials sampled yielded lithium concentrations ranging from 3.31 to 21.8 milligrams per kilogram (mg/kg), cobalt concentrations ranging from 4.40 to 16.4 mg/kg, and beryllium ranging from 3.52 to 8.93 mg/kg. These part per million (ppm) levels in the soil are more than capable of producing part per billion (ppb) levels in the groundwater.

5.1 Liner System

The CCR landfill was constructed in phases, or cells, with varying liner systems for each cell. Cell No. 1 was constructed with a HDPE flexible membrane and geosynthetic clay liners, Cell No. 2 with a HDPE flexible membrane and an 18-inch recompacted clay liner, and Cell No. 3 with an in-situ 12-inch clay liner. The leachate is gravity drained to a leachate pump station and pumped to the AMU Basin, both of which include a clay and 30-mil PVC geomembrane liner. The AMU Basin collects both leachate and storm water runoff that has contacted the landfill material.

5.2 Constituents Naturally Occurring in Subsurface Soils

On October 29, 2019, a sampling event was conducted at the Choctaw Generation site to evaluate the composition of the subsurface soils naturally occurring at the site. The sampling event consisted of utilizing a direct push subsurface sampling technique to advance borings to a variety of depths to sample soil and material near and within the monitored aquifer. Soil borings were drilled in three (3) locations to a termination depth of approximately twenty (20) feet below the surface. The locations were chosen to correlate with monitoring wells and areas that revealed the most consistent detections of cobalt, lithium, and beryllium above each respective GWPS. Although sample locations were limited by the topography at the site, the borings were advanced downgradient of the AMU in the near vicinity of the monitoring wells with the most consistent detections to provide a soil sample that was representative of the geology that the groundwater passes through. Soil borings were advanced near CCR-5, MW-9, and MW-17. A map showing the soil boring locations in respect to the monitoring wells is included in **Figure 2**. Three (3) samples were collected from each boring at varying depths and of varying soil types resulting in a total of nine (9) samples.

The samples were collected at depths ranging from six (6) to nineteen (19) feet to capture the differing geologies located at the site. A summary of the sample location, depth, and description of soil or material sampled, as well as the respective analytical results are provided in **Table 2**. The field notes, soil characteristics, and the laboratory analytical results from the subsurface sampling event are provided in **Appendix A** and **Appendix B**, respectively.

As seen in Figure 3, lithium is naturally present in the environment. Lithium is a monovalent cation, and classified as an alkali metal. This metal is the most weakly bonded of all alkali metals and therefore tends to behave conservatively, resisting adsorption to the soil and remaining in the groundwater (Deverel, Steven & Goldberg, Sabine & Fujii, Roger, 2011). The U.S. Geological Survey (USGS) conducted a geochemical and mineralogical survey of soils throughout the United States to determine the elemental concentrations of major and trace elements. The results of this study, published in Geochemical and Mineralogical Maps for Soils of the Conterminous United States (Smith, D. B., Cannon, W. F., Woodruff, L. G., Solano, F., & Ellefsen, K. J., 2014), implicate that lithium occurs naturally in the area surrounding the Choctaw Generation site at concentrations ranging from 14 to 21 mg/kg. The geochemical map for the distribution of lithium in the soil C horizon, correlating to the soil up to a depth of one (1) meter below the soil surface, is provided in Figure 3. Lithium was present in every sample collected during the soil sampling event at concentrations ranging from 3.31 to 21.8 mg/kg, consistent with the documented natural concentrations in the area. The highest concentrations were found in dark gray fat clay and gray clayey silt, which ranged in concentrations from 16.1 to 21.8 mg/kg. Additionally, two (2) lignite seams were encountered and consisted of lithium concentrations of 3.31 and 10.2 mg/kg. These are naturally occurring part per million (ppm) level concentrations that are detected throughout the site at all depths sampled. Lithium detected in the groundwater at SSLs above the GWPS occur only at part per billion (ppb) levels. The concentrations of lithium in the soil are up to three (3) orders of magnitude higher than the concentrations detected in the groundwater. The elevated concentration of the natural lithium in the soil combined with the conservative behavior of lithium in the environment allow for the generation of lithium concentrations in groundwater similar to the results observed in the monitoring wells at the site.

As seen in **Figure 4**, cobalt is naturally occurring in the environment, being the 33rd most abundant element in the earth's crust (Agency for Toxic Substances and Disease Registry (ATSDR), 2004). The behavior of cobalt in water is largely dependent on the pH. The adsorption of cobalt by soil decreases with decreasing pH, leading to increased concentrations of dissolved cobalt in acidic environments (ATSDR, 2004). The groundwater in the wells with exceedances in cobalt range in pH from 3.96 to 6.86 S.U., as shown in **Table 3**. This acidic natural environment can lead to higher cobalt concentrations due to decreased adsorption of cobalt in the soil. The soil samples collected at the site reveal that cobalt was detected in every location at concentrations ranging from 4.40 to 16.4 mg/kg with the highest in dark gray fat clay and lignite, which ranged in concentrations from 15.4 to 16.4 mg/kg. These concentrations in the natural aquifer material are ppm levels similar to those of lithium, however, the cobalt concentrations in the soil are up to four (4) orders of magnitude higher than the concentrations detected in the groundwater. These high concentrations of cobalt in the soil combined with the acidic nature of the groundwater account for the prominent presence of cobalt detected at SSLs throughout the site.

As seen in Figure 5, beryllium is naturally present in the environment at low concentrations and has been determined to be organically associated in coals (Akers, D. J., McMillan, B. G., & Leonard, J. W. 1978). Beryllium was detected in the two (2) lignite samples collected from the site with concentrations of 3.52 and 8.93 mg/kg. Choctaw Generation is adjacent to the Mississippi Lignite Mining Company, a mine that extracts the naturally present lignite in the area. Therefore, lignite is expected to occur in the surrounding area. Beryllium is a small, highly charged ion which would form stable, insoluble organic complexes due to its chelating properties (Akers, D. J., McMillan, B. G., & Leonard, J. W. 1978). As a result, beryllium usually has limited mobility in groundwater due to the poor solubility and affinity to bind with clay materials. However, the mobility of the metal is enhanced under acidic water conditions and may be found as a dissolved cation (Critical mineral resources of the United States, 2017). As seen in Table 4, there appears to be a seasonal correspondence between the time of year, acidity of the groundwater, and consequently, the concentration of beryllium in the groundwater. As the acidity increases in the spring, so does the concentration of beryllium in the groundwater. As a result, the three (3) beryllium exceedances occurred in March 2019, March 2020, and May 2020, and correspond with the samples that had the highest pH levels, all occurring in MW-9. The events had pH levels of 4.15, 3.96, and 4.42 S.U. with beryllium concentrations of 0.00547, 0.00529, and 0.00537 mg/L, respectively. These peaks in acidic conditions are capable of mobilizing the beryllium in the lignite at the site and accounts for the exceedances slightly above the GWPS of 0.004 mg/L. The ppm level concentrations of beryllium in the soil at the site along with the acidity of the groundwater during the monitoring event are capable of producing ppb level concentrations slightly above the GWPS in the groundwater similar to the observed detections in MW-9.

6.0 CONCLUSION

The evaluation outlined in this report provides a demonstration that the source of lithium, cobalt, and beryllium detected at SSLs above each respective GWPS is attributed to the naturally occurring soils and aquifer material at the site. After evaluating the data, including the sampling results and mobility and natural behavior of these metals in the environment, it is concluded that lithium, cobalt, and beryllium concentrations detected at ppm-levels in the soil can produce ppb-levels in the groundwater comparable to the concentrations observed in the wells at the site. The analysis also provides specific evidence for each particular metal that outlines the basis of each conclusion.

In addition, the molybdenum exceedance was not confirmed or verified upon resampling events; therefore, molybdenum is not believed to have exceeded the GWPS.

The data provided in this ASD illustrates that a source other than the CCR unit (AMU) causes the SSLs for lithium, cobalt, and beryllium pursuant to §257.95(g)(3)(ii). As a result, Choctaw Generation has ceased corrective measure activities and will continue in assessment monitoring.

7.0 REFERENCES

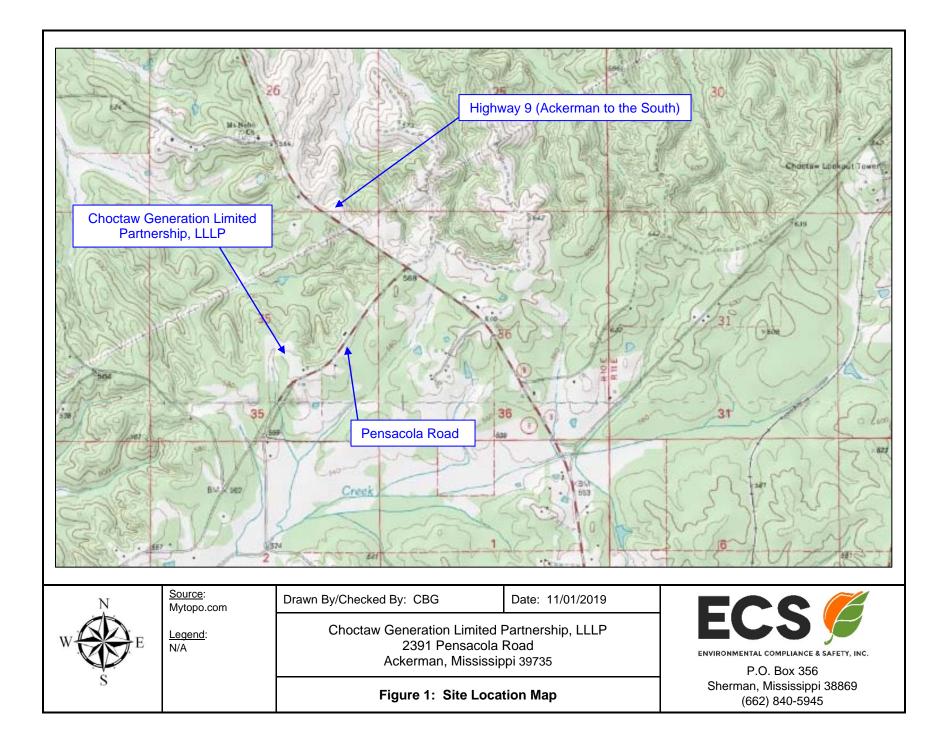
.

Agency for Toxic Substances and Disease Registry (ATSDR). (2004). "Toxicological profile for cobalt." Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service

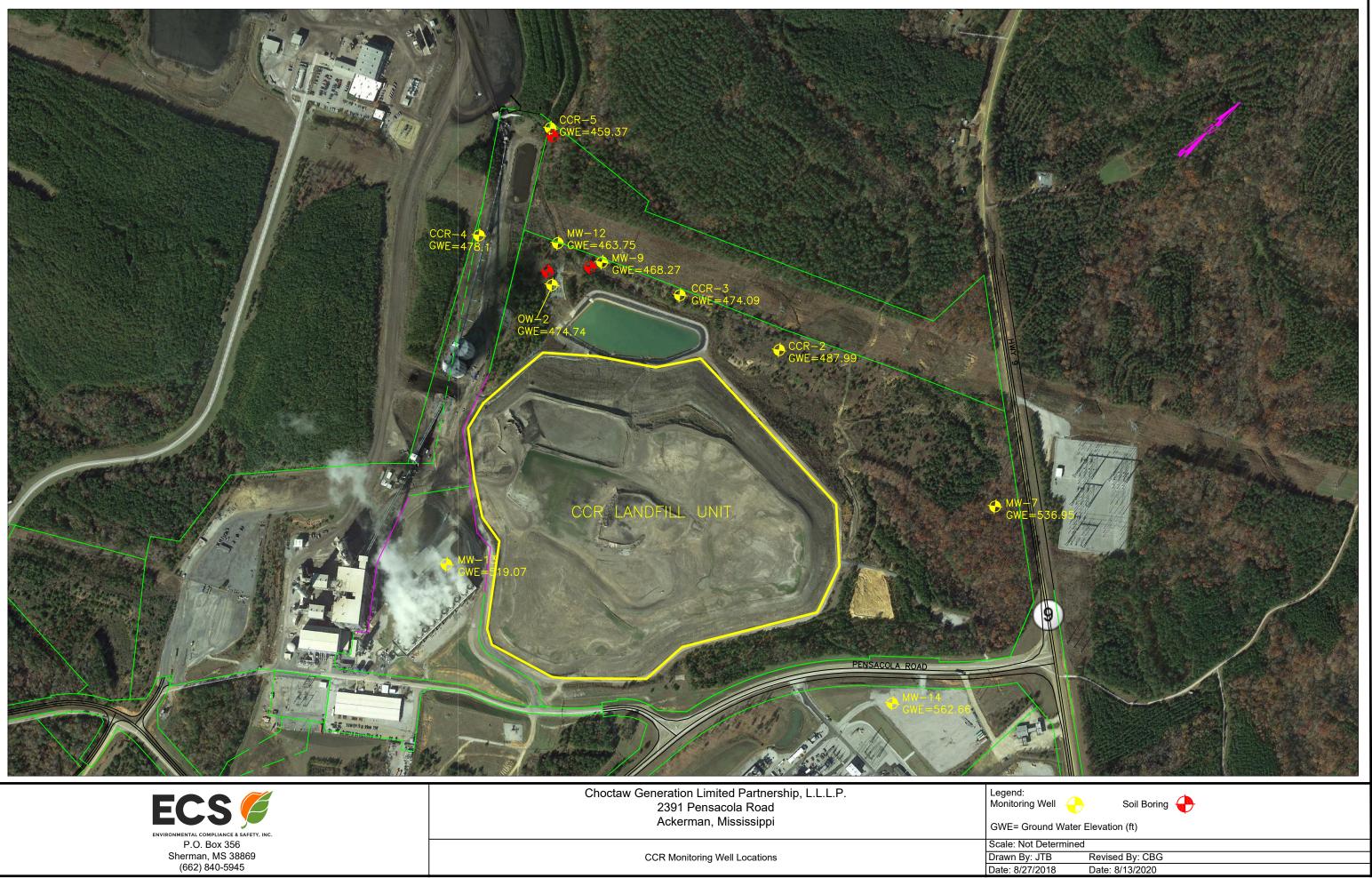
Akers, D. J., McMillan, B. G. & Leonard, J. W. (1978). Coal minerals bibliography. Washington: Dept. of Energy.

- Critical mineral resources of the United States—Economic and environmental geology and prospects for future supply. (2017). Professional Paper. doi: 10.3133/pp1802. chE.
- Deverel, Steven & Goldberg, Sabine & Fujii, Roger. (2011). Chemistry of Trace Elements in Soils and Groundwater. 10.1061/9780784411698.ch04.
- Smith, D. B., Cannon, W. F., Woodruff, L. G., Solano, F., & Ellefsen, K. J. (2014). Geochemical and mineralogical maps for soils of the conterminous United States. Open-File Report. doi: 10.3133/ofr20141082

SITE LOCATION MAP



CCR MONITORING WELL LOCATIONS





USGS GEOCHEMICAL MAP FOR LITHIUM

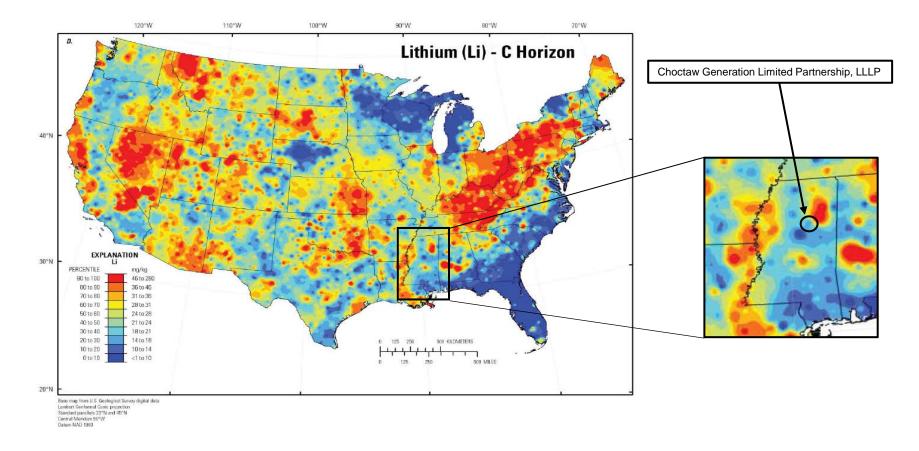


Figure 3. USGS Geochemical Map for Lithium

USGS GEOCHEMICAL MAP FOR COBALT

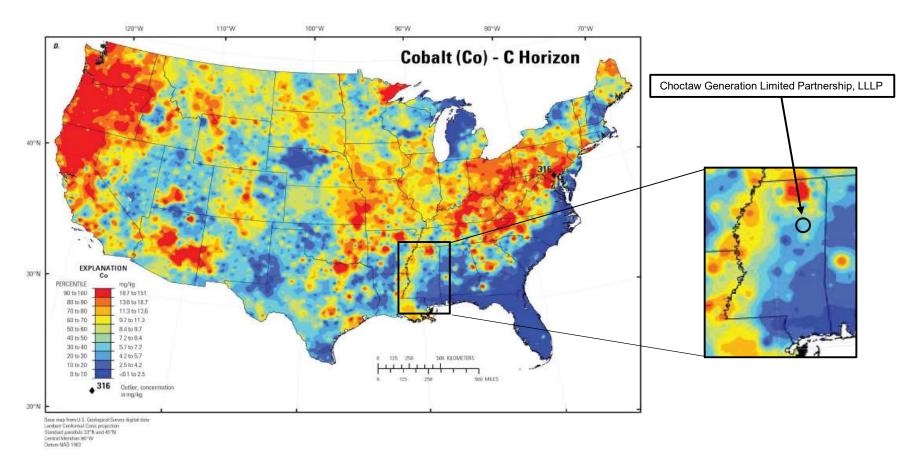


Figure 4. USGS Geochemical Map for Cobalt

USGS GEOCHEMICAL MAP FOR BERYLLIUM

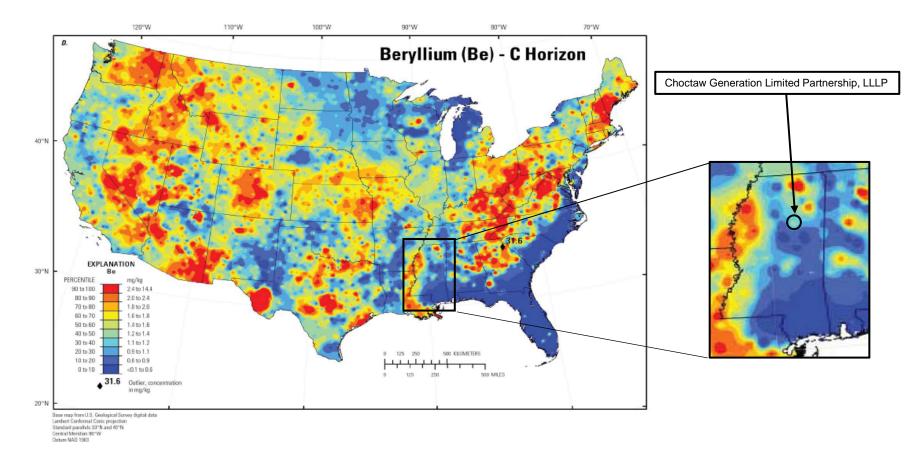


Figure 5. USGS Geochemical Map for Beryllium

TABLES

Table 1 CCR Groundwater Sampling Results (5/2018 – 5/2020)

							Me	onitoring W	ell							
Sample Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Lithium (Li) Monitoring Results (mg/L) – GWPS = 0.050															
5/2018	<0.050	0.108	<0.050					<0.050	0.09	<0.050	<0.050	<0.050	<0.050	<0.050		<0.050
9/2018	<0.050	0.058	<0.050	<0.050				<0.050	0.101	<0.050	<0.050	<0.050	<0.050	<0.050		<0.050
3/2019	<0.050	0.117	<0.050	<0.050				<0.050	0.121	<0.050	<0.050	<0.050	<0.050	NS		<0.050
5/2019	<0.050	0.107	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.113	<0.050	<0.050	<0.050	<0.050	NS	<0.050	<0.050
9/2019	<0.050	0.061	<0.050	<0.050	<0.050	<0.050	0.067	<0.050	0.1	<0.050	<0.050	<0.050	<0.050	NS	<0.050	0.042
3/2020	<0.050	0.115	<0.050	<0.050	NS	NS	NS	<0.050	0.113	<0.050	<0.050	<0.050	NS	NS	<0.050	0.046
5/2020	<0.050	0.0973	<0.050	<0.050	NS	NS	NS	<0.050	0.114	<0.050	<0.050	<0.050	NS	NS	<0.050	0.045
						Cobalt (Co) Monitorin	g Results (ı	ng/L) – GW	PS = 0.006						
5/2018	0.001	<0.001	0.002					<0.001	0.017	0.017	<0.001	<0.001	0.009	0.008		<0.001
9/2018	<0.001	<0.001	0.00274	0.0368				<0.001	0.0176	0.00744	<0.001	<0.001	0.00932	0.00426		<0.001
3/2019	<0.001	0.00493	0.00422	0.0465				<0.001	0.0288	0.0208	<0.001	<0.001	0.0103	NS		<0.001
5/2019	0.00414	0.00726	0.00321	0.0499	0.00189	0.019	<0.001	<0.001	0.0257	0.0183	<0.001	<0.001	0.0102	NS	0.0169	<0.001
9/2019	<0.001	0.00144	0.00312	0.046	<0.001	0.0053	<0.001	<0.001	0.0167	0.00733	<0.001	<0.001	0.00958	NS	0.0199	<0.001
3/2020	0.0141	0.0116	0.00424	0.0517	NS	NS	NS	<0.001	0.0306	0.0236	<0.001	<0.001	NS	NS	0.00506	<0.001
5/2020	<0.001	0.00955	0.00371	0.0514	NS	NS	NS	<0.001	0.0285	0.0138	<0.001	<0.001	NS	NS	0.00549	<0.001

NS – Not Sampled Green – Value is below prediction limit Yellow – Value is above prediction limit but below GWPS Orange – Value is above GWPS

Table 1
CCR Groundwater Sampling Results (5/2018 – 5/2020)

							Me	onitoring W	ell							
Sample Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	OW-2
	Beryllium (Be) Monitoring Results (mg/L) – GWPS = 0.004															
5/2018	<0.001	<0.001	<0.001					<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001
9/2018	<0.001	<0.001	<0.001	<0.001				<0.001	0.0027	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001
3/2019	<0.001	<0.001	<0.001	<0.001				<0.001	0.00547	<0.001	<0.001	<0.001	<0.001	NS		<0.001
5/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00376	<0.001	<0.001	<0.001	<0.001	NS	<0.001	<0.001
9/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0025	<0.001	<0.001	<0.001	<0.001	NS	<0.001	<0.001
3/2020	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	0.00529	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
5/2020	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	0.00537	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
	L		L	L	Мо	lybdenum	(Mo) Monito	oring Resul	ts (mg/L) –	GWPS = 0.1	00	L				
5/2018	<0.001	<0.001	<0.001					<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001
9/2018	-	-	-	-				-	-	-	-	-	-	-		-
3/2019	-	-	-	-				-	-	-	-	-	-	-		-
5/2019	<0.001	<0.001	<0.001	<0.001	0.00435	0.00255	0.333	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NS	<0.001	<0.001
9/2019	<0.001	<0.001	<0.001	<0.001	0.00101	<0.001	0.0474	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NS	<0.001	<0.001
3/2020	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001
5/2020	<0.001	<0.001	<0.001	<0.001	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	NS	NS	<0.001	<0.001

NS – Not Sampled Green – Value is below prediction limit Yellow – Value is above prediction limit but below GWPS Orange – Value is above GWPS

Table 2ASD Soil Sampling Event ResultsOctober 29, 2019

Sample No. (Location)	Depth (ft bgs)	Description of Soil/Aquifer Materials	Lithium (mg/kg)	Cobalt (mg/kg)	Beryllium (mg/kg)	Molybdenum (mg/kg)
	7	Gray Tan Sand with Blocky Clay (wet)	6.15	8.30	ND	ND
SB-CCR5 (near CCR-5)	10	Tan Gray Clay with Silt	12.5	ND	ND	ND
(near CCR-5)	18	Lignite	3.31	11.4	3.52	ND
	10	Gray Brown Clayey Sand (Damp)	6.43	7.40	ND	ND
SB-MW9	14	Gray Brown Silty Sand (Wet)	4.89	ND	ND	ND
(near MW-9)	18	Dark Gray Fat Clay	21.8	16.4	ND	ND
SB-MW17	6	Lignite	10.2	15.4	8.93	ND
(near MW-17)	13	Gray Clayey Silt	13.0	11.0	ND	ND
(11041 11104-17)	19	Gray Clayey Silt	16.1	10.6	ND	ND

bgs – below ground surface

Table 3 Groundwater pH Measurements vs. Cobalt Concentrations – Downgradient Wells

					рH	Monitoring I	Results (S.U	.)							
	Monitoring Well														
Sample Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-9	MW-12	MW-15	MW-16 (closed)	MW-17	OW-2		
5/2018	5.85	6.52	6.55					5.65	6.25	6.33	6.2		6.38		
9/2018	6.39	6.47	6.46	5.92				5.35	6.2	6.15	5.54		5.96		
3/2019	7.04	6.42	6.64	5.97				4.15	5.48	6.31	NS		5.96		
5/2019	6.45	6.23	6.34	5.71	7.11	6.19	8.97	4.71	5.58	5.95	NS	5.75	5.58		
9/2019	6.45	6.42	6.89	6.04	7.10	6.13	8.86	5.56	6.64	6.48	NS	6.36	6.17		
3/2020	6.86	5.8	6.51	5.7	NS	NS	NS	3.96	5.93	NS	NS	6.25	5.94		
5/2020	6.7	6.22	6.58	5.81	NS	NS	NS	4.42	5.87	NS	NS	6.53	5.7		

Orange – Exceedance above the cobalt GWPS.

Yellow – Concentration is above the prediction limit but below the cobalt GWPS. White – Non-Detect.

NS – Not Sampled.

Table 4

Groundwater pH Measurements vs. Beryllium Concentrations – Downgradient Wells

					рН	Monitoring I	Results (S.U	l.)							
	Monitoring Well														
Sample Date	CCR-2	CCR-3	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	MW-9	MW-12	MW-15	MW-16 (closed)	MW-17	OW-2		
5/2018	5.85	6.52	6.55					5.65	6.25	6.33	6.2		6.38		
9/2018	6.39	6.47	6.46	5.92				5.35	6.2	6.15	5.54		5.96		
3/2019	7.04	6.42	6.64	5.97				4.15	5.48	6.31	NS		5.96		
5/2019	6.45	6.23	6.34	5.71	7.11	6.19	8.97	4.71	5.58	5.95	NS	5.75	5.58		
9/2019	6.45	6.42	6.89	6.04	7.10	6.13	8.86	5.56	6.64	6.48	NS	6.36	6.17		
3/2020	6.86	5.8	6.51	5.7	NS	NS	NS	3.96	5.93	NS	NS	6.25	5.94		
5/2020	6.7	6.22	6.58	5.81	NS	NS	NS	4.42	5.87	NS	NS	6.53	5.7		

Orange – Exceedance above the beryllium GWPS. Yellow – Concentration is above the prediction limit but below the beryllium GWPS. White – Non-Detect.

NS – Not Sampled.

APPENDICES

APPENDIX A

SOIL SAMPLING FIELD NOTES

Boring No.:	SB-CCR5	Date:	10/29/19
Description:	Soil Sampling Event at Choctow Genn. Ackerman MS	hun	
Latitude: Longitude:		1	
Soil Boring Methe	odology: Porch Posh Geoprobe		

Soil Boring Depth (e.g., 0-4 ft)	Soil Classification	PID Readings (ppm)
0-4	Gray Silt with Clay	
4-6	Brown Santy Clay	
6-9	Gray Tan Sand with Blo	ly Clay (Wete7')
9-11	Jan Gray Clay with	s_{i}) +
11-12	TOUL	and
12-15	Tan Gray Stilt Fat Cla	u/
15-16	Bluck Sliff Fat Clacy	7
16-18	LESPITE	
	5	

Soil sample collection depth (ft): Sample collection time:

7, 10, + 18'

Analytical testing and sample container type:

Refusil @ 18'

Groundwater encountered (yes/no):	Ves	_depth (ft):	7'
Groundwater sample collected (yes/r	or):	ND	
Purge method:	A		
Sample collection time:	NA	date:	NA
Analytical testing and sample contain	ner type:	N/A	t

KA A MAK

Comments:

Boring No.:	SB-MW9	Date:	<u>10/29/1</u> 9
Description:	Soil Samply Event at Choctow General Activ man MS	504	
Latitude:		_	
Longitude:			

Soil Boring Methodology:

Direct Puol Geoprobe

Soil Boring Depth (e.g., 0-4 ft)	Soil Classification	PID Readings (ppm)
_ 0-2	Orange Sanly Clay	
2-4	Brown Clay with Sand	
4-8	Brown Lean Claymith S	and
8-12	Gray Brown Clayer Saml	
12-14	Gray Brown Silte, Sund	(wet e14')
14-14-17	Poorlypralal Sund with	S.It
17-20	Dork Gray Fat (Jan)	
	1 1	

Soil sample collection depth (ft): 10, 14, 18

Sample collection time:

Analytical testing and sample container type:

Groundwater encountered (yes/no):	depth (ft):	141
Groundwater sample collected (yes/no):	A -	
Purge method: A		
Sample collection time:	date:	MA
Analytical testing and sample container type:	NA	

Comments:

HA Hele

Boring No.:	SB-MW17	Date:	<u>10/29/</u> 19
Description:	Soil Sumpling Event of Charton Generation Actor Ms		
Latitude: Longitude:			
Soil Boring Me	thodology: Direct Pus (Seoproba		

Soil Boring Depth (e.g., 0-4 ft) Soil Classification PID Readings (ppm) - U rume Tan Leun Cluil 1 6 isn,te 8 -Clay Carl Lean 11 ID Lean Cluy in H -12 5.1 0 Vay -13 (layey Si)+ - 14 Tan 445 -16 Dansell ray -20 18' Gruy Clayer Silt - Wet

Soil sample collection depth (ft): Sample collection time:

Analytical testing and sample container type:

Groundwater encountered (yes/no):	Ves depth	n (ft):	18'
Groundwater sample collected (yes/no):		0	
Purge method:/A			
Sample collection time:	<u>MA</u> date:		NA
Analytical testing and sample container t	уре:	NA	

19

Comments:

MA A

APPENDIX B

SOIL SAMPLE ANALYTICAL RESULT



Mailing Address: PO Box 1410 Ocean Springs, MS 39566-1410 6500 Sunplex Drive Ocean Springs, MS 39564 228.875.6420 Phone 228.875.6423 Fax

November 13, 2019

Jim Ward

Work Order #: 1910642

Purchase Order #:

Choctaw Generation LP 2391 Pensacola Rd. Ackerman, MS 39735 *RE: Choctaw Gen Soil*

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 10/31/2019 09:00. If you have any questions concerning this report, please feel free to contact the office.

Hamy P. Howell

Harry P. Howell

President Micro-Methods Laboratory, Inc.



DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.



Г

Choctaw Generation LP	Project: Choctaw Gen Soil	
2391 Pensacola Rd.	Project Number: [none]	Reported:
Ackerman MS, 39735	Project Manager: Jim Ward	11/13/2019 10:08

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
SBCCR5-18	1910642-01	Soil	10/29/2019 11:20	Kirk Shelton	10/31/2019 09:00
SBCCR5-10	1910642-02	Soil	10/29/2019 11:58	Kirk Shelton	10/31/2019 09:00
SBCCR5-7	1910642-03	Soil	10/29/2019 11:59	Kirk Shelton	10/31/2019 09:00
SBMW9-18	1910642-04	Soil	10/29/2019 13:36	Kirk Shelton	10/31/2019 09:00
SBMW9-14	1910642-05	Soil	10/29/2019 13:43	Kirk Shelton	10/31/2019 09:00
SBMW9-10	1910642-06	Soil	10/29/2019 13:45	Kirk Shelton	10/31/2019 09:00
SBMW17-6	1910642-07	Soil	10/29/2019 15:30	Kirk Shelton	10/31/2019 09:00
SBMW17-13	1910642-08	Soil	10/29/2019 15:31	Kirk Shelton	10/31/2019 09:00
SBMW17-19	1910642-09	Soil	10/29/2019 15:32	Kirk Shelton	10/31/2019 09:00



6500 Sunplex Drive Ocean Springs, MS 39564 228-875-6420 Phone 228-875-6423 Fax

Project: Choctaw Gen Soil Project Number: [none] Project Manager: Jim Ward

Reported: 11/13/2019 10:08

Sample Receipt Conditions

Choctaw Generation LP

2391 Pensacola Rd.

Ackerman MS, 39735

Received by: Sarah E. Tomek

Date/Time Logged: 10/31/2019 9:12:00AM

Cooler ID: client cooler

Cooler Custody Seals Present	Yes
Containers Intact	Yes
COC/Labels Agree	Yes
Labels Complete	Yes
COC Complete	Yes
Volatile Vial Headspace >6mm	No
Field Sheet/Instructions Included	No
Samples Rejected/Documented in Log	No
Temp Taken From Temp Blank	No
Temp Taken From Sample Container	Yes
Temp Taken From Cooler	No
COC meets acceptance criteria	Yes

	Shipped by:	Fed Ex	
	Submitted by:	Kirk Shelton	
	Logged by:	Sarah E. Tomek	
Receip	t Temperature:	1.6 °C	
	Received on Ice	e but Not Frozen	Yes
	No Ice, Short Ti	rip	No
	Obvious Contar	mination	No
	Rush to meet H	T	No
	Received within	h HT	Yes
	Proper Contain	ers for Analysis	Yes
	Correct Preserv	ration	Yes
	Adequate Sam	ole for Analysis	Yes
	Sample Custod	y Seals Present	Yes
	Samples Missin	g from COC/Cooler	No



Choctaw Generation LP	Project: Choctaw Gen Soil
2391 Pensacola Rd.	Project Number: [none]
Ackerman MS, 39735	Project Manager: Jim Ward

Reported: 11/13/2019 10:08

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Comments- SCH @ 11/7/2019

The closing QC checks for Beryllium and Molybdenum did not meet the acceptance criteria. Preliminary results reported. A final report will be issued upon reanalysis of samples.

Qualifiers: No Data Qualification

Analyte & Samples(s) Qualified: None



Choctaw Generation LP			Pro	ject: Ch	octaw Gen S	Soil						
2391 Pensacola Rd.			Project Number: [none]						Reported:			
Ackerman MS, 39735		I	Project Mana	ger: Jin	n Ward				11/13/2019	10:08		
			SB	CCR5-	18							
			19106	42-01 (S	oil)							
	Develt	MD	11-24-	Di	Datab	A	Date Time Prepared	Date Time Analyzed		0 116		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzeu	Method	Qualifiers		
Metals by EPA 6000 Series M	ethods ICP-AES	5										
ithium	3.31	2.00	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:02	SW 6010C			
Metals by EPA 6000 Series M	ethods ICP-MS	[Analysi	s Mode]									
Beryllium [He]	3.52	1.25	mg/kg dry wt.	5.0	9K06049	ADB		11/11/2019 14:08	SW 6020A			
Cobalt [He]	11.4	5.00	"	"	"	ADB			"			
/lolybdenum [He]	ND	5.00	"			ADB						



Choctaw Generation LP			Pro	ject: Ch	octaw Gen S	oil						
2391 Pensacola Rd.		Project Number: [none]							Reported:			
Ackerman MS, 39735		I	Project Mana	iger: Jin	n Ward				11/13/2019	10:08		
			SB	CCR5-	10							
			19106	42-02 (S	oil)							
							Date Time	Date Time				
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzed	Method	Qualifiers		
letals by EPA 6000 Series M	lethods ICP-AES	6										
ithium	12.5	1.99	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:17	SW 6010C			
letals by EPA 6000 Series M	lethods ICP-MS	[Analysi	s Mode]									
Beryllium [He]	ND	1.25	mg/kg dry wt.	5.0	9K06049	ADB		11/11/2019 14:32	SW 6020A			
Cobalt [He]	ND	5.00	"	"	"	ADB						
lolybdenum [He]	ND	5.00	"			ADB						



Choctaw Generation LP			Pro	ject: Ch	octaw Gen S	oil						
2391 Pensacola Rd.			Project Number: [none]						Reported:			
Ackerman MS, 39735		I	Project Mana	iger: Jin	n Ward				11/13/2019	11/13/2019 10:08		
			SE	BCCR5-	7							
			19106	42-03 (S	oil)							
	Desult	MDI	l lucito	Dil	Datab	Amelyint	Date Time Prepared	Date Time Analyzed	Mada a d	Qualifian		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Fiepaleu	Analyzeu	Method	Qualifiers		
Metals by EPA 6000 Series M	ethods ICP-AES	<u> </u>										
ithium	6.15	1.99	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:21	SW 6010C			
Metals by EPA 6000 Series M	ethods ICP-MS	[Analysi	s Mode]									
Beryllium [He]	ND	1.25	mg/kg dry wt.	5.0	9K06049	ADB		11/11/2019 14:40	SW 6020A			
Cobalt [He]	8.30	5.00	"	"	"	ADB			"			
/lolybdenum [He]	ND	5.00			"	ADB						



Choctaw Generation LP			Pro	ject: Ch	octaw Gen S	Soil				
2391 Pensacola Rd.			Project Num	ber: [no		Reported:				
Ackerman MS, 39735		Project Manager: Jim Ward								
			SE	3MW9-1	8					
			19106	42-04 (S	oil)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Analyte Aetals by EPA 6000 Series M			Onits	Dii	Daten	Analyst	· · opaiou	,, <u></u>	Wethou	Quaimers
,										
ithium	21.8	2.00	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:26	SW 6010C	
letals by EPA 6000 Series M	ethods ICP-MS	[Analysi	s Mode]							
eryllium [He]	ND	1.25	mg/kg dry wt.	5.0	9K06049	ADB		11/11/2019 14:48	SW 6020A	
obalt [He]	16.4	5.00	"	"		ADB			"	
lolybdenum [He]	ND	5.00		"		ADB				



Choctaw Generation LP			Pro	ject: Ch	octaw Gen S	oil				
2391 Pensacola Rd.			Project Num		Reported:					
Ackerman MS, 39735		I	Project Mana	ger: Jin	n Ward				11/13/2019	10:08
			SE	8MW9-1	4					
			19106	42-05 (S	oil)					
							Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzed	Method	Qualifiers
Aetals by EPA 6000 Series M	ethods ICP-AES	6								
ithium	4.89	1.99	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:31	SW 6010C	
letals by EPA 6000 Series M	ethods ICP-MS	[Analysi	s Mode]							
Beryllium [He]	ND	1.25	mg/kg dry wt.	5.0	9K06049	ADB	"	11/11/2019 15:05	SW 6020A	
Cobalt [He]	ND	5.00		"		ADB				
lolybdenum [He]	ND	5.00		"	"	ADB				



Choctaw Generation LP			Pro	ject: Ch	octaw Gen S	Soil				
2391 Pensacola Rd.			Project Num		Reported:					
Ackerman MS, 39735		Project Manager: Jim Ward								
			SE	8MW9-1	0					
			19106	42-06 (S	oil)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Netals by EPA 6000 Series N			01110	5	201011	, and jot		,	mounou	Qualifiere
ithium	6.43	1.99	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:35	SW 6010C	
letals by EPA 6000 Series N	lethods ICP-MS	[Analysi	s Mode]							
eryllium [He]	ND	1.25	mg/kg dry wt.	5.0	9K06049	ADB		11/11/2019 15:13	SW 6020A	
obalt [He]	7.40	5.00	"			ADB			"	
lolybdenum [He]	ND	5.00	"			ADB				



Choctaw Generation LP				-	octaw Gen S	oil				
2391 Pensacola Rd.			Project Num	iber: [no	ne]				Reporte	ed:
Ackerman MS, 39735	Project Manager: Jim Ward								11/13/2019 10:08	
			SE	3MW17-	6					
			19106	42-07 (S	oil)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Netals by EPA 6000 Series M	ethods ICP-AES	;								
ithium	10.2	2.00	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:40	SW 6010C	
letals by EPA 6000 Series M	ethods ICP-MS	[Analysi	s Mode]							
Beryllium [He]	8.93	1.25	mg/kg dry wt.	20.0	9K06049	ADB		11/11/2019 22:34	SW 6020A	
obalt [He]	15.4	5.00	"	"	"	ADB				
/lolybdenum [He]	ND	5.00	"	5.0		ADB		11/11/2019 15:22		



Choctaw Generation LP			Pro	ject: Ch	octaw Gen S	oil						
2391 Pensacola Rd.			Project Num	ber: [no	ne]				Reporte	ed:		
Ackerman MS, 39735		Project Manager: Jim Ward								11/13/2019 10:08		
			SB	MW17-′	13							
			19106	42-08 (S	oil)							
	5 "						Date Time	Date Time		0		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzed	Method	Qualifiers		
Metals by EPA 6000 Series M	ethods ICP-AES	5										
ithium	13.0	2.00	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:45	SW 6010C			
Metals by EPA 6000 Series M	ethods ICP-MS	[Analysi	s Mode]									
Beryllium [He]	ND	1.25	mg/kg dry wt.	5.0	9K06049	ADB		11/11/2019 15:29	SW 6020A			
obalt [He]	11.0	5.00	"	"	"	ADB			"			
/lolybdenum [He]	ND	5.00			"	ADB						



Choctaw Generation LP			Pro	ject: Ch	octaw Gen S	oil				
2391 Pensacola Rd.			Project Num	ber: [no	ne]				Reporte	ed:
Ackerman MS, 39735	Project Manager: Jim Ward								11/13/2019 10:08	
			SB	MW17-′	19					
			19106	42-09 (S	oil)					
	Desult	MDI	l lucito	Dil	Datab	Amelyint	Date Time Prepared	Date Time Analyzed	Mada a d	Qualifian
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzeu	Method	Qualifiers
letals by EPA 6000 Series M	ethods ICP-AES	<u> </u>								
ithium	16.1	1.99	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:49	SW 6010C	
letals by EPA 6000 Series M	ethods ICP-MS	[Analysi	s Mode]							
Beryllium [He]	ND	1.25	mg/kg dry wt.	5.0	9K06049	ADB		11/11/2019 15:38	SW 6020A	
obalt [He]	10.6	5.00	"	"	"	ADB			"	
lolybdenum [He]	ND	5.00	"	"	"	ADB			"	



Г

Choctaw Generation LP 2391 Pensacola Rd. Ackerman MS, 39735	Motals	Project: Choctaw Gen Soil Project Number: [none] Project Manager: Jim Ward Metals by EPA 6000 Series Methods ICP-AES - Quality Control								Reported: 11/13/2019 10:08		
Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers	
Batch 9K04030 - EPA 3050B DCN 1017	Rev 8											
Blank (9K04030-BLK1)												
Beryllium	11/4/19 15:50	ND	1.25	mg/kg dry wt.								
Cobalt	11/4/19 15:50	ND	5.00									
Lithium	11/4/19 15:50	ND	2.00									
Molybdenum	11/4/19 15:50	ND	5.00									
LCS (9K04030-BS1)												
Beryllium	11/4/19 15:54	23.4	1.25	mg/kg dry wt.	20.0		117	80-120				
Cobalt	11/4/19 15:54	22.2	5.00		20.0		111	80-120				
Lithium	11/4/19 15:54	22.0	2.00		20.0		110	80-120				
Molybdenum	11/4/19 15:54	20.1	5.00		20.0		100	80-120				
LCS Dup (9K04030-BSD1)												
Beryllium	11/4/19 15:57	22.6	1.25	mg/kg dry wt.	20.0		113	80-120	3.46	20		
Cobalt	11/4/19 15:57	20.7	5.00		20.0		104	80-120	6.59	20		
Lithium	11/4/19 15:57	21.3	2.00		20.0		107	80-120	2.95	20		
Molybdenum	11/4/19 15:57	19.2	5.00		20.0		95.9	80-120	4.71	20		

Matrix Spike (9K04030-MS1)			Source: 1910	0642-01							
Beryllium	11/4/19 16:07	26.1	1.25	mg/kg dry wt.	20.0	4.65	108	75-125			
Cobalt	11/4/19 16:07	33.3	4.99		20.0	14.8	92.8	75-125			
Lithium	11/4/19 16:07	25.4	2.00		20.0	3.31	111	75-125			
Molybdenum	11/4/19 16:07	19.2	4.99		20.0	1.40	89.4	75-125			
Matrix Spike Dup (9K04030-MSD1)											
			Source: 1910	0642-01							
Beryllium	11/4/19 16:12	25.2	Source: 1910 1.25	0642-01 mg/kg dry wt.	20.0	4.65	103	75-125	3.82	20	
	11/4/19 16:12 11/4/19 16:12	25.2 32.8			20.0 20.0	4.65 14.8	103 90.1	75-125 75-125	3.82 1.58	20 20	
Beryllium			1.25								



Choctaw Generation LP	Project: Choctaw Gen Soil	
2391 Pensacola Rd.	Project Number: [none]	Reported:
Ackerman MS, 39735	Project Manager: Jim Ward	11/13/2019 10:08

Metals by EPA 6000 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 9K06049 - EPA 3050B DCN	I 1017 Rev 8										
Blank (9K06049-BLK1)											
Beryllium [He]	11/11/19 13:43	ND	1.25	mg/kg dry wt.							
Cobalt [He]	11/11/19 13:43	ND	5.00								
Molybdenum [He]	11/12/19 13:18	ND	5.00								
LCS (9K06049-BS1)											
Beryllium [He]	11/11/19 13:52	19.9	0.250	mg/kg dry wt.	20.0		99.7	80-120			
Cobalt [He]	11/11/19 13:52	20.4	0.250		20.0		102	80-120			
Molybdenum [He]	11/11/19 13:52	19.2	0.250		20.0		95.9	80-120			
LCS Dup (9K06049-BSD1)											
Beryllium [He]	11/11/19 14:00	21.7	0.250	mg/kg dry wt.	20.0		109	80-120	8.51	20	
Cobalt [He]	11/11/19 14:00	22.3	0.250		20.0		112	80-120	9.22	20	
Molybdenum [He]	11/11/19 14:00	21.2	0.250	"	20.0		106	80-120	9.80	20	
Matrix Spike (9K06049-MS1)			Source: 1910	1642-01							
Beryllium [He]	11/12/19 12:29	21.4	0.499	mg/kg dry wt.	20.0	3.52	89.5	75-125			
Cobalt [He]	11/12/19 12:29	31.2	0.499		20.0	11.4	99.3	75-125			
Molybdenum [He]	11/11/19 14:16	21.6	0.250		20.0	3.30	91.8	75-125			
Matrix Spike Dup (9K06049-MSD	1)		Source: 1910	0642-01							
Beryllium [He]	11/12/19 12:37	20.8	0.500	mg/kg dry wt.	20.0	3.52	86.5	75-125	2.75	20	
Cobalt [He]	11/11/19 14:24	27.0	0.250		20.0	11.4	78.1	75-125	14.5	20	
Molybdenum [He]	11/11/19 14:24	22.4	0.250		20.0	3.30	95.7	75-125	3.61	20	



Choctaw Generation LP	Project:	Choctaw Gen Soil	
2391 Pensacola Rd.	Project Number:	[none]	Reported:
Ackerman MS, 39735	Project Manager:	Jim Ward	11/13/2019 10:08

Certified Analyses Included in this Report

Г

Analyte	Certification Code
W 6010C in Soil	
Aluminum	C01,C02
Antimony	C01,C02
Arsenic	C01,C02
Barium	C01,C02
Beryllium	C01,C02
Boron	C01,C02
Cadmium	C01,C02
Calcium	C01,C02
Chromium	C01,C02
Cobalt	C01,C02
Copper	C01,C02
Iron	C01,C02
Lead	C01,C02
Magnesium	C01,C02
Manganese	C01,C02
Molybdenum	C01,C02
Nickel	C01,C02
Potassium	C01,C02
Selenium	C01,C02
Silver	C01,C02
Sodium	C01,C02
Strontium	C01,C02
Thallium	C01,C02
Tin	C01,C02
Titanium	C01,C02
Vanadium	C01,C02
Zinc	C01,C02

Only compounds included in this list are associated with accredited analyses



Choctaw Generation LP	Project: Choctaw Gen Soil	
2391 Pensacola Rd.	Project Number: [none]	Reported:
Ackerman MS, 39735	Project Manager: Jim Ward	11/13/2019 10:08

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	LA Environmental Lab Accreditation Program	01960	06/30/2020
C02	The NELAC Institute (NELAP)	TNI01397	06/30/2020
C03	Ms Dept of Health (Drinking Water Microbiology)	MS00021	12/31/2019
C04	Ms Dept of Health (Drinking Water Chemistry)	MS00021	12/31/2019
C05	Ms DEQ Lead Firm Certification	PBF-00000028	03/24/2020
C06	MsDEQ Asbestos Inspector : C.D. Bingham	ABI-00001348	02/21/2020
C07	MsDEQ Air Monitor : C.D. Bingham	AM-011572	03/07/2020
C08	MsDEQ Asbestos Inspector: C. W. Meins	ABI-00001821	09/04/2020
C09	MsDEQ Air Monitor : C.W. Meins	AM-011189	03/07/2020
C12			
C14	MsDEQ Lead Paint Inspector : C.D. Bingham	PBI-00003690	02/22/2020
C15	MsDEQ Lead Paint Inspector : C.W. Meins	PBI-00001740	02/22/2020

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verflication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.



Choctaw Generation LP	Project: Choctaw Gen Soil	
2391 Pensacola Rd.	Project Number: [none]	Reported:
Ackerman MS, 39735	Project Manager: Jim Ward	11/13/2019 10:08

Analyst Initials Key

<u>FullName</u>	<u>Initials</u>
Alyssa D Bennett	ADB
Charles L Vorhoff	CLV
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

	564	ings MS 39564	Physical Address: 6500 Sunplex Drive, Ocean Springs M	0 Sunplex D	dress: 650	iysical Ad	Pł		DCN# F316 Rev.#5
							1. N. N.		Received by
	VIIIV		-		Ċ				Relinquished by
	MM	idzulia	WM	Mah	50	BINN	MARK .	TUNK	Received by
						D		1 Feat	Relinquished by
	16.2	-	Long Marc		() cer		NTVHA	10261	Received by
Notes: Sandy Shappel with Feb Ex.	17.20	10/70/14	FIST			MAN	haltan	Kirlls	Relinquished by
All Temps are Corrected Values** 9=NaHSO4		Inate	mpan	1	Signature		Name	Printed Name	and the second s
			Blank Cooler	Sample X B			By:		Date & Time
6=HNO3 7=Na2S203			Receipt Temp Corrected(°C)	ceipt Temp	AUR	Cooler #	40	Y/N Thermometer#	Received on Ice7
NaOH				+	-				
4=ZnC4H1006 5=ZnC4H1006 &				2 2 2					
3=NaOH					-		10/2914 5:22	-19	5
1= H2504 2= H3P04			¢>	うシン	. 4	500	10/20/00/00	1	MWIT
Preservation:					10		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	5	SB MW -
				506	• 6	3	10/70/0 13.00	0	- BMW85
						S S		エ	S&MW9-
SL = Sludge		+	\$	シンシン	-	S.		10	S&NN9-
	T	+	× >	×) × : ×)	6	ő	- 1	Ĺ	SBCUP 5.
		Ŧ			2 4	50	10/29/19 11:58	10	SBCCP5-
SE = Sediment		+		41		_	10,29/19 11:20	18	SBCCRS-
S = Solid SO = Solid			- 0	0	Grab (Code t	Sampling Date/Time	entification	Sample Identification
DW = Drinking Water			<u>Iliuv</u> zdenur	um		ontain			Project #:
ID# Field Test			_	~	C)		Soil	Chictaw Gen.	
Field Testing		sted	Analyses Requested	List An	Preservative:	P			Project Name:
QC Level: Level 1 Level 2 Level 3			Ame in						
]			I C WEITER	te Signed:	Sampler Name Signed:	S			Fax:
Other*Drior approvedFax			WY CLAIL	ne Printed:	Sampler Name Printed:	S		662-387-5758	ā
y* requests must be				ss :	Email Address :	S	5 2973		Ackerman
10 working d					Purchase Order #:	T	and the second sec	Pensarola R.d.	2391 Pensi
Turn Around Time & Reporting			Wourd	Iger. Jim	roject Mana	Minie Lulio	atto Limiteci partmenship Jup Project Manager.	Chochaw (seneration	
1								lodslab.com	Company Name:
7400101			01960	LELAP ID # 01960 TNI ID # TNI01397			23	AX (228) 875-64)	(228) 875-6420 FAX (228) 875-6423
M-M Lab			00021	Lab ID# MS00021		ſ	30566 1410	ean Shringe MS	PO Box 1410. Oc
Print Form			Custody Record	ofCusto	Chain of		DS	MUCRO-METHODS	MICR
								100 M	

Page 19 of 19

Ġ

A