

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

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## 1.0 INTRODUCTION

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### 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 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 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 wells 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

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

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Date Signed



(Seal)

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## **2.0 OVERVIEW: DETECTION AND ASSESSMENT MONITORING**

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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 monitored during semiannual assessment monitoring events. The next two (2) semiannual assessment 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 2019 annual monitoring event. The next annual monitoring for all 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.



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## 3.0 GROUNDWATER MONITORING SYSTEM

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### 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 groundwater passing the waste boundary 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.

**Table 2-1: Groundwater Monitoring Wells**

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

\*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

were 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.



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## 4.0 GROUNDWATER MONITORING DATA

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### 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.

**Table 4-1: Appendix III Constituents**

<b>40 CFR 257, Subpart D, Appendix III – Constituents for Background and Subsequent Detection and Assessment Monitoring</b>					
Parameter	Analytical Method	Container		Preservative	Holding Time
Boron	200.7	P	500mL	NA	6 months
Calcium	200.7	P	500mL	NA	6 months
Chloride	4500-Cl-B	P	1000mL	NA	28 days
Fluoride	4500-F-D	P	1000mL	NA	28 days
pH	Measured and monitored in the field.				
Sulfate	4110B	P	1000mL	NA	28 days
TDS	2540C	P	1000mL	NA	7 days

**Table 4-2: Appendix IV Constituents**

<b>40 CFR 257, Subpart D, Appendix IV – Constituents for Background and Assessment Monitoring</b>					
Parameter	Analytical Method	Container		Preservative	Holding Time
Antimony	200.8	P	500mL	NA	6 months
Arsenic	200.8	P	500mL	NA	6 months
Barium	200.8	P	500mL	NA	6 months
Beryllium	200.8	P	500mL	NA	6 months
Cadmium	200.8	P	500mL	NA	6 months
Chromium	200.8	P	500mL	NA	6 months
Cobalt	200.8	P	500mL	NA	6 months
Fluoride	4500-F-C	P	1000mL	NA	28 days
Lead	200.8	P	500mL	NA	6 months
Lithium	200.7	P	500mL	NA	6 months
Mercury	245.1	P	500mL	NA	28 days
Molybdenum	200.8	P	500mL	NA	6 months
Selenium	200.8	P	500mL	NA	6 months

<b>40 CFR 257, Subpart D, Appendix IV – Constituents for Background and Assessment Monitoring</b>					
Parameter	Analytical Method	Container		Preservative	Holding Time
Thallium	200.8	P	500mL	NA	6 months
Radium 226/228	901.1	P	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 ( $\eta_e$ ), 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  $1.0 \times 10^{-6}$  cm/sec, and in many cases  $1.0 \times 10^{-8}$  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  $2.0 \times 10^{-5}$  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 monitoring well, MW-15, which are approximately 3,025 feet apart. Since the integrity of the 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-13, and downgradient monitoring well, CCR-4, 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 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.

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

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
<b>Background Monitoring</b>																		
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
<b>Detection Monitoring</b>																		
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
<b>Assessment Monitoring</b>																		
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 <sup>(1)</sup>	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 <sup>(1)</sup>	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 <sup>(1)</sup>	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 <sup>(2)</sup>	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 <sup>(2)</sup>	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 <sup>(2)</sup>	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

(1) TOC elevations were resurveyed on November 14, 2019 and groundwater elevations were revised using the correct TOC elevations.

(2) Flow rate calculated using an average hydraulic gradient between MW-14 and CCR-2 as well as MW-13 and CCR-4.



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## 5.0 ADDITIONAL INFORMATION

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### 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**

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### **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.

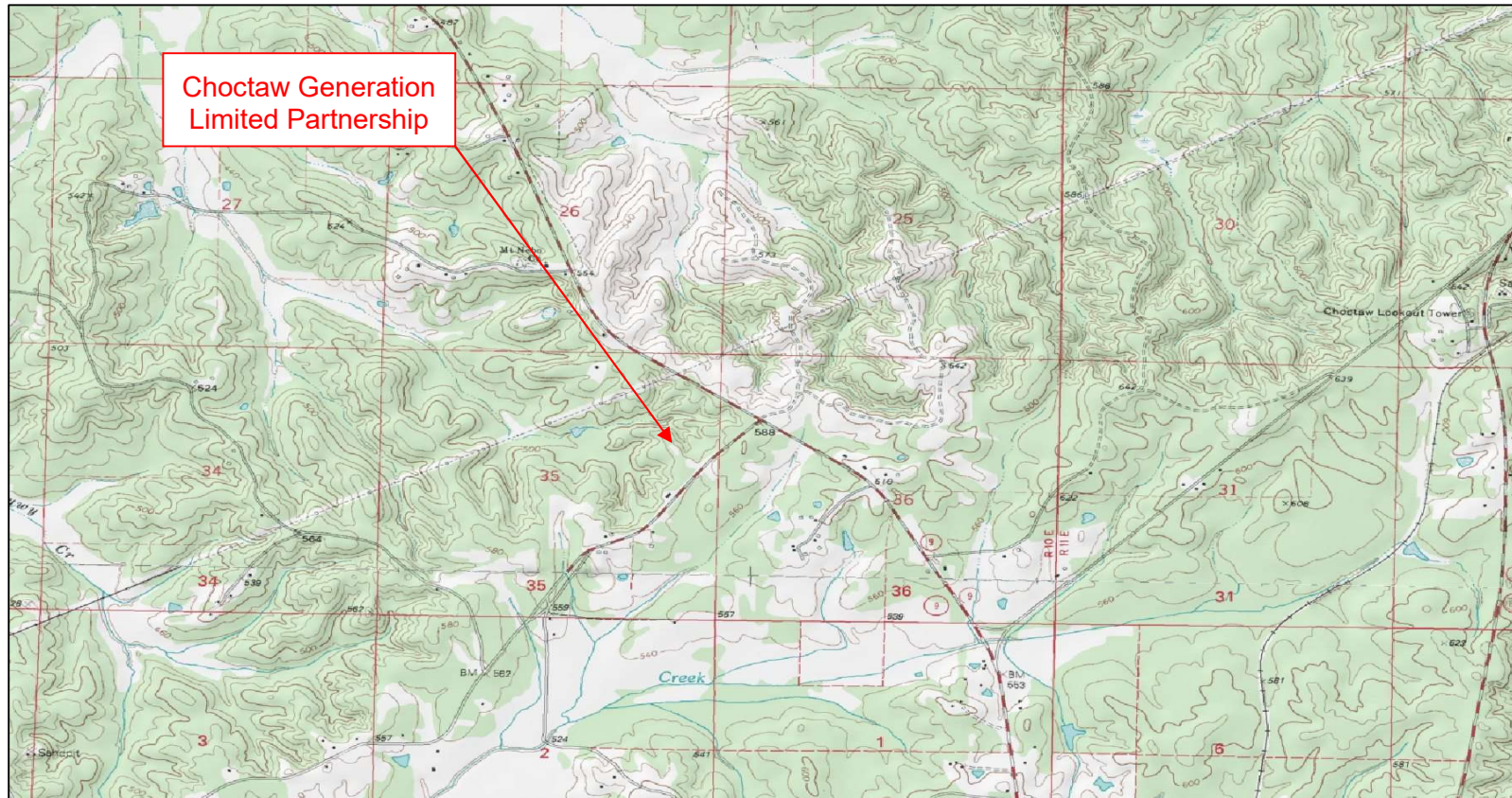
In response to the verified beryllium exceedance above the GWPS, the ASD was successfully amended on August 20, 2020 to include evidence that detections of beryllium at a SSL above the GWPS are a result of an alternate source. Due to the successful ASD, assessment monitoring was continued.

### **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



Legend:

Source:  
Digital-Topo-maps.com

Drawn By: JTB	Checked By: BSK
Date: 8/11/2016	Scale: 1:24,000
Project No.:	Drawing No: N/A

Choctaw Generation Limited Partnership  
2391 Pensacola Road  
Ackerman, Mississippi



P.O. Box 356  
Sherman, Mississippi 38869  
(662) 840-5945

Figure 1: Site Location Map

## **FIGURE 2**

FACILITY DIAGRAM

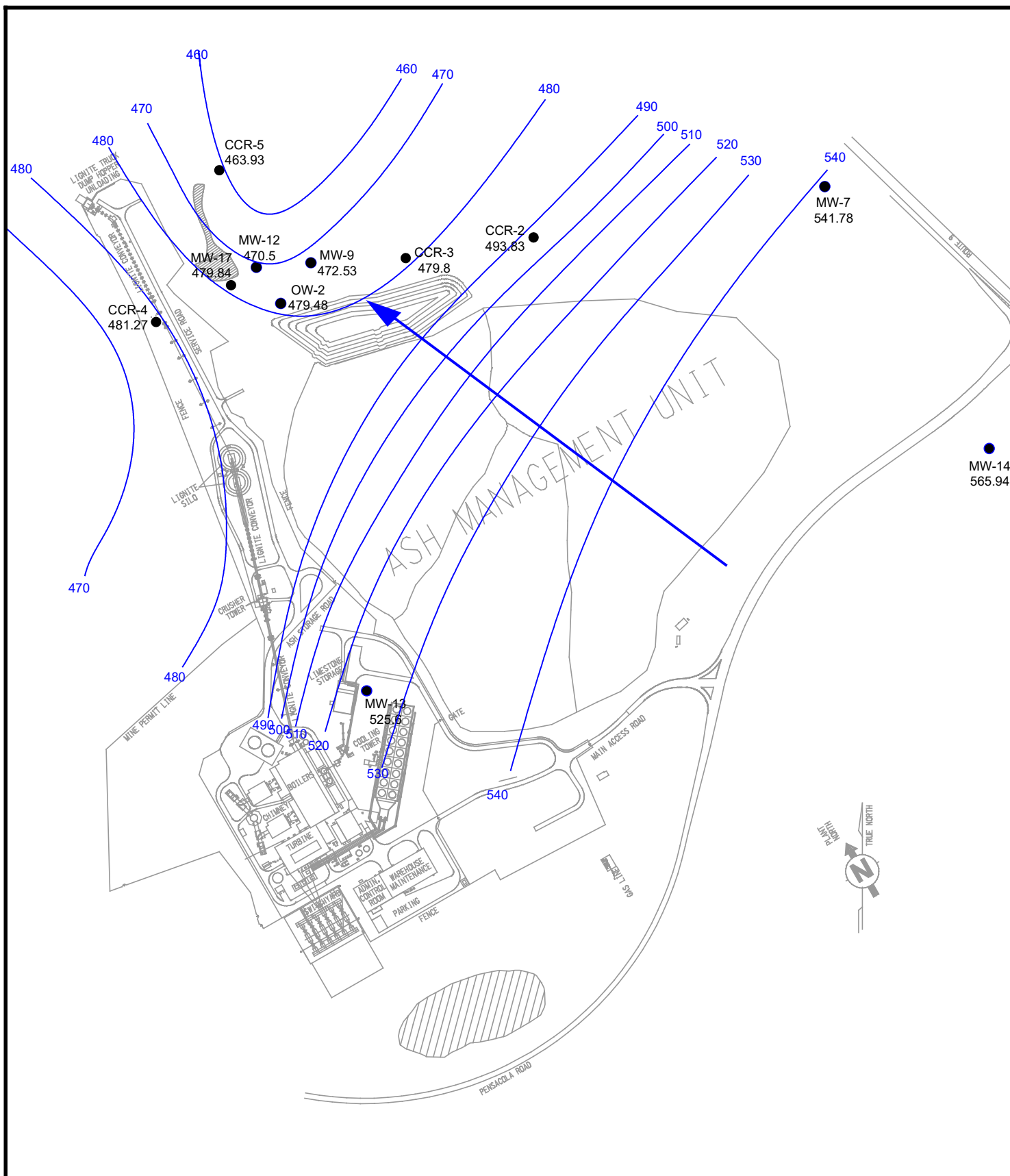






## **APPENDIX A**

### POTENTIOMETRIC SURFACE MAPS



P.O. Box 356  
 Sherman, MS 38869  
 (662) 840-5945

Choctaw Generation Limited Partnership, L.L.P.  
 2391 Pensacola Road  
 Ackerman, Mississippi

Potentiometric Surface Map (March 2020 GW Event)

Figure 1

Project No.:

**Legend:**

Monitoring Well Designation  
 and Groundwater Elevation (feet)

MW-7  
 541.79

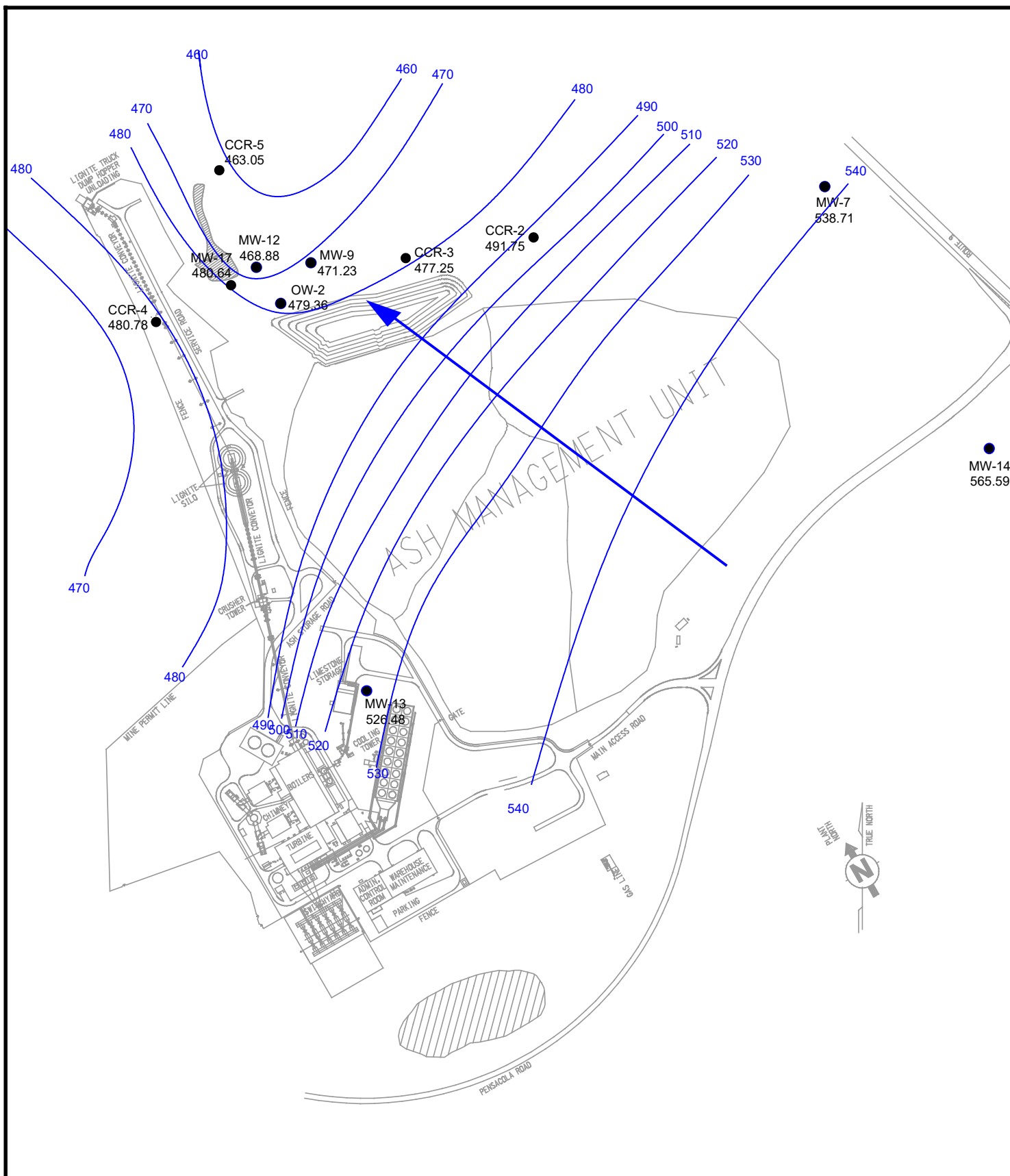
Groundwater Elevation Contours (ft)




500

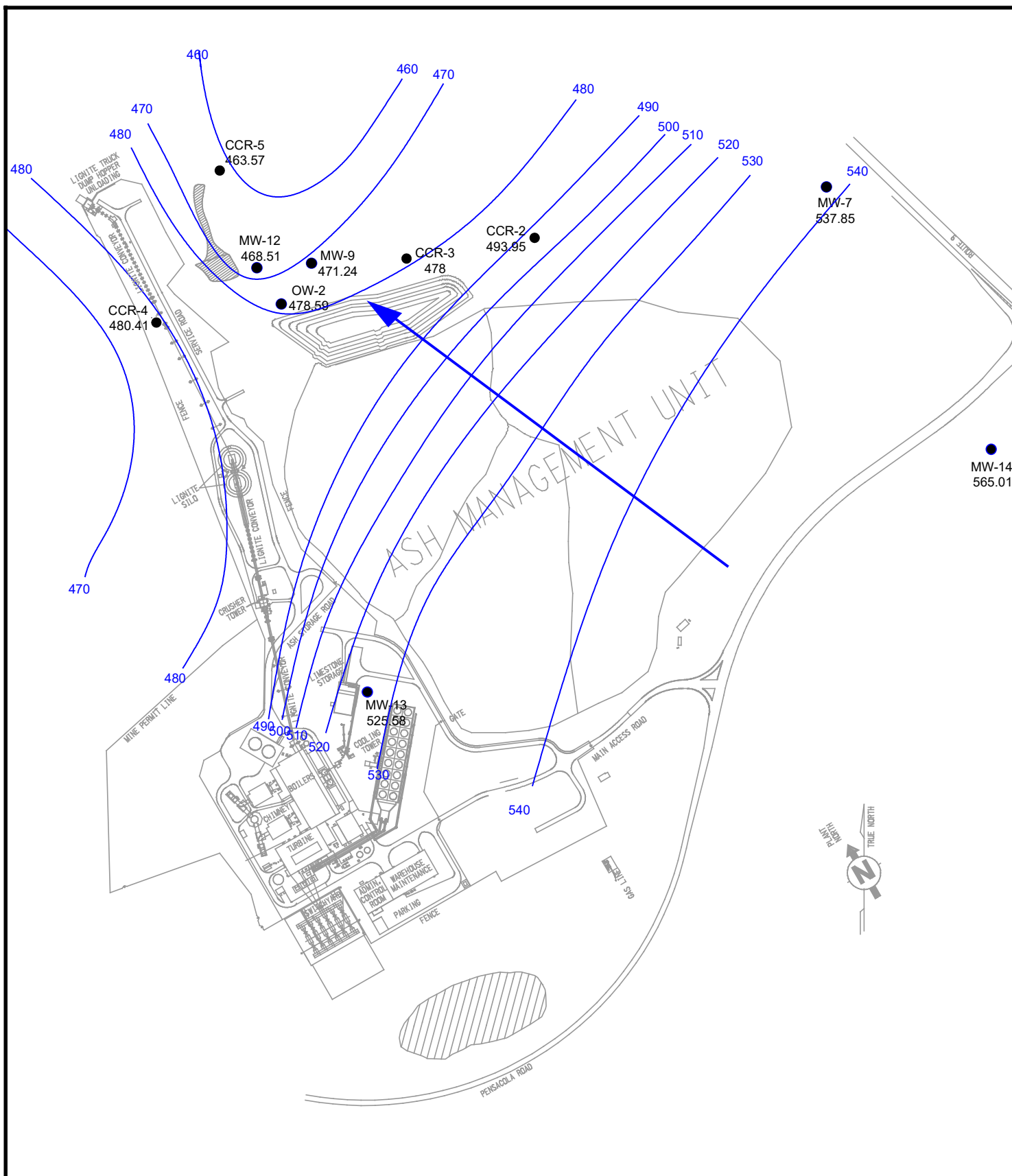
Scale: NTS

Drawn By: GJL (modified by CBG)

Date: 1/14/2021



 <p><b>ECS</b> ENVIRONMENTAL COMPLIANCE &amp; SAFETY, INC.</p> <p>P.O. Box 356 Sherman, MS 38869 (662) 840-5945</p>	Choctaw Generation Limited Partnership, L.L.P. 2391 Pensacola Road Ackerman, Mississippi		<b>Legend:</b> Monitoring Well Designation and Groundwater Elevation (feet)
	Potentiometric Surface Map (May 2020 GW Event)		 MW-7 538.71
	Figure 1		Groundwater Elevation Contours (ft)  500
	Project No.:		Scale: NTS Drawn By: GJL (modified by CBG) Date: 1/14/2021



P.O. Box 356  
Sherman, MS 38869  
(662) 840-5945

Choctaw Generation Limited Partnership, L.L.P.  
2391 Pensacola Road  
Ackerman, Mississippi

Potentiometric Surface Map (September 2020 GW Event)

Figure 1

Project No.:

Legend:

Monitoring Well Designation  
and Groundwater Elevation (feet)

Groundwater Elevation Contours (ft)

Scale: NTS

Drawn By: GJL (modified by CBG)

Date: 1/14/2021

MW-7  
537.85

500

## **APPENDIX B**

ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FORMS





Mailing Address:  
PO Box 1410  
Ocean Springs, MS  
39566-1410

## DOCUMENT CHANGE NOTICE

### Revised Report

6500 Sunplex Drive  
Ocean Springs, MS 39564  
228.875.6420 Phone  
228.875.6423 Fax

April 23, 2020

Jim Ward

Work Order # : 2003539

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

Purchase Order # RHD12930

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,

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

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.

**Revised Report**

Tina Tomek For Teresa Meins, Organic Supervisor

Page 2 of 48

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

**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

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

<i>Received on Ice but Not Frozen</i>	Yes
<i>No Ice, Short Trip</i>	No
<i>Obvious Contamination</i>	No
<i>Rush to meet HT</i>	No
<i>Received within HT</i>	Yes
<i>Proper Containers for Analysis</i>	Yes
<i>Correct Preservation</i>	Yes
<i>Adequate Sample for Analysis</i>	No
<i>Sample Custody Seals Present</i>	No
<i>Samples Missing from COC/Cooler</i>	No

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.

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

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

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.

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

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

*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.*

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

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

*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.*

Choctaw Generation LP  
2391 Pensacola Rd.  
Ackerman MS, 39735Project: CGLP CCR  
Project Number: March 2020 1st CCR Event  
Project Manager: Jim WardReported:  
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**Fluoride-SM 4500-F C 2011****Qualification:**

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]

*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.*

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-9**
**2003539-01 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Notes
<b>Classical Chemistry Parameters</b>										
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 SO <sub>4</sub>	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	
<b>Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]</b>										
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	"	

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Choctaw Generation LP  
 2391 Pensacola Rd.  
 Ackerman MS, 39735

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

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 04/23/2020 10:52

**MW-17**
**2003539-02 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Notes
<b>Classical Chemistry Parameters</b>										
<b>Chloride</b>	<b>41.2</b>	2.00	mg/L	4.0	0C27021	DLW	03/27/2020 12:03	03/27/2020 12:38	SM 4110B 2011	
<b>Sulfate as SO4</b>	<b>140</b>	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
<b>Total Dissolved Solids</b>	<b>402</b>	1	"	"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
<b>Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]</b>										
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	
<b>Arsenic [HHe]</b>	<b>0.00245</b>	0.00200	"	"	"	ABT	"	"	"	
<b>Barium [He]</b>	<b>0.0962</b>	0.00100	"	"	"	ABT	"	"	"	
Beryllium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
<b>Boron [NG]</b>	<b>0.0843</b>	0.0500	"	"	"	ABT	"	"	"	
Cadmium [HHe]	ND	0.00100	"	"	"	ABT	"	"	"	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
<b>Cobalt [He]</b>	<b>0.00506</b>	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	"	"	"	
<b>Calcium [He]</b>	<b>55.1</b>	0.625	"	25.0	"	ABT	"	03/31/2020 23:11	"	

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Choctaw Generation LP  
 2391 Pensacola Rd.  
 Ackerman MS, 39735

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

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 04/23/2020 10:52

**OW-2**
**2003539-03 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Notes
<b>Classical Chemistry Parameters</b>										
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 Methods ICP-MS [Analysis Mode]**

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	"	

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Choctaw Generation LP  
 2391 Pensacola Rd.  
 Ackerman MS, 39735

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

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 04/23/2020 10:52

**MW-13**
**2003539-04 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Notes
<b>Classical Chemistry Parameters</b>										
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 SO <sub>4</sub>	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	
<b>Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]</b>										
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	"	

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

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**MW-7**
**2003539-05 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Notes
<b>Classical Chemistry Parameters</b>										
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 SO <sub>4</sub>	40.8	10.0	"	2.0	"	DLW	"	03/27/2020 14:21	"	
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	185	1	"	"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
<b>Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]</b>										
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	"	"	"	
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]	45.0	0.625	"	25.0	"	ABT	"	03/31/2020 23:38	"	

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Choctaw Generation LP  
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 Project Number: March 2020 1st CCR Event  
 Project Manager: Jim Ward

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**MW-14**
**2003539-06 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Notes
<b>Classical Chemistry Parameters</b>										
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 SO <sub>4</sub>	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	
<b>Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]</b>										
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	"	"	"	
Lithium [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Calcium [He]	0.734	0.0250	"	"	"	ABT	"	03/31/2020 23:46	"	

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Choctaw Generation LP  
 2391 Pensacola Rd.  
 Ackerman MS, 39735

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

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**Field Blank**
**2003539-07 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Notes
<b>Classical Chemistry Parameters</b>										
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	
<b>Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]</b>										
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	"	"	"	
Barium [He]	ND	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]	ND	0.0250	"	"	"	ABT	"	04/01/2020 00:31	"	

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Choctaw Generation LP  
 2391 Pensacola Rd.  
 Ackerman MS, 39735

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

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 04/23/2020 10:52

**Duplicate**
**2003539-08 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Notes
<b>Classical Chemistry Parameters</b>										
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	"	"	"	
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	86	1	"	"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	

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

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	"	"	"	
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]	0.741	0.0250	"	"	"	ABT	"	04/01/2020 00:40	"	

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

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**MW-12**
**2003539-09 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Notes
<b>Classical Chemistry Parameters</b>										
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 SO <sub>4</sub>	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	
<b>Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]</b>										
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	"	
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	"	"	"	
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]	36.9	0.625	"	25.0	"	ABT	"	04/01/2020 00:49	"	

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

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**CCR-5**
**2003539-10 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Notes
<b>Classical Chemistry Parameters</b>										
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 SO <sub>4</sub>	1320	250	"	50.0	"	DLW	"	03/27/2020 17:56	"	
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	1930	2	"	"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
<b>Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]</b>										
Antimony [HHe]	ND	0.00500	mg/L	1.0	0C30032	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	"	

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**CCR-2**
**2003539-11 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Notes
<b>Classical Chemistry Parameters</b>										
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 SO <sub>4</sub>	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	
<b>Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]</b>										
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	"	"	"	
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]	18.5	0.250	"	10.0	"	ABT	"	04/01/2020 01:06	"	

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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-3**
**2003539-12 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Notes
<b>Classical Chemistry Parameters</b>										
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	"	
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	486	1	"	"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
<b>Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]</b>										
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	"	"	"	
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]	0.0116	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Molybdenum [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Selenium [HHe]	ND	0.00100	"	"	"	ABT	"	"	"	
Lithium [He]	0.115	0.0400	"	"	"	ABT	"	"	"	
Calcium [He]	50.9	1.25	"	50.0	"	ABT	"	04/01/2020 01:15	"	

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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	Analyst	Date Time Prepared	Date Time Analyzed	Method	Notes
<b>Classical Chemistry Parameters</b>										
<b>Chloride</b>	<b>7.84</b>	0.500	mg/L	1.0	0C27021	DLW	03/27/2020 12:03	03/27/2020 19:07	SM 4110B 2011	
<b>Sulfate as SO4</b>	<b>30.6</b>	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
<b>Total Dissolved Solids</b>	<b>210</b>	1	"	"	0C30039	DLW	03/30/2020 11:00	03/31/2020 00:00	SM 2540 C-2011	
<b>Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]</b>										
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	"	"	"	
<b>Barium [He]</b>	<b>0.152</b>	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	"	"	"	
<b>Cobalt [He]</b>	<b>0.00424</b>	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	"	"	"	
<b>Calcium [He]</b>	<b>30.9</b>	0.625	"	25.0	"	ABT	"	04/01/2020 01:24	"	

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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
<b>Batch 0C27021 - Default Prep GenChem</b>											
<b>Blank (0C27021-BLK1)</b>											
Chloride	3/27/20 10:14	ND	0.500	mg/L							
Sulfate as SO <sub>4</sub>	3/27/20 10:14	ND	5.00	"							
<b>Blank (0C27021-BLK2)</b>											
Sulfate as SO <sub>4</sub>	3/30/20 11:01	ND	5.00	mg/L							
<b>LCS (0C27021-BS1)</b>											
Chloride	3/27/20 9:38	2.88	0.500	mg/L	3.00		96.0	81.8-111			
Sulfate as SO <sub>4</sub>	3/27/20 9:38	15.1	5.00	"	15.0		101	85.6-111			
<b>LCS (0C27021-BS2)</b>											
Sulfate as SO <sub>4</sub>	3/30/20 10:25	14.0	5.00	mg/L	15.0		93.5	85.6-111			
<b>LCS Dup (0C27021-BSD1)</b>											
Chloride	3/27/20 9:56	2.88	0.500	mg/L	3.00		96.0	81.8-111	0.00	20	
Sulfate as SO <sub>4</sub>	3/27/20 9:56	15.1	5.00	"	15.0		101	85.6-111	0.00663	20	
<b>LCS Dup (0C27021-BSD2)</b>											
Sulfate as SO <sub>4</sub>	3/30/20 10:43	14.2	5.00	mg/L	15.0		94.6	85.6-111	1.17	20	
<b>Duplicate (0C27021-DUP1)</b>											
<b>Source: 2003539-06</b>											
Chloride	3/27/20 14:57	19.1	0.500	mg/L		19.1			0.157	20	
Sulfate as SO <sub>4</sub>	3/27/20 14:57	11.4	5.00	"		11.1			2.56	20	
<b>Matrix Spike (0C27021-MS1)</b>											
<b>Source: 2003539-06</b>											
Chloride	3/27/20 15:15	115	5.00	mg/L	100	19.1	96.3	75.3-124			
Sulfate as SO <sub>4</sub>	3/27/20 15:15	133	50.0	"	100	ND	133	60.6-139			

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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
<b>Batch 0C27021 - Default Prep GenChem</b>											
<b>Matrix Spike Dup (0C27021-MSD1)</b>			<b>Source: 2003539-06</b>								
Chloride	3/27/20 15:33	116	5.00	mg/L	100	19.1	96.9	75.3-124	0.501	20	
Sulfate as SO <sub>4</sub>	3/27/20 15:33	136	50.0	"	100	ND	136	60.6-139	1.87	20	
<b>Batch 0C30039 - Default Prep GenChem</b>											
<b>Blank (0C30039-BLK1)</b>											
Total Dissolved Solids	3/31/20 0:00	ND	1	mg/L							
<b>LCS (0C30039-BS1)</b>											
Total Dissolved Solids	3/31/20 0:00	94	1	mg/L	104		90.4	82.2-100			
<b>LCS Dup (0C30039-BSD1)</b>											
Total Dissolved Solids	3/31/20 0:00	98	1	mg/L	104		94.2	82.2-100	4.17	15	
<b>Duplicate (0C30039-DUP1)</b>											
			<b>Source: 2003539-08</b>								
Total Dissolved Solids	3/31/20 0:00	87	1	mg/L		86			1.16	5	
<b>Duplicate (0C30039-DUP2)</b>											
			<b>Source: 2003539-13</b>								
Total Dissolved Solids	3/31/20 0:00	207	1	mg/L		210			1.44	5	
<b>Batch 0C30045 - Default Prep GenChem</b>											
<b>Blank (0C30045-BLK1)</b>											
Fluoride	3/30/20 11:30	ND	0.22	mg/L							
<b>LCS (0C30045-BS1)</b>											
Fluoride	3/30/20 11:30	2.16	0.22	mg/L	2.00		108	84.5-110			

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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 GenChem											
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: 2003539-13											
Fluoride	3/30/20 11:30	ND	0.22	mg/L		ND				35	
Matrix Spike (0C30045-MS1) Source: 2003539-13											
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: 2003539-13											
Fluoride	3/30/20 11:30	1.99	0.22	mg/L	2.00	ND	99.5	58.5-128	2.03	30	

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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
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Batch 0C30032 - EPA 200.2 DCN 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			

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Micro-Methods Laboratory, Inc.

Revised Report

Tina Tomek For Teresa Meins, Organic Supervisor

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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											
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: 2003539-01											
Calcium [He]	3/31/20 23:02	92.7	1.25	mg/L		96.4			3.89	20	
Duplicate (0C30032-DUP2) Source: 2003539-13											
Calcium [He]	4/1/20 1:41	30.6	0.625	mg/L		30.9			0.917	20	
Matrix Spike (0C30032-MS1) Source: 2003539-01											
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			
Lithium [He]	3/30/20 21:19	0.298	0.0400	"	0.200	0.113	92.6	70-130			

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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: 2003539-13								
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			
Lead [He]	3/31/20 0:06	0.098	0.00100	"	0.100	ND	97.9	70-130			
Molybdenum [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			
Lithium [He]	3/31/20 0:06	0.212	0.0400	"	0.200	0.025	93.5	70-130			
Matrix Spike Dup (0C30032-MSD1)			Source: 2003539-01								
Antimony [HHe]	3/30/20 21:27	0.100	0.00500	mg/L	0.100	ND	100	70-130	5.13	20	
Arsenic [HHe]	3/30/20 21:27	0.095	0.00200	"	0.100	ND	95.0	70-130	3.46	20	
Barium [He]	3/30/20 21:27	0.244	0.00100	"	0.100	0.137	107	70-130	0.197	20	
Beryllium [He]	3/30/20 21:27	0.092	0.00100	"	0.100	0.005	86.5	70-130	2.27	20	
Boron [NG]	3/31/20 14:02	0.119	0.0500	"	0.100	0.021	97.9	70-130	0.307	20	
Cadmium [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	
Lead [He]	3/30/20 21:27	0.105	0.00100	"	0.100	0.001	104	70-130	0.725	20	
Molybdenum [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	
Lithium [He]	3/30/20 21:27	0.299	0.0400	"	0.200	0.113	93.1	70-130	0.358	20	
Matrix Spike Dup (0C30032-MSD2)			Source: 2003539-13								
Antimony [HHe]	3/31/20 0:14	0.100	0.00500	mg/L	0.100	ND	99.7	70-130	3.58	20	
Arsenic [HHe]	3/31/20 0:14	0.097	0.00200	"	0.100	0.001	95.9	70-130	1.90	20	
Barium [He]	3/31/20 0:14	0.262	0.00100	"	0.100	0.152	110	70-130	3.75	20	
Beryllium [He]	3/31/20 0:14	0.091	0.00100	"	0.100	ND	90.8	70-130	1.74	20	
Boron [NG]	3/31/20 0:14	0.139	0.0500	"	0.100	0.035	104	70-130	13.5	20	
Cadmium [HHe]	3/31/20 0:14	0.091	0.00100	"	0.100	ND	91.1	70-130	2.88	20	
Chromium [He]	3/31/20 0:14	0.100	0.00100	"	0.100	ND	99.6	70-130	1.86	20	
Cobalt [He]	3/31/20 0:14	0.105	0.00100	"	0.100	0.004	101	70-130	1.69	20	
Lead [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	
Lithium [He]	3/31/20 0:14	0.215	0.0400	"	0.200	0.025	95.0	70-130	1.35	20	

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.

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

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*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.

**Revised Report**

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Tina Tomek For Teresa Meins, Organic Supervisor

Page 27 of 48

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
<b><i>EPA 200.8 Rev 5.4 in Water</i></b>	
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
<b><i>SM 2540 C-2011 in Water</i></b>	
Total Dissolved Solids	C01,C02

**\*\*Only compounds included in this list are associated with accredited analyses\*\***

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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 CertiNot certified by an accrediting body	No certification held	06/30/2020

### Report Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verification
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verification 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.

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.

Choctaw Generation LP  
2391 Pensacola Rd.  
Ackerman MS, 39735Project: CGLP CCR  
Project Number: March 2020 1st CCR Event  
Project Manager: Jim WardReported:  
04/23/2020 10:52**Analyst Initials Key**

<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
Sarah E. Tomek	SET
Stella S Kleist	SSK
Teresa Meins	TKM
Tina Tomek	TPT

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.



6500 Sunplex Drive, Ocean Springs, MS  
39564 (228) 875-6420 FAX (228) 875-6423

www.micromethodslab.com

**Chain of Custody Record**

Lab ID# MS00021  
LEIAP ID # 01960  
TNID # TN101397

Print Form

2008539

Company Name: <b>Red Hills Power Plant</b>		Project Manager: <b>Jim Ward</b>	
Address: <b>2391 Pensacola Road</b>		Purchase Order #: <b>SCSRDH6883</b>	
City: <b>Ackerman</b>	State: <b>MS</b> Zip: <b>39735</b>	Email Address: <b>jimward@southernco.com</b>	
Phone: <b>662-387-5758</b>		Sampler Name Printed: <b>Kirk Shelton / B.J. Krieger</b>	
Fax:		Sampler Name Signed: <i>[Signature]</i>	

Project Name	Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	List Analyses Requested											
					Grab (G) or Composite (C)	TDS	Chloride	Fluoride, Sulfate	Antimony	Arsenic	Barium, Boron, Beryllium	Cadmium, Chromium	Lead, Mercury, Calcium, Cobalt	Lithium, Thallium	Molybdenum, Selenium	Total Radium 226 & 228
Project # <b>Charleston Green 2020 1st CCR Event</b>	MM-9	3/24/20 9:34	W	5	G	X	X	X	X	X	X	X	X	X	X	X
	MM-17	3/26/20 12:20	W	5	G	X	X	X	X	X	X	X	X	X	X	X
	OW-2	3/26/20 11:25	W	5	G	X	X	X	X	X	X	X	X	X	X	X
	MM-13	3/25/20 9:11	W	4	G	X	X	X	X	X	X	X	X	X	X	X
	MM-7	3/25/20 12:35	W	4	G	X	X	X	X	X	X	X	X	X	X	X
	MM-14	3/25/20 11:16	W	4	G	X	X	X	X	X	X	X	X	X	X	X
	Field Blank	3/24/20 14:35	W	5	G	X	X	X	X	X	X	X	X	X	X	X
	Duplicate	3/25/20	W	4	G	X	X	X	X	X	X	X	X	X	X	X
	MM-12	3/26/20 12:18	W	5	G	X	X	X	X	X	X	X	X	X	X	X
	CCR-5	3/25/20 10:15	W	4	G	X	X	X	X	X	X	X	X	X	X	X
CCR-2	3/26/20 9:29	W	5	G	X	X	X	X	X	X	X	X	X	X	X	
CCR-3	3/26/20 10:05	W	5	G	X	X	X	X	X	X	X	X	X	X	X	
CCR-4	3/26/20 14:30	W	4	G	X	X	X	X	X	X	X	X	X	X	X	

Relinquished by	Printed Name	Signature	Company	Date	Time
Received by	Kirk Shelton	<i>[Signature]</i>	ECS, Inc	3/26/20	18:45
Relinquished by	FELER				
Received by	FELER				
Relinquished by	Shawn Turner	<i>[Signature]</i>	MM	3/26/20	18:12
Received by	Shawn Turner				
Relinquished by					
Received by					

Received on Ice? Yes ☒ No ☐

Receipt Temp (°C) \_\_\_\_\_ Sample \_\_\_\_\_ Blank ☒

Cooler # \_\_\_\_\_ Thermometer # 4

Date & Time \_\_\_\_\_

By: *[Signature]*

DCN# F316 Rev #2

cooler #515 -0.9°C #1134 -0.1°C

#1104

-0.1°C client cooler 0.9°C

**Special Instructions / Comments**

Note: We used an old CDC not previously used. Accuracy. Right Name is Charleston. Generated March 2020 1st CCR Event

**Field Testing / QC Reporting**

Field pH \_\_\_\_\_ Collect Time \_\_\_\_\_ Read Time \_\_\_\_\_

Field D.O. \_\_\_\_\_ Collect Time \_\_\_\_\_ Read Time \_\_\_\_\_

Field Temp \_\_\_\_\_ Collect Time \_\_\_\_\_ Read Time \_\_\_\_\_

QC Level: Level 1 ☐ Level 2 ☐ Level 3 ☐

**Matrix Codes: Preservation Codes:**

W = Water  
DW = Drinking Water  
S = Solid  
SO = Soil  
SE = Sediment  
L = Liquid  
A = Air  
O = Oil  
SL = Sludge

1 = Sulfuric Acid  
2 = Phosphoric Acid  
3 = Sodium Hydroxide  
4 = Zinc Acetate  
5 = Zinc Acetate & Sodium Hydroxide  
6 = Nitric Acid  
7 = Sodium Thiosulfate  
8 = Hydrochloric Acid  
9 = Sodium Bisulfate

Turn Around Time & Reporting

Our normal turn around time is 10 working days

Normal \_\_\_\_\_ \*All rush order requests must be prior approved.

Next Day\* \_\_\_\_\_ Phone \_\_\_\_\_ Mail \_\_\_\_\_

2nd Day\* \_\_\_\_\_ Fax \_\_\_\_\_

Other\* \_\_\_\_\_ Email \_\_\_\_\_

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,



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.



## 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

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## REPORT OF LABORATORY ANALYSIS

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## 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

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## SAMPLE ANALYTE COUNT

Project: 2003539

Pace Project No.: 20148617

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20148617001	2003539-01	EPA 903.1	MK1	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
20148617005	2003539-05	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20148617006	2003539-06	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20148617007	2003539-07	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20148617008	2003539-08	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20148617009	2003539-09	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20148617010	2003539-10	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20148617011	2003539-11	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20148617012	2003539-12	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
20148617013	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

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## 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

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## 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

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## ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2003539  
Pace Project No.: 20148617

**Sample: 2003539-01**      **Lab ID: 20148617001**      Collected: 03/26/20 13:34      Received: 03/31/20 14:21      Matrix: Water  
PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.507 ± 0.432 (0.607)</b> <b>C:NA T:91%</b>	pCi/L	04/20/20 14:25	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.970 ± 0.479 (0.830)</b> <b>C:69% T:83%</b>	pCi/L	04/17/20 14:34	15262-20-1	

**Sample: 2003539-02**      **Lab ID: 20148617002**      Collected: 03/26/20 12:20      Received: 03/31/20 14:21      Matrix: Water  
PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.576 ± 0.483 (0.691)</b> <b>C:NA T:89%</b>	pCi/L	04/20/20 14:25	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.822 ± 0.527 (1.000)</b> <b>C:59% T:83%</b>	pCi/L	04/17/20 14:33	15262-20-1	

**Sample: 2003539-03**      **Lab ID: 20148617003**      Collected: 03/26/20 11:25      Received: 03/31/20 14:21      Matrix: Water  
PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.0684 ± 0.520 (1.03)</b> <b>C:NA T:81%</b>	pCi/L	04/20/20 14:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.166 ± 0.363 (0.806)</b> <b>C:67% T:81%</b>	pCi/L	04/17/20 14:33	15262-20-1	

**Sample: 2003539-04**      **Lab ID: 20148617004**      Collected: 03/25/20 09:11      Received: 03/31/20 14:21      Matrix: Water  
PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.302 ± 0.394 (0.649)</b> <b>C:NA T:88%</b>	pCi/L	04/20/20 14:10	13982-63-3	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2003539  
Pace Project No.: 20148617

<b>Sample: 2003539-04</b>		<b>Lab ID: 20148617004</b>	Collected: 03/25/20 09:11	Received: 03/31/20 14:21	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.							
Parameters	Method	Act ± Unc (MDC) Carr Trac		Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	<b>0.361 ± 0.365 (0.751)</b> <b>C:71% T:83%</b>		pCi/L	04/17/20 14:33	15262-20-1	

Sample: 2003539-05		Lab ID: 20148617005	Collected: 03/25/20 12:35	Received: 03/31/20 14:21	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.							
Parameters	Method	Act ± Unc (MDC) Carr Trac		Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg							
Radium-226	EPA 903.1	0.465 ± 0.459 (0.698) C:NA T:96%		pCi/L	04/20/20 14:10	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.698 ± 0.402 (0.746) C:72% T:98%		pCi/L	04/17/20 14:33	15262-20-1	

<b>Sample: 2003539-06</b>		<b>Lab ID: 20148617006</b>	Collected: 03/25/20 11:16	Received: 03/31/20 14:21	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.							
Parameters	Method	Act ± Unc (MDC) Carr Trac		Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg							
Radium-226	EPA 903.1	<b>0.133 ± 0.304 (0.490)</b> <b>C:NA T:85%</b>		pCi/L	04/20/20 14:10	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	<b>0.669 ± 0.579 (1.18)</b> <b>C:66% T:75%</b>		pCi/L	04/17/20 14:33	15262-20-1	

Sample: 2003539-07		Lab ID: 20148617007	Collected: 03/26/20 14:35	Received: 03/31/20 14:21	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Comments: <ul style="list-style-type: none"><li>• Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH &lt;2 for radiochemistry analysis. The samples were not preserved &lt;2 within the required 5 days of collection.</li></ul>							
Parameters	Method	Act ± Unc (MDC) Carr Trac		Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg							
Radium-226	EPA 903.1	0.105 ± 0.324 (0.628) C:NA T:105%		pCi/L	04/20/20 14:25	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.250 ± 0.310 (0.658) C:73% T:102%		pCi/L	04/17/20 14:34	15262-20-1	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2003539  
Pace Project No.: 20148617

**Sample: 2003539-08**      **Lab ID: 20148617008**      Collected: 03/25/20 00:00      Received: 03/31/20 14:21      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>-0.175 ± 0.444 (0.972)</b> <b>C:NA T:98%</b>	pCi/L	04/20/20 14:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.484 ± 0.393 (0.784)</b> <b>C:60% T:101%</b>	pCi/L	04/17/20 14:32	15262-20-1	

**Sample: 2003539-09**      **Lab ID: 20148617009**      Collected: 03/26/20 12:18      Received: 03/31/20 14:21      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.355 ± 0.369 (0.549)</b> <b>C:NA T:93%</b>	pCi/L	04/20/20 14:25	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.856 ± 0.386 (0.642)</b> <b>C:77% T:93%</b>	pCi/L	04/17/20 14:33	15262-20-1	

**Sample: 2003539-10**      **Lab ID: 20148617010**      Collected: 03/25/20 10:15      Received: 03/31/20 14:21      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.231 ± 0.278 (0.424)</b> <b>C:NA T:95%</b>	pCi/L	04/20/20 14:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.524 ± 0.450 (0.912)</b> <b>C:70% T:84%</b>	pCi/L	04/17/20 14:33	15262-20-1	

**Sample: 2003539-11**      **Lab ID: 20148617011**      Collected: 03/26/20 09:29      Received: 03/31/20 14:21      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.311 ± 0.441 (0.748)</b> <b>C:NA T:87%</b>	pCi/L	04/20/20 14:10	13982-63-3	

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## ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2003539  
Pace Project No.: 20148617

**Sample: 2003539-11**      **Lab ID: 20148617011**      Collected: 03/26/20 09:29      Received: 03/31/20 14:21      Matrix: Water  
PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.746 ± 0.474 (0.909)</b> <b>C:71% T:86%</b>	pCi/L	04/17/20 14:33	15262-20-1	

**Sample: 2003539-12**      **Lab ID: 20148617012**      Collected: 03/26/20 10:05      Received: 03/31/20 14:21      Matrix: Water  
PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>-0.0548 ± 0.443 (0.913)</b> <b>C:NA T:103%</b>	pCi/L	04/20/20 14:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.474 ± 0.436 (0.895)</b> <b>C:71% T:89%</b>	pCi/L	04/17/20 14:33	15262-20-1	

**Sample: 2003539-13**      **Lab ID: 20148617013**      Collected: 03/26/20 14:30      Received: 03/31/20 14:21      Matrix: Water  
PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.810 ± 0.567 (0.748)</b> <b>C:NA T:84%</b>	pCi/L	04/20/20 14:25	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.724 ± 0.476 (0.908)</b> <b>C:63% T:85%</b>	pCi/L	04/17/20 14:34	15262-20-1	

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## QUALITY CONTROL - RADIOCHEMISTRY

Project: 2003539  
Pace Project No.: 20148617

QC Batch:	390853	Analysis Method:	EPA 903.1
QC Batch Method:	EPA 903.1	Analysis Description:	903.1 Radium-226
		Laboratory:	Pace Analytical Services - Greensburg
Associated Lab Samples:	20148617001, 20148617002, 20148617003, 20148617004, 20148617005, 20148617006, 20148617007, 20148617008, 20148617009, 20148617010, 20148617011, 20148617012, 20148617013		

METHOD BLANK:	1892504	Matrix:	Water
Associated Lab Samples:	20148617001, 20148617002, 20148617003, 20148617004, 20148617005, 20148617006, 20148617007, 20148617008, 20148617009, 20148617010, 20148617011, 20148617012, 20148617013		

Parameter	Act ± 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

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## QUALITY CONTROL - RADIOCHEMISTRY

Project: 2003539

Pace Project No.: 20148617

QC Batch:	390854	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg
Associated Lab Samples:	20148617001, 20148617002, 20148617003, 20148617004, 20148617005, 20148617006, 20148617007, 20148617008, 20148617009, 20148617010, 20148617011, 20148617012, 20148617013		

METHOD BLANK: 1892520 Matrix: Water

Associated Lab Samples: 20148617001, 20148617002, 20148617003, 20148617004, 20148617005, 20148617006, 20148617007, 20148617008, 20148617009, 20148617010, 20148617011, 20148617012, 20148617013

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0791 ± 0.334 (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.

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## QUALIFIERS

Project: 2003539  
Pace Project No.: 20148617

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### 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

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## 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

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# SUBCONTRACT ORDER

## 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



## Work Order: 2003539

Analysis	Due	Expires	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 04/06/2020 04/23/2020 13:34

### Containers Supplied:

1000mL Plastic (A) 1000mL Plastic (B)

**Sample ID: 2003539-02** *Water* **Sampled: 03/26/2020 12:20** **Sample Name: MW-17**

Radium, Total 226 & 228 by EPA 903.1 & 9C 04/06/2020 04/23/2020 12:20

### Containers Supplied:

1000mL Plastic (A) 1000mL Plastic (B)

**Sample ID: 2003539-03** *Water* **Sampled: 03/26/2020 11:25** **Sample Name: OW-2**

Radium, Total 226 & 228 by EPA 903.1 & 9C 04/06/2020 04/23/2020 11:25

### Containers Supplied:

1000mL Plastic (A) 1000mL Plastic (B)

**Sample ID: 2003539-04** *Water* **Sampled: 03/25/2020 09:11** **Sample Name: MW-13**

Radium, Total 226 & 228 by EPA 903.1 & 9C 04/06/2020 04/22/2020 09:11

### Containers Supplied:

1000mL Plastic (A) 1000mL Plastic (B)

**Sample ID: 2003539-05** *Water* **Sampled: 03/25/2020 12:35** **Sample Name: MW-7**

Radium, Total 226 & 228 by EPA 903.1 & 9C 04/06/2020 04/22/2020 12:35

### Containers Supplied:

1000mL Plastic (A) 1000mL Plastic (B)

**Sample ID: 2003539-06** *Water* **Sampled: 03/25/2020 11:16** **Sample Name: MW-14**

Radium, Total 226 & 228 by EPA 903.1 & 9C 04/06/2020 04/22/2020 11:16

### Containers Supplied:

1000mL Plastic (A) 1000mL Plastic (B)

**Sample ID: 2003539-07** *Water* **Sampled: 03/26/2020 14:35** **Sample Name: Field Blank**

Smah Joneth 3/30/2020 1630  
Released By Date

WPS 3/31/2020  
Released By Date

WPS 3/30/2020 1630  
Received By Date 1040

Joneth / Pace 3-31-20  
Received By Date am hient



# MICRO-METHODS

LABORATORY, INC.

## SUBCONTRACT ORDER (Continued)

### Work Order: 2003539 (Continued)

Analysis	Due	Expires	Comments
<b>Sample ID: 2003539-07 Water Sampled: 03/26/2020 14:35 Sample Name: Field Blank</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C 04/06/2020 04/23/2020 14:35			
Containers Supplied:			
1000mL Plastic (A) 1000mL Plastic (B)			
<b>Sample ID: 2003539-08 Water Sampled: 03/25/2020 00:00 Sample Name: Duplicate</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C 04/06/2020 04/22/2020 00:00			
Containers Supplied:			
1000mL Plastic (A) 1000mL Plastic (B)			
<b>Sample ID: 2003539-09 Water Sampled: 03/26/2020 12:18 Sample Name: MW-12</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C 04/06/2020 04/23/2020 12:18			
Containers Supplied:			
1000mL Plastic (A) 1000mL Plastic (B)			
<b>Sample ID: 2003539-10 Water Sampled: 03/25/2020 10:15 Sample Name: CCR-5</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C 04/06/2020 04/22/2020 10:15			
Containers Supplied:			
1000mL Plastic (A) 1000mL Plastic (B)			
<b>Sample ID: 2003539-11 Water Sampled: 03/26/2020 09:29 Sample Name: CCR-2</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C 04/06/2020 04/23/2020 09:29			
Containers Supplied:			
1000mL Plastic (A) 1000mL Plastic (B)			
<b>Sample ID: 2003539-12 Water Sampled: 03/26/2020 10:05 Sample Name: CCR-3</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C 04/06/2020 04/23/2020 10:05			
Containers Supplied:			
1000mL Plastic (A) 1000mL Plastic (B)			
<b>Sample ID: 2003539-13 Water Sampled: 03/26/2020 14:30 Sample Name: CCR-4</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C 04/06/2020 04/23/2020 14:30			
Containers Supplied:			
1000mL Plastic (A) 1000mL Plastic (B)			

Released By Smah Jemel Date 3/30/2020 1630  
Released By VPS Date 3/31/2020

Received By VPS Date 3/30/2020 1630  
Received By Smith / Pace Date 3-31-20 10:40  
Received By ambient Date 3-31-20

# WO#: 20148617



Sample Condition Upon

PM: KHB

Due Date: 04/22/20

CLIENT: 20-MICRO

1000 Riverbend Blvd., Suite F  
St. Rose, LA 70087

Pro,

Courier: ☐ Pace Courier ☐ Hired Courier ☐ Fed X ☒ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: ☐ Yes ☐ No

Thermometer Used: ☐ Therm Fisher IR 7  
☐ Therm Fisher IR 10

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 3-31-20

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15

If No, was preservative added? ☐ Yes ☐ No  
If added record lot no.: HNO3 \_\_\_\_\_ H2SO4 \_\_\_\_\_

*unpreserved*

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_





**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*

**Purchase Order #:** RDH12930

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.



**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, 39735Project: CGLP CCR  
Project Number: [none]  
Project Manager: Jim WardReported:  
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

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

**Sample Receipt Conditions**

Date/Time Received: 5/19/2020 8:08:00AM

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

Cooler ID: #1134

Receipt Temperature: -0.3 °C

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

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

 Cooler ID: #1141

 Receipt Temperature: -1.1 °C

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

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

 Cooler ID: #309

 Receipt Temperature: -1.6 °C

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



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

### **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

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

 Reported:  
 06/16/2020 12:54

**MW-7**
**2005302-01 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

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

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	"	"	"	
<b>Barium [He]</b>	<b>0.0775</b>	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 [NG]	ND	0.00500	"	"	"	ABT	"	"	"	
Thallium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lithium [He]	ND	0.0400	"	"	"	ABT	"	"	"	
<b>Calcium [He]</b>	<b>48.0</b>	0.625	"	25.0	"	ABT	"	05/21/2020 20:25	"	

**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	
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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

**MW-9**
**2005302-02 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

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

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 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	
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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

**MW-12**
**2005302-03 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

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

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	"	"	"	
<b>Barium [He]</b>	<b>0.283</b>	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	"	"	"	
<b>Cobalt [He]</b>	<b>0.0138</b>	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	"	"	"	
<b>Calcium [He]</b>	<b>38.6</b>	0.625	"	25.0	"	ABT	"	05/21/2020 21:09	"	

**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	
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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

**MW-13**
**2005302-04 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

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

Antimony [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	"	"	"	
<b>Barium [He]</b>	<b>0.168</b>	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 [NG]	ND	0.00500	"	"	"	ABT	"	"	"	
Thallium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lithium [He]	ND	0.0400	"	"	"	ABT	"	"	"	
<b>Calcium [He]</b>	<b>24.0</b>	0.250	"	10.0	"	ABT	"	05/21/2020 21:18	"	

**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	
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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

**MW-14**
**2005302-05 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

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

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	"	"	"	
<b>Barium [He]</b>	<b>0.0123</b>	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	"	
<b>Calcium [He]</b>	<b>0.683</b>	0.0250	"	"	"	ABT	"	05/21/2020 21:36	"	

**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	
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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

**MW-17**
**2005302-06 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

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

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	
<b>Arsenic [NG]</b>	<b>0.00356</b>	0.00200	"	"	"	ABT	"	"	"	
<b>Barium [He]</b>	<b>0.130</b>	0.00100	"	"	"	ABT	"	"	"	
Beryllium [He]	ND	0.00100	"	"	"	ABT	"	05/26/2020 17:23	"	
<b>Boron [NG]</b>	<b>0.119</b>	0.0500	"	"	"	ABT	"	05/21/2020 15:58	"	
Cadmium [HHe]	ND	0.00100	"	"	"	ABT	"	"	"	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
<b>Cobalt [He]</b>	<b>0.00549</b>	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	"	
<b>Calcium [He]</b>	<b>57.2</b>	0.625	"	25.0	"	ABT	"	05/21/2020 21:45	"	

**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	
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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

**Field Blank**
**2005302-07 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

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

Antimony [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	
Arsenic [NG]	ND	0.00200	"	"	"	ABT	"	"	"	
Barium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Beryllium [He]	ND	0.00100	"	"	"	ABT	"	05/26/2020 17:30	"	
Boron [NG]	ND	0.0500	"	"	"	ABT	"	05/21/2020 16:05	"	
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 17:30	"	
Calcium [He]	9.31	0.125	"	5.0	"	ABT	"	05/27/2020 21:30	"	

**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	
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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

**Duplicate**
**2005302-08 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

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

Antimony [HHe]	ND	0.00500	mg/L	1.0	0E21042	ABT	05/21/2020 09:00	05/21/2020 16:21	EPA 200.8 Rev 5.4	
Arsenic [NG]	ND	0.00200	"	"	"	ABT	"	"	"	
<b>Barium [He]</b>	<b>0.0116</b>	0.00100	"	"	"	ABT	"	"	"	
Beryllium [He]	ND	0.00100	"	"	"	ABT	"	05/26/2020 17:46	"	
Boron [NG]	ND	0.0500	"	"	"	ABT	"	05/21/2020 16:21	"	
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 17:46	"	
<b>Calcium [He]</b>	<b>0.636</b>	0.0250	"	"	"	ABT	"	05/21/2020 22:48	"	

**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	
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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

**OW-2**
**2005302-09 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

Fluoride	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	
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**Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]**

Antimony [HHe]	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	
Arsenic [NG]	ND	0.00200	"	"	"	ABT	"	"	"	
Barium [He]	0.0981	0.00100	"	"	"	ABT	"	"	"	
Beryllium [He]	ND	0.00100	"	"	"	ABT	"	05/26/2020 17:54	"	
Boron [NG]	ND	0.0500	"	"	"	ABT	"	05/21/2020 16:29	"	
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]	0.0450	0.0400	"	"	"	ABT	"	05/26/2020 17:54	"	
Calcium [He]	41.1	0.625	"	25.0	"	ABT	"	05/21/2020 22:57	"	

**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	
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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

**CCR-2**
**2005302-10 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

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

Antimony [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	
Arsenic [NG]	ND	0.00200	"	"	"	ABT	"	"	"	
<b>Barium [He]</b>	<b>0.0976</b>	0.00100	"	"	"	ABT	"	"	"	
Beryllium [He]	ND	0.00100	"	"	"	ABT	"	05/26/2020 18:02	"	
Boron [NG]	ND	0.0500	"	"	"	ABT	"	05/21/2020 16:37	"	
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 18:02	"	
<b>Calcium [He]</b>	<b>15.5</b>	0.250	"	10.0	"	ABT	"	05/21/2020 23:14	"	

**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	
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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

**CCR-3**
**2005302-11 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

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

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	
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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

**CCR-4**
**2005302-12 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

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

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	"	"	"	
<b>Barium [He]</b>	<b>0.161</b>	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	"	"	"	
<b>Cobalt [He]</b>	<b>0.00371</b>	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	"	
<b>Calcium [He]</b>	<b>28.3</b>	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	
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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

**CCR-5**
**2005302-13 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

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

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	
<b>Arsenic [NG]</b>	<b>0.00204</b>	0.00200	"	"	"	ABT	"	"	"	
<b>Barium [He]</b>	<b>0.0263</b>	0.00100	"	"	"	ABT	"	"	"	
Beryllium [He]	ND	0.00100	"	"	"	ABT	"	05/26/2020 18:33	"	
<b>Boron [NG]</b>	<b>0.0964</b>	0.0500	"	"	"	ABT	"	05/21/2020 17:08	"	
Cadmium [HHe]	ND	0.00100	"	"	"	ABT	"	"	"	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
<b>Cobalt [He]</b>	<b>0.0514</b>	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 18:33	"	
<b>Calcium [He]</b>	<b>258</b>	2.50	"	100.0	"	ABT	"	05/21/2020 23:50	"	

**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	
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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

### Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0E22012 - Default Prep GenChem											
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: 2005302-01											
Fluoride	5/22/20 13:00	0.18	0.22	mg/L		0.18			1.09	35	
Matrix Spike (0E22012-MS1) Source: 2005302-01											
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: 2005302-01											
Fluoride	5/22/20 13:00	5.23	0.22	mg/L	5.00	0.18	101	58.5-128	0.762	30	



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 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 1017 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: 2005302-01											
Calcium [He]	5/21/20 20:34	47.9	0.625	mg/L		48.0			0.231	20	
Duplicate (0E21042-DUP2) Source: 2005302-13											
Calcium [He]	5/21/20 23:59	257	2.50	mg/L		258			0.159	20	
Matrix Spike (0E21042-MS1) Source: 2005302-01											
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 1017 Rev 9											
<b>Matrix Spike (0E21042-MS2)</b> <span style="float: right;">Source: 2005302-13</span>											
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			
<b>Matrix Spike Dup (0E21042-MSD1)</b> <span style="float: right;">Source: 2005302-01</span>											
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	
<b>Matrix Spike Dup (0E21042-MSD2)</b> <span style="float: right;">Source: 2005302-13</span>											
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	



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

### Mercury by EPA 200 Series Methods CVAAS - Quality Control

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: 2005302-01											
Mercury	5/20/20 15:52	0.005	0.002	mg/L	0.00500	ND	104	70-130			
Matrix Spike (0E20054-MS2) Source: 2005302-13											
Mercury	5/20/20 15:52	0.006	0.002	mg/L	0.00500	ND	122	70-130			
Matrix Spike Dup (0E20054-MSD1) Source: 2005302-01											
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: 2005302-13											
Mercury	5/20/20 15:52	0.006	0.002	mg/L	0.00500	ND	122	70-130	0.00	20	

Choctaw Generation LP  
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 Ackerman MS, 39735

 Project: CGLP CCR  
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 Project Manager: Jim Ward

 Reported:  
 06/16/2020 12:54

**Certified Analyses Included in this Report**

Analyte	Certification Code
<b><i>EPA 200.8 Rev 5.4 in Water</i></b>	
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
<b><i>EPA 245.1 Rev 3.0 in Water</i></b>	
Mercury	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:  
 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 CertiNot certified by an accrediting body	No certification held	06/30/2020

### 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 Verification
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verification 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.



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228-875-6420 Phone  
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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

## 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





PO Box 1410, Ocean Springs, MS 39566-1410  
(228) 875-6420 FAX (228) 875-6423  
www.micromethodslab.com

### Chain of Custody Record

Lab ID # MS00021  
LELAP ID # 01960  
TNI ID # TNI01397

pg. 1 of 2

M-M Lab  
WO #

2005302

Print Form

Company Name: Choctaw Generation Limited Partnership LLLP

Project Manager:

Jim Ward

Address: 2391 Pensacola Rd.

Purchase Order #:

PO# 12930

City: Ackerman State: MS Zip: 39735

Email Address:

Phone: 662-387-5758

Sampler Name Printed:

Kell Skelton / BS Hydr

Fax:

Sampler Name Signed:

[Signature]

### CGLP CCR

Project Name:

List Analyses Requested

ID#

ID#

ID#

ID#

ID#

ID#

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ID#

ID#

Project #:

Sample Identification

Sampling Date/Time

Matrix Code

# of Containers

Grab (G) or Composite (C)

Fluoride

Antimony, Arsenic, Barium, Beryllium

Cadmium, Cobalt

Chromium, Lead

Lithium, Mercury

Molybdenum, Selenium

Thallium

Total Radium 226 & 228

Calcium

Boron

Preservative

Field Test

Field Test

Field Test

Field Test

Sample Identification

Sampling Date/Time

Matrix Code

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Field Test

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Antimony, Arsenic, Barium, Beryllium

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Field Test

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Grab (G) or Composite (C)

Fluoride

Antimony, Arsenic, Barium, Beryllium

Cadmium, Cobalt

Chromium, Lead

Lithium, Mercury

Molybdenum, Selenium

Thallium

Total Radium 226 & 228

Calcium

Boron

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Field Test

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Sample Identification

Sampling Date/Time

Matrix Code

# of Containers

Grab (G) or Composite (C)

Fluoride

Antimony, Arsenic, Barium, Beryllium

Cadmium, Cobalt



PO Box 1410, Ocean Springs, MS 39566-1410  
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### Chain of Custody Record

Lab ID # MS00021  
LELAP ID # 01960  
TNI ID # TNI01397

pg. 2 of 2

M-M Lab  
WO #

205302

Print Form

Company Name: Choctaw Generation Limited Partnership LLP				Project Manager: <b>Jim Ward</b>			
Address: <b>2391 Pensacola Rd.</b>				Purchase Order #:			
City: <b>Ackerman</b> State: <b>MS</b> Zip: <b>39735</b>				Email Address:			
Phone: <b>662-387-5758</b>				Sampler Name Printed: <i>Eric Sullivan / BS Hwys</i>			
Fax:				Sampler Name Signed: <i>[Signature]</i>			
Project Name: <b>CGLP CCR</b>				List Analyses Requested			
Project #:				Preservative			
Sample Identification				Grab (G) or Composite (C)			
CCR-4				Fluoride			
CCR-5				Antimony, Arsenic, Barium, Beryllium			
				Cadmium, Cobalt			
				Chromium, Lead			
				Lithium, Mercury			
				Molybdenum, Selenium			
				Thallium			
				Total Radium 226 & 228			
				Carbon			
				Boron			
Received on Ice? Y N Thermometer# _____ Cooler # _____				Receipt Temp Corrected (°C)			
Date & Time _____ By: _____				Sample _____ Blank _____ Cooler _____			
Relinquished by		Printed Name	Signature	Company	Date	Time	
Received by		<i>Eric Sullivan</i>	<i>[Signature]</i>	<i>ELC</i>	<i>5-18-22</i>	<i>1900</i>	
Relinquished by		<i>Stella Kreist</i>	<i>[Signature]</i>	<i>MM</i>	<i>5-18-22</i>	<i>08:08</i>	
Received by		<i>Stella Kreist</i>	<i>[Signature]</i>	<i>MM</i>	<i>5-18-22</i>	<i>08:08</i>	
Relinquished by							
Received by							

Turn Around Time & Reporting

Our normal turn around time is 10 working days

Normal \_\_\_\_\_ Phone \_\_\_\_\_

Next Day\* \_\_\_\_\_ requests must be prior approved.

2nd Day\* \_\_\_\_\_ Fax \_\_\_\_\_

Other\* \_\_\_\_\_ Email \_\_\_\_\_

QC Level: Level 1 ☐ Level 2 ☐ Level 3 ☐

Field Testing

ID#	ID#	ID#	ID#
Field Test	Field Test	Field Test	Field Test

Matrix:

W = Water

DW = Drinking Water

S = Solid

SO = Soil

SE = Sediment

L = Liquid

A = Air

O = Oil

SL = Sludge

Preservation:

1 = H2SO4

2 = H3PO4

3 = NaOH

4 = ZnCl4H10O6

5 = ZnCl4H10O6 & NaOH

6 = HNO3

7 = Na2S2O3

8 = HCl

9 = NaHSO4

\*\*All Temps are Corrected Values\*\*

Notes:

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,



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.

## 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

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## REPORT OF LABORATORY ANALYSIS

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## 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

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## SAMPLE ANALYTE COUNT

Project: 2005302  
Pace Project No.: 20155536

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20155536001	2005302-01	EPA 903.1	MK1	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

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: 2005302  
Pace Project No.: 20155536

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**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:

## REPORT OF LABORATORY ANALYSIS

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## 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.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2005302

Pace Project No.: 20155536

**Sample: 2005302-01**      **Lab ID: 20155536001**      Collected: 05/18/20 13:50      Received: 05/21/20 13:15      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.390 ± 0.519 (0.834)</b> <b>C:NA T:86%</b>	pCi/L	06/12/20 14:09	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.519 ± 0.542 (1.13)</b> <b>C:67% T:76%</b>	pCi/L	06/11/20 13:00	15262-20-1	

**Sample: 2005302-02**      **Lab ID: 20155536002**      Collected: 05/18/20 13:00      Received: 05/21/20 13:15      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>1.34 ± 0.707 (0.714)</b> <b>C:NA T:88%</b>	pCi/L	06/12/20 14:09	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>1.24 ± 0.549 (0.924)</b> <b>C:66% T:87%</b>	pCi/L	06/11/20 13:01	15262-20-1	

**Sample: 2005302-03**      **Lab ID: 20155536003**      Collected: 05/18/20 10:42      Received: 05/21/20 13:15      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.449 ± 0.363 (0.203)</b> <b>C:NA T:91%</b>	pCi/L	06/12/20 14:09	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.105 ± 0.596 (1.36)</b> <b>C:63% T:84%</b>	pCi/L	06/11/20 16:05	15262-20-1	

**Sample: 2005302-04**      **Lab ID: 20155536004**      Collected: 05/18/20 10:50      Received: 05/21/20 13:15      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.590 ± 0.392 (0.178)</b> <b>C:NA T:93%</b>	pCi/L	06/12/20 14:09	13982-63-3	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2005302

Pace Project No.: 20155536

**Sample: 2005302-04**      **Lab ID: 20155536004**      Collected: 05/18/20 10:50      Received: 05/21/20 13:15      Matrix: Water

PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.971 ± 0.657 (1.27)</b> <b>C:64% T:92%</b>	pCi/L	06/11/20 16:05	15262-20-1	

**Sample: 2005302-05**      **Lab ID: 20155536005**      Collected: 05/18/20 15:00      Received: 05/21/20 13:15      Matrix: Water

PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.0575 ± 0.344 (0.561)</b> <b>C:NA T:87%</b>	pCi/L	06/12/20 14:09	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>-0.0432 ± 0.392 (0.920)</b> <b>C:69% T:77%</b>	pCi/L	06/11/20 12:58	15262-20-1	

**Sample: 2005302-06**      **Lab ID: 20155536006**      Collected: 05/18/20 11:41      Received: 05/21/20 13:15      Matrix: Water

PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>-0.0698 ± 0.478 (0.984)</b> <b>C:NA T:89%</b>	pCi/L	06/12/20 14:09	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.297 ± 0.475 (1.03)</b> <b>C:68% T:77%</b>	pCi/L	06/11/20 12:58	15262-20-1	

**Sample: 2005302-09**      **Lab ID: 20155536007**      Collected: 05/18/20 12:22      Received: 05/21/20 13:15      Matrix: Water

PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.261 ± 0.507 (0.885)</b> <b>C:NA T:85%</b>	pCi/L	06/12/20 14:09	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>-0.426 ± 0.631 (1.49)</b> <b>C:61% T:79%</b>	pCi/L	06/11/20 12:52	15262-20-1	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2005302

Pace Project No.: 20155536

**Sample: 2005302-10**      **Lab ID: 20155536008**      Collected: 05/18/20 14:01      Received: 05/21/20 13:15      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>-0.0941 ± 0.322 (0.666)</b> <b>C:NA T:89%</b>	pCi/L	06/12/20 14:29	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.276 ± 0.474 (1.03)</b> <b>C:66% T:82%</b>	pCi/L	06/11/20 12:52	15262-20-1	

**Sample: 2005302-11**      **Lab ID: 20155536009**      Collected: 05/18/20 14:51      Received: 05/21/20 13:15      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.569 ± 0.427 (0.220)</b> <b>C:NA T:80%</b>	pCi/L	06/12/20 14:29	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.232 ± 0.523 (1.15)</b> <b>C:71% T:77%</b>	pCi/L	06/11/20 12:52	15262-20-1	

**Sample: 2005302-12**      **Lab ID: 20155536010**      Collected: 05/18/20 15:49      Received: 05/21/20 13:15      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.380 ± 0.376 (0.512)</b> <b>C:NA T:96%</b>	pCi/L	06/12/20 14:29	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>-0.0331 ± 0.456 (1.05)</b> <b>C:66% T:92%</b>	pCi/L	06/11/20 12:52	15262-20-1	

**Sample: 2005302-13**      **Lab ID: 20155536011**      Collected: 05/18/20 12:30      Received: 05/21/20 13:15      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>1.36 ± 0.761 (0.853)</b> <b>C:NA T:90%</b>	pCi/L	06/12/20 14:29	13982-63-3	

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## ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2005302

Pace Project No.: 20155536

**Sample: 2005302-13**      **Lab ID: 20155536011**      Collected: 05/18/20 12:30      Received: 05/21/20 13:15      Matrix: Water

PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.0653 ± 0.466 (1.06)</b> <b>C:67% T:74%</b>	pCi/L	06/11/20 12:58	15262-20-1	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL - RADIOCHEMISTRY

Project: 2005302  
Pace Project No.: 20155536

QC Batch:	398513	Analysis Method:	EPA 903.1
QC Batch Method:	EPA 903.1	Analysis Description:	903.1 Radium-226
		Laboratory:	Pace Analytical Services - Greensburg
Associated Lab Samples:	20155536001, 20155536002, 20155536003, 20155536004, 20155536005, 20155536006, 20155536007, 20155536008, 20155536009, 20155536010, 20155536011		

METHOD BLANK:	1930183	Matrix:	Water
Associated Lab Samples:	20155536001, 20155536002, 20155536003, 20155536004, 20155536005, 20155536006, 20155536007, 20155536008, 20155536009, 20155536010, 20155536011		

Parameter	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

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## 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 228
		Laboratory:	Pace Analytical Services - Greensburg
Associated Lab Samples:	20155536001, 20155536002, 20155536003, 20155536004, 20155536005, 20155536006, 20155536007, 20155536008, 20155536009, 20155536010, 20155536011		

METHOD BLANK: 1930184 Matrix: Water

Associated Lab Samples: 20155536001, 20155536002, 20155536003, 20155536004, 20155536005, 20155536006, 20155536007, 20155536008, 20155536009, 20155536010, 20155536011

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.652 ± 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.

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## QUALIFIERS

Project: 2005302  
Pace Project No.: 20155536

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### 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

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## 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		

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# MICRO-METHO

LABORATORY, INC.

W0#: 20155536



20155536

## 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: -

## Work Order: 2005302

Analysis	Due	Expires	Comments
<b>Sample ID: 2005302-01 Water Sampled: 05/18/2020 13:50 Sample Name: MW-7</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C	05/27/2020	06/15/2020	13:50
<i>Containers Supplied:</i>			
1000mL Plastic (A)	1000mL Plastic (B)		
<b>Sample ID: 2005302-02 Water Sampled: 05/18/2020 13:00 Sample Name: MW-9</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C	05/27/2020	06/15/2020	13:00
<i>Containers Supplied:</i>			
1000mL Plastic (A)	1000mL Plastic (B)		
<b>Sample ID: 2005302-03 Water Sampled: 05/18/2020 10:42 Sample Name: MW-12</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C	05/27/2020	06/15/2020	10:42
<i>Containers Supplied:</i>			
1000mL Plastic (A)	1000mL Plastic (B)		
<b>Sample ID: 2005302-04 Water Sampled: 05/18/2020 10:50 Sample Name: MW-13</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C	05/27/2020	06/15/2020	10:50
<i>Containers Supplied:</i>			
1000mL Plastic (A)	1000mL Plastic (B)		
<b>Sample ID: 2005302-05 Water Sampled: 05/18/2020 15:00 Sample Name: MW-14</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C	05/27/2020	06/15/2020	15:00
<i>Containers Supplied:</i>			
1000mL Plastic (A)	1000mL Plastic (B)		
<b>Sample ID: 2005302-06 Water Sampled: 05/18/2020 11:41 Sample Name: MW-17</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C	05/27/2020	06/15/2020	11:41
<i>Containers Supplied:</i>			
1000mL Plastic (A)	1000mL Plastic (B)		
<b>Sample ID: 2005302-09 Water Sampled: 05/18/2020 12:22 Sample Name: OW-2</b>			

Stella Kileist

Released By

5-20-2020 16:30 UPS

Date

Received By

5-20-2020 16:30

Date

UPS

Released By

5-21-2020

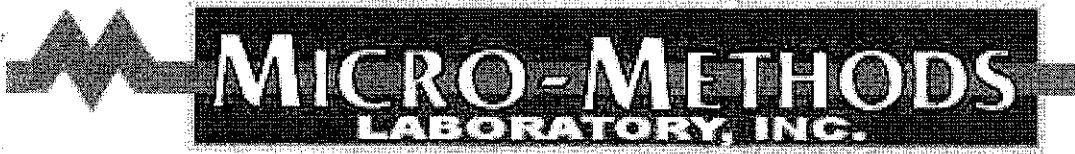
Date

KH Brown / Pace 5/21/20

Received By

Date

Ambient @ 1315



**SUBCONTRACT  
ORDER**  
(Continued)

**Work Order: 2005302 (Continued)**

Analysis	Due	Expires	Comments
<b>Sample ID: 2005302-09 Water Sampled: 05/18/2020 12:22 Sample Name: OW-2</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C	<del>05/27/2020</del> 06/15/2020	12:22	
Containers Supplied:			
1000mL Plastic (A)	1000mL Plastic (B)		
<b>Sample ID: 2005302-10 Water Sampled: 05/18/2020 14:01 Sample Name: CCR-2</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C	<del>05/27/2020</del> 06/15/2020	14:01	
Containers Supplied:			
1000mL Plastic (A)	1000mL Plastic (B)		
<b>Sample ID: 2005302-11 Water Sampled: 05/18/2020 14:51 Sample Name: CCR-3</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C	<del>05/27/2020</del> 06/15/2020	14:51	
Containers Supplied:			
1000mL Plastic (A)	1000mL Plastic (B)		
<b>Sample ID: 2005302-12 Water Sampled: 05/18/2020 15:49 Sample Name: CCR-4</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C	<del>05/27/2020</del> 06/15/2020	15:49	
Containers Supplied:			
1000mL Plastic (A)	1000mL Plastic (B)		
<b>Sample ID: 2005302-13 Water Sampled: 05/18/2020 12:30 Sample Name: CCR-5</b>			
Radium, Total 226 & 228 by EPA 903.1 & 9C	<del>05/27/2020</del> 06/15/2020	12:30	
Containers Supplied:			
1000mL Plastic (A)	1000mL Plastic (B)		

Stella Kueist

Released By

5-20-2020 16:30

Date

UPS

Received By

5-20-2020 16:30

Date

UPS

Released By

5-21-2020

Date

KH Brown / Pac

Received By

5/21/20

Date

Ambient

@1315



1000 Riverbend Blvd., Suite F  
St. Rose, LA 70087

# Sample Condition Upon Receipt

# WO#: 20155536

PM: KHB

Due Date: 05/15/20

CLIENT: 20-MICRO

Project

Courier: ☐ Pace Courier ☐ Hired Courier ☐ Fed X ☒ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: ☒ Yes ☐ No

Thermometer Used: ☐ Therm Fisher IR 7 ☒ Therm Fisher IR 10

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 05-21-2013

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	1
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_



**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

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

**Purchase Order #:**

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.*

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

Date/Time Received: 9/29/2020 10:58:00AM

Shipped by: Fed Ex

Received by: Samantha C. Hall

Submitted by: Kirk Shelton

Date/Time Logged: 9/29/2020 12:07:00PM

Logged by: Samantha C. Hall

 Cooler ID: 1104

 Receipt Temperature: 1.7 °C

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

<i>Received on Ice but Not Frozen</i>	Yes
<i>No Ice, Short Trip</i>	No
<i>Obvious Contamination</i>	No
<i>Rush to meet HT</i>	No
<i>Received within HT</i>	Yes
<i>Proper Containers for Analysis</i>	Yes
<i>Correct Preservation</i>	Yes
<i>Adequate Sample for Analysis</i>	Yes
<i>Sample Custody Seals Present</i>	Yes
<i>Samples Missing from COC/Cooler</i>	No

Choctaw Generation LP  
2391 Pensacola Rd.  
Ackerman MS, 39735Project: CGLP CCR  
Project Number: [none]  
Project Manager: Jim WardReported:  
10/27/2020 14:58Cooler ID: 1129Receipt Temperature: 0.3 °C

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



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

 Cooler ID: 1135

 Receipt Temperature: -0.8 °C

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

Choctaw Generation LP  
2391 Pensacola Rd.  
Ackerman MS, 39735Project: 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****Qualifiers:**

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

**Total Dissolved Solids-SM 2540 C-2011****Qualifiers:**

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

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

 Reported:  
 10/27/2020 14:58

**MW-9**
**2009494-01 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

Chloride	451	10.0	mg/L	20.0	0J08053	DLW	10/07/2020 13:13	10/07/2020 13:13	SM 4110B 2011	
Sulfate as SO <sub>4</sub>	154	100	"	"	"	DLW	"	"	"	
Fluoride	0.68	0.22	"	1.0	0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
Total Dissolved Solids	1014	2	"	"	0I30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	

**Metals by EPA 200 Series Methods ICP-AES**

Barium 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	
Boron 249.773 [Radial]	ND	0.050	"	"	"	ABT	"	"	"	
Calcium 315.887 [Radial]	61.7	0.050	"	"	"	ABT	"	"	"	
Lithium 610.362 [Axial]	ND	0.040	"	"	"	ABT	"	"	"	

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

Antimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT	"	10/01/2020 16:43	EPA 200.8 Rev 5.4	
Arsenic [NG]	ND	0.00200	"	"	"	ABT	"	"	"	
Beryllium [He]	0.00367	0.00100	"	"	"	ABT	"	"	"	
Cadmium [He]	0.00292	0.00100	"	"	"	ABT	"	"	"	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Cobalt [He]	0.0217	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

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

 Reported:  
 10/27/2020 14:58

**OW-2**
**2009494-02 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

Chloride	35.5	2.00	mg/L	4.0	0J08053	DLW	10/07/2020 13:33	10/07/2020 13:33	SM 4110B 2011	
Sulfate as SO <sub>4</sub>	135	20.0	"	"	"	DLW	"	"	"	
Fluoride	0.26	0.22	"	1.0	0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
Total Dissolved Solids	345	1	"	"	0I30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	

**Metals by EPA 200 Series Methods ICP-AES**

Barium 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	
Boron 249.773 [Radial]	ND	0.050	"	"	"	ABT	"	"	"	
Calcium 315.887 [Radial]	35.7	0.050	"	"	"	ABT	"	"	"	
Lithium 610.362 [Axial]	ND	0.040	"	"	"	ABT	"	"	"	

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

Antimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT	"	10/01/2020 17:03	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	"	"	"	
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

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

 Reported:  
 10/27/2020 14:58

**MW-13**
**2009494-03 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

Chloride	3.59	0.500	mg/L	1.0	0J08053	DLW	10/07/2020 13:53	10/07/2020 13:53	SM 4110B 2011	
Sulfate as SO <sub>4</sub>	6.68	5.00	"	"	"	DLW	"	"	"	
Fluoride	ND	0.22	"	"	0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
Total Dissolved Solids	151	1	"	"	0I30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	

**Metals by EPA 200 Series Methods ICP-AES**

Barium 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	
Boron 249.773 [Radial]	ND	0.050	"	"	"	ABT	"	"	"	
Calcium 315.887 [Radial]	20.1	0.050	"	"	"	ABT	"	"	"	
Lithium 610.362 [Axial]	ND	0.040	"	"	"	ABT	"	"	"	

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

Antimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT	"	10/01/2020 17:36	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	"	"	"	
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

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

 Reported:  
 10/27/2020 14:58

**MW-7**
**2009494-04 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

Chloride	2.66	0.500	mg/L	1.0	0J08053	DLW	10/07/2020 13:13	10/09/2020 18:49	SM 4110B 2011	
Sulfate as SO <sub>4</sub>	43.6	10.0	"	2.0	"	DLW	"	10/07/2020 20:31	"	
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	183	1	"	"	0I30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	

**Metals by EPA 200 Series Methods ICP-AES**

Barium 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	
Boron 249.773 [Radial]	ND	0.050	"	"	"	ABT	"	"	"	
Calcium 315.887 [Radial]	39.7	0.050	"	"	"	ABT	"	"	"	
Lithium 610.362 [Axial]	ND	0.040	"	"	"	ABT	"	"	"	

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

Antimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT	"	10/01/2020 17:43	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	"	"	"	
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

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

 Reported:  
 10/27/2020 14:58

**MW-14**
**2009494-05 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

Chloride	19.5	0.500	mg/L	1.0	0J08053	DLW	10/07/2020 16:12	10/07/2020 16:12	SM 4110B 2011	
Sulfate as SO <sub>4</sub>	7.52	5.00	"	"	"	DLW	"	"	"	
Fluoride	ND	0.22	"	"	0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
Total Dissolved Solids	75	1	"	"	0I30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	

**Metals by EPA 200 Series Methods ICP-AES**

Barium 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	
Boron 249.773 [Radial]	ND	0.050	"	"	"	ABT	"	"	"	
Calcium 315.887 [Radial]	0.542	0.050	"	"	"	ABT	"	"	"	
Lithium 610.362 [Axial]	ND	0.040	"	"	"	ABT	"	"	"	

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

Antimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT	"	10/01/2020 17:50	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	"	"	"	
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

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

 Reported:  
 10/27/2020 14:58

**Field Blank**
**2009494-06 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

Chloride	ND	0.500	mg/L	1.0	0J08053	DLW	10/07/2020 16:32	10/07/2020 16:32	SM 4110B 2011	
Sulfate as SO4	ND	5.00	"	"	"	DLW	"	"	"	
Fluoride	ND	0.22	"	"	0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
<b>Total Dissolved Solids</b>	<b>5</b>	<b>1</b>	<b>"</b>	<b>"</b>	<b>0I30041</b>	<b>DLW</b>	<b>09/30/2020 13:00</b>	<b>10/02/2020 00:00</b>	<b>SM 2540 C-2011</b>	

**Metals by EPA 200 Series Methods ICP-AES**

Barium 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	
Boron 249.773 [Radial]	ND	0.050	"	"	"	ABT	"	"	"	
Calcium 315.887 [Radial]	ND	0.050	"	"	"	ABT	"	"	"	
Lithium 610.362 [Axial]	ND	0.040	"	"	"	ABT	"	"	"	

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

Antimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT	"	10/01/2020 17:56	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	"	"	"	
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

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

 Reported:  
 10/27/2020 14:58

**Duplicate**
**2009494-07 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

<b>Chloride</b>	<b>19.3</b>	0.500	mg/L	1.0	0J08053	DLW	10/07/2020 16:52	10/07/2020 16:52	SM 4110B 2011	
<b>Sulfate as SO<sub>4</sub></b>	<b>8.75</b>	5.00	"	"	"	DLW	"	"	"	
Fluoride	ND	0.22	"	"	0J01034	GMS	09/30/2020 13:45	09/30/2020 15:30	SM 4500-F C 2011	
<b>Total Dissolved Solids</b>	<b>80</b>	1	"	"	0I30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	

**Metals by EPA 200 Series Methods ICP-AES**

<b>Barium 455.403 [Radial]</b>	<b>0.011</b>	0.010	mg/L	1.0	0J01044	ABT	10/01/2020 10:30	10/02/2020 11:09	EPA 200.7 Rev 4.4	
Boron 249.773 [Radial]	ND	0.050	"	"	"	ABT	"	"	"	
<b>Calcium 315.887 [Radial]</b>	<b>0.534</b>	0.050	"	"	"	ABT	"	"	"	
Lithium 610.362 [Axial]	ND	0.040	"	"	"	ABT	"	"	"	

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

Antimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT	"	10/01/2020 18:03	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	"	"	"	
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

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

 Reported:  
 10/27/2020 14:58

**MW-12**
**2009494-08 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

<b>Chloride</b>	<b>36.0</b>	1.00	mg/L	2.0	0J08053	DLW	10/07/2020 17:12	10/07/2020 17:12	SM 4110B 2011	
<b>Sulfate as SO<sub>4</sub></b>	<b>35.4</b>	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	
<b>Total Dissolved Solids</b>	<b>221</b>	1	"	"	0I30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	

**Metals by EPA 200 Series Methods ICP-AES**

<b>Barium 455.403 [Radial]</b>	<b>0.197</b>	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	"	"	"	
<b>Calcium 315.887 [Radial]</b>	<b>26.9</b>	0.050	"	"	"	ABT	"	"	"	
Lithium 610.362 [Axial]	ND	0.040	"	"	"	ABT	"	"	"	

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

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	"	"	"	
<b>Cobalt [He]</b>	<b>0.00738</b>	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

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

 Reported:  
 10/27/2020 14:58

**CCR-2**
**2009494-09 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

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 SO <sub>4</sub>	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	
Total Dissolved Solids	100	1	"	"	0I30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	

**Metals by EPA 200 Series Methods ICP-AES**

Barium 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	
Boron 249.773 [Radial]	ND	0.050	"	"	"	ABT	"	"	"	
Calcium 315.887 [Radial]	13.1	0.050	"	"	"	ABT	"	"	"	
Lithium 610.362 [Axial]	ND	0.040	"	"	"	ABT	"	"	"	

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

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	"	"	"	
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

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

 Reported:  
 10/27/2020 14:58

**CCR-3**
**2009494-10 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

Chloride	5.17	0.500	mg/L	1.0	0J08053	DLW	10/07/2020 18:11	10/09/2020 19:29	SM 4110B 2011	
Sulfate as SO <sub>4</sub>	63.0	50.0	"	10.0	"	DLW	"	10/07/2020 18:31	"	
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	216	1	"	"	0I30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	

**Metals by EPA 200 Series Methods ICP-AES**

Barium 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	
Boron 249.773 [Radial]	ND	0.050	"	"	"	ABT	"	"	"	
Calcium 315.887 [Radial]	23.1	0.050	"	"	"	ABT	"	"	"	
Lithium 610.362 [Axial]	0.046	0.040	"	"	"	ABT	"	"	"	

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

Antimony [He]	ND	0.00200	mg/L	1.0	0J01045	ABT	"	10/01/2020 18:23	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]	0.00295	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

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

 Reported:  
 10/27/2020 14:58

**CCR-4**
**2009494-11 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

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 SO <sub>4</sub>	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	"	"	0I30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	

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

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

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

 Reported:  
 10/27/2020 14:58

**CCR-5**
**2009494-12 (Water)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Classical Chemistry Parameters**

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 SO <sub>4</sub>	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	"	"	0I30041	DLW	09/30/2020 13:00	10/02/2020 00:00	SM 2540 C-2011	

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

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	"	"	"	



6500 Sunplex Drive  
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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 Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0I30041 - Default Prep GenChem											
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			
LCS 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: 2009494-05											
Total Dissolved Solids	10/2/20 0:00	79	1	mg/L		75			5.19	5	RPD04
Duplicate (0I30041-DUP2) Source: 2009508-01											
Total Dissolved Solids	10/2/20 0:00	880	1	mg/L		878			0.228	5	
Batch 0J01034 - Default Prep GenChem											
Blank (0J01034-BLK1)											
Fluoride	9/30/20 15:30	ND	0.22	mg/L							
LCS (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: 2009401-01											
Fluoride	9/30/20 15:30	ND	0.22	mg/L		ND				35	

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 Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0J01034 - Default Prep GenChem											
Matrix Spike (0J01034-MS1)			Source: 2009401-01								
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: 2009401-01								
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 GenChem											
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	





6500 Sunplex Drive  
Ocean Springs, MS 39564  
228-875-6420 Phone  
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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 Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0J08053 - Default Prep GenChem											
Duplicate (0J08053-DUP1)			Source: 2009494-03								
Chloride	10/7/20 14:13	3.56	0.500	mg/L		3.59			0.811	20	
Sulfate as SO <sub>4</sub>	10/7/20 14:13	6.63	5.00	"		6.68			0.842	20	
Matrix Spike (0J08053-MS1)			Source: 2009494-03								
Chloride	10/7/20 14:33	22.9	0.500	mg/L	20.0	3.59	96.6	75.3-124			
Sulfate as SO <sub>4</sub>	10/7/20 14:33	26.4	5.00	"	20.0	6.68	98.5	60.6-139			
Matrix Spike Dup (0J08053-MSD1)			Source: 2009494-03								
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 SO <sub>4</sub>	10/7/20 14:52	26.7	5.00	"	20.0	6.68	100	60.6-139	1.27	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-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 1017 Rev 9											
<b>Blank (0J01044-BLK1)</b>											
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	"							
<b>LCS (0J01044-BS1)</b>											
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			
<b>LCS Dup (0J01044-BSD1)</b>											
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	
<b>Duplicate (0J01044-DUP1) Source: 2009494-01</b>											
Calcium 315.887 [Radial]	10/2/20 10:43	62.4	0.050	mg/L		61.7			1.15	20	
<b>Duplicate (0J01044-DUP2) Source: 2009494-12</b>											
Calcium 315.887 [Radial]	10/2/20 12:00	172	0.250	mg/L		174			0.739	20	
<b>Matrix Spike (0J01044-MS1) Source: 2009494-01</b>											
Barium 455.403 [Radial]	10/2/20 10:43	0.360	0.010	mg/L	0.200	0.158	101	70-130			
Boron 249.773 [Radial]	10/2/20 10:43	0.239	0.050	"	0.200	0.021	109	70-130			
Lithium 610.362 [Axial]	10/2/20 10:43	0.229	0.040	"	0.200	0.033	98.0	70-130			

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-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 1017 Rev 9											
<b>Matrix Spike (0J01044-MS2)</b>			<b>Source: 2009494-12</b>								
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
<b>Matrix Spike Dup (0J01044-MSD1)</b>			<b>Source: 2009494-01</b>								
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	
<b>Matrix Spike Dup (0J01044-MSD2)</b>			<b>Source: 2009494-12</b>								
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

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											
<b>Blank (0J01045-BLK1)</b>											
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	"							
Lead [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	"							
Thallium [He]	10/1/20 14:58	ND	0.00100	"							
<b>LCS (0J01045-BS1)</b>											
Antimony [He]	10/1/20 15:05	0.104	0.00200	mg/L	0.100		104	85-115			
Arsenic [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			
Cadmium [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			
Lead [He]	10/1/20 15:05	0.103	0.00100	"	0.100		103	85-115			
Molybdenum [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			
Thallium [He]	10/1/20 15:05	0.102	0.00100	"	0.100		102	85-115			
<b>LCS Dup (0J01045-BSD1)</b>											
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	
Lead [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	
Thallium [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 1017 Rev 9											
<b>Matrix Spike (0J01045-MS1)</b> Source: 2009494-01											
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			
<b>Matrix Spike (0J01045-MS2)</b> Source: 2009494-12											
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			
<b>Matrix Spike Dup (0J01045-MSD1)</b> Source: 2009494-01											
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	
Thallium [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
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Batch 0J01045 - EPA 200.2 DCN 1017 Rev 9

Matrix Spike Dup (0J01045-MSD2)

Source: 2009494-12

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  
 2391 Pensacola Rd.  
 Ackerman MS, 39735

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

 Reported:  
 10/27/2020 14:58

**Certified Analyses Included in this Report**

Analyte	Certification Code
<b><i>EPA 200.8 Rev 5.4 in Water</i></b>	
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
<b><i>SM 2540 C-2011 in Water</i></b>	
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 Certi			06/30/2020

### 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 Verification
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verification 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  
2391 Pensacola Rd.  
Ackerman MS, 39735Project: CGLP CCR  
Project Number: [none]  
Project Manager: Jim Ward**Reported:**  
10/27/2020 14:58**Analyst Initials Key**

<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

M-M Lab  
NO #

[www.micromethodslab.com](http://www.micromethodslab.com)

Company Name: Choctaw Generation Limited Partnership III LP

Project Manager: **Jim Ward**

Purchase Order #:

City: Ackerman State: MS Zip: 39735

Phone: 662-387-5758

Fax: \_\_\_\_\_

**Sampler Name Printed:**

Sampler Name: Signed:

Project Name:

Project Name: CGLP CCR

Project #:

### Sample Identification

9/18/20	8:47	W
MW-9		

OW-2	9/28/20 11:24	W
		W

M	10.11.2011	10.11.2011
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11/20/22	2:1	
9/18/22	4:2	W

Field Blank	9/28/20 9:43	W
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Duplicate	9/28/20	W
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MW-12	9/28/20	10:04	W
			W

CON-2	7/20/20 12.43	W
CON-3	7/20/20 12.43	W
CON-4	7/20/20 12.43	W

Received on Ice?	Y	N	Thermometer #	4	Cooler #	W
						13.32

Date & Time 9-29-2020 BV: Jm

	Printed Name
--	--------------

Relinquished by	Kyle Shallen
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Received by  
 11/1/2011Relinquished by  
Co. d. OXReceived by  
Ginnette Williams

Belinquinished by

Received by

Physical	CONW 2310 D-2345
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Physical Address: 6500 Sunplex Drive, Ocean Springs, MS 39564

DCN# F316 Rev #5





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,



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

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## 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

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## 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

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## 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

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## PROJECT NARRATIVE

Project: 2009494  
Pace Project No.: 20173920

---

**Method:** EPA 903.1  
**Description:** 903.1 Radium 226  
**Client:** Micro Methods  
**Date:** 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

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## 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

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## ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2009494  
Pace Project No.: 20173920

**Sample: 2009494-01**      **Lab ID: 20173920001**      Collected: 09/28/20 08:47      Received: 10/02/20 10:10      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>1.29 ± 0.633 (0.706)</b> <b>C:NA T:91%</b>	pCi/L	10/21/20 15:51	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.769 ± 0.487 (0.920)</b> <b>C:73% T:78%</b>	pCi/L	10/21/20 11:46	15262-20-1	

**Sample: 2009494-02**      **Lab ID: 20173920002**      Collected: 09/28/20 11:24      Received: 10/02/20 10:10      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.0650 ± 0.494 (0.976)</b> <b>C:NA T:79%</b>	pCi/L	10/21/20 15:51	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.221 ± 0.408 (0.894)</b> <b>C:81% T:76%</b>	pCi/L	10/21/20 12:05	15262-20-1	

**Sample: 2009494-03**      **Lab ID: 20173920003**      Collected: 09/28/20 11:39      Received: 10/02/20 10:10      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.298 ± 0.507 (0.894)</b> <b>C:NA T:83%</b>	pCi/L	10/21/20 16:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.395 ± 0.380 (0.781)</b> <b>C:78% T:86%</b>	pCi/L	10/21/20 11:13	15262-20-1	

**Sample: 2009494-04**      **Lab ID: 20173920004**      Collected: 09/28/20 13:14      Received: 10/02/20 10:10      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.467 ± 0.437 (0.620)</b> <b>C:NA T:82%</b>	pCi/L	10/21/20 16:05	13982-63-3	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2009494  
Pace Project No.: 20173920

**Sample: 2009494-04**      **Lab ID: 20173920004**      Collected: 09/28/20 13:14      Received: 10/02/20 10:10      Matrix: Water  
PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.382 ± 0.525 (1.13)</b> <b>C:81% T:71%</b>	pCi/L	10/21/20 12:04	15262-20-1	

**Sample: 2009494-05**      **Lab ID: 20173920005**      Collected: 09/28/20 09:12      Received: 10/02/20 10:10      Matrix: Water  
PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.389 ± 0.362 (0.477)</b> <b>C:NA T:83%</b>	pCi/L	10/21/20 15:51	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>1.06 ± 0.444 (0.678)</b> <b>C:75% T:78%</b>	pCi/L	10/21/20 11:11	15262-20-1	

**Sample: 2009494-06**      **Lab ID: 20173920006**      Collected: 09/28/20 09:40      Received: 10/02/20 10:10      Matrix: Water  
PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>-0.0631 ± 0.371 (0.827)</b> <b>C:NA T:87%</b>	pCi/L	10/21/20 15:51	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.240 ± 0.417 (0.910)</b> <b>C:77% T:76%</b>	pCi/L	10/21/20 11:13	15262-20-1	

**Sample: 2009494-07**      **Lab ID: 20173920007**      Collected: 09/28/20 00:00      Received: 10/02/20 10:10      Matrix: Water  
PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>-0.146 ± 0.495 (1.09)</b> <b>C:NA T:87%</b>	pCi/L	10/21/20 15:51	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.636 ± 0.431 (0.807)</b> <b>C:79% T:79%</b>	pCi/L	10/21/20 13:17	15262-20-1	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2009494  
Pace Project No.: 20173920

**Sample: 2009494-08**      **Lab ID: 20173920008**      Collected: 09/28/20 10:04      Received: 10/02/20 10:10      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.809 ± 0.617 (0.878)</b> <b>C:NA T:81%</b>	pCi/L	10/21/20 16:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.472 ± 0.500 (1.04)</b> <b>C:84% T:68%</b>	pCi/L	10/21/20 12:04	15262-20-1	

**Sample: 2009494-09**      **Lab ID: 20173920009**      Collected: 09/28/20 12:43      Received: 10/02/20 10:10      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.184 ± 0.281 (0.167)</b> <b>C:NA T:86%</b>	pCi/L	10/21/20 16:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.528 ± 0.464 (0.945)</b> <b>C:73% T:82%</b>	pCi/L	10/21/20 11:14	15262-20-1	

**Sample: 2009494-10**      **Lab ID: 20173920010**      Collected: 09/28/20 13:33      Received: 10/02/20 10:10      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.433 ± 0.502 (0.811)</b> <b>C:NA T:83%</b>	pCi/L	10/21/20 16:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.857 ± 0.497 (0.935)</b> <b>C:84% T:75%</b>	pCi/L	10/21/20 11:14	15262-20-1	

**Sample: 2009494-11**      **Lab ID: 20173920011**      Collected: 09/28/20 14:42      Received: 10/02/20 10:10      Matrix: Water  
PWS:      Site ID:      Sample Type:  
Comments: • Upon receipt at the laboratory, 5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.602 ± 0.576 (0.877)</b> <b>C:NA T:86%</b>	pCi/L	10/21/20 16:05	13982-63-3	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2009494  
Pace Project No.: 20173920

**Sample: 2009494-11**      **Lab ID: 20173920011**      Collected: 09/28/20 14:42      Received: 10/02/20 10:10      Matrix: Water  
PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.277 ± 0.381 (0.816)</b> <b>C:78% T:84%</b>	pCi/L	10/21/20 15:06	15262-20-1	

**Sample: 2009494-12**      **Lab ID: 20173920012**      Collected: 09/28/20 14:28      Received: 10/02/20 10:10      Matrix: Water  
PWS:      Site ID:      Sample Type:

Comments: • Upon receipt at the laboratory, 5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis. The samples were not preserved <2 within the required 5 days of collection.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	<b>0.205 ± 0.484 (0.897)</b> <b>C:NA T:83%</b>	pCi/L	10/21/20 16:20	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	<b>0.219 ± 0.453 (0.999)</b> <b>C:77% T:77%</b>	pCi/L	10/21/20 15:06	15262-20-1	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL - RADIOCHEMISTRY

Project: 2009494  
Pace Project No.: 20173920

QC Batch:	418103	Analysis Method:	EPA 903.1
QC Batch Method:	EPA 903.1	Analysis Description:	903.1 Radium-226
		Laboratory:	Pace Analytical Services - Greensburg
Associated Lab Samples:	20173920001, 20173920002, 20173920003, 20173920004, 20173920005, 20173920006, 20173920007, 20173920008, 20173920009, 20173920010, 20173920011, 20173920012		

METHOD BLANK:	2021273	Matrix:	Water
Associated Lab Samples:	20173920001, 20173920002, 20173920003, 20173920004, 20173920005, 20173920006, 20173920007, 20173920008, 20173920009, 20173920010, 20173920011, 20173920012		

Parameter	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.

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## QUALITY CONTROL - RADIOCHEMISTRY

Project: 2009494  
Pace Project No.: 20173920

QC Batch:	418104	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg
Associated Lab Samples:	20173920001, 20173920002, 20173920003, 20173920004, 20173920005, 20173920006, 20173920007, 20173920008, 20173920009, 20173920010, 20173920011, 20173920012		

METHOD BLANK:	2021274	Matrix:	Water
Associated Lab Samples:	20173920001, 20173920002, 20173920003, 20173920004, 20173920005, 20173920006, 20173920007, 20173920008, 20173920009, 20173920010, 20173920011, 20173920012		

Parameter	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

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## QUALIFIERS

Project: 2009494  
Pace Project No.: 20173920

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### 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

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



## 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

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WO#: 20173920

UBCONTRACT  
ORDER

4613/14

## 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: -

Work Order: 2009494

*\* Standard TAT*

Analysis	Due	Expires	Comments
----------	-----	---------	----------

Sample ID: 2009494-01 Water Sampled: 09/28/2020 08:47 Sample Name: MW-9

Radium, Total 226 &amp; 228 by EPA 903.1 &amp; 9C 10/07/2020 10/26/2020 08:47

## Containers Supplied:

1000mL Plastic (A) 1000mL Plastic (B)

Sample ID: 2009494-02 Water Sampled: 09/28/2020 11:24 Sample Name: OW-2

Radium, Total 226 &amp; 228 by EPA 903.1 &amp; 9C 10/07/2020 10/26/2020 11:24

## Containers Supplied:

1000mL Plastic (A) 1000mL Plastic (B)

Sample ID: 2009494-03 Water Sampled: 09/28/2020 11:39 Sample Name: MW-13

Radium, Total 226 &amp; 228 by EPA 903.1 &amp; 9C 10/07/2020 10/26/2020 11:39

## Containers Supplied:

1000mL Plastic (A) 1000mL Plastic (B)

Sample ID: 2009494-04 Water Sampled: 09/28/2020 13:14 Sample Name: MW-7

Radium, Total 226 &amp; 228 by EPA 903.1 &amp; 9C 10/07/2020 10/26/2020 13:14

## Containers Supplied:

1000mL Plastic (A) 1000mL Plastic (B)

Sample ID: 2009494-05 Water Sampled: 09/28/2020 09:12 Sample Name: MW-14

Radium, Total 226 &amp; 228 by EPA 903.1 &amp; 9C 10/07/2020 10/26/2020 09:12

*Smah Jomeh* 10/01/2020 1630  
Released By \_\_\_\_\_ Date \_\_\_\_\_

*UPS* 10/02/2020  
Released By \_\_\_\_\_ Date \_\_\_\_\_

Released By \_\_\_\_\_ Date \_\_\_\_\_

Released By \_\_\_\_\_ Date \_\_\_\_\_

Released By \_\_\_\_\_ Date \_\_\_\_\_

*UPS* 10/01/2020 1630  
Received By \_\_\_\_\_ Date \_\_\_\_\_

*Peace* 10/02/2020 10:10  
Received By \_\_\_\_\_ Date \_\_\_\_\_

Received By \_\_\_\_\_ Date \_\_\_\_\_

Received By \_\_\_\_\_ Date \_\_\_\_\_

Received By \_\_\_\_\_ Date \_\_\_\_\_

### Work Order: 2009494 (Continued)

Analysis	Due	Expires	Comments
----------	-----	---------	----------

#### Containers Supplied:

1000mL Plastic (A) 1000mL Plastic (B)

**Sample ID: 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 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 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

#### Containers 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

#### Containers Supplied:

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

#### Containers Supplied:

1000mL Plastic (A) 1000mL Plastic (B)

**Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5**

Released By Smah Jomeh Date 10/01/2020 1630

Released By VPS Date 10/02/2020 7

Released By \_\_\_\_\_ Date \_\_\_\_\_

Released By \_\_\_\_\_ Date \_\_\_\_\_

Released By \_\_\_\_\_ Date \_\_\_\_\_

Released By \_\_\_\_\_ Date \_\_\_\_\_

Received By VPS Date 10/01/2020 1630

Received By Debra Pace Date 10/21/20 10:10

Received By \_\_\_\_\_ Date \_\_\_\_\_

Received By \_\_\_\_\_ Date \_\_\_\_\_

Received By \_\_\_\_\_ Date \_\_\_\_\_

Received By \_\_\_\_\_ Date \_\_\_\_\_

# MICRO-METHODS

LABORATORY, INC.

## SUBCONTRACT ORDER (Continued)

Work Order: 2009494 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 2009494-12 Water Sampled: 09/28/2020 14:28 Sample Name: CCR-5			
Radium, Total 226 & 228 by EPA 903.1 & 9C 10/07/2020 10/26/2020 14:28			
Containers Supplied:			
100mL Plastic (A) 1000mL Plastic (B)			

Released By Smah Jorneh Date 10/01/2020 1630

Released By VPS Date 10/02/2020

Released By \_\_\_\_\_ Date \_\_\_\_\_

Released By \_\_\_\_\_ Date \_\_\_\_\_

Released By \_\_\_\_\_ Date \_\_\_\_\_

Received By VPS Date 10/01/2020 1630

Received By Debra Pace Date 10/2/20 10:10

Received By \_\_\_\_\_ Date \_\_\_\_\_

Received By \_\_\_\_\_ Date \_\_\_\_\_

Received By \_\_\_\_\_ Date \_\_\_\_\_

# WO#: 20173920



Sample Condition Upon Re

PM: KHB

Due Date: 10/26/20

1000 Riverbend Blvd., Suite F  
St. Rose, LA 70087

Proje

CLIENT: 20-MICRO

Courier: ☐ Pace Courier ☐ Hired Courier ☐ Fed X ☒ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: ☒ Yes ☐ No

Thermometer Used: ☐ Therm Fisher IR 7 ☐ Therm Fisher IR 10

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: KHB

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?"	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	1	
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2	
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3	
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4	
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6	
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7	
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8	
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9	
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10	
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11	
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12	
All containers preservation checked found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13	If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14	
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

## **APPENDIX C**

### FIELD SAMPLING DATA

**Monitor Well:** CCR-2 **Well Diameter:** 4 inches  
**Date:** 3/26/2020  
**Sampling Method:** Pumped  
**Measured Well Depth:** 84.5 ft  
**Static Water Level:** 48.67 ft  
 (Depth to Water)  
**Maximum Drawdown Depth** 52.25 ft  
 (10% of WCH + SWL)  
**Water Column Height:** 35.83 ft  
 (Measured Well Depth - Static Water Level)  
**TOC Elevation<sup>(1)</sup>:** 542.50 ft  
**GW Elevation:** 443.83 ft  
 (TOC Elevation - Static Water Level)  
**Well Volume:** 23.29 gal  
 (Water Column Height x Well Casing Volume Factor)

[illegible]

Sample Time: 9:29 am

**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): 2.05  
Drawdown/Water Column (%): 5.72 %

**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 bladder pump for maintenance and return to well.  
This could be reason for higher turbidity.

#REF!



CCR-4

4 inches

3/26/20

Pumped

53 ft

24.41 ft

(Depth to Water)

27.26 ft

25.78

Water Column Height: 28.59 ft

(Measured Well Depth - Static Water Level)

505.68 ft

481,27 ft

(TOC Elevation - Static Water Level)

18.58 gal

(Water Column Height x Well Casing Volume Factor)

[illegible]

**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	
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!

#REF!

Monitor Well: MW-7  
Date: 3/25/20

Date:

(10% of WCH + SWL)

(Water Column Height x Well Casing Volume Factor)

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!

Sample Time: 12:18  
Fond Depth: 4.89 ft

#REF!

#REF!

Monitor Well: MW-15  
Date: 3/26/20

**Well Volume:** NA 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)	pH	Conductivity (uS/cm)
3/26/20								
Well is damaged								

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	

There appears to have been a subsidence event where ground below MW15 moved and sheared the well casing, as it is full of soil.

Casing Volumes (gal/ft)	
2" = 0.16	2 1/2" = 0.24
4" = 0.65	6" = 1.46
12" = 5.87	

@ 12"  
Below  
TOC.

#REF!





#REF!

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	

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	

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	

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	

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	



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	



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	

**Monitor Well:** MW-13

Date: 5-18-20

**Sampling Method:** Pumped

Measured Well Depth: 106 ft

**TOC Elevation:** 584.48 ft

Static Water Level: 58.00 ft

GW Elevation: 526.48 ft

(Depth to Water) 1.2 m

(TOC Elevation - Static Water Level)

**Maximum Drawdown Depth** 67.80 ft  
(10% of WCH + SWL)

**Well Volume:** 31.2 gal  
(Water Column Height x Well Casing Volume Factor)

Sample Time: Sample time 10.50

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

Total Drawdown (ft): 1.52

Drawdown/Water Column (%): 3.17%

**Sampler Signature:**

Find Black full on @ Mar 13

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	

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	

Dupl taken @ MW14

Fall 29.45

Final Depth: 3.30 ft

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!

#REF!



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	





**Monitor Well:** MW-7

Date: 9/28/20

**Maximum Drawdown Depth** 36.21 ft  
(10% of WCH + SWL)

**Well Volume:** 14.95 gal  
(Water Column Height x Well Casing Volume Factor)

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	

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

#REF!

Note: 50 minute rain delay  
where the pump was stopped  
& cased/covered. Pump  
resumed @ 11:10.

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!

## **APPENDIX D**

### 2020 GROUNDWATER MONITORING SUMMARY



### Choctaw Generation CCR Groundwater Results for Calendar Year 2020

### Detection and Assessment Monitoring Results:

	Detected
	Detected above Prediction Limit
	Detected above Prediction Limit and Groundwater Protection Standard (GWPS)

NS = Not Sampled

### Antimony (Sb) Monitoring Results (mg/L)

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	<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
Prediction Limit = 0.002, GWPS = 0.006																

### Arsenic (As) Monitoring Results (mg/L)

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	<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
Prediction Limit = 0.002, GWPS = 0.010																

### Barium (Ba) Monitoring Results (mg/L)

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	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
Prediction Limit = 0.2558, GWPS = 2																

**Choctaw Generation CCR Groundwater Results for Calendar Year 2020**

**Beryllium (Be) Monitoring Results (mg/L)**

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	<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
Prediction Limit = 0.001, GWPS = 0.004																

**Boron (B) Monitoring Results (mg/L)**

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	<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 <sup>(2)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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
Prediction 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.

**Calcium (Ca) Monitoring Results (mg/L)**

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	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 <sup>(2)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	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
Prediction Limit = 85.8879																

(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.

### Choctaw Generation CCR Groundwater Results for Calendar Year 2020

### Cadmium (Cd) Monitoring Results (mg/L)

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	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
Prediction Limit = 0.001, GWPS = 0.005																

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

### Chloride (Cl) Monitoring Results (mg/L)

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	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 <sup>(2)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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
Prediction Limit = 26.6034																

(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)

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	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
Prediction Limit = 0.001, GWPS = 0.1																

### Choctaw Generation CCR Groundwater Results for Calendar Year 2020

### Cobalt (Co) Monitoring Results (mg/L)

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	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
Prediction Limit = 0.001, GWPS = 0.006																

### Fluoride (F) Monitoring Results (mg/L)

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	<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
Prediction Limit = 0.30, GWPS = 4.0																

### Lead (Pb) Monitoring Results (mg/L)

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	<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
Prediction Limit = 0.001, GWPS = 0.015																

### Choctaw Generation CCR Groundwater Results for Calendar Year 2020

### Lithium (Li) Monitoring Results (mg/L)

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	<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
Prediction Limit = 0.050, GWPS = 0.050																

### Mercury (Hg) Monitoring Results (mg/L)

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 <sup>(2)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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 <sup>(2)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Prediction Limit = 0.002, GWPS = 0.002																

(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)

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	<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
Prediction Limit = 0.001, GWPS =0.100																

**Choctaw Generation CCR Groundwater Results for Calendar Year 2020**

**Selenium (Se) Monitoring Results (mg/L)**

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	<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
Prediction Limit = 0.001, GWPS = 0.05																

**Sulfate (SO4) Monitoring Results (mg/L)**

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	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 <sup>(2)</sup>	-	-	-	-	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 Limit = 44.8102																

(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 (Tl) Monitoring Results (mg/L)**

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 <sup>(2)</sup>	-	-	-	-	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
Prediction Limit = 0.001, GWPS = 0.002																

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

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

### Choctaw Generation CCR Groundwater Results for Calendar Year 2020

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

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	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
Prediction Limit = 320.8384																

#### 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) <sup>(1)</sup>

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.

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Table 2:	ASD Soil Sampling Event Results
Table 3:	Groundwater pH Measurements vs. Cobalt Concentrations – Downgradient Wells
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### **APPENDICES:**

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



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## RECORD OF REVISIONS

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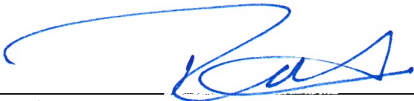
Revision Date	Reason for Revision	Revised Pages, Tables, Figures, or Appendices	Person(s) Responsible for Revision
12/17/2019	Initial Development of Alternate Source Demonstration.	Entire document.	Brian Ketchum (ECS) Caitlin Golding (ECS)
8/20/2020	Revised to address Beryllium.	Entire document.	Brian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

---

## 1.0 ALTERNATE SOURCE DEMONSTRATION (ASD) CERTIFICATION

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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.



Signature

08/24/2020

Date

**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.

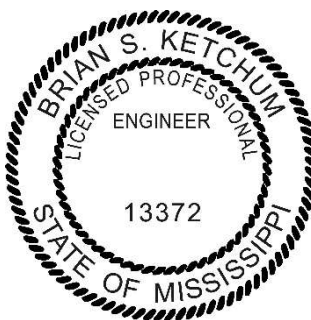


Brian S. Ketchum, P.E.  
Principal, Senior Engineer  
Environmental Compliance & Safety,  
Inc.

8/20/2020

Date

State of Mississippi  
Registration No. 13372  
(Seal)



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## 2.0 EXECUTIVE SUMMARY

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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.

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## 3.0 SITE DESCRIPTION

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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 Tuscaloosa 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 Tuscaloosa Formation, about 300 feet bgs and up to 110 feet thick, both in the Wilcox Group.

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## 4.0 GROUNDWATER MONITORING SYSTEM

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### 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.

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## 5.0 ALTERNATE SOURCE DEMONSTRATION

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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 33<sup>rd</sup> 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.

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## 6.0 CONCLUSION

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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.

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## 7.0 REFERENCES

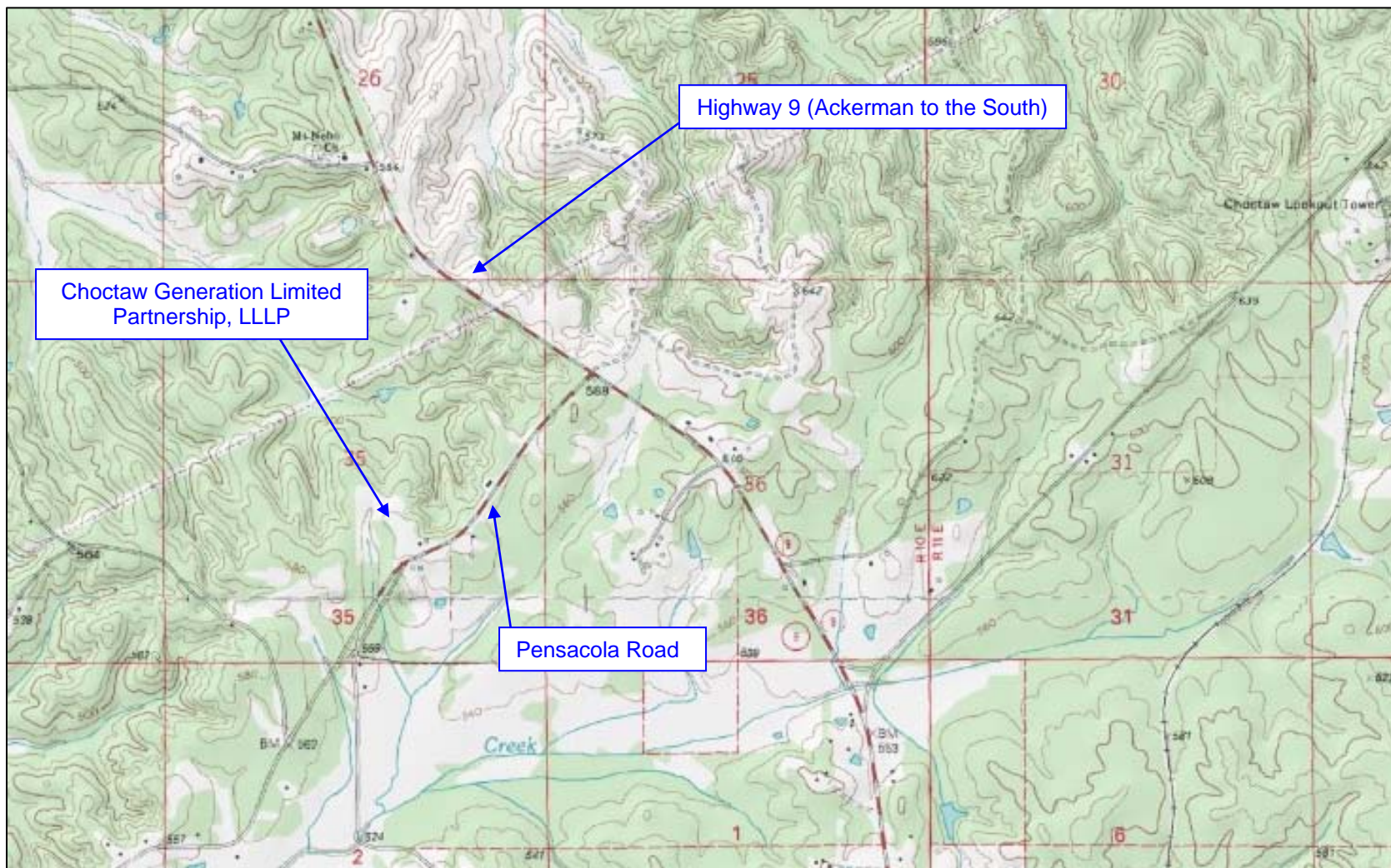
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- .

## FIGURES

**FIGURE 1**  
SITE LOCATION MAP





Source:  
Mytopo.com

Legend:  
N/A

Drawn By/Checked By: CBG

Date: 11/01/2019

Choctaw Generation Limited Partnership, LLLP  
2391 Pensacola Road  
Ackerman, Mississippi 39735

**Figure 1: Site Location Map**

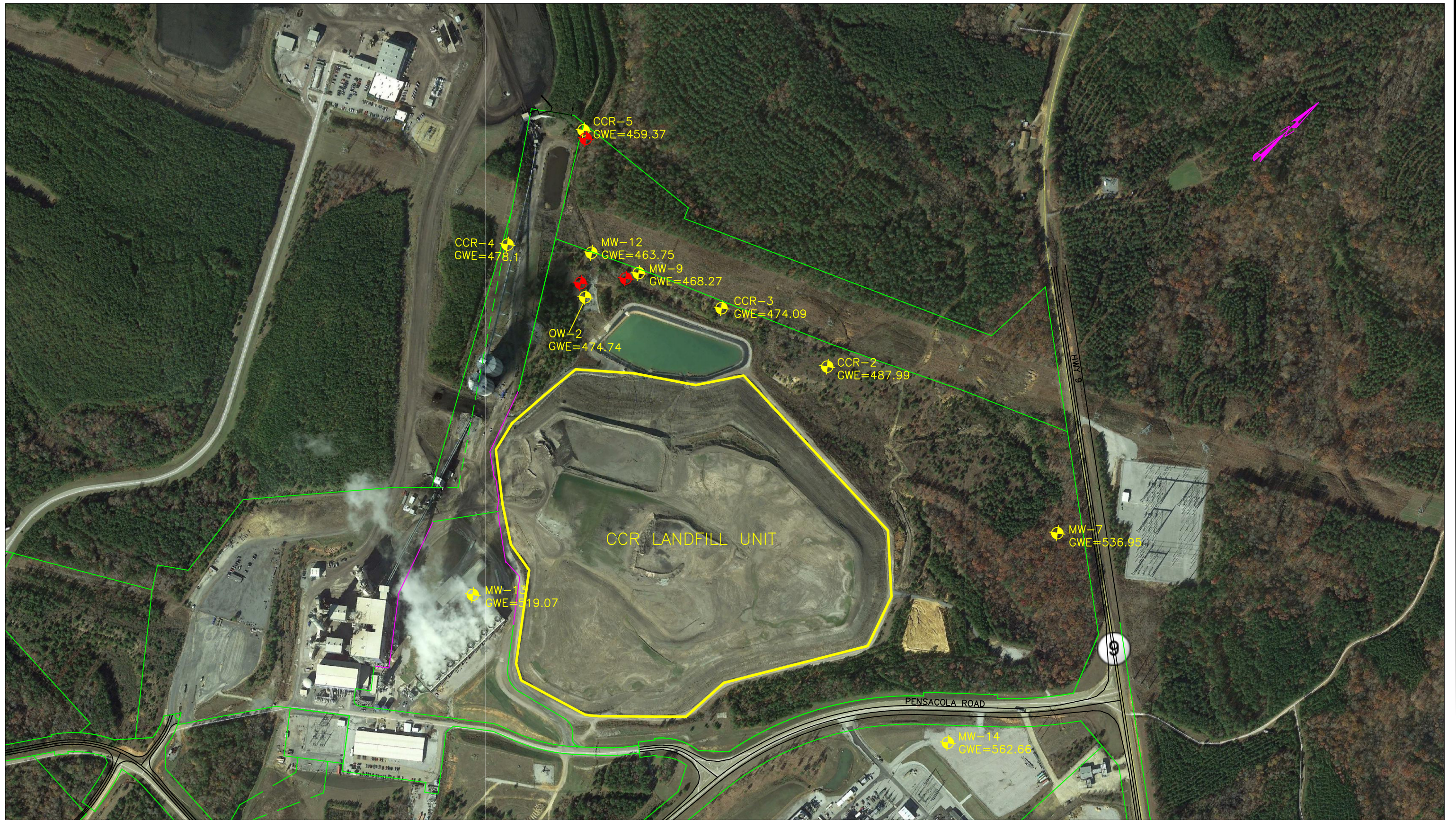


P.O. Box 356  
Sherman, Mississippi 38869  
(662) 840-5945

**FIGURE 2**

CCR MONITORING WELL LOCATIONS







### **FIGURE 3**

USGS GEOCHEMICAL MAP FOR LITHIUM

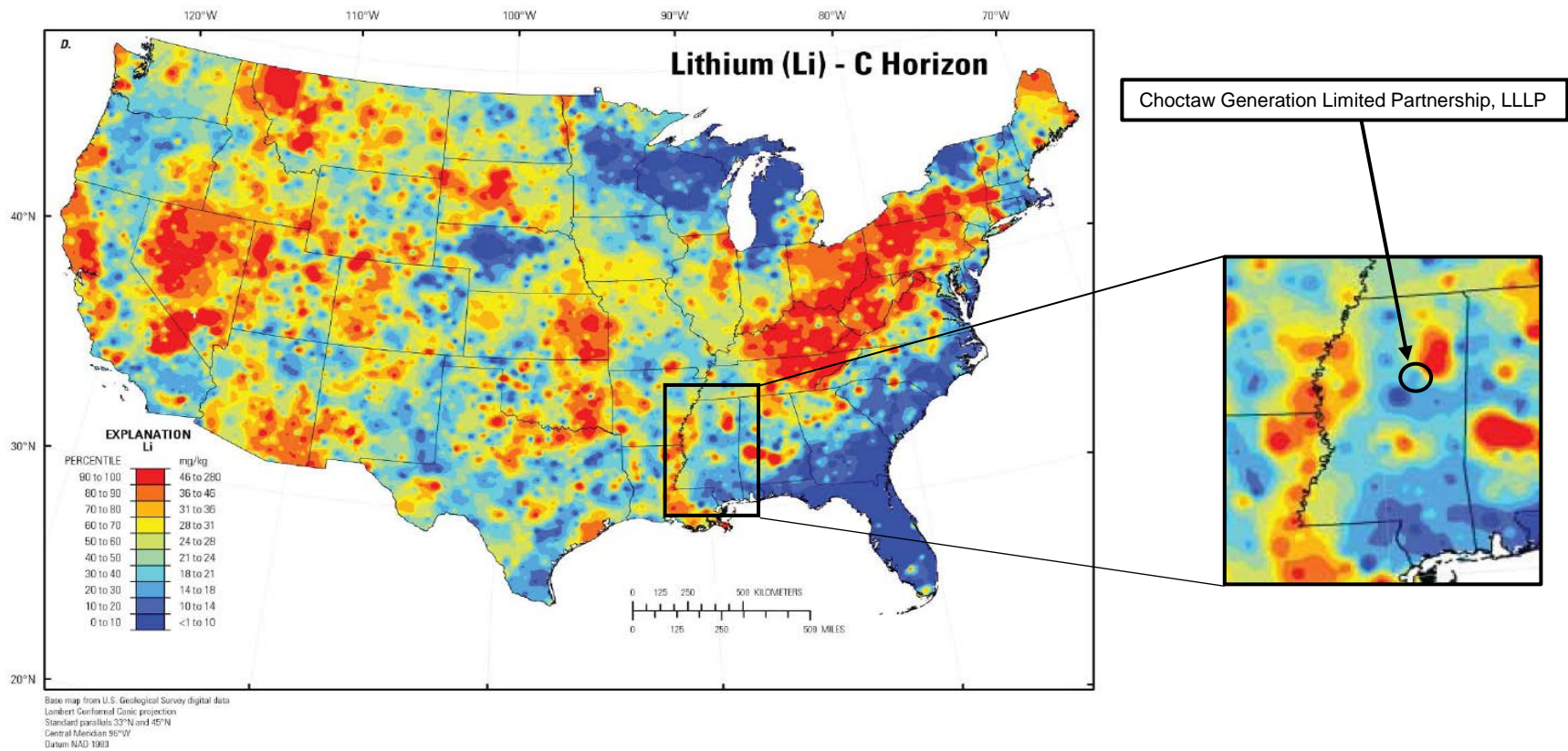


Figure 3. USGS Geochemical Map for Lithium

**FIGURE 4**

USGS GEOCHEMICAL MAP FOR COBALT

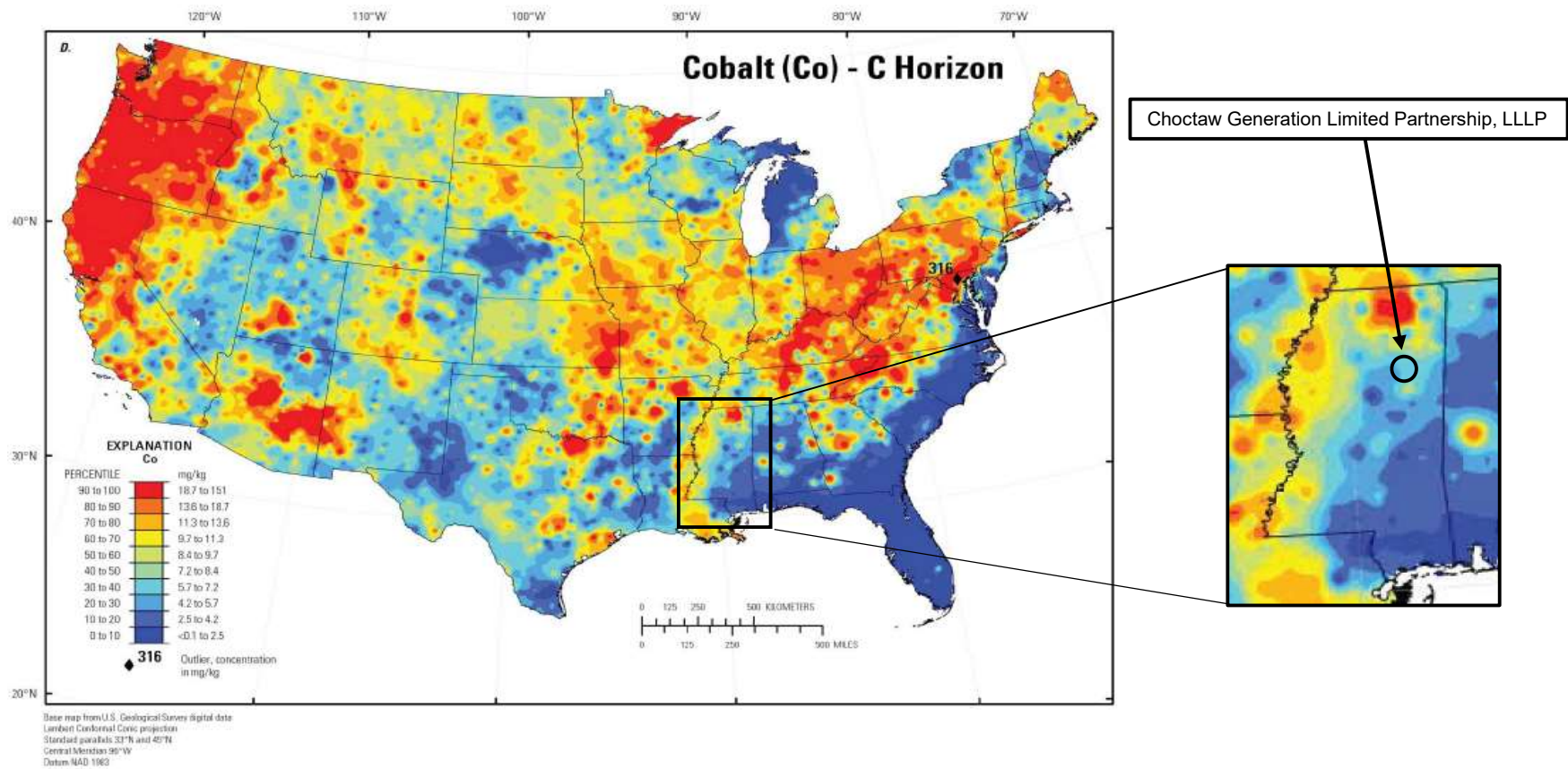


Figure 4. USGS Geochemical Map for Cobalt

**FIGURE 5**

USGS GEOCHEMICAL MAP FOR BERYLLIUM



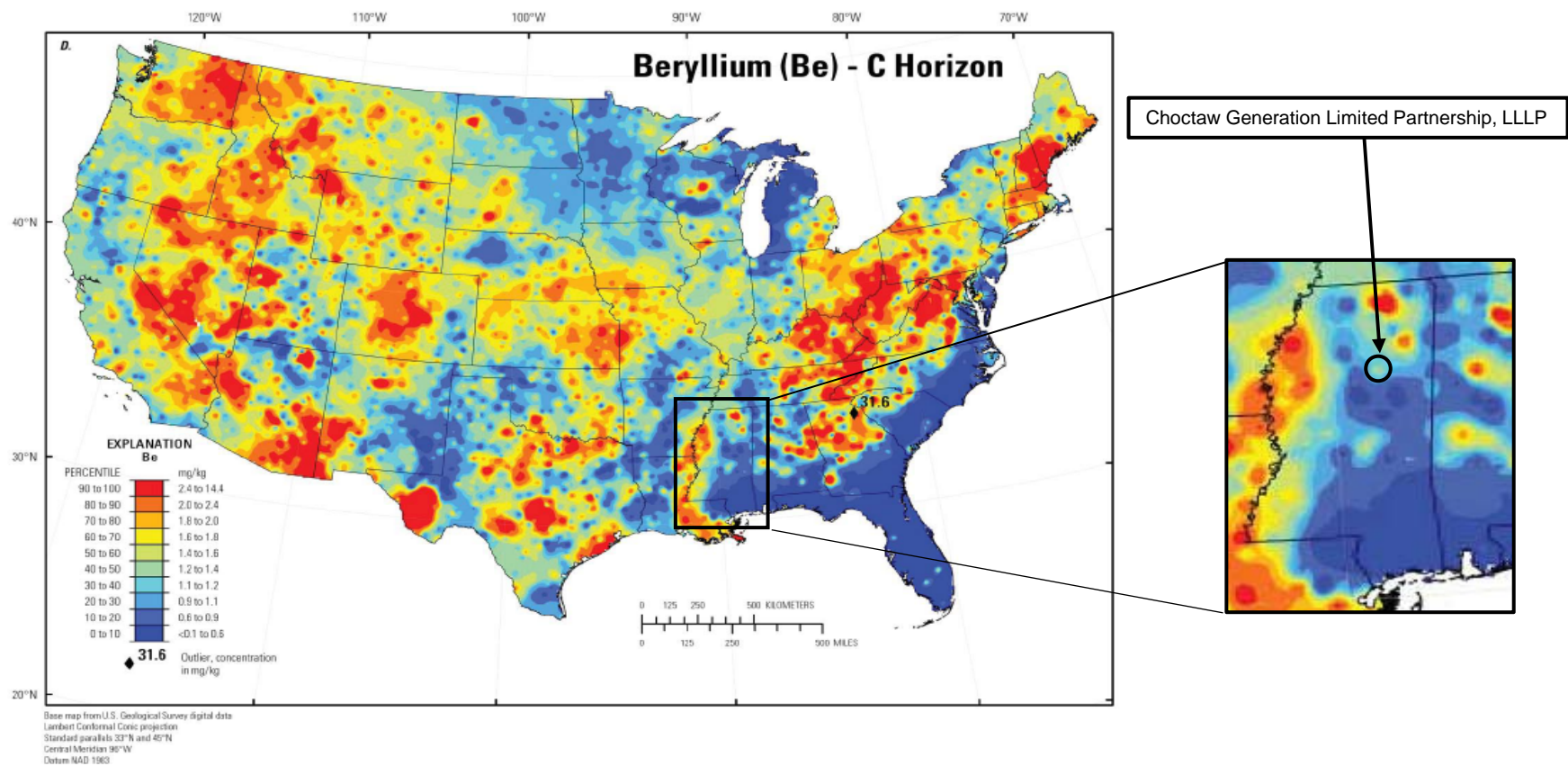


Figure 5. USGS Geochemical Map for Beryllium

## **TABLES**

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

Monitoring Well																
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) Monitoring Results (mg/L) – GWPS = 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)**

Monitoring Well																
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
Molybdenum (Mo) Monitoring Results (mg/L) – GWPS = 0.100																
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 2**  
**ASD Soil Sampling Event Results**  
**October 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)
<b>SB-CCR5</b> (near CCR-5)	7	Gray Tan Sand with Blocky Clay (wet)	6.15	8.30	ND	ND
	10	Tan Gray Clay with Silt	12.5	ND	ND	ND
	18	Lignite	3.31	11.4	3.52	ND
<b>SB-MW9</b> (near MW-9)	10	Gray Brown Clayey Sand (Damp)	6.43	7.40	ND	ND
	14	Gray Brown Silty Sand (Wet)	4.89	ND	ND	ND
	18	Dark Gray Fat Clay	21.8	16.4	ND	ND
<b>SB-MW17</b> (near MW-17)	6	Lignite	10.2	15.4	8.93	ND
	13	Gray Clayey Silt	13.0	11.0	ND	ND
	19	Gray Clayey Silt	16.1	10.6	ND	ND

**bgs – below ground surface**

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

pH Monitoring 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**

pH Monitoring 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 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 Choctawhatchee  
Ackerman MS

Latitude: \_\_\_\_\_

Longitude: \_\_\_\_\_

Soil Boring Methodology: Direct Push Geoprobe

Soil Boring Depth (e.g., 0-4 ft)	Soil Classification	PID Readings (ppm)
0-4	Gray silt with clay	
4-6	Brown sandy clay	
6-9	Gray Tan sand with blocky clay (wet @ 7')	
9-11	Tan Gray clay with silt	
11-12	Tan Gray clay with sand	
12-15	Tan Gray stiff fat clay	
15-16	Black stiff fat clay	
16-18	Lignite	

Soil sample collection depth (ft): 7', 10', & 18'

Sample collection time: \_\_\_\_\_

Analytical testing and sample container type: \_\_\_\_\_

Groundwater encountered (yes/no): Yes depth (ft): 7'

Groundwater sample collected (yes/no): NO

Purge method: NA

Sample collection time: NA date: NA

Analytical testing and sample container type: NA

Comments: Refusal @ 18'

KIA JH

Boring No.: SB-MW9

Date: 10/29/19

Description: Soil Sampling Event at Choctaw Generation  
Acikman MS

Latitude: \_\_\_\_\_

Longitude: \_\_\_\_\_

Soil Boring Methodology: Direct Push Geoprobe

Soil Boring Depth (e.g., 0-4 ft)	Soil Classification	PID Readings (ppm)
0-2	Orange Sandy Clay	
2-4	Brown Clay with Sand	
4-8	Brown Lean Clay with Sand	
8-12	Gray Brown Clayey Sand (Damp @ 10')	
12-14	Gray Brown Silty Sand (wet @ 14')	
14-17	Poorly Graded Sand with Silt	
17-20	Dark Gray Fat Clay	

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

Sample collection time: \_\_\_\_\_

Analytical testing and sample container type: \_\_\_\_\_

Groundwater encountered (yes/no): Yes depth (ft): 14'

Groundwater sample collected (yes/no): NA

Purge method: NA

Sample collection time: NA date: NA

Analytical testing and sample container type: NA

Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

MA Hubs

Boring No.: SB-MW17

Date: 10/29/19

Description: Soil Sampling Event at Chertow Generation  
Arlington MS

Latitude: \_\_\_\_\_

Longitude: \_\_\_\_\_

Soil Boring Methodology: Direct Push Geoprobe

Soil Boring Depth (e.g., 0-4 ft)	Soil Classification	PID Readings (ppm)
0-4	Orange Tan Lean Clay	
4-6	Lignite	
6-8	Gray Lean Clay	
8-10	Gray Lean Clay with silt	
10-12	Gray Silt	
12-13	Gray Clayey Silt	
13-14	Orange Tan Silt	
14-16	Gray Silt (Damp @ 16')	
16-20	Gray Clayey Silt (Wet @ 18')	

Soil sample collection depth (ft): 6', 13', 19'

Sample collection time: \_\_\_\_\_

Analytical testing and sample container type: \_\_\_\_\_

Groundwater encountered (yes/no): Yes depth (ft): 18'

Groundwater sample collected (yes/no): No

Purge method: NA

Sample collection time: NA date: NA

Analytical testing and sample container type: NA

Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

MA Sh

## **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

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

**Purchase Order #:**

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.

A handwritten signature in black ink that reads "Harry 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.*

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

Choctaw Generation LP  
 2391 Pensacola Rd.  
 Ackerman MS, 39735

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

 Reported:  
 11/13/2019 10:08

**Sample Receipt Conditions**

Date/Time Received: 10/31/2019 9:00:00AM

Shipped by: Fed Ex

Received by: Sarah E. Tomek

Submitted by: Kirk Shelton

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

Logged by: Sarah E. Tomek

 Cooler ID: client cooler

 Receipt Temperature: 1.6 °C

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

<i>Received on Ice but Not Frozen</i>	Yes
<i>No Ice, Short Trip</i>	No
<i>Obvious Contamination</i>	No
<i>Rush to meet HT</i>	No
<i>Received within HT</i>	Yes
<i>Proper Containers for Analysis</i>	Yes
<i>Correct Preservation</i>	Yes
<i>Adequate Sample for Analysis</i>	Yes
<i>Sample Custody Seals Present</i>	Yes
<i>Samples Missing from COC/Cooler</i>	No





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

Choctaw Generation LP  
2391 Pensacola Rd.  
Ackerman MS, 39735

Project: Choctaw Gen Soil  
Project Number: [none]  
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  
 2391 Pensacola Rd.  
 Ackerman MS, 39735

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

**Reported:**  
 11/13/2019 10:08

**SBCCR5-18**
**1910642-01 (Soil)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Metals by EPA 6000 Series Methods ICP-AES**

<b>Lithium</b>	<b>3.31</b>	2.00	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:02	SW 6010C	
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**Metals by EPA 6000 Series Methods ICP-MS [Analysis Mode]**

<b>Beryllium [He]</b>	<b>3.52</b>	1.25	mg/kg dry wt.	5.0	9K06049	ADB	"	11/11/2019 14:08	SW 6020A	
<b>Cobalt [He]</b>	<b>11.4</b>	5.00	"	"	"	ADB	"	"	"	
<b>Molybdenum [He]</b>	<b>ND</b>	5.00	"	"	"	ADB	"	"	"	

Choctaw Generation LP  
 2391 Pensacola Rd.  
 Ackerman MS, 39735

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

 Reported:  
 11/13/2019 10:08

**SBCCR5-10**
**1910642-02 (Soil)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Metals by EPA 6000 Series Methods ICP-AES**

Lithium	12.5	1.99	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:17	SW 6010C	
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**Metals by EPA 6000 Series Methods ICP-MS [Analysis 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	"	"	"	
Molybdenum [He]	ND	5.00	"	"	"	ADB	"	"	"	

Choctaw Generation LP  
 2391 Pensacola Rd.  
 Ackerman MS, 39735

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

 Reported:  
 11/13/2019 10:08

**SBCCR5-7**
**1910642-03 (Soil)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Metals by EPA 6000 Series Methods ICP-AES**

Lithium	6.15	1.99	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:21	SW 6010C	
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**Metals by EPA 6000 Series Methods ICP-MS [Analysis 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	"	"	"	
Molybdenum [He]	ND	5.00	"	"	"	ADB	"	"	"	



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Choctaw Generation LP  
2391 Pensacola Rd.  
Ackerman MS, 39735

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

Reported:  
11/13/2019 10:08

**SBMW9-18**

**1910642-04 (Soil)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Metals by EPA 6000 Series Methods ICP-AES**

Lithium	21.8	2.00	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:26	SW 6010C	
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**Metals by EPA 6000 Series Methods ICP-MS [Analysis Mode]**

Beryllium [He]	ND	1.25	mg/kg dry wt.	5.0	9K06049	ADB	"	11/11/2019 14:48	SW 6020A	
Cobalt [He]	16.4	5.00	"	"	"	ADB	"	"	"	
Molybdenum [He]	ND	5.00	"	"	"	ADB	"	"	"	



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Ackerman MS, 39735

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

Reported:  
11/13/2019 10:08

**SBMW9-14**

**1910642-05 (Soil)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Metals by EPA 6000 Series Methods ICP-AES**

Lithium	4.89	1.99	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:31	SW 6010C	
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**Metals by EPA 6000 Series Methods ICP-MS [Analysis 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	"	"	"	
Molybdenum [He]	ND	5.00	"	"	"	ADB	"	"	"	

Choctaw Generation LP  
 2391 Pensacola Rd.  
 Ackerman MS, 39735

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

 Reported:  
 11/13/2019 10:08

**SBMW9-10**
**1910642-06 (Soil)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Metals by EPA 6000 Series Methods ICP-AES**

Lithium	6.43	1.99	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:35	SW 6010C	
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**Metals by EPA 6000 Series Methods ICP-MS [Analysis Mode]**

Beryllium [He]	ND	1.25	mg/kg dry wt.	5.0	9K06049	ADB	"	11/11/2019 15:13	SW 6020A	
Cobalt [He]	7.40	5.00	"	"	"	ADB	"	"	"	
Molybdenum [He]	ND	5.00	"	"	"	ADB	"	"	"	

Choctaw Generation LP  
 2391 Pensacola Rd.  
 Ackerman MS, 39735

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

 Reported:  
 11/13/2019 10:08

**SBMW17-6**
**1910642-07 (Soil)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
<b>Metals by EPA 6000 Series Methods ICP-AES</b>										
Lithium	10.2	2.00	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:40	SW 6010C	
<b>Metals by EPA 6000 Series Methods ICP-MS [Analysis Mode]</b>										
Beryllium [He]	8.93	1.25	mg/kg dry wt.	20.0	9K06049	ADB	"	11/11/2019 22:34	SW 6020A	
Cobalt [He]	15.4	5.00	"	"	"	ADB	"	"	"	
Molybdenum [He]	ND	5.00	"	5.0	"	ADB	"	11/11/2019 15:22	"	



Choctaw Generation LP  
 2391 Pensacola Rd.  
 Ackerman MS, 39735

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

 Reported:  
 11/13/2019 10:08

**SBMW17-13**
**1910642-08 (Soil)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Metals by EPA 6000 Series Methods ICP-AES**

Lithium	13.0	2.00	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:45	SW 6010C	
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**Metals by EPA 6000 Series Methods ICP-MS [Analysis Mode]**

Beryllium [He]	ND	1.25	mg/kg dry wt.	5.0	9K06049	ADB	"	11/11/2019 15:29	SW 6020A	
Cobalt [He]	11.0	5.00	"	"	"	ADB	"	"	"	
Molybdenum [He]	ND	5.00	"	"	"	ADB	"	"	"	

Choctaw Generation LP  
 2391 Pensacola Rd.  
 Ackerman MS, 39735

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

 Reported:  
 11/13/2019 10:08

**SBMW17-19**
**1910642-09 (Soil)**

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
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**Metals by EPA 6000 Series Methods ICP-AES**

Lithium	16.1	1.99	mg/kg dry wt.	1.0	9K04030	ADB	11/04/2019 09:00	11/04/2019 16:49	SW 6010C	
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**Metals by EPA 6000 Series Methods ICP-MS [Analysis Mode]**

Beryllium [He]	ND	1.25	mg/kg dry wt.	5.0	9K06049	ADB	"	11/11/2019 15:38	SW 6020A	
Cobalt [He]	10.6	5.00	"	"	"	ADB	"	"	"	
Molybdenum [He]	ND	5.00	"	"	"	ADB	"	"	"	

Choctaw Generation LP  
 2391 Pensacola Rd.  
 Ackerman MS, 39735

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

 Reported:  
 11/13/2019 10:08

**Metals by EPA 6000 Series Methods ICP-AES - Quality Control**

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 9K04030 - EPA 3050B DCN 1017 Rev 8											
<b>Blank (9K04030-BLK1)</b>											
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	"							
<b>LCS (9K04030-BS1)</b>											
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			
<b>LCS Dup (9K04030-BSD1)</b>											
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	
<b>Matrix Spike (9K04030-MS1) Source: 1910642-01</b>											
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			
<b>Matrix Spike Dup (9K04030-MSD1) Source: 1910642-01</b>											
Beryllium	11/4/19 16:12	25.2	1.25	mg/kg dry wt.	20.0	4.65	103	75-125	3.82	20	
Cobalt	11/4/19 16:12	32.8	5.00	"	20.0	14.8	90.1	75-125	1.58	20	
Lithium	11/4/19 16:12	25.1	2.00	"	20.0	3.31	109	75-125	1.03	20	
Molybdenum	11/4/19 16:12	18.4	5.00	"	20.0	1.40	84.9	75-125	4.63	20	

Choctaw Generation LP  
 2391 Pensacola Rd.  
 Ackerman MS, 39735

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

 Reported:  
 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 1017 Rev 8											
<b>Blank (9K06049-BLK1)</b>											
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	"							
<b>LCS (9K06049-BS1)</b>											
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			
<b>LCS Dup (9K06049-BSD1)</b>											
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	
<b>Matrix Spike (9K06049-MS1) Source: 1910642-01</b>											
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			
<b>Matrix Spike Dup (9K06049-MSD1) Source: 1910642-01</b>											
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  
2391 Pensacola Rd.  
Ackerman MS, 39735Project: Choctaw Gen Soil  
Project Number: [none]  
Project Manager: Jim Ward**Reported:**  
11/13/2019 10:08**Certified Analyses Included in this Report**

Analyte	Certification Code
<b><i>SW 6010C in Soil</i></b>	
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  
 2391 Pensacola Rd.  
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 Project: Choctaw Gen Soil  
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### 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 Verification
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verification 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.



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

**Reported:**  
11/13/2019 10:08

### Analyst Initials Key

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





# Chain of Custody Record

Print Form

PO Box 1410, Ocean Springs, MS 39566-1410  
(228) 875-6420 FAX (228) 875-6423  
www.micromethodslab.com

Lab ID# MS00021  
LELAP ID # 01960  
TNI ID # TNI01397

M-M Lab  
WO #

1910042

Company Name:

Chetaw General & Limited Partnership

Project Manager:

Jim Ward

Turn Around Time & Reporting

Our normal turn around time is 10 working days

Address: 2391 Pensacola Rd.

Purchase Order #:

City: Ackerman State: MS Zip: 39735

Email Address:

Phone: 662-387-5750

Sampler Name Printed:

Fax:

Sampler Name Signed:

Kim Snelton

Project Name:

Chetaw Gen. Soil

Project #:

QC Level: Level 1 ☐ Level 2 ☐ Level 3 ☐

Sample Identification

SBCC125-18

SBCC125-10

SBCC125-7

SBMMW9-18

SBMMW9-14

SBMMW9-10

SBMMW17-6

SBMMW17-13

SBMMW17-19

Sampling Date/Time

10/29/19 11:20

10/29/19 11:58

10/29/19 11:59

10/29/19 13:36

10/29/19 13:43

10/29/19 13:45

10/29/19 15:30

10/29/19 15:31

10/29/19 15:32

Matrix Code

SO

SO

SO

SO

SO

SO

SO

SO

SO

# of Containers

1

1

1

1

1

1

1

1

1

Grab (G) or Composite (C)

G

G

G

G

G

G

G

G

G

Cobalt

X

X

X

X

X

X

X

X

X

Lithium

X

X

X

X

X

X

X

X

X

Beryllium

X

X

X

X

X

X

X

X

X

Molybdenum

X

X

X

X

X

X

X

X

X

Received on Ice

Y

Thermometer #

49

Cooler #

Client

Receipt Temp Corrected (C)

1.10 C

Date & Time

By: J

Printed Name

Signature

Company

Date

Time

Notes:

Sample Sidel with FedEx.

\*\*All Temps are Corrected Values\*\*

Preservation:

1=H2SO4  
2=H3PO4  
3=NaOH  
4=ZnCAH1006  
5=ZnCAH1006 & NaOH  
6=HNO3  
7=Na2S2O3  
8=HCl  
9=NaHSO4