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

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

JANUARY 30, 2019





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1.0 INTRODUCTION

1.1 SITE DESCRIPTION AND REGULATORY APPLICABILITY

The Choctaw Generation Limited Partnership, LLLP – Red Hills Operations (Red Hills) is located near the City of Ackerman in Choctaw County, Mississippi. Red Hills is in north central Mississippi on a 170-acre site. Red Hills 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. Red Hills 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 repurposed. Red Hills 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 on Figure 2. The CCR unit encompasses approximately 90 acres of the Red Hills 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
- Begin evaluating the 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 Red Hills groundwater monitoring system was completed in accordance with the groundwater monitoring performance standards of §257.91 by June 2016. The initial Red Hills 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. A facility diagram showing the monitoring well locations is included as Figure 2. A Groundwater Monitoring Plan was developed in August 2016 in accordance with the groundwater sampling and analysis program requirements of §257.93 and is available in the Red Hills 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.

1.2 ANNUAL REPORT REQUIREMENTS

Red Hills 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.

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. A discussion of the current monitoring well system and any monitoring wells installed or decommissioned is provided in Section 2.0. A summary of the monitoring data obtained during the annual reporting period is provided in Section 3.0. Section 4.0 contains a narrative 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. 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.

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

1/30/2019

Date Signed



(Seal)

2.0 GROUNDWATER MONITORING SYSTEM

2.1 CURRENT GROUNDWATER MONITORING SYSTEM

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

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

The groundwater monitoring system must include a minimum number of monitoring wells necessary to meet the performance standards and information specified above. The direction of groundwater flow through the CCR unit is to the north-northwest, which has been consistently determined through ongoing solid waste permit groundwater monitoring events. The locations for the monitoring wells were based upon the known direction of groundwater movement. The monitoring wells screen the uppermost laterally continuous aquifer below the base of ash fill. The base of ash fill is at an approximate elevation of 480 feet mean sea level (msl). The zone is screened and monitored is 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 Red Hills CCR unit groundwater monitoring system consists 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 90 acres. An additional downgradient well was added in August 2018 as discussed further in Section 2.2. A map showing the monitoring well locations is included as Figure 2, and a summary of the current wells is included as Table 2-1 below. Monitoring wells were installed according to the guidelines established in the 1994 USEPA Region IV RCRA Subtitle D Training Manual (SDTM, 1994), or other generally accepted guidelines, and are believed to meet the requirements of 40 CFR Part 257, Subpart D. For more detailed procedures related to the installation of

the current groundwater monitoring system, refer to the CCR Groundwater Monitoring Plan available in the facility Operating Record and CCR Web Site.

Well No.	Background or Down-gradient	Elevation (ft)	Well Depth (ft)	Well Dia. (inches)
CCR-2	Downgradient	539.90	84.50	4
CCR-3	Downgradient	502.60	53.00	4
CCR-4	Downgradient	504.00	52.90	4
CCR-5	Downgradient	467.81	32.0	4
MW-7	Background (Upgradient)	572.62	56.92	4
MW-9	Downgradient	480.96	21.74	4
MW-12	Downgradient	475.00	19.09	4
MW-13	Background (Upgradient)	563.00	106.00	4
MW-14	Background (Upgradient)	595.00	60.97	4
MW-15	Downgradient	487.61	22.74	4
MW-16	Downgradient	489.05	21.74	4
OW-2	Downgradient	489.10	27.05	4

Table 2-1: Groundwater Monitoring Wells

Sections 2.2 and 2.3 discuss changes to the groundwater monitoring system that took place during the reporting period.

2.2 MONITORING WELL INSTALLATION

A new monitoring well was installed on August 28, 2018, and identified as CCR-5. The CCR-5 well was installed downgradient from the CCR unit at the facility boundary in the direction of contaminant migration to meet the requirements of 40 CFR 257.95(g)(1)(iii). This well was installed to help assess the nature and extent of groundwater contamination as a result of concentrations of cobalt and lithium exceeding the groundwater protection standards in some downgradient wells.

2.3 MONITORING WELL DECOMMISSIONING

During the annual reporting period, no existing monitoring wells were decommissioned.

3.0 GROUNDWATER MONITORING DATA

3.1 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 3-1 and 3-2 below. Metals were analyzed as total recoverable metals from unfiltered samples.

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

Table 3-1: Appendix III Constituents

Table 3-2: Appendix IV Constituents

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

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

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

3.2 GROUNDWATER ELEVATION AND FLOW

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

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

Conductivity and porosity are dependent on the soil type in the saturated zone. Based on boring logs, the soils in the screened saturated zone are predominantly silt, clay, and silty-clay units. These Clayey Wilcox sediments were investigated and found to have hydraulic conductivities generally less than 1.0×10^{-6} cm/sec, and in many cases 1.0×10^{-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 2.0×10^{-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. The hydraulic gradient is 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.

As noted in Table 3-3 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 2018 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 1.3 to 1.4 feet per year based on the 2018 data. This is consistent with the flows calculated for previous monitoring events, as shown in Table 3-3.

3.3 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, groundwater protection standards were established per the requirements of §257.95(d)(2) for Appendix IV constituents and are compared to current and future sampling results.

The first detection monitoring event conducted February 6-7, 2018, resulted in SSI for the following Appendix III constituents at the well locations noted below:

- Chloride: MW-9, MW-12, MW-16, and OW-2
- Fluoride: MW-9 and OW-2
- Sulfate: CCR-3, MW-9, MW-12, MW-16, and OW-2
- Total Dissolved Solids (TDS): CCR-3, MW-9, and MW-16.

Due to these SSI, assessment monitoring was triggered and an initial assessment monitoring event for all Appendix IV constituents was conducted on May 15-16, 2018. This event resulted in SSI for the following Appendix IV constituents at the well locations noted below:

- Antimony: CCR-2
- Barium: MW-12
- Beryllium: MW-9
- Cadmium: MW-9
- Chromium: MW-16
- Cobalt: CCR-4, MW-9, MW-12, MW-15, and MW-16
- Fluoride: CCR-3, CCR-4, MW-9, MW-15, MW-16, and OW-2
- Lithium: CCR-3 and MW-9

An additional downgradient well was installed at the property boundary in accordance with §257.95(g)(1)(iii) and groundwater protection standards were established per the requirements of §257.95(d)(2). A second assessment monitoring event was conducted on September 10-11, 2018, which included sampling at the new property boundary well, CCR-5. During this monitoring event, all Appendix III constituents and those Appendix IV constituents detected during the initial assessment monitoring event were analyzed. The results of this second event were compared to the groundwater protection standards. The following Appendix IV constituents exceeded the groundwater protection standards at the well locations noted below for this monitoring event:

- Cobalt: CCR-5, MW-9, MW-12, and MW-15
- Lithium: CCR-3 and MW-9

Antimony and chromium detected during the first assessment monitoring event were only detected at one well at the minimum reporting level for the test method. Subsequent sampling of these two parameters revealed no detections at any wells, so the increases were not verified, and there were no detections of these constituents in any wells during previous monitoring. 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 groundwater protection standards and have shown decreasing trends in most wells. Beryllium and cadmium were detected in MW-9 during both assessment monitoring events. Neither constituent has been detected in any other well, and the detected levels in MW-9 are below the groundwater protection standards, which are only 4 parts per billion (ppb) and 5 ppb for beryllium and cadmium, respectively. Fluoride has 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 groundwater protection standard, with trends varying across the wells.

Cobalt exceeded the groundwater protection standards during the assessment monitoring events in five (5) downgradient wells, including MW-9, MW-12, MW-15 MW-16 and the recently installed boundary well CCR-5. Cobalt has been prevalent in these wells, including the background sampling. Lithium exceeded the groundwater protection standards in only two (2) wells – CCR-3 and MW-9 – for both assessment monitoring events. These wells only recently saw measurable detections of lithium. No other monitoring wells, upgradient or downgradient, have detected lithium.

Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2	Flow Rate	Flow Direction
7/26-27/16	488.60	473.59	478.46		538.60	471.49	466.92	499.10	564.91	477.50	480.26	476.80	1.4	NNW
8/22-23/16	488.63	473.33	478.41		538.03	471.74	466.97	498.85	563.94	477.19	480.49	476.50	1.3	NNW
9/12-13/16	488.22	472.96	478.36		538.02	470.97	466.09	498.82	563.12	476.74	480.15	476.20	1.3	NNW
10/17- 18/16	488.05	472.69	478.61		537.93	471.17	465.56	498.48	560.56	476.19	479.24	476.00	1.3	NNW
11/9-10/16	487.69	472.41	478.16		537.52	471.32	465.45	497.83	559.08	475.78	479.10	475.50	1.3	NNW
11/28- 29/16	487.55	472.38	478.17		536.13	471.47	465.97	497.60	560.51	476.16	479.61	475.64	1.3	NNW
2/8-9/17	488.17	474.06	478.95		537.95	473.34	471.27	498.21	563.49	478.87	481.70	477.60	1.3	NNW
3/29-30/17	488.36	474.82	478.81		537.74	472.44	470.17	498.58	565.88	478.83	486.60	477.40	1.4	NNW
						Detec	tion Moni	toring						
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
	Assessment Monitoring													
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

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

4.0 DETECTION AND ASSESSMENT MONITORING

Red Hills is currently subject to the Assessment Monitoring Program requirements of §257.95, and groundwater monitoring as required by this program are discussed in Section 3.0. A description of both the Detection Monitoring Program and Assessment Monitoring Program is provided below and reflects changes occurring during the previous calendar year.

4.1 DETECTION MONITORING PROGRAM

For existing CCR landfills, including the Red Hills 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: chloride, fluoride, sulfate, and TDS. Therefore, the requirements of the Assessment Monitoring Program were triggered.

4.2 ASSESSMENT MONITORING PROGRAM

Due to SSI exceedances determined during the initial detection monitoring event of February 6-7, 2018, Red Hills triggered the Assessment Monitoring Program under §257.95. Red Hills completed initial assessment monitoring for all Appendix IV constituents on May 15-16, 2018. Because two constituents were detected at statistically significant levels exceeding their respective groundwater protection standards, an additional monitoring well was installed in accordance with §257.95(c)(1)(iii), and a second assessment monitoring event was completed on September 10-11, 2018, to analyze for all Appendix III constituents and ten (10) Appendix IV constituents detected in the initial assessment monitoring event. The next sampling event required by the Assessment Monitoring Program (§257.95) will occur in March 2019. This event will include sampling for the Appendix III and detected Appendix IV constituents at the upgradient and downgradient wells.

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, Red Hills may return to detection monitoring. If the concentrations of any Appendix III or IV constituent is above the background values, but

all concentrations are below the groundwater protection standards, Red Hills must continue assessment monitoring. If one or more Appendix IV constituent is detected at statistically significant levels (SSL) above the groundwater protection standard in any monitoring event, Red Hills must implement correction actions. Due to statistically significant levels of cobalt and lithium, Red Hills will continue assessment monitoring on a semiannual basis and will also initiate corrective actions.

Groundwater protection standards 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 groundwater protection standards (GWPS) established under §257.95(d)(2) are included as Appendix D of the Annual Report.

5.0 ADDITIONAL INFORMATION

5.1 ALTERNATIVE MONITORING FREQUENCY

Based on the availability of groundwater, an alternative monitoring frequency may be proposed under both the detection monitoring program and the assessment monitoring program per §§257.94(d) and 257.95(c), respectively. In lieu of semiannual sampling, sampling may be conducted less frequently but no less than annually. Red Hills 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). Red Hills 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, Red Hills 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, Red Hills 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, Red Hills must continue monitoring in accordance with the detection or assessment monitoring program, as applicable. Red Hills must also include the demonstration in the Annual Report, as well as the certification by a qualified professional engineer. *With this Annual Report, Red Hills is not demonstrating at this time that a statistically significant increase (SSI) resulted from another source or resulted from any error.*

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 groundwater protection standard. 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, Red Hills is not requesting additional time to assess corrective measures, since such assessment was not required during the period covered by the report.*

6.0 CONCLUSION

6.1 SUMMARY OF KEY ACTIONS COMPLETED

During the reporting period, initial sampling under the Detection Monitoring Program was completed on February 6-7, 2018, which resulted in SSI's for various constituents and triggered the Assessment Monitoring Program. The initial assessment monitoring event was completed on May 15-16, 2018, and groundwater protection standards were established for those Appendix IV constituents detected and then compared to results from this initial event to determine if the SSI was verified. As required, an additional well (CCR-5) was installed in August 2018 at the property boundary in order to further characterize the nature and extent of the contaminant plume. The second assessment monitoring event was completed on September 10-11, 2018, which included the property boundary well, CCR-5. Based on the results of the two assessment monitoring events, SSL's for cobalt and lithium were verified as exceeding the groundwater protection standards. Both a notification establishing the Assessment Monitoring Program and a notification of exceedances of the groundwater protection standards were placed in the operating record, sent to the State Director, and posted to the website.

6.2 KEY ACTIVITIES FOR UPCOMING YEAR

During calendar year 2019, Red Hills anticipates conducting at least two (2) semiannual assessment monitoring events. Also, Red Hills will characterize the nature and extent of the release in accordance with §257.95(g) and initiate an assessment of corrective measures per the requirements of §257.96. Based on the results of the corrective measures assessment, selection of a remedy may occur in calendar year 2019.

FIGURE 1

SITE LOCATION MAP

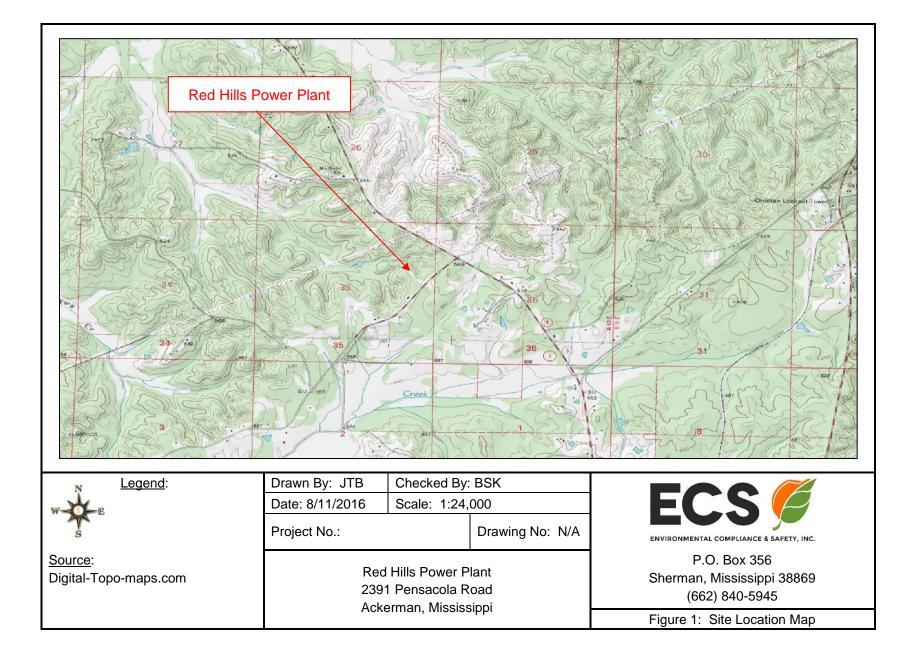
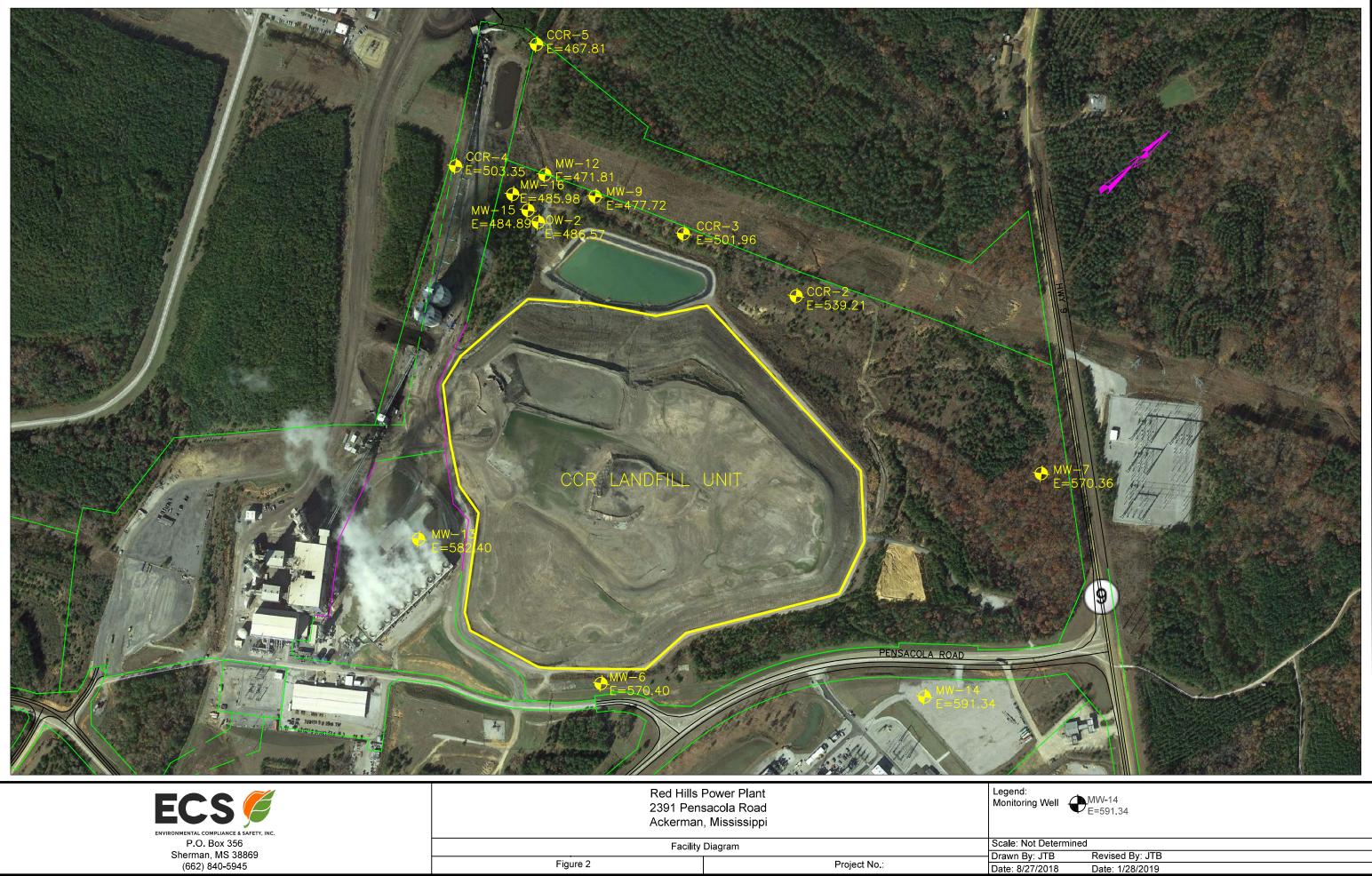


FIGURE 2

FACILITY DIAGRAM

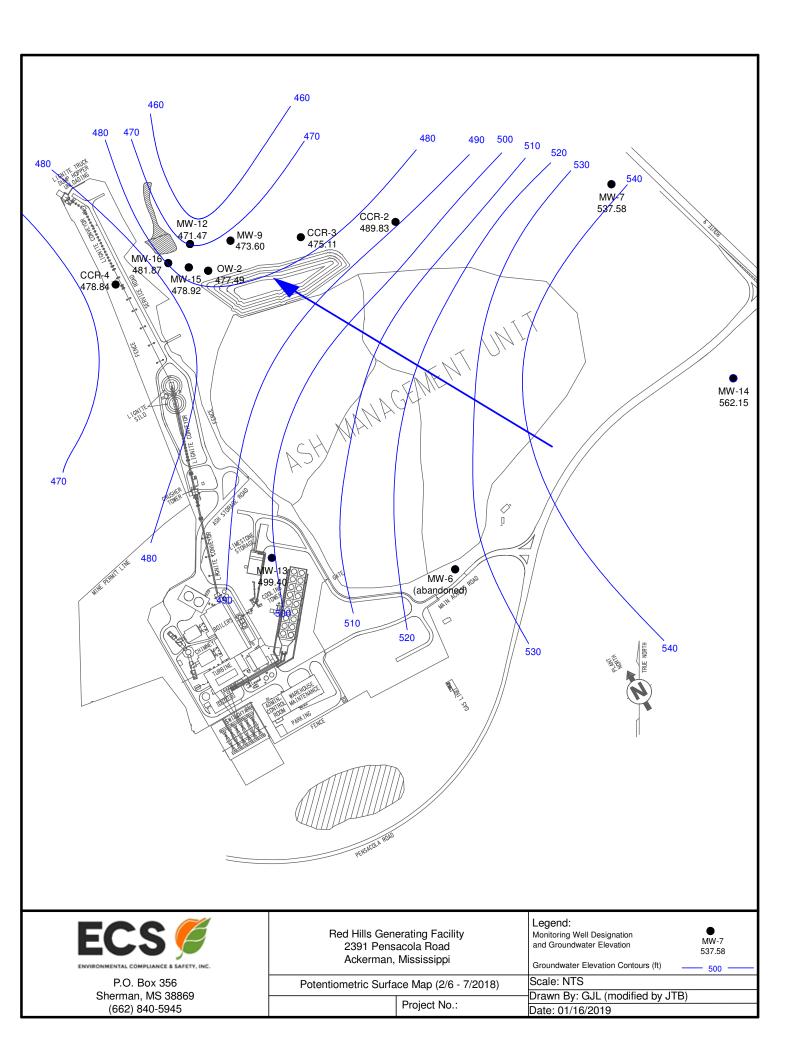


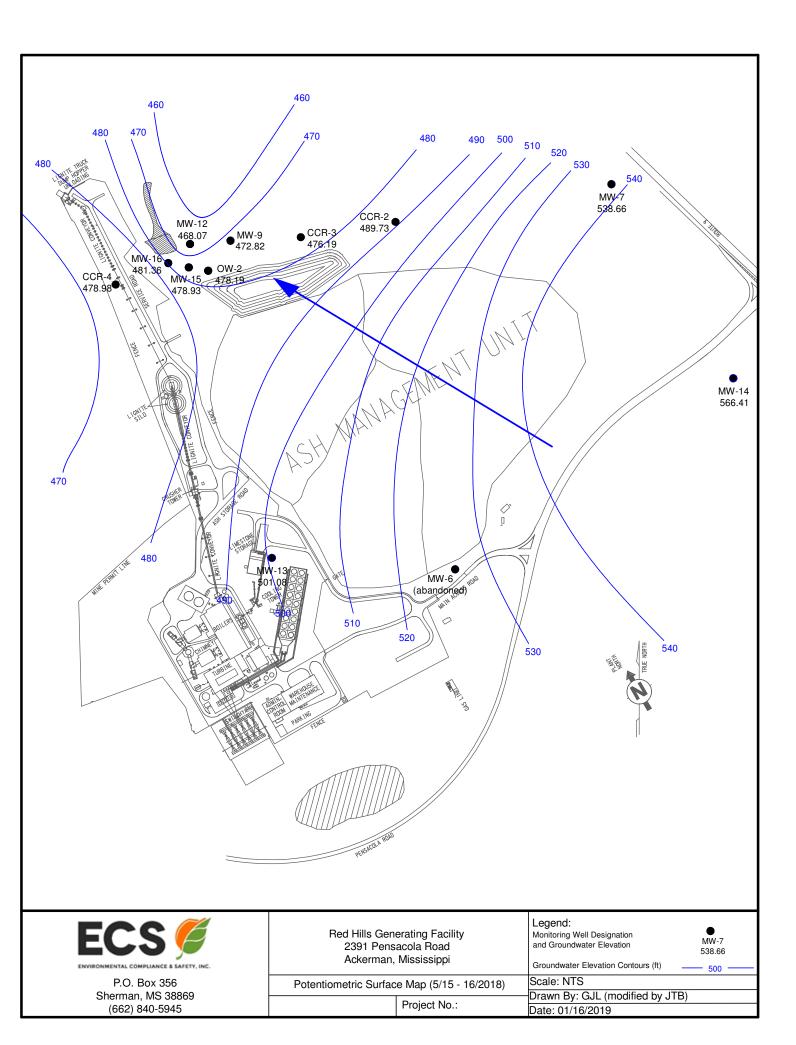


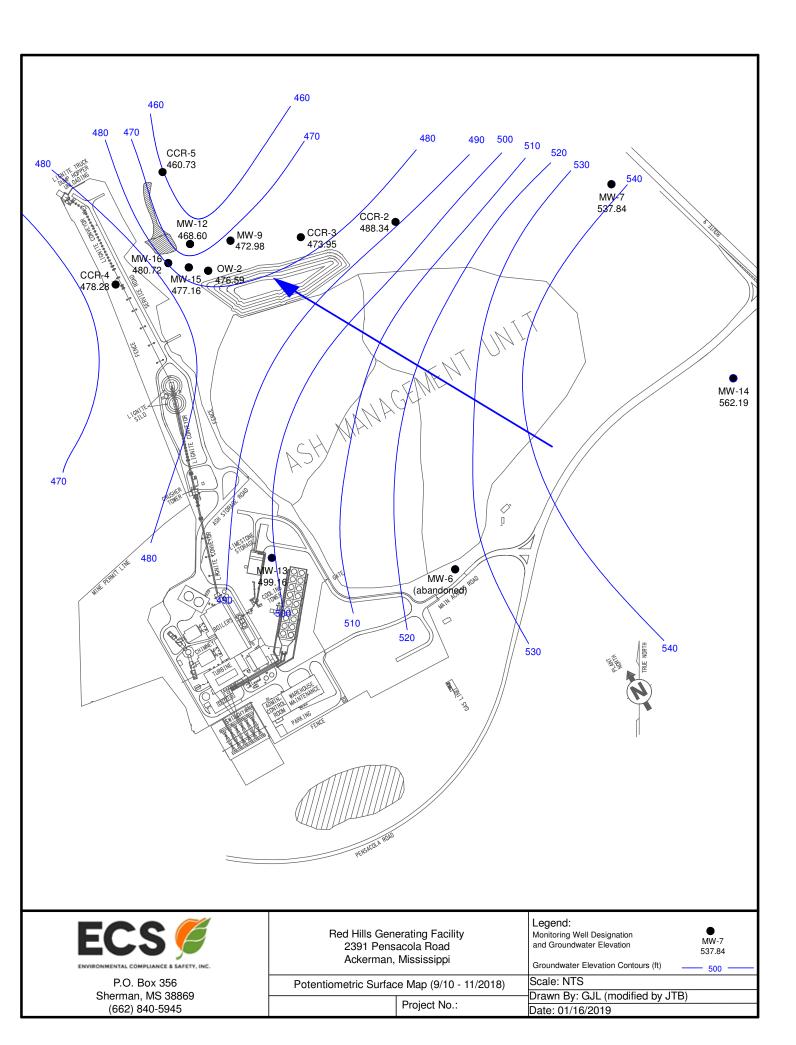
2391 Pensacola Road Ackerman, Mississippi						
Facility Diagram						
,,,,,,		Drawn By: .				
Figure 2	Project No.:	Date: 8/27/2				

APPENDIX A

POTENTIOMETRIC SURFACE MAPS







APPENDIX B

ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FORMS



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

February 19, 2018

Jim Ward

Work Order #: 1802129

Purchase Order #: SCSRDH6883

Red Hills Power Plant 2391 Pensacola Rd. Ackerman, MS 39735 *RE: Red Hills CCR*

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 02/08/2018 10:30. If you have any questions concerning this report, please feel free to contact the office.

Hamy P. Nowell

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.



Red Hills Power Plant	Project: Red Hills CCR
2391 Pensacola Rd.	Project Number: 1st Detection Monitoring Event
Ackerman MS, 39735	Project Manager: Jim Ward

Reported: 02/19/2018 10:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
MW-9	1802129-01	Water	02/07/2018 11:41	Joseph Bookout	02/08/2018 10:30
MW-16	1802129-02	Water	02/07/2018 13:32	Joseph Bookout	02/08/2018 10:30
OW-2	1802129-03	Water	02/07/2018 12:50	Joseph Bookout	02/08/2018 10:30
MW-13	1802129-04	Water	02/06/2018 11:48	Joseph Bookout	02/08/2018 10:30
MW-7	1802129-05	Water	02/07/2018 09:20	Joseph Bookout	02/08/2018 10:30
MW-14	1802129-06	Water	02/07/2018 10:14	Joseph Bookout	02/08/2018 10:30
Field Blank	1802129-07	Water	02/07/2018 14:00	Joseph Bookout	02/08/2018 10:30
Duplicate	1802129-08	Water	02/07/2018 02:00	Joseph Bookout	02/08/2018 10:30
MW-12	1802129-09	Water	02/06/2018 13:25	Joseph Bookout	02/08/2018 10:30
MW-15	1802129-10	Water	02/07/2018 14:15	Joseph Bookout	02/08/2018 10:30
CCR-2	1802129-11	Water	02/06/2018 15:55	Joseph Bookout	02/08/2018 10:30
CCR-3	1802129-12	Water	02/06/2018 14:35	Joseph Bookout	02/08/2018 10:30
CCR-4	1802129-13	Water	02/06/2018 16:38	Joseph Bookout	02/08/2018 10:30
Sample Receipt Conditions					

Date/Time Received: 2/8/2018 10:30:00AM Received by: Sarah E. Tomek

Date/Time Logged: 2/8/2018 11:01:00AM

Cooler ID: #1122

Custody Seals	Yes			
Containers Intact	Yes			
COC/Labels Agree	Yes			
Labels Complete	Yes			
COC Complete	Yes			
Cooler ID: #1124				
Custody Seals	Yes			
Containers Intact	Yes			
COC/Labels Agree	Yes			
Labels Complete	Yes			
COC Complete	Yes			

Shipped	by: Client Delivery			
Submitte	d by: Joseph Bookout			
Logged b	oy: Sarah E. Tomek			
Receipt Temper	rature: 0.1 °C			
Received	l on Ice	Yes		
No Ice, S	Short Trip	No		
Obvious	Obvious Contamination			
Rush to r	No			
Receipt Temper	rature: 0.2 °C			
Received	l on Ice	Yes		
No Ice, S	Short Trip	No		
Obvious	Contamination	No		

Rush to meet HT

No



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735 Project: Red Hills CCR Project Number: 1st Detection Monitoring Event Project Manager: Jim Ward

Reported: 02/19/2018 10:12

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: No Summary Comments

Total Metals-EPA 200.7 Rev 4.4

QD-10 The analyte concentration is greater than 10 times the spike concentration. The Matrix Spike result reported as Duplicate. The QC batch was accepted based on LCS/LCSD and Duplicate recoveries within the acceptance limits.

Calcium 8B12029-DUP1, 8B12029-DUP2

Qualifiers:

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



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Project: Red Hills CCR Project Number: 1st Detection Monitoring Event Project Manager: Jim Ward	Reported: 02/19/2018 10:12
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1802129-01	(Water)

							Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzed	Method	Qualifiers
Classical Chemistry Para	ameters									
Chloride	509	25.0	mg/L	50.0	8B09021	DLW	02/09/2018 11:17	02/09/2018 11:35	SM 4110B 2000	
Sulfate as SO4	92.9	50.0	"	10.0	"	DLW		02/09/2018 11:17	"	
Fluoride	0.35	0.22	"	1.0	8B15039	HAD	02/15/2018 14:40	02/15/2018 15:00	SM 4500-F D 1997	
Total Dissolved Solids	1423	1	"	"	8B09023	DLW	02/08/2018 16:00	02/09/2018 00:00	SM 2540 C 1997	
Metals by EPA 200 Serie	s Methods ICP	-AES								
Boron	ND	0.050	mg/L	1.0	8B12029	SCH	02/12/2018 08:30	02/13/2018 13:16	EPA 200.7 Rev 4.4	
Calcium	79.8	0.050	"	"	"	SCH	"			



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Project: Red Hills CCR Project Number: 1st Detection Monitoring Event Project Manager: Jim Ward	Reported: 02/19/2018 10:12
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1802129-02 (Water)

							Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzed	Method	Qualifiers
Classical Chemistry Para	ameters									
Chloride	61.9	5.00	mg/L	10.0	8B09021	DLW	02/08/2018 08:30	02/08/2018 16:56	SM 4110B 2000	
Sulfate as SO4	128	50.0	"	"	"	DLW		"		
Fluoride	ND	0.22	"	1.0	8B15039	HAD	02/15/2018 14:40	02/15/2018 15:00	SM 4500-F D 1997	
Total Dissolved Solids	338	2	"	"	8B09023	DLW	02/08/2018 16:00	02/09/2018 00:00	SM 2540 C 1997	
Metals by EPA 200 Serie	s Methods ICP	-AES								
Boron	ND	0.050	mg/L	1.0	8B12029	SCH	02/12/2018 08:30	02/13/2018 13:26	EPA 200.7 Rev 4.4	
Calcium	33.2	0.050	"	"	"	SCH				



10:12

	Reported: 9/2018 10:
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OW-2

1802129-03 (Water)

							Date	Date		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Time Prepared	Time Analyzed	Method	Qualifiers
Classical Chemistry Para	ameters									
Chloride	37.7	5.00	mg/L	10.0	8B09021	DLW	02/08/2018 08:30	02/08/2018 17:14	SM 4110B 2000	
Sulfate as SO4	108	50.0	"	"	"	DLW	"	"		
Fluoride	0.33	0.22	"	1.0	8B15039	HAD	02/15/2018 14:40	02/15/2018 15:00	SM 4500-F D 1997	
Total Dissolved Solids	274	2	"	"	8B09023	DLW	02/08/2018 16:00	02/09/2018 00:00	SM 2540 C 1997	
Metals by EPA 200 Series	s Methods ICP	-AES								
Boron	ND	0.050	mg/L	1.0	8B12029	SCH	02/12/2018 08:30	02/13/2018 13:31	EPA 200.7 Rev 4.4	
Calcium	36.4	0.050	"	"		SCH	"	"		



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Project: Red Hills CCR Project Number: 1st Detection Monitoring Event Project Manager: Jim Ward	Reported: 02/19/2018 10:12
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1802129-04 (Water)

							Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzed	Method	Qualifiers
Classical Chemistry Para	ameters									
Chloride	4.72	0.500	mg/L	1.0	8B09021	DLW	02/08/2018 08:30	02/08/2018 17:32	SM 4110B 2000	
Sulfate as SO4	6.03	5.00	"	"		DLW	"	"		
Fluoride	ND	0.22	"	"	8B15039	HAD	02/15/2018 14:40	02/15/2018 15:00	SM 4500-F D 1997	
Total Dissolved Solids	159	1	"	"	8B09023	DLW	02/08/2018 16:00	02/09/2018 00:00	SM 2540 C 1997	
Metals by EPA 200 Series	s Methods ICP	-AES								
Boron	ND	0.050	mg/L	1.0	8B12029	SCH	02/12/2018 08:30	02/13/2018 13:36	EPA 200.7 Rev 4.4	
Calcium	21.0	0.050	"	"		SCH	"	"		



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Project: Red Hills CCR Project Number: 1st Detection Monitoring Event Project Manager: Jim Ward	Reported: 02/19/2018 10:12
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1802129-05 (Water)

							Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzed	Method	Qualifiers
Classical Chemistry Para	ameters									
Chloride	3.12	0.500	mg/L	1.0	8B09021	DLW	02/09/2018 11:53	02/09/2018 11:53	SM 4110B 2000	
Sulfate as SO4	33.5	20.0	"	4.0	"	DLW		02/09/2018 12:24	"	
Fluoride	0.32	0.22	"	1.0	8B15039	HAD	02/15/2018 14:40	02/15/2018 15:00	SM 4500-F D 1997	
Total Dissolved Solids	204	2	"	"	8B09023	DLW	02/08/2018 16:00	02/09/2018 00:00	SM 2540 C 1997	
Metals by EPA 200 Series	s Methods ICP	-AES								
Boron	ND	0.050	mg/L	1.0	8B12029	SCH	02/12/2018 08:30	02/13/2018 13:40	EPA 200.7 Rev 4.4	
Calcium	58.2	0.050	"	"	"	SCH	"			



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Project: Red Hills CCR Project Number: 1st Detection Monitoring Event Project Manager: Jim Ward	Reported: 02/19/2018 10:12
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1802129-06 (Water)

					,					
							Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzed	Method	Qualifiers
Classical Chemistry Para	ameters									
Chloride	19.1	0.500	mg/L	1.0	8B09021	DLW	02/09/2018 12:41	02/09/2018 12:41	SM 4110B 2000	
Sulfate as SO4	6.74	5.00	"	"		DLW	"	"		
Fluoride	ND	0.22	"	"	8B15039	HAD	02/15/2018 14:40	02/15/2018 15:00	SM 4500-F D 1997	
Total Dissolved Solids	79	1	"	"	8B09023	DLW	02/08/2018 16:00	02/09/2018 00:00	SM 2540 C 1997	
Metals by EPA 200 Series	s Methods ICP	-AES								
Boron	ND	0.050	mg/L	1.0	8B12029	SCH	02/12/2018 08:30	02/13/2018 13:45	EPA 200.7 Rev 4.4	
Calcium	0.624	0.050	"	"		SCH	"	"		



Red Hills Power PlantProject:
Red Hills CCR2391 Pensacola Rd.Project Number:
1st Detection Monitoring EventAckerman MS, 39735Project Manager:
Jim Ward

Reported: 02/19/2018 10:12

Field Blank

1802129-07 (Water)

					,					
					5.4		Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Chloride	12.5	0.500	mg/L	1.0	8B09021	DLW	02/09/2018 13:12	02/09/2018 13:12	SM 4110B 2000	
Sulfate as SO4	ND	5.00	"	"	"	DLW		"	"	
Fluoride	ND	0.22	"	"	8B15039	HAD	02/15/2018 14:40	02/15/2018 15:00	SM 4500-F D 1997	
Total Dissolved Solids	35	1	"	"	8B09023	DLW	02/08/2018 16:00	02/09/2018 00:00	SM 2540 C 1997	
Metals by EPA 200 Series	Methods ICP	-AES								
Boron	ND	0.050	mg/L	1.0	8B12029	SCH	02/12/2018 08:30	02/13/2018 13:50	EPA 200.7 Rev 4.4	
Calcium	7.51	0.050	"	"	"	SCH				



Red Hills Power PlantProject: Red Hills CCR2391 Pensacola Rd.Project Number: 1st Detection Monitoring EventAckerman MS, 39735Project Manager: Jim Ward

Reported: 02/19/2018 10:12

Duplicate

1802129-08 (Water)

							Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzed	Method	Qualifiers
Classical Chemistry Par	ameters									
Chloride	19.3	0.500	mg/L	1.0	8B09021	DLW	02/09/2018 13:18	02/09/2018 13:48	SM 4110B 2000	
Sulfate as SO4	7.16	5.00	"	"	"	DLW	"			
Fluoride	ND	0.22	"	"	8B15039	HAD	02/15/2018 14:40	02/15/2018 15:00	SM 4500-F D 1997	
Total Dissolved Solids	79	1	"	"	8B09023	DLW	02/08/2018 16:00	02/09/2018 00:00	SM 2540 C 1997	
Metals by EPA 200 Serie	s Methods ICP	-AES								
Boron	ND	0.050	mg/L	1.0	8B12029	SCH	02/12/2018 08:30	02/13/2018 13:54	EPA 200.7 Rev 4.4	
Calcium	0.610	0.050	"	"		SCH	"			



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Project: Red Hills CCR Project Number: 1st Detection Monitoring Event Project Manager: Jim Ward	Reported: 02/19/2018 10:12
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MW-12

1802129-09 (Water)

							Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzed	Method	Qualifiers
lassical Chemistry Parameters										
Chloride	56.2	2.00	mg/L	4.0	8B09021	DLW	02/09/2018 13:18	02/09/2018 14:06	SM 4110B 2000	
Sulfate as SO4	48.2	20.0	"	"	"	DLW		"		
Fluoride	ND	0.22	"	1.0	8B15039	HAD	02/15/2018 14:40	02/15/2018 15:00	SM 4500-F D 1997	
Total Dissolved Solids	310	1	"	"	8B09023	DLW	02/08/2018 16:00	02/09/2018 00:00	SM 2540 C 1997	
Metals by EPA 200 Serie	s Methods ICP	-AES								
Boron	ND	0.050	mg/L	1.0	8B12029	SCH	02/12/2018 08:30	02/13/2018 13:59	EPA 200.7 Rev 4.4	
Calcium	32.1	0.050	"	"		SCH		"		



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Project: Red Hills CCR Project Number: 1st Detection Monitoring Event Project Manager: Jim Ward	Reported: 02/19/2018 10:12
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MW-15

1802129-10 (Water)

							Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzed	Method	Qualifiers
Classical Chemistry Par	ameters									
Chloride	12.0	2.00	mg/L	4.0	8B09021	DLW	02/09/2018 13:18	02/09/2018 14:23	SM 4110B 2000	
Sulfate as SO4	39.2	20.0	"	"	"	DLW		"	"	
Fluoride	0.24	0.22	"	1.0	8B15039	HAD	02/15/2018 14:40	02/15/2018 15:00	SM 4500-F D 1997	
Total Dissolved Solids	272	2	"	"	8B09024	DLW	02/08/2018 16:00	02/09/2018 00:00	SM 2540 C 1997	
Metals by EPA 200 Serie	s Methods ICP	-AES								
Boron	ND	0.050	mg/L	1.0	8B12029	SCH	02/12/2018 08:30	02/13/2018 14:04	EPA 200.7 Rev 4.4	
Calcium	32.7	0.050	"	"	"	SCH		"		



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Project: Red Hills CCR Project Number: 1st Detection Monitoring Event Project Manager: Jim Ward	Reported: 02/19/2018 10:12
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CCR-2

1802129-11 (Water)

					,					
							Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzed	Method	Qualifiers
Classical Chemistry Para	ameters									
Chloride	2.89	0.500	mg/L	1.0	8B09021	DLW	02/09/2018 13:18	02/09/2018 15:24	SM 4110B 2000	
Sulfate as SO4	8.33	5.00	"	"		DLW	"			
Fluoride	ND	0.22	"	"	8B15039	HAD	02/15/2018 14:40	02/15/2018 15:00	SM 4500-F D 1997	
Total Dissolved Solids	107	1	"	"	8B09024	DLW	02/08/2018 16:00	02/09/2018 00:00	SM 2540 C 1997	
Metals by EPA 200 Series	s Methods ICP	-AES								
Boron	ND	0.050	mg/L	1.0	8B12029	SCH	02/12/2018 08:30	02/13/2018 14:37	EPA 200.7 Rev 4.4	
Calcium	14.1	0.050	"	"		SCH				



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Project: Red Hills CCR Project Number: 1st Detection Monitoring Event Project Manager: Jim Ward	Reported: 02/19/2018 10:12
	CCR-3	

1802129-12 (Water) Date Date Time Time Analyst Prepared Analyzed MRL Analyte Result Units Dil Batch Method Qualifiers **Classical Chemistry Parameters** 02/12/2018 SM 4110B 2000 11:28 6.82 0.500 1.0 Chloride mg/L 8B09021 DLW 02/09/2018 13:18 .. 202 Sulfate as SO4 100 20.0 " DLW 02/12/2018 .. 11:10 0.27 0.22 ... SM 4500-F D 1.0 8B15039 Fluoride HAD 02/15/2018 02/15/2018 15:00 14:40 1997 2 ... 518 ... 02/09/2018 **Total Dissolved Solids** 8B09024 DLW 02/08/2018 SM 2540 C 00:00 1997 16:00 Metals by EPA 200 Series Methods ICP-AES Boron ND 0.050 EPA 200.7 Rev mg/L 1.0 8B12029 SCH 02/13/2018 02/12/2018 14:48 4.4 08:30 ... " 0.050 Calcium 75.4 .. SCH



Red Hills Power Plant	Project: Red Hills CCR	
2391 Pensacola Rd.	Project Number: 1st Detection Monitoring Event	Reported:
Ackerman MS, 39735	Project Manager: Jim Ward	02/19/2018 10:12

CCR-4

1802129-13 (Water)

							Date Time	Date Time		
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Prepared	Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	7.57	0.500	mg/L	1.0	8B09021	DLW	02/09/2018 13:18	02/09/2018 17:25	SM 4110B 2000	
Sulfate as SO4	15.9	5.00	"	"	"	DLW	"	"		
Fluoride	ND	0.22	"	"	8B15039	HAD	02/15/2018 14:40	02/15/2018 15:00	SM 4500-F D 1997	
Total Dissolved Solids	195	1	"	"	8B09024	DLW	02/08/2018 16:00	02/09/2018 00:00	SM 2540 C 1997	
Metals by EPA 200 Serie	s Methods ICP	-AES								
Boron	ND	0.050	mg/L	1.0	8B12029	SCH	02/12/2018 08:30	02/13/2018 14:52	EPA 200.7 Rev 4.4	
Calcium	28.8	0.050	"	"		SCH				



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735 Project Manager: Jim Ward

Project: Red Hills CCR Project Number: 1st Detection Monitoring Event

Reported: 02/19/2018 10:12

Classical Chemistry Parameters - Quality Control

Analyte		Result	MRL	Units	Spike	Source	%REC	%REC	RPD	RPD	Qualifiers
Analyte	Analyzed	Result	IVITAL	Units	Level	Result	/0KLU	Limits	KF D	Limit	Quaimers
Batch 8B09021 - Default Prep 0	GenChem										
Blank (8B09021-BLK1)											
Chloride	2/8/18 10:54	ND	0.500	mg/L							
Sulfate as SO4	2/8/18 10:54	ND	5.00								
Blank (8B09021-BLK2)											
Chloride	2/9/18 10:51	ND	0.500	mg/L							
Sulfate as SO4	2/9/18 10:51	ND	5.00								
Blank (8B09021-BLK3)											
Chloride	2/12/18 10:42	ND	0.500	mg/L							
Sulfate as SO4	2/12/18 10:42	ND	5.00								
LCS (8B09021-BS1)											
Chloride	2/8/18 10:18	8.15	0.500	mg/L	8.00		102	90-110			
Sulfate as SO4	2/8/18 10:18	8.01	5.00		8.00		100	90-110			
LCS (8B09021-BS2)											
Chloride	2/9/18 10:16	7.89	0.500	mg/L	8.00		98.6	90-110			
Sulfate as SO4	2/9/18 10:16	7.39	5.00		8.00		92.4	90-110			
LCS (8B09021-BS3)											
Chloride	2/12/18 10:06	8.09	0.500	mg/L	8.00		101	90-110			
Sulfate as SO4	2/12/18 10:06	8.68	5.00		8.00		109	90-110			
LCS Dup (8B09021-BSD1)											
Chloride	2/8/18 10:36	8.16	0.500	mg/L	8.00		102	90-110	0.0858	20	
Sulfate as SO4	2/8/18 10:36	8.07	5.00		8.00		101	90-110	0.809	20	
LCS Dup (8B09021-BSD2)											
Chloride	2/9/18 10:34	7.95	0.500	mg/L	8.00		99.3	90-110	0.707	20	
Sulfate as SO4	2/9/18 10:34	7.36	5.00		8.00		92.0	90-110	0.352	20	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735 Project: Red Hills CCR Project Number: 1st Detection Monitoring Event

Project Manager: Jim Ward

Reported: 02/19/2018 10:12

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 8B09021 - Default	Prep GenChem										
LCS Dup (8B09021-BSD3	3)										
Chloride	2/12/18 10:24	8.57	0.500	mg/L	8.00		107	90-110	5.70	20	
Sulfate as SO4	2/12/18 10:24	8.43	5.00	"	8.00		105	90-110	2.93	20	
Duplicate (8B09021-DUP	2)		Source: 1802	129-04							
Chloride	2/8/18 17:50	4.33	0.500	mg/L		4.72			8.73	20	
Sulfate as SO4	2/8/18 17:50	5.84	5.00	"		6.03			3.12	20	
Duplicate (8B09021-DUP	3)		Source: 1802	129-11							
Chloride	2/9/18 15:42	2.89	0.500	mg/L		2.89			0.0346	20	
Sulfate as SO4	2/9/18 15:42	8.36	5.00	"		8.33			0.407	20	
Matrix Spike (8B09021-M	S2)		Source: 1802	129-04							
Chloride	2/8/18 18:08	27.3	2.00	mg/L	20.0	4.72	113	86.8-113			
Sulfate as SO4	2/8/18 18:08	25.4	20.0		20.0	6.03	97.0	54.5-117			
Matrix Spike (8B09021-M	S3)		Source: 1802	129-11							
Chloride	2/9/18 16:13	44.7	2.00	mg/L	40.0	2.89	104	86.8-113			
Sulfate as SO4	2/9/18 16:13	42.0	20.0	"	40.0	8.33	84.1	54.5-117			
Matrix Spike Dup (8B090	21-MSD2)		Source: 1802	129-04							
Chloride	2/8/18 18:26	26.8	2.00	mg/L	20.0	4.72	110	86.8-113	2.01	20	
Sulfate as SO4	2/8/18 18:26	22.6	20.0		20.0	6.03	82.7	54.5-117	11.9	20	
Matrix Spike Dup (8B090	21-MSD3)		Source: 1802	129-11							
Chloride	2/9/18 16:31	46.9	2.00	mg/L	40.0	2.89	110	86.8-113	4.81	20	
Sulfate as SO4	2/9/18 16:31	42.9	20.0		40.0	8.33	86.5	54.5-117	2.28	20	



Project: Red Hills CCR **Red Hills Power Plant** Project Number: 1st Detection Monitoring Event 2391 Pensacola Rd. **Reported:** Ackerman MS, 39735 Project Manager: Jim Ward 02/19/2018 10:12 **Classical Chemistry Parameters - Quality Control** Spike Source %REC RPD Б .14

Analyte	Analyzed	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch 8B09023 - Default Prep (GenChem										
Blank (8B09023-BLK1)											
Total Dissolved Solids	2/9/18 0:00	ND	1	mg/L							
LCS (8B09023-BS1)											
Total Dissolved Solids	2/9/18 0:00	192	2	mg/L	207		92.8	79.6-105			
LCS Dup (8B09023-BSD1)											
Total Dissolved Solids	2/9/18 0:00	188	2	mg/L	207		90.8	79.6-105	2.11	15	
Duplicate (8B09023-DUP1)			Source: 1802	122-01							
Total Dissolved Solids	2/9/18 0:00	448	1	mg/L		446			0.447	5	
Batch 8B09024 - Default Prep (GenChem										
Blank (8B09024-BLK1)											
Total Dissolved Solids	2/9/18 0:00	ND	1	mg/L							
LCS (8B09024-BS1)											
Total Dissolved Solids	2/9/18 0:00	194	1	mg/L	207		93.7	79.6-105			
LCS Dup (8B09024-BSD1)											
Total Dissolved Solids	2/9/18 0:00	194	1	mg/L	207		93.7	79.6-105	0.00	15	
Duplicate (8B09024-DUP1)			Source: 1802	129-13							
Total Dissolved Solids	2/9/18 0:00	191	1	mg/L		195			2.07	5	
Batch 8B15039 - Default Prep (GenChem										
Blank (8B15039-BLK1)											
Fluoride	2/15/18 15:00	ND	0.22	mg/L							



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735 Project: Red Hills CCR Project Number: 1st Detection Monitoring Event

Project Manager: Jim Ward

Reported: 02/19/2018 10:12

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 8B15039 - Default Prep C	GenChem										
Blank (8B15039-BLK2)											
Fluoride	2/15/18 15:00	ND	0.22	mg/L							
LCS (8B15039-BS1)											
Fluoride	2/15/18 15:00	0.88	0.22	mg/L	0.800		110	75-125			
LCS (8B15039-BS2)											
Fluoride	2/15/18 15:00	0.89	0.22	mg/L	0.800		111	75-125			
LCS Dup (8B15039-BSD1)											
Fluoride	2/15/18 15:00	0.90	0.22	mg/L	0.800		112	75-125	1.85	30	
LCS Dup (8B15039-BSD2)											
Fluoride	2/15/18 15:00	0.89	0.22	mg/L	0.800		112	75-125	0.616	30	
Duplicate (8B15039-DUP1)			Source: 1802	129-01							
Fluoride	2/15/18 15:00	0.40	0.22	mg/L		0.35			13.7	35	
Duplicate (8B15039-DUP2)			Source: 1802	129-11							
Fluoride	2/15/18 15:00	ND	0.22	mg/L		ND				35	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735 Project: Red Hills CCR Project Number: 1st Detection Monitoring Event Project Manager: Jim Ward

Reported: 02/19/2018 10:12

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

					0.11			0/ DEC			
Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 8B12029 - EPA 20	0.2 DCN 1017 Rev 8										
Blank (8B12029-BLK1)											
Boron	2/13/18 13:05	ND	0.050	mg/L							
Calcium	2/13/18 13:05	ND	0.050								
LCS (8B12029-BS1)											
Boron	2/13/18 13:08	0.198	0.050	mg/L	0.200		99.0	85-115			
Calcium	2/13/18 13:08	0.215	0.050		0.200		108	85-115			
LCS Dup (8B12029-BSD	1)										
Boron	2/13/18 13:11	0.200	0.050	mg/L	0.200		99.9	85-115	0.831	20	
Calcium	2/13/18 13:11	0.208	0.050		0.200		104	85-115	3.34	20	
Duplicate (8B12029-DUF	21)		Source: 1802	129-01							
Calcium	2/13/18 13:19	79.3	0.050	mg/L		79.8			0.634	20	QD-10
Duplicate (8B12029-DUF	22)		Source: 1802	129-11							
Calcium	2/13/18 14:40	14.9	0.050	mg/L		14.1			5.37	20	QD-10
Matrix Spike (8B12029-M	MS1)		Source: 1802	129-01							
Boron	2/13/18 13:19	0.211	0.050	mg/L	0.200	0.011	99.9	70-130			
Matrix Spike (8B12029-M	MS2)		Source: 1802	129-11							
Boron	2/13/18 14:40	0.233	0.050	mg/L	0.200	0.020	106	70-130			
Matrix Spike Dup (8B12)	029-MSD1)		Source: 1802	129-01							
Boron	2/13/18 13:22	0.213	0.050	mg/L	0.200	0.011	101	70-130	0.701	20	
Matrix Spike Dup (8B12)	029-MSD2)		Source: 1802	129-11							
Boron	2/13/18 14:43	0.234	0.050	mg/L	0.200	0.020	107	70-130	0.606	20	



Red Hills Power Plant	Project: Red Hills CCR	
2391 Pensacola Rd.	Project Number: 1st Detection Monitoring Event	Reported:
Ackerman MS, 39735	Project Manager: Jim Ward	02/19/2018 10:12

Certified Analyses Included in this Report

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Analyte	Certification Code	
EPA 200.7 Rev 4.4 in Wate	r	
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	
Phosphorus	C01,C02	
SM 2540 C 1997 in Water		
Total Dissolved Solids	C01,C02	
SM 4110B 2000 in Water		
Chloride	C01,C02	
Sulfate as SO4	C01,C02	
Nitrate as N	C01,C02	

Only compounds included in this list are associated with accredited analyses



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

Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735 Project: Red Hills CCR Project Number: 1st Detection Monitoring Event Project Manager: Jim Ward

Reported: 02/19/2018 10:12

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	LA Environmental Lab Accreditation Program	01960	06/30/2018
C02	The NELAC Institute (NELAP)	TNI01397	06/30/2018
C03	Ms Dept of Health (Coliform)	MS00021	12/31/2018
C04	Ms Dept of Health (Drinking Water Certificate)	MS00021	12/31/2018
C05	Ms DEQ Lead Firm Certification	PBF-00000028	10/16/2017
C06	MsDEQ Asbestos Inspector : C.D. Bingham	ABI-00001348	03/09/2018
C07	MsDEQ Air Monitor : C.D. Bingham	AM-011572	04/22/2018
C08	MsDEQ Asbestos Inspector: C. W. Meins	ABI-00001821	09/15/2018
C09	MsDEQ Air Monitor : C.W. Meins	AM-011189	04/22/2018
C12	MsDEQ Asbestos Inspector : H.P. Howell	ABI-00001345	03/09/2018
C14	MsDEQ Lead Paint Inspector : C.D. Bingham	PBI-00003690	02/22/2018
C15	MsDEQ Lead Paint Inspector : C.W. Meins	PBI-00001740	02/22/2018

Report Definitions

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



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Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735 Project: Red Hills CCR Project Number: 1st Detection Monitoring Event Project Manager: Jim Ward

Reported: 02/19/2018 10:12

Analyst Initials Key

FullName	Initials
Barbara K. McMillan	BKM
Dortha L. Wells	DLW
Heather A Denham	HAD
Michelle M Gallegos	MMG
Sarah E. Tomek	SET
Samantha C. Hall	SCH
Tina Tomek	TPT

DCN# F316 Rev.#2	Received by	Relinquished by	Received by	Relinquished by	Received by	Relinquished by		CCR-4	CCR-3	CCR-2	MW-15	MW-12	Duplicate	Field Blank	MW-14	MW-7	MW-13	OW-2	MW-16	MW-9	Sample Identification	Project #: 1st Det	Project Name:			662-387-5758	Phone:	City:	Address:	www.micromethodslab.com	6500 Sunplex Drive, Ocean Springs, MS 39564 (228) 875-6420 FAX (228) 875-6	MICRO
					Walp TOMAK	Josieph Bendont	Printed Name	3/3/2/2	2/dra M35	6/18 1	2/7/18 HIS	1/100	12	1 81/6	\sim	12	KHII NIYE	~	2/7/18 1332	41	Sampling Date/Time	Detection Manthoning Event	Red Hills CCR				State: MS ^{210:} 39735	a Road	ills Power Plant	lab.com	6500 Sunplex Drive, Ocean Springs, MS 39564 (228) 875-6420 FAX (228) 875-6423	METHODS -
						2/8/12 1	Signature Company Date Time	2 p	0					-		2	X X X X X X X X X X X X X X X X X X X	2	X X X X X X	2	Grab (Compo 1 Ch Flu SL Ba	ontaine)	List Analyses Requested	Sampler Name Signed: Louid Kith	Sampler Name Printed: SoSeth Rinkard	Email Address : jimward@southernco.com	Purchase Order #: SCSRDH6883	Project Manager: Jim Ward	1 HI ID # 1 NIO 1397	Lab ID# MS00021 LELAP ID # 01960	Chain of Custody Record
	By: X	Date & Jime	The	Receipt Temp (°C) Sam		++++1 10 2 CI + 10 2 CI + 10 0 00		1.0	Turbidy recorded during	phi Conductivity Temp.; and	Special Instructions / Comments		O = Oil SI = Shidde O = Coding Binder		L = Liquid 6=Nitric Acid	SO = Soil $4=Zinc Acetate$		DW = Drinking Water 2= Phoshohoric Acid)des:	-	Collect TimeR	Field D.OCollect Time Read Time	4	Field Testing / OC Bonnation		Ð	Normal *All rush orderPhone	Our normal turn around time is 10 working days	Turn Around Time & Reporting	100.10	MO# (ROZ) # OW	Print Form

Issue Date: 11-22-17	Micro-Methods Laboratory Log-In Checklist	DCN: F207 Date Revised: 11-22-17 Revision: 5	
Client <u><i>Red Hulls</i></u> w Date/Time Received		Checked By	
Cooler ID Ice Present Yes/No # 1194 WB # 1199 WB	Temperature Thermometer ID Cus (Corrected) $0, 2^{\circ}c$ $T#4$ $0, 1^{\circ}c$ $T#4$	stody Sealed Custody Seal Intac Yes/No Yes/No WCI YCS	SIGNATURE
Temperature Blank Used	eceived within one hour of collection? YesNoIf not, temperature of samples in coolers that exceed 6°C_	YesNoN/A_X taken from cooleror bottle	June 1
Custody Seals on Bottles P Containers Intact Proper Containers for Rec	Yes XNo		
Correct Preservation Used Adequate Sample for Anal		,	
Chain of Custody Form In Chain of Custody Form C	omplete Yes No Properly Relinquished Yes No uctions Included Yes No or From Cooler Yes No	No $N/A X$	
Samples Received Within J Dept. Manager Notified of	Holding Time Yes X Rush/Short Holding Times Yes N	oN/A ⊻	
Does work order meet Mic Note: Samples that do not Log.	ro Methods sample acceptance criteria meet acceptance criteria must be docur	Yes <u>No</u> mented in the Sample Rejection	00-255-39
Client Instructions: Cance	Contacted ByDate/ Work Order ed with Work Order(Data will)		Suality Environmental Containers 800-255-3950 • 304-255-3900
ISTODY SEAL		OFC	5-39

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Page 1 of 1

Print Form		Turn Around Time & Reporting	nd time i		Normal *All rush order Phone Next Day* Mail	prior approved.		Field Testing / QC Reporting	Re	Field Temp Collect Time Read Time	QC Level: Level 1 Level 2 Level 3	Matrix Codes: Preservation Codes:		DW = Drinking Water 2= Phoshphoric Acid 5 = Solid 3=Sodium Hudroxide		uid Uid	A = AIT A = AIT B = Hydrochloric Acid	SL = Sludge 9=Sodium Bisulfate	Special Instructions / Comments	PH, Carductivity, Temo. : and	Turbidy recented divise	2		112 0,12 11 12 12 1	Received on Ice? Yes X No	Receipt Temp (°C) Sample Blank X	Cooler # Thermometer # 🧭	Date & Time	By: St
Chain of Custody Record Lab ID# MS00021 LELAP ID # 01960 TNLID # TNI07307		Project Manager: Jim Ward	Purchase Order #: SCSRDH6883	Email Address : iimward@southernoo com	Sampler Name Printed:	Sampler Name Signed: (Children of the state	Preservative: LISC Analyses Requested	ilte (C) Si ijde ate on	D) de1	ei	× 2XXXXX	× × × × × × 5 × c			2 CXXXXXX	2 CXXXXX	× 6 2 4 4 4				H	Signature Company Date Time	a Lotto Ecs stells 1030	MAYNUK- MMM 208/18/1030				
6500 Sunplex Drive, Ocean Springs, MS 39564 (228) 875-6420 FAX (228) 875-6423	www.inicromethodslab.com Company Name:	Address: Ked Hills Power Plant	191 Pen	Uty: Ackerman State: MS Zip: 39735	Prione: 662-387-5758	Fax:		Project Name: Red Hills CCR	Project #: 1st Detection Maniforing Fuent	Sample Identification Date Time Code	2/7/10 1141	1200	5/12	MW-13 24/1/8 1/4/8 1.	81/2/2	17/18 1014 1	Duplicate 21/1/2 / 4(10)	C/A 1275	1.0	2/0/18/	2/6/18 M35 12	~ 28× 21/2	Relinentiched h	Received by Print 1. 17 200 1	Relinquished by Relinquished by Relinquished by				Received by

UCN# F316 Rev.#2



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 18, 2018

Jim Ward

Work Order #: 1805378

Purchase Order #: SCSRDH6883

Red Hills Power Plant 2391 Pensacola Rd. Ackerman, MS 39735 *RE: Red Hills CCR*

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 05/17/2018 10:30. If you have any questions concerning this report, please feel free to contact the office.

Hamy P. Nowell

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.



Red Hills Power Plant	Project: Red Hills CCR	
2391 Pensacola Rd.	Project Number: Red Hills	Reported:
Ackerman MS, 39735	Project Manager: Jim Ward	06/18/2018 10:01

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
MW-9	1805378-01	Water	05/15/2018 13:25	Joseph Bookout	05/17/2018 10:30
MW-16	1805378-02	Water	05/15/2018 10:50	Joseph Bookout	05/17/2018 10:30
OW-2	1805378-03	Water	05/15/2018 12:05	Joseph Bookout	05/17/2018 10:30
MW-13	1805378-04	Water	05/16/2018 11:20	Joseph Bookout	05/17/2018 10:30
MW-7	1805378-05	Water	05/16/2018 11:55	Joseph Bookout	05/17/2018 10:30
MW-14	1805378-06	Water	05/16/2018 12:55	Joseph Bookout	05/17/2018 10:30
Field Blank	1805378-07	Water	05/16/2018 10:00	Joseph Bookout	05/17/2018 10:30
Duplicate	1805378-08	Water	05/16/2018 08:00	Joseph Bookout	05/17/2018 10:30
MW-12	1805378-09	Water	05/15/2018 10:20	Joseph Bookout	05/17/2018 10:30
MW-15	1805378-10	Water	05/15/2018 12:38	Joseph Bookout	05/17/2018 10:30
CCR-2	1805378-11	Water	05/16/2018 10:10	Joseph Bookout	05/17/2018 10:30
CCR-3	1805378-12	Water	05/15/2018 14:40	Joseph Bookout	05/17/2018 10:30
CCR-4	1805378-13	Water	05/16/2018 10:55	Joseph Bookout	05/17/2018 10:30



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Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Projec Project Numbe Project Manage		Reported: 06/18/2018 10:01
Sample Receipt Conditions			
Date/Time Received: 5/17/2018 10	:30:00AM	Shipped by: Client I	Delivery
Received by: Sarah E. Tomek		Submitted by: Joseph	n Bookout
Date/Time Logged: 5/17/2018 1	D:51:00AM	Logged by: Sarah I	E. Tomek
Cooler ID: #1121		Receipt Temperature: 2.2	°C
Custody Seals	Yes	Received on Ice	Yes
Containers Intact	Yes	No Ice, Short Trip	No
COC/Labels Agree	Yes	Obvious Contaminatio	on No
Labels Complete	Yes	Rush to meet HT	No
COC Complete	Yes		
Cooler ID: #1130		Receipt Temperature: 3.9	°C
Custody Seals	Yes	Received on Ice	Yes
Containers Intact	Yes	No Ice, Short Trip	No
COC/Labels Agree	Yes	Obvious Contaminatio	on No
Labels Complete	Yes	Rush to meet HT	No
COC Complete	Yes		
Cooler ID: #711		Receipt Temperature: 1.2	°C
Custody Seals	Yes	Received on Ice	Yes
Containers Intact	Yes	No Ice, Short Trip	No
COC/Labels Agree	Yes	Obvious Contaminatio	on No
Labels Complete	Yes	Rush to meet HT	No
COC Complete	Yes		



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735 Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward

Reported: 06/18/2018 10:01

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:

For Metals 200.8 [Multi-Mode] analysis: [] indicates analysis mode. [NG] = No collision/reaction cell gas used [He] = Helium collision/reaction cell gas used-normal flow rate [HHe] = Helium collision/reaction cell gas used-high flow rate

See attached results from Sub-Contract Laboratory

Qualifiers: No Data Qualification

Analyte & Samples(s) Qualified: None



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward						Reported: 06/18/2018 10:01			
				MW-9						
			180537	78-01 (W	later)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Fluoride	0.57	0.22	mg/L	1.0	8E25019	HAD	05/25/2018 10:30	05/25/2018 13:38	SM 4500-F D-2011	
Metals by EPA 200 Series										
Barium	0.212	0.010	mg/L	1.0	8E21052	SCH	05/21/2018 09:00	05/24/2018 15:23	EPA 200.7 Rev 4.4	
Lithium	0.090	0.050	"	"	"	SCH	"		"	
Metals by EPA 200 Series	Methods ICP	-MS [Ana	alysis M	ode]						
Antimony [He]	ND	0.002	mg/L	1.0	8E21049	MMG	"	05/22/2018 11:58	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.002	"	"	"	MMG			"	
Beryllium [He]	0.002	0.001	"	"	"	MMG				
Cadmium [HHe]	0.001	0.001	"	"	"	MMG				
Chromium [He]	ND	0.001	"	"	"	MMG			"	
Cobalt [He]	0.017	0.001	"	"	"	MMG	"			
Lead [He]	ND	0.001	"	"	"	MMG	"			
Molybdenum [He]	ND	0.001	"	"	"	MMG				
Selenium [HHe]	ND	0.001	"	"	"	MMG				
Thallium [He]	ND	0.001	"	"	"	MMG			"	
Mercury by EPA 200 Serie	es Methods C	VAAS								
Mercury	ND	0.002	mg/L	1.0	8E23044	MMG	05/23/2018 09:00	05/23/2018 16:23	EPA 245.1 Rev 3.0	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro oject Num ject Mana	iber: Re		R			Reporte 06/18/2018	
				MW-16						
			180537	78-02 (W	/ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Fluoride	0.34	0.22	mg/L	1.0	8E25019	HAD	05/25/2018 10:30	05/25/2018 13:38	SM 4500-F D-2011	
Metals by EPA 200 Series										
Barium	0.194	0.010	mg/L	1.0	8E21052	SCH	05/21/2018 09:00	05/24/2018 15:41	EPA 200.7 Rev 4.4	
Lithium	ND	0.050	"	"	"	SCH	"		4.4 "	
Metals by EPA 200 Series	Methods ICP	-MS [Ana	alysis M	ode]						
Antimony [He]	ND	0.002	mg/L	1.0	8E21049	MMG	"	05/22/2018 12:21	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.002	"	"	"	MMG			"	
Beryllium [He]	ND	0.001	"	"	"	MMG	"			
Cadmium [HHe]	ND	0.001	"	"	"	MMG	"			
Chromium [He]	0.002	0.001	"	"	"	MMG	"			
Cobalt [He]	0.008	0.001	"	"	"	MMG	"			
Lead [He]	0.001	0.001	"	"	"	MMG	"		"	
Molybdenum [He]	ND	0.001	"	"	"	MMG				
Selenium [HHe]	ND	0.001	"	"	"	MMG				
Thallium [He]	ND	0.001	"	"	"	MMG				
Mercury by EPA 200 Serie	es Methods C	VAAS								
Mercury	ND	0.002	mg/L	1.0	8E23044	MMG	05/23/2018 09:00	05/23/2018 16:23	EPA 245.1 Rev 3.0	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro oject Num ject Mana	iber: Re		R			Reporte 06/18/2018	
				OW-2						
			180537	78-03 (W	/ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Fluoride	0.45	0.22	mg/L	1.0	8E25019	HAD	05/25/2018 10:30	05/25/2018 13:38	SM 4500-F D-2011	
Metals by EPA 200 Series	Methods ICP	-AES					10.50	10.00	D-2011	
Barium	0.116	0.010	mg/L	1.0	8E21052	SCH	05/21/2018 09:00	05/24/2018 15:44	EPA 200.7 Rev 4.4	
Lithium	ND	0.050	"	"	"	SCH			"	
Metals by EPA 200 Series	Methods ICP	-MS [Ana	alysis M	ode]						
Antimony [He]	ND	0.002	mg/L	1.0	8E21049	MMG		05/22/2018 12:29	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.002	"	"	"	MMG	"		"	
Beryllium [He]	ND	0.001	"	"	"	MMG			"	
Cadmium [HHe]	ND	0.001	"	"	"	MMG				
Chromium [He]	ND	0.001	"	"	"	MMG			"	
Cobalt [He]	ND	0.001	"	"	"	MMG			"	
Lead [He]	ND	0.001	"	"	"	MMG			"	
Molybdenum [He]	ND	0.001	"	"	"	MMG			"	
Selenium [HHe]	ND	0.001	"	"	"	MMG	"		"	
Thallium [He]	ND	0.001	"	"	"	MMG			"	
Mercury by EPA 200 Serie	es Methods C	VAAS								
Mercury	ND	0.002	mg/L	1.0	8E23044	MMG	05/23/2018 09:00	05/23/2018 16:23	EPA 245.1 Rev 3.0	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward							Reported: 06/18/2018 10:01		
				MW-13						
			180537	78-04 (W	/ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Fluoride	ND	0.22	mg/L	1.0	8E25019	HAD	05/25/2018 10:30	05/25/2018 13:38	SM 4500-F D-2011	
Metals by EPA 200 Series	Methods ICP	-AES								
Barium	0.157	0.010	mg/L	1.0	8E21052	SCH	05/21/2018 09:00	05/24/2018 15:47	EPA 200.7 Rev 4.4	
Lithium	ND	0.050	"	"	"	SCH	"		"	
Metals by EPA 200 Series	Methods ICP	-MS [Ana	alysis M	ode]						
Antimony [He]	ND	0.002	mg/L	1.0	8E21049	MMG		05/22/2018 12:37	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.002	"	"	"	MMG	"			
Beryllium [He]	ND	0.001	"	"	"	MMG				
Cadmium [HHe]	ND	0.001	"	"	"	MMG				
Chromium [He]	ND	0.001	"	"	"	MMG			"	
Cobalt [He]	ND	0.001	"	"	"	MMG			"	
Lead [He]	ND	0.001	"	"	"	MMG			"	
Molybdenum [He]	ND	0.001	"	"	"	MMG			"	
Selenium [HHe]	ND	0.001	"	"	"	MMG			"	
Thallium [He]	ND	0.001	"	"	"	MMG			"	
Mercury by EPA 200 Serie	es Methods C	VAAS								
Mercury	ND	0.002	mg/L	1.0	8E23044	MMG	05/23/2018 09:00	05/23/2018 16:23	EPA 245.1 Rev 3.0	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro oject Num ject Mana	iber: Re		R			Reporte 06/18/2018	
				MW-7						
			180537	78-05 (W	/ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Fluoride	0.25	0.22	mg/L	1.0	8E25019	HAD	05/25/2018 10:30	05/25/2018 13:38	SM 4500-F D-2011	
Metals by EPA 200 Series	Methods ICP	-AES					10.30	15.50	D-2011	
Barium	0.089	0.010	mg/L	1.0	8E21052	SCH	05/21/2018 09:00	05/24/2018 15:49	EPA 200.7 Rev 4.4	
Lithium	ND	0.050	"		"	SCH		•	"	
Metals by EPA 200 Series	Methods ICP	-MS [Ana	alysis M	ode]						
Antimony [He]	ND	0.002	mg/L	1.0	8E21049	MMG		05/22/2018 12:46	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.002	"		"	MMG			"	
Beryllium [He]	ND	0.001	"		"	MMG			"	
Cadmium [HHe]	ND	0.001	"		"	MMG	"		"	
Chromium [He]	ND	0.001	"		"	MMG			"	
Cobalt [He]	ND	0.001	"		"	MMG			"	
Lead [He]	ND	0.001	"		"	MMG			"	
Molybdenum [He]	ND	0.001	"		"	MMG	"		"	
Selenium [HHe]	ND	0.001	"		"	MMG		•	"	
Thallium [He]	ND	0.001	"		"	MMG		•	"	
Mercury by EPA 200 Serie	es Methods C	VAAS								
Mercury	ND	0.002	mg/L	1.0	8E23044	MMG	05/23/2018 09:00	05/23/2018 16:23	EPA 245.1 Rev 3.0	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro oject Num ject Mana	iber: Re		R			Reporte 06/18/2018	
				MW-14						
			180537	/8-06 (W	/ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Fluoride	ND	0.22	mg/L	1.0	8E25019	HAD	05/25/2018 10:30	05/25/2018 13:38	SM 4500-F D-2011	
Metals by EPA 200 Series	Methods ICP	-AES								
Barium	0.013	0.010	mg/L	1.0	8E21052	SCH	05/21/2018 09:00	05/24/2018 15:52	EPA 200.7 Rev 4.4	
Lithium	ND	0.050	"		"	SCH			"	
Metals by EPA 200 Series	Methods ICP	-MS [Ana	alysis M	ode]						
Antimony [He]	ND	0.002	mg/L	1.0	8E21049	MMG		05/22/2018 12:54	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.002	"		"	MMG			"	
Beryllium [He]	ND	0.001	"		"	MMG	"		"	
Cadmium [HHe]	ND	0.001	"		"	MMG			"	
Chromium [He]	ND	0.001	"		"	MMG			"	
Cobalt [He]	ND	0.001	"		"	MMG			"	
Lead [He]	ND	0.001	"		"	MMG			"	
Molybdenum [He]	ND	0.001	"		"	MMG			"	
Selenium [HHe]	ND	0.001	"	"	"	MMG	"		"	
Thallium [He]	ND	0.001	"		"	MMG			"	
Mercury by EPA 200 Serie	es Methods C	VAAS								
Mercury	ND	0.002	mg/L	1.0	8E23044	MMG	05/23/2018 09:00	05/23/2018 16:23	EPA 245.1 Rev 3.0	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro oject Nun ject Mana	iber: Re		R			Reporte 06/18/2018	
			Fie	eld Bla	nk					
			180537	78-07 (W	later)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Fluoride	ND	0.22	mg/L	1.0	8E31018	TKM	05/31/2018 10:25	05/31/2018 16:18	SM 4500-F D-2011	
Metals by EPA 200 Series	Methods ICP	-AES					10.25	10.10	D-2011	
Barium	ND	0.010	mg/L	1.0	8E21052	SCH	05/21/2018 09:00	05/24/2018 15:55	EPA 200.7 Rev 4.4	
Lithium	ND	0.050	"	"	"	SCH			"	
Metals by EPA 200 Series	Methods ICP	-MS [Ana	alysis M	ode]						
Antimony [He]	ND	0.002	mg/L	1.0	8E21049	MMG		05/22/2018 13:02	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.002	"	"	"	MMG		"	"	
Beryllium [He]	ND	0.001	"	"	"	MMG		"	"	
Cadmium [HHe]	ND	0.001	"	"	"	MMG	"	"		
Chromium [He]	ND	0.001	"	"	"	MMG	"	"		
Cobalt [He]	ND	0.001	"	"	"	MMG	"	"		
Lead [He]	ND	0.001	"	"	"	MMG		"		
Molybdenum [He]	ND	0.001	"	"	"	MMG			"	
Selenium [HHe]	ND	0.001	"	"	"	MMG		"	"	
Thallium [He]	ND	0.001	"	"	"	MMG			"	
Mercury by EPA 200 Serie	es Methods C	VAAS								
Mercury	ND	0.002	mg/L	1.0	8E23044	MMG	05/23/2018 09:00	05/23/2018 16:23	EPA 245.1 Rev 3.0	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward							Reported: 06/18/2018 10:01		
			D	uplicat	e					
			180537	78-08 (W	later)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
	ND	0.22	mg/L	1.0	8E31018	TKM	05/31/2018 10:25	05/31/2018 16:18	SM 4500-F D-2011	
Metals by EPA 200 Series ^{Barium}	0.013	0.010	mg/L	1.0	8E21052	SCH	05/21/2018 09:00	05/24/2018 16:12	EPA 200.7 Rev 4.4	
Lithium	ND	0.050	"	"		SCH	"			
Metals by EPA 200 Series	Methods ICP	-MS [Ana	alysis M	ode]						
Antimony [He]	ND	0.002	mg/L	1.0	8E21049	MMG	"	05/22/2018 13:11	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.002	"	"	"	MMG	"		"	
Beryllium [He]	ND	0.001	"	"	"	MMG	"			
Cadmium [HHe]	ND	0.001	"	"	"	MMG	"			
Chromium [He]	ND	0.001	"	"	"	MMG				
Cobalt [He]	ND	0.001	"	"	"	MMG				
Lead [He]	ND	0.001	"	"	"	MMG				
Molybdenum [He]	ND	0.001	"	"	"	MMG			"	
Selenium [HHe]	ND	0.001	"	"	"	MMG			"	
Thallium [He]	ND	0.001	"	"	"	MMG			"	
Mercury by EPA 200 Serie	es Methods C	VAAS								
Mercury	ND	0.002	mg/L	1.0	8E23044	MMG	05/23/2018 09:00	05/23/2018 16:23	EPA 245.1 Rev 3.0	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward						Reported: 06/18/2018 10:01			
				MW-12						
			180537	78-09 (W	later)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Fluoride	0.24	0.22	mg/L	1.0	8E31018	ТКМ	05/31/2018 10:25	05/31/2018 16:18	SM 4500-F D-2011	
Metals by EPA 200 Series Barium	0.295	0.010	mg/L	1.0	8E21052	SCH	05/21/2018 09:00	05/24/2018 16:14	EPA 200.7 Rev 4.4	
Lithium	ND	0.050	"	"	"	SCH	"	"	"	
Metals by EPA 200 Series	Methods ICF	-MS [Ana	alysis M	ode]						
Antimony [He]	ND	0.002	mg/L	1.0	8E21049	MMG		05/22/2018 13:19	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.002	"	"	"	MMG	"			
Beryllium [He]	ND	0.001	"	"	"	MMG				
Cadmium [HHe]	ND	0.001	"	"	"	MMG				
Chromium [He]	ND	0.001	"	"	"	MMG				
Cobalt [He]	0.017	0.001	"	"	"	MMG				
Lead [He]	ND	0.001	"	"	"	MMG	"			
Molybdenum [He]	ND	0.001	"	"	"	MMG	"			
Selenium [HHe]	ND	0.001	"	"	"	MMG			"	
Thallium [He]	ND	0.001	"	"	"	MMG				
Mercury by EPA 200 Serie	s Methods C	VAAS								
Mercury	ND	0.002	mg/L	1.0	8E23044	MMG	05/23/2018 09:00	05/29/2018 14:43	EPA 245.1 Rev 3.0	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro oject Num ject Mana	iber: Re		R			Reporte 06/18/2018	
				MW-15						
			180537	78-10 (W	/ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Fluoride	0.31	0.22	mg/L	1.0	8E31018	TKM	05/31/2018 10:25	05/31/2018 16:18	SM 4500-F D-2011	
Metals by EPA 200 Series										
Barium	0.203	0.010	mg/L	1.0	8E21052	SCH	05/21/2018 09:00	05/24/2018 16:17	EPA 200.7 Rev 4.4	
Lithium	ND	0.050	"	"	"	SCH	"		"	
Metals by EPA 200 Series	Methods ICF	P-MS [Ana	alysis M	ode]						
Antimony [He]	ND	0.002	mg/L	1.0	8E21049	MMG	"	05/22/2018 13:27	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.002	"	"	"	MMG	"		"	
Beryllium [He]	ND	0.001	"	"	"	MMG				
Cadmium [HHe]	ND	0.001	"	"	"	MMG				
Chromium [He]	ND	0.001	"	"	"	MMG			"	
Cobalt [He]	0.009	0.001	"	"	"	MMG				
Lead [He]	ND	0.001	"	"	"	MMG	"		"	
Molybdenum [He]	ND	0.001	"	"	"	MMG			"	
Selenium [HHe]	ND	0.001	"	"	"	MMG			"	
Thallium [He]	ND	0.001	"	"	"	MMG			"	
Mercury by EPA 200 Serie	s Methods C	VAAS								
Mercury	ND	0.002	mg/L	1.0	8E23044	MMG	05/23/2018 09:00	05/23/2018 16:23	EPA 245.1 Rev 3.0	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro oject Num ject Mana	iber: Re		R			Reporte 06/18/2018	
				CCR-2						
			180537	78-11 (W	/ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Fluoride	ND	0.22	mg/L	1.0	8E31018	ТКМ	05/31/2018 10:25	05/31/2018 16:18	SM 4500-F D-2011	
Metals by EPA 200 Series										
Barium	0.091	0.010	mg/L	1.0	8E21052	SCH	05/21/2018 09:00	05/24/2018 16:26	EPA 200.7 Rev 4.4	
Lithium	ND	0.050	"	"	"	SCH	"	"	"	
Metals by EPA 200 Series	Methods ICF	-MS [Ana	alysis M	ode]						
Antimony [He]	0.002	0.002	mg/L	1.0	8E21049	MMG	"	05/22/2018 14:23	EPA 200.8 Rev 5.4	
Arsenic [HHe]	ND	0.002	"	"	"	MMG	"		"	
Beryllium [He]	ND	0.001	"	"	"	MMG			"	
Cadmium [HHe]	ND	0.001	"	"	"	MMG			"	
Chromium [He]	ND	0.001	"	"	"	MMG			"	
Cobalt [He]	0.001	0.001	"	"	"	MMG	"			
Lead [He]	ND	0.001	"	"	"	MMG			"	
Molybdenum [He]	ND	0.001	"	"	"	MMG			"	
Selenium [HHe]	ND	0.001	"	"	"	MMG			"	
Thallium [He]	ND	0.001	"	"	"	MMG			"	
Mercury by EPA 200 Serie	es Methods C	VAAS								
Mercury	ND	0.002	mg/L	1.0	8E23044	MMG	05/23/2018 09:00	05/23/2018 16:23	EPA 245.1 Rev 3.0	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward								Reported: 06/18/2018 10:01				
				CCR-3									
			180537	78-12 (W	/ater)								
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers			
Classical Chemistry Para	meters												
Fluoride	0.48	0.22	mg/L	1.0	8E31018	TKM	05/31/2018 10:25	05/31/2018 16:18	SM 4500-F D-2011				
Metals by EPA 200 Series	Methods ICP	-AES					10.25	10.10	D-2011				
Barium	0.098	0.010	mg/L	1.0	8E21052	SCH	05/21/2018 09:00	05/24/2018 16:29	EPA 200.7 Rev 4.4				
Lithium	0.108	0.050	"	"	"	SCH			"				
Metals by EPA 200 Series	Methods ICP	-MS [Ana	alysis M	ode]									
Antimony [He]	ND	0.002	mg/L	1.0	8E21049	MMG		05/22/2018 14:32	EPA 200.8 Rev 5.4				
Arsenic [HHe]	ND	0.002	"	"	"	MMG		"	"				
Beryllium [He]	ND	0.001	"	"	"	MMG							
Cadmium [HHe]	ND	0.001	"	"	"	MMG	"						
Chromium [He]	ND	0.001	"	"	"	MMG	"						
Cobalt [He]	ND	0.001	"	"	"	MMG							
Lead [He]	ND	0.001	"	"	"	MMG	"						
Molybdenum [He]	ND	0.001	"	"	"	MMG							
Selenium [HHe]	ND	0.001	"	"	"	MMG	"						
Thallium [He]	ND	0.001	"	"	"	MMG	"						
Mercury by EPA 200 Serie	es Methods C	VAAS											
Mercury	ND	0.002	mg/L	1.0	8E23044	MMG	05/23/2018 09:00	05/23/2018 16:23	EPA 245.1 Rev 3.0				



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward								Reported: 06/18/2018 10:01			
				CCR-4								
			180537	78-13 (W	/ater)							
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers		
Classical Chemistry Para	meters											
Fluoride	0.53	0.22	mg/L	1.0	8E31018	TKM	05/31/2018 10:25	05/31/2018 16:18	SM 4500-F D-2011			
Metals by EPA 200 Series	Methods ICP	-AES					10.25	10.10	D-2011			
Barium	0.154	0.010	mg/L	1.0	8E21052	SCH	05/21/2018 09:00	05/24/2018 16:32	EPA 200.7 Rev 4.4			
Lithium	ND	0.050	"	"	"	SCH		•	"			
Metals by EPA 200 Series	Methods ICP	-MS [Ana	alysis M	ode]								
Antimony [He]	ND	0.002	mg/L	1.0	8E21049	MMG		05/22/2018 14:40	EPA 200.8 Rev 5.4			
Arsenic [HHe]	ND	0.002	"	"	"	MMG	"		"			
Beryllium [He]	ND	0.001	"	"	"	MMG						
Cadmium [HHe]	ND	0.001	"	"	"	MMG	"					
Chromium [He]	ND	0.001	"	"	"	MMG						
Cobalt [He]	0.002	0.001	"	"	"	MMG	"					
Lead [He]	ND	0.001	"	"	"	MMG	"		"			
Molybdenum [He]	ND	0.001	"	"	"	MMG			"			
Selenium [HHe]	ND	0.001	"	"	"	MMG			"			
Thallium [He]	ND	0.001	"	"	"	MMG	"		"			
Mercury by EPA 200 Serie	es Methods C	VAAS										
Mercury	ND	0.002	mg/L	1.0	8E23044	MMG	05/23/2018 09:00	05/23/2018 16:23	EPA 245.1 Rev 3.0			



Red Hills Power Pla 2391 Pensacola Rd. Ackerman MS, 3973		F	Reported: 06/18/2018 10:01								
	Cla	ssical Che	emistry	Param	eters -	Qualit	y Cont	rol			
Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 8E25019 - Default Prep	GenChem										
Blank (8E25019-BLK1)											
Fluoride	5/25/18 13:38	ND	0.22	mg/L							
LCS (8E25019-BS1)											
Fluoride	5/25/18 13:38	0.20	0.22	mg/L	0.200		102	75-125			
LCS Dup (8E25019-BSD1)											
Fluoride	5/25/18 13:38	0.23	0.22	mg/L	0.200		117	75-125	14.1	30	
Duplicate (8E25019-DUP1)			Source: 1805	359-01							
Fluoride	5/25/18 13:38	0.86	0.22	mg/L		0.81			5.68	35	
Batch 8E31018 - Default Prep	GenChem										
Blank (8E31018-BLK1)											
Fluoride	5/31/18 16:19	ND	0.22	mg/L							
Blank (8E31018-BLK2)											
Fluoride	5/31/18 16:27	ND	0.22	mg/L							
LCS (8E31018-BS1)											
Fluoride	5/31/18 13:46	0.20	0.22	mg/L	0.200		97.6	75-125			
LCS (8E31018-BS2)											
Fluoride	5/31/18 16:27	0.21	0.22	mg/L	0.200		107	75-125			
LCS Dup (8E31018-BSD1)											
Fluoride	5/31/18 13:46	0.23	0.22	mg/L	0.200		114	75-125	15.1	30	



Red Hills Power Plan 2391 Pensacola Rd. Ackerman MS, 39735		Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward									
	Cla	ssical Che	emistry	Param	eters -	Quality	y Cont	rol			
Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 8E31018 - Default Prep G	enChem										
LCS Dup (8E31018-BSD2)											
Fluoride	5/31/18 16:27	0.21	0.22	mg/L	0.200		107	75-125	0.00	30	
Duplicate (8E31018-DUP1)			Source: 1805	378-07							
Fluoride	5/31/18 16:19	ND	0.22	mg/L		ND				35	
Duplicate (8E31018-DUP2)			Source: 1805	533-01							
Fluoride	5/31/18 16:27	0.45	0.22	mg/L		0.42			7.29	35	



Red Hills Power PlantProject:
Red Hills CCR2391 Pensacola Rd.Project Number:
Red HillsAckerman MS, 39735Project Manager:
Jim Ward

Reported: 06/18/2018 10:01

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 8E21052 - EPA 2	00.2 DCN 1017 Rev 8										
Blank (8E21052-BLK1)											
Barium	5/24/18 14:58	ND	0.010	mg/L							
Lithium	5/24/18 14:58	ND	0.050								
LCS (8E21052-BS1)											
Barium	5/24/18 15:01	0.194	0.010	mg/L	0.200		97.1	85-115			
Lithium	5/24/18 15:30	0.196	0.050	"				85-115			
LCS Dup (8E21052-BS	D1)										
Barium	5/24/18 15:04	0.197	0.010	mg/L	0.200		98.3	85-115	1.23	20	
Lithium	5/24/18 15:32	0.163	0.050	"				85-115	18.4	20	
Duplicate (8E21052-DU	IP1)		Source: 1805	378-10							
Lithium	5/24/18 16:20	0.030	0.050	mg/L		0.030			0.386	20	
Matrix Spike (8E21052-	MS1)		Source: 1805	378-01							
Barium	5/24/18 15:35	0.402	0.010	mg/L	0.200	0.212	95.1	70-130			
Lithium	5/24/18 15:35	0.287	0.050			0.090		70-130			
Matrix Spike (8E21052-	-MS2)		Source: 1805	378-10							
Barium	5/24/18 16:20	0.413	0.010	mg/L	0.200	0.203	105	70-130			
Matrix Spike Dup (8E2	1052-MSD1)		Source: 1805	378-01							
Barium	5/24/18 15:38	0.400	0.010	mg/L	0.200	0.212	94.2	70-130	0.491	20	
Lithium	5/24/18 15:38	0.291	0.050			0.090		70-130	1.54	20	
Matrix Spike Dup (8E2	1052-MSD2)		Source: 1805	378-10							
Barium	5/24/18 16:23	0.409	0.010	mg/L	0.200	0.203	103	70-130	1.06	20	



Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward

Reported: 06/18/2018 10:01

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 8E21049 - EPA 200.2	2 DCN 1017 Rev 8										
Blank (8E21049-BLK1)											
Antimony [He]	5/22/18 11:33	ND	0.002	mg/L							
Arsenic [HHe]	5/22/18 11:33	ND	0.002								
Beryllium [He]	5/22/18 11:33	ND	0.001								
Cadmium [HHe]	5/22/18 11:33	ND	0.001								
Chromium [He]	5/22/18 11:33	ND	0.001								
Cobalt [He]	5/22/18 11:33	ND	0.001								
Lead [He]	5/22/18 11:33	ND	0.001								
Molybdenum [He]	5/22/18 11:33	ND	0.001								
Selenium [HHe]	5/22/18 11:33	ND	0.001								
Thallium [He]	5/22/18 11:33	ND	0.001								
LCS (8E21049-BS1)											
Antimony [He]	5/22/18 11:42	0.108	0.002	mg/L	0.100		108	85-115			
Arsenic [HHe]	5/22/18 11:42	0.100	0.002		0.100		100	85-115			
Beryllium [He]	5/22/18 11:42	0.103	0.001		0.100		103	85-115			
Cadmium [HHe]	5/22/18 11:42	0.091	0.001		0.100		90.6	85-115			
Chromium [He]	5/22/18 11:42	0.100	0.001		0.100		99.5	85-115			
Cobalt [He]	5/22/18 11:42	0.093	0.001		0.100		93.0	85-115			
Lead [He]	5/22/18 11:42	0.096	0.001		0.100		95.5	85-115			
Molybdenum [He]	5/22/18 11:42	0.091	0.001		0.100		91.0	85-115			
Selenium [HHe]	5/22/18 11:42	0.102	0.001		0.100		102	85-115			
Thallium [He]	5/22/18 11:42	0.101	0.001	•	0.100		101	85-115			
LCS Dup (8E21049-BSD1)											
Antimony [He]	5/22/18 11:50	0.107	0.002	mg/L	0.100		107	85-115	0.994	20	
Arsenic [HHe]	5/22/18 11:50	0.101	0.002		0.100		101	85-115	0.962	20	
Beryllium [He]	5/22/18 11:50	0.100	0.001		0.100		100	85-115	2.41	20	
Cadmium [HHe]	5/22/18 11:50	0.090	0.001		0.100		89.6	85-115	1.11	20	
Chromium [He]	5/22/18 11:50	0.100	0.001		0.100		99.8	85-115	0.261	20	
Cobalt [He]	5/22/18 11:50	0.093	0.001		0.100		92.9	85-115	0.115	20	
_ead [He]	5/22/18 11:50	0.094	0.001		0.100		93.7	85-115	1.90	20	
Molybdenum [He]	5/22/18 11:50	0.091	0.001		0.100		91.1	85-115	0.166	20	
Selenium [HHe]	5/22/18 11:50	0.101	0.001		0.100		101	85-115	0.587	20	
Thallium [He]	5/22/18 11:50	0.100	0.001		0.100		100	85-115	0.530	20	



Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward

Reported: 06/18/2018 10:01

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 8E21049 - EPA 200.2	DCN 1017 Rev 8										
Matrix Spike (8E21049-MS1	')		Source: 18053	378-01							
Antimony [He]	5/22/18 12:06	0.227	0.002	mg/L	0.200	0.0005	114	70-130			
Arsenic [HHe]	5/22/18 12:06	0.203	0.002	"	0.200	0.0001	101	70-130			
Beryllium [He]	5/22/18 12:06	0.203	0.001		0.200	0.002	100	70-130			
Cadmium [HHe]	5/22/18 12:06	0.204	0.001		0.200	0.001	101	70-130			
Chromium [He]	5/22/18 12:06	0.193	0.001		0.200	0.00008	96.5	70-130			
Cobalt [He]	5/22/18 12:06	0.208	0.001		0.200	0.017	95.1	70-130			
Lead [He]	5/22/18 12:06	0.205	0.001		0.200	ND	103	70-130			
Molybdenum [He]	5/22/18 12:06	0.200	0.001		0.200	0.0002	100	70-130			
Selenium [HHe]	5/22/18 12:06	0.197	0.001		0.200	0.0004	98.4	70-130			
Fhallium [He]	5/22/18 12:06	0.201	0.001		0.200	0.0002	100	70-130			
Matrix Spike (8E21049-MS2	3)		Source: 18053	378-10							
Antimony [He]	5/22/18 13:35	0.228	0.002	mg/L	0.200	ND	114	70-130			
Arsenic [HHe]	5/22/18 13:35	0.201	0.002		0.200	0.0004	100	70-130			
Beryllium [He]	5/22/18 13:35	0.208	0.001		0.200	0.0001	104	70-130			
Cadmium [HHe]	5/22/18 13:35	0.205	0.001		0.200	0.00002	102	70-130			
Chromium [He]	5/22/18 13:35	0.199	0.001		0.200	0.00009	99.5	70-130			
Cobalt [He]	5/22/18 13:35	0.211	0.001		0.200	0.009	101	70-130			
_ead [He]	5/22/18 13:35	0.205	0.001		0.200	ND	103	70-130			
Molybdenum [He]	5/22/18 13:35	0.192	0.001		0.200	ND	96.1	70-130			
Selenium [HHe]	5/22/18 13:35	0.196	0.001		0.200	ND	98.2	70-130			
Thallium [He]	5/22/18 13:35	0.201	0.001		0.200	ND	101	70-130			
Matrix Spike Dup (8E21049	-MSD1)		Source: 18053	378-01							
Antimony [He]	5/22/18 12:14	0.229	0.002	mg/L	0.200	0.0005	114	70-130	0.466	20	
Arsenic [HHe]	5/22/18 12:14	0.203	0.002	"	0.200	0.0001	101	70-130	0.139	20	
Beryllium [He]	5/22/18 12:14	0.204	0.001	"	0.200	0.002	101	70-130	0.411	20	
Cadmium [HHe]	5/22/18 12:14	0.205	0.001	"	0.200	0.001	102	70-130	0.283	20	
Chromium [He]	5/22/18 12:14	0.194	0.001		0.200	0.00008	96.8	70-130	0.347	20	
Cobalt [He]	5/22/18 12:14	0.212	0.001		0.200	0.017	97.6	70-130	2.33	20	
.ead [He]	5/22/18 12:14	0.208	0.001		0.200	ND	104	70-130	1.54	20	
Molybdenum [He]	5/22/18 12:14	0.202	0.001		0.200	0.0002	101	70-130	0.905	20	
Selenium [HHe]	5/22/18 12:14	0.197	0.001		0.200	0.0004	98.2	70-130	0.186	20	
hallium [He]	5/22/18 12:14	0.204	0.001		0.200	0.0002	102	70-130	1.56	20	



Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward

Reported: 06/18/2018 10:01

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 8E21049 - EPA 200.2	2 DCN 1017 Rev 8										
Matrix Spike Dup (8E21049	9-MSD2)		Source: 1805	378-10							
Antimony [He]	5/22/18 13:43	0.224	0.002	mg/L	0.200	ND	112	70-130	1.52	20	
Arsenic [HHe]	5/22/18 13:43	0.203	0.002		0.200	0.0004	101	70-130	0.945	20	
Beryllium [He]	5/22/18 13:43	0.210	0.001		0.200	0.0001	105	70-130	0.902	20	
Cadmium [HHe]	5/22/18 13:43	0.203	0.001		0.200	0.00002	102	70-130	0.667	20	
Chromium [He]	5/22/18 13:43	0.199	0.001		0.200	0.00009	99.5	70-130	0.0270	20	
Cobalt [He]	5/22/18 13:43	0.212	0.001		0.200	0.009	102	70-130	0.411	20	
Lead [He]	5/22/18 13:43	0.203	0.001		0.200	ND	101	70-130	1.30	20	
Molybdenum [He]	5/22/18 13:43	0.191	0.001		0.200	ND	95.3	70-130	0.856	20	
Selenium [HHe]	5/22/18 13:43	0.200	0.001		0.200	ND	100	70-130	1.95	20	
Thallium [He]	5/22/18 13:43	0.202	0.001		0.200	ND	101	70-130	0.370	20	



Project: Red Hills CCR Red Hills Power Plant Project Number: Red Hills 2391 Pensacola Rd. **Reported:** Ackerman MS, 39735 06/18/2018 10:01 Project Manager: Jim Ward

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 8E23044 - EPA 245.1 D	CN 1017 Rev 8										
Blank (8E23044-BLK1)											
Mercury	5/23/18 16:23	ND	0.002	mg/L							
LCS (8E23044-BS1)											
Mercury	5/23/18 16:23	0.006	0.002	mg/L	0.00500		110	85-115			
LCS Dup (8E23044-BSD1)											
Mercury	5/23/18 16:23	0.005	0.002	mg/L	0.00500		106	85-115	3.70	20	
Matrix Spike (8E23044-MS1)			Source: 1805	378-01							
Mercury	5/23/18 16:23	0.005	0.002	mg/L	0.00500	0.0005	96.0	70-130			
Matrix Spike (8E23044-MS2)			Source: 1805	378-10							
Mercury	5/23/18 16:23	0.007	0.002	mg/L	0.00500	0.0002	126	70-130			
Matrix Spike Dup (8E23044-M	ISD1)		Source: 1805	378-01							
Mercury	5/23/18 16:23	0.006	0.002	mg/L	0.00500	0.0005	106	70-130	9.01	20	
Matrix Spike Dup (8E23044-M	ISD2)		Source: 1805	378-10							
Mercury	5/23/18 16:23	0.006	0.002	mg/L	0.00500	0.0002	110	70-130	13.1	20	



Red Hills Power Plant	Project: Red Hills CCR	
2391 Pensacola Rd.	Project Number: Red Hills	Reported:
Ackerman MS, 39735	Project Manager: Jim Ward	06/18/2018 10:01

Certified Analyses Included in this Report

Analyte	Certification Code	
EPA 200.7 Rev 4.4 in Wa	er	
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	
Phosphorus	C01,C02	
EPA 200.8 Rev 5.4 in Wa	97	
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	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735		Project: Project Number: Project Manager:	Reported: 06/18/2018 10:01
Cobalt [He]	C01,C02		
Copper [He]	C01,C02		
Copper [NG]	C01,C02		
Iron [He]	C01,C02		
Lead [He]	C01,C02		
Lead [NG]	C01,C02		
Manganese [He]	C01,C02		
Molybdenum [He]	C01,C02		
Nickel [He]	C01,C02		
Selenium [HHe]	C01,C02		
Selenium [NG]	C01,C02		
Silver [He]	C01,C02		
Silver [NG]	C01,C02		
Strontium [He]	C01,C02		
Thallium [He]	C01,C02		
Vanadium [He]	C01,C02		
Zinc [He]	C01,C02		

EPA 245.1 Rev 3.0 in Water

Mercury

C01,C02

Only compounds included in this list are associated with accredited analyses



Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward

Reported: 06/18/2018 10:01

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	LA Environmental Lab Accreditation Program	01960	06/30/2018
C02	The NELAC Institute (NELAP)	TNI01397	06/30/2018
C03	Ms Dept of Health (Coliform)	MS00021	12/31/2018
C04	Ms Dept of Health (Drinking Water Certificate)	MS00021	12/31/2018
C05	Ms DEQ Lead Firm Certification	PBF-00000028	02/25/2019
C06	MsDEQ Asbestos Inspector : C.D. Bingham	ABI-00001348	03/08/2019
C07	MsDEQ Air Monitor : C.D. Bingham	AM-011572	03/09/2019
C08	MsDEQ Asbestos Inspector: C. W. Meins	ABI-00001821	09/15/2018
C09	MsDEQ Air Monitor : C.W. Meins	AM-011189	03/09/2019
C12	MsDEQ Asbestos Inspector : H.P. Howell	ABI-00001345	03/08/2019
C14	MsDEQ Lead Paint Inspector : C.D. Bingham	PBI-00003690	03/19/2019
C15	MsDEQ Lead Paint Inspector : C.W. Meins	PBI-00001740	03/19/2019

Report Definitions

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



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

Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735 Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward

Reported: 06/18/2018 10:01

Analyst Initials Key

FullName	Initials
Barbara K. McMillan	BKM
Heather A Denham	HAD
Harry P. Howell	HPH
Michelle M Gallegos	MMG
Rachel A Walters	RAW
Sarah E. Tomek	SET
Samantha C. Hall	SCH
Tina Tomek	TPT
Teresa Meins	TKM

MICRO-METHODS			Chain of Custody Record	Custod	h Dorn	i						Print Form
PO Box 1410, Ocean Springs, MS 39566-1410 (228) 875-6420 FAX (228) 875-6423	9566-1410 3			Lab ID# MS00021 LELAP ID # 01960)021 1960	1		M-M Lab WO #	Lab	S	531	\propto
www.micromethodslab.com					1227			[K		
Company Name: Red Hills Power	r Plant	Proj	Project Manager:		Jim	Jim Ward		-		Irn Aroun	Turn Around Time & Reporting	eporting
Address: 2391 Pensacola Rd.		Puro	Purchase Order #:		SCSF	SCSRDH6883	ü		Our n Normal	ormal turn ar All	Our normal turn around time is 10 working days	Phone
City: Ackerman State: MS	^{Zip:} 39735	Ema	Email Address :	Shahat	bul + @ envirocon	co-1.No	7		Next Day*	reque	requests must be	Mail Fax
Phone: 662-387-5758		Sam	Sampler Name Printed:	inted: So.	osent 1	\$ 1	Γ		Other*	 pilo	prior approved.	Email
Fax:		Sam	Sampler Name Signed:	gned: Jord	KI A	- Alan	•	aci	QC Level: Level 1		Level 2	Level 3
				List Analyses		Requested	a francisco		Field	Id Testing	θι	
Project Name: Red Hills	lls CCR	Prese	Preservative:) ic		n	8	ID#	D# ID# Field Test Fiel	d Test Field	ID# ID# ID# Field Test Field Test Field Test	
Project #:		ontaine	(G) or osite (C	uoride	n, Berylliun um, Chromium	, Mercury, Cobalt m, Thallium	bendum, elenium adium 226 228					-
Sample Identification	Sampling Date/Time	Code # of C	Grab (Comp		Cadm	Lilhiur	Se Total Ra					SO = Soil SO = Soil
e-MW	5/15-1325	W 4	6	\times	\times	\times	$\times \times$			_		L = Liquid
MW-16	5/15-1050	W 4	5	X X	\times	\times	$\times \times$	_	_			A = Air
OW-2	5/15-1205	W 4	61	XX	\times	\times	$\times \times$			_		SL = Sludge
MW-13	5/16-1120	W 4	0	\times	\times	\times	\times					
MW-7	5/16-1155	₹	0	X	\times	\times	\times			_		
MW-14	5/16-1255	W 4	9	\times	\times	\times	\times					Preservation:
Field Blank	SIK - Ineco	₹	6	\times	\times	\times	\times					1= H2SU4 2= H3PO4
Duplicate	5/16-800	₹	6	X	\times	\times	\times					3=NaOH
MW-12	5/15-1020	₩ 4	3	××	\times	\times	\times					4=ZnC4H1006
MW-15	5/15-1238	₹	0	X	××	X X	$(\times$			-		
Received on Ice? Y N Thermometer#	116-1010	Cooler #	Recei	Receipt Temp Corrected(°C)	orrected(ں ×	××	-		+		6=HNO3 7=Na2S2O3
Date & Time B	By:		Sample	eBlank	nk C	ooler		**All	Temps are	**All Temps are Corrected Values**	Values**	9=NaHSO4
Printed Name	Vame	Sig	Signature		Company	Date	Time	Notes:			د	
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Relinquished by			C									
Received by												
Relinquished by												
Received by												
DCN# F316 Rev.#5	Pł	ysical Addı	Physical Address: 6500 Sunplex Drive, Ocean Springs MS 395	unplex Dri	ve, Ocean	Springs N	IS 39564					

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MICRO-METHODS	S	Chain of Cus	Chain of Custody Record			Print Form	orm
PO Box 1410, Ocean Springs, MS 39566-1410 (228) 875-6420 FAX (228) 875-6423	566-1410	Lab ID# I LELAP ID	Lab ID# MS00021 LELAP ID # 01960		WO # 1 SO	5378	1000
www.micromethodslab.com		1 NI ID # 1 NI 01397	1927 NIVI				
Company Name: Red Hills Power Plant	Plant	Project Manager:	Jim Ward	đ	Turn Aroun	Turn Around Time & Reporting	
Address: 2391 Pensacola Rd.		Purchase Order #:	SCSRDH6883	6883	Our normal turn ar Normal *All	Our normal turn around time is 10 working days al *All rush order Ph	ays Phone
City: Ackerman State: MS	^{Zip:} 39735	Email Address : 5 boo	bookout Denvirecomp. net	npinet	/* ¥	ĕ II	Mail Fax
Phone: 662-387-5758		Sampler Name Printed:	Joseph Bestan	7		pilor approved.	Email
Гах.		Sampler Name Signed:	\sim	Ø	QC Level: Level 1	Level 2 Level 3	
At a start to see a start and		List	List Analyses Requested	ed	Field Testing	PG	
Project Name: Red Hills	s CCR	servative:		&	10# 10# 10# 10# Field Test Field Test Field Test	Tect Field Tect W - Water	
Project #:		ontaine G) or osite (C	ny, Arsen n, Berylliun m, Chromium Mercury, Cobalt n, Thalliur	bendum, Ienium dium 226 228			nking ter
Sample Identification	Sampling Matrix Date/Time Code	# of C Grab (Comp	Barium ^{Cadmis} Lead, C	Moly Se Total Ra		S = Solid SO = Soil	*
CCR-3	5/15-1440 W	4	\times \times \times \times	× × ×		L = Liquid	1
CCR-4	5/16-1055 W	4 0 ×	× × ×	XXX		A = Air 0 = Oil	
						Preservation:	vation:
						2= H3PO4	44
						4=ZnC4H10O6	1006
						S=ZnC4H10O6 & NaOH	1006 &
Received on Ice? Y N Thermometer#	# Cooler#		Receipt Temp Corrected(°C)			6=HNO3 7=Na2S2O3	<u>ଥ</u>
Date & Time By:	•••	Sample	_BlankCooler_		**All Temps are Corrected Values**	Values** 9=NaHSO4	4
Printed Name	ame	Signature	Company D	Date Time	Notes:		
Relinquished by Josqu B	iskut b	support	Ecs	0	pH Godud	1.45, Tens. Tur	bilite
Received by	mak &	righ home	K MM 3		taken in the field for	· field for	41.02
Relinquished by		0				2	
Received by							
Relinquished by							
Received by							
DCN# F316 Rev.#5	Physic	Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564	x Drive, Ocean Spring	as MS 39564			

8 . 1

Micro-Methods	Micro-Methods Laboratory		
Issue Date: 11-22-17		DCN: F207	
	Log-In Checklist	Date Revised: 11-22-17	
		Revision: 5	
		Micro-Methods Micro-Methods Laboratory Issue Date: 11-22-17 Log-In Checklist	

Client<u>Red Hills</u> wo<u>1815378</u> Date/Time Received <u>5/17/18-2</u> 102 _Shipped By_<u>Clipht</u>__Unpacked/Checked By_ 7/18-2 1030

Ice Present Temperature Thermometer ID Custody Sealed Custody Seal Intact Cooler ID Yes/No Yes/No (Corrected) Yes/No 744 #1130 IN & 3,9°C MR # 711 1.2.0 #112 2.2%

SIGNATURE Quality Environmental Containers 800-255-3950 • 304-255-3900

		01
If not iced, were samples received within one hour of	collection? YesNoN/A X	5 -
Temperature Blank Used Yes No If not.	, temperature taken from cooleror bottle	\$ T
Multi Cooler shipment: ID of samples in coolers that	exceed 6°C	21
		20
Custody Seals on Bottles Present Ye	sNo_X	A
Containers Intact Ye	s X No	61
Proper Containers for Requested Analysis Ye	s Z No	'
Correct Preservation Used for All Samples Ye. Adequate Sample for Analysis Requested Ye	$s \times No_{No_{No_{No_{No_{No_{No_{No_{No_{No_{$	
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/olatile Vials Headspace Greater than 6mm in Diame	ator Voc No N/A	1
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Chain of Custody Form Included Ye	s XNo	
Chain of Custody Form Complete Yes	s X No	
chain of Custody Form Properly Relinquished	YesKNo	
ield Sheets/Special Instructions Included Yes	No_N/A	
Chain of Custody Form Complete Yes Chain of Custody Form Properly Relinquished Yes Yield Sheets/Special Instructions Included Yes Samples Missing on COC or From Cooler Yes Sample Container Labels Match COC Yes	<u>No X</u>	
ample Container Labers Match COC Ye	es XNO	in.
amples Received Within Holding Time	Yes No	
Pept. Manager Notified of Rush/Short Holding Times	$s Yes No_N/A \times$	
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	ance criteria Yes X No nust be documented in the Sample Rejection	3 E
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lient Instructions: Cancel Work Order		ארי דרי
Proceed with Work Order	_(Data will be qualified)	nvironmental
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Page 1 of 1

SIGNATU



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

June 13, 2018

Harry Howell Micro Methods Laboratory, Inc. P. O. Box 1410 Ocean Springs, MS 39566

RE: Project: 1805378 Pace Project No.: 2076917

Dear Harry Howell:

Enclosed are the analytical results for sample(s) received by the laboratory on May 22, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

KauntBrour

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

Enclosures



REPORT OF LABORATORY ANALYSIS



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

CERTIFICATIONS

 Project:
 1805378

 Pace Project No.:
 2076917

Pennsylvania Certification IDs

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** 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



SAMPLE SUMMARY

 Project:
 1805378

 Pace Project No.:
 2076917

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2076917001	1805378-01	Water	05/15/18 13:25	05/22/18 10:00
2076917002	1805378-02	Water	05/15/18 10:50	05/22/18 10:00
2076917003	1805378-03	Water	05/15/18 12:05	05/22/18 10:00
2076917004	1805378-04	Water	05/16/18 11:20	05/22/18 10:00
2076917005	1805378-05	Water	05/16/18 11:55	05/22/18 10:00
2076917006	1805378-06	Water	05/16/18 12:55	05/22/18 10:00
2076917007	1805378-07	Water	05/16/18 10:00	05/22/18 10:00
2076917008	1805378-08	Water	05/16/18 08:00	05/22/18 10:00
2076917009	1805378-09	Water	05/15/18 10:20	05/22/18 10:00
2076917010	1805378-10	Water	05/15/18 12:38	05/22/18 10:00
2076917011	1805378-11	Water	05/16/18 10:10	05/22/18 10:00
2076917012	1805378-12	Water	05/15/18 14:40	05/22/18 10:00
2076917013	1805378-13	Water	05/16/18 10:55	05/22/18 10:00

REPORT OF LABORATORY ANALYSIS



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

SAMPLE ANALYTE COUNT

 Project:
 1805378

 Pace Project No.:
 2076917

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2076917001	1805378-01	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
2076917002	1805378-02	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
2076917003	1805378-03	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
2076917004	1805378-04	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
2076917005	1805378-05	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
2076917006	1805378-06	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
2076917007	1805378-07	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
076917008	1805378-08	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
2076917009	1805378-09	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
2076917010	1805378-10	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
2076917011	1805378-11	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
2076917012	1805378-12	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
076917013	1805378-13	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA

REPORT OF LABORATORY ANALYSIS



PROJECT NARRATIVE

 Project:
 1805378

 Pace Project No.:
 2076917

Method: EPA 903.1

Description:903.1 Radium 226Client:Micro Methods Laboratory, Inc.Date:June 13, 2018

General Information:

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

Hold Time:

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

Method Blank:

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

Laboratory Control Spike:

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

Matrix Spikes:

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

Additional Comments:



PROJECT NARRATIVE

 Project:
 1805378

 Pace Project No.:
 2076917

Method: EPA 904.0

Description:904.0 Radium 228Client:Micro Methods Laboratory, Inc.Date:June 13, 2018

General Information:

13 samples were analyzed for EPA 904.0. 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.





ANALYTICAL RESULTS - RADIOCHEMISTRY

Pace Project No.: 2076917	·					
Sample: 1805378-01 PWS:	Lab ID: 207691 Site ID:	7001 Collected: 05/15/18 13:25 Sample Type:	Received:	05/22/18 10:00	Matrix: Water	
	at the laboratory, 2.5 mls of nitr mistry analysis.	ic acid were added to the sample to r	neet the sam	ple preservation rec	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.624 ± 0.627 (0.978)	pCi/L	06/11/18 13:30	13982-63-3	
Radium-228	EPA 904.0	C:NA T:82% 0.150 ± 0.476 (1.07) C:78% T:85%	pCi/L	06/12/18 18:11	15262-20-1	
Sample: 1805378-02 PWS:	Lab ID: 207691 Site ID:	Sample Type:			Matrix: Water	
	at the laboratory, 2.5 mls of nitr mistry analysis.	ic acid were added to the sample to r	neet the sam	ple preservation rec	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	1.00 ± 0.665 (0.876)	pCi/L	06/11/18 13:47	13982-63-3	
Radium-228	EPA 904.0	C:NA T:85% 0.902 ± 0.592 (1.12) C:74% T:77%	pCi/L	06/12/18 18:11	15262-20-1	
	Lab ID: 207691 Site ID:	7003 Collected: 05/15/18 12:05 Sample Type:	Received:	05/22/18 10:00	Matrix: Water	
<2 for radioche	mistry analysis.	ic acid were added to the sample to r	neet the sam	ple preservation rec	quirement of pH	
<2 for radioche Parameters		ic acid were added to the sample to r Act ± Unc (MDC) Carr Trac	neet the sam Units	ple preservation rec Analyzed	quirement of pH CAS No.	Qual
Parameters	mistry analysis.	Act ± Unc (MDC) Carr Trac -0.065 ± 0.381 (0.850)			CAS No.	Qual
Parameters	mistry analysis. Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No. 13982-63-3	Qual
Parameters Radium-226 Radium-228	mistry analysis. Method EPA 903.1	Act ± Unc (MDC) Carr Trac -0.065 ± 0.381 (0.850) C:NA T:86% 1.63 ± 0.665 (0.994) C:77% T:87%	Units pCi/L pCi/L	Analyzed 06/11/18 13:47 06/12/18 15:44	CAS No. 13982-63-3	Qual
Parameters Radium-226 Radium-228 Sample: 1805378-04 PWS: Comments: • Upon receipt a	Method EPA 903.1 EPA 904.0 Lab ID: 207691 Site ID:	Act ± Unc (MDC) Carr Trac -0.065 ± 0.381 (0.850) C:NA T:86% 1.63 ± 0.665 (0.994) C:77% T:87% 7004 Collected: 05/16/18 11:20	Units pCi/L pCi/L Received:	Analyzed 06/11/18 13:47 06/12/18 15:44 05/22/18 10:00	CAS No. 13982-63-3 15262-20-1 Matrix: Water	Qual
Parameters Radium-226 Radium-228 Sample: 1805378-04 PWS: Comments: • Upon receipt a	Method EPA 903.1 EPA 904.0 Lab ID: 207691 Site ID: at the laboratory, 2.5 mls of nitr	Act ± Unc (MDC) Carr Trac -0.065 ± 0.381 (0.850) C:NA T:86% 1.63 ± 0.665 (0.994) C:77% T:87% 7004 Collected: 05/16/18 11:20 Sample Type:	Units pCi/L pCi/L Received:	Analyzed 06/11/18 13:47 06/12/18 15:44 05/22/18 10:00	CAS No. 13982-63-3 15262-20-1 Matrix: Water	Qual
Parameters Radium-226 Radium-228 Sample: 1805378-04 PWS: Comments: • Upon receipt a <2 for radioche Parameters	Method EPA 903.1 EPA 904.0 Lab ID: 207691 Site ID: at the laboratory, 2.5 mls of nitr mistry analysis.	Act ± Unc (MDC) Carr Trac -0.065 ± 0.381 (0.850) C:NA T:86% 1.63 ± 0.665 (0.994) C:77% T:87% 7004 Collected: 05/16/18 11:20 Sample Type: ic acid were added to the sample to r Act ± Unc (MDC) Carr Trac 0.257 ± 0.358 (0.597)	Units pCi/L pCi/L Received: neet the sam	Analyzed 06/11/18 13:47 06/12/18 15:44 05/22/18 10:00 M ople preservation rec	CAS No. 13982-63-3 15262-20-1 Matrix: Water quirement of pH CAS No.	
Parameters Radium-226 Radium-228 Sample: 1805378-04 PWS: Comments: • Upon receipt a <2 for radioche Parameters	Method EPA 903.1 EPA 904.0 Lab ID: 207691 Site ID: at the laboratory, 2.5 mls of nitr mistry analysis. Method	Act ± Unc (MDC) Carr Trac -0.065 ± 0.381 (0.850) C:NA T:86% 1.63 ± 0.665 (0.994) C:77% T:87% 7004 Collected: 05/16/18 11:20 Sample Type: ic acid were added to the sample to r Act ± Unc (MDC) Carr Trac	Units pCi/L pCi/L Received: neet the sam Units	Analyzed 06/11/18 13:47 06/12/18 15:44 05/22/18 10:00 M aple preservation rec Analyzed	CAS No. 13982-63-3 15262-20-1 Matrix: Water quirement of pH CAS No. 13982-63-3	
Parameters Radium-226 Radium-228 Sample: 1805378-04 PWS: Comments: • Upon receipt a <2 for radioche Parameters Radium-226 Radium-228 Sample: 1805378-05	Method EPA 903.1 EPA 904.0 Lab ID: 207691 Site ID: at the laboratory, 2.5 mls of nitr mistry analysis. Method EPA 903.1 EPA 904.0 Lab ID: 207691	Act \pm Unc (MDC) Carr Trac -0.065 \pm 0.381 (0.850) C:NA T:86% 1.63 \pm 0.665 (0.994) C:77% T:87% 7004 Collected: 05/16/18 11:20 Sample Type: ic acid were added to the sample to r Act \pm Unc (MDC) Carr Trac 0.257 \pm 0.358 (0.597) C:NA T:91% 0.283 \pm 0.610 (1.35) C:71% T:81% 7005 Collected: 05/16/18 11:55	Units pCi/L pCi/L Received: neet the sam Units pCi/L pCi/L	Analyzed 06/11/18 13:47 06/12/18 15:44 05/22/18 10:00 M ople preservation red Analyzed 06/11/18 13:47 06/12/18 18:10	CAS No. 13982-63-3 15262-20-1 Matrix: Water quirement of pH CAS No. 13982-63-3	
Parameters Radium-226 Radium-228 Sample: 1805378-04 PWS: Comments: • Upon receipt a <2 for radioche Parameters Radium-226 Radium-228 Sample: 1805378-05 PWS: Comments: • Upon receipt a	Method EPA 903.1 EPA 904.0 Lab ID: 207691 Site ID: at the laboratory, 2.5 mls of nitr mistry analysis. Method EPA 903.1 EPA 904.0 Lab ID: 207691 Site ID: at the laboratory, 2.5 mls of nitr	Act \pm Unc (MDC) Carr Trac -0.065 \pm 0.381 (0.850) C:NA T:86% 1.63 \pm 0.665 (0.994) C:77% T:87% 7004 Collected: 05/16/18 11:20 Sample Type: ic acid were added to the sample to r Act \pm Unc (MDC) Carr Trac 0.257 \pm 0.358 (0.597) C:NA T:91% 0.283 \pm 0.610 (1.35) C:71% T:81%	Units pCi/L pCi/L Received: neet the sam Units pCi/L pCi/L Received:	Analyzed 06/11/18 13:47 06/12/18 15:44 05/22/18 10:00 M obje preservation red Analyzed 06/11/18 13:47 06/12/18 18:10 05/22/18 10:00 M	CAS No. 13982-63-3 15262-20-1 Matrix: Water quirement of pH CAS No. 13982-63-3 15262-20-1 Matrix: Water	
Parameters Radium-226 Radium-228 Sample: 1805378-04 PWS: Comments: • Upon receipt a <2 for radioche Parameters Radium-226 Radium-228 Sample: 1805378-05 PWS: Comments: • Upon receipt a	Method EPA 903.1 EPA 904.0 Lab ID: 207691 Site ID: at the laboratory, 2.5 mls of nitr mistry analysis. Method EPA 903.1 EPA 904.0 Lab ID: 207691 Site ID:	Act \pm Unc (MDC) Carr Trac -0.065 \pm 0.381 (0.850) C:NA T:86% 1.63 \pm 0.665 (0.994) C:77% T:87% 7004 Collected: 05/16/18 11:20 Sample Type: ic acid were added to the sample to r Act \pm Unc (MDC) Carr Trac 0.257 \pm 0.358 (0.597) C:NA T:91% 0.283 \pm 0.610 (1.35) C:71% T:81% 7005 Collected: 05/16/18 11:55 Sample Type:	Units pCi/L pCi/L Received: neet the sam Units pCi/L pCi/L Received:	Analyzed 06/11/18 13:47 06/12/18 15:44 05/22/18 10:00 M obje preservation red Analyzed 06/11/18 13:47 06/12/18 18:10 05/22/18 10:00 M	CAS No. 13982-63-3 15262-20-1 Matrix: Water quirement of pH CAS No. 13982-63-3 15262-20-1 Matrix: Water	



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1805378						
Pace Project No.: 2076917						
Sample: 1805378-05 PWS:	Lab ID: 207691 Site ID:	7005 Collected: 05/16/18 11:55 Sample Type:	Received:	05/22/18 10:00 I	Matrix: Water	
Comments: • Upon receipt at <2 for radiochem		ic acid were added to the sample to	meet the sam	ple preservation rec	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-228	EPA 904.0	0.143 ± 0.461 (1.04) C:73% T:87%	pCi/L	06/12/18 18:11	15262-20-1	
Sample: 1805378-06 PWS:	Lab ID: 207691 Site ID:	7006 Collected: 05/16/18 12:55 Sample Type:	Received:	05/22/18 10:00	Matrix: Water	
Comments: • Upon receipt at <2 for radiochem		ic acid were added to the sample to	meet the sam	ple preservation rec	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.0619 ± 0.283 (0.575)	pCi/L	06/11/18 13:47	13982-63-3	
Radium-228	EPA 904.0	C:NA T:87% 0.387 ± 0.777 (1.71) C:73% T:82%	pCi/L	06/12/18 19:23	3 15262-20-1	
Sample: 1805378-07 PWS:	Lab ID: 207691 Site ID:	Sample Type:			Matrix: Water	
Comments: • Upon receipt at <2 for radiochem		ic acid were added to the sample to	meet the sam	ple preservation rec	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.443 ± 0.376 (0.466) C:NA T:94%	pCi/L	06/11/18 13:47	13982-63-3	
Radium-228	EPA 904.0	-0.0677 ± 0.678 (1.57) C:75% T:82%	pCi/L	06/12/18 19:23	3 15262-20-1	
Sample: 1805378-08 PWS:	Lab ID: 207691 Site ID:	7008 Collected: 05/16/18 08:00 Sample Type:	Received:	05/22/18 10:00	Matrix: Water	
Comments: • Upon receipt at <2 for radiochem		ic acid were added to the sample to	meet the sam	ple preservation red	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.435 ± 0.668 (1.15)	pCi/L	06/11/18 13:47	13982-63-3	
Radium-228	EPA 904.0	C:NA T:82% 0.913 ± 0.751 (1.52) C:78% T:75%	pCi/L	06/12/18 19:23	3 15262-20-1	
Sample: 1805378-09 PWS:	Lab ID: 207691 Site ID:	7009 Collected: 05/15/18 10:20 Sample Type:	Received:	05/22/18 10:00 I	Matrix: Water	
Comments: • Upon receipt at <2 for radiochem		ic acid were added to the sample to	meet the sam	ple preservation rec	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.591 ± 0.546 (0.795) C:NA T:80%	pCi/L	06/11/18 13:47	13982-63-3	
Radium-228	EPA 904.0	0.622 ± 0.827 (1.77) C:73% T:78%	pCi/L	06/12/18 19:23	3 15262-20-1	



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project:	1805378							
Pace Project No.: Sample: 1805378- PWS:	2076917 IO Lab ID: Site ID:	2076917010	Collecte Sample	ed: 05/15/18 12:38 Type:	Received:	05/22/18 10:00	Matrix: Water	
	n receipt at the laboratory, 2.5 r radiochemistry analysis.	nls of nitric acid w	ere adde	d to the sample to r	neet the sam	ple preservation re	equirement of pH	
Parame	ters Meth	od Act	t ± Unc (I	MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1		2 ± 0.525 T:83%	6 (1.04)	pCi/L	06/11/18 13:59	9 13982-63-3	
Radium-228	EPA 904.0	0.911	± 0.845 % T:80%	(1.75)	pCi/L	06/12/18 19:2	3 15262-20-1	
Sample: 1805378- PWS:	I1 Lab ID: Site ID:	2076917011	Collecte	ed: 05/16/18 10:10	Received:	05/22/18 10:00	Matrix: Water	
Comments: • Upor	n receipt at the laboratory, 2.5 r radiochemistry analysis.	nls of nitric acid w	•	<i></i>	neet the sam	ple preservation re	equirement of pH	
Parame	ters Meth	od Act	t ± Unc (I	MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1		± 0.459 T:92%	(0.940)	pCi/L	06/11/18 13:59	9 13982-63-3	
Radium-228	EPA 904.0	-0.947	1.92% 7 ± 0.772 % T:86%	(1.88)	pCi/L	06/12/18 19:2	3 15262-20-1	
Sample: 1805378- PWS:	12 Lab ID: Site ID:	2076917012	Collecte Sample	ed: 05/15/18 14:40 Type:	Received:	05/22/18 10:00	Matrix: Water	
	n receipt at the laboratory, 2.5 r radiochemistry analysis.	nls of nitric acid w	ere adde	ed to the sample to r	neet the sam	ple preservation re	equirement of pH	
Parame	ters Meth	od Act	t ± Unc (I	MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1		± 0.576 T:87%	(0.631)	pCi/L	06/11/18 19:23	3 13982-63-3	
Radium-228	EPA 904.0	1.07 ±	: 0.558 % T:84%	(1.03)	pCi/L	06/12/18 11:1;	3 15262-20-1	
Sample: 1805378- PWS:	I3 Lab ID: Site ID:	2076917013	Collecte	ed: 05/16/18 10:55	Received:	05/22/18 10:00	Matrix: Water	
	n receipt at the laboratory, 2.5 r radiochemistry analysis.	nls of nitric acid w	•		meet the sam	ple preservation re	equirement of pH	
Parame	ters Meth	od Act	t ± Unc (I	MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1		± 0.523	(0.631)	pCi/L	06/11/18 19:38	8 13982-63-3	
Radium-228	EPA 904.0	0.156	T:93% ± 0.399 % T:86%	(0.889)	pCi/L	06/12/18 11:14	4 15262-20-1	



Project:	1805378					
Pace Project No.:	2076917					
QC Batch:	299926		Analysis Method:	EPA 904.0		
QC Batch Method:	EPA 90	4.0	Analysis Description:	904.0 Radiun	n 228	
Associated Lab Samples: 2076917001, 2076917002, 2076917003, 2076917004, 2076917005, 2076917006, 2076917007, 2076917008, 2076917009, 2076917010, 2076917011						
METHOD BLANK:	1468128		Matrix: Water			
Associated Lab Samples: 2076917001, 2076917002, 2076917003, 2076917004, 2076917005, 2076917006, 2076917007, 2076 2076917009, 2076917010, 2076917011					07, 2076917008,	
Para	meter	Act ±	Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228 0.955 ± 0.449 (0.750) C:76% T:80%			pCi/L	06/12/18 15:44		

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



Project:	1805378					
Pace Project No.:	2076917					
QC Batch:	299932		Analysis Method:	EPA 904.0		
QC Batch Method:	EPA 904.0		Analysis Description:	904.0 Radiu	im 228	
Associated Lab Sar	mples: 2076917	012, 2076917013				
METHOD BLANK:	1468143		Matrix: Water			
Associated Lab Sar	mples: 2076917	012, 2076917013				
Parar	meter	Act ± Unc	(MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228		0.0968 ± 0.368 (0	.832) C:75% T:78%	pCi/L	06/12/18 11:13	

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



Project:	1805378						
Pace Project No.:	2076917						
QC Batch:	299886		Analysis Method:	EPA 903.1			
QC Batch Method:	EPA 903.1		Analysis Description:	903.1 Radiu	m-226		
Associated Lab Sar	mples: 2076917	012, 2076917013					
METHOD BLANK:	1468021		Matrix: Water				
Associated Lab Sar	mples: 2076917	012, 2076917013					
Para	meter	Act ± Unc	(MDC) Carr Trac	Units	Analyzed	Qualifiers	
Radium-226		0.457 ± 0.428 (0.6	606) C:NA T:83%	pCi/L	06/11/18 19:23		

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



Project:	1805378					
Pace Project No.:	2076917					
QC Batch:	299885		Analysis Method:	EPA 903.1		
QC Batch Method:	EPA 903	.1	Analysis Description:	903.1 Radiur	n-226	
Associated Lab Samples: 2076917001, 2076917002, 2076917003, 2076917004, 2076917005, 2076917006, 2076917007, 2076917008, 2076917009, 2076917010, 2076917011						
METHOD BLANK:	1468018		Matrix: Water			
Associated Lab Samples: 2076917001, 2076917002, 2076917003, 2076917004, 2076917005, 2076917006, 2076917007, 2076917008, 2076917009, 2076917010, 2076917011					07, 2076917008,	
Para	neter	Act ± U	nc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226		0.0702 ± 0.320	(0.517) C:NA T:87%	pCi/L	06/11/18 13:13	

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

REPORT OF LABORATORY ANALYSIS



QUALIFIERS

Project:	1805378
Pace Project No.:	2076917

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

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	1805378
Pace Project No.:	2076917

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2076917001	1805378-01	EPA 903.1	299885		
2076917002	1805378-02	EPA 903.1	299885		
2076917003	1805378-03	EPA 903.1	299885		
2076917004	1805378-04	EPA 903.1	299885		
2076917005	1805378-05	EPA 903.1	299885		
2076917006	1805378-06	EPA 903.1	299885		
2076917007	1805378-07	EPA 903.1	299885		
2076917008	1805378-08	EPA 903.1	299885		
2076917009	1805378-09	EPA 903.1	299885		
2076917010	1805378-10	EPA 903.1	299885		
2076917011	1805378-11	EPA 903.1	299885		
2076917012	1805378-12	EPA 903.1	299886		
2076917013	1805378-13	EPA 903.1	299886		
2076917001	1805378-01	EPA 904.0	299926		
2076917002	1805378-02	EPA 904.0	299926		
2076917003	1805378-03	EPA 904.0	299926		
2076917004	1805378-04	EPA 904.0	299926		
2076917005	1805378-05	EPA 904.0	299926		
2076917006	1805378-06	EPA 904.0	299926		
2076917007	1805378-07	EPA 904.0	299926		
2076917008	1805378-08	EPA 904.0	299926		
2076917009	1805378-09	EPA 904.0	299926		
2076917010	1805378-10	EPA 904.0	299926		
2076917011	1805378-11	EPA 904.0	299926		
2076917012	1805378-12	EPA 904.0	299932		
2076917013	1805378-13	EPA 904.0	299932		

REPORT OF LABORATORY ANALYSIS



Sending Laboratory:

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

Project Manager: Barbara K. McMillan

Subcontracted Laboratory:

4613 L14

Pace Analytical

	1000 Riverbend Blvd. Suite F St. Rose, LA 70087 Phone: -
WO# :	2076917
States and states of	

Work Order: 1805378

Analysis		Due	9	Ехр	ires	Comments		
Sample ID: 1805378-01	Water	Sampled:	05/15/	2018 1	13:25	Sample Name:	MW-9	
Radium, Total 226 & 228 by 901	1	05/25/2	2018 0	6/12/20	18 13:25			
Containers Supplied: 1000mL Plastic (C) 100	00mL Plasti	c (D)						
Sample ID: 1805378-02	Water	Sampled:	05/15/	2018	10:50	Sample Name:	MW-16	
Radium, Total 226 & 228 by 901	L.1	05/25/3	2018 0	6/12/20	18 10:50			
Containers Supplied: 1000mL Plastic (C) 10	00mL Plasti	c (D)						
Sample ID: 1805378-03	Water	Sampled:	05/15/	2018 .	12:05	Sample Name:	OW-2	
Radium, Total 226 & 228 by 90:	1.1	05/25/	2018 0	6/12/20	18 12:05			
Containers Supplied: 1000mL Plastic (C) 10	00mL Plast	ic (D)		1				
Sample ID: 1805378-04	Water	Sampled:	05/16/	/2018	11:20	Sample Name:	MW-13	
Radium, Total 226 & 228 by 90	1.1	05/25/	2018 0	06/13/20)18 11:20			
Containers Supplied: 1000mL Plastic (C) 10	00mL Plast	ic (D)						
Sample ID: 1805378-05	Water	Sampled:	05/16,	/2018	11:55	Sample Name:	MW-7	
Radium, Total 226 & 228 by 90	1.1	05/25/	2018 (06/13/20	018 11:55			
Containers Supplied: 1000mL Plastic (C) 10	00mL Plast	tic (D)				ŝ.	-	
Sample ID: 1805378-06	Water	Sampled:	05/16	/2018	12:55	Sample Name:	MW-14	
Radium, Total 226 & 228 by 90	1.1	05/25/	2018	06/13/20	018 12:55	5		
Containers Supplied: 1000mL Plastic (C) 10	000mL Plast	tic (D)						
Sample ID: 1805378-07	Water	Sampled	05/16	/2018	10:00	Sample Name:	Field Blank	
Smah Jomeh	5/21/18	0 0870 Date			Recei	Ved By	0.0	5/21/180 08/
		5/2	1/18		M	that	ADDM	5.21.18 0810
Released By	1: an	Anna	a1 10	_		ved By	1	Date
released by UTU	mun	17	00	Page	e 1 of 2 / (eccived by	. John	5-22-18 1000 Page 16 of 18 Page 47 of 49

Second and a real production of a second second



SUBCONTRACT ORDER (Continued)

Work Order: 1805378 (Continued) Comments Expires Analysis Due Sample Name: Field Blank Sampled: 05/16/2018 10:00 Sample ID: 1805378-07 Water 06/13/2018 10:00 05/25/2018 Radium, Total 226 & 228 by 901.1 Containers Supplied: 1000mL Plastic (C) 1000mL Plastic (D) Sample Name: Duplicate Sampled: 05/16/2018 08:00 Sample ID: 1805378-08 Water 06/13/2018 08:00 Radium, Total 226 & 228 by 901.1 05/25/2018 Containers Supplied: 1000mL Plastic (D) 1000mL Plastic (C) Sample Name: MW-12 Sampled: 05/15/2018 10:20 Sample ID: 1805378-09 Water 06/12/2018 10:20 05/25/2018 Radium, Total 226 & 228 by 901.1 Containers Supplied: 1000mL Plastic (D) 1000mL Plastic (C) Sample Name: MW-15 Sampled: 05/15/2018 12:38 Sample ID: 1805378-10 Water 05/25/2018 06/12/2018 12:38 Radium, Total 226 & 228 by 901.1 Containers Supplied: 1000mL Plastic (D) 1000mL Plastic (C) Sample Name: CCR-2 Sampled: 05/16/2018 10:10 Sample ID: 1805378-11 Water 06/13/2018 10:10 05/25/2018 Radium, Total 226 & 228 by 901.1 Containers Supplied: 1000mL Plastic (D) 1000mL Plastic (C) Sample Name: CCR-3 Sampled: 05/15/2018 14:40 Sample ID: 1805378-12 Water 06/12/2018 14:40 05/25/2018 Radium, Total 226 & 228 by 901.1 Containers Supplied: 1000mL Plastic (D) 1000mL Plastic (C) Sample Name: CCR-4 Sampled: 05/16/2018 10:55 Sample ID: 1805378-13 Water 06/13/2018 10:55 05/25/2018 Radium, Total 226 & 228 by 901.1 Containers Supplied: 1000mL Plastic (D) 1000mL Plastic (C)

21/180 08 Date ceived By Released By 5.21.18 Date 5/2-18 eceived By Released By y: Vitters 5.21.18 Page 2 of 2 referredon 22 released ad \$17 of (18/30) Page 48 of 49

Pittsburgh Lab Sample Condi	tion I	Inor	Re	сеірt WO#: 2076917
a second		por	11(0)	
Face Analytical Client Name:	Mic	<u> R0-</u>	me	nods CLIENT: 20-MICRO
		omme	rcial	Deace Other
Tracking #: 42010 1797 22100				LIMS Login
Custody Seal on Cooler/Box Present:		0	Seals	intact: yes no
Thermometer Used N-A	Type	of Ice:	Wet	Blue None)
Cooler Temperature Observed Temp	-	°C		ection Factor: °C Final Temp: °C
Temp should be above freezing to 6°C	******	•		
				pH paper Lot# Date and Initials of person examining contents: 131-15-22-18
Comments:	Yes	No	N/A	1013671
Chain of Custody Present:				1.
Chain of Custody Filled Out:				2.
Chain of Custody Relinquished:	2			3.
Sampler Name & Signature on COC:				4.
Sample Labels match COC:				5.
-Includes date/time/ID Matrix:	WT	-		
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):		/		7.
Rush Turn Around Time Requested:		/		8.
Sufficient Volume:				9. × see comments
Correct Containers Used:				10.
-Pace Containers Used:				
Containers Intact:		/	1	11. X See comments
Orthophosphate field filtered			\sim	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			/	13.
Organic Samples checked for dechlorination:			/	14.
Filtered volume received for Dissolved tests				15.
All containers have been checked for preservation.	\leq			16. 2.5 mL HNO3 added to
All containers needing preservation are found to be in compliance with EPA recommendation.				samples
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when BSTH Date/time of BSTH 5-22-18 1040
		×		Lot # of added preservative DU18-0409
Headspace in VOA Vials (>6mm):			/	17.
Trip Blank Present:		/		18.
Trip Blank Custody Seals Present				
Rad Aqueous Samples Screened > 0.5 mrem/hr				completed: 1371 Date: 5-22-18
Client Notification/ Resolution:	-			
Person Contacted:			Date/	Time: Contacted By:
Comments/ Resolution:				
sample 003 Spilled during -	Rein	sit	1	805378-03 5/15/18 12:05
bottle 1 of 2.				

ware and a state of the

 $\Box\,$ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

J:\QAQC\Master\Document Management\Sample Mgt\Sample Condition Upon Receipt Pittsburgh (C056-7 16Feb2018)

MICRO-METHODS Ş

PO Box 1410, Ocean Springs, MS 39566-1410 (228) 87

Chain of Custody Record LELAP ID # 01960 Lab ID# MS00021

M-M Lab WO #

(228) 875-6420 FAX (228) 875-6423				TNI ID # TNI01397	D # C	397								
www.micromethodslab.com														
Company Name: Red Hills Power Plant		Proj	Project Manager	ager:		,	Jim Ward	/ard			Tu	rn Arour	Turn Around Time & Reporting Our normal turn around time is 10 working days	ceporting working davs
Address: 2391 Pensacola Rd.		Pur	Purchase Order #:)rder #:		S	SCSRDH6883	H68	83		Normal	IIA*	*All rush order	Phone
City: Ackerman State: MS ^{Zip:} 39	39735	ш Ш	Email Address		1+1	Em	Sbutit @ envirocent . Nel	1.1.	ta		Next Day*	requ	requests must be prior approved.	Fax
Phone: 662-387-5758		San	npler Nö	Sampler Name Printed:	-,	serv	S S	after	4		Other*			Email
Fax:		San	npler Na	Sampler Name Signed:	- Page	3	Y	X	٨		QC Level: Level 1		Level 2	Level 3
				Lis	t Ana	Vses	List Analyses Requested	ested		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Field	eld Testing		
		Pres	Preservative:								ID# ID#	#OI	#Q1	
Project Name: Red Hills CCR		ers	()	ə			i.	wni		26 g	Field Test Fiel	d Test Field	Field Test Field Test Field Test Field Test	t W = Water DW = Drinking
Project #:		nistno:	(G) or osite (norid	ony, Arse	m, Beryll In, Chromi	inorem, k	Cobalt Illeri Thall	muinalað	2 muibes				S = Solid
Sampling Date/Time	ng Matrix ne Code			ЛЧ				רוואיי		FibioT				SO = Soil SE = Sediment
MW-9 5/15-1325	325 W	4	6	\times	\times	×	\mathbf{X}	\times	×	\times				L = Liquid
MW-16 S//5-1050	N OSO	4	2	~	\times	\times	X	\times	X	×		_		0 = 0
201-21/2 5/12-2 201-2-12	W SOU	4			\times	\times	$\overline{\times}$	\times	×	\times		_		SL = Sludge
MW-13 5/16- 1120	le W	4	0	~	×	×	X	\times	\times	×	0		No No	
11-2115 T.VIM	N ZSI	4			\times	×	X	\times	×	\times				Preservation:
MW-14 S/16-13	1255 W	4	_		\times	X		×.	X					1= H2SO4
Field Blank S/12 = 10	1000 W	4	0		\times	X	X	X	X	X				2= H3PO4
Duplicate $S/r_{\delta} - S$	Sec W	4	0		\times	X	X	\times	X	X		_	_	3=NaOH 4=7nC4H1006
MW-12 5/15-10	N OLOI	4	10		\times	×	X	\times	X	×		+		5=ZnC4H1006 &
MW-15 5/1S-j238	-	4	0		X	X	X	\times	\times	×>				NaOH 6=HNO3
-2		4	0		׾	$\overline{\times}$	X	×	X	<				7=Na2S203
Received on Ice? Y N Thermometer#	Cooler	#		Keceipt I emp Corrected (C	emp	orrec	real	7			*** > [] T		41/2/1-//	8=HCI
Date & Time By:				Sample		BIANK	Cooler	Jac		1	** All Temps are corrected values	ה רמונהרוה		9=NaHSO4
Printed Name		S	Signature	0		Company	any	Date	0)	Time	Notes:	(20.	2	
Relinquished by Socient Particit	× ×	240 1	N.	2 alex		Y		S)	17/18	1030	M		- And	
School 1	K A	NN C	26M	Anri	Y	N	W	K	7/18	1030				
Relinquished by	>		5						~					
Received by					+			_						
Relinquished by														
Received by														
DCN# F316 Rev.#5	Physic	al Ad	dress:	Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564	olex Di	ive, O	cean S	prings	MS 3)564				

Print Form

PO Box 1410, Ocean Springs, MS 39566-1410 (228) 875-6420 FAX (228) 875-6423 MICRO-METHODS

Chain of Custody Record Lab ID# MS00021 LELAP ID # 01960

M-M Lab WO#

Print Form

www.micromethodslab.com	com			TNI ID # TNI01397	NI01397				
Company Name: Red Hill	Red Hills Power Plant		Project	Project Manager:	Jin	Jim Ward	Turn Around Time & Reporting	d Time & Re	eporting
Address: 2391 Pensacola Rd.	ola Rd.		Purchas	Purchase Order #:	SCS	SCSRDH6883	Our normal turn around time is 10 working days	und time is 10 w	orking days
^{City:} Ackerman	State: MS Zip: 39735	35	Email Address		Kout Benu	S bookout @ envirenment	**	*All rush order requests must be	Mail
Phone: 662-387-5758			Sample	Sampler Name Printed: Jos y Rack	Socyh B	ake t	2nd Day* prior a	prior approved.	Email
⁺ax:			Samplei	Sampler Name Signed:	Schen 1	Catton .			
				List /	List Analyses Remineted	Tilected	Toc!		Level 3
Project Name:	Red Hills CCR		servat					ا ات#	Matrix:
Project #:) or	site (C) uride	, Arsenic Autilivae Chromium	tlea muillen nun muir muir	Field Test Field Test Field Test	Contractor Internet	W = Water DW = Drinking
Sample Identification	Sampling Date/Time	Matrix Code	D) dsh	Flor	Barium, I	Lead, M Cob Lithium, Molybe Seler Seler Sadiu Sadiu Sadiu			Water S = Solid SO = Soil
CCR-3	5/15-1410	M C		×	×××	×			SE = Sediment
CCR-4	5/16-1055	3	4		X X X X	$\langle \rangle$			L = Liquid A = Air
									0 = Oil SL = Sludge
			+						
			-						Preservation:
		Ì							1= H2SO4 2- H3DO4
									3=NaOH
			+-						4=ZnC4H1006 5=ZnC4H1006 &
			+						NaOH 6=HNIO3
ed on Ice? Y N	Thermometer#	Cooler #		Receipt Tem	Receipt Temp Corrected(°C	.0			7=Na2S2O3
	By:			Sample	Blank Co	Cooler	**All Temps are Corrected Values**	Τ	8=HCI
	Printed Name		Signature	e	Company	Date Time	Notes:		toria
Relinquished by Jose	2 Bakert	- Antes	A Sh	Contraction of the	Fes	5/12/18 1030		4	1
Received by	IL TOMPA	Nor I	101	Aman al	MM	1	the test of the the test of te	2/10	4, lurbisty
Relinquished by				Ora serve	1.11.1	N 1011, 11	2	tield	\mathcal{O}
Received by))
Relinquished by									
Received by									
DCN# F316 Rev.#5		Physical A	ddress:	6500 Sunplex	Drive, Ocean S	Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564			



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 02, 2018

Jim Ward

Work Order #: 1809205

Purchase Order #:

Red Hills Power Plant 2391 Pensacola Rd. Ackerman, MS 39735 *RE: Red Hills CCR*

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 09/12/2018 08:09. If you have any questions concerning this report, please feel free to contact the office.

Hamy P. Nowell

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.



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Red Hills Power Plant	Project: Red Hills CCR	
2391 Pensacola Rd.	Project Number: Red Hills	Reported:
Ackerman MS, 39735	Project Manager: Jim Ward	10/02/2018 13:40

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
MW-9	1809205-01	Water	09/11/2018 09:55	Kirk Shelton	09/12/2018 08:09
MW-16	1809205-02	Water	09/11/2018 09:09	Kirk Shelton	09/12/2018 08:09
OW-2	1809205-03	Water	09/11/2018 07:09	Kirk Shelton	09/12/2018 08:09
MW-13	1809205-04	Water	09/11/2018 11:04	Kirk Shelton	09/12/2018 08:09
MW-7	1809205-05	Water	09/11/2018 13:26	Kirk Shelton	09/12/2018 08:09
MW-14	1809205-06	Water	09/11/2018 14:29	Kirk Shelton	09/12/2018 08:09
Field Blank	1809205-07	Water	09/11/2018 07:00	Kirk Shelton	09/12/2018 08:09
Duplicate	1809205-08	Water	09/10/2018 00:00	Kirk Shelton	09/12/2018 08:09
MW-12	1809205-09	Water	09/11/2018 08:01	Kirk Shelton	09/12/2018 08:09
MW-15	1809205-10	Water	09/11/2018 08:41	Kirk Shelton	09/12/2018 08:09
CCR-2	1809205-11	Water	09/10/2018 14:40	Kirk Shelton	09/12/2018 08:09
CCR-3	1809205-12	Water	09/10/2018 13:36	Kirk Shelton	09/12/2018 08:09
CCR-4	1809205-13	Water	09/10/2018 16:50	Kirk Shelton	09/12/2018 08:09
CCR-5	1809205-14	Water	09/11/2018 11:58	Kirk Shelton	09/12/2018 08:09



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

Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735	Project Project Number Project Manager		Reported: 10/02/2018 13:40
Sample Receipt Conditions			
Date/Time Received: 9/12/2018 8:09	:00AM	Shipped by: Fed Ex	
Received by: Sarah E. Tomek		Submitted by: Kirk Shelton	I
Date/Time Logged: 9/13/2018 9:03	3:00AM	Logged by: Sarah E. To	mek
Cooler ID: #1124		Receipt Temperature: _ 2.6 °C	
Custody Seals	No	Received on Ice	Yes
Containers Intact	Yes	No Ice, Short Trip	No
COC/Labels Agree	Yes	Obvious Contamination	No
Labels Complete	Yes	Rush to meet HT	No
COC Complete	Yes		
Cooler ID: #1136		Receipt Temperature: _ 5.6 °C	
Custody Seals	No	Received on Ice	Yes
Containers Intact	Yes	No Ice, Short Trip	No
COC/Labels Agree	Yes	Obvious Contamination	No
Labels Complete	Yes	Rush to meet HT	No
COC Complete	Yes		
Cooler ID: #515		Receipt Temperature: 5.1 °C	
Custody Seals	No	Received on Ice	Yes
Containers Intact	Yes	No Ice, Short Trip	No
COC/Labels Agree	Yes	Obvious Contamination	No
Labels Complete	Yes	Rush to meet HT	No
COC Complete	Yes		



Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward

Reported: 10/02/2018 13:40

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

Total Metals-EPA 200.7 Rev 4.4

QD-10 The analyte concentration is greater than 10 times the spike concentration. The Matrix Spike result reported as Duplicate. The QC batch was accepted based on LCS/LCSD and Duplicate recoveries within the acceptance limits.

Calcium

8I17029-DUP1, 8I17029-DUP2

Qualifiers:

Qualifiers:

Total Dissolved Solids-SM 2540 C-2011

RPD04 The RPD between the sample and sample duplicate exceeded the acceptance limits. The batch was accepted based on the lab controls.

Total Dissolved Solids 8I13028-DUP1



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Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			oject Nun	oject: Re nber: Re ager: Jim		2			Reporte 10/02/2018	
				MW-9						
			18092	05-01 (W	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Chloride	419	25.0	mg/L	50.0	8118046	DLW	09/18/2018 16:26	09/20/2018 12:49	SM 4110B 2011	
Sulfate as SO4	79.2	20.0	"	4.0	"	DLW	"	09/18/2018 18:34		
Fluoride	0.46	0.22	"	1.0	8125036	HAD	09/25/2018 13:00	09/25/2018 15:14	SM 4500-F D-2011	
Total Dissolved Solids	1498	1	"	"	8113028	DLW	09/13/2018 12:40	09/17/2018 00:00	SM 2540 C-2011	
Metals by EPA 200 Series	Methods ICP	-AES								
Barium	0.191	0.010	mg/L	1.0	8117029	MMG	09/17/2018 09:00	09/24/2018 09:46	EPA 200.7 Rev 4.4	
Boron	ND	0.050	"	"	"	MMG		09/21/2018 10:28	"	
Calcium	70.6	0.200	"	2.0	"	MMG		09/21/2018 11:51	"	
Lithium	0.101	0.050	"	1.0	"	MMG	"	09/27/2018 09:11	"	
Metals by EPA 200 Series	<u>Methods</u> ICP	-MS [Ana	lysis M	ode]						
Antimony [HHe]	ND	0.00200	mg/L	1.0	8117028	SCH	"	09/19/2018 16:41	EPA 200.8 Rev 5.4	
Beryllium [He]	0.00270	0.00100	"	"	"	SCH				
Cadmium [HHe]	0.00139	0.00100	"	"	"	SCH		"		
Chromium [He]	ND	0.00100	"	"	"	SCH		"	"	
Cobalt [He]	0.0176	0.00100	"	"	"	SCH				
Lead [He]	ND	0.00100	"	"	"	SCH		•	"	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			oject Nun	oject: Re nber: Re ager: Jin		२			Reporte 10/02/2018	
				MW-16						
			18092	05-02 (W	/ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Chloride	49.8	5.00	mg/L	10.0	8118046	DLW	09/18/2018 16:26	09/18/2018 18:52	SM 4110B 2011	
Sulfate as SO4	133	50.0	"	"	"	DLW				
Fluoride	0.24	0.22	"	1.0	8125036	HAD	09/25/2018 13:00	09/25/2018 15:14	SM 4500-F D-2011	
Total Dissolved Solids	386	2	"	"	8113028	DLW	09/13/2018 12:40	09/17/2018 00:00	SM 2540 C-2011	
Vetals by EPA 200 Series	Methods ICF									
Barium	0.188	0.010	mg/L	1.0	8117029	MMG	09/17/2018 09:00	09/24/2018 10:20	EPA 200.7 Rev 4.4	
Boron	ND	0.050	"	"	"	MMG		09/21/2018 10:45		
Calcium	29.2	0.100	"	"	"	MMG	"	"		
lithium	ND	0.050	"	"	"	MMG		09/27/2018 09:19	u.	
Vetals by EPA 200 Series			lysis M	ode]						
Antimony [HHe]	ND	0.00200	mg/L	1.0	8117028	SCH		09/19/2018 17:11	EPA 200.8 Rev 5.4	
Beryllium [He]	ND	0.00100	"	"	"	SCH		"		
Cadmium [HHe]	ND	0.00100	"	"	"	SCH	"			
Chromium [He]	ND	0.00100	"	"	"	SCH			"	
Cobalt [He]	0.00426	0.00100	"	"	"	SCH			•	
₋ead [He]	ND	0.00100	"	"	"	SCH	"	"	"	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			oject Nun	oject: Re nber: Re ager: Jin		R			Reporte 10/02/2018	
				OW-2						
			180920	05-03 (W	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Chloride	33.8	5.00	mg/L	10.0	8118046	DLW	09/18/2018 16:26	09/18/2018 19:10	SM 4110B 2011	
Sulfate as SO4	73.2	50.0	"	"	"	DLW	"	"	"	
Fluoride	0.42	0.22	"	1.0	8125036	HAD	09/25/2018 13:00	09/25/2018 15:14	SM 4500-F D-2011	
Total Dissolved Solids	304	2	"	"	8113028	DLW	09/13/2018 12:40	09/17/2018 00:00	SM 2540 C-2011	
Metals by EPA 200 Series	Methods ICF	P-AES					-			
Barium	0.091	0.010	mg/L	1.0	8117029	MMG	09/17/2018 09:00	09/24/2018 10:23	EPA 200.7 Rev 4.4	
Boron	ND	0.050		"	"	MMG		09/21/2018 10:51	"	
Calcium	29.0	0.100		"	"	MMG		"	"	
Lithium	ND	0.050	"	"	"	MMG		09/27/2018 09:21	"	
Metals by EPA 200 Series	Methods ICF	P-MS [Ana	lysis M	ode]						
Antimony [HHe]	ND	0.00200	mg/L	1.0	8117028	SCH		09/19/2018 17:19	EPA 200.8 Rev 5.4	
Beryllium [He]	ND	0.00100		"	"	SCH			"	
Cadmium [HHe]	ND	0.00100	"	"	"	SCH	"		"	
Chromium [He]	ND	0.00100	"	"	"	SCH	"		"	
Cobalt [He]	ND	0.00100	"	"	"	SCH	"		"	
Lead [He]	ND	0.00100	"	"	"	SCH	"		"	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro bject Nun ect Mana	nber: Re		۲			Reporte 10/02/2018	
				MW-13						
			18092	05-04 (W	later)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para										
Chloride	3.72	0.500	mg/L	1.0	8118046	DLW	09/18/2018 16:26	09/18/2018 19:28	SM 4110B 2011	
Sulfate as SO4	ND	5.00		"	"	DLW	"	"	"	
Fluoride	ND	0.22	"	"	8125036	HAD	09/25/2018 13:00	09/25/2018 15:14	SM 4500-F D-2011	
Total Dissolved Solids	149	1	"	"	8113028	DLW	09/13/2018 12:40	09/17/2018 00:00	SM 2540 C-2011	
Metals by EPA 200 Series	Methods ICF	P-AES								
Barium	0.131	0.010	mg/L	1.0	8117029	MMG	09/17/2018 09:00	09/24/2018 10:25	EPA 200.7 Rev 4.4	
Boron	ND	0.050	"	"	"	MMG		09/21/2018 10:56		
Calcium	16.3	0.100		"	"	MMG		"		
Lithium	ND	0.050	"	"	"	MMG		09/27/2018 09:24	"	
Metals by EPA 200 Series	Methods ICF	P-MS [Ana	lysis M	ode]						
Antimony [HHe]	ND	0.00200	mg/L	1.0	8117028	SCH	"	09/19/2018 17:58	EPA 200.8 Rev 5.4	
Beryllium [He]	ND	0.00100	"	"	"	SCH		"	"	
Cadmium [HHe]	ND	0.00100		"	"	SCH		"	"	
Chromium [He]	ND	0.00100		"	"	SCH			"	
Cobalt [He]	ND	0.00100	"	"	"	SCH			"	
Lead [He]	ND	0.00100		"	"	SCH			"	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro bject Nun ect Mana	nber: Re		R			Reporte 10/02/2018	
				MW-7						
			180920	05-05 (W	/ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Chloride	2.65	0.500	mg/L	1.0	8118046	DLW	09/18/2018 16:26	09/18/2018 19:46	SM 4110B 2011	
Sulfate as SO4	24.0	20.0	"	4.0	"	DLW	"	09/20/2018 13:07	"	
Fluoride	0.28	0.22	"	1.0	8125036	HAD	09/25/2018 13:00	09/25/2018 15:14	SM 4500-F D-2011	
Total Dissolved Solids	224	2	"	"	8113028	DLW	09/13/2018 12:40	09/17/2018 00:00	SM 2540 C-2011	
Metals by EPA 200 Series	Methods ICF	P-AES					-			
Barium	0.075	0.010	mg/L	1.0	8117029	MMG	09/17/2018 09:00	09/24/2018 10:27	EPA 200.7 Rev 4.4	
Boron	ND	0.050		"	"	MMG		09/21/2018 11:02	"	
Calcium	43.2	0.100		"	"	MMG				
Lithium	ND	0.050	"	"	"	MMG		09/27/2018 09:26	"	
Metals by EPA 200 Series	Methods ICF	P-MS [Ana	lysis M	ode]						
Antimony [HHe]	ND	0.00200	mg/L	1.0	8117028	SCH		09/19/2018 18:06	EPA 200.8 Rev 5.4	
Beryllium [He]	ND	0.00100		"	"	SCH			"	
Cadmium [HHe]	ND	0.00100		"	"	SCH			"	
Chromium [He]	ND	0.00100		"	"	SCH			"	
Cobalt [He]	ND	0.00100		"	"	SCH	"			
Lead [He]	ND	0.00100	"	"	"	SCH			"	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro bject Nun ect Mana	nber: Re		R			Reporte 10/02/2018	
				MW-14						
			180920	05-06 (W	/ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Chloride	17.0	0.500	mg/L	1.0	8118046	DLW	09/18/2018 16:26	09/18/2018 20:04	SM 4110B 2011	
Sulfate as SO4	8.67	5.00		"	"	DLW	"		"	
Fluoride	ND	0.22	"	"	8125036	HAD	09/25/2018 13:00	09/25/2018 15:14	SM 4500-F D-2011	
Total Dissolved Solids	87	1	"	"	8113028	DLW	09/13/2018 12:40	09/17/2018 00:00	SM 2540 C-2011	
Metals by EPA 200 Series	Methods ICF	P-AES								
Barium	ND	0.010	mg/L	1.0	8117029	MMG	09/17/2018 09:00	09/24/2018 10:30	EPA 200.7 Rev 4.4	
Boron	ND	0.050	"	"	"	MMG	"	09/21/2018 11:08		
Calcium	0.493	0.100		"	"	MMG		"	"	
Lithium	ND	0.050	"	"	"	MMG		09/27/2018 09:29	"	
Metals by EPA 200 Series	Methods ICF	P-MS [Ana	lysis M	ode]						
Antimony [HHe]	ND	0.00200	mg/L	1.0	8117028	SCH		09/19/2018 18:14	EPA 200.8 Rev 5.4	
Beryllium [He]	ND	0.00100	"	"	"	SCH			"	
Cadmium [HHe]	ND	0.00100		"	"	SCH	"		"	
Chromium [He]	ND	0.00100		"	"	SCH	"			
Cobalt [He]	ND	0.00100		"	"	SCH			"	
Lead [He]	ND	0.00100		"	"	SCH	"		"	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro oject Nun ect Mana	nber: Re		ર			Reporte 10/02/2018	
			Fie	eld Blaı	nk					
			180920)5-07 (W	/ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Chloride	13.8	0.500	mg/L	1.0	8118046	DLW	09/18/2018 16:26	09/18/2018 20:22	SM 4110B 2011	
Sulfate as SO4	7.70	5.00		"	"	DLW	"	"		
Fluoride	ND	0.22	"	"	8125036	HAD	09/25/2018 13:00	09/25/2018 15:14	SM 4500-F D-2011	
Total Dissolved Solids	70	1	"	"	8113028	DLW	09/13/2018 12:40	09/17/2018 00:00	SM 2540 C-2011	
Metals by EPA 200 Series	Methods ICF	P-AES								
Barium	ND	0.010	mg/L	1.0	8117029	MMG	09/17/2018 09:00	09/24/2018 10:32	EPA 200.7 Rev 4.4	
Boron	ND	0.050	"	"	"	MMG	"	09/21/2018 11:14	"	
Calcium	7.34	0.100		"	"	MMG	"			
Lithium	ND	0.050	"	"	"	MMG		09/27/2018 09:32	"	
Metals by EPA 200 Series	Methods ICI	P-MS [Ana	lysis M	ode]						
Antimony [HHe]	ND	0.00200	mg/L	1.0	8117028	SCH	"	09/19/2018 18:22	EPA 200.8 Rev 5.4	
Beryllium [He]	ND	0.00100		"	"	SCH	"		"	
Cadmium [HHe]	ND	0.00100		"	"	SCH	"		"	
Chromium [He]	ND	0.00100		"	"	SCH	"		"	
Cobalt [He]	ND	0.00100		"	"	SCH			"	
₋ead [He]	ND	0.00100		"	"	SCH			"	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro bject Nun ect Mana	nber: Re		2			Reporte 10/02/2018	
			D	uplicat	e					
			180920)5-08 (W	/ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Chloride	2.53	0.500	mg/L	1.0	8118046	DLW	09/18/2018 16:26	09/20/2018 15:14	SM 4110B 2011	
Sulfate as SO4	23.6	20.0	"	4.0	"	DLW		09/20/2018 13:25	"	
Fluoride	0.30	0.22	"	1.0	8125036	HAD	09/25/2018 13:00	09/25/2018 15:14	SM 4500-F D-2011	
Total Dissolved Solids	224	1	"	"	8113029	DLW	09/13/2018 12:40	09/17/2018 00:00	SM 2540 C-2011	
Metals by EPA 200 Series	Methods ICF	P-AES								
Barium	0.076	0.010	mg/L	1.0	8117029	MMG	09/17/2018 09:00	09/24/2018 10:35	EPA 200.7 Rev 4.4	
Boron	ND	0.050	"	"	"	MMG		09/21/2018 11:20	"	
Calcium	44.7	0.100		"	"	MMG		"		
Lithium	ND	0.050	"	"	"	MMG		09/27/2018 09:34	"	
Metals by EPA 200 Series	Methods ICF	P-MS [Ana	lysis M	ode]						
Antimony [HHe]	ND	0.00200	mg/L	1.0	8117028	SCH		09/19/2018 18:29	EPA 200.8 Rev 5.4	
Beryllium [He]	ND	0.00100		"	"	SCH		"	"	
Cadmium [HHe]	ND	0.00100		"	"	SCH			"	
Chromium [He]	ND	0.00100		"	"	SCH			"	
Cobalt [He]	ND	0.00100		"	"	SCH	"		"	
Lead [He]	ND	0.00100	"	"	"	SCH			"	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro bject Num ect Mana	nber: Re		R			Reporte 10/02/2018	
				MW-12						
			180920	05-09 (W	/ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Par	ameters									
Chloride	23.3	2.00	mg/L	4.0	8118046	DLW	09/18/2018 16:26	09/20/2018 15:32	SM 4110B 2011	
Sulfate as SO4	16.5	5.00	"	1.0	"	DLW		09/20/2018 15:50	"	
Fluoride	0.23	0.22	"	"	8125036	HAD	09/25/2018 13:00	09/25/2018 15:14	SM 4500-F D-2011	
Total Dissolved Solids	214	1	"	"	8113029	DLW	09/13/2018 12:40	09/17/2018 00:00	SM 2540 C-2011	
Metals by EPA 200 Serie	s Methods ICP	-AES								
Barium	0.142	0.010	mg/L	1.0	8117029	MMG	09/17/2018 09:00	09/24/2018 10:37	EPA 200.7 Rev 4.4	
Boron	ND	0.050	"	"	"	MMG		09/21/2018 11:25	n	
Calcium	21.3	0.100	"	"	"	MMG	"			
Lithium	ND	0.050	"	"	"	MMG		09/27/2018 09:37		
Metals by EPA 200 Serie	s Methods ICP	-MS [Ana	lysis M	ode]						
Antimony [HHe]	ND	0.00200	mg/L	1.0	8117028	SCH		09/19/2018 18:37	EPA 200.8 Rev 5.4	
Beryllium [He]	ND	0.00100	"	"	"	SCH				
Cadmium [HHe]	ND	0.00100	"	"	"	SCH				
Chromium [He]	ND	0.00100	"	"	"	SCH				
Cobalt [He]	0.00744	0.00100	"	"	"	SCH			"	
Lead [He]	ND	0.00100	"	"	"	SCH			"	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro bject Nun ect Mana	nber: Re		र			Reporte 10/02/2018	
				MW-15						
			180920)5-10 (W	/ater)		_			
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	ameters									
Chloride	10.6	2.00	mg/L	4.0	8118046	DLW	09/18/2018 16:26	09/20/2018 16:08	SM 4110B 2011	
Sulfate as SO4	30.5	20.0		"	"	DLW	"	"	"	
Fluoride	0.36	0.22	"	1.0	8125036	HAD	09/25/2018 13:00	09/25/2018 15:14	SM 4500-F D-2011	
Total Dissolved Solids	282	2	"	"	8113029	DLW	09/13/2018 12:40	09/17/2018 00:00	SM 2540 C-2011	
Metals by EPA 200 Series	s Methods ICP									
Barium	0.160	0.010	mg/L	1.0	8117029	MMG	09/17/2018 09:00	09/24/2018 10:40	EPA 200.7 Rev 4.4	
Boron	ND	0.050	"	"	"	MMG	"	09/21/2018 11:30	"	
Calcium	26.0	0.100		"	"	MMG				
Lithium	ND	0.050	"	"	"	MMG		09/27/2018 09:39	"	
Metals by EPA 200 Series	s Methods ICP	P-MS [Ana	lysis M	ode]						
Antimony [HHe]	ND	0.00200	mg/L	1.0	8117028	SCH	"	09/19/2018 18:45	EPA 200.8 Rev 5.4	
Beryllium [He]	ND	0.00100	"	"	"	SCH			"	
Cadmium [HHe]	ND	0.00100			"	SCH	"			
Chromium [He]	ND	0.00100	"	"	"	SCH				
Cobalt [He]	0.00932	0.00100		"	"	SCH			"	
Lead [He]	ND	0.00100		"	"	SCH			"	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro oject Nun ect Mana	nber: Re		र			Reporte 10/02/2018	
				CCR-2						
			18092	05-11 (W	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parar										
Chloride	2.20	0.500	mg/L	1.0	8118046	DLW	09/18/2018 16:26	09/20/2018 16:26	SM 4110B 2011	
Sulfate as SO4	6.32	5.00	"	"	"	DLW	"		"	
Fluoride	ND	0.22	"	"	8125039	HAD	09/25/2018 15:15	09/25/2018 16:03	SM 4500-F D-2011	
Total Dissolved Solids	136	1	"	"	8113029	DLW	09/13/2018 12:40	09/17/2018 00:00	SM 2540 C-2011	
Metals by EPA 200 Series	Methods ICF	P-AES								
Barium	0.079	0.010	mg/L	1.0	8117029	MMG	09/17/2018 09:00	09/24/2018 11:17	EPA 200.7 Rev 4.4	
Boron	ND	0.050	"	"	"	MMG	"			
Calcium	13.5	0.100	"	"	"	MMG	"	09/21/2018 13:34		
Lithium	ND	0.050	"	"	"	MMG		09/27/2018 09:52	•	
Metals by EPA 200 Series	Methods ICF	P-MS [Ana	lysis M	ode]						
Antimony [HHe]	ND	0.00200	mg/L	1.0	8117028	SCH		09/19/2018 18:53	EPA 200.8 Rev 5.4	
Beryllium [He]	ND	0.00100	"	"	"	SCH			"	
Cadmium [HHe]	ND	0.00100		"	"	SCH			"	
Chromium [He]	ND	0.00100	"	"	"	SCH			"	
Cobalt [He]	ND	0.00100		"	"	SCH		"	"	
Lead [He]	ND	0.00100		"	"	SCH			"	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro bject Nun ect Mana	nber: Re		ર			Reporte 10/02/2018	
				CCR-3						
			180920)5-12 (W	/ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parar	neters									
Chloride	5.32	2.00	mg/L	4.0	8118046	DLW	09/18/2018 16:26	09/20/2018 16:44	SM 4110B 2011	
Sulfate as SO4	56.2	20.0	"	"	"	DLW	"			
Fluoride	ND	0.22	"	1.0	8125039	HAD	09/25/2018 15:15	09/25/2018 16:03	SM 4500-F D-2011	
Total Dissolved Solids	314	2	"	"	8113029	DLW	09/13/2018 12:40	09/17/2018 00:00	SM 2540 C-2011	
Metals by EPA 200 Series	Methods ICI	P-AES								
Barium	0.072	0.010	mg/L	1.0	8117029	MMG	09/17/2018 09:00	09/24/2018 11:25	EPA 200.7 Rev 4.4	
Boron	ND	0.050	"	"	"	MMG			"	
Calcium	32.8	0.100	"	"	"	MMG	"	09/21/2018 13:51		
Lithium	0.058	0.050	"	"	"	MMG		09/27/2018 10:00		
Metals by EPA 200 Series	Methods ICI	P-MS [Ana	lysis M	ode]						
Antimony [HHe]	ND	0.00200	mg/L	1.0	8117028	SCH		09/19/2018 19:24	EPA 200.8 Rev 5.4	
Beryllium [He]	ND	0.00100		"	"	SCH		•	"	
Cadmium [HHe]	ND	0.00100		"	"	SCH			"	
Chromium [He]	ND	0.00100		"	"	SCH		•	"	
Cobalt [He]	ND	0.00100		"	"	SCH		•	"	
₋ead [He]	ND	0.00100		"	"	SCH			"	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro bject Nun ect Mana	nber: Re		ર			Reporte 10/02/2018	
				CCR-4						
			180920)5-13 (W	/ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Chloride	6.85	0.500	mg/L	1.0	8118046	DLW	09/18/2018 16:26	09/20/2018 17:01	SM 4110B 2011	
Sulfate as SO4	14.8	5.00		"	"	DLW	"	"	"	
Fluoride	ND	0.22	"	"	8125039	HAD	09/25/2018 15:15	09/25/2018 16:03	SM 4500-F D-2011	
Total Dissolved Solids	207	1		"	8113029	DLW	09/13/2018 12:40	09/17/2018 00:00	SM 2540 C-2011	
Metals by EPA 200 Series	Methods ICP	P-AES								
Barium	0.127	0.010	mg/L	1.0	8117029	MMG	09/17/2018 09:00	09/24/2018 11:28	EPA 200.7 Rev 4.4	
Boron	ND	0.050		"	"	MMG			"	
Calcium	22.7	0.100	"	"		MMG	"	09/21/2018 13:57	"	
_ithium	ND	0.050	"	"	"	MMG		09/27/2018 10:03	"	
Metals by EPA 200 Series	Methods ICF	P-MS [Ana	lysis M	ode]						
Antimony [HHe]	ND	0.00200	mg/L	1.0	8117028	SCH	"	09/19/2018 19:31	EPA 200.8 Rev 5.4	
Beryllium [He]	ND	0.00100		"	"	SCH			"	
Cadmium [HHe]	ND	0.00100		"	"	SCH			"	
Chromium [He]	ND	0.00100	"	"	"	SCH			"	
Cobalt [He]	0.00274	0.00100		"	"	SCH			"	
Lead [He]	ND	0.00100		"	"	SCH	"		"	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735			Pro bject Nun ect Mana	Reported: 10/02/2018 13:40						
				CCR-5						
			18092	05-14 (W	ater)					
Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Para	meters									
Chloride	9.44	0.500	mg/L	1.0	8118046	DLW	09/18/2018 16:26	09/20/2018 17:55	SM 4110B 2011	
Sulfate as SO4	807	500	"	100.0	"	DLW	"	09/21/2018 11:16		
Fluoride	ND	0.22	"	1.0	8125039	HAD	09/25/2018 15:15	09/25/2018 16:03	SM 4500-F D-2011	
Total Dissolved Solids	1673	1	"	"	8113029	DLW	09/13/2018 12:40	09/17/2018 00:00	SM 2540 C-2011	
Metals by EPA 200 Series	Methods ICP	-AES								
Barium	0.039	0.010	mg/L	1.0	8117029	MMG	09/17/2018 09:00	09/24/2018 11:31	EPA 200.7 Rev 4.4	
Boron	ND	0.050	"		"	MMG			"	
Calcium	181	0.500	"	5.0	"	MMG		09/24/2018 11:54	"	
Lithium	ND	0.050	"	1.0	"	MMG	"	09/27/2018 10:05		
Metals by EPA 200 Series	Methods ICP	-MS [Ana	lysis M	ode]						
Antimony [HHe]	ND	0.00200	mg/L	1.0	8117028	SCH	"	09/19/2018 20:03	EPA 200.8 Rev 5.4	
Beryllium [He]	ND	0.00100	"	"	"	SCH			"	
Cadmium [HHe]	ND	0.00100	"	"	"	SCH	"		"	
Chromium [He]	ND	0.00100	"		"	SCH			"	
Cobalt [He]	0.0368	0.00100	"		"	SCH	"	•		
Lead [He]	ND	0.00100	"		"	SCH	"			



Red Hills Power Plat 2391 Pensacola Rd. Ackerman MS, 3973	- -	Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward									Reported: 10/02/2018 13:40			
Classical Chemistry Parameters - Quality Control														
Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers			
Batch 8l13028 - Default Prep G	enChem													
Blank (8I13028-BLK1)														
Total Dissolved Solids	9/17/18 0:00	ND	1	mg/L										
LCS (8I13028-BS1)														
Total Dissolved Solids	9/17/18 0:00	98	1	mg/L	104		94.2	82.2-100						
LCS Dup (8I13028-BSD1)														
Total Dissolved Solids	9/17/18 0:00	92	1	mg/L	104		88.5	82.2-100	6.32	15				
Duplicate (8I13028-DUP1)			Source: 1809	195-01										
Total Dissolved Solids	9/17/18 0:00	36	1	mg/L		34			5.71	5	RPD04			
Batch 8l13029 - Default Prep G	GenChem													
Blank (8I13029-BLK1)														
Total Dissolved Solids	9/17/18 0:00	ND	1	mg/L										
LCS (8I13029-BS1)														
Total Dissolved Solids	9/17/18 0:00	96	1	mg/L	104		92.3	82.2-100						
LCS Dup (8I13029-BSD1)														
Total Dissolved Solids	9/17/18 0:00	96	1	mg/L	104		92.3	82.2-100	0.00	15				
Duplicate (8I13029-DUP1)			Source: 1809	205-14										
Total Dissolved Solids	9/17/18 0:00	1678	1	mg/L		1673			0.298	5				
Duplicate (8I13029-DUP2)			Source: 1809	205-08										
Total Dissolved Solids	9/17/18 0:00	221	1	mg/L		224			1.35	5				



Ackerman MS, 39735	Project Manager: Jim Ward	10/02/2018 13:40
Red Hills Power Plant 2391 Pensacola Rd.	Project: Red Hills CCR Project Number: Red Hills	Reported:

					Spike	Source		%REC		RPD	
Analyte	Analyzed	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch 8I18046 - Default Prep G	GenChem										
Blank (8l18046-BLK1)											
Chloride	9/18/18 14:42	ND	0.500	mg/L							
Sulfate as SO4	9/18/18 14:42	ND	5.00								
Blank (8l18046-BLK2)											
Chloride	9/20/18 10:21	ND	0.500	mg/L							
Sulfate as SO4	9/20/18 10:21	ND	5.00								
LCS (8I18046-BS1)											
Chloride	9/18/18 14:06	5.08	0.500	mg/L	5.00		102	85.4-110			
Sulfate as SO4	9/18/18 14:06	4.89	5.00		5.00		97.8	83.3-120			
LCS (8118046-BS2)											
Chloride	9/20/18 9:46	8.00	0.500	mg/L	8.00		100	85.4-110			
Sulfate as SO4	9/20/18 9:46	7.92	5.00		8.00		99.0	83.3-120			
LCS Dup (8I18046-BSD1)											
Chloride	9/18/18 14:24	5.50	0.500	mg/L	5.00		110	85.4-110	8.11	20	
Sulfate as SO4	9/18/18 14:24	5.27	5.00	•	5.00		105	83.3-120	7.44	20	
LCS Dup (8I18046-BSD2)											
Chloride	9/20/18 10:04	8.01	0.500	mg/L	8.00		100	85.4-110	0.200	20	
Sulfate as SO4	9/20/18 10:04	7.57	5.00		8.00		94.7	83.3-120	4.48	20	
Duplicate (8I18046-DUP1)			Source: 1809	205-07							
Chloride	9/18/18 20:40	13.7	0.500	mg/L		13.8			0.944	20	
Sulfate as SO4	9/18/18 20:40	9.08	5.00			7.70			16.4	20	
Duplicate (8I18046-DUP2)			Source: 1809	205-13							
Chloride	9/20/18 17:19	6.64	0.500	mg/L		6.85			3.12	20	
Sulfate as SO4	9/20/18 17:19	16.0	5.00			14.8			8.01	20	



Red Hills Power Pl 2391 Pensacola Re Ackerman MS, 397	I Pensacola Rd. Project Number: Red Hills								Reported: 10/02/2018 13:40			
Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers	
Batch 8I18046 - Default Prep	GenChem											
Matrix Spike (8l18046-MS1)			Source: 18092	205-07								
Chloride	9/18/18 20:58	49.6	2.00	mg/L	40.0	13.8	89.4	79-119				
Sulfate as SO4	9/18/18 20:58	27.8	20.0		40.0	7.70	50.3	43.5-124				
Matrix Spike Dup (8l18046-M	ISD1)		Source: 18092	205-07								
Chloride	9/18/18 21:16	52.5	2.00	mg/L	40.0	13.8	96.7	79-119	5.68	20		
Sulfate as SO4	9/18/18 21:16	30.8	20.0		40.0	7.70	57.6	43.5-124	10.1	20		
Batch 8l25036 - Default Prep	GenChem											
Blank (8l25036-BLK1)												
Fluoride	9/25/18 15:14	ND	0.22	mg/L								

LCS Dup (8I25036-BSD1)

Duplicate (8I25036-DUP1)

LCS (8I25036-BS1)

Fluoride

Fluoride

Fluoride

Batch 8I25039 - Default Prep GenChem

9/25/18 15:14

9/25/18 15:14

9/25/18 15:14

0.83

0.83

0.50

0.22

0.22

0.22

Source: 1809205-01

Blank (8/25039-BLK1) Fluoride 9/25/18 16:03 ND 0.22 mg/L

mg/L

mg/L

mg/L

0.800

0.800

0.46

104

104

75-125

75-125

0.00

7.11

30

35



Red Hills Power Plan 2391 Pensacola Rd. Ackerman MS, 3973		P Pr		Reported: 10/02/2018 13:40							
	Cla	ssical Che	mistry	Param	eters -	Quality	y Cont	rol			
Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 8l25039 - Default Prep G	enChem										
LCS (8I25039-BS1)											
Fluoride	9/25/18 16:03	0.80	0.22	mg/L	0.800		100	75-125			
LCS Dup (8I25039-BSD1)											
Fluoride	9/25/18 16:03	0.85	0.22	mg/L	0.800		106	75-125	5.63	30	
Duplicate (8I25039-DUP1)			Source: 1809	205-14							
Fluoride	9/25/18 16:03	0.07	0.22	mg/L		0.07				35	



Red Hills Power Plant	Project: Red Hills CCR	
2391 Pensacola Rd.	Project Number: Red Hills	Reported:
Ackerman MS, 39735	Project Manager: Jim Ward	10/02/2018 13:40

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 8117029 - EPA 200.2 DCN	1017 Rev 8										
Blank (8l17029-BLK1)											
Barium	9/24/18 10:05	ND	0.010	mg/L							
Boron	9/21/18 10:15	ND	0.050	"							
Calcium	9/21/18 10:15	ND	0.100	"							
Lithium	9/27/18 9:04	ND	0.050								
LCS (8I17029-BS1)											
Barium	9/24/18 11:38	0.194	0.010	mg/L	0.200		97.0	85-115			
Boron	9/21/18 10:19	0.179	0.050		0.200		89.6	85-115			
Calcium	9/21/18 11:46	0.188	0.100	"	0.200		94.1	85-115			
Lithium	9/27/18 9:06	0.204	0.050	"	0.200		102	85-115			
LCS Dup (8I17029-BSD1)											
Barium	9/24/18 11:40	0.197	0.010	mg/L	0.200		98.6	85-115	1.57	20	
Boron	9/21/18 10:22	0.173	0.050	"	0.200		86.3	85-115	3.78	20	
Calcium	9/21/18 11:49	0.183	0.100	"	0.200		91.3	85-115	2.97	20	
Lithium	9/27/18 9:09	0.205	0.050		0.200		102	85-115	0.292	20	
Duplicate (8I17029-DUP1)			Source: 1809	205-01							
Calcium	9/21/18 11:54	68.5	0.200	mg/L		70.6			2.92	20	QD-10
Duplicate (8I17029-DUP2)			Source: 1809	205-11							
Calcium	9/21/18 13:40	13.3	0.100	mg/L		13.5			1.19	20	QD-10
Matrix Spike (8l17029-MS1)			Source: 1809	205-01							
Barium	9/24/18 9:49	0.351	0.010	mg/L	0.200	0.191	79.8	70-130			
Boron	9/21/18 10:34	0.192	0.050		0.200	0.016	88.1	70-130			
Lithium	9/27/18 9:14	0.315	0.050		0.200	0.101	107	70-130			



Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward

Reported: 10/02/2018 13:40

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 8117029 - EPA 20	0.2 DCN 1017 Rev 8										
Matrix Spike (8I17029-N	1S2)		Source: 1809	205-11							
Barium	9/24/18 11:19	0.239	0.010	mg/L	0.200	0.079	80.1	70-130			
Boron	9/24/18 11:19	0.156	0.050		0.200	0.013	71.6	70-130			
Lithium	9/27/18 9:55	0.215	0.050		0.200	0.012	101	70-130			
Matrix Spike Dup (8l170	029-MSD1)		Source: 1809	205-01							
Barium	9/24/18 10:18	0.349	0.010	mg/L	0.200	0.191	78.9	70-130	0.515	20	
Boron	9/21/18 10:39	0.191	0.050	"	0.200	0.016	87.7	70-130	0.450	20	
Lithium	9/27/18 9:16	0.311	0.050	"	0.200	0.101	105	70-130	1.36	20	
Matrix Spike Dup (8l170	029-MSD2)		Source: 1809	205-11							
Barium	9/24/18 11:22	0.240	0.010	mg/L	0.200	0.079	80.6	70-130	0.434	20	
Boron	9/24/18 11:22	0.157	0.050		0.200	0.013	72.0	70-130	0.486	20	
Lithium	9/27/18 9:57	0.223	0.050		0.200	0.012	106	70-130	3.67	20	



Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward

Reported: 10/02/2018 13:40

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 8I17028 - EPA 200.2 DCN	1017 Rev 8										
Blank (8I17028-BLK1)											
Antimony [HHe]	9/19/18 14:44	ND	0.00200	mg/L							
Beryllium [He]	9/19/18 14:44	ND	0.00100								
Cadmium [HHe]	9/19/18 14:44	ND	0.00100								
Chromium [He]	9/19/18 14:44	ND	0.00100								
Cobalt [He]	9/19/18 14:44	ND	0.00100								
Lead [He]	9/19/18 14:44	ND	0.00100								
LCS (8I17028-BS1)											
Antimony [HHe]	9/19/18 14:52	0.113	0.00200	mg/L	0.100		113	85-115			
Beryllium [He]	9/19/18 14:52	0.108	0.00100		0.100		108	85-115			
Cadmium [HHe]	9/19/18 14:52	0.106	0.00100		0.100		106	85-115			
Chromium [He]	9/19/18 14:52	0.108	0.00100		0.100		108	85-115			
Cobalt [He]	9/19/18 14:52	0.102	0.00100		0.100		102	85-115			
Lead [He]	9/19/18 14:52	0.104	0.00100		0.100		104	85-115			
LCS Dup (8I17028-BSD1)											
Antimony [HHe]	9/19/18 15:00	0.112	0.00200	mg/L	0.100		112	85-115	0.754	20	
Beryllium [He]	9/19/18 15:00	0.107	0.00100		0.100		107	85-115	1.11	20	
Cadmium [HHe]	9/19/18 15:00	0.105	0.00100		0.100		105	85-115	1.48	20	
Chromium [He]	9/19/18 15:00	0.107	0.00100		0.100		107	85-115	0.941	20	
Cobalt [He]	9/19/18 15:00	0.101	0.00100		0.100		101	85-115	1.32	20	
Lead [He]	9/19/18 15:00	0.103	0.00100		0.100		103	85-115	0.735	20	
Matrix Spike (8l17028-MS1)			Source: 18092	205-01							
Antimony [HHe]	9/19/18 16:48	0.233	0.00200	mg/L	0.200	ND	117	70-130			
Beryllium [He]	9/19/18 16:48	0.181	0.00100		0.200	0.003	89.1	70-130			
Cadmium [HHe]	9/19/18 16:48	0.208	0.00100		0.200	0.001	103	70-130			
Chromium [He]	9/19/18 16:48	0.199	0.00100		0.200	0.0002	99.6	70-130			
Cobalt [He]	9/19/18 16:48	0.198	0.00100		0.200	0.018	90.3	70-130			
Lead [He]	9/19/18 16:48	0.213	0.00100		0.200	0.0003	106	70-130			



Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward

Reported: 10/02/2018 13:40

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 8I17028 - EPA 200.2	2 DCN 1017 Rev 8										
Matrix Spike (8I17028-MS	2)		Source: 18092	205-11							
Antimony [HHe]	9/19/18 19:00	0.227	0.00200	mg/L	0.200	ND	114	70-130			
Beryllium [He]	9/19/18 19:00	0.190	0.00100		0.200	ND	95.0	70-130			
Cadmium [HHe]	9/19/18 19:00	0.207	0.00100		0.200	0.00001	104	70-130			
Chromium [He]	9/19/18 19:00	0.214	0.00100		0.200	0.0002	107	70-130			
Cobalt [He]	9/19/18 19:00	0.203	0.00100		0.200	0.0004	101	70-130			
Lead [He]	9/19/18 19:00	0.210	0.00100		0.200	ND	105	70-130			
Matrix Spike Dup (8I1702)	8-MSD1)		Source: 18092	05-01							
Antimony [HHe]	9/19/18 16:56	0.237	0.00200	mg/L	0.200	ND	119	70-130	1.61	20	
Beryllium [He]	9/19/18 16:56	0.183	0.00100		0.200	0.003	90.3	70-130	1.34	20	
Cadmium [HHe]	9/19/18 16:56	0.210	0.00100		0.200	0.001	104	70-130	1.19	20	
Chromium [He]	9/19/18 16:56	0.201	0.00100		0.200	0.0002	101	70-130	0.987	20	
Cobalt [He]	9/19/18 16:56	0.201	0.00100		0.200	0.018	91.9	70-130	1.58	20	
Lead [He]	9/19/18 16:56	0.221	0.00100		0.200	0.0003	110	70-130	3.79	20	
Matrix Spike Dup (8I1702	8-MSD2)		Source: 18092	205-11							
Antimony [HHe]	9/19/18 19:08	0.228	0.00200	mg/L	0.200	ND	114	70-130	0.590	20	
Beryllium [He]	9/19/18 19:08	0.193	0.00100		0.200	ND	96.7	70-130	1.81	20	
Cadmium [HHe]	9/19/18 19:08	0.208	0.00100		0.200	0.00001	104	70-130	0.354	20	
Chromium [He]	9/19/18 19:08	0.214	0.00100		0.200	0.0002	107	70-130	0.195	20	
Cobalt [He]	9/19/18 19:08	0.204	0.00100		0.200	0.0004	102	70-130	0.225	20	
Lead [He]	9/19/18 19:08	0.220	0.00100		0.200	ND	110	70-130	4.41	20	



Red Hills Power Plant	Project: Red Hills CCR	
2391 Pensacola Rd.	Project Number: Red Hills	Reported:
Ackerman MS, 39735	Project Manager: Jim Ward	10/02/2018 13:40

Certified Analyses Included in this Report

Analyte	Certification Code	
EPA 200.7 Rev 4.4 in Wa	er	
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	
Phosphorus	C01,C02	
EPA 200.8 Rev 5.4 in Wa	er	
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	



Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735		Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward	Reported: 10/02/2018 13:40
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		
SM 2540 C-2011 in Water			
Total Dissolved Solids	C01,C02		
SM 4110B 2011 in Water			
Chloride	C01,C02		
Sulfate as SO4	C01,C02		
Nitrate as N	C01,C02		

Only compounds included in this list are associated with accredited analyses



Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward

Reported: 10/02/2018 13:40

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	LA Environmental Lab Accreditation Program	01960	06/30/2019
C02	The NELAC Institute (NELAP)	TNI01397	06/30/2019
C03	Ms Dept of Health (Coliform)	MS00021	12/31/2018
C04	Ms Dept of Health (Drinking Water Certificate)	MS00021	12/31/2018
C05	Ms DEQ Lead Firm Certification	PBF-00000028	02/25/2019
C06	MsDEQ Asbestos Inspector : C.D. Bingham	ABI-00001348	03/08/2019
C07	MsDEQ Air Monitor : C.D. Bingham	AM-011572	03/09/2019
C08	MsDEQ Asbestos Inspector: C. W. Meins	ABI-00001821	09/15/2018
C09	MsDEQ Air Monitor : C.W. Meins	AM-011189	03/09/2019
C12	MsDEQ Asbestos Inspector : H.P. Howell	ABI-00001345	03/08/2019
C14	MsDEQ Lead Paint Inspector : C.D. Bingham	PBI-00003690	03/19/2019
C15	MsDEQ Lead Paint Inspector : C.W. Meins	PBI-00001740	03/19/2019

Report Definitions

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



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

Red Hills Power Plant 2391 Pensacola Rd. Ackerman MS, 39735 Project: Red Hills CCR Project Number: Red Hills Project Manager: Jim Ward

Reported: 10/02/2018 13:40

Analyst Initials Key

FullName	Initials
Barbara K. McMillan	BKM
Dortha L. Wells	DLW
Heather A Denham	HAD
Harry P. Howell	HPH
Michelle M Gallegos	MMG
Sarah E. Tomek	SET
Samantha C. Hall	SCH
Tina Tomek	TPT

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Adequate Sample for	Analysis Requested	Yes 🔀 No		
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Chain of Custody Fo Chain of Custody F Field Sheets/Special Samples Missing on Sample Container La Samples Received Wi Dept. Manager Notifi Does work order mee Note: Samples that de Log. Client Contacted Client Instructions: C Comments:	orm Properly Relinquishe Instructions Included COC or From Cooler bels Match COC thin Holding Time ed of Rush/Short Holding T t Micro Methods sample ac o not meet acceptance criter	d Yes No Yes No Yes No Yes No Yes No Yes No Yes No Yes No Yes No Yes Date/ Date/	oN/A_X NoN/A_X n Yes X No mented in the Sam Time be qualified)	-

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Page 1 of 1



October 01, 2018

Harry Howell Micro Methods Laboratory, Inc. P. O. Box 1410 Ocean Springs, MS 39566

RE: Project: 1809205 Pace Project No.: 2084043

Dear Harry Howell:

Enclosed are the analytical results for sample(s) received by the laboratory on September 14, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

KauntBrour

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

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

 Project:
 1809205

 Pace Project No.:
 2084043

Pennsylvania Certification IDs

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** 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



SAMPLE SUMMARY

 Project:
 1809205

 Pace Project No.:
 2084043

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2084043001	1809205-01	Water	09/11/18 09:55	09/14/18 10:20
2084043002	1809205-02	Water	09/11/18 09:09	09/14/18 10:20
2084043003	1809205-03	Water	09/11/18 07:09	09/14/18 10:20
2084043004	1809205-04	Water	09/11/18 11:09	09/14/18 10:20
2084043005	1809205-05	Water	09/11/18 13:26	09/14/18 10:20
2084043006	1809205-06	Water	09/11/18 14:29	09/14/18 10:20
2084043007	1809205-07	Water	09/11/18 07:00	09/14/18 10:20
2084043008	1809205-08	Water	09/10/18 00:00	09/14/18 10:20
2084043009	1809205-09	Water	09/10/18 08:01	09/14/18 10:20
2084043010	1809205-10	Water	09/10/18 08:41	09/14/18 10:20
2084043011	1809205-11	Water	09/10/18 14:40	09/14/18 10:20
2084043012	1809205-12	Water	09/10/18 13:36	09/14/18 10:20
2084043013	1809205-13	Water	09/10/18 16:50	09/14/18 10:20
2084043014	1809205-14	Water	09/10/18 11:58	09/14/18 10:20



SAMPLE ANALYTE COUNT

Project: 1809205 Pace Project No.: 2084043

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2084043001	1809205-01	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
2084043002	1809205-02	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
2084043003	1809205-03	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
2084043004	1809205-04	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
2084043005	1809205-05	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
2084043006	1809205-06	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
2084043007	1809205-07	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
2084043008	1809205-08	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
2084043009	1809205-09	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
2084043010	1809205-10	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
2084043011	1809205-11	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
2084043012	1809205-12	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
2084043013	1809205-13	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
2084043014	1809205-14	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

 Project:
 1809205

 Pace Project No.:
 2084043

Method: EPA 903.1

Description:903.1 Radium 226Client:Micro Methods Laboratory, Inc.Date:October 01, 2018

General Information:

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

Hold Time:

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

Method Blank:

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

Laboratory Control Spike:

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

Matrix Spikes:

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

Additional Comments:



PROJECT NARRATIVE

 Project:
 1809205

 Pace Project No.:
 2084043

Method: EPA 904.0

Description:904.0 Radium 228Client:Micro Methods Laboratory, Inc.Date:October 01, 2018

General Information:

14 samples were analyzed for EPA 904.0. 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.





ANALYTICAL RESULTS - RADIOCHEMISTRY

Sample: 1809205-01	Lab ID: 20840430	Collected: 09/11/18 09:55	Received:	09/14/18 10:20	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Comments: •						
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226		0.759 ± 0.626 (0.874) C:NA T:93%	pCi/L	09/28/18 12:51	1 13982-63-3	
Radium-228	EPA 904.0	0.788 ± 0.413 (0.725) C:81% T:78%	pCi/L	09/27/18 11:52	2 15262-20-1	
Sample: 1809205-02 PWS:	Lab ID: 20840430 Site ID:	02 Collected: 09/11/18 09:09 Sample Type:	Received:	09/14/18 10:20	Matrix: Water	
Comments: • Upon receipt a <2 for radiocher		acid were added to the sample to m	neet the sam	ple preservation re	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226		1.06 ± 0.678 (0.776)	pCi/L	09/28/18 12:51	1 13982-63-3	
Radium-228	EPA 904.0	C:NA T:78% 1.11 ± 0.425 (0.598) C:79% T:76%	pCi/L	09/27/18 11:53	3 15262-20-1	
Sample: 1809205-03 PWS: Comments: • Upon receipt a	Lab ID: 20840430 Site ID:	OG Collected: 09/11/18 07:09 Sample Type:	Received:	09/14/18 10:20	Matrix: Water	
		acid were added to the sample to m	neet the sam	ple preservation re	quirement of pH	
Comments: Copon receipt a <2 for radiocher Parameters		acid were added to the sample to m Act ± Unc (MDC) Carr Trac	neet the sam Units	ple preservation re Analyzed	quirement of pH CAS No.	Qual
<2 for radiocher	nistry analysis. Method EPA 903.1	Act ± Unc (MDC) Carr Trac 1.07 ± 0.654 (0.728)			CAS No.	Qual
<2 for radiocher Parameters	nistry analysis. <u>Method</u> EPA 903.1 EPA 904.0	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
<2 for radiocher Parameters Radium-226 Radium-228	nistry analysis. <u>Method</u> EPA 903.1 EPA 904.0	Act ± Unc (MDC) Carr Trac 1.07 ± 0.654 (0.728) C:NA T:84% 0.675 ± 0.390 (0.699) C:81% T:72%	Units pCi/L pCi/L	Analyzed 09/28/18 12:51 09/27/18 11:53	CAS No.	Qual
<2 for radiocher Parameters Radium-226 Radium-228 Sample: 1809205-04	nistry analysis. Method EPA 903.1 EPA 904.0	Act ± Unc (MDC) Carr Trac 1.07 ± 0.654 (0.728) C:NA T:84% 0.675 ± 0.390 (0.699) C:81% T:72%	Units pCi/L pCi/L	Analyzed 09/28/18 12:51 09/27/18 11:53	CAS No. 1 13982-63-3 3 15262-20-1	Qual
<2 for radiocher Parameters Radium-226 Radium-228 Sample: 1809205-04 PWS:	Method EPA 903.1 EPA 904.0 Lab ID: 20840430 Site ID: the laboratory, 2.5 mls of nitric	Act ± Unc (MDC) Carr Trac 1.07 ± 0.654 (0.728) C:NA T:84% 0.675 ± 0.390 (0.699) C:81% T:72% 004 Collected: 09/11/18 11:09	Units pCi/L pCi/L Received:	Analyzed 09/28/18 12:51 09/27/18 11:53 09/14/18 10:20	CAS No. 1 13982-63-3 3 15262-20-1 Matrix: Water	Qual
<2 for radiocher Parameters Radium-226 Radium-228 Sample: 1809205-04 PWS: Comments: • Upon receipt a	Method EPA 903.1 EPA 904.0 Lab ID: 20840430 Site ID: the laboratory, 2.5 mls of nitric	Act ± Unc (MDC) Carr Trac 1.07 ± 0.654 (0.728) C:NA T:84% 0.675 ± 0.390 (0.699) C:81% T:72% 104 Collected: 09/11/18 11:09 Sample Type:	Units pCi/L pCi/L Received:	Analyzed 09/28/18 12:51 09/27/18 11:53 09/14/18 10:20	CAS No. 1 13982-63-3 3 15262-20-1 Matrix: Water	Qual
<pre><2 for radiocher Parameters Radium-226 Radium-228 Sample: 1809205-04 PWS: Comments: • Upon receipt a <2 for radiocher</pre>	nistry analysis. Method EPA 903.1 EPA 904.0 Lab ID: 20840430 Site ID: the laboratory, 2.5 mls of nitric nistry analysis. Method	Act ± Unc (MDC) Carr Trac 1.07 ± 0.654 (0.728) C:NA T:84% 0.675 ± 0.390 (0.699) C:81% T:72% 004 Collected: 09/11/18 11:09 Sample Type: acid were added to the sample to m Act ± Unc (MDC) Carr Trac 0.0652 ± 0.482 (0.920)	Units pCi/L pCi/L Received:	Analyzed 09/28/18 12:51 09/27/18 11:53 09/14/18 10:20 ple preservation re	CAS No. 1 13982-63-3 3 15262-20-1 Matrix: Water quirement of pH CAS No.	
<pre><2 for radiocher Parameters Radium-226 Radium-228 Sample: 1809205-04 PWS: Comments: • Upon receipt a <2 for radiocher Parameters Radium-226</pre>	Method EPA 903.1 EPA 904.0 Lab ID: 20840430 Site ID: At the laboratory, 2.5 mls of nitric nistry analysis. Method EPA 903.1	Act ± Unc (MDC) Carr Trac 1.07 ± 0.654 (0.728) C:NA T:84% 0.675 ± 0.390 (0.699) C:81% T:72% 004 Collected: 09/11/18 11:09 Sample Type: acid were added to the sample to m Act ± Unc (MDC) Carr Trac	Units pCi/L pCi/L Received: neet the sam Units	Analyzed 09/28/18 12:51 09/27/18 11:53 09/14/18 10:20 ple preservation re Analyzed	CAS No. 1 13982-63-3 3 15262-20-1 Matrix: Water quirement of pH CAS No. 1 13982-63-3	
<pre><2 for radiocher Parameters Radium-226 Radium-228 Sample: 1809205-04 PWS: Comments: • Upon receipt a <2 for radiocher Parameters</pre>	Method EPA 903.1 EPA 904.0 Lab ID: 20840430 Site ID: At the laboratory, 2.5 mls of nitric nistry analysis. Method EPA 903.1	Act \pm Unc (MDC) Carr Trac 1.07 \pm 0.654 (0.728) C:NA T:84% 0.675 \pm 0.390 (0.699) C:81% T:72% 004 Collected: 09/11/18 11:09 Sample Type: acid were added to the sample to m Act \pm Unc (MDC) Carr Trac 0.0652 \pm 0.482 (0.920) C:NA T:96% 0.516 \pm 0.348 (0.662) C:79% T:83%	Units pCi/L pCi/L Received: neet the sam Units pCi/L pCi/L	Analyzed 09/28/18 12:51 09/27/18 11:53 09/14/18 10:20 09/14/18 10:20 op/e preservation re Analyzed 09/28/18 12:51 09/27/18 11:53	CAS No. 1 13982-63-3 3 15262-20-1 Matrix: Water quirement of pH CAS No. 1 13982-63-3	
<pre><2 for radiocher Parameters Radium-226 Radium-228 Sample: 1809205-04 PWS: Comments: • Upon receipt a <2 for radiocher Parameters Radium-226 Radium-228 Sample: 1809205-05 PWS: Comments: • Upon receipt a</pre>	Method EPA 903.1 EPA 904.0 Lab ID: 20840430 Site ID: the laboratory, 2.5 mls of nitric nistry analysis. Method EPA 903.1 EPA 904.0 Lab ID: 20840430 Site ID: the laboratory, 2.5 mls of nitric	Act \pm Unc (MDC) Carr Trac 1.07 \pm 0.654 (0.728) C:NA T:84% 0.675 \pm 0.390 (0.699) C:81% T:72% 004 Collected: 09/11/18 11:09 Sample Type: acid were added to the sample to rr Act \pm Unc (MDC) Carr Trac 0.0652 \pm 0.482 (0.920) C:NA T:96% 0.516 \pm 0.348 (0.662) C:79% T:83% 005 Collected: 09/11/18 13:26	Units pCi/L pCi/L Received: meet the sam Units pCi/L pCi/L Received:	Analyzed 09/28/18 12:51 09/27/18 11:53 09/14/18 10:20 09/14/18 10:20 Analyzed 09/28/18 12:51 09/27/18 11:53	CAS No. 1 13982-63-3 3 15262-20-1 Matrix: Water quirement of pH CAS No. 1 13982-63-3 3 15262-20-1 Matrix: Water	
<pre><2 for radiocher Parameters Radium-226 Radium-228 Sample: 1809205-04 PWS: Comments: • Upon receipt a <2 for radiocher Parameters Radium-226 Radium-228 Sample: 1809205-05 PWS:</pre>	Method EPA 903.1 EPA 904.0 Lab ID: 20840430 Site ID: the laboratory, 2.5 mls of nitric nistry analysis. Method EPA 903.1 EPA 904.0 Lab ID: 20840430 Site ID: the laboratory, 2.5 mls of nitric	Act \pm Unc (MDC) Carr Trac 1.07 \pm 0.654 (0.728) C:NA T:84% 0.675 \pm 0.390 (0.699) C:81% T:72% 004 Collected: 09/11/18 11:09 Sample Type: acid were added to the sample to m Act \pm Unc (MDC) Carr Trac 0.0652 \pm 0.482 (0.920) C:NA T:96% 0.516 \pm 0.348 (0.662) C:79% T:83% 005 Collected: 09/11/18 13:26 Sample Type:	Units pCi/L pCi/L Received: meet the sam Units pCi/L pCi/L Received:	Analyzed 09/28/18 12:51 09/27/18 11:53 09/14/18 10:20 09/14/18 10:20 Analyzed 09/28/18 12:51 09/27/18 11:53	CAS No. 1 13982-63-3 3 15262-20-1 Matrix: Water quirement of pH CAS No. 1 13982-63-3 3 15262-20-1 Matrix: Water	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Pace Project No	1809205 b.: 2084043						
Sample: 18092		Lab ID: 20840430 Site ID:	005 Collected: 09/11/18 13 Sample Type:	:26 Received:	09/14/18 10:20	Matrix: Water	
	Jpon receipt at the I 2 for radiochemistry		acid were added to the sample	to meet the sam	ple preservation rec	quirement of pH	
Para	ameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-228		EPA 904.0	0.651 ± 0.401 (0.748) C:78% T:80%	pCi/L	09/27/18 11:53	15262-20-1	
Sample: 18092 PWS:	05-06	Lab ID: 20840430 Site ID:	006 Collected: 09/11/18 14 Sample Type:	:29 Received:	09/14/18 10:20	Matrix: Water	
	Jpon receipt at the I 2 for radiochemistry		acid were added to the sample	to meet the sam	ple preservation rec	quirement of pH	
Para	ameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226		EPA 903.1	0.469 ± 0.419 (0.539)	pCi/L	09/28/18 12:51	13982-63-3	
Radium-228		EPA 904.0	C:NA T:86% 0.255 ± 0.318 (0.674) C:78% T:84%	pCi/L	09/27/18 11:53	15262-20-1	
Sample: 18092 PWS:	205-07	Lab ID: 20840430 Site ID:	007 Collected: 09/11/18 07: Sample Type:	:00 Received:	09/14/18 10:20	Matrix: Water	
	Jpon receipt at the I 2 for radiochemistry		acid were added to the sample	to meet the sam	ple preservation rec	quirement of pH	
Para	ameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226		EPA 903.1	0.235 ± 0.555 (1.03) C:NA T:88%	pCi/L	09/28/18 19:13	13982-63-3	
Radium-228		EPA 904.0	0.394 ± 0.325 (0.642) C:81% T:75%	pCi/L	09/27/18 11:53	15262-20-1	
Sample: 18092 PWS:	205-08	Lab ID: 20840430 Site ID:	008 Collected: 09/10/18 00 Sample Type:	:00 Received:	09/14/18 10:20	Matrix: Water	
	Jpon receipt at the I 2 for radiochemistry		acid were added to the sample	to meet the sam	ple preservation rec	quirement of pH	
Para	ameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226		EPA 903.1	0.173 ± 0.586 (1.13)	pCi/L	09/28/18 19:13	13982-63-3	
Radium-228		EPA 904.0	C:NA T:82% 0.160 ± 0.299 (0.657) C:79% T:80%	pCi/L	09/27/18 11:54	15262-20-1	
Sample: 18092 PWS:	05-09	Lab ID: 20840430 Site ID:	009 Collected: 09/10/18 08 Sample Type:	:01 Received:	09/14/18 10:20	Matrix: Water	
	Jpon receipt at the l 2 for radiochemistry		acid were added to the sample	to meet the sam	ple preservation rec	quirement of pH	
Para	ameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226		EPA 903.1	0.922 ± 0.795 (1.18)	pCi/L	09/28/18 19:13	13982-63-3	
Radium-228		EPA 904.0	C:NA T:87% 0.566 ± 0.342 (0.606) C:75% T:77%	pCi/L	09/27/18 11:54	15262-20-1	



ANALYTICAL RESULTS - RADIOCHEMISTRY

Data Designt Na . 0004040	5					
Pace Project No.: 2084043 Sample: 1809205-10 PWS:	3 Lab ID: 20840430 Site ID:	10 Collected: 09/10/18 08:41 Sample Type:	Received:	09/14/18 10:20 M	Matrix: Water	
Comments: • Upon receipt a <2 for radioche		acid were added to the sample to m	neet the sam	ple preservation rec	quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226		0.659 ± 0.808 (1.33)	pCi/L	09/28/18 19:13	13982-63-3	
Radium-228	EPA 904.0	C:NA T:77% 0.0410 ± 0.335 (0.775) C:75% T:75%	pCi/L	09/27/18 15:07	15262-20-1	
Sample: 1809205-11 PWS:	Lab ID: 20840430 Site ID:	Sample Type:			Matrix: Water	
Comments: • Upon receipt a <2 for radioche		acid were added to the sample to m	neet the sam	ple preservation rec	juirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226		0.265 ± 0.625 (1.16)	pCi/L	09/28/18 19:13	13982-63-3	
Radium-228	EPA 904.0	C:NA T:82% -0.357 ± 0.327 (0.851) C:78% T:69%	pCi/L	09/27/18 15:07	15262-20-1	
Sample: 1809205-12 PWS: Comments: • Upon receipt a <2 for radiocher		12 Collected: 09/10/18 13:36 Sample Type: acid were added to the sample to m			Matrix: Water quirement of pH	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226		0.920 ± 0.722 (1.00)	pCi/L	09/28/18 19:13	13982-63-3	
Radium-228	EPA 904.0	C:NA T:81% 0.666 ± 0.409 (0.755)	pCi/L	09/27/18 15:08	15262-20-1	
		С:75% Т:76%				
Sample: 1809205-13 PWS:	Lab ID: 20840430 Site ID:		Received:	09/14/18 10:20 M	Matrix: Water	
PWS:	Lab ID: 20840430 Site ID: at the laboratory, 2.5 mls of nitric a	13 Collected: 09/10/18 16:50				
PWS: Comments: • Upon receipt a	Lab ID: 20840430 Site ID: at the laboratory, 2.5 mls of nitric a	13 Collected: 09/10/18 16:50 Sample Type:				Qual
PWS: Comments: • Upon receipt a <2 for radioche	Lab ID: 20840430 Site ID: at the laboratory, 2.5 mls of nitric a mistry analysis. <u>Method</u> EPA 903.1	13 Collected: 09/10/18 16:50 Sample Type:	neet the sam	ple preservation rec	Quirement of pH	Qual
Comments: • Upon receipt a <2 for radiocher Parameters	Lab ID: 20840430 Site ID: at the laboratory, 2.5 mls of nitric a mistry analysis. Method EPA 903.1 EPA 904.0	13 Collected: 09/10/18 16:50 Sample Type: acid were added to the sample to m Act ± Unc (MDC) Carr Trac	neet the sam Units	ple preservation rec	Quirement of pH CAS No. 13982-63-3	Qual
PWS: Comments: • Upon receipt a <2 for radiocher Parameters Radium-226 Radium-228 Sample: 1809205-14	Lab ID: 20840430 Site ID: at the laboratory, 2.5 mls of nitric a mistry analysis. <u>Method</u> EPA 903.1 EPA 904.0 Lab ID: 20840430	13 Collected: 09/10/18 16:50 Sample Type: acid were added to the sample to m Act ± Unc (MDC) Carr Trac 0.412 ± 0.667 (1.16) C:NA T:89% 0.291 ± 0.375 (0.797) C:75% T:77% 14 Collected: 09/10/18 11:58	neet the sam Units pCi/L pCi/L	Analyzed 09/28/18 19:27 09/27/18 15:08	Quirement of pH CAS No. 13982-63-3	Qual
PWS: Comments: • Upon receipt a <2 for radiocher Parameters Radium-226 Radium-228 Sample: 1809205-14 PWS: Comments: • Upon receipt a	Lab ID: 20840430 Site ID: at the laboratory, 2.5 mls of nitric a mistry analysis. <u>Method</u> EPA 903.1 EPA 904.0 <u>Lab ID: 20840430</u> Site ID: at the laboratory, 2.5 mls of nitric a	13 Collected: 09/10/18 16:50 Sample Type: acid were added to the sample to m Act ± Unc (MDC) Carr Trac 0.412 ± 0.667 (1.16) C:NA T:89% 0.291 ± 0.375 (0.797) C:75% T:77%	neet the sam Units pCi/L pCi/L Received:	09/28/18 19:27 09/27/18 15:08 09/14/18 10:20	Quirement of pH CAS No. 13982-63-3 15262-20-1 Matrix: Water	Qual
PWS: Comments: • Upon receipt a <2 for radiocher Parameters Radium-226 Radium-228 Sample: 1809205-14 PWS:	Lab ID: 20840430 Site ID: at the laboratory, 2.5 mls of nitric a mistry analysis. <u>Method</u> EPA 903.1 EPA 904.0 <u>Lab ID: 20840430</u> Site ID: at the laboratory, 2.5 mls of nitric a	13 Collected: 09/10/18 16:50 Sample Type: acid were added to the sample to m Act ± Unc (MDC) Carr Trac 0.412 ± 0.667 (1.16) C:NA T:89% 0.291 ± 0.375 (0.797) C:75% T:77% 14 Collected: 09/10/18 11:58 Sample Type:	neet the sam Units pCi/L pCi/L Received:	09/28/18 19:27 09/27/18 15:08 09/14/18 10:20	Quirement of pH CAS No. 13982-63-3 15262-20-1 Matrix: Water	Qual

REPORT OF LABORATORY ANALYSIS



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project:	1809205							
Pace Project No .:	2084043							
Sample: 1809205 PWS:	-14	Lab ID: 208404 Site ID:	3014 Collected: Sample Ty	09/10/18 11:58 /pe:	Received:	09/14/18 10:20	Matrix: Water	
	on receipt at the la r radiochemistry	aboratory, 2.5 mls of niti analysis.	ic acid were added t	to the sample to n	neet the sam	ple preservation rec	quirement of pH	l
Param	eters	Method	Act ± Unc (MD	C) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-228		EPA 904.0	0.517 ± 0.378 (0 C:74% T:79%	.733)	pCi/L	09/27/18 15:08	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project:	1809205					
Pace Project No.:	2084043					
QC Batch:	313694		Analysis Method:	EPA 903.1		
QC Batch Method:	EPA 90	3.1	Analysis Description:	903.1 Radiu	m-226	
Associated Lab Sa		,	, 2084043003, 2084043004, 2084043011, 2084043012,	,	,	07, 2084043008,
METHOD BLANK:	1531581		Matrix: Water			
Associated Lab Sa		,	, 2084043003, 2084043004, , 2084043011, 2084043012,	,	,	07, 2084043008,
Para	meter	Act ± U	nc (MDC) Carr Trac	Units	Analyzed	Qualifiers

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:	1809205				
Pace Project No.:	2084043				
QC Batch:	313700	Analysis Method:	EPA 904.0		
QC Batch Method:	EPA 904.0	Analysis Description	n: 904.0 Radiu	m 228	
Associated Lab Sa		001, 2084043002, 2084043003, 2084043004 009, 2084043010, 2084043011, 2084043012	, ,	,	07, 2084043008,
METHOD BLANK:	1531590	Matrix: Water			
Associated Lab Sa	•	001, 2084043002, 2084043003, 2084043004 009, 2084043010, 2084043011, 2084043012	, ,	,	07, 2084043008,
Para	meter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers

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:	1809205
Pace Project No.:	2084043

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

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	1809205
Pace Project No.:	2084043

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2084043001	1809205-01	EPA 903.1	313694		
2084043002	1809205-02	EPA 903.1	313694		
2084043003	1809205-03	EPA 903.1	313694		
2084043004	1809205-04	EPA 903.1	313694		
2084043005	1809205-05	EPA 903.1	313694		
2084043006	1809205-06	EPA 903.1	313694		
2084043007	1809205-07	EPA 903.1	313694		
2084043008	1809205-08	EPA 903.1	313694		
2084043009	1809205-09	EPA 903.1	313694		
2084043010	1809205-10	EPA 903.1	313694		
2084043011	1809205-11	EPA 903.1	313694		
2084043012	1809205-12	EPA 903.1	313694		
2084043013	1809205-13	EPA 903.1	313694		
2084043014	1809205-14	EPA 903.1	313694		
2084043001	1809205-01	EPA 904.0	313700		
2084043002	1809205-02	EPA 904.0	313700		
2084043003	1809205-03	EPA 904.0	313700		
2084043004	1809205-04	EPA 904.0	313700		
2084043005	1809205-05	EPA 904.0	313700		
2084043006	1809205-06	EPA 904.0	313700		
2084043007	1809205-07	EPA 904.0	313700		
2084043008	1809205-08	EPA 904.0	313700		
2084043009	1809205-09	EPA 904.0	313700		
2084043010	1809205-10	EPA 904.0	313700		
2084043011	1809205-11	EPA 904.0	313700		
2084043012	1809205-12	EPA 904.0	313700		
2084043013	1809205-13	EPA 904.0	313700		
2084043014	1809205-14	EPA 904.0	313700		

REPORT OF LABORATORY ANALYSIS



Sending Laboratory:

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

Project Manager: Barbara K. McMillan

Subcontraci

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

Analysis		Due	е	Expires	Comments	
Sample ID: 1809205-01	Water	Sampled:	<i>09/</i> :	1/2018 09:55	Sample Name:	MW-9
Radium, Total 226 & 228 by 901	1	09/20/2	2018	10/09/2018 09:55		
Containers Supplied: 1000mL Plastic (C) 100)0mL Plasti	c (D)				
Sample ID: 1809205-02	Water	Sampled:	09/1	1/2018 09:09	Sample Name:	MW-16
Radium, Total 226 & 228 by 901	.1	09/20/2	2018	10/09/2018 09:09		
Containers Supplied: 1000mL Plastic (C) 100)0mL Plasti	c (D)				
Sample ID: 1809205-03	Water	Sampled:	09/1	1/2018 07:09	Sample Name:	<i>OW-2</i>
Radium,Total 226 & 228 by 901	.1	09/20/2	2018	10/09/2018 07:09	·····	······································
Containers Supplied: 1000mL Plastic (C) 100	10mL Plasti	c (D)				
Sample ID: 1809205-04	Water	Sampled:	09/1	1/2018 11:04	Sample Name:	MW-13
Radium,Total 226 & 228 by 901	.1	09/20/2	018	10/09/2018 11:04		
Containers Supplied: 1000mL Plastic (C) 100	0mL Plasti	c (D)				
Sample ID: 1809205-05	Water	Sampled:	09/1	1/2018 13:26	Sample Name:	MW-7
Radium,Total 226 & 228 by 901	.1	09/20/2	.018	10/09/2018 13:26		
Containers Supplied: 1000mL Plastic (C) 100	0mL Plastic	c (D)				
Sample ID: 1809205-06	Water	Sampled:	09/1	1/2018 14:29	Sample Name:	MW-14
Radium,Total 226 & 228 by 901	1	09/20/2	018	10/09/2018 14:29		
Containers Supplied: 1000mL Plastic (C) 100	OmL Plastic	: (D)				
Sample ID: 1809205-07	Water	Sampled:	09/1	1/2018 07:00	Sample Name:	Field Blank
eleased By Jomeh	9/1. 9/14/	3/18/1 Date	162	30 Receiv	HB-	9/13/18-7/630 - 9/14/18
eleased By	. /	. Date		Rece ^f iv Page 1 of 2	еа ву	





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Work Order: 1809205 (Continued)

Analysis		Due	Expires	Comments	
Sample ID: 1809205-07	Water	Sampled: 09/	/11/2018 07:00	Sample Name:	Field Blank
Radium,Total 226 & 228 by 90	1.1	09/20/2018	10/09/2018 07:00	0	
Containers Supplied: 1000mL Plastic (C) 10	00mL Plast	c (D)			
Sample ID: 1809205-08	Water	Sampled: 09/	10/2018 00:00	Sample Name:	Duplicate
Radium, Total 226 & 228 by 90	1.1	09/20/2018	10/08/2018 00:00)	
Containers Supplied: 1000mL Plastic (C) 10	00mL Plasti	c (D)			
Sample ID: 1809205-09	Water	Sampled: 09/	11/2018 08:01	Sample Name:	MW-12
Radium,Total 226 & 228 by 90	1.1	09/20/2018	10/09/2018 08:01	l	· · · · · · · · · · · · · · · · · · ·
Containers Supplied: 1000mL Plastic (C) 10	00mL Plasti	c (D)			
Sample ID: 1809205-10	Water	Sampled: 09/	11/2018 08:41	Sample Name:	MW-15
Radium,Total 226 & 228 by 90:	l.1	09/20/2018	10/09/2018 08:41		
Containers Supplied: 1000mL Plastic (C) 10	00mL Plasti	c (D)			
Sample ID: 1809205-11	Water	Sampled: 09/	10/2018 14:40	Sample Name:	CCR-2
Radium,Total 226 & 228 by 901	1	09/20/2018	10/08/2018 14:40)	
Containers Supplied: 1000mL Plastic (C) 10	00mL Plasti	c (D)			
Sample ID: 1809205-12	Water	Sampled: 09/	10/2018 13:36	Sample Name:	CCR-3
Radium,Total 226 & 228 by 901	.,1	09/20/2018	10/08/2018 13:36)	
Containers Supplied: 1000mL Plastic (C) 100	00mL Plastic	c (D)			
Sample ID: 1809205-13	Water	Sampled: 09/	10/2018 16:50	Sample Name:	CCR-4
Radium, Total 226 & 228 by 901	1	09/20/2018	10/08/2018 16:50		
Containers Supplied: 1000mL Plastic (C) 100)0mL Plastic	: (D)			
Sample ID: 1809205-14	Water	Sampled: 09/.	11/2018 11:58	Sample Name:	CCR-5
Radium,Total 226 & 228 by 901	.1	09/20/2018	10/09/2018 11:58		
Containers Supplied: 1000mL Plastic (C) 100	0mL Plastic	: (D)			
Smah Jome	L	9/13/18-12	1630	UP_	S 9/13/18-7 1630
VYS	9	14/18 ⁰		Atra	$\sim \frac{9/14}{14}$
Released By		Date	Receiv Page 2 of 2	ved By	Date

						MO	#:2	084	1043	}	İ
\mathcal{P}	Sar	nple Con	ditio	n Ul	pon l	PM: I	KHB	Du	e Date:		18
Pace Analytical"	1000 Riverbend. Blvd., Suite St. Rose, LA 70087	ēF			Pro,		NT: 20-1	1ICRO	· · · · · · · · · · · · · · · · · · ·	···	
Courier: D Pace Courier	□ Hired Courier	□ Fed X	χu	PS		DHL		s 🗆	Customer		Other
Custody Seal on Cooler/Box Pr	esent: [see (Custo	odv Sea	ls intact:		No
Therometer Internation Used: Internation Therm Fis	her IR 5 her IR 6	Type of Ice	: V	Net	Blue	Vone	\mathcal{O}		on ice: [se	℃	
Cooler Temperature: [see Co	DC] Tem	p should be a	above f	freezi	ng to 6°C	;	Date and contents	i Initiais : <u> </u>	of pers <u>on</u> of		Ъ
Temp must be measured from Tem	perature blank when p	resent		Соп	nments:						
Temperature Blank Present"?		□Yes □No	Î N N/A	1							
Chain of Custody Present:				2							
Chain of Custody Complete:		Yes No	□n/a	3							
Chain of Custody Relinquished:			□n/a	4							
Sampler Name & Signature on (000:	QYes □No	□n/a	5							
Samples Arrived within Hold Tirr	1e:			6							
Sufficient Volume:	<u> </u>		□n/A	7					<u></u>		
Correct Containers Used:	Client's		⊡n/a	8	Li	le1	with	03	(2.6)	Lach	
Filtered vol. Rec. for Diss. tests		□Yes □No	Î ÎN/A	9							
Sample Labels match COC:			N/A	10			· .				
All containers received within ma precautionary and/or expiration of		□Yes □No		11							
All containers needing chemical been checked (except VOA, coli		QYes □No	⊡n/A	12						<u> </u>	
All containers preservation check compliance with EPA recommen	ked found to be in a dation.	Yes 🗆 No	□n/a	13			reserative ord lot no.:		⊡Yes ⊡N	10 12SO4	··
Headspace in VOA Vials (>6mm	1):	□Yes □No	N N/A								
Trip Blank Present:	······································			15							
Client Notification/ Resolution Person Contacted: Comments/ Resolution:						-	Da	te/Time	· · · · · · · · · · · · · · · · · · ·		
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Notes:	Time	Date		Company	8			ighten	Signa	-			Printed Name	J P		
All Temps are Corrected Values 9=NaHSO4			Cooler		Blank		Sample	S					By:		Time	Date & T
I)H=8 SΩ257eN≈/				rected	Receipt Temp Corrected(°C)	tTem	eceip	 		Cooler #	0		Thermometer#_	N Thermo	Received on Ice? Y	Receive
6=HNO3	\times	×	X	$\hat{\times}$	$\frac{\times}{\sim}$	\times	\times	Б	4	W	14:40	1 81 9	19		CCR-2	
NaOH	\times	×	X	$\stackrel{\frown}{\times}$		\times	X	n	4	X	8:41	18/	1/18		MW-15	
4=ZnC4H1006	\times	X	X	$\stackrel{\frown}{\times}$	\times	\times	×	9	4	×	8:0	18/	11/6		MW-12	
3=NaOH	×	×	X	\mathbf{X}	\mathbf{X}	\times	\times	Ø	4	×		Į.		e	Duplicate	
1= H2504 2= H3P04	×	X	\times	X	$ \times $	\ge	\times	5	4	×	700	8	9/11	lk	Field Blank	
Preservation:	\times	X	X	\times	\times	\times	\times	ດ	4	Ŵ	1429	181	116		MW-14	
	\times	X	X		\times	X	X	0	À	×	1326	11/18	14		MW-7	
	×	×	X	\mathbf{X}	\times	\times	\times	0	4	W	1:04	18/10	4		MW-13	
SL = Sludge	×	X	X	X	$\frac{\times}{\times}$	X	X	0	4	W	7:09	18.	4		OW-2	
	\times	X	X	\sim	$\frac{\times}{\times}$	X	\times	9	4	W	92.09	181	9/1		MW-16	
L = Liquid	×	X	X	\sim	\times	\times	\times	9		W	9:50	1811	16		B-MW	
SO = Soil	Total R	Li		Cade						Code	je ú	Sampling Date/Tinje		cation	Sample Identification	
DW = Drinking Water S = Solid	adium 22 228	thium	d,Calcium Cobalt	uum, Chromiu	, Baran, Beryll	de, Fluori Sulfate	TDS	(G) or posite (Contain							Project #:
Field Test Field Test Field Test Field Test Water	68	ו 	ı.	m .	-			C) Vative:	C)			CCR	Hills	Red	ame:	Project Name:
Field Testing		ted	ques	es Re	List Analyses Requested	_ist A										
QC Level 1 Level 2 Level 3)		È	è	E	ned:	ne Sig	Sampler Name Signed:	Samp							Fax:
Other*Email	2	fo	he			ited:	ne Prir	Sampler Name Printed:	Samp					68	662-387-5758	Phone:
							SS :	Email Address :	Emai		39735	Zip: 3	MS	State:	Ackerman	City: Ac
Normal *All rush orderPhone		SCSRDH6883	RDF	SCS			der #:	Purchase Order #:	Purch				Rd.	Pensacola	2391 Pen	Address:
Turn Around Time & Reporting		Ird	Jim Ward	Jin			3ger:	Project Manager:	Proje			Plant	ower P	Red Hills Power		Company Name:
WO #				- 0 V	Lab IIJ# MS00021 LELAP ID # 01960 TNI ID # TNI01397	D# 11	Lab I LELA TNI II				:	-1410	MS 3956 -6423	Springs, MS 35 (228) 875-6423 slab.com	PO Box 1410, Ocean Springs, MS 39566-1410 (228) 875-6420 FAX (228) 875-6423 www.micromethodslab.com	PO Box 1410, ((228) 875-6420 www.microme
M-M Lab			ord	Reco	Custody Record	ust	9	Chain	0				HODS		VHCR0-V	C. A. S.
Print Form	_]				1000		1.1

MICRO-METHODS-	Chain of Custody Record	I III CITAT
PO Box 1410, Ocean Springs, MS 39566-1410 (228) 875-6420 FAX (228) 875-6423	Lab ID# MS00021 LELAP ID # 01960	MO #
www.micromethodslab.com		
Company Name: Red Hills Power Plant	Project Manager: Jim Ward	Turn Around Time & Reporting
Address: 2391 Pensacola Rd.	Purchase Order #: SCSRDH6883	Our normal turn zround time is 10 working days
City: Ackerman State: MS Zip: 39735	Email Address :	* requests must be
Phone: 662-387-5758	Sampler Name Printed: Kril Shilts	Other* prior approvedEmail
Fax:	Sampler Name Signed:	QC Level 1 Level 2 Level 3
	List Analyses Requested	Field Testing
Project Name: Red Hills CCR	sorvative:	ID# ID# ID# ID# Matrix: Field Test Field Test Field Test Field Test W = Water
Project #:	Gontaine (G) or osite (C) TDS de, Fluorid Sulfate imon Baron, Benyllu um, Chromium ,Calcium, Cobalt hium	
Sample Identification Date/Finge Code	# of C Grab Comp Chlorid Barlun Leac	
33		
10 8 1 1650	W 4 6 X X X X X X X X X X X	
VI 85:// 1/11/11/2 2-20	4	SL = Słudge
		Preservation:
		1= H2SO4 2= H3PO4
		3=NaOH
		4⇒ZnC4H1006 &
		6=HNO3
Received on Ice? Y N Thermometer# Cooler #	Receipt Tem	
Date & Time By:	Cooler	**All Temps are Corrected Values** 9=NaHSO4
Relinquished by	MALL FCS 9-1-10 /YOC	Notes:
Received by Frederic EX		
Relinguished by		
Received by		
Received by Relinquished by		

APPENDIX C

FIELD SAMPLING DATA

Monitor Well:	MW-7	Well Diameter:	4	inche
Date:2	17/18	Water Column Height:	21.88	_ft
Sampling Method:	Pumped	(Measured Well Depth - Static	Water Level)	
Measured Well Depth:	56.92 ft	TOC Elevation:	572.62	_ft
Static Water Level: (Depth to Water)	35.04 tt	GW Elevation: (TOC Elevation - Static Water	537.52 Level) (1 22	<u>S</u> ft
Maximum Drawdown Depth (10% of WCH + SWL)	<u>37.23</u> ft	Well Volume: (Water Column Height x Well	Casing Volume Fa	_gal ctor)

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
2/7/18		0855						1-12
	3.0	0906		-	4.35	15.2	6.72	459.5 458.0
2010 Carto and a carto and a carto a c		0909	1		2.01	15.8	6.70	458.0
		0912			1.60	15.6	6.77	457.1
17		0915			1.35	15.8	6.71	457.5
	6.75	0918			1.29	15.8	6.13	455.9
		Contraction of the						
	10.1	2121	and the second					
	Finel	36.36						
	Depth							
1000 F2/000								
	-							
An other states and the states of the								
		-						
		-						
					_	-	-	

Sample Time: Sample Analyzed for: 0920

Boron, Calcium, Chloride, Fluoride, Sulfate, TDS

Total Drawdown (ft):

Drawdown/Water Column (%):

03 %

Sorge

Sampler Signature:

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

Monitor Well:	/IVV-9		Well Diameter:	4	inches
Date: 2/17/1	18		Water Column Height:	14.38	ft
Sampling Method:	Pumped		(Measured Well Depth - Static W	rater Level)	
Measured Well Depth:	21.74 ft		TOC Elevation:	480.96	ft
Static Water Level: (Depth to Water)	7.36 ft		GW Elevation: (TOC Elevation - Static Water Le		
Maximum Drawdown Depth (10% of WCH + SWL)	<u>8,19</u> ft		Well Volume: (Water Column Height x Well Ca	9.35 sing Volume Fact	
The second se	Volume	Elanood	Wator		[

Volume lapsed Water Turbidity Conductivity Temp Date Purged Time Time Level pH (uS/cm) (Ľ) (min) (ft) (NTU) (C) 2/1/18 1:00 Start Pump 4.95 1680 13.2 4.0 10.71 11:11 4.92 6.30 13.9 11:14 1745 15.1 11:17 5.99 722 4.92 5.63 15.3 1731 20 4.96 11:23 5.12 15.3 1721 20 11:26 4.96 821 Find Depth L

Sample Time: Sample Analyzed for:

Boron, Calcium, Chloride, Fluoride, Sulfate, TDS

Total Drawdown (ft):

0.85

Drawdown/Water Column (%):

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

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

Monitor Well:	MVV-12		Well Diameter:	4inches
Date: 2/1	5/18		Water Column Height:	1561
Sampling Method:	Pumped		(Measured Well Depth - Static W	/ater Level)
Measured Well Depth:	<u>19.09</u> ft		TOC Elevation:	475.00 ft
Static Water Level: (Depth to Water)	<u>3155</u> ft		GW Elevation:	471.47 ft
Maximum Drawdown Depth	<u>5,086</u> ft		(TOC Elevation - Static Water Le Well Volume:	IOII gal
(10% of WCH + SWL)			(Water Column Height x Well Ca	
	Volume	Elapsed	Water	

	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
Start Pump	216/18	-	1211						(uo/ciii)
		6.0	1245			13.33	13.2	5.76	554.3
			1248			11.81	13:4	5.67	528.7
		7.5	1251 1254			10.66	13.6	5.62	557.1
			10-1			12.11	13.5	5.65	559.8
	21 0								
	Stop Punp	for re	charge	05.76					
ľ		4.95	Final De	-ki					
		9:1	Final De	ølk					
ŀ									
F									
F									
E									
L									
-									
-									
		120	~						
mple Time: mple Analyzed for:		132							
- Analyzed for	Bo	oron, Calcium,	Chloride, Fluorio	de, Sulfate, TDS					

Total Drawdown (ft):

Drawdown/Water Column (%):

-21 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: conductivity: temperature: turbidity:	0.1 standard units within 3% 0.1 deg. C <5 NTU or 10%	1" = 0.041 3" = 0.37 8" = 2.61	Well Casing 1 1/2 " = 0.10 3 1/2" = 0.50 10" = 4.08	2" = 0.16 4" = 0.65 12" = 5.87	2 1/2" = 0.24 6" = 1.46

1000

Monitor Well:

Date:

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

Pumped 106 ft 3.60 ft

MW-13

17

Well Diameter:

Water Column Height: 4 (Measured Well Depth - Static Wate

Level

4

inches

TOC Elevation GW Elevation

563.00 ft 499.4 ft

1 1

(TOC Elevation - Static Water Level

Well Volume: 27.57 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)	рН	Conductivity (uS/cm)
26		11:15						()
	2.0	1125			0.86	16.2	5.81	287.2
		1129			1.25	11.0	6.17	281.4
		1132			0.47	17.0	6.12	2.79.7
		1135			0.53	11.7	6.28	280.7
		1.36			0.34	16.7	6.27	278.4
		11:44			0.10	16.8	6.30	279.3
	60	11 47			0.11	16.9	6.29	279.1
	000				0.15	17.1	6.31	275.7
-				1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 -				
5	a				1			
15 · · · ·	1 A							
		3						
1. T								
								4
		ę.,	-					
						1.		
						1.		
		- Anna an						
	1148							

Sample Time: Sample Analyzed for:

1140

Boron, Calcium, Chloride, Fluoride, Sulfate, TDS

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

5 Depth 1.41 inal

Sampler Signature:

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

Monitor Well:	MW-14	_	
Date:	2/7/12	_	
Sampling Method:	Pumped		
Measured Well Depth	60.97	ft	
Static Water Level: (Depth to Water)	32.25	ft	
Maximum Drawdown (10% of WCH + SWL)	Depth 3 <u>5.66</u>	ft	

Value

Well Diameter:	4inche	es
Water Column Height: (Measured Well Depth - Statio	2 <u>8_12_</u> ft Water Level)	
TOC Elevation:	595.00 ft	
GW Elevation:	52.15 ft	
(TOC Elevation - Static Water	Level)	
157 11 17 1	1	

Well Volume: Well Volume: <u>18:28</u> gal (Water Column Height x Well Casing Volume Factor)

Duplicete

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	pН	Conductivity (uS/cm)
2/7/18		0948						()
	3.5	0959			0.77	16.7	5.01	141.9
		10:02		10. 13.	0.35	17.2	5.03	141.5
		10:05			0.44	17.9	4.86	142.2
		10:08			0.58	17.9	4.81	141.8
	2.0	10:11			0.39	17.9	4.78	143.0
							1.10	11010
	-	0 1 2 2						
	Final	34.38						
	Depth							
								1
-								
								· · · · · · · · · · · · · · · · · · ·

Sample Time: Sample Analyzed for:

1014

Boron, Calcium, Chloride, Fluoride, Sulfate, TDS

53

5.4020

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

221 Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

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

Monitor	Well	I
---------	------	---

Date:

12/18 0

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

	Pumped	_
	22.74	ft
	8.69	ft
h	10.10) _{ft}

MW-15

Well Diameter:

inches 4

487.61 ft 478:92 ft

Water Column Height: 14.05 ft (Measured Well Depth - Static Water Level)

TOC Elevation: GW Elevation: (TOC Elevation - Static Water Level)

Well Volume: <u>9, 13</u> 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)	рН	Conductivity (uS/cm)
2/11/18		1302						
	10.0	1348			55.2	12.2	5:79	474.5
		1351			49.2	14.9	4,82	477.9
		1354			30.3	H.6	5.84	477,6
		1357			36.2	14.7	5.84	480-2
	14.0	1460			32.6	14.8	5.84	481.8
								+
		10.00				-		
	Final	10.05						
	Digth							
	,							
							+	
1. C. O. H C. (1990) (1990)						-		1
						+		
							-	1
							1	
							1	-

Sample Time: Sample Analyzed for:

Sampler Signature:

115 L

Boron, Calcium, Chloride, Fluoride, Sulfate, TDS

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

2

If possible, total drawdown will not exceed 0.33 ft.

Well	Stabilization		Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46
		8" = 2.61	10" = 4.08	12" = 5.87	
temperature: turbidity:	0.1 deg. C <5 NTU or 10%	8" = 2.61	10" = 4.08	12 - 5.67	

Monitor Well:	MW-16	3			Well Diamet	er:	4	inches	
Date:	2/7/18 th:	Pumped 21.74	t ft		TOC Elevation	Depth - Static Wate ion: on: - Static Water Leve	489.05 481.87	ft ft gal	
	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
Start Pump	2/7/18	33.0 3.5.0 Final Depte	1047 1321 1324 1327 1330 1330 2.09			18.5	12.4 12.6 12.5 12.7	5;37 5;40 5;33 5:33	635,2 636.1 642.2 639.5

1010age tape Pariods interm of Sample Time: Boron, Calcium, Chloride, Fluoride, Sulfate, TDS Sample Analyzed for: 500 wetter Orange lottom. hecking depth to 110 cl when Total Drawdown (ft): 3% Drawdown/Water Column (%):

0 Est.

Sampler Signature:

If drawdown exceeded	5 10% Of Water column 5		Well Casing	Volumes (gal/ft)	0 1/2" - 0 24
pH: conductivity:	tabilization 0.1 standard units within 3% 0.1 deg. C <5 NTU or 10%	1" = 0.041 3" = 0.37 8" = 2.61	1 1/2 " = 0.10 3 1/2" = 0.50 10" = 4.08	2" = 0.16 4" = 0.65 12" = 5.87	2 1/2" = 0.24 6" = 1.46

Monitor Well:	OW-2	Well Diameter:	4inche	S
Date:	2/7/18	Water Column Height: (Measured Well Depth - Static W	<u>15.44</u> ft	
Sampling Method Measured Well De Static Water Leve (Depth to Water) Maximum Drawdo (10% of WCH + SWL)	27.05 1: <u>//.6/</u>	ft TOC Elevation: ft GW Elevation: ft (TOC Elevation - Static Water Levation - Static Water Column Height x Well Ca	489.10 ft <u>477.49</u> ft vel) 0.04 gal	

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	pН	Conductivity (uS/cm)
2/7/18		1225					===0	E CH ()
<i>w</i> - <i>i</i> -	4.0	1235			0.81	15:3	5.79	554,4
		1238			0.12	15.9	5.72	596.1
		1241			0.78	15.1 15.5	5.76	550.8 549.9
	6.5	1244				12:5	10.75	J TRI
						1000	1	
	Final	13.05						
	F. of	15.05						
	Dept							
	-					-		
						-		
			U.					
							+	
						-		
					(4)			
	-							
				_				

Sample Time: Sample Analyzed for:

2 5 0

Boron, Calcium, Chloride, Fluoride, Sulfate, TDS

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

44 3 4

Sampler Signature:

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

Monitor Well:	CC	R-2			Well Dian	notor:		• 1600 • 0000000	
Date:	JIIA		_		tron Dian	neter.	4	inches	
	010/10		_		14/		244	2	
Sampling Metho	d:	Pumped			(Measured W	lumn Height: Vell Depth - Static W	34,4	<u>≥</u> ft	
Measured Well D	epth:	84.5	ft						
Static Water Lev	el:	50.07			TOC Elev		539.90	ft	
(Depth to Water)	15	-	-		GW Elevation	on - Static Water Le	489.8	∠ft	
Maximum Drawd (10% of WCH + SWL)	own Depth	53.51	ft		Well Volu		7728	aal	
(10% 01 WCH + SWL)						nn Height x Well Ca	sing Volume Fa	_gal	
		Volume	1	Elapsed					
	Date	Purged	Time	Time	Water Level	T 1.1 m			
	- Andrew	(L)		(min)	(ft)	Turbidity (NTU)	Temp	рН	Conductivity
Start Pump	216/18		1455		(,	(((10))	(C)		(uS/cm)
		3.0	1570			28.2	1101	100	22
			1533			1651	16.1	6.72	230.9
			1536	1000		30.7	16.7	6134	223.9
			1339			33.0	1 1 1	6.35	222.6
			1542	71		30.3	16.0	6.39	223.8
		60	1545	j.		32.0	160	6:36	23015
						30.0	16.0	636	2241
		Frank		1					
		Finel	53.42						1
		Depth							
		+							
		++			6		is.		
		+			×		- 24		
		┦───┤							
1		1							
/									
			-						
			-						
1									
Sample Time:		1.55	C	And the owner of the owner of the owner					
Sample Analyzed for	or:	Y base war							
	10	Boron, Calcium, C	Chloride, Fluoride	e, Sulfate, TDS					
Total Drawdown (ft)	: -		220						
Drawdown/Water Co	olumn (%):		9.7 02	1					
ſ /			1.1 %						

Cardia.

an a

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.

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

-

Monitor Well: Date:	216/18	-3			Well Diam	eter:	4	_inches	
Sampling Method: Measured Well De Static Water Level	pth:	Pumped 53 27 U9	- ftft		(Measured W TOC Eleva		25.51 /ater Level) 	/_ft _ft	
(Depth to Water) Maximum Drawdo (10% of WCH + SWL)	wn Depth	30.04	_ft		Well Volun	on - Static Water Le	16.50	ft gal actor)	
Start Pump	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	pН	
etarer amp	2/8/18	3.0	1358						
,	-	2.0	1412	<i>p</i>		2.73	16.4	6.12	4 4
7,2	· *	3	1418			2.40	16.9	6.19	-
		6.0	1424			1.51 2.80	16.9	6.22	-
			1 Car			2.80	16.9	6.25	-
-		1. A.							_
	Find Depth	29:49							
-									_
Γ		-							-

Conductivity (uS/cm)

213.0

Sample Time: Sample Analyzed for:

35 14

Boron, Calcium, Chloride, Fluoride, Sulfate, TDS

803

20

Total Drawdown (ft):

Drawdown/Water Column (%):

221 Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

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

Monitor Well: ÇCR-4 2 Date:

 Date:
 216110

 Sampling Method:
 Pumped

 Measured Well Depth:
 53

 Static Water Level:
 25.16

ft

ft

Volumo

Well Diameter:

inches 4

ft

-

ft

504.00

478.84/ft

Water Column Height: (Measured Well Depth - Static Water Level)

TOC Elevation: GW Elevation:

(TOC Elevation - Static Water

Well Volume: <u>33.05</u> gal (Water Column Height x Well Casing Volume Factor)

el)

Start Pump

(Depth to Water)

(10% of WCH + SWL)

Maximum Drawdown Depth

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	pН	Conductiv (uS/cm
2/6/18		1620						
	9.0	1630			1.31	16,2	6.30	415.9
		1833			0.52	12.1	6.25	416.4
		1836			0:32	17.0	6.27	416.5
	6.0	1639			0.21	16.8	625	417.
	×							
	Final	27.2	8					
	Bost A.	Fro	·					
	Parte							
								NI.
			а. 					i.
								W.
	-							
			ļt.			1		
					ę			
	16	38			9 e 1	L		

Sample Time: Sample Analyzed for: Boron, Calcium, Chloride, Fluoride, Sulfate, TDS

Total Drawdown (ft):

Drawdown/Water Column (%):

12 2 200 4

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

Well Stabilization			Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	0 1.40
turbidity:	<5 NTU or 10%				

Monitor Well:	MW	-7			Well Diame	eter:	4	inches	
Date:	5/16					u.	- 97	a mana attraction in a significant colo	
Sampling Method:		Pumped			Water Colu (Measured We	Imn Height:	ater Level)	_ft	
Measured Well De		56.92	ft		TOC Elevat	tion:	572.62	ft	
Static Water Level	-	33.96			GW Elevat		538.60		
(Depth to Water)			—			n - Static Water Lev	(ol)		
Maximum Drawdo	wn Depth 🛛 🕂	2.29	ft		Well Volum		14.92	gal	
(10% of WCH + SWL)		-10.89 -			(Water Colum	n Height x Well Cas	sing Volume Fa	ctor)	
		Volume		Elapsed	Water			1	
	Date	Purged (L)	Time	Time (min)	Level (ft)	Turbidity (NTU)	Temp (C)	pH	Conductivity (uS/cm)
Start Pump	5/16	1/1 6	1115			11	10 6		
		4.5	1195			0.6	19.6	6.90	54/2.5
		+	1170			1.29	18.7	6.91	34/1
			1151			0.48	18.5	6.95	342.0
			1						
					10 1 1 1				
		5.5	2-1-2	Firel	35.09				
				Depth					
				<u> </u>					
				1					
									4
	·								
		HIT	r-						
Sample Time:		115	5						

Sample Analyzed for:

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

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

Sampler Signature:

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

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

03

Monitor Well:	MW	-9	_		Well Diame	eter:	4	inches	
Date:	slis		-				17/		
Sampling Method:		Pumped				umn Height: ell Depth - Static Wat		ft	
Measured Well De		21.74	ft		TOC Eleva	tion:	480.96	ft	
Static Water Level	5	3.14			GW Elevat		472.22		
(Depth to Water)	*	. 1				n - Static Water Leve	el)	- "	
Maximum Drawdov	wn Depth 🚽	1.36	ft		Well Volun	ne:	8.84	gal	
(10% of WCH + SWL)		9.5+	C-1		(Water Colum	n Height x Well Casii	ng Volume Fac	tor)	
	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
Start Pump	etiz		13:00	()	(,	((-)		(,
otart Fump	3/13	4.0	1315			1192	19.8	5.67	94.90
		-1.0	1217		+	12/21	19:2	5.68	9500
		1	1319			12.11	19.5	5.61	105.2
		5.0	1217			11.98	19.5	5.65	110,5
			15000		1	11110	11:3	3.00	11015
		-							
				Final	9.16				
				Deptk	1				
				0.1					
		-							
					-				
		<u> </u>						1	
					,				
		L					l		
Sample Time:		132	5						

Sample Analyzed for:

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

Total Drawdown (ft):

.02 5 0

Drawdown/Water Column (%): Jer.ed 18 Sertes

Sampler Signature:

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

- 144	on	itor	w	All

Date:

Sampling Method:	Pumped
Measured Well Depth:	19.09
Static Water Level: (Depth to Water)	6.93
Maximum Drawdown Depth	+1.72
(10% of WCH + SW/L)	fill a

MW-12

19.09 ft

ft

6.93 ft

5

8.

<

C

Water Column Height:	1

4 ft

inches

ft

(Measured Well Depth - Static W **TOC Elevation: GW Elevation:**

Well Diameter:

475.00

ft (TOC Elevation - Static Water Level) 7.90

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

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	pН	Conductivity (uS/cm)
5/15/18		8:50						
	6.0	9:20			9.25	20.0	654	6.39
		9:25			9.80	12.8	6.36	324.3
		9:28			8.41	18.8	6.21	332.9
		9:31			5.22	18.7	121	3289
	8.0	9:34			4.95	18.6	2.2t	335.6
					1,	10.0	C. D.S.	33400
				9.12			1	
			recharge					
			0					
			hackto	8.12				
			Cherry Contraction	an / c				
					1			
1								

Sample Time: Sample Analyzed for:

1020

19

702

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

Total Drawdown (ft):

Drawdown/Water Column (%):

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

Well	I Stabilization		Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	0 - 1.40
turbidity:	<5 NTU or 10%				and the contract of the second second

	Monitor Well:	MW-1	3			Well Diame	eter:	4	inches	
	Date: Sampling Method: Measured Well Dep Static Water Level: (Depth to Water) Maximum Drawdow (10% of WCH + SWL)	wn Depth 🛛 🕈	61.92 4.41 6.33	ft		(Measured We TOC Elevati GW Elevati (TOC Elevation Well Volum (Water Column	ell Depth - Static Wa tion: ion: n - Static Water Lev	563.00 <u>501.87</u> el) 28.65	_ft _ft _gal	
/	Č.	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
	Start Pump		9.0		E, wel Dejth	64,3)	0.57 0.32 6.19	21:0 30:4 20:4	6.74	234.6 226.6 227.8
			112							

Sample Time: Sample Analyzed for:

Ę.

1120

2.4

5.4

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

Total Drawdown (ft):

Drawdown/Water Column (%):

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

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

Monitor Well:	MW-	14	_		Well Diame	eter:	4	inches	
Date:	SIL								
Date.			-		Water Colu	Imn Height: ell Depth - Static Wa	32.38	ft	
Sampling Metho	d:	Pumped	_		(Measured We	ell Depth - Static Wa	iter Level)		
Measured Well	New York Control of Co	60.97			TOC Eleva	tion:	595.00		
Static Water Lev	rel:	28.50]ft		GW Elevati		566.41	ft	
(Depth to Water) Maximum Drawe	down Depth 🚽	3.24	ft		Well Volum	n - Static Water Lev	21.05	nal	
(10% of WCH + SWL		31.83-	7			n Height x Well Cas	ing Volume Fac	tor)	
			+ (Flored	Mater		1		
	Date	Volume Purged	Time	Elapsed Time	Water Level	Turbidity	Temp	pH	Conductivity
	Date	(L)	THILE	(min)	(ft)	(NTU)	(C)	pin	(uS/cm)
Start Pump	5/16		1224						
		5.0	1245			095	21.7	5.23	12819
			12418			0.78	21.8	5.17	123.8
			1251			1.24	712	5.08	123.2
		10.0	1254			1.65	21.3	5.08	122,7
		9.0	1257			1.37	21.2	5.04	122.3
				C. 1	36,33				
		+		Firel	30,33	۹			
		+		Depth					
		-							
n le i									
Dyliate Tate									
1ates									
		1							
		171	1	Lesson and the second			1		
Sample Time:		125	2						
Sample Analyze	a tor:	Antimony, Ars		eryllium, Cadmiu	n, Chromium, C	obalt, Fluoride, Lea	d, Lithium, Merc	cury, Molybde	num, Selenium,
Total Drawdown	(#).	maillum, Rad	174						

Total Drawdown (ft):

Drawdown/Water Column (%):

5.4%

la er 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.

3

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

5

Monitor Well:	MW-*	15	-		Well Diam	eter:	4	inches	
Date:	5/15/	18	_				11101	_	
Sampling Method:		Pumped	_		Water Col (Measured W	umn Height: 'ell Depth - Static Wa	14.06 ater Level)	_ft	
Measured Well De		22.74	ft		TOC Eleva	ation:	487.61	ft	
Static Water Level: (Depth to Water)			8ft		GW Elevat		478.93	_ft	
Maximum Drawdo	wn Depth 🚽	1.41	ft		Well Volur		ner)		
(10% of WCH + SWL)						in Height x Well Cas	ing Volume Fa	_gal	
	/	0.09-	F7		•				
		Volume		Elapsed	Water	The second s	1		
	Date	Purged (L)	Time	Time (min)	Level (ft)	Turbidity (NTU)	Temp (C)	pН	Conductivity
Start Pump	5/15/28		11:07	()	(14)	(((10)	(0)		(uS/cm)
	2112116	9.0	12:12			445	217	1110	12.0
		100	12:18			711	dis	6.90	250.3
			12:21			35.9	18.1	6.51	95.12
			12.23		+	48.0	17.5	6.57	74.80
			L Ch HU			48.0	17.5	6.34	67.56
			12:26			54.0	17,5	6.33	70:32
				Final	9.90				
-				Dept					
				,					
[
ſ				in a second second					
1									
F									
F							ana ana		
F									
ŀ									
-									
L									
Sample Time		1220	2						

Sample Time: Sample Analyzed for:

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

Total Drawdown (ft):

Drawdown/Water Column (%):

7020

22

Gh Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

Well	Stabilization		Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	0 - 1.40
turbidity:	<5 NTU or 10%				

Monitor Well:	MW-1	6	_		Well Diame	eter:	4	inches	
Date:	5/15/	18	-		Water Colu	ımn Height:	KI.05	ft	
Sampling Method:		Pumped	-			ell Depth - Static Wa	ater Level)		
Measured Well Dep Static Water Level: (Depth to Water) Maximum Drawdow (10% of WCH + SWL)	wn Depth 🛛 🕂	21.74 1.69 1.41				ion: n - Static Water Lev		ft	
	C	7.10+	<i>'</i> †			n Height X well Cas	ing volume Fa	ctor)	
	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
Start Pump	5/15/18		8:50						
		19.0	10:43		8.02	27.1	20.5	6.43	150.7
			10:45			30.4	17.7	6.23	115.2
	and a second		10:47			29.4	18.4	6.18	115. 7
						0-/11	18.3	B: LO	112.9
								-	
				Final	3.19				
		22.0		Depth					
·								-	
·									
-									
-		_			-				
-									
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ŀ									
ľ									
						28			

Sample Time: Sample Analyzed for: 1050

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20

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

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

che

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

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

Monitor Well:	OW	-2	_		Well Diame	eter:	4	inches	
Date:	5/15/	18	-		Water Colu	u mn Height: ell Depth - Static Wa	16.14	ft	
Sampling Method:	:	Pumped			(Measured We	ell Depth - Static Wa	ater Level)		
Measured Well De	pth:	27.05	- ft		TOC Eleva	tion:	489.10	ft	
Static Water Level: 10.91 ft				GW Elevat		478.19			
Maximum Drawdo (10% of WCH + SWL)		1.61	_ft H		Well Volun		10.49	_gal ctor)	
	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
Start Pump	5/15		1035						(
J. 200			1118		13.17				
			1						
		+	let recharge						
			1 censige						
			1153			1.21	20.3	6.47	138.9
			1156			1.25	19.0	6.37	80.61
			1202			0.54	19.0	6:40	81.52
			1008			0.10	17.0	6.38	76.85
		Finel	12:45						
		Dott							
		9.02							
							1		
		_							
Sample Time:		1205	5						

Sample Time: Sample Analyzed for:

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

Total Drawdown (ft):

Drawdown/Water Column (%):

9. 52

5ª

Ase Sampler Signature:

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

Monitor Well:	CCR	-2	-		Well Diame	eter:	4	inches	
Date:	5/16/18		-		Water Colu	umn Height:	34.33	ft	
Sampling Method:		Pumped			(Measured We	ell Depth - Static Wa	ater Level)		
Measured Well Dep	oth:	84.5	ft		TOC Eleva	tion:	539.90	ft	
Static Water Level: (Depth to Water)			ft		GW Elevation	ion: n - Static Water Lev		-	
Maximum Drawdov (10% of WCH + SWL)		+ <u>3:43</u> 53.644			Well Volum (Water Column	ne: n Height x Well Cas	22.31 ing Volume Fac	_gal tor)	
	100 - 100	Volume		Elapsed	Water			-	[
	Date	Purged (L)	Time	Time (min)	Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
Start Pump	5/16/12		740						
		7.0	850			42.8	21.0	5.71	22204
			853			24.0	19.0	SiTH	217.06
			856			22.5	19.0	5.82	209.18
		110	859			23.2	19.0	5.83	207.12
		11.0	902			23.8	18.9	5,85	206.17
				1 ml	P.1.25				
		+		let	54.65				
				recharge					
		17.0		Finel	53.5		-		
		110		Ditte	23131				
				ept					
								-	
					_		_		_
	5110 - 12								

Sample Time: Sample Analyzed for:

1010 Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium,

Total Drawdown (ft):

Drawdown/Water Column (%):

Stor

3 3

Sole Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

STEAC

Well Stabilization			Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0,16	2 1/2" = 0.24
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	101 101 101
turbidity:	<5 NTU or 10%				

Monitor Well:	CCR-	3			Well Diame	ter:	4	inches	
Date: Sampling Method: Measured Well Dep Static Water Level: (Depth to Water) Maximum Drawdow (10% of WCH + SWL)	vn Depth →	Pumped 53 26:41 2.66 2.66 29.074	ft		(Measured Wel TOC Elevation GW Elevation (TOC Elevation Well Volum	on: - Static Water Lev	ater Level) <u>502.60</u> <u>476.19</u> vel) 17.28	ft ft	
	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	pН	Conductivity (uS/cm)
Start Pump * Conductivity meter experienced issues during Sampling. After sample was taken equipment was taken apart, cleaned, batterics changed, etc. Appears to be working properly now. JB		7.0	1400 1425 1428 1431 1431 1431	Final		1,73 1,1) 1,12 1,52 1,42	20.0 2a.8 20.4 2a.i 2a.i 2a.i 2a.i 2a.i 2a.i 2a.i 2a.i	6.80 6.63 6.54 6.54 6.54	/4/4, 0 4/.0 29.10 25.78 28.53
Sample Time: Sample Analyzed f	or:	Antimony, Ara Thallium, Rad	senic, Barium,	Beryllium, Cadmiu	um, Chromium, C	obalt, Fluoride, Lea	ad, Lithium, Mer	Cury, Molybd	I enum, Selenium,

Total Drawdown (ft):

2.59

9.7%

Drawdown/Water Column (%):

R / Sampler Signature:

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

Monitor Well:	CCR-	-4			Well Diame	ter:	4	inches	
Date: Sampling Method: Measured Well Dep Static Water Level: (Depth to Water) Maximum Drawdov (10% of WCH + SWL)		Pumped 53 25.(12 2,79	ft ft		(Measured We TOC Elevati GW Elevati (TOC Elevation Well Volum	i on: n - Static Water Lev	504.00 <u> 47898</u> el) 19 , 19	ft ft gal	
2 1	ćć	<u>27,81</u> Volume		Elapsed	Water	1	T		
	Date	Purged (L)	Time	Time (min)	Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
Start Pump	5/16	377	0730						
orare and		18.0	1045			33.2	22.0	6.58	355.1
			1048			12.52	21.0	C.54	335.
			1051			11. det	20.1	6.53	342.7
			1034			11.14	28.9	6.55	3416.8
					-				
		010			10019				
		21.0	End P	epth	diff				
		-					-		
		-							10.000
		-							
		-							
		-							

Sample Time: Sample Analyzed for: 1055

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

Total Drawdown (ft):

Drawdown/Water Column (%):

2. 7.5%

eren Sampler Signature:

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

Monitor Well:	CCR-	-2	_		Well Dlame	eter:	4	inches	
Date:	9/10/1	8	_				32,94		
Sampling Method:		Pumped	_		Water Colu (Measured We	imn Height: Il Depth - Static Wa	34, Iter Level)	_ft	
Measured Well Dep		84.5	ft		TOC Elevat	tion:	539.90	ft	
Static Water Level:	:	51.54	<u>e</u> ft		GW Elevati		488.3	9/n	
(Depth to Water) Maximum Drawdov	um Dauth	54.85				- Static Water Lev			
(10% of WCH + SWL)	wu nebru	01,05	_π		Well Volum (Water Column	1e: 1 Height x Well Casi	<u>21.41</u>	gal	
, ,					(Thater oolding	Theight X Well Cast	ng volume rac		
		Volume		Elapsed	Water			ľ	
	Date	Purged (L)	Time	Time (min)	Level (ft)	Turbidity (NTU)	Temp	рН	Conductivity
Start Pump	9/10/18	101	14:10	(1111)	(11)	(NTO)	(C)		(uS/cm)
	- <u>410/16</u>	3.0	14:28	18		21.0	710	1201	1191
			14:31	3	├	16.56	21:8	6.37	168,1
	<u>.</u>		14:34	3	├¦	16.81	ZII	10.4	172.0
ľ		52	14:37		53.38	19.35	21.0	len 39	173.4
ľ				71		_ [lerta]		Kengel I	113,7
				6		· · ·			
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F									<u></u> .
F									
					Í				
Sample Time:		14	: 46						

Sa Sample Analyzed for:

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10

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

Total Drawdown (f): Drawdown/Waten oumn (%):

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	

Fina Depth: 53.38 ft

SAMPLE TIME: 14:40

Monitor Well: CCR-4	Well Diameter:4inches
Date: <u>9/16/18</u>	Water Column Height: 27.28 ft
Sampling Method: Pumped	(Measured Well Depth - Static Water Level)
Measured Well Depth: 53 ft	TOC Elevation: 504.00 ft
Static Water Level: ZS X 72 ft	GW Elevation: 478, 38 ft
(Depth to Water)	(TOC Elevation - Static Water Level)
Maximum Drawdown Depth (10% of WCH + SWL)	Well Volume: /////> gal (Water Column Height x Well Casing Volume Factor)
Volume	Element Minter

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
9/10/18	discovered and	16:05						1000
/	4	16:16			485.2	19.5	6.42	299
	, 	16:19			94.9	19.4	6.48	296.7
		16:22		ļ	97.8	19.8	6.42	299.2
<u> </u>	<u> </u>	16:25			70.5	19.7	6.48	29511
		16:29		27.98	38.6	20.0	643	2.98.5
		16:32		ļ	36,5	201	1.46	247.5
	25.1	16.35			32.4	20.0	6.44	301.0
		16:38			17,12	20.4	6.49	294,6
		16:41			27.7	19.8	6.43	29811
		16:44			13,81	19.9	6.47	296.3
	70	16:46	44	08.00	10,32	19.9	6.44	296.5
	7.0	112:45	<u> </u>	27.98	10,97	19.9	6.46	294.1
				Î				
							î	
	_							

Sample Time: Sample Analyzed for:

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23

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

FTWAL DEPTH - 27.98 HT SAMPLE TIME 16:50

Total Drawdown Drawdown/Wate Cipluinn (%):

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

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

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

75

Monitor Well:	CCR-3
Date:	09/10/18
Sampling Method:	Pumped
Measured Well Dep	pth: 53 ft
Static Water Level:	28.65 ft
(Depth to Water) Maximum Drawdov (10% of WCH + SWL)	wn Depth <u>31,09</u> ft

Well Diameter:	4	inches
Water Column Height: (Measured Well Depth - Static	24.35 Water Level)	ft

TOC Elevation: GW Elevation: (TOC Elevation - Static Water

Well Volume: aal (Water Column Height x Well Casing Volume Factor)

502.60

ft

Final Dept = 30.83 H SAmple tim = 13:36

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductiv (uS/cm)
1300	No.	1300						
9/10/13	4	13:21	21 3 3		3,82	20.1	6149	322.
		13:24	3	ļ	2:16	21.0	6152	322.
	5	13:27			2.85	21.1	6.50	320 .
	6	13:31		30.83	6144	21,2	6.47	327.8
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Sample Time: Sample Analyzed for:

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

Total Drawdown (ft): DrawdownWater 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.

Wełl	Stabilization		Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1,46
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	• • • • • • •
turbldity:	<5 NTU or 10%				

Monitor Well:	CCR-5	Well Diameter:	4 inches
Date: <u>9/11</u>	1155	Water Column Height:	7.47 tt
Sampling Method:	Pumped	(Measured Well Depth - Static Wate	r Level)
Measured Well Depth:	34,55 ft	TOC Elevation:	ft
Static Water Level: (Depth to Water)	<u>7.08</u> ft	GW Elevation: (TOC Elevation - Static Water Level	ft
Maximum Drawdown Depth (10% of WCH + SWL)	<u>4.83</u> ft	Well Volume: (Water Column Height x Well Casing	<u>//, 860 g</u> al
· · · · · ·			

		Volume		Elapsed	Water				
	Date	Purged (L)	Time	Time (min)	Level (ft)	Turbidity (NTU)	Temp (C)	pН	Conductivity (uS/cm)
Start Pump	9/11/18	and the second	11:33						
		3	11:48			9.74	21.1 21.0	5.45	896.3
			11:51			8.41	21.0	5.88	906.1
		5	11:54	2	7.88	10.28	21.1	5.92	906.1 909.8
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Sample Time: Sample Analyzed for:

58

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

Total Drawdown (ft): Drawbown/Wate Cəlàmn (%):

Sampler Signa	ter Column (%):	f, flow will be stopped and welf	allowed to recover.	Developel 9/10/18 Einal De SAMPLE T.	50-gellons 55-gellons th: 1,88 H
Well	Stabilization		Well Casir	ng Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	
turbidity:	<5 NTU or 10%			59 -	· · · · · · · · · · · · · · · · · · ·

Monitor Well: MW-7		Well Diameter:4 inches
Date: <u>9/11</u>	1.8	Water Column Height: 22.14 ft
Sampling Method:	Pumped	(Measured Well Depth - Static Water Level)
Measured Well Depth:	56.92 ft	TOC Elevation: 572.62 ft
Static Water Level: (Depth to Water)	<u>34,78</u> ft	GW Elevation: 537.84 ft (TOC Elevation - Static Water Level)
Maximum Drawdown Depth (10% of WCH + SWL)	<u>34.99</u> ft	Well Volume:
	Volume	Flansed Water

Start

	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivit (uS/cm)
np	9/11/18	05100 10000	1:10	((14)	(1110)	(0)		(uo/ciii)
,		3	1:17			1.88	19.5	6.79	349.7
			1:20			1.76	19.6	6.83	348.7
		5.5	1:23	13	35,41	2.84	19.6	6.81	348.2
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			26						

Sample Time: Sample Analyzed for:

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

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

0

Fina Dept: 35.91 ft Sample Tom: 13:26

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

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

Well Stabilization			Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" = 5.87	0 1110
turbidity:	<5 NTU or 10%				

Puplicate 1

Monitor Well: MW-9 Well Diameter: inches 4 |1||\$ Date: 13.76 ft Water Column Height: (Measured Well Depth - Static Wa Sampling Method: Pumped 21.7<u>4</u>ft Measured Well Depth: **TOC Elevation:** 480.96 ft .98 ft **472,98**ft Static Water Level: **GW Elevation:** (Depth to Water) (TOC Elevation - Static Water Level) 936 ft **Maximum Drawdown Depth** Well Volume: gal (10% of WCH + SWL) (Water Column Height x Well Casing Volume Factor) Volume Elapsed Water Turbidity Date Purged Time Time pН Conductivity Level Temp (L) (min) (ft) (NTU) (C) (uS/cm) 9:35 9:45 9/11/1 Start Pump 92/6,9 5/8,3 922.6 3 3.53 21.1 5,40 2.25 9148 212 5.39 91 5 51 915 2,31 21.2 535

Sample Time: Sample Analyzed for: 9 - S 5 Antimony, Arsenic, Barium, Beryllium, Çadmlum, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium,

Fina Depth: 9.136+

SAmple Time: 9:55

Total Drawdown (ft):

Drawdo n Vater

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

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

Thallium, Radium 226/228

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

Monitor Well:	onitor Well: MW-13				Well Diame	eter:	4	inches
Date: Sampling Method:	<u>9]11 18</u>	Pumped				imn Height: II Depth - Static Wa	42.16	_ft
Sampling Method: Measured Well Depth: Static Water Level: (Depth to Water) Maximum Drawdown Depth (10% of WCH + SWL)		106 63.84 68.06	ft ft		TOC Elevat GW Elevati (TOC Elevation Well Volum	tion: ion: n - Static Water Leve	<u>563.00</u> <u>499.16</u> el) 27.4	gal
ſ	Date	Volume Purged	Time	Elapsed Time	Water Level	Turbidity	Тетр	рН

Start Pump

	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
р	9/11/18		10:37				-		
		R.	10:53			1.78	20,8	6.92	219.1
			10:56		L	1,80 1.56 2.03	21.0	6.83	213.0
			12:54			1.56	20.9	6.17	211.5
	-	6.0	11:02	24	653b	Z.03	20.9	6.71	211.9
		łi							
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ne:			:04						

Sample Time: Sample Analyzed for:

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

Finne Depth: 65.36 ft Sample Time - 11:021

Total/Drawdown (ft) Drawdo h/Mater վյարո (%)։

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.

conductivity: within 3% $3^{3} = 0.37$ $31/2^{*} = 0.50$ $2^{*} = 0.76$ $212^{*} = 0.24$ temperature: 0.1 deg. C $8^{*} = 2.61$ $10^{*} = 4.08$ $12^{*} = 5.87$		Stabilization		Well Casing	Volumes (gal/ft)	
	pH: conductivity: temperature: turbidity:	within 3%	3" = 0.37	1 1/2 " = 0.10 3 1/2" = 0.50	2" = 0.16 4" = 0.65	-

4 inches

<u>8-</u>30 gal

FINAL Depth: 33,90 Sample Time: 14:29

Monitor Well: MW-	14	Well Diameter:	inc
Date: <u>G/11/1</u>	8	Water Column Height:	28.16 ft
Sampling Method:	Pumped	(Measured Well Depth - Static Wa	ater Level)
Measured Well Depth:	60.97 ft	TOC Elevation:	595.00 ft
Static Water Level: (Depth to Water)	32:81 ft	GW Elevation: (TOC Elevation - Static Water Lev	562,19ft
Maximum Drawdown Depth (10% of WCH + SWL)	<u>35,63</u> ft	Weil Volume: (Water Column Height x Well Cas	<u>18-30 ga</u>

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
1/11/18	1-12-53	14:05						
	3,5	14:21			1,24	22.1	5.06	116.1
		14:24			0.91	22.0	5.06	115:7
	5.2	14:27	22	33.90	1.68	22.0	6.06	115.6
	+							
				L				
	+			L				
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	<u> </u>			[
	<u> </u>							

Sample Time: Sample Analyzed for:

14.29

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

Total **Qrawdown** (f Drawd nn (%): dlui ter As

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

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

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

79

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5

Monitor Well: MW-	-15	Well Diameter:	4 inches
Date: <u>9/11/</u>	18	Water Column Height:	12,29 ft
Sampling Method:	Pumped	(Measured Well Depth - Static We	ater Level)
Measured Well Depth:	22.74 ft	TOC Elevation:	487.61 ft
Static Water Level: (Depth to Water)	<u>/0.45</u> ft	GW Elevation: (TOC Elevation - Static Water Lev	<u>477.16</u> ft
Maximum Drawdown Depth (10% of WCH + SWL)	<u>1/165</u> ft	Well Volume: (Water Column Height x Well Cas	<u></u> gal sing Volume Factor)

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivit (uS/cm)
9/4/18		8:16		(in the second s			1	
	215	8:22			28.3	19.7	6.2	351.2
		8:25		ļi	35.4	19.7	6.25	350.0
		8:28	······································		25.5	19.7	6.21	346.1
		6:31			20.7	19.8	6.19	344.6
		8:34 8:37			17.10	19.8	6.15	345.5
72 01wg	4.8	1:40	74'	11.42	14.77 12.85	19.7	6.17	345.2
,	1 2 1 2	3.40		11,76	16.13	1.1.1.	6.15	175:1
					<u> </u>			
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	1	<u>├──</u>		 				
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	-			—				

Sample Time: Sample Analyzed for:

2:4

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226/228 Final Depth: 11,42ft SAmple time 8:41

Total Drawdown (ft): Wate Drawdo Column (%):

Sampler Signature:

If possible, total drawdown will not exceed 0.33 ft.

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

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

Monitor Well:	MW-	12			Well Diame	eter:	4	inches	
Date:	<u> 9/11/1</u>	18				ımn Height:	12.69	_ft	
Sampling Method:		Pumped			(Measured We	ell Depth - Static Wa	iter Level)		
Measured Well De	pth:	19.09	ft		TOC Eleva	tion:	475.00	ft	
Static Water Level:	:	6.40	ft		GW Elevati	ion:	468.6	ft	
(Depth to Water)					(TOC Elevation	n - Static Water Lev			
Maximum Drawdov	wn Depth	7.67	ft		Well Volum		8.25	dal	
(10% of WCH + SWL)					(Water Column	n Height x Well Casi	ing Volume Fac		
		Volume		Elapsed	Water				
	Date	Purged (L)	Time	Time (min)	Level (ft)	Turbidity (NTU)	Temp (C)	рН	
Start Pump	9/11/18		6:50		0				

Conductivity (uS/cm) 4 ¢ 3:16 6.24 20.5 3051 6.21 210 5.13 <u> 195.0</u> 20.9 6.22 20.9 6.20 43 305 1 5.5 7,52 8:00 70 3.60 305, (

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

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

0

Thallium, Radium 226/228 75 Q

Final Sept: 7.52ft Stople tim = 8:01

Sampler Signature:

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

Well Stabilization			Well Casing	Volumes (gal/ft)	
pH:	0.1 standard units	1" = 0.041	1 1/2 " = 0.10	2" = 0.16	2 1/2" = 0.24
conductivity:	within 3%	3" = 0.37	3 1/2" = 0.50	4" = 0.65	6" = 1.46
temperature:	0.1 deg. C	8" = 2.61	10" = 4.08	12" ~ 5.87	0 1.10
turbidity:	<5 NTU or 10%				

Monitor Well: _	MW-16	Well Diameter:	4	inches
Date: _	9/11/18	Water Column Height:	13.41	ft
Sampling Method:	Pumped	(Measured Well Depth - Static Wa	ater Level)	•
Measured Well Dep	th: 21.74	ft TOC Elevation:	489.05	ft
Static Water Level: (Depth to Water) Maximum Drawdow	<u>8-33</u> m Depth 9.61	ft GW Elevation: (TOC Elevation - Static Water Lev ft Well Volume:	C 11/	
(10% of WCH + SWL)		(Water Column Height x Well Cas		gal tor)

Start Pump

Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
9/11/18		7:27					1400	
	5.5	8:58			4.27	22.8	5.15	444.8
		9:01			5.63	22.0	5.55	456.8
		9:04	1/45		8.79	21.9	5.52	456,8 459.2 460.0
	7.0	9:01	12	8141	8.25	21.9	554	440.0
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	90)q				100		

Sample Time: Sample Analyzed for:

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromlum, Coball, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium,

Total Drawdown (ft): Drawdo Andater C m

Thallium, Radium 226/228

Fina Depth= 8.41 H SAMPLE TIME 9:09

Sampler Signature:

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

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

Monitor Well:	OW-2	Well Diameter:	4	inches
Date: <u>9/11</u>	/18	Water Column Height:	14.54	f _{ft}
Sampling Method:	Pumped	(Measured Well Depth - Static Water	r Lével)	-
Measured Well Depth:	27.05 ft	TOC Elevation:	489.10	ft
Static Water Level: (Depth to Water)	12.51 ft	GW Elevation: (TOC Elevation - Static Water Level)	476.59	ft
Maximum Drawdown Depth (10% of WCH + SWL)	(3,96 ft	Well Volume: (Water Column Height x Well Casing	9.45 Volume Fac	gal tor)
	Volume	Flansed Water		r

Start Pu

	Date	Volume Purged (L)	Time	Elapsed Time (min)	Water Level (ft)	Turbidity (NTU)	Temp (C)	рН	Conductivity (uS/cm)
np	9/11/18		0 65	و البرون م					
		2	7:03			4.41	17.6	6.00	391.1
		4	7.06	13-	13.68	3.50	17.7	5.4 5.96	<u>_ 393.2</u>
			<u> </u>		112.08	2.30	17.7	5,96	394,2
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				<u></u>					
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Sample Time: Sample Analyzed for:

7:0a

Antimony, Arsenic, Barium, Beryllium, Cadmlum, Chromium, Cobalt, Fluoride, Lead, Lithlum, Mercury, Molybdenum, Selenium, Thallium, Radium 226/228 FINAL Dopt: 13.68 ft SAMPLE TIME: 7:09

Total Drawdown (ft): Drawbo n/Wata Column (%): A

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.

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

C

Freis Blank Time 7:00

APPENDIX D

2018 GROUNDWATER MONITORING SUMMARY

Detection and Assessment Monitoring Results:

Detected

Detected above Prediction Limit

Detected above Prediction Limit and Groundwater Protection Standard (GWPS)

Groundwater Elevation (feet) and Flow Rate (feet/yr)

Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2	Flow Rate	Flow Direction
						Dete	ction Monito	oring						
2/6-7/18	489.83	475.11	478.84		537.58	473.6	471.47	499.4	562.15	478.92	481.87	477.49	1.3	NNW
						Asses	sment Moni	toring						
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	468.6	499.16	562.19	477.16	480.72	476.59	1.3	NNW

	Antimony (Sb) Monitoring Results (mg/L)													
	Monitoring Well													
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2		
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down		
	Detection Monitoring													
2/6-7/18 ⁽¹⁾	-	-	-		-	-	-	-	-	-	-	-		
					Asses	sment Moni	toring							
5/15-16/18	0.002	<0.002	<0.002		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
9/10-11/18	9/10-11/18 <0.002 <0.002 <0.002 <0.002 <0.002 <0.002 <0.002 <0.002 <0.002 <0.002 <0.002 <0.002 <0.002 <0.002 <0.002													
	Prediction Limit = 0.002, GWPS = 0.006													

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

Arsenic (As) Monitoring Results (mg/L)

	Monitoring Well													
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2		
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down		
	Detection Monitoring													
2/6-7/18 ⁽¹⁾	2/6-7/18 ⁽¹⁾													
					Asses	sment Moni	toring							
5/15-16/18	<0.002	<0.002	<0.002		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
9/10- 11/18 ⁽²⁾														
	Prediction Limit = 0.002, GWPS = 0.010													

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

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

Barium (Ba) Monitoring Results (mg	/L)
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	Monitoring Well													
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2		
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down		
Detection M	etection Monitoring													
2/6-7/18 ⁽¹⁾	-	-	-		-	-	-	-	-	-	-	-		
Assessmen	t Monitoring	1												
5/15-16/18	0.091	0.098	0.154		0.089	0.212	0.295	0.157	0.013	0.203	0.194	0.116		
9/10-11/18	10-11/18 0.079 0.072 0.127 0.039 0.075 0.191 0.142 0.131 <0.010 0.16 0.188 0.091													
	Prediction Limit = 0.2558, GWPS = 2													

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

Beryllium (Be) Monitoring Results (mg/L)

	Monitoring Well													
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2		
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down		
	Detection Monitoring													
2/6-7/18 ⁽¹⁾	-	-	-		-	-	-	-	-	-	-	-		
					Asses	sment Moni	toring							
5/15-16/18	<0.001	<0.001	<0.001		<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
9/10-11/18	<0.001	<0.001	<0.001	<0.001	<0.001	0.0027	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
	Prediction Limit = 0.001, GWPS = 0.004													

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

	Boron (B) Monitoring Results (mg/L)													
	Monitoring Well													
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2		
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down		
	Detection Monitoring													
2/6-7/18	<0.050	<0.050	<0.050		-	<0.050	<0.050	-	-	<0.050	<0.050	<0.050		
					Asses	sment Moni	toring							
5/15- 16/18 ⁽¹⁾	-	-	-		-	-	-	-	-	-	-	-		
9/10-11/18	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
	Prediction Limit = 0.050													

	Monitoring Well													
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2		
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down		
	Detection Monitoring													
2/6-7/18	14.1	75.4	28.8		-	79.8	32.1	-	-	32.7	33.2	36.4		
					Asses	sment Moni	toring							
5/15- 16/18 ⁽¹⁾	-	-	-		-	-	-	-	-	-	-	-		
9/10-11/18	13.5	32.8	22.7	181	43.2	70.6	21.3	16.3	0.493	26	29.2	29		
	Prediction Limit = 85.8879													

Calcium (Ca) Monitoring Results (mg/L)

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

				Cadr	nium (Cd)	Monitoring	Results (r	ng/L)						
					М	onitoring W	ell							
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2		
	Down Down Down Down Up Down Down Up Down Down Up Down Down Down Down													
	Detection Monitoring													
2/6-7/18 ⁽¹⁾	2/6-7/18 ⁽¹⁾													
					Asses	sment Moni	toring							
5/15-16/18	<0.001	<0.001	<0.001		<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
9/10-11/18	<0.001	<0.001	<0.001	<0.001	<0.001	0.00139	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
				Р	rediction Lir	nit = 0.001, (GWPS = 0.00)5						

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

				Chlo	oride (CI) N	Ionitoring	Results (m	ig/L)						
					М	onitoring W	ell							
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2		
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down		
	Detection Monitoring													
2/6-7/18	2.89	6.82	7.57		-	509	56.2	-	-	12	61.9	37.7		
					Asses	sment Mon	itoring		•					
5/15- 16/18 ⁽¹⁾	-	-	-		-	-	-	-	-	-	-	-		
9/10-11/18	2.2	5.32	6.85	9.44	2.65	419	23.3	3.72	17	10.6	49.8	33.8		
					Predict	tion Limit = :	26.6034							

				••	()	monitoring	,	···· g/ = /					
					М	onitoring W	ell						
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2	
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down	
Detection Monitoring													
2/6-7/18 ⁽¹⁾	-	-	-		-	-	-	-	-	-	-	-	
					Asses	sment Moni	toring						
5/15-16/18	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	
9/10-11/18	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
				F	Prediction L	imit = 0.001,	GWPS = 0.1						

Chromium (Cr) Monitoring Results (mg/L)

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

Cobalt (Co) Monitoring Results (mg/L)

					М	onitoring W	ell							
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2		
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down		
	Detection Monitoring													
2/6-7/18 ⁽¹⁾	-	-	-		-	-	-	-	-	-	-	-		
					Asses	sment Moni	toring							
5/15-16/18	0.001	<0.001	0.002		<0.001	0.017	0.017	<0.001	<0.001	0.009	0.008	<0.001		
9/10-11/18	<0.001	<0.001	0.00274	0.0368	<0.001	0.0176	0.00744	<0.001	<0.001	0.00932	0.00426	<0.001		
				Pi	rediction Lir	nit = 0.001, (GWPS = 0.00)6						

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

Fluoride (F) Monitoring Results (mg/L)

					М	onitoring W	ell							
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2		
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down		
	Detection Monitoring													
2/6-7/18	<0.22	0.27	<0.22		-	0.35	<0.22	-	-	0.24	<0.22	0.33		
					Asses	sment Moni	toring							
5/15-16/18	<0.22	0.48	0.53		0.2	0.57	0.24	<0.22	<0.22	0.31	0.34	0.45		
9/10-11/18	<0.22	<0.22	<0.22	<0.22	0.28	0.46	0.23	<0.22	<0.22	0.36	0.24	0.42		
					Prediction L	.imit = 0.30,	GWPS = 4.0							

						intering it		·-,					
					М	onitoring W	ell						
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2	
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down	
Detection Monitoring													
2/6-7/18 ⁽¹⁾	-	-	-		-	-	-	-	-	-	-	-	
					Asses	sment Moni	toring						
5/15-16/18	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	
9/10-11/18	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
				Pi	rediction Lir	nit = 0.001, (GWPS = 0.01	15					

Lead (Pb) Monitoring Results (mg/L)

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

Lithium (Li) Monitoring Results (mg/L)

					М	onitoring W	ell							
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2		
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down		
	Detection Monitoring													
2/6-7/18 ⁽¹⁾	-	-	-		-	-	-	-	-	-	-	-		
					Asses	sment Moni	toring							
5/15-16/18	<0.050	0.108	<0.050		<0.050	0.09	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
9/10-11/18	<0.050	0.058	<0.050	<0.050	<0.050	0.101	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
				Pi	rediction Lir	nit = 0.050, (GWPS = 0.05	50						

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

Mercury (Hg) Monitoring Results (mg/L)

					М	onitoring W	ell							
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2		
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down		
	Detection Monitoring													
2/6-7/18 ⁽¹⁾	-	-	-		-	-	-	-	-	-	-	-		
	Assessment Monitoring													
5/15-16/18	<0.002	<0.002	<0.002		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
9/10- 11/18 ⁽²⁾	-	-	-	-	-	-	-	-	-	-	-	-		
				P	rediction Lir	nit = 0.002, (GWPS = 0.00)2						

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

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

						,	- J	(
					М	onitoring W	ell							
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2		
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down		
	Detection Monitoring													
2/6-7/18 ⁽¹⁾	-	-	-		-	-	-	-	-	-	-	-		
	Assessment Monitoring													
5/15-16/18	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
9/10- 11/18 ⁽²⁾	-	-	-	-	-	-	-	-	-	-	-	-		
				P	rediction Li	mit = 0.001,	GWPS =0.10	0						

Molybdenum (Mo) Monitoring Results (mg/L)

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

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

Selenium (Se) Monitoring Results (mg/L)

					М	onitoring W	ell							
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2		
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down		
	Detection Monitoring													
2/6-7/18 ⁽¹⁾	-	-	-		-	-	-	-	-	-	-	-		
•	Assessment Monitoring													
5/15-16/18	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
9/10- 11/18 ⁽²⁾	-	-	-	-	-	-	-	-	-	-	-	-		
				P	rediction Li	mit = 0.001,	GWPS = 0.0	5						

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

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

				Sulf	ate (SO4) I	Monitoring	Results (m	ng/L)						
					М	onitoring W	ell							
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2		
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down		
	Detection Monitoring													
2/6-7/18	8.33	202	15.9		-	92.9	48.2	-	-	39.2	128	108		
					Asses	sment Moni	toring							
5/15- 16/18 ⁽¹⁾	-	-	-		-	-	-	-	-	-	-	-		
9/10-11/18	6.32	56.2	14.8	807	24	79.2	16.5	<5.00	8.67	30.5	133	73.2		
					Predict	tion Limit =	44.8102							

				IIIa	mum (TI) N	lonitoring	Results (m	g/∟)						
					М	onitoring W	ell							
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2		
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down		
	Detection Monitoring													
2/6-7/18 ⁽¹⁾	-	-	-		-	-	-	-	-	-	-	-		
	Assessment Monitoring													
5/15-16/18	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
9/10- 11/18 ⁽²⁾	-	-	-	-	-	-	-	-	-	-	-	-		
				P	rediction Lir	nit = 0.001, (GWPS = 0.00)2						

Thallium (TI) Monitoring Results (mg/L)

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

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

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

Monitoring Well												
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down
Detection Monitoring												
2/6-7/18	107	518	195		-	1423	310	-	-	272	338	274
Assessment Monitoring												
5/15- 16/18 ⁽¹⁾	-	-	-		-	-	-	-	-	-	-	-
9/10-11/18	136	314	207	1673	224	1498	214	149	87	282	386	304
Prediction Limit = 320.8384												

pH Monitoring Results (S.U.)												
Monitoring Well												
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down
Detection Monitoring												
2/6-7/18	6.36	6.25	6.25		6.73	4.96	5.65	6.31	4.78	5.84	5.33	5.73
Assessment Monitoring												
5/15-16/18	5.85	6.52	6.55		6.95	5.65	6.25	6.7	5.04	6.33	6.2	6.38
9/10-11/18	6.39	6.47	6.46	5.92	6.81	5.35	6.2	6.77	5.06	6.15	5.54	5.96
Prediction Limit = 3.77 – 9.97												

Monitoring Well												
Date	CCR-2	CCR-3	CCR-4	CCR-5	MW-7	MW-9	MW-12	MW-13	MW-14	MW-15	MW-16	OW-2
	Down	Down	Down	Down/ Boundary	Up	Down	Down	Up	Up	Down	Down	Down
Detection Monitoring												
2/6-7/18 ⁽¹⁾												
Assessment Monitoring												
5/15-16/18	0.284	3.156	1.896		1.261	1.877	2.586	1.508	1.5089	2.3502	3.159	2.611
9/10-11/18	0.86	2.717	1.745	2.148	2.27	2.586	2.625	1.4112	1.461	1.843	3.273	2.789
Prediction Limit = 17.8958, GWPS = 17.8958												

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

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