



2019 Annual Groundwater Monitoring and Corrective Action Report

W.A Parish Generating Station, Thompsons, Texas

*Solid Waste Disposal Area (SWMU 001) CCR Multiunit Landfill
Air Preheater Pond (SWMU 021)
FDG Emergency Pond (SWMU 020)*

January 31, 2020

*Prepared For
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2020 Annual Groundwater Monitoring and Corrective Action Report*

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Executive Summary

Pursuant to 40 Code of Federal Regulations (CFR) §257.90(e) and (f) of the Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities, Final Rule (CCR Rule), the owner or operator of an existing coal combustion residuals (CCR) unit must prepare an annual groundwater monitoring and corrective action report no later than January 31, 2020, addressing the preceding calendar year. 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”.

TRC Environmental Corporation (TRC) has prepared the *2019 Annual Groundwater Monitoring and Corrective Action Report (Annual Report)* for the Solid Waste Disposal Area (SWDA, SWMU 001) CCR Multiunit Landfill, which includes Landfill Cell 1C, Landfill Cell 2A, Landfill Cell 2B, and Landfill Cell 3; the FGD Emergency Pond (E Pond, SWMU 020); and the Air Preheater Pond (APH Pond, SWMU 021) at the W. A Parish Electric Generating Station (Station) on behalf of NRG Texas Power, LLC (NRG) in accordance with §257.90(e) and (f) of the CCR Rule. This *Annual Report* provides the information specified in §257.90(e), including a summary of samples collected, field and laboratory analytical data, potentiometric surface maps, and determination of groundwater flow direction and average groundwater gradient for groundwater monitoring events performed during 2019.

Pursuant to §257.94(e)(2), this *Annual Report* provides the alternative source demonstrations (ASDs) completed during 2019 for the May and October 2018 and April 2019 semiannual detection monitoring events. Based on completion and certification by a qualified Texas professional engineer (P.E.) of the written ASDs for all three CCR units, the SWDA CCR Multiunit Landfill, E Pond, and APH Pond remained in detection monitoring during 2019.

Section 1

Introduction

1.1 CCR Program Summary

On April 17, 2015, the United States Environmental Protection Agency (USEPA) published the final rule establishing criteria for the management of Coal Combustion Residuals (CCR) under Subtitle D of the Resource Conservation and Recovery Act (RCRA; the CCR Rule). The CCR Rule applies to the NRG Texas Power, LLC (NRG) Solid Waste Disposal Area (SWDA) CCR Multiunit Landfill (SWMU 001), which includes Landfill Cell 1C, Landfill Cell 2A, Landfill Cell 2B, and Landfill Cell 3); the FGD Emergency Pond (E Pond, SWMU 020), and the Air Preheater Pond (APH Pond, SWMU 021) CCR units at the W.A. Parish Electric Generating Station (Station).

Pursuant to §257.90(e) and (f) of the CCR Rule, no later than January 31, 2018, and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report for the CCR units addressing the preceding calendar year. 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”. TRC Environmental Corporation (TRC) has prepared this *2019 Annual Groundwater Monitoring and Corrective Action Report (Annual Report)* for the SWDA CCR Multiunit Landfill, the E Pond, and the APH Pond on behalf of NRG Texas Power, LLC in accordance with §257.90(e).

Pursuant to §257.90(f) of the CCR Rule, NRG will comply with the recordkeeping requirements of §257.105(h), the notification requirements of §257.106(h), and will post the *Annual Report to NRG’s* publicly accessible CCR Web site per §257.107(h).

1.2 Station Overview

The Station is located in Thompsons, Texas (Figure 1-1). The Station is adjacent to Smithers Lake with the electricity generating portion located on the southeastern shore (location of the E Pond and the APH Pond) and the SWDA CCR Multiunit Landfill located along the northeastern shore (Figure 1-2). The Station currently uses western United States coal as a fuel source to power the boilers. The spent coal fuels or CCR have been classified by the Texas Commission on Environmental Quality (TCEQ) as a Class II Nonhazardous waste and consist of fly ash,

bottom ash, and flue gas desulfurization (FGD) scrubber sludge. During 2019, the Station had the following three active CCR Units per the CCR Rule:

- SWDA CCR Multiunit Landfill (SWMU 001), which includes Landfill Cell 1C, Landfill Cell 2A, Landfill Cell 2B, and Landfill Cell 3;
- E Pond (SWMU 020); and
- APH Pond (SWMU 021).

All four landfill cells are constructed on native clay soils and are generally constructed with berms having vegetated exterior slopes. The inside slopes and crests of the berms are surfaced with stabilized CCR to control vegetation and act as an erosion protection layer. CCR management and stormwater control activities performed at the CCR landfill cells are described below:

- Landfill Cell 1C. Landfill Cell 1C receives nonmarketable CCR, which are trucked from the Station. Storm water is directed to an incised storm water collection pond in the western portion of Cell 1C. The storm water is then transferred for discharge from this pond to Texas Pollutant Discharge Elimination System (TPDES) Outfall 004.
- Landfill Cell 2A. A pug mill is located at Cell 2A and is commonly referred to as the “Pug Mill Area”. Storm water is directed to the southwestern portion of Cell 2A, where it is then transferred for discharge from this pond to TPDES Outfall 004.
- Landfill Cell 2B. Landfill Cell 2B receives marketable CCR, which is trucked from the Station. Storm water is directed to an incised storm water collection pond in the southern portion of Cell 2B. The storm water discharge from this pond is then transferred for discharge from this pond to TPDES Outfall 004.
- Landfill Cell 3. Landfill Cell 3 receives bottom ash, which is trucked from the Station. Storm water is directed to an incised storm water collection pond in the western portion of Cell 3. The storm water discharge from this pond is then transferred for discharge from this pond to TPDES Outfall 004.

A description of both CCR surface impoundments at the Station, including CCR management and stormwater control activities performed are described below:

- FGD Emergency Pond (E Pond, SWMU 020). The E Pond is located in the central portion of the Station as shown on Figure 1-2. The dimensions of the E Pond are approximately 200 feet by 110 feet and the aerial extent is approximately 0.5 acres. The E Pond is lined with a minimum of two feet of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} centimeters per second (cm/sec) (Sargent & Lundy 2016), which was certified by a Texas P.E. The E Pond receives storm water runoff from the FGD dewatering area and also

blowdown from the FGD system. This impoundment may also receive the contents of an FGD process vessel when the FGD system is not in operation.

- Air Preheater Pond (APH Pond, SWMU 021). The APH Pond is located in the southwestern portion of the Station as shown on Figure 1-2. The APH Pond comprises an area of approximately 1.2 acres and has a total storage capacity of approximately 3.7 acre-feet. The APH Pond is lined with a minimum of two feet of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec (Sargent & Lundy 2016), which was certified by a Texas P.E. The APH Pond receives effluent from air preheater wash and boiler cleaning wash, which consists of fly ash or economizer ash particles and water.

Section 2

Groundwater Monitoring Systems

2.1 Groundwater Monitoring Systems

The groundwater monitoring systems for the three CCR units consist of a total of 25 wells installed into the uppermost aquifer, which are described in the subsections below. The locations of the groundwater monitoring wells are shown on Figures 2-1 (SWDA CCR Multiunit Landfill), Figure 2-2(E Pond) and Figure 2-3 (APH Pond).

2.1.1 SWDA CCR Multiunit Landfill (SWMU 001)

The SWDA CCR Multiunit Landfill (SWMU 001) consists of four landfill cells that are located adjacent to each other and are hydraulically cross-gradient or downgradient of each other. The groundwater monitoring system for the SWDA CCR Multiunit Landfill consists of 14 monitoring wells screened into the uppermost aquifer (see Table 2-1 and Figure 2-1). Six monitoring wells are located hydraulically upgradient of the SWDA CCR Multiunit Landfill and monitor background quality in the uppermost aquifer. The remaining eight wells are located hydraulically downgradient of the SWDA CCR Multiunit Landfill and monitor the quality of groundwater in the uppermost aquifer passing beneath the waste boundary of the SWDA CCR Multiunit Landfill. The downgradient monitoring wells making up the CCR groundwater monitoring system were selected based on the direction of groundwater flow and using a well-spacing consistent with the locations of the upgradient wells. The SWDA CCR Multiunit Landfill wells are provided in Table 2-1 below.

SWDA CCR Multiunit Landfill Monitoring Well Network

UPGRADIENT WELLS	DOWNGRADIENT WELLS
MW-23, MW-28D, MW-42, MW-43, MW-47, MW-48	MW-44, MW-46R, MW-50, MW-52, MW-54, MW-55R, MW-58, MW-65

Two groundwater monitoring wells at the SWDA CCR Multiunit Landfill (MW-46 and MW-55) were replaced in 2019 due to apparent issues with the historical construction of the monitoring wells that appeared to allow grout in the well annular space to migrate into the well through the well screens. This apparent issue was indicated by elevated pH values at only these two monitoring well locations, rather than occurring more generally for the downgradient monitoring wells. The replacement wells were

designated MW-46R and MW-55R and were installed next to former MW-46 and MW-55, which were then plugged and abandoned. No other monitoring wells were installed or decommissioned as part of the CCR groundwater monitoring system for the SWDA CCR Multiunit Landfill during 2019.

2.1.2 E Pond (SWMU 020)

The groundwater monitoring system for the E Pond (SWMU 020) consists of five monitoring wells (MW-36, MW-37, MW-38R, MW-60, and MW-61) screened into the uppermost aquifer (see Figure 2-2). Monitoring wells MW-36 and MW-60 are located hydraulically upgradient of the E Pond and monitor background quality in the uppermost aquifer. The remaining three wells (MW-37, MW-38R, and MW-61) are located downgradient of the E Pond and monitor the quality of groundwater in the uppermost aquifer passing beneath the waste boundary of the E Pond.

One monitoring well at the E Pond, MW- 38 was replaced during 2019 because the well was damaged during CCR management operations at the E Pond area. The monitoring well was designated MW-38R and was installed next to former MW-38, which was plugged and abandoned. No other monitoring wells were installed or decommissioned as part of the CCR groundwater monitoring system for the E Pond during 2019.

2.1.3 APH Pond (SWMU 021)

The groundwater monitoring system for the APH Pond (SWMU 021) consists of six monitoring wells (MW-39, MW-40, MW-41, MW-62, MW-63, and MW-64). Monitoring well MW-62 is located hydraulically upgradient of the APH Pond and monitors background quality in the uppermost aquifer. Originally, the remaining five wells were designated as being located hydraulically downgradient of the APH Pond and monitored the quality of groundwater in the uppermost aquifer passing beneath the waste boundary of the APH Pond.

However, during 2018, groundwater potentiometric surface maps historically prepared for the 2015 through 2017 detection monitoring events were reviewed to re-evaluate the apparent directions of groundwater flow in the uppermost aquifer at the APH Pond. Based on this re-evaluation, the groundwater monitoring system for the APH Pond was revised and updated to more adequately reflect the apparent directions of groundwater flow observed since the groundwater monitoring system was originally installed and to more accurately represent the natural range of background groundwater quality. Two of the existing downgradient groundwater monitoring wells (MW-39 and MW-40) were re-designated as background upgradient monitoring wells.

No monitoring wells were installed or decommissioned as part of the CCR groundwater monitoring system for the APH Pond during 2019.

2.2 Semiannual and Quarterly Background Detection Monitoring Sampling

Hydrologic Monitoring Inc. (HMI) performed the semiannual and quarterly background detection monitoring events during 2019 per §257.93 and §257.94 under contract to TRC. Prior to sample collection, each well was visually inspected for conditions that could potentially affect the validity of the analytical results. The results of the inspection were documented on a Water Sample Log. No deficiencies in well construction were noted during the three groundwater monitoring events performed during 2019.

2.2.1 Semiannual Detection Monitoring

Semiannual groundwater quality monitoring samples were collected for the SWDA CCR Multiunit Landfill, E Pond, and APH Pond groundwater monitoring well systems during April 2019. These samples were analyzed for the Appendix III parameters only.

2.2.2 Quarterly Background Detection Monitoring

Quarterly background groundwater detection monitoring samples were collected for all three CCR unit groundwater monitoring systems during July and October 2019. These samples were collected as part of developing a new background groundwater quality data set for the CCR units (see subsection 3.2.1). The quarterly background samples were analyzed for both the Appendix III and Appendix IV parameters. The monitoring wells sampled for each CCR unit are provided below:

CCR UNIT	UPGRADIENT WELLS	DOWNGRADIENT WELLS
SWDA Multiunit	MW-23, MW-28D, MW-42, MW-43, MW-47, MW-48	MW-44R, MW-46, MW-50, MW-52, MW-54, MW-55R, MW-58, MW-65
E Pond	MW-36R, MW-60	MW-37, MW-38, MW-61
APH Pond	MW-39, MW-40, MW-62	MW-41, MW-63, MW-64

The Appendix III data for the October quarterly background groundwater detection monitoring event were also used for the October 2019 semiannual detection monitoring statistical analysis.

2.2.3 Analytical Laboratories

During 2019, two TCEQ-certified analytical laboratories were used to perform the groundwater sample analyses. The samples collected during April were analyzed by TestAmerica Houston (TestAmerica) located in Houston, Texas, which had analyzed the groundwater samples under the CCR Rule beginning in 2015. TestAmerica is a TCEQ certified laboratory (TCEQ ID T104704223-18-23).

The July and October quarterly background groundwater detection monitoring samples were analyzed by ALS Environmental (ALS) located in Houston, Texas, which is a TCEQ certified laboratory (TCEQ ID T104704231-18-22).

2.2.4 Laboratory and Field Analyses

The April 2019 semiannual detection monitoring samples were analyzed for the CCR parameters pursuant to §257.94(a) (Appendix III, Part 257 of the CCR Rule). The July and October quarterly background groundwater detection monitoring samples were analyzed for CCR parameters pursuant to §257.94(b) (Appendix III and Appendix IV, Part 257 of the CCR Rule). Additionally, field parameters (pH, temperature, specific conductivity, and turbidity) were obtained for all monitoring wells during the three groundwater monitoring sampling events performed during 2019.

Laboratory and field analytical data are provided in Appendices A through C. Both the quarterly background and semiannual detection monitoring analytical data are summarized in Table 2-3.

2.3 Laboratory Data Quality Review

Upon receipt of the April, July, and October 2019 groundwater monitoring analytical data from the analytical laboratories, the data were evaluated for completeness, overall quality and usability, method-specified sample holding times, precision and accuracy, and potential sample contamination.

TRC concluded that the July and October laboratory analytical data, analyzed by ALS, were complete and usable for the purposes of the CCR quarterly background and semiannual detection monitoring programs. However, as discussed in subsection 3.2.1, TRC identified laboratory data quality issues that called into question the accuracy and usability of the historical laboratory analytical data analyzed by TestAmerica, including the April 2019 data set. Laboratory data quality review information is provided in Appendix D.

2.4 Groundwater Flow Direction and Gradient

Static groundwater elevations were measured for each monitoring well at all three CCR units during the April, July, and October 2019 detection monitoring events prior to sample collection. These measurements are provided in Table 2-1 for the SWDA CCR Multiunit Landfill, E Pond, and APH Pond. Groundwater potentiometric surface maps were developed for the April, July, and October detection monitoring events to evaluate groundwater flow direction. The potentiometric surface maps are as follows:

- SWDA CCR Multiunit Landfill. Figures 2-4, 2-7, and 2-10;
- APH Pond. Figures 2-5, 2-8, and 2-11; and
- E Pond. Figures 2-6, 2-9, and 2-12.

Groundwater flow direction and gradient information for all three CCR units for the three 2019 detection monitoring sampling events are provided below:

- SWDA CCR Multiunit Landfill. Groundwater is typically encountered at depths ranging from 11.54 (MW-44) to 25.25 (MW-50) feet below the top of casing (btoc) at the SWDA (SWMU 001), with the overall direction of groundwater flow beneath and in the vicinity of the SWDA (SWMU 001) to the northeast. The average calculated groundwater gradient ranged from 0.00139 ft/ft to 0.00192 ft/ft.
- E Pond. Groundwater is typically encountered at depths ranging from 6.68 (MW-60) to 11.61 (MW-61) feet btoc at the E Pond (SWMU 020), with the overall direction of groundwater flow beneath and in the vicinity of the E Pond (SWMU 020) to the southwest. The average calculated groundwater gradient ranged from 0.0160 ft/ft to 0.0166 ft/ft.
- APH Pond. Groundwater is typically encountered at depths ranging from 7.76 (MW-41) to 11.29 (MW-62) feet btoc at the APH Pond, with the overall direction of groundwater flow beneath and in the vicinity of the APH Pond to the south. The average calculated groundwater gradient ranged from 0.0160 ft/ft to 0.0166 ft/ft.

Section 3

Status of Groundwater Monitoring and Corrective Action Program

3.1 Semiannual and Quarterly Background Detection Monitoring Summary

This *Annual Report* provides the monitoring data for the semiannual detection monitoring performed during April and the quarterly background detection monitoring performed during July, and October 2019 for the three CCR units. Previous monitoring data were provided in the 2017 and 2018 *Annual Reports*. Based on the data and results of the monitoring activities, the status of the groundwater monitoring and corrective action program at the Station, problems encountered, actions to resolve the problems, and key actions completed during 2019 are summarized in the following subsections.

3.2 Problems Encountered and Resolution

During 2019, the following issues were encountered for the CCR groundwater monitoring program for the Station as follows:

- Based on historical laboratory data quality review and validation of CCR groundwater quality data, laboratory data quality issues were identified (see subsection 3.2.1). Based on identification of these issues, the accuracy and quality of the laboratory analytical data used to develop the historical background groundwater quality data set were brought into question.
- Based on laboratory data quality issues, it was concluded that the existing background groundwater quality data set was unreliable. Therefore, it was concluded that a new background groundwater quality data set should be developed for statistical analysis and identification of SSIs. Development of a new background groundwater quality data set began in the third quarter 2019 per §257.94(b) for detection monitoring.

Until the new background groundwater quality data set has been developed, the existing background groundwater quality data set will continue to be used for statistical evaluation.

- Elevated pH values for two groundwater monitoring wells (MW-46 and MW-55) at the SWDA CCR Multiunit Landfill have been periodically observed and identified as potential SSIs during the background and detection monitoring sampling events. Evaluation of the construction records for both wells indicated that grout may potentially have migrated from the well annular space through the wells screen and into the well, resulting in the

observed elevated pH measurements. Therefore, both wells were plugged and abandoned and replacement wells MW-46R and MW-55R were installed next to the former monitoring wells prior to the April 2019 detection monitoring sampling event; and

- Monitoring well MW-38 was damaged by ongoing CCR management activities at the E Pond. The well was plugged and abandoned and replaced by a new replacement well MW-38R prior to the July 2019 quarterly background detection monitoring sampling event.

3.2.1 Historical Background Data Quality Review and Validation

TRC identified laboratory data quality issues for the historical laboratory analytical data for 2015 through April 2019. Therefore, on behalf of NRG, TRC reviewed the historical quarterly background and semiannual groundwater detection monitoring laboratory analytical results for the W.A. Parish Station. TRC's review was performed during the first half 2019 and included extensive interaction with the laboratory's project manager responsible for NRG's CCR Rule laboratory analytical program. TRC's review included the Sampling and Analysis Plans (SAPs) for each Station, laboratory Quality Control (QC) standards and guidelines established by the USEPA, and TRC's Quality Control procedures.

As a result of this review, TRC identified laboratory quality and procedural issues associated with the historical CCR Rule analyses, which called into question the accuracy and usability of the historical CCR Rule groundwater laboratory analytical data for the Parish Station. Furthermore, TRC concluded that these laboratory issues have been occurring since the start of the CCR Rule laboratory analytical program in 2015.

Beginning in July 2019, ALS was selected to perform the groundwater analyses under the CCR Rule, including performing the analyses for the development of a new background groundwater data quality set for the Appendix III and IV parameters per §257.94(b). Therefore, eight rounds of groundwater sampling shall be conducted within the same duration as defined for an existing CCR unit, which is samples collected quarterly over a two-year period.

Prior to collection of the eighth background quarterly monitoring samples, which is anticipated to be performed during the second quarter 2021, NRG will continue to use the existing Appendix III background groundwater quality data set to perform statistical analysis for the second half 2019 and the first and second half 2020 semiannual detection monitoring programs. Once eight independent quarterly background groundwater monitoring events have been performed, the new background groundwater quality data

set will be used for statistical analysis, which is anticipated to begin with the second half 2021 semiannual detection monitoring program.

3.3 Key Actions Completed

In addition to resolving the above-noted problems encountered in the groundwater monitoring program during 2019, the following key actions were completed during 2019:

- The 2018 *Annual Groundwater Monitoring and Corrective Action Report* was prepared per §257.90(e) and (f), placed into the FOR on January 31, 2019, and posted to NRG's publicly accessible CCR website by March 2, 2019.
- The semiannual detection monitoring groundwater samples for the SWDA CCR Multiunit Landfill, E Pond, and APH Pond were collected during April 2019. The samples were analyzed for the Appendix III detection monitoring parameters;
- The quarterly background detection monitoring groundwater samples for all three CCR units were collected during July and October 2019. The samples were analyzed for the Appendix III and Appendix IV detection and assessment monitoring parameters as part of the development of a new background groundwater quality data set;
- The October 2019 Appendix III quarterly background detection monitoring analytical results and existing background groundwater quality set were used for statistical analysis for the second half 2019 semiannual detection monitoring program;
- Groundwater potentiometric surface maps, direction of groundwater flow, and average groundwater flow velocities were prepared and calculated for the first half 2019 semiannual detection monitoring event and the July and October quarterly background detection monitoring events for all three CCR units;
- Statistical analysis was completed for the second half 2018 (October) and first half 2019 (April) semiannual detection monitoring events;
- Apparent SSIs above background were identified for all three CCR units for the second half 2018 (October) and first half 2019 (April) semiannual detection monitoring events; and
- Written ASDs were completed during 2019 that successfully demonstrated that potential SSIs above background for the first half (May 2018), second half (October 2018), and first half (April 2019) semiannual detection monitoring events were due to alternative sources and laboratory analytical data quality issues;
- Installed replacement wells MW-46R and MW-55R next to former monitoring wells MW-46 and MW-55 at the SWDA CCR Multiunit Landfill due to apparent well construction issues that appeared to allow grout from the well annular space to migrate through the well

screen into the wells, resulting in elevated pH values during historical detection monitoring sampling events; and

- Installed replacement well MW-38R next to former monitoring well MW-38 at the E Pond, which had been damaged during ongoing CCR management activities.
- Beginning in July 2019, ALS was selected to perform the groundwater analyses under the CCR Rule, including performing the analyses for the development of a new background groundwater data quality set for the Appendix III and IV parameters per §257.94(b).

Based on completion of written ASDs for all three CCR units, the SWDA CCR Multiunit Landfill, E Pond, and APH Pond remained in detection monitoring during 2019. No corrective action activities were performed at the three CCR units pursuant to the CCR Rule during 2019.

No corrective action activities were required or performed at the SWDA Multiunit, E Pond or APH Pond during 2019.

3.4 Monitoring Wells Installed or Decommissioned

Two replacement wells MW-46R and MW-55R were installed next to former wells MW-46 and MW-55 at the SWDA CCR Multiunit Landfill in 2019 due to apparent well construction issues that appeared to allow grout to migrate from the well annular spaces through the well screens into the wells, resulting in elevated pH values during historical detection monitoring sampling events. In addition, one replacement well MW-38R was installed next to former well MW-38 at the E Pond during 2019. MW-38 had been damaged during ongoing CCR management activities.

No other groundwater monitoring wells were installed or decommissioned as part of the CCR groundwater monitoring system for the SWDA CCR Multiunit Landfill, the E Pond, or the APH Pond during 2019.

Section 4

Statistically Significant Increases

This *Annual Report* addresses potential statistically significant increases (SSIs) above background that were determined for groundwater samples collected during the October 2018 and April 2019 semiannual detection monitoring events.

4.1 October 2018 Semiannual Detection Monitoring Event

Statistical analysis and identification of potential SSIs for the second half 2018 (October) semiannual detection monitoring event were completed during March 2019. The statistical analysis was conducted in accordance with the revised Statistical Methods Certification (August 2018) using tolerance limits per §257.93(f)(3).

4.1.1 SWDA CCR Multiunit Landfill

The results of the statistical analysis for the second half (October 2018) semiannual detection monitoring event is summarized in the table below. Seven SSIs were identified. In accordance with §257.94(e)(2), an ASD was performed to evaluate the potential SSIs, which is discussed in Section 5.0.

SSIs - October 2018 - SWDA CCR Multiunit Landfill

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
UPGRADIENT MONITORING WELLS						
Calcium	MW-23	N/A	313	10/29/2018	405	mg/L
Chloride	MW-23	N/A	992	10/29/2018	1,290	mg/L
pH	MW-23	6.9	10.6	10/29/2018	11.61	SU
DOWNGRADIENT MONITORING WELLS						
Calcium	MW-52	N/A	313	10/29/2018	372	mg/L
pH	MW-50	6.9	10.6	10/29/2018	6.68	SU
pH	MW-55	6.9	10.6	10/29/2018	12.57	SU
pH	MW-58	6.9	10.6	10/29/2018	6.73	SU

4.1.2 E Pond

The results of the statistical analysis for the second half (October 2018) monitoring event are summarized in the following table. Nine potential SSIs were identified. In accordance with §257.94(e)(2), an ASD was performed to evaluate the potential SSIs as discussed in Section 5.0.

SSIs - October 2018 - E Pond

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
Boron	MW-37	N/A	0.160	10/29/2018	0.308	mg/L
Boron	MW-38	N/A	0.160	10/29/2018	3.2	mg/L
Boron	MW-61	N/A	0.160	10/29/2018	1.5	mg/L
Calcium	MW-61	N/A	301	10/29/2018	465	mg/L
Chloride	MW-38	N/A	359	10/29/2018	470	mg/L
Sulfate	MW-38	N/A	1,070	10/29/2018	1,500	mg/L
Sulfate	MW-61	N/A	1,070	10/29/2018	1,210	mg/L
TDS	MW-38	N/A	1,958	10/29/2018	2,430	mg/L
TDS	MW-61	N/A	1,958	10/29/2018	2,160	mg/L

mg/L= milligrams per liter

SU = Standard Units

N/A = Not Applicable

LTL – Lower Tolerance Limit

UTL – Upper Tolerance Limit

4.1.3 APH Pond

The results of the statistical analysis for the second half (October 2018) monitoring event are summarized in the following table. Three SSIs were identified. In accordance with §257.94(e)(2), an ASD was performed to evaluate the potential SSIs, which is discussed in Section 5.0.

SSIs - October 2018 - APH Pond

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
UPGRADIENT MONITORING WELLS						
Boron	MW-39	N/A	0.127	10/29/2018	0.141	mg/L
Chloride	MW-39	N/A	824	10/29/2018	874	mg/L
DOWNGRADIENT MONITORING WELLS						
Sulfate	MW-63	N/A	449	10/29/2018	505	mg/L

mg/L= milligrams per liter

SU = Standard Units

N/A = Not Applicable

LTL – Lower Tolerance Limit

UTL – Upper Tolerance Limit

4.2 April 2019 Semiannual Detection Monitoring Event

Statistical analysis and identification of potential SSIs for the first half (April 2019) semiannual detection event were completed during August 2019. The statistical analyses were conducted in accordance with the revised Statistical Methods Certification (August 2018) using tolerance limits per §257.93(f)(3).

4.2.1 SWDA CCR Multiunit Landfill

The results of the statistical analysis for the April 2019 semiannual detection monitoring event are summarized in the table below. One potential SSI was identified for upgradient monitoring well MW-42 (and a split sample with an alternative secondary laboratory). In accordance with §257.94(e)(2), an ASD was performed to evaluate the potential SSI as discussed in Section 5.0.

SSIs - April 2019 - SWDA CCR Multiunit Landfill

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
UPGRADIENT MONITORING WELLS						
Sulfate	MW-42	N/A	1,220	4/29/2019	1,320 JL	mg/L
Sulfate	MW-42	N/A	1,220	4/29/2019	519*	mg/L

mg/L= milligrams per liter

SU = Standard Units

N/A = Not Applicable

LTL – Lower Tolerance Limit

UTL – Upper Tolerance Limit

* = Split sample with alternative laboratory

4.2.2 E Pond

The results of the statistical analysis for the first half (April 2019) monitoring event are summarized in the following table. Fourteen potential SSIs were identified. In accordance with §257.94(e)(2), an ASD was performed to evaluate the potential SSIs, which is discussed in Section 5.0.

SSIs - April 2019 - E Pond

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
UPGRADIENT MONITORING WELLS						
Chloride	MW-60	N/A	359	4/29/2019	781 JL	mg/L
DOWNGRADIENT MONITORING WELLS						
Boron	MW-37	N/A	0.16	4/29/2019	0.310	mg/L
Boron	MW-37	N/A	0.16	4/29/2019	0.361	mg/L
Boron	MW-38	N/A	0.16	4/29/2019	2.01	mg/L
Boron	MW-61	N/A	0.16	4/29/2019	1.28	mg/L

SSIs - April 2019 - E Pond

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
DOWNGRADIANT MONITORING WELLS						
Calcium	MW-38	N/A	301	4/29/2019	454	mg/L
Chloride	MW-37	N/A	359	4/29/2019	387 JL	mg/L
Chloride	MW-37	N/A	359	4/29/2019	247*	mg/L
Chloride	MW-38	N/A	359	4/29/2019	661 JL	mg/L
Sulfate	MW-61	N/A	1,070	4/29/2019	1,690 JL	mg/L
Total Dissolved Solids	MW-37	N/A	1,958	4/29/2019	1,910	mg/L
Total Dissolved Solids	MW-37	N/A	1,958	4/29/2019	1,990*	mg/L
Total Dissolved Solids	MW-38	N/A	1,958	4/29/2019	2,710	mg/L
Total Dissolved Solids	MW-61	N/A	1,958	4/29/2019	1,690 JL	mg/L

mg/L= milligrams per liter

SU = Standard Units

N/A = Not Applicable

LTL – Lower Tolerance Limit

UTL – Upper Tolerance Limit

* = Split sample with alternative laboratory

4.2.3 APH Pond

The results of the statistical analysis for the April 2019 semiannual detection monitoring event are summarized in the table below. Six potential SSIs were identified. In accordance with §257.94(e)(2), an ASD was performed to evaluate the potential SSIs, which is discussed in Section 5.0.

SSIs - April 2019 - APH Pond

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
UPGRADIANT MONITORING WELLS						
Chloride	MW-39	N/A	824	4/29/2019	1,710 JL	mg/L
Chloride	MW-40	N/A	824	4/29/2019	1,570 JL	mg/L
DOWNGRADIANT MONITORING WELLS						
Chloride	MW-63	N/A	824	4/29/2019	973	mg/L
Chloride	MW-63	N/A	824	4/29/2019	408*	mg/L
Field pH	MW-41	6.0	6.9	4/29/2019	7.36	mg/L
Sulfate	MW-63	N/A	449	4/29/2019	760 JL	mg/L
Sulfate	MW-63	N/A	449	4/29/2019	352*	mg/L

mg/L= milligrams per liter

SU = Standard Units

N/A = Not Applicable

LTL – Lower Tolerance Limit

UTL – Upper Tolerance Limit

* = Split sample with alternative laboratory

Section 5

Alternative Source Demonstrations

Potential SSIs above background levels were identified for the SWDA CCR Multiunit Landfill and the E Pond for the first half (May 2018) semiannual detection monitoring event. Potential SSIs were identified for the SWDA CCR Multiunit Landfill, the E Pond, and the APH Pond for the second half (October 2018) and the first half (April 2019) semiannual detection monitoring events.

Pursuant to §257.94(e)(2), the owner or operator may demonstrate that a source other than the CCR unit caused the SSI(s) over background levels for a constituent or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. To evaluate the potential SSIs and to determine whether an ASD could be successfully demonstrated, ASDs were completed and certified by a qualified Texas professional engineer (P.E.) during 2019 as follows:

- In April 2019, ASDs were certified for potential SSIs identified for the SWDA CCR Multiunit Landfill and the E Pond for the first half (May 2018) semiannual detection monitoring sampling event;
- In September 2019, ASDs were certified for potential SSIs identified for the SWDA CCR Multiunit Landfill, the E Pond, and the APH Pond for the second half (October 2018) semiannual detection monitoring sampling event; and
- In November 2019, ASDs were certified for potential SSIs identified for the SWDA CCR Multiunit Landfill, the E Pond, and the APH Pond for the first half (April 2019) semiannual detection monitoring sampling event.

Pursuant to §257.94(e)(2), ASDs were successfully completed for the SWDA CCR Multiunit Landfill, the E Pond, and the APH Pond. Therefore, all three CCR units remained in detection monitoring during 2019. A total of eight ASDs were completed during 2019 for three semiannual detection monitoring events, which are discussed in the subsections below. The completed ASDs are provided in Appendix E.

5.1 SWDA CCR Multiunit Landfill

Three ASDs were successfully completed for the SWDA CCR Multiunit Landfill during 2019. The ASDs are summarized for the May and October 2018 and April 2019 semiannual detection monitoring sampling events below:

- May 2018. Two potential SSIs were identified for two downgradient groundwater monitoring wells (MW-46 and MW-55). pH was identified as the potential SSI for both wells. The ASD was completed in April 2019. Two alternative sources were identified for the potential SSIs:
 - 1) Low statistical significance because nonparametric methods had to be employed; and
 - 2) Potential well construction issues that have been allowing grout to migrate into the well from the annular space.

- October 2018. Seven potential SSIs were identified. Three potential SSIs were located at upgradient monitoring well MW-23 and the remaining four potential SSIs were identified at four of the downgradient groundwater monitoring wells (MW-50, MW-52, MW-55, and MW-58). Calcium, chloride, and pH were identified as potential SSIs. The ASD was completed in September 2019. Three alternative sources were identified for the potential SSIs:
 - 1) For upgradient monitoring well MW-23, a short baseline period upon which the background upper tolerance limits were calculated;
 - 2) For the four downgradient monitoring wells, the following two alternative sources areas were identified:
 - Potential well construction issues that could have been allowing grout to migrate into the well from the annular space; and
 - Laboratory data quality issues identified for the historical laboratory analyses (see subsection 3.2.1).

As discussed previously, pH values for MW-46 and MW-55 were greater than its upper tolerance limit (UTL) value for the May 2018 semiannual detection monitoring event. Although, pH values were within the lower tolerance limit (LTL) and the UTL for the October 2018 semiannual detection monitoring event, the pH values were still elevated. The elevated pH values indicated potential migration of grout from the annular space into the well through the well screen.

- April 2019. One potential SSI was identified at upgradient groundwater monitoring well MW-42. Sulfate was identified as the potential SSI for both the sample and a split sample analyzed by an alternative secondary laboratory. The ASD was completed in November 2019. Three alternative sources were identified for the potential SSI:
 - 1) A short baseline period upon which the background UTL were calculated;
 - 2) Laboratory analytical errors; and

- 3) Laboratory data quality issues identified for the historical laboratory analyses (see subsection 3.2.1).

During the April 2019 semiannual detection monitoring sampling event, split samples were collected at one monitoring well for each of the three CCR units at the Station as part of an overall evaluation of potential laboratory quality analytical issues. MW-42 was the selected well for the SWDA CCR Multiunit Landfill. The sulfate concentration at MW-42 reported by the primary laboratory exceeded its UTL; however, the concentration reported for the split sample by the alternative secondary laboratory did not exceed its UTL. The split sample result supports laboratory issues as an alternative source for the potential SSI.

As discussed previously, pH values for MW-46 and MW-55 had been elevated for both monitoring events, which indicated potential grout migration from the annular space into the well through the well screen. Replacement monitoring wells MW-46R and MW-55R were installed during March 2019 prior to the April 2019 semiannual detection monitoring event. pH was measured for both replacement wells after installation and development during March 2019 and during the April 2019 semiannual detection monitoring sampling event. pH values for March and April 2019 are summarized in the table below:

Replacement Well pH Results

LOCATION	BASELINE RANGE	3/28/2019	4/29/2019
MW-46/MW-46R	7.28 – 12.17	7.21	7.01
MW-55/MW-55R	8.85 – 12.10	7.41	7.20

MW-46R and MW55R installed in March 2019

Direct comparison of the pH values supports the line of reasoning that the previously elevated pH values for MW-46 and MW-55 indicated that migration of grout from the well annular spaces into the well through the well screen had historically occurred, and the elevated pH measurements were not indicative of releases to groundwater from the SWDA CCR Multiunit Landfill.

5.2 E Pond

Three ASDs were successfully completed for the E Pond during 2019. The ASDs are summarized for the May and October 2018 and April 2019 semiannual detection monitoring sampling events below:

- May 2018. Eleven potential SSIs were identified in all three downgradient groundwater monitoring wells (MW-37, MW-38, and MW-61). Boron, calcium, pH, sulfate, and total

dissolved solids (TDS) were identified as the potential SSIs. The ASD was completed in April 2019. Three alternative sources were identified for the potential SSIs:

- 1) Since the E Pond is located at an area of active Station activities, the presence of CCR and non-CCR materials at the immediate vicinity of the E Pond;
- 2) Presence of accumulations of CCR on the ground surface around the E Pond, including the locations of the flush-mount groundwater monitoring wells. Based on observations by field personnel during the May 2018 semiannual detection monitoring sampling event, both CCR and non-CCR materials had the opportunity to directly cross-contaminate groundwater samples as they were being collected; and
- 3) A short baseline period upon which the background UTLs were calculated.

To address this alternative source, the five flush-mount monitoring wells were modified before the October 2018 semiannual detection monitoring event by installing casing extensions and protective casings to protect the monitoring wells from the accidental introduction of CCR directly into groundwater samples during future monitoring events. These modifications were performed to prevent potential further introduction of surficial materials into groundwater samples or the monitoring wells. Nine potential SSIs were identified in all three downgradient monitoring wells. Boron, calcium, chloride, sulfate, and TDS were identified as the potential SSIs. Three alternative sources were identified for the potential SSIs:

- 1) Since the E Pond is located at an area of active Station activities, the presence of CCR and non-CCR materials at the immediate vicinity of the E Pond;
- 2) Silt was observed in the monitoring wells during collection of the groundwater samples. The silt was likely inadvertently introduced into the wells before the well casings were extended up from the initial flush-mount configurations.
- 3) Laboratory data quality issues identified for the historical laboratory analyses (see subsection 3.2.1).

Based on the observation of silt in the monitoring wells, it was determined that all five wells should be redeveloped to remove silt from the monitoring wells. Therefore, the monitoring wells were redeveloped prior to the next (April 2019) semiannual detection monitoring sampling event.

- April 2019. Fourteen potential SSIs were identified, including one potential SSI in upgradient monitoring well MW-60. The remaining 10 potential SSIs were identified in all three downgradient monitoring wells. Boron, calcium, chloride, sulfate, and TDS were identified as the potential SSIs. Four alternative sources were identified for the potential SSIs:

- 1) Since the E Pond is located at an area of active Station activities, the presence of CCR and non-CCR materials at the immediate vicinity of the E Pond;
- 2) A short baseline period upon which the background UTLs were calculated;
- 3) Laboratory analytical errors; and
- 4) Laboratory data quality issues identified for the historical laboratory analyses (see subsection 3.2.1).

During the April 2019 semiannual detection monitoring sampling event, split samples were collected at one monitoring well for each of the three CCR units at the Station as part of an overall evaluation of potential laboratory quality analytical issues. MW-37 was the selected well for the E Pond. Substantial differences were noted in the reported concentrations between the primary laboratory and the alternative secondary laboratory. The split sample results support laboratory issues as an alternative source for the potential SSIs.

5.3 APH Pond

Two ASDs were successfully completed for the APH Pond during 2019. The ASDs are summarized for the October 2018 and April 2019 semiannual detection monitoring sampling events below:

- October 2018. Three potential SSIs were identified, including two potential SSIs in upgradient monitoring well MW-39. The remaining potential SSI was identified in downgradient monitoring well MW-63. Boron, chloride, and sulfate were identified as the potential SSIs. Three alternative sources were identified for the potential SSIs:
 - 1) A short baseline period upon which the background UTLs were calculated;
 - 2) Low statistical significance for the boron analytical results because nonparametric statistical methods were required for the statistical analysis; and
 - 3) Laboratory data quality issues identified for the historical laboratory analyses (see subsection 3.2.1).
- April 2019. Six potential SSIs were identified, including one in upgradient monitoring well MW-39. The remaining five potential SSIs were identified in two downgradient monitoring wells MW-41 and MW-63. Chloride, pH, and sulfate were identified as the potential SSIs. Four alternative sources were identified for the potential SSIs:
 - 1) A short baseline period upon which the background UTLs were calculated;
 - 2) Laboratory analytical errors; and

- 3) Laboratory data quality issues identified for the historical laboratory analyses (see subsection 3.2.1).

During the April 2019 semiannual detection monitoring sampling event, split samples were collected at one monitoring well for each of the three CCR units at the Station as part of an overall evaluation of potential laboratory quality analytical issues. MW-63 was the selected well for the APH Pond. The chloride and sulfate concentrations for MW-63 reported by the primary laboratory exceeded their respective UTLs; however, the concentrations reported for the split sample by the alternative secondary laboratory did not exceed their UTLs. The split sample results support laboratory issues as an alternative source for the potential SSI.

Section 6

Projected Key Activities for 2020

Key activities projected for 2020 are as follows:

- The 2019 *Annual Report* will be prepared and placed into the FOR by January 31, 2020 and posted to the facility's publicly accessible CCR website by March 1, 2020;
- The fourth quarter 2019 and second quarter 2020 Appendix III quarterly background detection monitoring laboratory analytical results and the existing background groundwater quality data set will be used to perform the second half 2019 and first half 2020 semiannual detection monitoring statistical analyses and identify potential SSIs, which will be completed during 2020;
- Quarterly background groundwater detection monitoring samples will be collected during 2020 for all three CCR units for analysis for the Appendix III and Appendix IV detection and assessment monitoring parameters as part of the development of a new background groundwater quality data set;
- Groundwater potentiometric surface maps, determination of groundwater flow directions, and calculation of average groundwater flow velocities will be performed for the four quarterly background groundwater detection monitoring events during 2020; and
- Written ASDs will be prepared, if required, to evaluate potential SSIs above background for the second half 2019 and first half 2020 semiannual detection monitoring programs for all three CCR units.

Section 7

References

- Federal Register, Vol. 80 No. 74, April 17, 2015, 40 CFR Parts 257 and 261, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule.
- ERM, Sampling and Analysis Plan, October 2017, W.A. Parish Electric Generating Station, Thompsons, Texas.
- ERM, CCR Statistical Analysis Plan, October 2017, W.A. Parish Electric Generating Station, Thompsons, Texas.
- ERM, Annual Groundwater Monitoring Report, January 30, 2018, W.A. Parish Electric Generating Station, Air Preheater Pond (SWMU 021), Thompsons, Texas.
- ERM, Annual Groundwater Monitoring Report, January 30, 2018, W.A. Parish Electric Generating Station, FGD Emergency Pond (SWMU 020), Thompsons, Texas.
- ERM, Annual Groundwater Monitoring Report, January 30, 2018, W.A. Parish Electric Generating Station, Solid Waste Disposal Area, Cell 1C (SWMU 001), Thompsons, Texas.
- ERM, Annual Groundwater Monitoring Report, January 30, 2018, W.A. Parish Electric Generating Station, Solid Waste Disposal Area, Cell 2A – Pug Mill (SWMU 001), Thompsons, Texas.
- ERM, Annual Groundwater Monitoring Report, January 30, 2018, W.A. Parish Electric Generating Station, Solid Waste Disposal Area, Cell 2B (SWMU 001), Thompsons, Texas.
- ERM, Annual Groundwater Monitoring Report, January 30, 2018, W.A. Parish Electric Generating Station, Solid Waste Disposal Area, Cell 3 (SWMU 001), Thompsons, Texas.
- TRC, 2018 Annual Groundwater Monitoring and Corrective Action Report, January 31, 2019, W.A. Parish Electric Generating Station, Secondary E Pond (Unit 003) and Landfill (Unit 004), Thompsons, Texas.
- TRC, Alternative Source Demonstration, April 2019, W.A. Parish Electric Generating Station, FGD Emergency Pond (SWMU 020), Thompsons, Texas.

TRC, Alternative Source Demonstration, April 2019, W.A. Parish Electric Generating Station, Solid Waste Disposal Area (SWMU 001) CCR Multiunit, Jewett, Texas.

TRC, Alternative Source Demonstration, September 2019, W.A. Parish Electric Generating Station, Air Preheater Pond (SWMU 021), Thompsons, Texas.

TRC, Alternative Source Demonstration, September 2019, W.A. Parish Electric Generating Station, FGD Emergency Pond (SWMU 020), Thompsons, Texas.

TRC, Alternative Source Demonstration, September 2019, W.A. Parish Electric Generating Station, Solid Waste Disposal Area (SWMU 001), Thompsons, Texas.

TRC, Alternative Source Demonstration, November 2019, W.A. Parish Electric Generating Station, Air Preheater Pond (SWMU 021), Thompsons, Texas.

TRC, Alternative Source Demonstration, November 2019, W.A. Parish Electric Generating Station, FGD Emergency Pond (SWMU 020), Thompsons, Texas.

TRC, Alternative Source Demonstration, November 2019, W.A. Parish Electric Generating Station, Solid Waste Disposal Area (SWMU 001), Thompsons, Texas.

TRC, Groundwater Monitoring System Certification, August 2018, W.A. Parish Electric Generating Station, Thompsons, Texas.

TRC, Statistical Methods Certification, August 2018, W.A. Parish Electric Generating Station, Thompsons, Texas.

Figures

TRC Environmental Corporation | NRG Texas Power, LLC

2020 Annual Groundwater

S:\NRG\W.A. PARISH\2019\2019 CRR ANNUAL REPORT\2. REPORTS\FINAL 2019 W A PARISH ANNUAL GW REPORT_1-29-2020.DOCX

January 31, 2020

IMAGERY SOURCE: Google Earth (10/28/2017)



0 900' 1,800'
SCALE IN FEET
1" = 1,800'-0"

F.M. 2759 - THOMPSONS RD.

CELL 1C

CELL 2B

SWDA

PUG MILL

CELL 3

CORTEZ RD.

SMITHERS LAKE

FGD
EMERGENCY
POND

AIR
PREHEATER
POND

TU JONES RD.

SMITHERS LAKE RD.

LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- SOLID WASTE DISPOSAL AREA

PROJECT: **NRG TEXAS POWER, LLC
W.A. Parish Station
Thompsons, Texas**

TITLE: **CCR UNITS LOCATION MAP**

DRAWN BY: O. Fonseka	PROJECT No.: 294645.0000.0000
CHECKED BY: T. Dworaczyk	FIGURE 1-2
APPROVED BY: T. Dworaczyk	
DATE: January 2019	



10550 Richmond Ave.
Suite 210
Houston, TX 77042
Phone: 713.244.1000

FILE: Fig 1-2 - NRG-WAParishStation - CCR Units Location Map.dwg

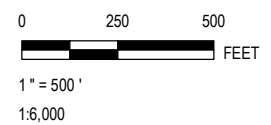
HOU M:\ACAD-TRC\DRAWING\C\CLIENT-Name - K-L-M-N-ON\NRG\W.A. Parish Station - Thompsons-TX\2019 - CCR-Report\ Fig 1-2 - NRG-WAParishStation - CCR Units Location Map.dwg 01/30/19



LEGEND

- MULTIUNIT DOWNGRAIDENT MONITORING WELL
- MULTIUNIT UPGRADIENT MONITORING WELL

NOTE:
 R = MONITOR WELL REPLACED IN 2019.



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PROJECT:	NRG TEXAS POWER, LLC W.A. PARISH STATION THOMPSONS, TEXAS
TITLE:	SOLID WASTE DISPOSAL AREA GROUNDWATER MONITORING NETWORK

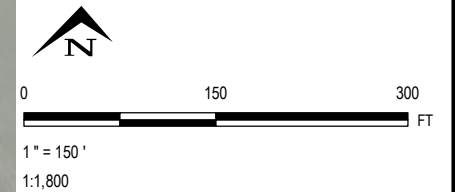
DRAWN BY:	S.RAY
CHECKED BY:	A. ELJURI
APPROVED BY:	J. SPEER
DATE:	JANUARY 2020
PROJ. NO.:	294645.0000.0000
FILE:	294645_2-1.mxd
FIGURE 2-1	



- Legend**
- MULTIUNIT DOWNGRAIDENT MONITORING WELL
 - MULTIUNIT UPGRADIENT MONITORING WELL

NOTE:
R = MONITOR WELL REPLACED IN 2019.

AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).



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PROJECT:

**NRG TEXAS POWER, LLC
W.A. PARISH STATION
THOMPSONS, TEXAS**

TITLE:

**FGD EMERGENCY POND
GROUNDWATER MONITORING NETWORK**

DRAWN BY:

S. RAY

CHECKED BY:

A. ELJURI

APPROVED BY:

J. SPEER

DATE:

JANUARY 2020

PROJ. NO.:

294645.0000.0000

FILE:

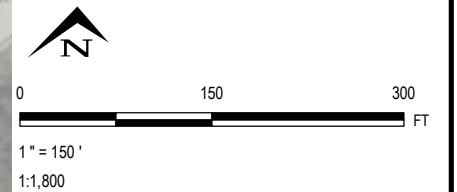
294645_2-2.mxd

FIGURE 2-2



- Legend**
- MULTIUNIT DOWNGRAIDENT MONITORING WELL
 - MULTIUNIT UPGRADIENT MONITORING WELL

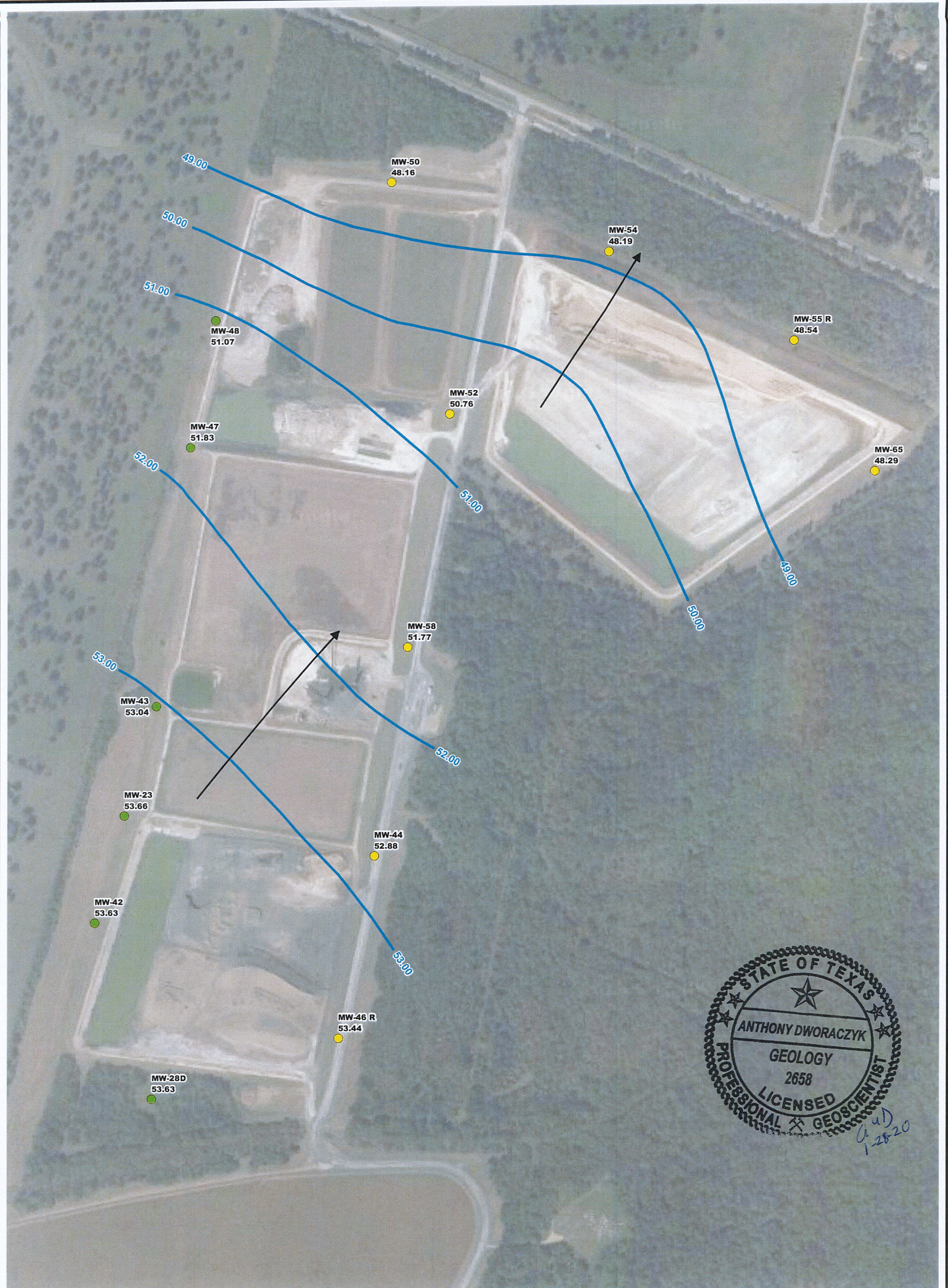
AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).




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PROJECT:	NRG TEXAS POWER, LLC W.A. PARISH STATION THOMPSONS, TEXAS
TITLE:	AIR PREHEATER POND GROUNDWATER MONITORING NETWORK

DRAWN BY:	S. RAY
CHECKED BY:	A. ELJURI
APPROVED BY:	J. SPEER
DATE:	JANUARY 2019
PROJ. NO.:	294645.0000.0000
FILE:	294645_2-3.mxd
FIGURE 2-3	



LEGEND

- MULTIUNIT DOWNGRADEMENT MONITORING WELL
- MULTIUNIT UPGRADIENT MONITORING WELL

- GROUNDWATER ELEVATION CONTOUR - DASHED WHERE INFERRED (FT MSL)
- GROUNDWATER FLOW DIRECTION

NOTE:
 GROUNDWATER ELEVATIONS MEASURED BY HMI ON APRIL 29TH, 2019.
 R = MONITOR WELL REPLACED IN 2019.



53.63 GROUNDWATER ELEVATION (FT MSL)



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PROJECT:

**NRG TEXAS POWER, LLC
 W.A. PARISH STATION
 THOMPSONS, TEXAS**

TITLE:

**SOLID WASTE DISPOSAL AREA
 GROUNDWATER POTENTIOMETRIC SURFACE MAP APRIL 2019**

DRAWN BY:

S.RAY

CHECKED BY:

APPROVED BY:

DATE:

JANUARY 2020

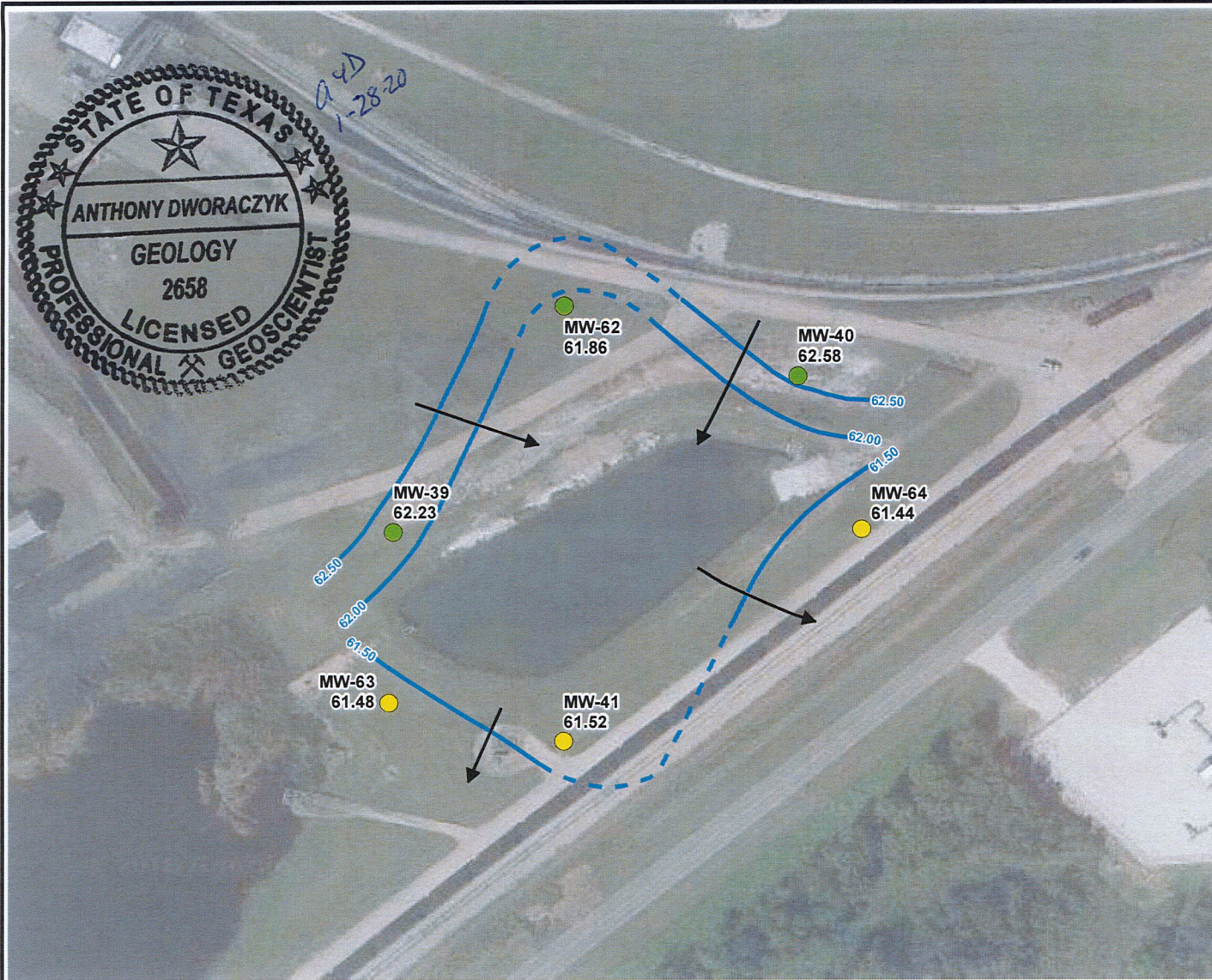
PROJ. NO.:

294645.0001.0000

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294645.0001_2-4.mxd

FIGURE 2-4

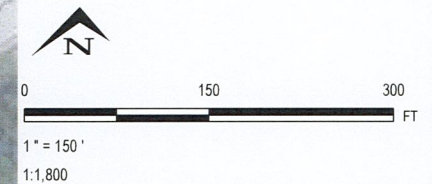


LEGEND

- MULTIUNIT DOWNGRADIENT MONITORING WELL
- MULTIUNIT UPGRADIENT MONITORING WELL
- 62.58 GROUNDWATER ELEVATION (FT MSL)
- ← GROUNDWATER FLOW
- GROUNDWATER ELEVATION - DASHED WHERE INFERRED (FT MSL)

NOTE:
GROUNDWATER ELEVATIONS MEASURED BY TRC ENVIRONMENTAL CORPORATION (TRC) ON APRIL 29TH, 2019.

AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).

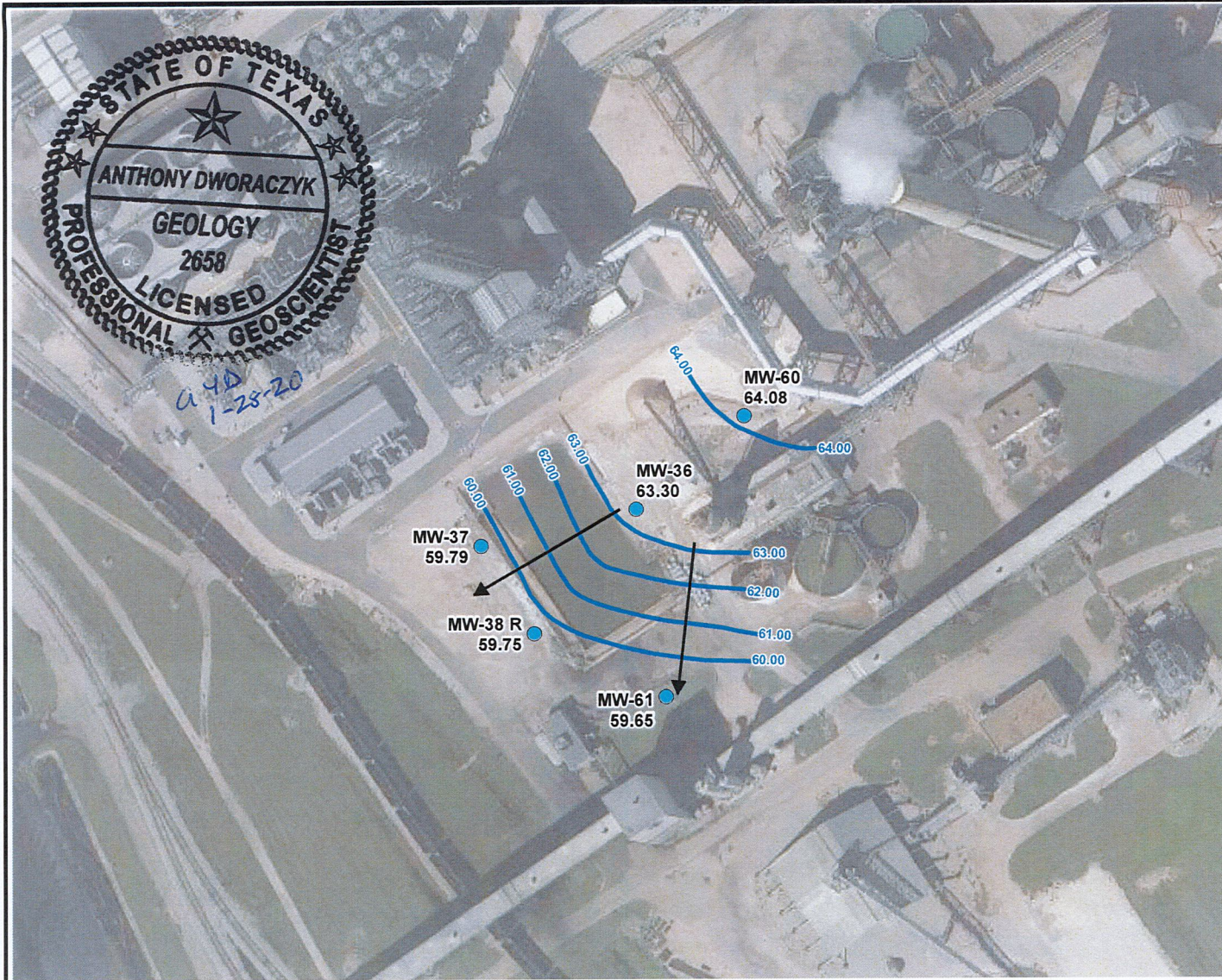



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TRC - GIS

PROJECT:	NRG TEXAS POWER, LLC W.A. PARISH STATION THOMPSONS, TEXAS
TITLE:	AIR PREHEATER POND GROUNDWATER POTENTIOMETRIC SURFACE MAP APRIL 2019

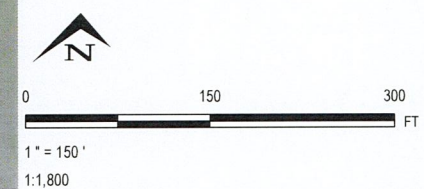
DRAWN BY:	S. RAY
CHECKED BY:	
APPROVED BY:	
DATE:	SEPTEMBER 2019
PROJ. NO.:	294645.0000.0000
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FIGURE 2-5	



- LEGEND**
- MONITORING WELL
 - ← GROUNDWATER FLOW DIRECTION
 - 64.08 GROUNDWATER ELEVATION (FT MSL)
 - GROUNDWATER ELEVATION CONTOUR - DASHED WHERE INFERRED (FT MSL)

NOTE:
GROUNDWATER ELEVATIONS MEASURED BY HMI ON APRIL 29TH, 2019.
R = MONITOR WELL REPLACED IN 2019.

AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).

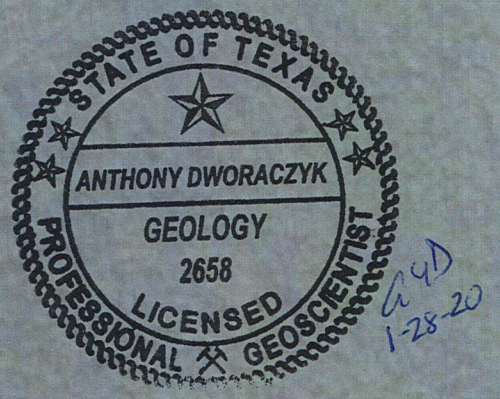
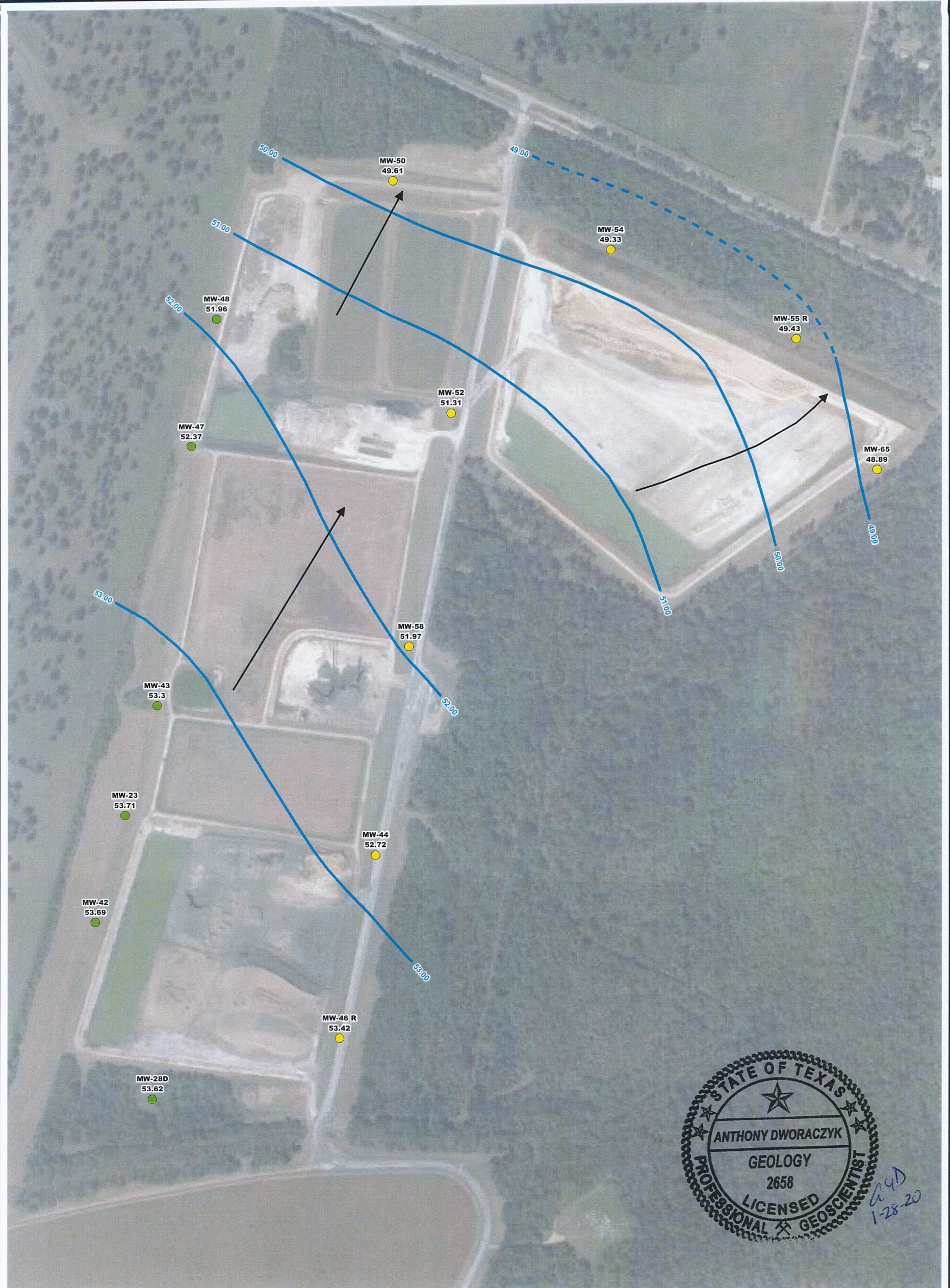



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PROJECT:	NRG TEXAS POWER, LLC W.A. PARISH STATION THOMPSONS, TEXAS
TITLE:	FGD EMERGENCY POND GROUNDWATER POTENTIOMETRIC SURFACE MAP APRIL 2019

DRAWN BY:	S. RAY
CHECKED BY:	
APPROVED BY:	
DATE:	JANUARY 2020
PROJ. NO.:	294645.0000.0000
FILE:	294645.0001_2-6.mxd
FIGURE 2-6	

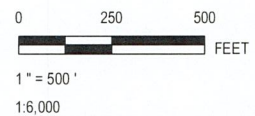


LEGEND

- MULTIUNIT DOWNGRADIENT MONITORING WELL
- MULTIUNIT UPGRADIENT MONITORING WELL

- GROUNDWATER ELEVATION CONTOUR - DASHED WHERE INFERRED (FT MSL)
- GROUNDWATER FLOW DIRECTION

NOTE:
 GROUNDWATER ELEVATIONS MEASURED BY HMI ON JULY 29TH, 2019.
 R = MONITOR WELL REPLACED IN 2019.



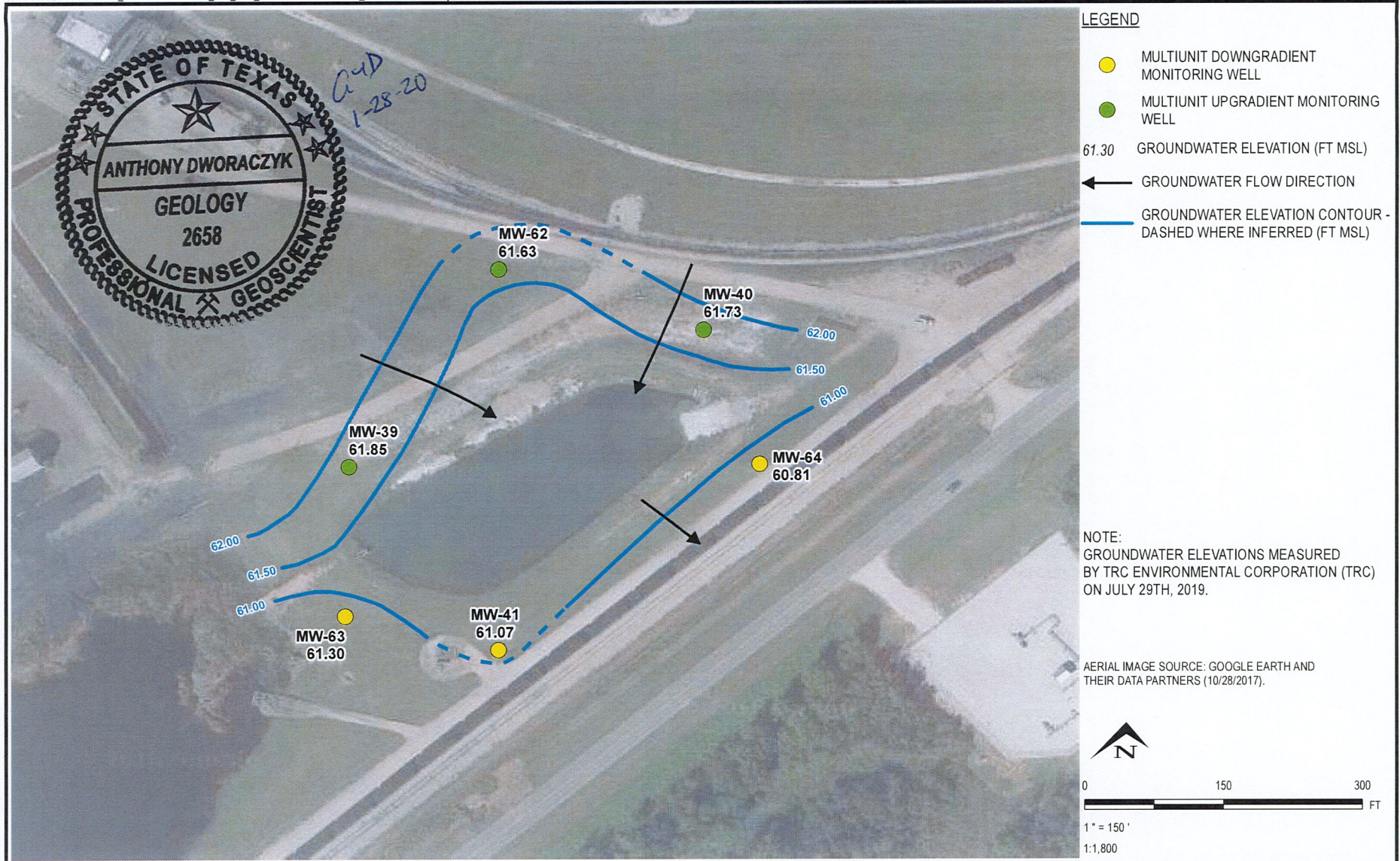
53.42 GROUNDWATER ELEVATION (FT MSL)



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PROJECT:	NRG TEXAS POWER, LLC W.A. PARISH STATION THOMPSONS, TEXAS
TITLE:	SOLID WASTE DISPOSAL AREA GROUNDWATER POTENTIOMETRIC SURFACE MAP JULY 2019

DRAWN BY:	SRAY
CHECKED BY:	
APPROVED BY:	
DATE:	JANUARY 2020
PROJ. NO.:	294645.0001.0000
FILE:	294645.0001_2-7.mxd
FIGURE 2-7	

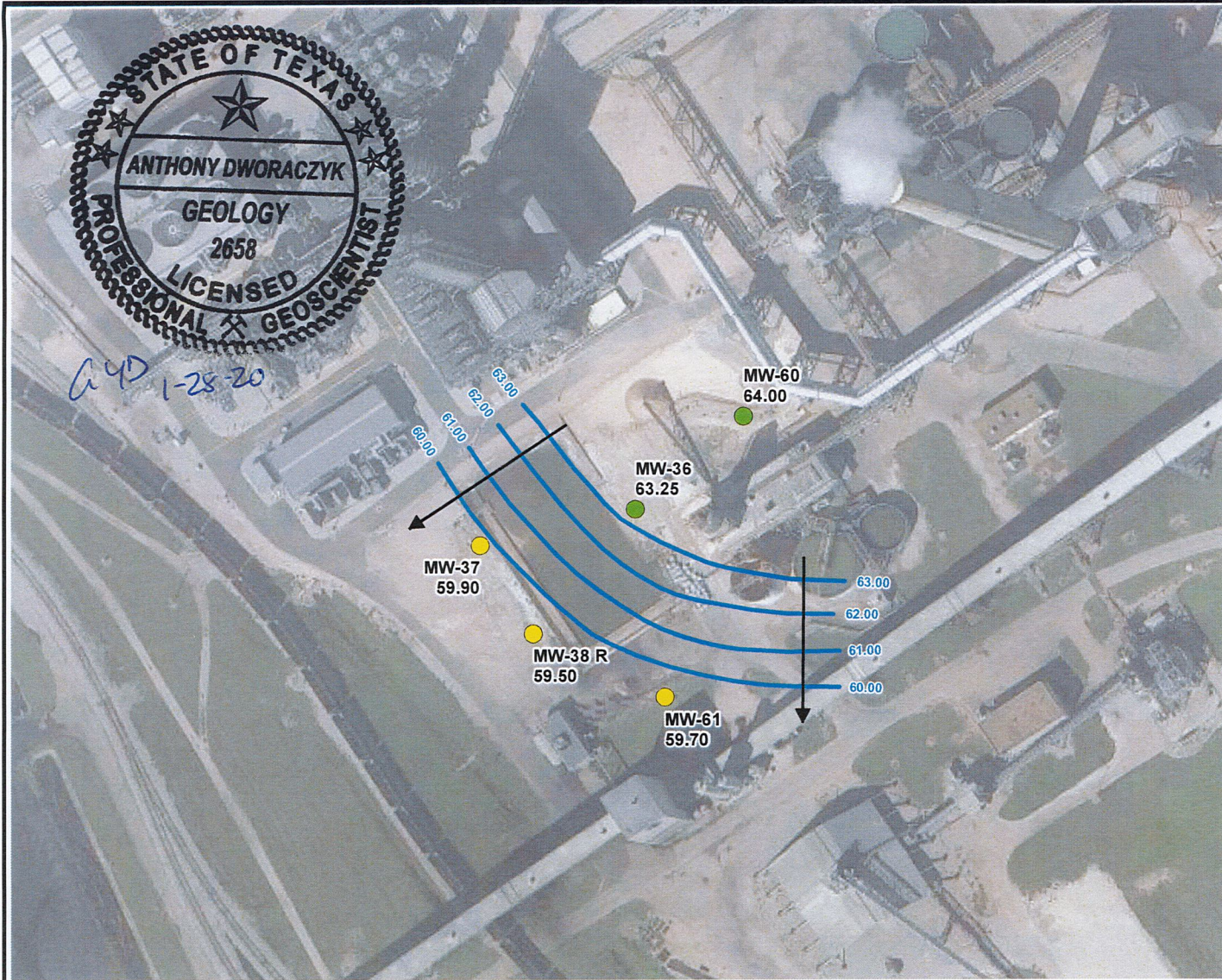


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PROJECT:	NRG TEXAS POWER, LLC W.A. PARISH STATION THOMPSONS, TEXAS
TITLE:	AIR PREHEATER POND GROUNDWATER POTENTIOMETRIC SURFACE MAP JULY 2019

DRAWN BY:	S. RAY
CHECKED BY:	
APPROVED BY:	
DATE:	SEPTEMBER 2019
PROJ. NO.:	294645.0001.0000
FILE:	294645.0001_2-8.mxd
FIGURE 2-8	

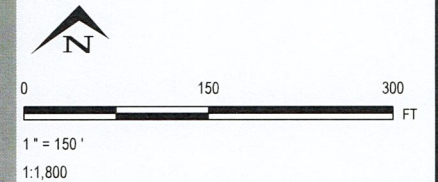


LEGEND

- MULTIUNIT DOWNGRADIENT MONITORING WELL
- MULTIUNIT UPGRADIENT MONITORING WELL
- 59.50 GROUNDWATER ELEVATION (FT MSL)
- ← GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION CONTOUR - DASHED WHERE INFERRED (FT MSL)

NOTE:
GROUNDWATER ELEVATIONS MEASURED BY HMI ON JULY 29TH, 2019.
R = MONITOR WELL REPLACED IN 2019.

AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).



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TRC - GIS

PROJECT:

NRG TEXAS POWER, LLC
W.A. PARISH STATION
THOMPSONS, TEXAS

TITLE:

FGD EMERGENCY POND
GROUNDWATER POTENTIOMETRIC SURFACE MAP JULY 2019

DRAWN BY: S. RAY

CHECKED BY:

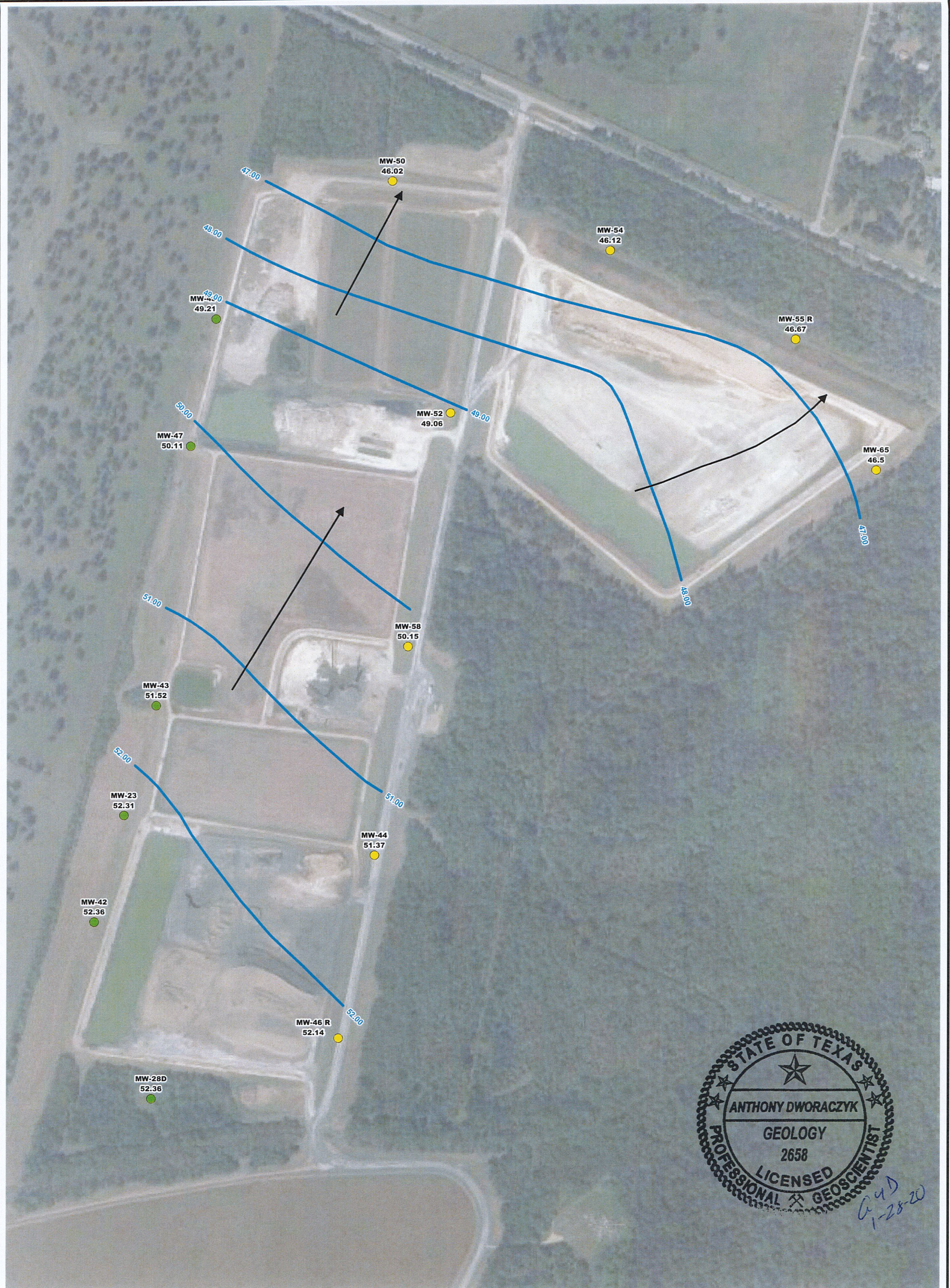
APPROVED BY:

DATE: JANUARY 2020

PROJ. NO.: 294645.0001.0000

FILE: 294645.0001_2-9.mxd

FIGURE 2-9

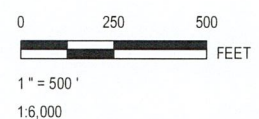


LEGEND

- MULTIUNIT DOWNGRADIENT MONITORING WELL
- MULTIUNIT UPGRADIENT MONITORING WELL

- GROUNDWATER ELEVATION CONTOUR - DASHED WHERE INFERRED (FT MSL)
- GROUNDWATER FLOW DIRECTION

NOTE: GROUNDWATER ELEVATIONS CONTOURS INTERPRETED BY TRC BASED ON GROUNDWATER ELEVATIONS MEASURED BY HYDROLOGIC MONITORING (HMI) ON OCTOBER 18TH, 2019. R = MONITOR WELL REPLACED IN 2019.



53.42 GROUNDWATER ELEVATION (FT MSL)



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PROJECT:

**NRG TEXAS POWER, LLC
 W.A. PARISH STATION
 THOMPSONS, TEXAS**

TITLE:

**SOLID WASTE DISPOSAL AREA
 GROUNDWATER POTENTIOMETRIC SURFACE MAP OCTOBER 2019**

DRAWN BY:

S.RAY

CHECKED BY:

APPROVED BY:

DATE:

JANUARY 2020

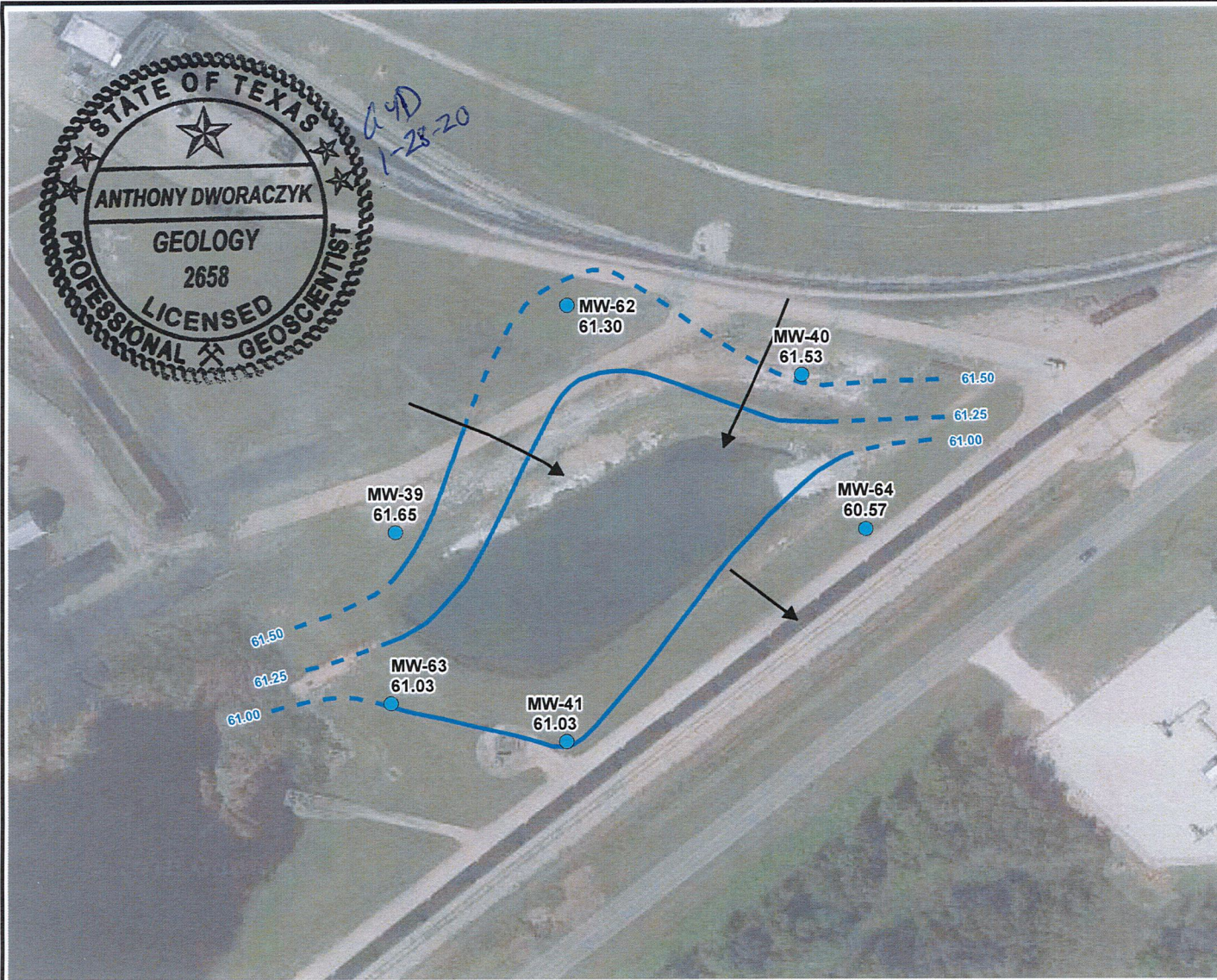
PROJ. NO.:

294645.0001.0000

FILE:

294645.0001_2-10.mxd

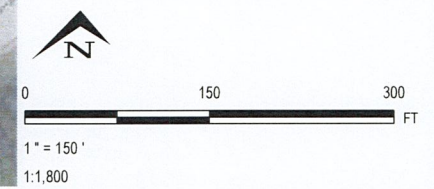
FIGURE 2-10



- LEGEND**
- MONITORING WELL
 - 61.65 GROUNDWATER ELEVATION (FT MSL)
 - ← GROUNDWATER FLOW DIRECTION
 - GROUNDWATER ELEVATION CONTOUR - DASHED WHERE INFERRED (FT MSL)

NOTE:
GROUNDWATER ELEVATIONS MEASURED
BY HMI ON OCTOBER 18TH, 2019.

AERIAL IMAGE SOURCE: GOOGLE EARTH AND
THEIR DATA PARTNERS (10/28/2017).

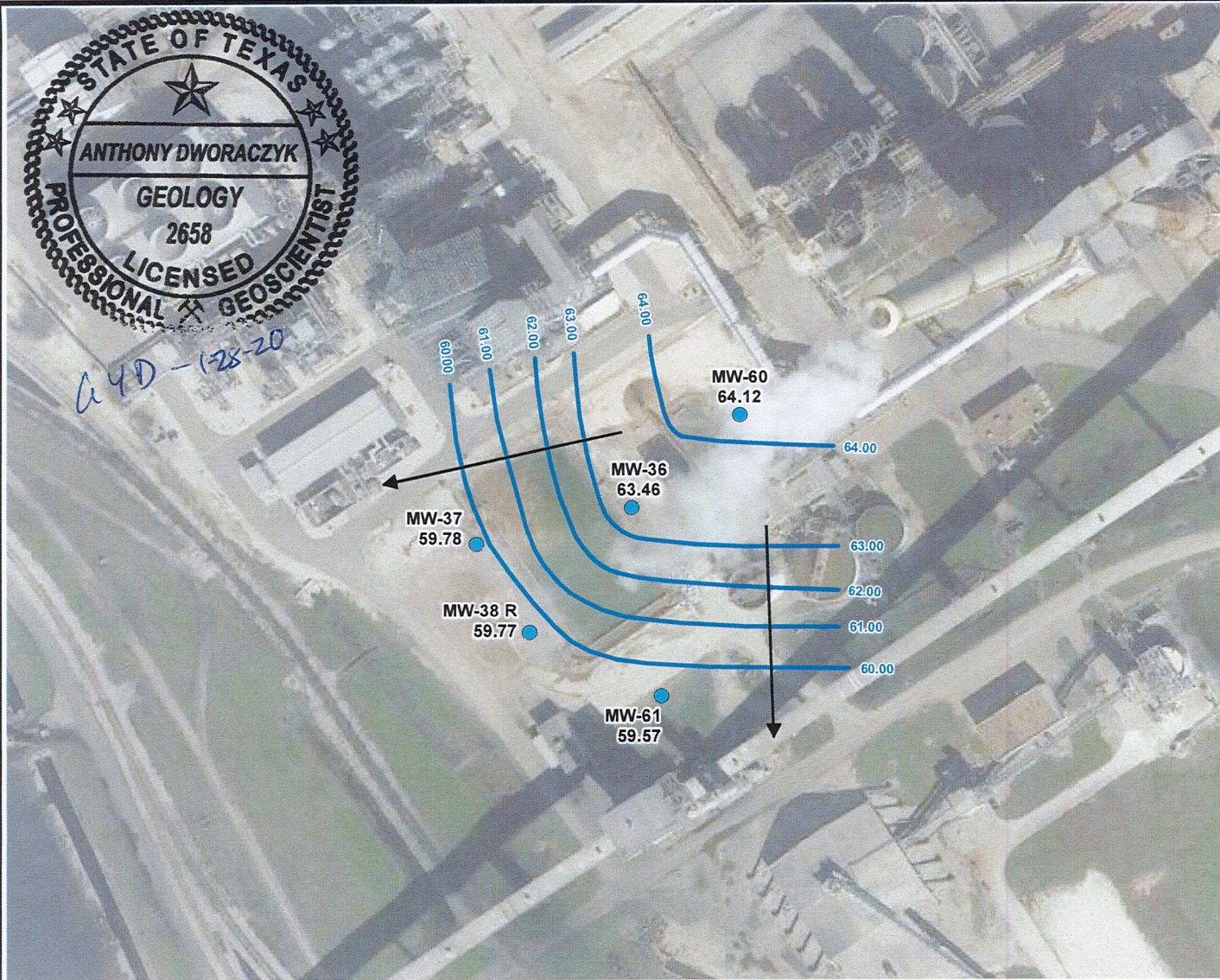



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TRC - GIS

PROJECT:	NRG TEXAS POWER, LLC W.A. PARISH STATION THOMPSONS, TEXAS
TITLE:	AIR PREHEATER POND GROUNDWATER POTENTIOMETRIC SURFACE MAP OCTOBER 2019

DRAWN BY:	S. RAY
CHECKED BY:	
APPROVED BY:	
DATE:	NOVEMBER 2019
PROJ. NO.:	294645.0001.0000
FILE:	294645.0001_2-11.mxd
FIGURE 2-11	

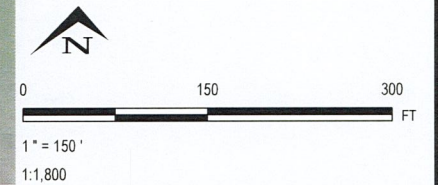


LEGEND

- MONITORING WELL
- 59.78 GROUNDWATER ELEVATION (FT MSL)
- ← GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION CONTOUR - DASHED WHERE INFERRED (FT MSL)

NOTE:
 GROUNDWATER ELEVATIONS MEASURED BY HMI ON OCTOBER 18TH, 2019.
 R = MONITOR WELL REPLACED IN 2019.

AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).



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PROJECT:	NRG TEXAS POWER, LLC W.A. PARISH STATION THOMPSONS, TEXAS
TITLE:	FGD EMERGENCY POND GROUNDWATER POTENTIOMETRIC SURFACE MAP OCTOBER 2019

DRAWN BY:	S. RAY
CHECKED BY:	
APPROVED BY:	
DATE:	JANUARY 2020
PROJ. NO.:	294645.0001.0000
FILE:	294645.0001_2-12.mxd
FIGURE 2-12	

Tables

TRC Environmental Corporation | NRG Texas Power, LLC

2020 Annual Groundwater

S:\NRG\W.A. PARISH\2019\2019 CRR ANNUAL REPORT\2. REPORTS\FINAL 2019 W A PARISH ANNUAL GW REPORT_1-29-2020.DOCX

January 31, 2020

Table 2-1
Summary of Groundwater Elevation Data
April, July, and October 2019
WA Parish Electric Generating Station - Thompsons, Texas

Well Description	Well ID	Measurement Date	Top of Casing (ft. MSL)	Depth to Water (ft.)	Ground Water Elevation (ft. MSL)	
Air Pre-Heater Pond						
Downgradient	MW-41	4/29/2019	69.18	7.66	61.52	
		7/29/2019	69.18	8.11	61.07	
		10/18/2019	69.18	8.15	61.03	
	MW-63	4/29/2019	70.35	8.89	61.46	
		7/29/2019	70.35	9.05	61.30	
		10/18/2019	70.35	9.32	61.03	
	MW-64	4/29/2019	70.00	8.56	61.44	
		7/29/2019	70.00	9.19	60.81	
		10/18/2019	70.00	9.43	60.57	
Upgradient	MW-39	4/29/2019	70.27	8.04	62.23	
		7/29/2019	70.27	8.42	61.85	
		10/18/2019	70.27	8.62	61.65	
	MW-40	4/29/2019	71.67	9.09	62.58	
		7/29/2019	71.67	9.94	61.73	
		10/18/2019	71.67	10.14	61.53	
	MW-62	4/29/2019	72.59	10.73	61.86	
		7/29/2019	72.59	10.96	61.63	
		10/18/2019	72.59	11.29	61.30	
Solid Waste Disposal Area						
Downgradient	MW-44	4/29/2019	64.42	11.54	52.88	
		7/29/2019	64.42	11.70	52.72	
		10/18/2019	64.42	13.05	51.37	
	MW-46R	4/29/2019	67.92	14.48	53.44	
		7/29/2019	67.92	14.50	53.42	
		10/18/2019	67.92	15.78	52.14	
	MW-50	4/29/2019	71.27	23.11	48.16	
		7/29/2019	71.27	21.66	49.61	
		10/18/2019	71.27	25.25	46.02	
	MW-52	4/29/2019	67.91	17.15	50.76	
		7/29/2019	67.91	16.60	51.31	
		10/18/2019	67.91	18.85	49.06	
	MW-54	4/29/2019	68.29	20.10	48.19	
		7/29/2019	68.29	18.96	49.33	
		10/18/2019	68.29	22.17	46.12	
	MW-55R	4/29/2019	69.82	21.28	48.54	
		7/29/2019	69.82	20.39	49.43	
		10/18/2019	69.82	23.15	46.67	
	MW-58	4/29/2019	65.40	13.63	51.77	
		7/29/2019	65.40	13.43	51.97	
		10/18/2019	65.40	15.25	50.15	
	MW-65	4/29/2019	66.65	18.36	48.29	
		7/29/2019	66.65	17.76	48.89	
		10/18/2019	66.65	20.15	46.50	
	Upgradient	MW-23	4/29/2019	65.47	11.81	53.66
			7/29/2019	65.47	11.76	53.71
			10/18/2019	65.47	13.16	52.31
MW-28D		4/29/2019	70.37	16.74	53.63	
		7/29/2019	70.37	16.75	53.62	
		10/18/2019	70.37	18.01	52.36	
MW-42		4/29/2019	65.88	12.25	53.63	
		7/29/2019	65.88	12.19	53.69	
		10/18/2019	65.88	13.52	52.36	
MW-43		4/29/2019	66.67	13.63	53.04	
		7/29/2019	66.67	13.37	53.30	
		10/18/2019	66.67	15.15	51.52	

**Table 2-1
Summary of Groundwater Elevation Data
April, July, and October 2019
WA Parish Electric Generating Station - Thompsons, Texas**

Well Description	Well ID	Measurement Date	Top of Casing (ft. MSL)	Depth to Water (ft.)	Ground Water Elevation (ft. MSL)
Upgradient	MW-47	4/29/2019	70.40	18.57	51.83
		7/29/2019	70.40	18.03	52.37
		10/18/2019	70.40	20.29	50.11
	MW-48	4/29/2019	65.89	14.82	51.07
		7/29/2019	65.89	13.93	51.96
		10/18/2019	65.89	16.68	49.21
FDG Emergency Pond					
Downgradient	MW-37	4/29/2019	74.17	11.48	62.69
		7/29/2019	74.17	11.37	62.80
		10/18/2019	74.17	11.49	62.68
	MW-38	4/29/2019	73.68	10.96	62.72
	MW-38R	8/5/2019	70.88	11.38	59.50
		10/18/2019	70.88	11.10	59.78
	MW-61	4/29/2019	74.49	11.56	62.93
		7/29/2019	74.49	11.51	62.98
		10/18/2019	74.49	11.64	62.85
Upgradient	MW-36	4/29/2019	73.81	8.01	65.80
		7/29/2019	73.81	8.06	65.75
		10/18/2019	73.81	7.85	65.96
	MW-60	4/29/2019	72.90	6.72	66.18
		7/29/2019	72.90	6.80	66.10
		10/18/2019	72.90	6.68	66.22

Table 2-2
Summary of Groundwater Monitoring Data - Appendix III
April, July, and October 2019
WA Parish Electric Generating Station - Thompsons, Texas

				Appendix III Analytes							
				Boron	Calcium	Chloride	Fluoride	Sulfate	Total Dissolved Solids	pH, Field	
Well Description	Well ID	Sample Date	Duplicate	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	
Air Heater Pond											
Upgradient	MW-39	04/29/2019	N	0.0980 J	234 b	1710 [JL]	0.230	319 [JL]	2380	6.70	
		07/29/2019	N	2.18	245 [JL]	663	0.16	161	1950	6.60	
		10/18/2019	N	0.0809	239	710 [JL]	0.070 J	169 [JL]	2010	6.65	
	MW-40	04/29/2019	N	0.0939 J	269 b	1570 [JL]	0.205	127 [JL]	2060	6.59	
		07/29/2019	N	1.30	260 [JL]	567	0.13	51.0	1990	6.58	
		10/18/2019	N	0.0933	253	554 [JL]	0.060 J	56.8 [JL]	1810	6.63	
	MW-62	04/29/2019	N	0.0872 J	218 b	771 [JL]	0.298	80.3 [JL]	1920	6.67	
		07/29/2019	N	1.00	235 [JL]	564	0.20	84.4	1870	6.63	
		10/18/2019	N	0.0891	213	565 [JL]	0.13	115 [JL]	1650	6.77	
Downgradient	MW-41	04/29/2019	N	0.0776 J	194 b	643 [JL]	0.283	59.4 [JL]	1630	7.36	
		07/29/2019	N	0.996	187 [JL]	458	0.19	47.8	1450	6.58	
		10/18/2019	N	0.0651	156	453 [JL]	0.11	53.1 [JL]	1290	6.76	
	MW-63	04/29/2019	N	0.118 J	282 b	973 [JL]	0.225	760 [JL]	1880	6.70	
		07/29/2019	N	0.0866	276 [J]	368	0.13	399	1770	6.33	
		10/18/2019	N	0.0912	295	399 [JL]	< 0.058 U	390 [JL]	1760	6.60	
	MW-64	04/29/2019	N	0.111 J	222 b	463 [JL]	0.375	87.5 [JL]	1720	6.64	
		07/29/2019	N	0.991	222 [JL]	456	0.25	36.1	1670	6.58	
		10/18/2019	N	0.102	197	468 [JL]	0.24	42.0 [JL]	1380	6.54	
Solid Waste Disposal Area											
Upgradient	MW-23	04/29/2019	N	0.212	151 b	660	0.282	191	1850	7.44	
		07/29/2019	N	1.25	258 [JL]	920	< 0.058 J	328	2610	8.81	
		10/18/2019	N	0.140	236	1050 [JL]	< 0.058 U	356 [JL]	2530	9.54	
	MW-28D	04/29/2019	N	0.173 J	120 b	150	0.451	95.0	1000 H[JL]	6.86	
		07/29/2019	N	0.231	116	130	0.34	86.9	782	6.95	
		10/18/2019	N	0.151	104	112	0.44	81.0	868	7.06	
	MW-42	04/29/2019	N	0.621	178 b	600 [JL]	0.695	1320 [JL]	1940	6.86	
		07/29/2019	N	0.613	168	597	0.59	624	1890	7.02	
		10/18/2019	N	0.538	162	306 [JL]	0.77	635 [JL]	1780	7.14	
	MW-43	04/29/2019	N	0.468	82.1 b	270	0.821	75.4	890	7.08	
		07/29/2019	N	0.483	85.1	207	0.63	70.0	862	7.01	
		10/18/2019	N	0.375	77.8	226	0.79	72.0	894	7.16	
	MW-47	04/29/2019	N	0.271	107 b	304 [JL]	0.520	61.0 [JL]	986	7.20	
		07/29/2019	N	0.279	106	272	0.42	67.7	970	6.95	
		10/18/2019	N	0.224	95.6	274	0.54	72.2	852	7.14	
	MW-48	04/29/2019	N	0.600	75.2 b	396 [JL]	0.814	71.0 [JL]	1230	7.31	
		07/29/2019	N	0.650	80.5	368	0.72	96.5	1220	7.07	
		10/18/2019	N	0.521	66.0	346	0.92	87.8	1120	7.19	
	Downgradient	MW-44	04/29/2019	N	0.235	172 b	654 [JL]	0.502	316 [JL]	1600	7.01
			04/29/2019	FD	0.238	161	454 [JL]	0.462	198 [JL]	1480	n/a
			07/29/2019	N	0.284	164	406	0.39	234	1530	7.03
07/29/2019			FD	0.258	166	438	0.40	244	1590	n/a	
10/18/2019			N	0.214	155	427	0.53 [J]	235	1340	7.04	
10/18/2019			FD	0.215	159	418	0.34 [J]	229	1510	n/a	
MW-46R		04/29/2019	N	0.170 J	111 b	166 [JL]	0.523	79.4 [JL]	808	7.02	
		07/29/2019	N	0.211	111	145	0.38	74.9	766	6.89	
		10/18/2019	N	0.173	108	98.9	0.51	56.3	700 [J]	7.02	
MW-50		04/29/2019	N	0.271	132 b	369	0.568	99.0	1180	7.03	
		07/29/2019	N	0.307	135	370	0.47	111	1260	6.85	
		10/18/2019	N	0.227	109	360	0.59	105	1040	7.09	
MW-52		04/29/2019	N	0.357	298 b	752	0.566	426	2360	7.02	
		07/29/2019	N	0.405	275	667	0.50	433	2390	6.99	
		10/18/2019	N	0.338	268	690	0.64	411	2120	6.98	
MW-54		04/29/2019	N	0.274	99.5 b	256	0.593	73.4	892	7.20	
		07/29/2019	N	0.291	98.4	234	0.50	69.8	878	6.78	
		10/18/2019	N	0.254	89.2	235	0.63	74.0	852	7.14	
MW-55R		04/29/2019	N	0.744	122 b	274	0.920	165	1170	7.20	
		07/29/2019	N	0.684	120	295	0.79	184	1180	6.94	
		10/18/2019	N	0.578	116	305	0.99	153	1050	7.12	
MW-58	04/29/2019	N	0.324	122 b	359 [JL]	0.550	71.2 [JL]	1140	6.99		
	07/29/2019	N	0.302	110	281	0.48	82.7	1060	6.87		
	10/18/2019	N	0.294	112	294	0.57	84.2	928	7.05		
MW-65	04/29/2019	N	0.299	204 b	312 [JL]	0.461	525 [JL]	1620	7.08		
	07/29/2019	N	0.341	195	217	0.39	602	1700	6.76		
	10/18/2019	N	0.320	214	228	0.38	557	1900 H	7.01		

Table 2-2
Summary of Groundwater Monitoring Data - Appendix III
April, July, and October 2019
WA Parish Electric Generating Station - Thompsons, Texas

				Appendix III Analytes						
				Boron	Calcium	Chloride	Fluoride	Sulfate	Total Dissolved Solids	pH, Field
Analyte Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su
Well Description	Well ID	Sample Date	Duplicate							
FGD Emergency Pond										
Upgradient	MW-36	04/29/2019	N	0.0715 J	240	326 [JL]	0.459	404 [JL]	1520	6.87
		04/29/2019	FD	0.0830 J	231	333 [JL]	0.459	451 [JL]	1540	n/a
		07/29/2019	N	0.0620	254	307	0.42	454	1650	6.89
		07/29/2019	FD	0.0620	253	307	0.41	455	1590	n/a
		10/18/2019	N	0.0815	222	292	0.38	418	1480 H	6.94
		10/18/2019	FD	0.0724	250	288	0.36	411	1380	n/a
	MW-60	04/29/2019	N	0.0939 J	218	781 [JL]	0.366	367 [JL]	1380	6.58
		07/29/2019	N	0.0849	234	344	0.17	198	1450	6.63
		10/18/2019	N	0.0892	228	323	0.12	184	1150 [J]	6.68
Downgradient	MW-37	04/29/2019	N	0.310	227	387 [JL]	0.348	687 [JL]	1910	6.81
		07/29/2019	N	0.355	257	259	0.26	809	2030	6.78
		10/18/2019	N	0.296	262	245	0.21	782	1870	6.85
	MW-38	04/29/2019	N	2.01	454	661 [JL]	0.817	855 [JL]	2710	6.79
		08/05/2019	N	0.359	323	180	0.52	775	1870	6.83
	MW-38R	10/18/2019	N	0.332	231	232	0.25	670	1610	7.78
		04/29/2019	N	1.28	232	205 [JL]	0.467	1690 [JL]	2090	7.02
	MW-61	07/29/2019	N	1.36	246	129	0.30	990	2050	6.90
		10/18/2019	N	1.22	240	114	0.23	940	1930	7.08

**Table 2-3
Summary of Groundwater Monitoring Data - Appendix IV
April, July, and October 2019
WA Parish Electric Generating Station - Thompsons, Texas**

				Appendix IV Analytes																	
Analyte Unit				Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Molybdenum	Selenium	Thallium	Mercury	Fluoride	Radium-226	Radium-228	Radium-226/228	
Well Description	Well ID	Sample Date	Duplicate	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pci/L	pci/L	pci/L	
Air Heater Pond																					
Upgradient	MW-39	04/29/2019	N	0.00710 J	< 0.00285 U	0.144	< 0.000420 U	0.000500 J	< 0.00159 U	< 0.000310 U	< 0.00219 U	0.0463 J	0.00190 J	< 0.00287 U	< 0.00417 U	< 0.000103 U	0.230	n/a	n/a	n/a	
		07/29/2019	N	< 0.000400	0.000996 J	0.152 [JL]	< 0.000200	< 0.000200	0.00210 J[U]	< 0.000252 J	< 0.000600	0.0385	0.000627 J	< 0.00110	0.000202 J	0.0000740 J	0.16	< 0.48 U	< 0.8 U	< 0.8 U	
		10/18/2019	N	< 0.000400	0.000822 J	0.151	< 0.000200	< 0.000200	0.000828 J	< 0.000200	< 0.000600	0.0343	< 0.000600	< 0.00110	0.000271 J[U]	0.0000740 J	0.070 J	< 0.39 U	< 0.75 U	< 0.75 U	
	MW-40	04/29/2019	N	< 0.00393 U	< 0.00285 U	0.626	< 0.000420 U	0.000700 J	0.00570 J	0.00150 J	< 0.00219 U	0.0525 J	0.00200 J	< 0.00287 U	< 0.00417 U	< 0.000103 U	0.205	n/a	n/a	n/a	
		07/29/2019	N	< 0.000400	0.00107 J	0.622 [JL]	< 0.000200	< 0.000200	0.00565 [U]	0.00113 J	< 0.000600	0.0435	0.00198 J	< 0.00110	< 0.000200	< 0.0000300	0.13	0.55	1.3	1.85	
		10/18/2019	N	< 0.000400	0.00126 J	0.578	< 0.000200	< 0.000200	< 0.000400	0.00132 J	< 0.000600	0.0368	0.000690 J	< 0.00110	< 0.000200	< 0.0000300	0.060 J	0.44 Y1[J]	1.96	2.4	
	MW-62	04/29/2019	N	< 0.00393 U	< 0.00285 U	0.355	< 0.000420 U	0.000600 J	0.0126	< 0.000310 U	< 0.00219 U	0.0563 J	0.000800 J	< 0.00287 U	0.00440 J	< 0.000103 U	0.298	n/a	n/a	n/a	
		07/29/2019	N	< 0.000400	0.000636 J	0.327 [JL]	< 0.000200	< 0.000200	0.00798 [U]	< 0.000200	< 0.000600	0.0519	0.00100 J	< 0.00110	< 0.000200	< 0.0000300	0.20	< 0.2 U	1.14	1.14	
		10/18/2019	N	< 0.000400	0.000599 J	0.234	< 0.000200	< 0.000200	0.00198 J	< 0.000200	< 0.000600	0.0379	0.000677 J	< 0.00110	< 0.000200	< 0.0000300	0.13	< 0.48 U	1.39	1.39	
Downgradient	MW-41	04/29/2019	N	< 0.00393 U	< 0.00285 U	0.299	< 0.000420 U	0.000300 J	< 0.00159 U	< 0.000310 U	< 0.00219 U	0.0387 J	< 0.000540 U	< 0.00287 U	< 0.00417 U	< 0.000103 U	0.283	n/a	n/a	n/a	
		07/29/2019	N	< 0.000400	0.000646 J	0.315 [JL]	< 0.000200	< 0.000200	0.00196 J[U]	< 0.000200	< 0.000600	0.0321	< 0.000600	< 0.00110	< 0.000200	< 0.0000300	0.19	< 0.3 U	0.78	0.78	
		10/18/2019	N	< 0.000400	0.000520 J	0.241	< 0.000200	< 0.000200	< 0.000400	< 0.000200	< 0.000600	0.0244	< 0.000600	< 0.00110	< 0.000200	< 0.0000300	0.11	0.4 Y1[J]	0.99	1.39	
	MW-63	04/29/2019	N	< 0.00393 U	0.00320 J	0.0957	< 0.000420 U	0.000600 J	0.0465	< 0.000310 U	< 0.00219 U	0.0393 J	0.00120 J	< 0.00287 U	0.00420 J	0.000130 J[JL]	0.225	n/a	n/a	n/a	
		07/29/2019	N	< 0.000400	0.00186 J	0.0954 [JL]	< 0.000200	< 0.000200	0.0793 [U]	0.000275 J	< 0.000600	0.0299	0.00136 J	< 0.00110	< 0.000200	0.000256	0.13	< 0.25 U	< 0.79 U	< 0.79 U	
		10/18/2019	N	< 0.000400	0.00181 J	0.0921	< 0.000200	< 0.000200	0.0158	< 0.000200	< 0.000600	0.0252	< 0.000600	< 0.00110	< 0.000200	0.000213	< 0.058 U	< 0.45 Y1,U	< 0.76 U	< 0.76 U	
	MW-64	04/29/2019	N	0.0105 J	< 0.00285 U	0.297	< 0.000420 U	0.00100 J	< 0.00159 U	< 0.000310 U	< 0.00219 U	0.0387 J	0.00280 J	< 0.00287 U	< 0.00417 U	< 0.000103 U	0.375	n/a	n/a	n/a	
		07/29/2019	N	< 0.000400	0.00107 J	0.284 [JL]	< 0.000200	< 0.000200	0.00131 J[U]	0.000855 J	< 0.000600	0.0312	< 0.000600	< 0.00110	< 0.000200	< 0.0000300	0.25	0.52	1.32	1.84	
		10/18/2019	N	< 0.000400	0.00115 J	0.269	< 0.00100	< 0.000200	0.000468 J	0.00154 J	< 0.000600	0.0267	< 0.000600	< 0.00110	< 0.000200	< 0.0000300	0.24	0.58 Y1[J]	1.41	1.99	
Solid Waste Disposal Area																					
Upgradient	MW-23	04/29/2019	N	< 0.00393 U	0.00390 J	0.126	< 0.000420 U	0.000800 J	0.0200	< 0.000310 U	< 0.00219 U	0.0645 J	0.00460 J	< 0.00287 U	< 0.00417 U	< 0.000103 U	0.282	n/a	n/a	n/a	
		07/29/2019	N	< 0.000400	0.00284	0.139 [JL]	< 0.000200	< 0.000200	0.251 [U]	< 0.000200	< 0.000600	0.0869	0.00576	< 0.00110	< 0.000200	< 0.0000300	< 0.058 J	0.34	< 0.76 U	< 0.76 U	
		10/18/2019	N	< 0.000400	0.00192 J	0.140	< 0.000200	< 0.000200	0.273	< 0.000200	< 0.000600	0.0661	0.00533	< 0.00110	< 0.000200	< 0.0000300	< 0.058 U	< 0.49 U	1	1	
	MW-28D	04/29/2019	N	< 0.00393 U	0.00910 J	0.228	< 0.000420 U	0.000500 J	< 0.00159 U	< 0.000310 U	< 0.00219 U	0.0349 J	0.00190 J	< 0.00287 U	< 0.00417 U	< 0.000103 U	0.451	n/a	n/a	n/a	
		07/29/2019	N	< 0.000400	0.0108	0.216 [JL]	< 0.000200	< 0.000200	0.00220 J[U]	< 0.000200	< 0.000600	0.0323	0.00191 J	< 0.00110	< 0.000200	< 0.0000300	0.34	< 0.29 U	< 0.77 U	< 0.77 U	
		10/18/2019	N	< 0.000400	0.00889	0.179	< 0.000200	< 0.000200	< 0.000400	< 0.000200	< 0.000600	0.0253	0.00157 J	< 0.00110	< 0.000200	< 0.0000300	0.44	0.45 [J]	< 0.78 U	< 0.78 U	
	MW-42	04/29/2019	N	< 0.00393 U	0.0467	0.0584	< 0.000420 U	0.000300 J	< 0.00159 U	< 0.000310 U	< 0.00219 U	0.0489 J	0.000800 J	< 0.00287 U	< 0.00417 U	< 0.000103 U	0.695	n/a	n/a	n/a	
		07/29/2019	N	< 0.000400	0.0455	0.0518 [JL]	< 0.000200	< 0.000200	0.00144 J[U]	0.000701 J	< 0.000600	0.0393	0.00746	< 0.00110	< 0.000200	< 0.0000300	0.59	< 0.38 U	1.02	1.02	
		10/18/2019	N	< 0.000400	0.0438	0.0475	< 0.000200	< 0.000200	< 0.000400	0.000627 J	< 0.000600	0.0354	0.00658	< 0.00110	< 0.000200	< 0.0000300	0.77	< 0.28 U	< 0.8 U	< 0.8 U	
	MW-43	04/29/2019	N	< 0.00393 U	0.0324	0.127	< 0.000420 U	0.000300 J	< 0.00159 U	< 0.000310 U	< 0.00219 U	0.0486 J	0.00910 J	< 0.00287 U	0.00500 J	< 0.000103 U	0.821	n/a	n/a	n/a	
		07/29/2019	N	< 0.000400	0.0214	0.136 [JL]	< 0.000200	< 0.000200	0.00206 J[U]	< 0.000221 J	< 0.000600	0.0436	0.00842	< 0.00110	< 0.000200	< 0.0000300	0.63	0.59	< 0.82 U	< 0.82 U	
		10/18/2019	N	< 0.000400	0.0394	0.102	< 0.000200	< 0.000200	< 0.000400	0.000386 J	< 0.000600	0.0348	0.00626	< 0.00110	< 0.000200	< 0.0000300	0.79	< 0.3 U	< 0.78 U	< 0.78 U	
	MW-47	04/29/2019	N	< 0.00393 U	< 0.00285 U	0.233	< 0.000420 U	0.000600 J	< 0.00159 U	< 0.000310 U	< 0.00219 U	0.0437 J	0.00170 J	< 0.00287 U	< 0.00417 U	< 0.000103 U	0.520	n/a	n/a	n/a	
		07/29/2019	N	< 0.000400	0.000415 J	0.218 [JL]	< 0.000200	< 0.000200	0.00170 J[U]	< 0.000200	< 0.000600	0.0399	0.00168 J	< 0.00110	< 0.000200	< 0.0000300	0.42	0.47	< 0.81 U	< 0.81 U	
		10/18/2019	N	< 0.000400	< 0.000400	0.188	< 0.000200	< 0.000200	< 0.000400	< 0.000200	< 0.000600	0.0307	0.00144 J	< 0.00110	< 0.000200	< 0.0000300	0.54	0.34 [J]	< 0.71 U	< 0.71 U	
	MW-48	04/29/2019	N	< 0.00393 U	0.0175	0.0849	< 0.000420 U	0.000300 J	< 0.00159 U	< 0.000310 U	< 0.00219 U	0.0393 J	0.0102	< 0.00287 U	< 0.00417 U	< 0.000103 U	0.814	n/a	n/a	n/a	
		07/29/2019	N	< 0.000400	0.0104	0.0783 [JL]	< 0.000200	< 0.000200	< 0.00127 J[U]	< 0.000200	< 0.000600	0.0408	0.0115	< 0.00110	< 0.000200	< 0.0000300	0.72	< 0.35 U	< 0.8 U	< 0.8 U	
		10/18/2019	N	< 0.000400	0.0241	0.0742	< 0.000200	< 0.000200	< 0.000400	0.000283 J	< 0.000600	0.0318	0.00848	< 0.00110	< 0.000200	< 0.0000300	0.92	0.43 [J]	< 0.73 U	< 0.73 U	
	Downgradient	MW-44	04/29/2019	N	< 0.00393 U	0.00560 [J]	0.147	< 0.000420 U	0.000600 J	< 0.00159 U	< 0.000310 U	< 0.00219 U	0.0447 J	0.00320 J	< 0.00287 U	< 0.00417 U	< 0.000103 U	0.502	n/a	n/a	n/a
			04/29/2019	FD	< 0.00393 U	0.0102 [J]	0.146	< 0.000420 U	0.000600 J	< 0.00159 U	< 0.000310 U	< 0.00219 U	0.0466 Jb	0.00270 J	< 0.00287 U	< 0.00417 U	0.000189 J[JL]	0.462	n/a	n/a	n/a
			07/29/2019	N	< 0.000400	0.00800	0.142 [JL]	< 0.000200	< 0.000200	0.00164 J[U]	< 0.000200	< 0.000600	0.0396	0.00311 J	< 0.00110	< 0.000200	< 0.0000300	0.39	0.37	0.96	1.33 [J]
			07/29/2019	FD	< 0.000400	0.00712	0.129	< 0.000200	< 0.000200	0.00143 J[U]	< 0.000200	< 0.000600	0.0364	0.00289 J	< 0.00110	< 0.000200	< 0.0000300	0.40	< 0.31 U	< 0.8 U	< 0.8 U[U]
			10/18/2019	N	< 0.000400	0.0130	0.144	< 0.000200	< 0.000200	< 0.000400	< 0.000200	< 0.000600	0.0353	0.00289 J	< 0.00110	< 0.000200	< 0.0000300	0.53 [J]	< 0.27 U	< 0.87 U[U]	< 0.87 U
			10/18/2019	FD	< 0.000400	0.0139	0.144	< 0.000200	< 0.000200	< 0.000400	< 0.000200	< 0.000600	0.0354	0.00282 J	< 0.00110	< 0.000200	< 0.0000300	0.34 [J]	< 0.38 U	0.88 [JH]	0.88
MW-46R		04/29/2019	N	< 0.00393 U	0.00660																

Table 2-3
Summary of Groundwater Monitoring Data - Appendix IV
April, July, and October 2019
WA Parish Electric Generating Station - Thompsons, Texas

				Appendix IV Analytes																
Analyte		Unit	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Molybdenum	Selenium	Thallium	Mercury	Fluoride	Radium-226	Radium-228	Radium-226/228	
Well Description	Well ID	Sample Date	Duplicate	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pci/L	pci/L	pci/L	
FGD Emergency Pond																				
Upgradient	MW-36	04/29/2019	N	0.0129 J[J]	0.00300 J	0.0402	0.00120 J	0.00100 J[J]	<0.00159 U	0.000600 J	<0.00219 U	0.0517 Jb	0.00190 J[J]	<0.00287 U	<0.00417 U	0.00424 [JL]	0.459	n/a	n/a	n/a
		04/29/2019	FD	<0.00393 U	<0.00285 U	0.0359	<0.000420 U	0.000600 J	<0.00159 U	<0.000310 U	<0.00219 U	0.0492 Jb	0.000600 J[J]	<0.00287 U	<0.00417 U	0.00145 [JL]	0.459	n/a	n/a	n/a
		07/29/2019	N	<0.000400	0.000663 J	0.0373	<0.000200	<0.000200	0.00162 J[U]	0.000443 J	<0.000600	0.0397	0.000948 J	<0.00110	<0.000200	0.000372	0.42	<0.35 U[UJ]	<0.82 U	<0.82 U
		07/29/2019	FD	<0.000400	0.000431 J	0.0335	<0.000200	<0.000200	0.00149 J[U]	0.000377 J	<0.000600	0.0391	0.00100 J	<0.00110	<0.000200	0.000354	0.41	1.87 [J]	<0.8 U	1.87
		10/18/2019	N	<0.000400	0.000547 J	0.0318	<0.000200	<0.000200	<0.000400	0.000468 J	<0.000600	0.0339	0.000782 J	<0.00110	<0.000200	0.000227	0.38	<0.33 U	<0.78 U	<0.78 U
	10/18/2019	FD	<0.000400	0.000465 J	0.0317	<0.000200	<0.000200	<0.000400	0.000537 J	<0.000600	0.0343	0.000809 J	<0.00110	<0.000200	0.000217	0.36	<0.5 U	<0.74 U	<0.74 U	
	04/29/2019	N	0.00410 J	<0.00285 U	0.0778	<0.000420 U	0.000400 J	<0.00159 U	<0.000310 U	<0.00219 U	0.0397 Jb	0.00140 J	<0.00287 U	<0.00417 U	0.000140 J[JL]	0.366	n/a	n/a	n/a	
	07/29/2019	N	<0.000400	0.000689 J	0.0704	<0.000200	<0.000200	0.00133 J[U]	0.000585 J	<0.000600	0.0293	0.00184 J	<0.00110	<0.000200	<0.0000300	0.17	<0.48 U	<0.83 U	<0.83 U	
	10/18/2019	N	<0.000400	0.000429 J	0.0610	<0.000200	<0.000200	<0.000400	0.000518 J	<0.000600	0.0254	0.00106 J	<0.00110	<0.000200	<0.0000300	0.12	<0.26 U	<0.82 U	<0.82 U	
	Downgradient	MW-37	04/29/2019	N	0.0261 J	<0.00285 U	0.0272	<0.000420 U	0.000800 J	0.00260 J	0.00110 J	<0.00219 U	0.0448 Jb	0.00190 J	<0.00287 U	<0.00417 U	<0.000103 U[UJL]	0.348	n/a	n/a
07/29/2019			N	<0.000400	0.000620 J	0.0234	<0.000200	<0.000200	0.00134 J[U]	0.000596 J	<0.000600	0.0349	0.000668 J	<0.00110	<0.000200	<0.0000300	0.26	<0.28 U	<0.82 U	<0.82 U
10/18/2019			N	<0.000400	0.000737 J	0.0188	<0.000200	<0.000200	0.00109 J	0.000359 J	<0.000600	0.0299	0.000617 J	<0.00110	<0.000200	<0.0000300	0.21	<0.3 U	<0.74 U	<0.74 U
MW-38		04/29/2019	N	0.0114 J	<0.00285 U	0.0730	<0.000420 U	0.000500 J	0.00440 J	0.000800 J	<0.00219 U	0.0498 Jb	0.0115	<0.00287 U	<0.00417 U	<0.000103 U[UJL]	0.817	n/a	n/a	n/a
MW-38R		08/05/2019	N	<0.000400	0.00109 J	0.0577	<0.000200	<0.000200	0.00237 J	0.00362 J	<0.000600	0.0341	0.00345 J	<0.00110	<0.000200	<0.0000300	0.52	<0.46 U	<0.72 U	<0.72 U
		10/18/2019	N	<0.000400	0.0109	0.0516	<0.000200	<0.000200	0.0670	0.00279 J	<0.000600	0.0485	0.00310 J	<0.00110	<0.000200	<0.0000300	0.25	<0.41 U	<0.8 U	<0.8 U
MW-61		04/29/2019	N	<0.00393 U	<0.00285 U	0.0239	<0.000420 U	0.000500 J	0.00460 J	0.000900 J	<0.00219 U	0.0488 Jb	<0.000540 U	<0.00287 U	<0.00417 U	<0.000103 U[UJL]	0.467	n/a	n/a	n/a
		07/29/2019	N	<0.000400	0.000585 J	0.0144	<0.000200	<0.000200	0.00132 J[U]	<0.000200	<0.000600	0.0349	0.000929 J	<0.00110	<0.000200	<0.0000300	0.30	<0.44 U	<0.75 U	<0.75 U
10/18/2019		N	<0.000400	0.000462 J	0.0128	<0.000200	<0.000200	<0.000400	<0.000200	<0.000600	0.0306	0.000686 J	<0.00110	<0.000200	<0.0000300	0.23	<0.5 U	<0.76 U	<0.76 U	

Appendix A

Detection Monitoring Data (April 2019)

TRC Environmental Corporation | NRG Texas Power, LLC

2020 Annual Groundwater

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January 31, 2020

ANALYTICAL REPORT

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Laboratory Job ID: 600-184470-1

Client Project/Site: TRC-W. A. Parish CCR App III 4-29-19

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Eurofins TestAmerica, Houston job number 600-184470-1 and consists of:

- R1 - Field chain-of-custody documentation;
- R2 - Sample identification cross-reference;
- R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- R5 - Test reports/summary forms for blank samples;
- R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 - Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Tiffany Fleming, for C. Lance Tigrett

Name (printed)



Signature

5/14/2019

Date

Project Manager II

Official Title (printed)

Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	Eurofins TestAmerica, Houston	LRC Date:	5/14/2019
Project Name:	TRC-W. A. Parish CCR App III 4-29-19	Laboratory Job Number:	600-184470-1
Reviewer Name:	Tiffany Fleming, for C. Lance Tigrett		

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?		X			R03A
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				R05D
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			R07C
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	Eurofins TestAmerica, Houston	LRC Date:	5/14/2019
Project Name:	TRC-W. A. Parish CCR App III 4-29-19	Laboratory Job Number:	600-184470-1
Reviewer Name:	Tiffany Fleming, for C. Lance Tigrett		

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSS?	X				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	X				
<p>1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.</p> <p>2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);</p> <p>3. NA = Not applicable;</p> <p>4. NR = Not reviewed;</p> <p>5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>							

Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	Eurofins TestAmerica, Houston	LRC Date:	5/14/2019
Project Name:	TRC-W. A. Parish CCR App III 4-29-19	Laboratory Job Number:	600-184470-1
Reviewer Name:	Tiffany Fleming, for C. Lance Tigrett		

ER # ¹	Description
R03A	Method SM 2540C: The following sample was analyzed outside of analytical holding time due to analysts error: MW-28D (600-184470-8).
R05D	Method 6010B: The method blank for preparation batch 600-264053 and analytical batch 600-264623 contained Calcium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.
R07C	<p>Method 300.0: 600-184470-5 MS/MSD failed the recovery criteria for the following analytes: Chloride, and Sulfate. Matrix interference is suspected.</p> <p>Method 300.0: 600-184663-A-7 MS/MSD failed the recovery criteria for the following analyte: Chloride. Matrix interference is suspected.</p> <p>Method 300.0: Due to the high concentration of target analytes, samples 600-185155-A-9 MS/MSD could not be evaluated for accuracy. The associated laboratory control sample (LCS) met acceptance criteria.</p>
	<ol style="list-style-type: none"> Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); NA = Not applicable; NR = Not reviewed; ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Matrix: Water
Method: 4500_F_C
Date Analyzed: 1/8/2019
Job #: MDLV 560-158503/13
TALS Batch: 158503
Units: mg/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MLQ
Fluoride	NOEQUIP	0.020	0.050	0.049	0.1



Matrix: Water
Method: SW-846 6010B/6010C
Prep Method: SW-846 3010A
Date Analyzed: 11/28/2018
Job #: 600-174066
TALS Batch: 253003
Units: mg/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MQL
Ag	Thermo6500	0.001	0.003	0.004	0.01
Al	Thermo6500	0.093	0.200	0.182	0.5
As	Thermo6500	0.003	0.008	0.011	0.01
B	Thermo6500	0.012	0.030	0.025	0.2
Ba	Thermo6500	0.001	0.001	0.001	0.02
Be	Thermo6500	0.000	0.001	0.001	0.005
Ca	Thermo6500	0.024	0.050	0.063	1
Cd	Thermo6500	0.000	0.001	0.001	0.005
Co	Thermo6500	0.000	0.001	0.001	0.01
Cr	Thermo6500	0.002	0.004	0.004	0.01
Cu	Thermo6500	0.008	0.020	0.025	0.01
Fe	Thermo6500	0.027	0.080	0.087	0.4
K	Thermo6500	0.037	0.100	0.144	1
Li	Thermo6500	0.002	0.004	0.002	0.2
Mg	Thermo6500	0.056	0.150	0.174	1
Mn	Thermo6500	0.000	0.001	0.002	0.01
Mo	Thermo6500	0.001	0.002	0.003	0.01
Na	Thermo6500	0.021	0.050	0.085	1
Ni	Thermo6500	0.001	0.002	0.002	0.01
Pb	Thermo6500	0.002	0.005	0.006	0.01
Sb	Thermo6500	0.004	0.010	0.010	0.05
Se	Thermo6500	0.003	0.008	0.005	0.04
Si	Thermo6500	0.035	0.100	0.165	0.2
Sn	Thermo6500	0.001	0.002	0.002	0.01
Sr	Thermo6500	0.000	0.001	0.001	0.005
Ti	Thermo6500	0.001	0.002	0.002	0.01
Tl	Thermo6500	0.004	0.012	0.012	0.03
V	Thermo6500	0.000	0.001	0.001	0.01
Zn	Thermo6500	0.004	0.010	0.012	0.03

Matrix: Water
Method: EPA 300/SW-846 9056A
Date Analyzed: 2/19/2019
Job #: 600-178696
TALS Batch: 258669
Units: mg/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MLQ
Bromide	CHWC11	0.101	0.200	0.318	0.4
Chloride	CHWC11	0.053	0.200	0.278	0.4
Fluoride	CHWC11	0.060	0.200	0.237	0.2
Nitrate as N	CHWC11	0.025	0.200	0.291	0.2
Nitrite as N	CHWC11	0.030	0.400	0.235	0.2
Sulfate	CHWC11	0.096	0.400	0.762	0.5



Matrix: Water
Method: SM 2540C
Date Analyzed: 1/15/2019
Job #: 600-174067
TALS Batch: 256205
Units: mg/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MQL
Total Dissolved Solids	NOEQUIP	10.000	10.800	8.000	10

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Case Narrative

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Job ID: 600-184470-1

Laboratory: Eurofins TestAmerica, Houston

Narrative

**Job Narrative
600-184470-1**

Comments

No additional comments.

Receipt

The samples were received on 4/29/2019 5:33 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 11 coolers at receipt time were 0.2° C, 0.7° C, 0.9° C, 1.0° C, 1.4° C, 2.5° C, 2.7° C, 3.6° C, 3.7° C, 4.0° C and 4.4° C.

All applicable analytical narratives can be found in the TRRP Checklist section of the report.

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Method Summary

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU
6010B	Inductively Coupled Plasma - Atomic Emission Spectrometry	SW846	TAL HOU
340.2	Fluoride	MCAWW	TAL CC
9040B	pH	SW846	TAL HOU
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL HOU
3010A	Acid Digestion of Aqueous Samples and Extracts for Total Metals	SW846	TAL HOU

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CC = Eurofins TestAmerica, Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-184470-1	MW-39	Water	04/29/19 14:30	04/29/19 17:33
600-184470-2	MW-40	Water	04/29/19 12:25	04/29/19 17:33
600-184470-3	MW-41	Water	04/29/19 14:15	04/29/19 17:33
600-184470-4	MW-62	Water	04/29/19 13:30	04/29/19 17:33
600-184470-5	MW-63	Water	04/29/19 11:50	04/29/19 17:33
600-184470-6	MW-64	Water	04/29/19 11:20	04/29/19 17:33
600-184470-7	MW-23	Water	04/29/19 13:35	04/29/19 17:33
600-184470-8	MW-28D	Water	04/29/19 11:00	04/29/19 17:33
600-184470-9	MW-42	Water	04/29/19 12:10	04/29/19 17:33
600-184470-10	MW-43	Water	04/29/19 12:00	04/29/19 17:33
600-184470-11	MW-44	Water	04/29/19 13:15	04/29/19 17:33
600-184470-12	MW-46R	Water	04/29/19 14:50	04/29/19 17:33
600-184470-13	MW-47	Water	04/29/19 14:05	04/29/19 17:33
600-184470-14	MW-48	Water	04/29/19 12:50	04/29/19 17:33
600-184470-15	MW-50	Water	04/29/19 11:40	04/29/19 17:33
600-184470-16	MW-52	Water	04/29/19 12:40	04/29/19 17:33
600-184470-17	MW-54	Water	04/29/19 12:10	04/29/19 17:33
600-184470-18	MW-55R	Water	04/29/19 13:25	04/29/19 17:33
600-184470-19	MW-58	Water	04/29/19 14:45	04/29/19 17:33
600-184470-20	MW-65	Water	04/29/19 14:50	04/29/19 17:33
600-184470-21	MW-36	Water	04/29/19 11:40	04/29/19 17:33
600-184470-22	MW-37	Water	04/29/19 13:15	04/29/19 17:33
600-184470-23	MW-38	Water	04/29/19 14:25	04/29/19 17:33
600-184470-24	MW-60	Water	04/29/19 13:20	04/29/19 17:33
600-184470-25	MW-61	Water	04/29/19 12:10	04/29/19 17:33
600-184470-26	DUP-01	Water	04/29/19 10:00	04/29/19 17:33
600-184470-27	DUP-02	Water	04/29/19 12:00	04/29/19 17:33
600-184470-28	FB-01	Water	04/29/19 12:35	04/29/19 17:33

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-39

Date Collected: 04/29/19 14:30

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-1

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1710		40.0	5.34	mg/L			05/09/19 18:36	100
Sulfate	319		50.0	9.57	mg/L			05/09/19 18:36	100

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0980	J	0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 15:47	1
Calcium	234	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 15:47	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.230		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.7	HF	0.01	0.01	SU			05/02/19 16:26	1
Total Dissolved Solids	2380		40.0	40.0	mg/L			05/02/19 14:03	1

Client Sample ID: MW-40

Date Collected: 04/29/19 12:25

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-2

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1570		40.0	5.34	mg/L			05/09/19 18:54	100
Sulfate	127		50.0	9.57	mg/L			05/09/19 18:54	100

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0939	J	0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 15:49	1
Calcium	269	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 15:49	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.205		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.6	HF	0.01	0.01	SU			05/02/19 18:32	1
Total Dissolved Solids	2060		20.0	20.0	mg/L			05/02/19 14:03	1

Client Sample ID: MW-41

Date Collected: 04/29/19 14:15

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-3

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	643		20.0	2.67	mg/L			05/09/19 19:12	50
Sulfate	59.4		25.0	4.79	mg/L			05/09/19 19:12	50

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0776	J	0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 15:57	1
Calcium	194	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 15:57	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.283		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.6	HF	0.01	0.01	SU			05/02/19 18:36	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-41
Date Collected: 04/29/19 14:15
Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-3
Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1630		20.0	20.0	mg/L			05/02/19 14:03	1

Client Sample ID: MW-62
Date Collected: 04/29/19 13:30
Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-4
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	771		40.0	5.34	mg/L			05/09/19 19:30	100
Sulfate	80.3		50.0	9.57	mg/L			05/09/19 19:30	100

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0872	J	0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 15:59	1
Calcium	218	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 15:59	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.298		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.7	HF	0.01	0.01	SU			05/02/19 18:40	1
Total Dissolved Solids	1920		20.0	20.0	mg/L			05/02/19 14:03	1

Client Sample ID: MW-63
Date Collected: 04/29/19 11:50
Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-5
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	973		40.0	5.34	mg/L			05/09/19 19:48	100
Sulfate	760		50.0	9.57	mg/L			05/09/19 19:48	100

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.118	J	0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:01	1
Calcium	282	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 16:01	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.225		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.6	HF	0.01	0.01	SU			05/02/19 18:43	1
Total Dissolved Solids	1880		40.0	40.0	mg/L			05/02/19 14:03	1

Client Sample ID: MW-64
Date Collected: 04/29/19 11:20
Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-6
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	463		20.0	2.67	mg/L			05/11/19 01:18	50
Sulfate	87.5		10.0	1.91	mg/L			05/09/19 20:41	20

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-64

Date Collected: 04/29/19 11:20

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-6

Matrix: Water

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.111	J	0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:07	1
Calcium	222	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 16:07	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.375		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.7	HF	0.01	0.01	SU			05/02/19 18:47	1
Total Dissolved Solids	1720		20.0	20.0	mg/L			05/06/19 13:07	1

Client Sample ID: MW-23

Date Collected: 04/29/19 13:35

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-7

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	660		20.0	2.67	mg/L			05/09/19 00:52	50
Sulfate	191		25.0	4.79	mg/L			05/09/19 00:52	50

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.212		0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:09	1
Calcium	151	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 16:09	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.282		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	8.0	HF	0.01	0.01	SU			05/03/19 13:09	1
Total Dissolved Solids	1850		20.0	20.0	mg/L			05/06/19 13:07	1

Client Sample ID: MW-28D

Date Collected: 04/29/19 11:00

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-8

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		8.00	1.07	mg/L			05/09/19 01:12	20
Sulfate	95.0		10.0	1.91	mg/L			05/09/19 01:12	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.173	J	0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:11	1
Calcium	120	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 16:11	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.451		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.9	HF	0.01	0.01	SU			05/02/19 18:21	1
Total Dissolved Solids	1000	H	20.0	20.0	mg/L			05/07/19 13:38	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-42

Date Collected: 04/29/19 12:10

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-9

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	600		20.0	2.67	mg/L			05/09/19 20:59	50
Sulfate	1320		25.0	4.79	mg/L			05/09/19 20:59	50

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.621		0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:13	1
Calcium	178	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 16:13	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.695		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.9	HF	0.01	0.01	SU			05/02/19 18:10	1
Total Dissolved Solids	1940		20.0	20.0	mg/L			05/06/19 13:07	1

Client Sample ID: MW-43

Date Collected: 04/29/19 12:00

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-10

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	270		8.00	1.07	mg/L			05/09/19 01:32	20
Sulfate	75.4		10.0	1.91	mg/L			05/09/19 01:32	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.468		0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:15	1
Calcium	82.1	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 16:15	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.821		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	8.0	HF	0.01	0.01	SU			05/02/19 18:14	1
Total Dissolved Solids	890		20.0	20.0	mg/L			05/06/19 13:07	1

Client Sample ID: MW-44

Date Collected: 04/29/19 13:15

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-11

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	654		20.0	2.67	mg/L			05/09/19 21:17	50
Sulfate	316		25.0	4.79	mg/L			05/09/19 21:17	50

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.235		0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:24	1
Calcium	172	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 16:24	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.502		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.8	HF	0.01	0.01	SU			05/03/19 13:05	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-44
Date Collected: 04/29/19 13:15
Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-11
Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1600		20.0	20.0	mg/L			05/06/19 13:07	1

Client Sample ID: MW-46R
Date Collected: 04/29/19 14:50
Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-12
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	166		4.00	0.534	mg/L			05/09/19 22:11	10
Sulfate	79.4		5.00	0.957	mg/L			05/09/19 22:11	10

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.170	J	0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:26	1
Calcium	111	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 16:26	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.523		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.9	HF	0.01	0.01	SU			05/02/19 18:51	1
Total Dissolved Solids	808		20.0	20.0	mg/L			05/06/19 13:07	1

Client Sample ID: MW-47
Date Collected: 04/29/19 14:05
Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-13
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	304		20.0	2.67	mg/L			05/09/19 22:29	50
Sulfate	61.0		25.0	4.79	mg/L			05/09/19 22:29	50

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.271		0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:28	1
Calcium	107	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 16:28	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.520		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.8	HF	0.01	0.01	SU			05/02/19 16:59	1
Total Dissolved Solids	986		20.0	20.0	mg/L			05/01/19 13:07	1

Client Sample ID: MW-48
Date Collected: 04/29/19 12:50
Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-14
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	396		20.0	2.67	mg/L			05/09/19 22:47	50
Sulfate	71.0		25.0	4.79	mg/L			05/09/19 22:47	50

Client Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-48

Date Collected: 04/29/19 12:50

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-14

Matrix: Water

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.600		0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:30	1
Calcium	75.2	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 16:30	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.814		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.9	HF	0.01	0.01	SU			05/02/19 17:03	1
Total Dissolved Solids	1230		20.0	20.0	mg/L			05/01/19 13:07	1

Client Sample ID: MW-50

Date Collected: 04/29/19 11:40

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-15

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	369		20.0	2.67	mg/L			05/09/19 01:52	50
Sulfate	99.0		25.0	4.79	mg/L			05/09/19 01:52	50

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.271		0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:32	1
Calcium	132	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 16:32	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.568		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.8	HF	0.01	0.01	SU			05/02/19 17:37	1
Total Dissolved Solids	1180		20.0	20.0	mg/L			05/01/19 13:07	1

Client Sample ID: MW-52

Date Collected: 04/29/19 12:40

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-16

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	752		40.0	5.34	mg/L			05/09/19 02:12	100
Sulfate	426		50.0	9.57	mg/L			05/09/19 02:12	100

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.357		0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:34	1
Calcium	298	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 16:34	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.566		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.7	HF	0.01	0.01	SU			05/02/19 17:27	1
Total Dissolved Solids	2360		40.0	40.0	mg/L			05/01/19 13:07	1

Client Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-54
 Date Collected: 04/29/19 12:10
 Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-17
 Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	256		8.00	1.07	mg/L			05/09/19 02:32	20
Sulfate	73.4		10.0	1.91	mg/L			05/09/19 02:32	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.274		0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:36	1
Calcium	99.5	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 16:36	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.593		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.9	HF	0.01	0.01	SU			05/02/19 17:44	1
Total Dissolved Solids	892		20.0	20.0	mg/L			05/01/19 13:07	1

Client Sample ID: MW-55R
 Date Collected: 04/29/19 13:25
 Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-18
 Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	274		20.0	2.67	mg/L			05/09/19 02:52	50
Sulfate	165		25.0	4.79	mg/L			05/09/19 02:52	50

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.744		0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:38	1
Calcium	122	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 16:38	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.920		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.9	HF	0.01	0.01	SU			05/02/19 17:48	1
Total Dissolved Solids	1170		20.0	20.0	mg/L			05/01/19 13:07	1

Client Sample ID: MW-58
 Date Collected: 04/29/19 14:45
 Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-19
 Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	359		40.0	5.34	mg/L			05/10/19 01:46	100
Sulfate	71.2		50.0	9.57	mg/L			05/10/19 01:46	100

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.324		0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:40	1
Calcium	122	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 16:40	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.550		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.8	HF	0.01	0.01	SU			05/02/19 17:52	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-58

Date Collected: 04/29/19 14:45

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-19

Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1140		20.0	20.0	mg/L			05/01/19 13:07	1

Client Sample ID: MW-65

Date Collected: 04/29/19 14:50

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-20

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	312		40.0	5.34	mg/L			05/09/19 23:05	100
Sulfate	525		50.0	9.57	mg/L			05/09/19 23:05	100

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.299		0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:52	1
Calcium	204	b	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 16:52	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.461		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.7	HF	0.01	0.01	SU			05/02/19 17:55	1
Total Dissolved Solids	1620		20.0	20.0	mg/L			05/01/19 13:07	1

Client Sample ID: MW-36

Date Collected: 04/29/19 11:40

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-21

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	326		40.0	5.34	mg/L			05/09/19 23:23	100
Sulfate	404		50.0	9.57	mg/L			05/09/19 23:23	100

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0715	J	0.200	0.0116	mg/L		05/02/19 09:19	05/03/19 11:53	1
Calcium	240		1.00	0.0240	mg/L		05/02/19 09:19	05/03/19 11:53	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.459		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.7	HF	0.01	0.01	SU			05/02/19 17:59	1
Total Dissolved Solids	1520		20.0	20.0	mg/L			05/01/19 13:07	1

Client Sample ID: MW-37

Date Collected: 04/29/19 13:15

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-22

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	387		40.0	5.34	mg/L			05/09/19 23:40	100
Sulfate	687		50.0	9.57	mg/L			05/09/19 23:40	100

Client Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-37

Lab Sample ID: 600-184470-22

Date Collected: 04/29/19 13:15

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.310		0.200	0.0116	mg/L		05/02/19 09:19	05/03/19 13:36	1
Calcium	227		1.00	0.0240	mg/L		05/02/19 09:19	05/03/19 13:36	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.348		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.6	HF	0.01	0.01	SU			05/02/19 18:03	1
Total Dissolved Solids	1910		20.0	20.0	mg/L			05/01/19 13:07	1

Client Sample ID: MW-38

Lab Sample ID: 600-184470-23

Date Collected: 04/29/19 14:25

Matrix: Water

Date Received: 04/29/19 17:33

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	661		40.0	5.34	mg/L			05/09/19 23:58	100
Sulfate	855		50.0	9.57	mg/L			05/09/19 23:58	100

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.01		0.200	0.0116	mg/L		05/02/19 09:19	05/03/19 13:38	1
Calcium	454		1.00	0.0240	mg/L		05/02/19 09:19	05/03/19 13:38	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.817		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.6	HF	0.01	0.01	SU			05/02/19 18:07	1
Total Dissolved Solids	2710		40.0	40.0	mg/L			05/01/19 13:07	1

Client Sample ID: MW-60

Lab Sample ID: 600-184470-24

Date Collected: 04/29/19 13:20

Matrix: Water

Date Received: 04/29/19 17:33

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	781		8.00	1.07	mg/L			05/10/19 00:52	20
Sulfate	367		10.0	1.91	mg/L			05/10/19 00:52	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0939	J	0.200	0.0116	mg/L		05/02/19 09:19	05/03/19 13:40	1
Calcium	218		1.00	0.0240	mg/L		05/02/19 09:19	05/03/19 13:40	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.366		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.6	HF	0.01	0.01	SU			05/03/19 12:13	1
Total Dissolved Solids	1380		20.0	20.0	mg/L			05/06/19 13:40	1

Client Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-61

Date Collected: 04/29/19 12:10

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-25

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	205		20.0	2.67	mg/L			05/10/19 02:40	50
Sulfate	1690		25.0	4.79	mg/L			05/10/19 02:40	50

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.28		0.200	0.0116	mg/L		05/02/19 09:19	05/03/19 13:42	1
Calcium	232		1.00	0.0240	mg/L		05/02/19 09:19	05/03/19 13:42	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.467		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.7	HF	0.01	0.01	SU			05/02/19 16:38	1
Total Dissolved Solids	2090		20.0	20.0	mg/L			05/06/19 13:40	1

Client Sample ID: DUP-01

Date Collected: 04/29/19 10:00

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-26

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	333		8.00	1.07	mg/L			05/10/19 02:57	20
Sulfate	451		10.0	1.91	mg/L			05/10/19 02:57	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0830	J	0.200	0.0116	mg/L		05/02/19 09:19	05/03/19 13:45	1
Calcium	231		1.00	0.0240	mg/L		05/02/19 09:19	05/03/19 13:45	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.459		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.7	HF	0.01	0.01	SU			05/02/19 16:41	1
Total Dissolved Solids	1540		20.0	20.0	mg/L			05/06/19 13:40	1

Client Sample ID: DUP-02

Date Collected: 04/29/19 12:00

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-27

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	454		20.0	2.67	mg/L			05/10/19 03:15	50
Sulfate	198		25.0	4.79	mg/L			05/10/19 03:15	50

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.238		0.200	0.0116	mg/L		05/02/19 09:19	05/03/19 13:47	1
Calcium	161		1.00	0.0240	mg/L		05/02/19 09:19	05/03/19 13:47	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.462		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.8	HF	0.01	0.01	SU			05/02/19 16:30	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: DUP-02

Date Collected: 04/29/19 12:00

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-27

Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1480		20.0	20.0	mg/L			05/06/19 13:40	1

Client Sample ID: FB-01

Date Collected: 04/29/19 12:35

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-28

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.358	J	0.400	0.0534	mg/L			05/10/19 03:33	1
Sulfate	0.0957	U	0.500	0.0957	mg/L			05/10/19 03:33	1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0116	U	0.200	0.0116	mg/L		05/02/19 09:19	05/03/19 13:49	1
Calcium	0.322	J	1.00	0.0240	mg/L		05/02/19 09:19	05/03/19 13:49	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.1	HF	0.01	0.01	SU			05/02/19 16:45	1
Total Dissolved Solids	10.0		10.0	10.0	mg/L			05/06/19 13:40	1

Definitions/Glossary

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result is greater than the UQL and the concentration is an estimated value.
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
N1	MS, MSD: Spike recovery exceeds upper or lower control limits.
U	Analyte was not detected at or above the SDL.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
b	The compound was found in the blank and sample
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
U	Analyte was not detected at or above the SDL.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-264591/35
Matrix: Water
Analysis Batch: 264591

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.0534	U	0.400	0.0534	mg/L			05/08/19 22:12	1
Sulfate	0.0957	U	0.500	0.0957	mg/L			05/08/19 22:12	1

Lab Sample ID: LCS 600-264591/36
Matrix: Water
Analysis Batch: 264591

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.70		mg/L		99	90 - 110
Sulfate	20.0	19.40		mg/L		97	90 - 110

Lab Sample ID: 600-184663-A-7 MS
Matrix: Water
Analysis Batch: 264591

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	132		50.0	165.2	N1	mg/L		66	80 - 120
Sulfate	29.8		50.0	73.53		mg/L		87	80 - 120

Lab Sample ID: 600-184663-A-7 MSD
Matrix: Water
Analysis Batch: 264591

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	132		50.0	166.2	N1	mg/L		68	80 - 120	1	20
Sulfate	29.8		50.0	74.00		mg/L		88	80 - 120	1	20

Lab Sample ID: MB 600-264708/35
Matrix: Water
Analysis Batch: 264708

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.0534	U	0.400	0.0534	mg/L			05/10/19 00:16	1
Sulfate	0.0957	U	0.500	0.0957	mg/L			05/10/19 00:16	1

Lab Sample ID: LCS 600-264708/36
Matrix: Water
Analysis Batch: 264708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.96		mg/L		100	90 - 110
Sulfate	20.0	20.70		mg/L		104	90 - 110

Lab Sample ID: 600-184470-5 MS
Matrix: Water
Analysis Batch: 264708

Client Sample ID: MW-63 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	973		1000	1341	N1	mg/L		37	80 - 120
Sulfate	760		1000	1299	N1	mg/L		54	80 - 120

Eurofins TestAmerica, Houston

QC Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 600-184470-5 MSD
Matrix: Water
Analysis Batch: 264708

Client Sample ID: MW-63 MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	973		1000	1333	N1	mg/L		36	80 - 120	1	20
Sulfate	760		1000	1274	N1	mg/L		51	80 - 120	2	20

Lab Sample ID: 600-184470-19 MS
Matrix: Water
Analysis Batch: 264708

Client Sample ID: MW-58 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	359		1000	1315		mg/L		96	80 - 120		
Sulfate	71.2		1000	1114		mg/L		104	80 - 120		

Lab Sample ID: 600-184470-19 MSD
Matrix: Water
Analysis Batch: 264708

Client Sample ID: MW-58 MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	359		1000	1303		mg/L		94	80 - 120	1	20
Sulfate	71.2		1000	1135		mg/L		106	80 - 120	2	20

Lab Sample ID: MB 600-264798/35
Matrix: Water
Analysis Batch: 264798

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.0534	U	0.400	0.0534	mg/L			05/11/19 00:42	1
Sulfate	0.0957	U	0.500	0.0957	mg/L			05/11/19 00:42	1

Lab Sample ID: MB 600-264798/4
Matrix: Water
Analysis Batch: 264798

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.0534	U	0.400	0.0534	mg/L			05/10/19 15:06	1
Sulfate	0.0957	U	0.500	0.0957	mg/L			05/10/19 15:06	1

Lab Sample ID: LCS 600-264798/36
Matrix: Water
Analysis Batch: 264798

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.22		mg/L		101	90 - 110		
Sulfate	20.0	21.01		mg/L		105	90 - 110		

Lab Sample ID: LCS 600-264798/5
Matrix: Water
Analysis Batch: 264798

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.13		mg/L		101	90 - 110		
Sulfate	20.0	20.44		mg/L		102	90 - 110		

Eurofins TestAmerica, Houston

QC Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 600-185155-A-9 MS
Matrix: Water
Analysis Batch: 264798

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Chloride	4270	E	10.0	3908	E 4	mg/L		-3613		80 - 120
Sulfate	2670	E	10.0	2442	E 4	mg/L		-2247		80 - 120

Lab Sample ID: 600-185155-A-9 MSD
Matrix: Water
Analysis Batch: 264798

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	RPD	Limit
	Result	Qualifier		Result	Qualifier								
Chloride	4270	E	10.0	3912	E 4	mg/L		-3577		80 - 120	0	20	
Sulfate	2670	E	10.0	2442	E 4	mg/L		-2249		80 - 120	0	20	

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Lab Sample ID: MB 600-264053/1-A
Matrix: Water
Analysis Batch: 264623

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 264053

Analyte	MB	MB	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier		Result					
Boron	0.0116	U	0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 15:43	1
Calcium	0.2350	J	1.00	0.0240	mg/L		05/01/19 09:28	05/08/19 15:43	1

Lab Sample ID: LCS 600-264053/2-A
Matrix: Water
Analysis Batch: 264623

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264053

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
Boron	1.00	0.9807		mg/L		98		80 - 120
Calcium	25.0	25.07		mg/L		100		80 - 120

Lab Sample ID: 600-184470-5 MS
Matrix: Water
Analysis Batch: 264623

Client Sample ID: MW-63 MS
Prep Type: Total/NA
Prep Batch: 264053

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Boron	0.118	J	1.00	1.087		mg/L		97		75 - 125
Calcium	282	b	25.0	308.6	4	mg/L		108		75 - 125

Lab Sample ID: 600-184470-5 MSD
Matrix: Water
Analysis Batch: 264623

Client Sample ID: MW-63 MSD
Prep Type: Total/NA
Prep Batch: 264053

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	RPD	Limit
	Result	Qualifier		Result	Qualifier								
Boron	0.118	J	1.00	1.101		mg/L		98		75 - 125	1	20	
Calcium	282	b	25.0	312.1	4	mg/L		122		75 - 125	1	20	

QC Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry (Continued)

Lab Sample ID: 600-184470-19 MS
Matrix: Water
Analysis Batch: 264623

Client Sample ID: MW-58 MS
Prep Type: Total/NA
Prep Batch: 264053
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Boron	0.324		1.00	1.303		mg/L		98	75 - 125
Calcium	122	b	25.0	146.4	4	mg/L		100	75 - 125

Lab Sample ID: 600-184470-19 MSD
Matrix: Water
Analysis Batch: 264623

Client Sample ID: MW-58 MSD
Prep Type: Total/NA
Prep Batch: 264053
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Boron	0.324		1.00	1.304		mg/L		98	75 - 125	0	20
Calcium	122	b	25.0	147.4	4	mg/L		104	75 - 125	1	20

Lab Sample ID: MB 600-264165/1-A
Matrix: Water
Analysis Batch: 264318

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 264165

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0116	U	0.200	0.0116	mg/L		05/02/19 09:19	05/03/19 11:49	1
Calcium	0.0240	U	1.00	0.0240	mg/L		05/02/19 09:19	05/03/19 11:49	1

Lab Sample ID: LCS 600-264165/2-A
Matrix: Water
Analysis Batch: 264318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264165
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1.00	0.9120		mg/L		91	80 - 120
Calcium	25.0	23.74		mg/L		95	80 - 120

Lab Sample ID: 600-184470-21 MS
Matrix: Water
Analysis Batch: 264318

Client Sample ID: MW-36
Prep Type: Total/NA
Prep Batch: 264165
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Boron	0.0715	J	1.00	0.9927		mg/L		92	75 - 125
Calcium	240		25.0	266.9	4	mg/L		107	75 - 125

Lab Sample ID: 600-184470-21 MSD
Matrix: Water
Analysis Batch: 264318

Client Sample ID: MW-36
Prep Type: Total/NA
Prep Batch: 264165
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Boron	0.0715	J	1.00	1.007		mg/L		94	75 - 125	1	20
Calcium	240		25.0	263.4	4	mg/L		93	75 - 125	1	20

Lab Sample ID: 600-184470-21 DU
Matrix: Water
Analysis Batch: 264318

Client Sample ID: MW-36
Prep Type: Total/NA
Prep Batch: 264165
%Rec.

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Boron	0.0715	J	0.07260	J	mg/L		2	20
Calcium	240		246.4		mg/L		3	20

Eurofins TestAmerica, Houston

QC Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Method: 340.2 - Fluoride

Lab Sample ID: MB 560-162195/3
Matrix: Water
Analysis Batch: 162195

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L	-		05/04/19 11:00	1

Lab Sample ID: MB 560-162195/31
Matrix: Water
Analysis Batch: 162195

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L	-		05/04/19 11:00	1

Lab Sample ID: LCS 560-162195/32
Matrix: Water
Analysis Batch: 162195

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.800	0.8250		mg/L	-	103	85 - 115

Lab Sample ID: LCS 560-162195/4
Matrix: Water
Analysis Batch: 162195

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.800	0.8400		mg/L	-	105	85 - 115

Lab Sample ID: 600-184470-5 MS
Matrix: Water
Analysis Batch: 162195

Client Sample ID: MW-63 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.225		0.500	0.7270		mg/L	-	100	75 - 125

Lab Sample ID: 600-184470-5 MSD
Matrix: Water
Analysis Batch: 162195

Client Sample ID: MW-63 MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.225		0.500	0.7400		mg/L	-	103	75 - 125	2	20

Lab Sample ID: 600-184470-19 MS
Matrix: Water
Analysis Batch: 162195

Client Sample ID: MW-58 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.550		0.500	1.070		mg/L	-	104	75 - 125

Lab Sample ID: 600-184470-19 MSD
Matrix: Water
Analysis Batch: 162195

Client Sample ID: MW-58 MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.550		0.500	1.100		mg/L	-	110	75 - 125	3	20

Eurofins TestAmerica, Houston

QC Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Method: 9040B - pH

Lab Sample ID: LCS 600-264281/1
Matrix: Water
Analysis Batch: 264281

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101	99 - 101

Lab Sample ID: LCS 600-264281/26
Matrix: Water
Analysis Batch: 264281

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101	99 - 101

Lab Sample ID: 600-184470-8 DU
Matrix: Water
Analysis Batch: 264281

Client Sample ID: MW-28D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.9	HF	7.9		SU		0.3	1

Lab Sample ID: 600-184470-15 DU
Matrix: Water
Analysis Batch: 264281

Client Sample ID: MW-50
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8	HF	7.8		SU		0	1

Lab Sample ID: LCS 600-264328/26
Matrix: Water
Analysis Batch: 264328

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101	99 - 101

Lab Sample ID: 600-184470-24 DU
Matrix: Water
Analysis Batch: 264328

Client Sample ID: MW-60
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.6	HF	7.6		SU		0	1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 600-264096/1
Matrix: Water
Analysis Batch: 264096

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			05/01/19 13:07	1

QC Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 600-264096/2
Matrix: Water
Analysis Batch: 264096

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1874		mg/L		104	90 - 110

Lab Sample ID: 600-184470-16 DU
Matrix: Water
Analysis Batch: 264096

Client Sample ID: MW-52
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	2360		2368		mg/L		0.2	10

Lab Sample ID: MB 600-264216/1
Matrix: Water
Analysis Batch: 264216

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			05/02/19 14:03	1

Lab Sample ID: LCS 600-264216/2
Matrix: Water
Analysis Batch: 264216

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1862		mg/L		103	90 - 110

Lab Sample ID: 600-184553-B-18 DU
Matrix: Water
Analysis Batch: 264216

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1710		1676		mg/L		2	10

Lab Sample ID: MB 600-264424/1
Matrix: Water
Analysis Batch: 264424

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			05/06/19 13:07	1

Lab Sample ID: LCS 600-264424/2
Matrix: Water
Analysis Batch: 264424

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1853		mg/L		103	90 - 110

Lab Sample ID: 600-184470-6 DU
Matrix: Water
Analysis Batch: 264424

Client Sample ID: MW-64
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1720		1790		mg/L		4	10

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QC Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 600-264435/1
Matrix: Water
Analysis Batch: 264435

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			05/06/19 13:40	1

Lab Sample ID: LCS 600-264435/2
Matrix: Water
Analysis Batch: 264435

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1825		mg/L		101	90 - 110

Lab Sample ID: 600-184470-24 DU
Matrix: Water
Analysis Batch: 264435

Client Sample ID: MW-60
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1380		1386		mg/L		0.4	10

Lab Sample ID: MB 600-264527/1
Matrix: Water
Analysis Batch: 264527

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			05/07/19 13:38	1

Lab Sample ID: LCS 600-264527/2
Matrix: Water
Analysis Batch: 264527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1781		mg/L		99	90 - 110

Lab Sample ID: 600-184655-A-1 DU
Matrix: Water
Analysis Batch: 264527

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1060		1078		mg/L		1	10

Unadjusted Detection Limits

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Method: 300.0 - Anions, Ion Chromatography

Analyte	MQL	MDL	Units
Chloride	0.400	0.0534	mg/L
Sulfate	0.500	0.0957	mg/L

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Prep: 3010A

Analyte	MQL	MDL	Units
Boron	0.200	0.0116	mg/L
Calcium	1.00	0.0240	mg/L

General Chemistry

Analyte	MQL	MDL	Units
Fluoride	0.100	0.0200	mg/L
pH	0.01	0.01	SU
Total Dissolved Solids	10.0	10.0	mg/L

QC Association Summary

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

HPLC/IC

Analysis Batch: 264591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-7	MW-23	Total/NA	Water	300.0	
600-184470-8	MW-28D	Total/NA	Water	300.0	
600-184470-10	MW-43	Total/NA	Water	300.0	
600-184470-15	MW-50	Total/NA	Water	300.0	
600-184470-16	MW-52	Total/NA	Water	300.0	
600-184470-17	MW-54	Total/NA	Water	300.0	
600-184470-18	MW-55R	Total/NA	Water	300.0	
MB 600-264591/35	Method Blank	Total/NA	Water	300.0	
LCS 600-264591/36	Lab Control Sample	Total/NA	Water	300.0	
600-184663-A-7 MS	Matrix Spike	Total/NA	Water	300.0	
600-184663-A-7 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 264708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-1	MW-39	Total/NA	Water	300.0	
600-184470-2	MW-40	Total/NA	Water	300.0	
600-184470-3	MW-41	Total/NA	Water	300.0	
600-184470-4	MW-62	Total/NA	Water	300.0	
600-184470-5	MW-63	Total/NA	Water	300.0	
600-184470-6	MW-64	Total/NA	Water	300.0	
600-184470-9	MW-42	Total/NA	Water	300.0	
600-184470-11	MW-44	Total/NA	Water	300.0	
600-184470-12	MW-46R	Total/NA	Water	300.0	
600-184470-13	MW-47	Total/NA	Water	300.0	
600-184470-14	MW-48	Total/NA	Water	300.0	
600-184470-19	MW-58	Total/NA	Water	300.0	
600-184470-20	MW-65	Total/NA	Water	300.0	
600-184470-21	MW-36	Total/NA	Water	300.0	
600-184470-22	MW-37	Total/NA	Water	300.0	
600-184470-23	MW-38	Total/NA	Water	300.0	
600-184470-24	MW-60	Total/NA	Water	300.0	
600-184470-25	MW-61	Total/NA	Water	300.0	
600-184470-26	DUP-01	Total/NA	Water	300.0	
600-184470-27	DUP-02	Total/NA	Water	300.0	
600-184470-28	FB-01	Total/NA	Water	300.0	
MB 600-264708/35	Method Blank	Total/NA	Water	300.0	
LCS 600-264708/36	Lab Control Sample	Total/NA	Water	300.0	
600-184470-5 MS	MW-63 MS	Total/NA	Water	300.0	
600-184470-5 MSD	MW-63 MSD	Total/NA	Water	300.0	
600-184470-19 MS	MW-58 MS	Total/NA	Water	300.0	
600-184470-19 MSD	MW-58 MSD	Total/NA	Water	300.0	

Analysis Batch: 264798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-6	MW-64	Total/NA	Water	300.0	
MB 600-264798/35	Method Blank	Total/NA	Water	300.0	
MB 600-264798/4	Method Blank	Total/NA	Water	300.0	
LCS 600-264798/36	Lab Control Sample	Total/NA	Water	300.0	
LCS 600-264798/5	Lab Control Sample	Total/NA	Water	300.0	
600-185155-A-9 MS	Matrix Spike	Total/NA	Water	300.0	
600-185155-A-9 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

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QC Association Summary

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Metals

Prep Batch: 264053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-1	MW-39	Total/NA	Water	3010A	
600-184470-2	MW-40	Total/NA	Water	3010A	
600-184470-3	MW-41	Total/NA	Water	3010A	
600-184470-4	MW-62	Total/NA	Water	3010A	
600-184470-5	MW-63	Total/NA	Water	3010A	
600-184470-6	MW-64	Total/NA	Water	3010A	
600-184470-7	MW-23	Total/NA	Water	3010A	
600-184470-8	MW-28D	Total/NA	Water	3010A	
600-184470-9	MW-42	Total/NA	Water	3010A	
600-184470-10	MW-43	Total/NA	Water	3010A	
600-184470-11	MW-44	Total/NA	Water	3010A	
600-184470-12	MW-46R	Total/NA	Water	3010A	
600-184470-13	MW-47	Total/NA	Water	3010A	
600-184470-14	MW-48	Total/NA	Water	3010A	
600-184470-15	MW-50	Total/NA	Water	3010A	
600-184470-16	MW-52	Total/NA	Water	3010A	
600-184470-17	MW-54	Total/NA	Water	3010A	
600-184470-18	MW-55R	Total/NA	Water	3010A	
600-184470-19	MW-58	Total/NA	Water	3010A	
600-184470-20	MW-65	Total/NA	Water	3010A	
MB 600-264053/1-A	Method Blank	Total/NA	Water	3010A	
LCS 600-264053/2-A	Lab Control Sample	Total/NA	Water	3010A	
600-184470-5 MS	MW-63 MS	Total/NA	Water	3010A	
600-184470-5 MSD	MW-63 MSD	Total/NA	Water	3010A	
600-184470-19 MS	MW-58 MS	Total/NA	Water	3010A	
600-184470-19 MSD	MW-58 MSD	Total/NA	Water	3010A	

Prep Batch: 264165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-21	MW-36	Total/NA	Water	3010A	
600-184470-22	MW-37	Total/NA	Water	3010A	
600-184470-23	MW-38	Total/NA	Water	3010A	
600-184470-24	MW-60	Total/NA	Water	3010A	
600-184470-25	MW-61	Total/NA	Water	3010A	
600-184470-26	DUP-01	Total/NA	Water	3010A	
600-184470-27	DUP-02	Total/NA	Water	3010A	
600-184470-28	FB-01	Total/NA	Water	3010A	
MB 600-264165/1-A	Method Blank	Total/NA	Water	3010A	
LCS 600-264165/2-A	Lab Control Sample	Total/NA	Water	3010A	
600-184470-21 MS	MW-36	Total/NA	Water	3010A	
600-184470-21 MSD	MW-36	Total/NA	Water	3010A	
600-184470-21 DU	MW-36	Total/NA	Water	3010A	

Analysis Batch: 264318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-21	MW-36	Total/NA	Water	6010B	264165
600-184470-22	MW-37	Total/NA	Water	6010B	264165
600-184470-23	MW-38	Total/NA	Water	6010B	264165
600-184470-24	MW-60	Total/NA	Water	6010B	264165
600-184470-25	MW-61	Total/NA	Water	6010B	264165
600-184470-26	DUP-01	Total/NA	Water	6010B	264165

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QC Association Summary

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Metals (Continued)

Analysis Batch: 264318 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-27	DUP-02	Total/NA	Water	6010B	264165
600-184470-28	FB-01	Total/NA	Water	6010B	264165
MB 600-264165/1-A	Method Blank	Total/NA	Water	6010B	264165
LCS 600-264165/2-A	Lab Control Sample	Total/NA	Water	6010B	264165
600-184470-21 MS	MW-36	Total/NA	Water	6010B	264165
600-184470-21 MSD	MW-36	Total/NA	Water	6010B	264165
600-184470-21 DU	MW-36	Total/NA	Water	6010B	264165

Analysis Batch: 264623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-1	MW-39	Total/NA	Water	6010B	264053
600-184470-2	MW-40	Total/NA	Water	6010B	264053
600-184470-3	MW-41	Total/NA	Water	6010B	264053
600-184470-4	MW-62	Total/NA	Water	6010B	264053
600-184470-5	MW-63	Total/NA	Water	6010B	264053
600-184470-6	MW-64	Total/NA	Water	6010B	264053
600-184470-7	MW-23	Total/NA	Water	6010B	264053
600-184470-8	MW-28D	Total/NA	Water	6010B	264053
600-184470-9	MW-42	Total/NA	Water	6010B	264053
600-184470-10	MW-43	Total/NA	Water	6010B	264053
600-184470-11	MW-44	Total/NA	Water	6010B	264053
600-184470-12	MW-46R	Total/NA	Water	6010B	264053
600-184470-13	MW-47	Total/NA	Water	6010B	264053
600-184470-14	MW-48	Total/NA	Water	6010B	264053
600-184470-15	MW-50	Total/NA	Water	6010B	264053
600-184470-16	MW-52	Total/NA	Water	6010B	264053
600-184470-17	MW-54	Total/NA	Water	6010B	264053
600-184470-18	MW-55R	Total/NA	Water	6010B	264053
600-184470-19	MW-58	Total/NA	Water	6010B	264053
600-184470-20	MW-65	Total/NA	Water	6010B	264053
MB 600-264053/1-A	Method Blank	Total/NA	Water	6010B	264053
LCS 600-264053/2-A	Lab Control Sample	Total/NA	Water	6010B	264053
600-184470-5 MS	MW-63 MS	Total/NA	Water	6010B	264053
600-184470-5 MSD	MW-63 MSD	Total/NA	Water	6010B	264053
600-184470-19 MS	MW-58 MS	Total/NA	Water	6010B	264053
600-184470-19 MSD	MW-58 MSD	Total/NA	Water	6010B	264053

General Chemistry

Analysis Batch: 162195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-1	MW-39	Total/NA	Water	340.2	
600-184470-2	MW-40	Total/NA	Water	340.2	
600-184470-3	MW-41	Total/NA	Water	340.2	
600-184470-4	MW-62	Total/NA	Water	340.2	
600-184470-5	MW-63	Total/NA	Water	340.2	
600-184470-6	MW-64	Total/NA	Water	340.2	
600-184470-7	MW-23	Total/NA	Water	340.2	
600-184470-8	MW-28D	Total/NA	Water	340.2	
600-184470-9	MW-42	Total/NA	Water	340.2	
600-184470-10	MW-43	Total/NA	Water	340.2	

Eurofins TestAmerica, Houston

QC Association Summary

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

General Chemistry (Continued)

Analysis Batch: 162195 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-11	MW-44	Total/NA	Water	340.2	
600-184470-12	MW-46R	Total/NA	Water	340.2	
600-184470-13	MW-47	Total/NA	Water	340.2	
600-184470-14	MW-48	Total/NA	Water	340.2	
600-184470-15	MW-50	Total/NA	Water	340.2	
600-184470-16	MW-52	Total/NA	Water	340.2	
600-184470-17	MW-54	Total/NA	Water	340.2	
600-184470-18	MW-55R	Total/NA	Water	340.2	
600-184470-19	MW-58	Total/NA	Water	340.2	
600-184470-20	MW-65	Total/NA	Water	340.2	
600-184470-21	MW-36	Total/NA	Water	340.2	
600-184470-22	MW-37	Total/NA	Water	340.2	
600-184470-23	MW-38	Total/NA	Water	340.2	
600-184470-24	MW-60	Total/NA	Water	340.2	
600-184470-25	MW-61	Total/NA	Water	340.2	
600-184470-26	DUP-01	Total/NA	Water	340.2	
600-184470-27	DUP-02	Total/NA	Water	340.2	
600-184470-28	FB-01	Total/NA	Water	340.2	
MB 560-162195/3	Method Blank	Total/NA	Water	340.2	
MB 560-162195/31	Method Blank	Total/NA	Water	340.2	
LCS 560-162195/32	Lab Control Sample	Total/NA	Water	340.2	
LCS 560-162195/4	Lab Control Sample	Total/NA	Water	340.2	
600-184470-5 MS	MW-63 MS	Total/NA	Water	340.2	
600-184470-5 MSD	MW-63 MSD	Total/NA	Water	340.2	
600-184470-19 MS	MW-58 MS	Total/NA	Water	340.2	
600-184470-19 MSD	MW-58 MSD	Total/NA	Water	340.2	

Analysis Batch: 264096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-13	MW-47	Total/NA	Water	SM 2540C	
600-184470-14	MW-48	Total/NA	Water	SM 2540C	
600-184470-15	MW-50	Total/NA	Water	SM 2540C	
600-184470-16	MW-52	Total/NA	Water	SM 2540C	
600-184470-17	MW-54	Total/NA	Water	SM 2540C	
600-184470-18	MW-55R	Total/NA	Water	SM 2540C	
600-184470-19	MW-58	Total/NA	Water	SM 2540C	
600-184470-20	MW-65	Total/NA	Water	SM 2540C	
600-184470-21	MW-36	Total/NA	Water	SM 2540C	
600-184470-22	MW-37	Total/NA	Water	SM 2540C	
600-184470-23	MW-38	Total/NA	Water	SM 2540C	
MB 600-264096/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 600-264096/2	Lab Control Sample	Total/NA	Water	SM 2540C	
600-184470-19 MS	MW-58	Total/NA	Water	SM 2540C	
600-184470-19 MSD	MW-58	Total/NA	Water	SM 2540C	
600-184470-16 DU	MW-52	Total/NA	Water	SM 2540C	

Analysis Batch: 264216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-1	MW-39	Total/NA	Water	SM 2540C	
600-184470-2	MW-40	Total/NA	Water	SM 2540C	
600-184470-3	MW-41	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Houston

QC Association Summary

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

General Chemistry (Continued)

Analysis Batch: 264216 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-4	MW-62	Total/NA	Water	SM 2540C	
600-184470-5	MW-63	Total/NA	Water	SM 2540C	
MB 600-264216/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 600-264216/2	Lab Control Sample	Total/NA	Water	SM 2540C	
600-184553-B-18 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 264281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-1	MW-39	Total/NA	Water	9040B	
600-184470-2	MW-40	Total/NA	Water	9040B	
600-184470-3	MW-41	Total/NA	Water	9040B	
600-184470-4	MW-62	Total/NA	Water	9040B	
600-184470-5	MW-63	Total/NA	Water	9040B	
600-184470-6	MW-64	Total/NA	Water	9040B	
600-184470-8	MW-28D	Total/NA	Water	9040B	
600-184470-9	MW-42	Total/NA	Water	9040B	
600-184470-10	MW-43	Total/NA	Water	9040B	
600-184470-12	MW-46R	Total/NA	Water	9040B	
600-184470-13	MW-47	Total/NA	Water	9040B	
600-184470-14	MW-48	Total/NA	Water	9040B	
600-184470-15	MW-50	Total/NA	Water	9040B	
600-184470-16	MW-52	Total/NA	Water	9040B	
600-184470-17	MW-54	Total/NA	Water	9040B	
600-184470-18	MW-55R	Total/NA	Water	9040B	
600-184470-19	MW-58	Total/NA	Water	9040B	
600-184470-20	MW-65	Total/NA	Water	9040B	
600-184470-21	MW-36	Total/NA	Water	9040B	
600-184470-22	MW-37	Total/NA	Water	9040B	
600-184470-23	MW-38	Total/NA	Water	9040B	
600-184470-25	MW-61	Total/NA	Water	9040B	
600-184470-26	DUP-01	Total/NA	Water	9040B	
600-184470-27	DUP-02	Total/NA	Water	9040B	
600-184470-28	FB-01	Total/NA	Water	9040B	
LCS 600-264281/1	Lab Control Sample	Total/NA	Water	9040B	
LCS 600-264281/26	Lab Control Sample	Total/NA	Water	9040B	
600-184470-8 DU	MW-28D	Total/NA	Water	9040B	
600-184470-15 DU	MW-50	Total/NA	Water	9040B	

Analysis Batch: 264328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-7	MW-23	Total/NA	Water	9040B	
600-184470-11	MW-44	Total/NA	Water	9040B	
600-184470-24	MW-60	Total/NA	Water	9040B	
LCS 600-264328/26	Lab Control Sample	Total/NA	Water	9040B	
600-184470-24 DU	MW-60	Total/NA	Water	9040B	

Analysis Batch: 264424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-6	MW-64	Total/NA	Water	SM 2540C	
600-184470-7	MW-23	Total/NA	Water	SM 2540C	
600-184470-9	MW-42	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Houston

QC Association Summary

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

General Chemistry (Continued)

Analysis Batch: 264424 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-10	MW-43	Total/NA	Water	SM 2540C	
600-184470-11	MW-44	Total/NA	Water	SM 2540C	
600-184470-12	MW-46R	Total/NA	Water	SM 2540C	
MB 600-264424/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 600-264424/2	Lab Control Sample	Total/NA	Water	SM 2540C	
600-184470-6 DU	MW-64	Total/NA	Water	SM 2540C	

Analysis Batch: 264435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-24	MW-60	Total/NA	Water	SM 2540C	
600-184470-25	MW-61	Total/NA	Water	SM 2540C	
600-184470-26	DUP-01	Total/NA	Water	SM 2540C	
600-184470-27	DUP-02	Total/NA	Water	SM 2540C	
600-184470-28	FB-01	Total/NA	Water	SM 2540C	
MB 600-264435/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 600-264435/2	Lab Control Sample	Total/NA	Water	SM 2540C	
600-184470-24 DU	MW-60	Total/NA	Water	SM 2540C	

Analysis Batch: 264527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-8	MW-28D	Total/NA	Water	SM 2540C	
MB 600-264527/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 600-264527/2	Lab Control Sample	Total/NA	Water	SM 2540C	
600-184655-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-39

Date Collected: 04/29/19 14:30

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			264708	05/09/19 18:36	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 15:47	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 16:26	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	264216	05/02/19 14:03	DTN	TAL HOU

Client Sample ID: MW-40

Date Collected: 04/29/19 12:25

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			264708	05/09/19 18:54	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 15:49	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 18:32	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264216	05/02/19 14:03	DTN	TAL HOU

Client Sample ID: MW-41

Date Collected: 04/29/19 14:15

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			264708	05/09/19 19:12	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 15:57	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 18:36	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264216	05/02/19 14:03	DTN	TAL HOU

Client Sample ID: MW-62

Date Collected: 04/29/19 13:30

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			264708	05/09/19 19:30	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 15:59	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 18:40	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264216	05/02/19 14:03	DTN	TAL HOU

Lab Chronicle

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-63

Date Collected: 04/29/19 11:50

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			264708	05/09/19 19:48	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:01	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 18:43	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	264216	05/02/19 14:03	DTN	TAL HOU

Client Sample ID: MW-64

Date Collected: 04/29/19 11:20

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20			264708	05/09/19 20:41	SKR	TAL HOU
Total/NA	Analysis	300.0		50			264798	05/11/19 01:18	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:07	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 18:47	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264424	05/06/19 13:07	DTN	TAL HOU

Client Sample ID: MW-23

Date Collected: 04/29/19 13:35

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			264591	05/09/19 00:52	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:09	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264328	05/03/19 13:09	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264424	05/06/19 13:07	DTN	TAL HOU

Client Sample ID: MW-28D

Date Collected: 04/29/19 11:00

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20			264591	05/09/19 01:12	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:11	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 18:21	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264527	05/07/19 13:38	DTN	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-42

Date Collected: 04/29/19 12:10

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			264708	05/09/19 20:59	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:13	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 18:10	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264424	05/06/19 13:07	DTN	TAL HOU

Client Sample ID: MW-43

Date Collected: 04/29/19 12:00

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20			264591	05/09/19 01:32	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:15	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 18:14	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264424	05/06/19 13:07	DTN	TAL HOU

Client Sample ID: MW-44

Date Collected: 04/29/19 13:15

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			264708	05/09/19 21:17	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:24	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264328	05/03/19 13:05	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264424	05/06/19 13:07	DTN	TAL HOU

Client Sample ID: MW-46R

Date Collected: 04/29/19 14:50

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10			264708	05/09/19 22:11	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:26	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 18:51	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264424	05/06/19 13:07	DTN	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-47

Date Collected: 04/29/19 14:05

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			264708	05/09/19 22:29	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:28	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 16:59	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264096	05/01/19 13:07	DTN	TAL HOU

Client Sample ID: MW-48

Date Collected: 04/29/19 12:50

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			264708	05/09/19 22:47	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:30	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 17:03	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264096	05/01/19 13:07	DTN	TAL HOU

Client Sample ID: MW-50

Date Collected: 04/29/19 11:40

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			264591	05/09/19 01:52	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:32	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 17:37	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264096	05/01/19 13:07	DTN	TAL HOU

Client Sample ID: MW-52

Date Collected: 04/29/19 12:40

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-16

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			264591	05/09/19 02:12	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:34	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 17:27	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	264096	05/01/19 13:07	DTN	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-54

Date Collected: 04/29/19 12:10

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-17

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20			264591	05/09/19 02:32	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:36	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 17:44	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264096	05/01/19 13:07	DTN	TAL HOU

Client Sample ID: MW-55R

Date Collected: 04/29/19 13:25

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-18

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			264591	05/09/19 02:52	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:38	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 17:48	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264096	05/01/19 13:07	DTN	TAL HOU

Client Sample ID: MW-58

Date Collected: 04/29/19 14:45

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-19

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			264708	05/10/19 01:46	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:40	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 17:52	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264096	05/01/19 13:07	DTN	TAL HOU

Client Sample ID: MW-65

Date Collected: 04/29/19 14:50

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			264708	05/09/19 23:05	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:52	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 17:55	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264096	05/01/19 13:07	DTN	TAL HOU

Lab Chronicle

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-36

Date Collected: 04/29/19 11:40

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-21

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			264708	05/09/19 23:23	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264318	05/03/19 11:53	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 17:59	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264096	05/01/19 13:07	DTN	TAL HOU

Client Sample ID: MW-37

Date Collected: 04/29/19 13:15

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-22

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			264708	05/09/19 23:40	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264318	05/03/19 13:36	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 18:03	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264096	05/01/19 13:07	DTN	TAL HOU

Client Sample ID: MW-38

Date Collected: 04/29/19 14:25

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-23

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			264708	05/09/19 23:58	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264318	05/03/19 13:38	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 18:07	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	264096	05/01/19 13:07	DTN	TAL HOU

Client Sample ID: MW-60

Date Collected: 04/29/19 13:20

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-24

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20			264708	05/10/19 00:52	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264318	05/03/19 13:40	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264328	05/03/19 12:13	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264435	05/06/19 13:40	DTN	TAL HOU

Lab Chronicle

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Client Sample ID: MW-61

Date Collected: 04/29/19 12:10

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-25

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			264708	05/10/19 02:40	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264318	05/03/19 13:42	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 16:38	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264435	05/06/19 13:40	DTN	TAL HOU

Client Sample ID: DUP-01

Date Collected: 04/29/19 10:00

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-26

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20			264708	05/10/19 02:57	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264318	05/03/19 13:45	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 16:41	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264435	05/06/19 13:40	DTN	TAL HOU

Client Sample ID: DUP-02

Date Collected: 04/29/19 12:00

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-27

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			264708	05/10/19 03:15	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264318	05/03/19 13:47	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 16:30	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264435	05/06/19 13:40	DTN	TAL HOU

Client Sample ID: FB-01

Date Collected: 04/29/19 12:35

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-28

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			264708	05/10/19 03:33	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264318	05/03/19 13:49	KP1	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC
Total/NA	Analysis	9040B		1			264281	05/02/19 16:45	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	264435	05/06/19 13:40	DTN	TAL HOU

Lab Chronicle

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Laboratory References:

TAL CC = Eurofins TestAmerica, Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

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Accreditation/Certification Summary

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App III 4-29-19

Job ID: 600-184470-1

Laboratory: Eurofins TestAmerica, Houston

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Texas	NELAP	6	T104704223-18-23	10-31-19

Laboratory: Eurofins TestAmerica, Corpus Christi

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Oklahoma	State Program	6	2018-070	08-31-19
Texas	NELAP	6	T104704210-19-23	03-31-20
USDA	Federal		P330-18-00314	10-31-21



Chain of Custody Record



Client Information Client Contact: Lori Burris Company: TRC Solutions, Inc. Address: 10550 Richmond Ave Suite 210 City: Houston State, Zip: TX, 77042 Phone: Email: lburris@trcsolutions.com Project Name: NRG-Texas W. A. Parish/VCCR Wells App III Site:		Sampler: Brian Hillin & HME Team Lab PM: Tigrrett, C. Lance Phone: 713-653-3127 E-Mail: lance.tigrrett@testamericainc.com		Carrier Tracking No(s): COC No: 600-68013-14076.4 Page: 1 of 3 Job #:			
Due Date Requested: TAT Requested (days): PO #: WO #: Project #: SSOW#:		Analysis Requested Perform MS/MSD (Yes or No) [X] [] Field Filtered Sample (Yes or No) [X] [] 6010B-B and Ca [X] [] 300_ORGFM_28D (Chloride/Sulfate) [X] [] 2540C_Calcid.TDS [X] [] 340.2 - Fluoride [X] [] 9040B - Local Method [X] [] O = MS/MSD volume provided by TRC					
Sample Identification MW-39 MW-40 MW-41 MW-62 MW-63 MW-64 MW-23 MW-28D MW-42 MW-43 MW-44	Sample Date 4-29-19	Sample Time 1430 1225 1415 1330 1150 1120 1335 1100 1210 1200 1315	Sample Type (C=comp, G=grab) G	Matrix (Water, Solid, Other) [Water] Water Water Water Water Water Water Water Water Water Water	Preservation Code: N N N N N N N N N N N N	Total Number of Containers X X X X X X X X X X X X	Special Instructions/Note: 600-184470 Chain of Custody
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/OC Requirements:					
Empty Kit Relinquished by:		Method of Shipment: Consultant Delivery					
Relinquished by: Cameron Haber		Date/Time: 4-29-19 1733		Received by: <i>[Signature]</i>		Date/Time: 4-29-19 1733	
Relinquished by:		Date/Time:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Received by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks:					

Chain of Custody Record



Client Information Client Contact: Lori Burris Company: TRC Solutions, Inc. Address: 10550 Richmond Ave Suite 210 City: Houston State, Zip: TX, 77042 Phone: [blank] Email: lburris@trcsolutions.com Project Name: NRG-Texas W. A. Parish/CRR Wells App IV Site: [blank]		Lab PM: Tigrrett, C. Lance E-Mail: lance.liggett@testamericainc.com Phone: 713-653-3127		Carrier Tracking No(s): [blank]		COC No: 600-68013-14076.4 Page: 1 of 3 Job #: [blank]	
Due Date Requested: [blank] TAT Requested (days): [blank]		Analysis Requested: [blank]		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: [blank]		Special Instructions/Note: Total Number of Containers: [blank]	
Sample Date: 4-24-19 Sample Time: 1430 Sample Type (C=comp, G=grab): G Matrix (W=water, S=solid, O=other): Water Preservation Code: [blank]		Field Filtered Sample (Yes or No): N Perform MS/MSD (Yes or No): N 903.0, 904.0 (Rad 226 and 228): D 6010-Custom list metals: D 7470A-Mercury: D 3402-Fluoride: N		O = MS/MSD volume provided		Special Instructions/Note: Total Number of Containers: [blank]	
Sample Identification: MW-39 MW-40 MW-41 MW-62 MW-63 MW-64 MW-23 MW-28D MW-42 MW-43 MW-44		Sample Date: [blank] Sample Time: 1225, 1415, 1330, 1150, 1120, 1335, 1100, 1210, 1200, 1315		Matrix: Water, Water, Water, Water, Water, Water, Water, Water, Water, Water, Water		Field Filtered Sample (Yes or No): N, N, N, Y, N, N, N, N, N, N, N	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For [blank] Months		Special Instructions/QC Requirements: [blank]		Method of Shipment: [blank]	
Relinquished by: Cameron Haber Date/Time: 4-29-19 1733 Company: HMI		Relinquished by: [blank] Date/Time: [blank] Company: [blank]		Relinquished by: [blank] Date/Time: [blank] Company: [blank]		Relinquished by: [blank] Date/Time: [blank] Company: [blank]	
Custody Seals Intact: [blank] Yes Δ No		Custody Seal No.: [blank]		Cooler Temperature(s) °C and Other Remarks: [blank]		Ver: 01/16/2019	



Chain of Custody Record

Client Information Client Contact: Lori Burris Phone: 713-653-3127 Company: TRC Solutions, Inc.		Lab PM: Tigrert, C. Lance E-Mail: lance.tigrert@testamericainc.com		Carrier Tracking No(s): COC No: 600-68013-14076 4 Page: 4 of 4 Job #: 2 of 3	
Due Date Requested: TAT Requested (days): PO #: WO #: Project #: SOW#:		Analysis Requested Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 6010B-B and Ca <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 300 ORGM_28D (Chloride/Sulfate) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 2540C_Calcd-TDS <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 340.2-Fluoride <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 9040B - Local Method (Field pH provided) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No O = MS/MSD volume provided			
Address: 10550 Richmond Ave Suite 210 City: Houston State, Zip: TX, 77042 Phone: Email: lburris@trcsolutions.com Project Name: NRG-Texas W. A. Parish/CCR Wells App III Site:		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)			
Sample Identification MW-46R MW-47 MW-48 MW-50 MW-52 MW-54 MW-55R MW-58 MW-65 MW-36 MW-37		Sample Date 4-29-19		Sample Time 1450 1405 1250 140 1240 1210 1325 1445 1450 1140 1315	
Sample Type (C=Comp, G=grab) Preservation Code:		Matrix (Water, Solid, Other) Water Water Water Water Water Water Water Water Water Water Water		Total Number of Containers Special Instructions/Note:	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					
Deliverable Requested: I, II, III, IV, Other (specify)					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Special Instructions/OC Requirements:					
Empty Kit Relinquished by:		Date:		Time:	
Relinquished by: Cameron Haber		Date/Time: 4-29-19 1733		Company: HMI	
Relinquished by:		Date/Time:		Company:	
Relinquished by:		Date/Time:		Company:	
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	
Δ Yes Δ No		Method of Shipment: Consultant Delivery		Received by: [Signature]	



Chain of Custody Record

Client Information Client Contact: Lori Burris Company: TRC Solutions, Inc. Address: 10550 Richmond Ave Suite 210 City: Houston State, Zip: TX, 77042 Phone: Email: lburris@trcsolutions.com Project Name: NRG-Texas W. A. Parish/CCR Wells App III Site:		Lab PM: Tigrrett, C. Lance E-Mail: lance.tigrrett@testamericainc.com Carrier Tracking No(s): COC No: 600-68013-14076.4 Page: 3 of 3 Job #:	
Due Date Requested: TAT Requested (days): PO #: WO #: Project #: 60007663 SSOW#:		Analysis Requested 6010B-B and Ca 300_ORGFM_Z8D (Chloride/Sulfate) 2540C_Calc-TDS 340.2-Fluoride 9040B-Local Method	
Sample Identification MW-38 MW-60 MW-61 DUP-01 DUP-02 FB-01		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 6010B-B and Ca 300_ORGFM_Z8D (Chloride/Sulfate) 2540C_Calc-TDS 340.2-Fluoride 9040B-Local Method	
Sample Date 4-29-19		Sample Time 1425 1320 1210 1000 1200 1235	
Sample Type (C=Comp, G=grab) G G		Matrix (W=Water, S=solid, O=Other, A=Air) Water Water Water Water Water Water Water Water Water Water	
Preservation Code: Water Water Water Water Water Water Water Water Water		Total Number of Containers Special Instructions/Note:	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:			
Empty Kit Relinquished by: Relinquished by: Cameron Haber Date/Time: 4-29-19 1733 Company: HMI Relinquished by: Date/Time: Company: Relinquished by: Date/Time: Company: Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.: Cooler Temperature(s) °C and Other Remarks:			

Chain of Custody Record



Client Information Client Contact: Lori Burris Company: TRC Solutions, Inc. Address: 10550 Richmond Ave Suite 210 City: Houston State, Zip: TX, 77042 Phone: Email: lburris@trcsolutions.com Project Name: NRG-Texas W. A. Parish/CCR Wells App IV Site:		Lab PM: Tigaret, C. Lance E-Mail: lance.tigaret@testamericainc.com Phone: 713-653-3127 Carrier Tracking No(s): COC No: 600-68013-14076.4 Page: 3 of 3 Job #:	
Due Date Requested: TAT Requested (days): PO #: WO #: Project #: SSOV#:		Analysis Requested 6010 Custom list metals 7470A-Mercury 340.2 - Fluoride	
Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		Preservation Codes: M - Hexane N - None O - AsNSO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Sample Identification MW-38 MW-60 MW-61 DUP-01 DUP-02 FB-01		Special Instructions/Note: Total Number of containers	
Sample Date: 4-29-19 Sample Time: 1425 Sample Type (C=Comp, G=grab): G Matrix (W=water, S=solid, O=oil, D=dust, T=tissue, A=air): Water		Field Filtered Sample (Yes or No): Perform MS/MSD (Yes or No): 903.0, 904.0 (Rad 226 and 228) D D D N X	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:			
Empty Kit Relinquished by: Relinquished by: Cameron Haber Date/Time: 4-29-19 1733 Company: HMI		Method of Shipment: Consultant Delivery Date/Time: 4-29-19 1730 Company:	
Relinquished by: Date/Time: Company:		Relinquished by: Date/Time: Company:	
Relinquished by: Date/Time: Company:		Relinquished by: Date/Time: Company:	
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:	

Sample Receipt Checklist

Date/Time Received: 19 APR 29 17:33

JOB NUMBER: _____

CLIENT: TRC

UNPACKED BY: AS

CARRIER/DRIVER: Client

Custody Seal Present: YES NO

Number of Coolers Received: 4

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
BW	<input checked="" type="checkbox"/> Y / N	Y / <input checked="" type="checkbox"/> N	0.4	676	-0.2	0.2
BW	<input checked="" type="checkbox"/> Y / N	Y / <input checked="" type="checkbox"/> N	1.6			1.4
GW	<input checked="" type="checkbox"/> Y / N	Y / <input checked="" type="checkbox"/> N	2.7	↓	↓	2.5
BW	<input checked="" type="checkbox"/> Y / N	Y / <input checked="" type="checkbox"/> N	3.8	↓	↓	3.6
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? YES NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: NO YES

Base samples are >pH 12: YES NO Acid preserved are <pH 2: YES NO

pH paper Lot # HCB09997

VOA headspace acceptable (5-6mm): YES NO NA

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	YES	NO
	<input checked="" type="checkbox"/>	<input type="checkbox"/>

COMMENTS:

~~Extra containers sent for Radiochem.~~ Duplicate
 Incorrect comment labels on container BUT COCS
 date / time / sample ID match. sample 10

AS
4/30/19

Sample Receipt Checklist

Date/Time Received: 19 APR 29 17:33

JOB NUMBER: _____

CLIENT: TRC

UNPACKED BY: As

CARRIER/DRIVER: Client

Custody Seal Present: YES NO

Number of Coolers Received: 7

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
BN	Y / N	Y / N	1.1	LO70	-0.2	0.9
BN	X / N	Y / N	3.9	↓	↓	3.7
BN	X / N	Y / N	0.9	↓	↓	0.7
BN	X / N	Y / N	1.2	↓	↓	1.0
BN	Y / N	Y / N	4.2	↓	↓	4.0
BN	X / N	Y / N	2.9	↓	↓	2.7
BN	Y / N	Y / N	4.6	↓	↓	4.4
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

4/30/19

Samples received on ice? YES NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: NO YES

Base samples are >pH 12: YES NO Acid preserved are <pH 2: YES NO

pH paper Lot # HC869997

VOA headspace acceptable (5-6mm): YES NO NA

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
---	---	-----------------------------

COMMENTS:

was 600-184472 : change for dup loc

As

4/30/19

Chain of Custody Record



Client Information (Sub Contract Lab)		Lab PM: Tigrett, C. Lance	Carrier Tracking No(s): 600-39156.1					
Shipping/Receiving		E-Mail: lance.tigrett@testamericainc.com	Page: Page 1 of 4					
Company: TestAmerica Laboratories, Inc.		State of Origin: Texas	Job #: 600-184470-1					
Address: 1733 N. Padre Island Drive,		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:						
City: Corpus Christi		Analysis Requested Total Number of containers:						
State, Zip: TX, 78408								
Phone: 361-289-2673(Tel) 361-289-2471(Fax)								
Email:								
Project Name: TRC-Texas W. A. Parish Wells								
Project #: 60007663								
SSOW#:								
Due Date Requested: 5/10/2019								
TAT Requested (days):								
PO #:								
WO #:								
Sample Date		Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Performance MS/MSD (Yes or No)	340.2	Special Instructions/Note:
MW-39 (600-184470-1)	4/29/19	14:30 Central	Water	Water	X	X	1	
MW-40 (600-184470-2)	4/29/19	12:25 Central	Water	Water	X	X	1	
MW-41 (600-184470-3)	4/29/19	14:15 Central	Water	Water	X	X	1	
MW-62 (600-184470-4)	4/29/19	13:30 Central	Water	Water	X	X	1	
MW-63 (600-184470-5)	4/29/19	11:50 Central	Water	Water	X	X	1	
MW-63 (600-184470-5MS)	4/29/19	11:50 Central	MS	Water	X	X	1	
MW-63 (600-184470-5MSD)	4/29/19	11:50 Central	MSD	Water	X	X	1	
MW-64 (600-184470-6)	4/29/19	11:20 Central	Water	Water	X	X	1	
MW-23 (600-184470-7)	4/29/19	13:35 Central	Water	Water	X	X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) _____
 Primary Deliverable Rank: 2

Empty Kit Relinquished by: _____ Date: _____ Time: _____
 Relinquished by: _____ Date/Time: 4/29/19 1:00 PM Company: _____
 Relinquished by: _____ Date/Time: _____ Company: _____
 Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seal Intact: _____ Custody Seal No.: _____
 Δ Yes Δ No

Special Instructions/QC Requirements:
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
 Method of Shipment: _____

Received by: _____ Date/Time: 5-1-19 9:30 Company: _____
 Received by: _____ Date/Time: _____ Company: _____
 Received by: _____ Date/Time: _____ Company: _____

Cooler Temperature(s) °C and Other Remarks: 1.8 18-10 1.9



Login Sample Receipt Checklist

Client: TRC Solutions, Inc.

Job Number: 600-184470-1

Login Number: 184470

List Source: Eurofins TestAmerica, Houston

List Number: 1

Creator: Taylor, Jacquelyn R

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.2, 1.4, 2.5, 3.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Received extra samples not listed on COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Login Sample Receipt Checklist

Client: TRC Solutions, Inc.

Job Number: 600-184470-1

Login Number: 184470

List Number: 2

Creator: Viveros, Ashley D

List Source: Eurofins TestAmerica, Corpus Christi

List Creation: 05/02/19 11:31 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.





10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

May 09, 2019

Lori Burris
TRC Corporation
10550 Richmond Ave., Suite 210
Houston, TX 77042

Work Order: **HS19041657**

Laboratory Results for: **NRG W.A Parish-CCR Program**

Dear Lori,

ALS Environmental received 3 sample(s) on Apr 29, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER
RJ Modashia
Project Manager

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
Work Order: HS19041657

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19041657-01	MW-37	Groundwater		29-Apr-2019 13:15	29-Apr-2019 17:15	<input type="checkbox"/>
HS19041657-02	MW-42	Groundwater		29-Apr-2019 12:10	29-Apr-2019 17:15	<input type="checkbox"/>
HS19041657-03	MW-63	Groundwater		29-Apr-2019 11:50	29-Apr-2019 17:15	<input type="checkbox"/>

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
Work Order: HS19041657

CASE NARRATIVE

Work Order Comments

- The analysis for Fluoride was subcontracted to ALS Environmental in Holland, MI. Final report attached.
 - Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.
The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.
-

Metals by Method SW6020

Batch ID: 140342

Sample ID: HS19041566-09MS

- MS and MSD are for an unrelated sample
-

WetChemistry by Method M2540C

Batch ID: R337945

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
-

WetChemistry by Method E300

Batch ID: R337841

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
-

WetChemistry by Method SW9040C

Batch ID: R337640

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
-

Client: TRC Corporation
 Project: NRG W.A Parish-CCR Program
 Sample ID: MW-37
 Collection Date: 29-Apr-2019 13:15

ANALYTICAL REPORT
 WorkOrder:HS19041657
 Lab ID:HS19041657-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 30-Apr-2019		Analyst: JHD
Boron	0.361		0.0550	0.100	mg/L	5	01-May-2019 13:16
Calcium	224		0.340	5.00	mg/L	10	01-May-2019 00:36
ANIONS BY E300.0		Method:E300					Analyst: AJH
Chloride	247		2.00	5.00	mg/L	10	03-May-2019 18:00
Sulfate	760		2.00	5.00	mg/L	10	03-May-2019 18:00
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,990		5.00	10.0	mg/L	1	06-May-2019 10:00
PH BY SW9040C		Method:SW9040C					Analyst: AJH
pH	7.64	H	0.100	0.100	pH Units	1	30-Apr-2019 20:27
Temp Deg C @pH	22.0	H	0	0	DEG C	1	30-Apr-2019 20:27
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA					Analyst: SUBHO
Subcontract Analysis	See Attached		0			1	09-May-2019 08:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG W.A Parish-CCR Program
 Sample ID: MW-42
 Collection Date: 29-Apr-2019 12:10

ANALYTICAL REPORT
 WorkOrder:HS19041657
 Lab ID:HS19041657-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 30-Apr-2019		Analyst: JHD
Boron	0.605		0.0550	0.100	mg/L	5	01-May-2019 13:18
Calcium	66.7		0.340	5.00	mg/L	10	01-May-2019 00:37
ANIONS BY E300.0		Method:E300					Analyst: AJH
Chloride	292		2.00	5.00	mg/L	10	03-May-2019 18:15
Sulfate	519		2.00	5.00	mg/L	10	03-May-2019 18:15
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,790		5.00	10.0	mg/L	1	06-May-2019 10:00
PH BY SW9040C		Method:SW9040C					Analyst: AJH
pH	7.84	H	0.100	0.100	pH Units	1	30-Apr-2019 20:32
Temp Deg C @pH	21.8	H	0	0	DEG C	1	30-Apr-2019 20:32
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA					Analyst: SUBHO
Subcontract Analysis	See Attached		0			1	09-May-2019 08:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG W.A Parish-CCR Program
 Sample ID: MW-63
 Collection Date: 29-Apr-2019 11:50

ANALYTICAL REPORT
 WorkOrder:HS19041657
 Lab ID:HS19041657-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 30-Apr-2019		Analyst: JHD
Boron	0.125		0.0550	0.100	mg/L	5	01-May-2019 13:19
Calcium	235		0.340	5.00	mg/L	10	01-May-2019 00:39
ANIONS BY E300.0		Method:E300					Analyst: AJH
Chloride	408		2.00	5.00	mg/L	10	03-May-2019 18:30
Sulfate	352		2.00	5.00	mg/L	10	03-May-2019 18:30
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,710		5.00	10.0	mg/L	1	06-May-2019 10:00
PH BY SW9040C		Method:SW9040C					Analyst: AJH
pH	7.60	H	0.100	0.100	pH Units	1	30-Apr-2019 20:35
Temp Deg C @pH	21.7	H	0	0	DEG C	1	30-Apr-2019 20:35
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA					Analyst: SUBHO
Subcontract Analysis	See Attached		0			1	09-May-2019 08:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041657

Batch ID: 140342 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19041657-01	1	10	10 (mL)	1
HS19041657-02	1	10	10 (mL)	1
HS19041657-03	1	10	10 (mL)	1

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041657

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 140342	Test Name : ICP-MS METALS BY SW6020A		Matrix: Groundwater			
HS19041657-01	MW-37	29 Apr 2019 13:15		30 Apr 2019 11:00	01 May 2019 13:16	5
HS19041657-01	MW-37	29 Apr 2019 13:15		30 Apr 2019 11:00	01 May 2019 00:36	10
HS19041657-02	MW-42	29 Apr 2019 12:10		30 Apr 2019 11:00	01 May 2019 13:18	5
HS19041657-02	MW-42	29 Apr 2019 12:10		30 Apr 2019 11:00	01 May 2019 00:37	10
HS19041657-03	MW-63	29 Apr 2019 11:50		30 Apr 2019 11:00	01 May 2019 13:19	5
HS19041657-03	MW-63	29 Apr 2019 11:50		30 Apr 2019 11:00	01 May 2019 00:39	10
Batch ID R337640	Test Name : PH BY SW9040C		Matrix: Groundwater			
HS19041657-01	MW-37	29 Apr 2019 13:15			30 Apr 2019 20:27	1
HS19041657-02	MW-42	29 Apr 2019 12:10			30 Apr 2019 20:32	1
HS19041657-03	MW-63	29 Apr 2019 11:50			30 Apr 2019 20:35	1
Batch ID R337841	Test Name : ANIONS BY E300.0		Matrix: Groundwater			
HS19041657-01	MW-37	29 Apr 2019 13:15			03 May 2019 18:00	10
HS19041657-02	MW-42	29 Apr 2019 12:10			03 May 2019 18:15	10
HS19041657-03	MW-63	29 Apr 2019 11:50			03 May 2019 18:30	10
Batch ID R337945	Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C		Matrix: Groundwater			
HS19041657-01	MW-37	29 Apr 2019 13:15			06 May 2019 10:00	1
HS19041657-02	MW-42	29 Apr 2019 12:10			06 May 2019 10:00	1
HS19041657-03	MW-63	29 Apr 2019 11:50			06 May 2019 10:00	1
Batch ID R338103	Test Name : SUBCONTRACT ANALYSIS - FLOURIDE		Matrix: Groundwater			
HS19041657-01	MW-37	29 Apr 2019 13:15			09 May 2019 08:41	1
HS19041657-02	MW-42	29 Apr 2019 12:10			09 May 2019 08:41	1
HS19041657-03	MW-63	29 Apr 2019 11:50			09 May 2019 08:41	1

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041657

QC BATCH REPORT

Batch ID: 140342 (0)		Instrument: ICPMS06		Method: ICP-MS METALS BY SW6020A					
MBLK	Sample ID: MBLK-140342	Units: mg/L		Analysis Date: 01-May-2019 12:50					
Client ID:	Run ID: ICPMS06_337619	SeqNo: 5058072	PrepDate: 30-Apr-2019	DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Boron	U	0.0200							
Calcium	U	0.500							

LCS	Sample ID: LCS-140342	Units: mg/L		Analysis Date: 01-May-2019 12:51					
Client ID:	Run ID: ICPMS06_337619	SeqNo: 5058073	PrepDate: 30-Apr-2019	DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Boron	0.4862	0.0200	0.5	0	97.2	80 - 120			
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LCS	Sample ID: LCS-140342	Units: mg/L		Analysis Date: 01-May-2019 00:03					
Client ID:	Run ID: ICPMS06_337547	SeqNo: 5057325	PrepDate: 30-Apr-2019	DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Calcium	5.37	0.500	5	0	107	80 - 120			
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MS	Sample ID: HS19041566-09MS	Units: mg/L		Analysis Date: 01-May-2019 00:07					
Client ID:	Run ID: ICPMS06_337547	SeqNo: 5057328	PrepDate: 30-Apr-2019	DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Boron	1.012	0.0200	0.5	0.5288	96.6	80 - 120	E		
Calcium	218.9	0.500	5	211.8	142	80 - 120	SEO		

MSD	Sample ID: HS19041566-09MSD	Units: mg/L		Analysis Date: 01-May-2019 00:09					
Client ID:	Run ID: ICPMS06_337547	SeqNo: 5057329	PrepDate: 30-Apr-2019	DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Boron	0.9959	0.0200	0.5	0.5288	93.4	80 - 120	1.012	1.6	20
Calcium	221.4	0.500	5	211.8	192	80 - 120	218.9	1.14	20 SEO

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041657

QC BATCH REPORT

Batch ID: 140342 (0) **Instrument:** ICPMS06 **Method:** ICP-MS METALS BY SW6020A

PDS		Sample ID: HS19041566-09PDS			Units: mg/L		Analysis Date: 01-May-2019 12:55			
Client ID:		Run ID: ICPMS06_337619			SeqNo: 5058076		PrepDate: 30-Apr-2019		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	5.504	0.200	5	0.5	100	75 - 125				
Calcium	276.9	5.00	100	185.2	91.7	75 - 125				

SD		Sample ID: HS19041566-09SD			Units: mg/L		Analysis Date: 01-May-2019 12:54			
Client ID:		Run ID: ICPMS06_337619			SeqNo: 5058075		PrepDate: 30-Apr-2019		DF: 50	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	RPD Limit	Qual
Boron	0.5861	1.00					0.5	0	10	J
Calcium	175.4	25.0					185.2	5.27	10	

The following samples were analyzed in this batch: HS19041657-01 HS19041657-02 HS19041657-03

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041657

QC BATCH REPORT

Batch ID: R337640 (0) **Instrument:** ManTech01 **Method:** PH BY SW9040C

DUP	Sample ID: HS19041582-21DUP	Units: pH Units		Analysis Date: 30-Apr-2019 20:15						
Client ID:	Run ID: ManTech01_337640	SeqNo: 5058207	PrepDate:	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.84	0.100					7.85	0.127	10	
Temp Deg C @pH	21.5	0					21.55	0.232	10	

The following samples were analyzed in this batch: HS19041657-01 HS19041657-02 HS19041657-03

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041657

QC BATCH REPORT

Batch ID: R337841 (0) **Instrument:** ICS2100 **Method:** ANIONS BY E300.0

MBLK		Sample ID: WBLKW2-050319		Units: mg/L		Analysis Date: 03-May-2019 13:22			
Client ID:		Run ID: ICS2100_337841		SeqNo: 5062271		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	U	0.500							
Sulfate	U	0.500							

LCS		Sample ID: WLCSW2-050319		Units: mg/L		Analysis Date: 03-May-2019 13:37			
Client ID:		Run ID: ICS2100_337841		SeqNo: 5062272		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	20.35	0.500	20	0	102	90 - 110			
Sulfate	20.25	0.500	20	0	101	90 - 110			

LCSD		Sample ID: WLCSDW2-050319		Units: mg/L		Analysis Date: 03-May-2019 13:52			
Client ID:		Run ID: ICS2100_337841		SeqNo: 5062273		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	20.39	0.500	20	0	102	90 - 110	20.35	0.191	20
Sulfate	20.26	0.500	20	0	101	90 - 110	20.25	0.074	20

MS		Sample ID: HS19041685-08MS		Units: mg/L		Analysis Date: 03-May-2019 21:11			
Client ID:		Run ID: ICS2100_337841		SeqNo: 5062300		PrepDate:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	338.2	5.00	100	252.7	85.5	80 - 120			
Sulfate	97.09	5.00	100	7.84	89.2	80 - 120			

MS		Sample ID: HS19041387-03MS		Units: mg/L		Analysis Date: 03-May-2019 15:34			
Client ID:		Run ID: ICS2100_337841		SeqNo: 5062277		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	13.72	0.500	10	3.516	102	80 - 120			
Sulfate	33.66	0.500	10	21.88	118	80 - 120			

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041657

QC BATCH REPORT

Batch ID: R337841 (0) **Instrument:** ICS2100 **Method:** ANIONS BY E300.0

MSD		Sample ID: HS19041685-08MSD			Units: mg/L		Analysis Date: 03-May-2019 21:25			
Client ID:		Run ID: ICS2100_337841			SeqNo: 5062301		PrepDate:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	342	5.00	100	252.7	89.3	80 - 120	338.2	1.13	20	
Sulfate	98.76	5.00	100	7.84	90.9	80 - 120	97.09	1.71	20	

MSD		Sample ID: HS19041387-03MSD			Units: mg/L		Analysis Date: 03-May-2019 15:49			
Client ID:		Run ID: ICS2100_337841			SeqNo: 5062278		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	13.55	0.500	10	3.516	100	80 - 120	13.72	1.31	20	
Sulfate	32.56	0.500	10	21.88	107	80 - 120	33.66	3.33	20	

The following samples were analyzed in this batch: HS19041657-01 HS19041657-02 HS19041657-03

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041657

QC BATCH REPORT

Batch ID: R337945 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C

MBLK	Sample ID: WBLK-050619	Units: mg/L			Analysis Date: 06-May-2019 10:00					
Client ID:	Run ID: Balance1_337945	SeqNo: 5064389	PrepDate:	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids (Residue, Filterable) U 10.0

LCS	Sample ID: WLCS-050619	Units: mg/L			Analysis Date: 06-May-2019 10:00					
Client ID:	Run ID: Balance1_337945	SeqNo: 5064390	PrepDate:	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids (Residue, Filterable) 1010 10.0 1000 0 101 85 - 115

DUP	Sample ID: HS19050085-02DUP	Units: mg/L			Analysis Date: 06-May-2019 10:00					
Client ID:	Run ID: Balance1_337945	SeqNo: 5065284	PrepDate:	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids (Residue, Filterable) 5004 10.0 5104 1.98 5

The following samples were analyzed in this batch: HS19041657-01 HS19041657-02 HS19041657-03

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041657

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019
North Carolina	624-2019	31-Dec-2019
Maryland	343, 2018-2019	30-Jun-2019
Arkansas	19-028-0	27-Mar-2020
Texas	TX104704231-19-23	30-Apr-2020

Sample Receipt Checklist

Client Name: TRC-HOU
Work Order: HS19041657

Date/Time Received: 29-Apr-2019 17:15
Received by: ACN

Checklist completed by: Andy C. Neir
eSignature
Date: 29-Apr-2019

Reviewed by: RJ Modashia
eSignature
Date: 30-Apr-2019

Matrices: Water

Carrier name: Client

- Shipping container/cooler in good condition?
Custody seals intact on shipping container/cooler?
Custody seals intact on sample bottles?
VOA/TX1005/TX1006 Solids in hermetically sealed vials?
Chain of custody present?
Chain of custody signed when relinquished and received?
Samplers name present on COC?
Chain of custody agrees with sample labels?
Samples in proper container/bottle?
Sample containers intact?
Sufficient sample volume for indicated test?
All samples received within holding time?
Container/Temp Blank temperature in compliance?

- Yes/No checkboxes for each item
Not Present checkboxes
1 Page(s)
COC IDs:200190

Temperature(s)/Thermometer(s):

3.3C UC/C IR#11

Cooler(s)/Kit(s):

6011

Date/Time sample(s) sent to storage:

4/29/2019 1730

Water - VOA vials have zero headspace?

Yes/No checkboxes, No VOA vials submitted checked

Water - pH acceptable upon receipt?

Yes checked, No, N/A

pH adjusted?

Yes, No, N/A checked

pH adjusted by:

Empty text box

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Empty text box for comments

Corrective Action:

Empty text box for corrective action



Cincinnati, OH
+1 513 733 5336

Fort Collins, CO
+1 970 490 1511

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

Chain of Custody Form

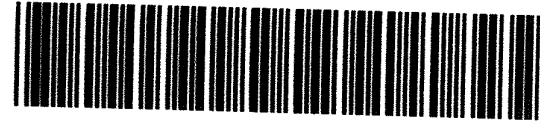
Page 1 of 1

COC ID: 200190

HS19041657

TRC Corporation
NRG

wv



Customer Information		Project Information		ALS Project Manager:	
Purchase Order	294645.001	Project Name	NRG W.A Parish- CCR Program	A	ICP_TW (B and Ca)- Appendix III
Work Order		Project Number		B	300_W (Cl, SO4)- Appendix III
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C	pH_W_9040C (pH)- Appendix III
Send Report To	Lori Burris	Invoice Attn	A/P	D	TDS_W_2540C (TDS)- Appendix III
Address	10550 Richmond Ave., Suite 210	Address	10550 Richmond Ave., Suite 210	E	Sub_Fluoride (Sub Fluoride to ALS Michigan)- App III
				F	
City/State/Zip	Houston, TX 77042	City/State/Zip	Houston TX 77042	G	
Phone	(713) 244-1000	Phone	(713) 244-1000	H	
Fax	(713) 244-1099	Fax	(713) 244-1099	I	
e-Mail Address	LBurris@trcsolutions.com	e-Mail Address	apinvoiceapproval@trcsolutions.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-37	4-24-19	1315	GW	2.8		X	X	X	X	X						
2	MW-42	↓	1210	↓	2.8		X	X	X	X	X						
3	MW-63	↓	1150	↓	2.8		X	X	X	X	X						
4																	
5																	
6																	
7																	
8																	
9																	
10																	


Sampler(s) Please Print & Sign Brien Hillin & Team <i>Brien Hillin</i>		Shipment Method Consultant Delivery		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:	
Relinquished by: <i>Brien Hillin</i>	Date: 4-24-19	Time: 1715	Received by:	Notes: NRG				
Relinquished by:	Date: 4/29/19	Time: 17:15	Received by (Laboratory): NA	Cooler ID: 6011	Cooler Temp.: 33	QC Package: (Check One Box Below)		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	<input checked="" type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist			
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035				<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV			
				<input type="checkbox"/> Level IV SW846/CLP				
				<input type="checkbox"/> Other				

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.

3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2011 by ALS Environmental.

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By:
	Date: 4-29-19	Time: 1600	ACN
	Name: B. Hillin	Company: HMI	Date: 4/29/19



09-May-2019

RJ Modashia
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS19041657**

Work Order: **19050057**

Dear RJ,

ALS Environmental received 3 samples on 01-May-2019 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 9.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton", is written over a light blue horizontal line.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

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Client: ALS Environmental
Project: HS19041657
Work Order: 19050057

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
19050057-01	HS19041657-01	Groundwater	MW-37	4/29/2019 13:15	5/1/2019 09:30	<input type="checkbox"/>
19050057-02	HS19041657-02	Groundwater	MW-42	4/29/2019 12:10	5/1/2019 09:30	<input type="checkbox"/>
19050057-03	HS19041657-03	Groundwater	MW-63	4/29/2019 11:50	5/1/2019 09:30	<input type="checkbox"/>

Client: ALS Environmental
Project: HS19041657
WorkOrder: 19050057

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
mg/L	Milligrams per Liter

ALS Group, USA

Date: 09-May-19

Client: ALS Environmental
Project: HS19041657
Sample ID: HS19041657-01
Collection Date: 4/29/2019 01:15 PM

Work Order: 19050057
Lab ID: 19050057-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
FLUORIDE Fluoride	0.28		A4500-F C-11 0.10	mg/L	1	Analyst: RZM 5/6/2019 02:03 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-May-19

Client: ALS Environmental

Project: HS19041657

Work Order: 19050057

Sample ID: HS19041657-02

Lab ID: 19050057-02

Collection Date: 4/29/2019 12:10 PM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
FLUORIDE Fluoride	0.63		A4500-F C-11 0.10	mg/L	1	Analyst: RZM 5/6/2019 02:03 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-May-19

Client: ALS Environmental
Project: HS19041657
Sample ID: HS19041657-03
Collection Date: 4/29/2019 11:50 AM

Work Order: 19050057
Lab ID: 19050057-03
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
FLUORIDE Fluoride	0.16		A4500-F C-11 0.10	mg/L	1	Analyst: RZM 5/6/2019 02:03 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: ALS Environmental
Work Order: 19050057
Project: HS19041657

QC BATCH REPORT

Batch ID: **R259888** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK		Sample ID: MB-R259888-R259888				Units: mg/L		Analysis Date: 5/6/2019 02:03 PM		
Client ID:		Run ID: TITRATOR 1_190506A		SeqNo: 5643277		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	ND	0.10								

LCS		Sample ID: LCS-R259888-R259888				Units: mg/L		Analysis Date: 5/6/2019 02:03 PM		
Client ID:		Run ID: TITRATOR 1_190506A		SeqNo: 5643278		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.976	0.10	5	0	99.5	80-120	0			

MS		Sample ID: 19050057-01A MS				Units: mg/L		Analysis Date: 5/6/2019 02:03 PM		
Client ID: HS19041657-01		Run ID: TITRATOR 1_190506A		SeqNo: 5643282		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	5.194	0.10	5	0.281	98.3	75-125	0			

MSD		Sample ID: 19050057-01A MSD				Units: mg/L		Analysis Date: 5/6/2019 02:03 PM		
Client ID: HS19041657-01		Run ID: TITRATOR 1_190506A		SeqNo: 5643283		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	5.168	0.10	5	0.281	97.7	75-125	5.194	0.502	20	

The following samples were analyzed in this batch:

19050057-01A	19050057-02A	19050057-03A
--------------	--------------	--------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

19050057



10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11217

SUBCONTRACT TO:

ALS Laboratory Group
3352 128th Ave.
Holland, MI 494249263

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: RJ Modashia
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RJ.Modashia@alsglobal.com
Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19041657
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19041657-01	MW-37	Groundwater	29 Apr 2019 13:15
	Fluoride by ISE 4500			13 May 2019
2.	HS19041657-02	MW-42	Groundwater	29 Apr 2019 12:10
	Fluoride by ISE 4500			13 May 2019
3.	HS19041657-03	MW-63	Groundwater	29 Apr 2019 11:50
	Fluoride by ISE 4500			13 May 2019

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By: S. MAHARAJ
Received By: [Signature]
Cooler ID(s): _____

Date/Time: 4/30/19 18:00
Date/Time: 5/1/19 0930
Temperature(s): SD2 2.6°C

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29 Apr 2019

Page 3 of 7



Sample Receipt Checklist

Client Name: **ALS - HOUSTON**

Date/Time Received: **01-May-19 09:30**

Work Order: **19050057**

Received by: **DS**

Checklist completed by Diane Shaw 01-May-19
eSignature Date

Reviewed by: Chad Whelton 01-May-19
eSignature Date

Matrices: **Groundwater**

Carrier name: **FedEx**

Shipping container/cooler in good condition? Yes No Not Present

Custody seals intact on shipping container/cooler? Yes No Not Present

Custody seals intact on sample bottles? Yes No Not Present

Chain of custody present? Yes No

Chain of custody signed when relinquished and received? Yes No

Chain of custody agrees with sample labels? Yes No

Samples in proper container/bottle? Yes No

Sample containers intact? Yes No

Sufficient sample volume for indicated test? Yes No

All samples received within holding time? Yes No

Container/Temp Blank temperature in compliance? Yes No

Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 2.6/2.6 c SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 5/1/2019 1:19:02 PM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

ANALYTICAL REPORT

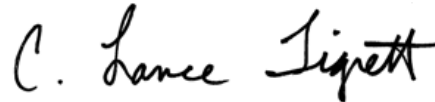
Eurofins TestAmerica, Houston
6310 Rothway Street
Houston, TX 77040
Tel: (713)690-4444

Laboratory Job ID: 600-184470-2

Client Project/Site: TRC-W. A. Parish CCR App IV 4-29-19
Revision: 1

For:
TRC Solutions, Inc.
10550 Richmond Avenue
Suite 210
Houston, Texas 77042

Attn: Lori Burris



Authorized for release by:
7/3/2019 1:59:17 PM

C. Lance Tigrett, Project Manager II
(713)690-4444
lance.tigrett@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Case Narrative

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Job ID: 600-184470-2

Laboratory: Eurofins TestAmerica, Houston

Narrative

**Job Narrative
600-184470-2**

Comments

No additional comments.

Receipt

The samples were received on 4/29/2019 5:33 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 11 coolers at receipt time were 0.2° C, 0.7° C, 0.9° C, 1.0° C, 1.4° C, 2.5° C, 2.7° C, 3.6° C, 3.7° C, 4.0° C and 4.4° C.

All applicable analytical narratives can be found in the TRRP Checklist section of the report.

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Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Eurofins TestAmerica, Houston job number 600-184470-2 and consists of:

- R1 - Field chain-of-custody documentation;
- R2 - Sample identification cross-reference;
- R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- R5 - Test reports/summary forms for blank samples;
- R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 - Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Tiffany Fleming, for C. Lance Tigrett

Name (printed)



Signature

7/2/2019

Date

Project Manager II

Official Title (printed)

Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	Eurofins TestAmerica, Houston	LRC Date:	7/2/2019
Project Name:	TRC-W. A. Parish CCR App IV 4-29-19	Laboratory Job Number:	600-184470-2
Reviewer Name:	Tiffany Fleming, for C. Lance Tigrett		

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				R05D
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			R07C
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?		X			R08C
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	Eurofins TestAmerica, Houston	LRC Date:	7/2/2019
Project Name:	TRC-W. A. Parish CCR App IV 4-29-19	Laboratory Job Number:	600-184470-2
Reviewer Name:	Tiffany Fleming, for C. Lance Tigrett		

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSS?	X				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	X				
<p>1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.</p> <p>2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);</p> <p>3. NA = Not applicable;</p> <p>4. NR = Not reviewed;</p> <p>5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>							

Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	Eurofins TestAmerica, Houston	LRC Date:	7/2/2019
Project Name:	TRC-W. A. Parish CCR App IV 4-29-19	Laboratory Job Number:	600-184470-2
Reviewer Name:	Tiffany Fleming, for C. Lance Tigrett		

ER # ¹	Description
R05D	Method 6010B: The method blank for preparation batch 600-264165 and analytical batch 600-264318 contained Lithium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.
R07C	Method 7470A: 600-184470-5 MS/MSD failed the recovery criteria for the following analyte: Mercury. Matrix interference is suspected.
R08C	Method 6010B: 600-184470-21 DU failed the RPD criteria for the following analytes: Antimony, Cadmium, and Molybdenum.
	<ol style="list-style-type: none"> Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); NA = Not applicable; NR = Not reviewed; ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).



Matrix: Water
Method: 4500_F_C
Date Analyzed: 1/8/2019
Job #: MDLV 560-158503/13
TALS Batch: 158503
Units: mg/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MLQ
Fluoride	NOEQUIP	0.020	0.050	0.049	0.1



Matrix: Water
Method: 7470A
Prep Method: 7470A_Prep
Date Analyzed: 1/17/2019
Job #: 600-178695
TALS Batch: 256401
Units: ug/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	ML
Hg	MHG01	0.082	0.250	0.275	0.2



Matrix: Water
Method: 6010B
Prep Method: 3010A
Date Analyzed: 1/30/2019
Job #: 600-178695
TALS Batch: 257400
Units: mg/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MQL
Ag	Thermo6500	0.001	0.300	0.200	0.010
Al	Thermo6500	0.093	20.000	20.460	0.500
As	Thermo6500	0.003	0.800	0.960	0.010
B	Thermo6500	0.012	3.000	3.830	0.200
Ba	Thermo6500	0.001	0.100	0.280	0.020
Be	Thermo6500	0.000	0.100	0.150	0.005
Ca	Thermo6500	0.024	5.000	28.490	1.000
Cd	Thermo6500	0.000	0.080	0.070	0.005
Co	Thermo6500	0.000	0.090	0.110	0.010
Cr	Thermo6500	0.002	0.400	0.380	0.010
Cu	Thermo6500	0.008	2.000	1.540	0.010
Fe	Thermo6500	0.027	8.000	10.080	0.400
K	Thermo6500	0.037	10.000	20.700	1.000
Li	Thermo6500	0.002	0.400	0.330	0.200
Mg	Thermo6500	0.056	15.000	15.100	1.000
Mn	Thermo6500	0.000	0.100	0.150	0.010
Mo	Thermo6500	0.001	0.150	0.200	0.010
Na	Thermo6500	0.021	5.000	16.760	1.000
Ni	Thermo6500	0.001	0.200	0.190	0.010
Pb	Thermo6500	0.002	0.500	0.610	0.010
Sb	Thermo6500	0.004	1.000	1.390	0.050
Se	Thermo6500	0.003	0.800	0.840	0.040
Si	Thermo6500	0.035	10.000	11.260	0.200
Sn	Thermo6500	0.001	0.150	0.260	0.010
Sr	Thermo6500	0.000	0.100	0.790	0.005
Ti	Thermo6500	0.001	0.150	0.230	0.010
Tl	Thermo6500	0.004	1.200	1.510	0.030
V	Thermo6500	0.000	0.100	0.090	0.010
Zn	Thermo6500	0.004	1.000	0.880	0.030

Method Summary

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Method	Method Description	Protocol	Laboratory
6010B	Inductively Coupled Plasma - Atomic Emission Spectrometry	SW846	TAL HOU
7470A	Mercury	SW846	TAL HOU
340.2	Fluoride	MCAWW	TAL CC
3010A	Preparation, Total Metals	SW846	TAL HOU
7470A	Preparation, Mercury	SW846	TAL HOU

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CC = Eurofins TestAmerica, Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673
TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444



Sample Summary

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
600-184470-1	MW-39	Water	04/29/19 14:30	04/29/19 17:33	
600-184470-2	MW-40	Water	04/29/19 12:25	04/29/19 17:33	
600-184470-3	MW-41	Water	04/29/19 14:15	04/29/19 17:33	
600-184470-4	MW-62	Water	04/29/19 13:30	04/29/19 17:33	
600-184470-5	MW-63	Water	04/29/19 11:50	04/29/19 17:33	
600-184470-6	MW-64	Water	04/29/19 11:20	04/29/19 17:33	
600-184470-7	MW-23	Water	04/29/19 13:35	04/29/19 17:33	
600-184470-8	MW-28D	Water	04/29/19 11:00	04/29/19 17:33	
600-184470-9	MW-42	Water	04/29/19 12:10	04/29/19 17:33	
600-184470-10	MW-43	Water	04/29/19 12:00	04/29/19 17:33	
600-184470-11	MW-44	Water	04/29/19 13:15	04/29/19 17:33	
600-184470-12	MW-46R	Water	04/29/19 14:50	04/29/19 17:33	
600-184470-13	MW-47	Water	04/29/19 14:05	04/29/19 17:33	
600-184470-14	MW-48	Water	04/29/19 12:50	04/29/19 17:33	
600-184470-15	MW-50	Water	04/29/19 11:40	04/29/19 17:33	
600-184470-16	MW-52	Water	04/29/19 12:40	04/29/19 17:33	
600-184470-17	MW-54	Water	04/29/19 12:10	04/29/19 17:33	
600-184470-18	MW-55R	Water	04/29/19 13:25	04/29/19 17:33	
600-184470-19	MW-58	Water	04/29/19 14:45	04/29/19 17:33	
600-184470-20	MW-65	Water	04/29/19 14:50	04/29/19 17:33	
600-184470-21	MW-36	Water	04/29/19 11:40	04/29/19 17:33	
600-184470-22	MW-37	Water	04/29/19 13:15	04/29/19 17:33	
600-184470-23	MW-38	Water	04/29/19 14:25	04/29/19 17:33	
600-184470-24	MW-60	Water	04/29/19 13:20	04/29/19 17:33	
600-184470-25	MW-61	Water	04/29/19 12:10	04/29/19 17:33	
600-184470-26	DUP-01	Water	04/29/19 10:00	04/29/19 17:33	
600-184470-27	DUP-02	Water	04/29/19 12:00	04/29/19 17:33	
600-184470-28	FB-01	Water	04/29/19 12:35	04/29/19 17:33	

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-39

Lab Sample ID: 600-184470-1

Date Collected: 04/29/19 14:30

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L	-	05/01/19 09:28	05/08/19 15:47	1
Barium	0.144		0.0200	0.000530	mg/L	-	05/01/19 09:28	05/08/19 15:47	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 09:28	05/08/19 15:47	1
Cadmium	0.000500	J	0.00500	0.000280	mg/L	-	05/01/19 09:28	05/08/19 15:47	1
Chromium	0.00159	U	0.0100	0.00159	mg/L	-	05/01/19 09:28	05/08/19 15:47	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/01/19 09:28	05/08/19 15:47	1
Molybdenum	0.00190	J	0.0100	0.000540	mg/L	-	05/01/19 09:28	05/08/19 15:47	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 09:28	05/08/19 15:47	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 09:28	05/08/19 15:47	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/01/19 09:28	05/08/19 15:47	1
Antimony	0.00710	J	0.0500	0.00393	mg/L	-	05/01/19 09:28	05/08/19 15:47	1
Lithium	0.0463	J	0.200	0.00162	mg/L	-	05/01/19 09:28	05/08/19 15:47	1
Boron	0.0980	J	0.200	0.0116	mg/L	-	05/01/19 09:28	05/08/19 15:47	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 08:52	05/08/19 13:38	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.230		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Client Sample ID: MW-40

Lab Sample ID: 600-184470-2

Date Collected: 04/29/19 12:25

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L	-	05/01/19 09:28	05/08/19 15:49	1
Barium	0.626		0.0200	0.000530	mg/L	-	05/01/19 09:28	05/08/19 15:49	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 09:28	05/08/19 15:49	1
Cadmium	0.000700	J	0.00500	0.000280	mg/L	-	05/01/19 09:28	05/08/19 15:49	1
Chromium	0.00570	J	0.0100	0.00159	mg/L	-	05/01/19 09:28	05/08/19 15:49	1
Cobalt	0.00150	J	0.0100	0.000310	mg/L	-	05/01/19 09:28	05/08/19 15:49	1
Molybdenum	0.00200	J	0.0100	0.000540	mg/L	-	05/01/19 09:28	05/08/19 15:49	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 09:28	05/08/19 15:49	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 09:28	05/08/19 15:49	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/01/19 09:28	05/08/19 15:49	1
Antimony	0.00393	U	0.0500	0.00393	mg/L	-	05/01/19 09:28	05/08/19 15:49	1
Lithium	0.0525	J	0.200	0.00162	mg/L	-	05/01/19 09:28	05/08/19 15:49	1
Boron	0.0939	J	0.200	0.0116	mg/L	-	05/01/19 09:28	05/08/19 15:49	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 08:52	05/08/19 13:42	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.205		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-41

Lab Sample ID: 600-184470-3

Date Collected: 04/29/19 14:15

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L	-	05/01/19 09:28	05/08/19 15:57	1
Barium	0.299		0.0200	0.000530	mg/L	-	05/01/19 09:28	05/08/19 15:57	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 09:28	05/08/19 15:57	1
Cadmium	0.000300	J	0.00500	0.000280	mg/L	-	05/01/19 09:28	05/08/19 15:57	1
Chromium	0.00159	U	0.0100	0.00159	mg/L	-	05/01/19 09:28	05/08/19 15:57	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/01/19 09:28	05/08/19 15:57	1
Molybdenum	0.000540	U	0.0100	0.000540	mg/L	-	05/01/19 09:28	05/08/19 15:57	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 09:28	05/08/19 15:57	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 09:28	05/08/19 15:57	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/01/19 09:28	05/08/19 15:57	1
Antimony	0.00393	U	0.0500	0.00393	mg/L	-	05/01/19 09:28	05/08/19 15:57	1
Lithium	0.0387	J	0.200	0.00162	mg/L	-	05/01/19 09:28	05/08/19 15:57	1
Boron	0.0776	J	0.200	0.0116	mg/L	-	05/01/19 09:28	05/08/19 15:57	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 08:52	05/08/19 13:40	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.283		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Client Sample ID: MW-62

Lab Sample ID: 600-184470-4

Date Collected: 04/29/19 13:30

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L	-	05/01/19 09:28	05/08/19 15:59	1
Barium	0.355		0.0200	0.000530	mg/L	-	05/01/19 09:28	05/08/19 15:59	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 09:28	05/08/19 15:59	1
Cadmium	0.000600	J	0.00500	0.000280	mg/L	-	05/01/19 09:28	05/08/19 15:59	1
Chromium	0.0126		0.0100	0.00159	mg/L	-	05/01/19 09:28	05/08/19 15:59	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/01/19 09:28	05/08/19 15:59	1
Molybdenum	0.000800	J	0.0100	0.000540	mg/L	-	05/01/19 09:28	05/08/19 15:59	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 09:28	05/08/19 15:59	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 09:28	05/08/19 15:59	1
Thallium	0.00440	J	0.0300	0.00417	mg/L	-	05/01/19 09:28	05/08/19 15:59	1
Antimony	0.00393	U	0.0500	0.00393	mg/L	-	05/01/19 09:28	05/08/19 15:59	1
Lithium	0.0563	J	0.200	0.00162	mg/L	-	05/01/19 09:28	05/08/19 15:59	1
Boron	0.0872	J	0.200	0.0116	mg/L	-	05/01/19 09:28	05/08/19 15:59	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 08:52	05/08/19 13:44	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.298		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-63

Lab Sample ID: 600-184470-5

Date Collected: 04/29/19 11:50

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MLQ (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00320	J	0.0100	0.00285	mg/L	-	05/01/19 09:28	05/08/19 16:01	1
Barium	0.0957		0.0200	0.000530	mg/L	-	05/01/19 09:28	05/08/19 16:01	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 09:28	05/08/19 16:01	1
Cadmium	0.000600	J	0.00500	0.000280	mg/L	-	05/01/19 09:28	05/08/19 16:01	1
Chromium	0.0465		0.0100	0.00159	mg/L	-	05/01/19 09:28	05/08/19 16:01	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/01/19 09:28	05/08/19 16:01	1
Molybdenum	0.00120	J	0.0100	0.000540	mg/L	-	05/01/19 09:28	05/08/19 16:01	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 09:28	05/08/19 16:01	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 09:28	05/08/19 16:01	1
Thallium	0.00420	J	0.0300	0.00417	mg/L	-	05/01/19 09:28	05/08/19 16:01	1
Antimony	0.00393	U	0.0500	0.00393	mg/L	-	05/01/19 09:28	05/08/19 16:01	1
Lithium	0.0393	J	0.200	0.00162	mg/L	-	05/01/19 09:28	05/08/19 16:01	1
Boron	0.118	J	0.200	0.0116	mg/L	-	05/01/19 09:28	05/08/19 16:01	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MLQ (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	J	0.000250	0.000103	mg/L	-	05/08/19 08:52	05/08/19 13:29	1

General Chemistry

Analyte	Result	Qualifier	MLQ (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.225		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Client Sample ID: MW-64

Lab Sample ID: 600-184470-6

Date Collected: 04/29/19 11:20

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MLQ (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L	-	05/01/19 09:28	05/08/19 16:07	1
Barium	0.297		0.0200	0.000530	mg/L	-	05/01/19 09:28	05/08/19 16:07	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 09:28	05/08/19 16:07	1
Cadmium	0.00100	J	0.00500	0.000280	mg/L	-	05/01/19 09:28	05/08/19 16:07	1
Chromium	0.00159	U	0.0100	0.00159	mg/L	-	05/01/19 09:28	05/08/19 16:07	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/01/19 09:28	05/08/19 16:07	1
Molybdenum	0.00280	J	0.0100	0.000540	mg/L	-	05/01/19 09:28	05/08/19 16:07	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 09:28	05/08/19 16:07	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 09:28	05/08/19 16:07	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/01/19 09:28	05/08/19 16:07	1
Antimony	0.0105	J	0.0500	0.00393	mg/L	-	05/01/19 09:28	05/08/19 16:07	1
Lithium	0.0387	J	0.200	0.00162	mg/L	-	05/01/19 09:28	05/08/19 16:07	1
Boron	0.111	J	0.200	0.0116	mg/L	-	05/01/19 09:28	05/08/19 16:07	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MLQ (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 08:52	05/08/19 13:50	1

General Chemistry

Analyte	Result	Qualifier	MLQ (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.375		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-23

Lab Sample ID: 600-184470-7

Date Collected: 04/29/19 13:35

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00390	J	0.0100	0.00285	mg/L	-	05/01/19 09:28	05/08/19 16:09	1
Barium	0.126		0.0200	0.000530	mg/L	-	05/01/19 09:28	05/08/19 16:09	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 09:28	05/08/19 16:09	1
Cadmium	0.000800	J	0.00500	0.000280	mg/L	-	05/01/19 09:28	05/08/19 16:09	1
Chromium	0.0200		0.0100	0.00159	mg/L	-	05/01/19 09:28	05/08/19 16:09	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/01/19 09:28	05/08/19 16:09	1
Molybdenum	0.00460	J	0.0100	0.000540	mg/L	-	05/01/19 09:28	05/08/19 16:09	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 09:28	05/08/19 16:09	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 09:28	05/08/19 16:09	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/01/19 09:28	05/08/19 16:09	1
Antimony	0.00393	U	0.0500	0.00393	mg/L	-	05/01/19 09:28	05/08/19 16:09	1
Lithium	0.0645	J	0.200	0.00162	mg/L	-	05/01/19 09:28	05/08/19 16:09	1
Boron	0.212		0.200	0.0116	mg/L	-	05/01/19 09:28	05/08/19 16:09	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 08:52	05/08/19 13:52	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.282		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Client Sample ID: MW-28D

Lab Sample ID: 600-184470-8

Date Collected: 04/29/19 11:00

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00910	J	0.0100	0.00285	mg/L	-	05/01/19 09:28	05/08/19 16:11	1
Barium	0.228		0.0200	0.000530	mg/L	-	05/01/19 09:28	05/08/19 16:11	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 09:28	05/08/19 16:11	1
Cadmium	0.000500	J	0.00500	0.000280	mg/L	-	05/01/19 09:28	05/08/19 16:11	1
Chromium	0.00159	U	0.0100	0.00159	mg/L	-	05/01/19 09:28	05/08/19 16:11	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/01/19 09:28	05/08/19 16:11	1
Molybdenum	0.00190	J	0.0100	0.000540	mg/L	-	05/01/19 09:28	05/08/19 16:11	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 09:28	05/08/19 16:11	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 09:28	05/08/19 16:11	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/01/19 09:28	05/08/19 16:11	1
Antimony	0.00393	U	0.0500	0.00393	mg/L	-	05/01/19 09:28	05/08/19 16:11	1
Lithium	0.0349	J	0.200	0.00162	mg/L	-	05/01/19 09:28	05/08/19 16:11	1
Boron	0.173	J	0.200	0.0116	mg/L	-	05/01/19 09:28	05/08/19 16:11	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 08:52	05/08/19 13:54	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.451		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-42

Date Collected: 04/29/19 12:10

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-9

Matrix: Water

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0467		0.0100	0.00285	mg/L		05/01/19 09:28	05/08/19 16:13	1
Barium	0.0584		0.0200	0.000530	mg/L		05/01/19 09:28	05/08/19 16:13	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 09:28	05/08/19 16:13	1
Cadmium	0.000300	J	0.00500	0.000280	mg/L		05/01/19 09:28	05/08/19 16:13	1
Chromium	0.00159	U	0.0100	0.00159	mg/L		05/01/19 09:28	05/08/19 16:13	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/01/19 09:28	05/08/19 16:13	1
Molybdenum	0.00800	J	0.0100	0.000540	mg/L		05/01/19 09:28	05/08/19 16:13	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 09:28	05/08/19 16:13	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 09:28	05/08/19 16:13	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 09:28	05/08/19 16:13	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 09:28	05/08/19 16:13	1
Lithium	0.0489	J	0.200	0.00162	mg/L		05/01/19 09:28	05/08/19 16:13	1
Boron	0.621		0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:13	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L		05/08/19 08:52	05/08/19 14:00	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.695		0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample ID: MW-43

Date Collected: 04/29/19 12:00

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-10

Matrix: Water

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0324		0.0100	0.00285	mg/L		05/01/19 09:28	05/08/19 16:15	1
Barium	0.127		0.0200	0.000530	mg/L		05/01/19 09:28	05/08/19 16:15	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 09:28	05/08/19 16:15	1
Cadmium	0.000300	J	0.00500	0.000280	mg/L		05/01/19 09:28	05/08/19 16:15	1
Chromium	0.00159	U	0.0100	0.00159	mg/L		05/01/19 09:28	05/08/19 16:15	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/01/19 09:28	05/08/19 16:15	1
Molybdenum	0.00910	J	0.0100	0.000540	mg/L		05/01/19 09:28	05/08/19 16:15	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 09:28	05/08/19 16:15	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 09:28	05/08/19 16:15	1
Thallium	0.00500	J	0.0300	0.00417	mg/L		05/01/19 09:28	05/08/19 16:15	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 09:28	05/08/19 16:15	1
Lithium	0.0486	J	0.200	0.00162	mg/L		05/01/19 09:28	05/08/19 16:15	1
Boron	0.468		0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:15	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L		05/08/19 08:52	05/08/19 14:02	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.821		0.100	0.0200	mg/L			05/04/19 11:00	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-44

Lab Sample ID: 600-184470-11

Date Collected: 04/29/19 13:15

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00560	J	0.0100	0.00285	mg/L	-	05/01/19 09:28	05/08/19 16:24	1
Barium	0.147		0.0200	0.000530	mg/L	-	05/01/19 09:28	05/08/19 16:24	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 09:28	05/08/19 16:24	1
Cadmium	0.000600	J	0.00500	0.000280	mg/L	-	05/01/19 09:28	05/08/19 16:24	1
Chromium	0.00159	U	0.0100	0.00159	mg/L	-	05/01/19 09:28	05/08/19 16:24	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/01/19 09:28	05/08/19 16:24	1
Molybdenum	0.00320	J	0.0100	0.000540	mg/L	-	05/01/19 09:28	05/08/19 16:24	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 09:28	05/08/19 16:24	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 09:28	05/08/19 16:24	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/01/19 09:28	05/08/19 16:24	1
Antimony	0.00393	U	0.0500	0.00393	mg/L	-	05/01/19 09:28	05/08/19 16:24	1
Lithium	0.0447	J	0.200	0.00162	mg/L	-	05/01/19 09:28	05/08/19 16:24	1
Boron	0.235		0.200	0.0116	mg/L	-	05/01/19 09:28	05/08/19 16:24	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 08:52	05/08/19 14:04	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.502		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Client Sample ID: MW-46R

Lab Sample ID: 600-184470-12

Date Collected: 04/29/19 14:50

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00660	J	0.0100	0.00285	mg/L	-	05/01/19 09:28	05/08/19 16:26	1
Barium	0.214		0.0200	0.000530	mg/L	-	05/01/19 09:28	05/08/19 16:26	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 09:28	05/08/19 16:26	1
Cadmium	0.000500	J	0.00500	0.000280	mg/L	-	05/01/19 09:28	05/08/19 16:26	1
Chromium	0.00159	U	0.0100	0.00159	mg/L	-	05/01/19 09:28	05/08/19 16:26	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/01/19 09:28	05/08/19 16:26	1
Molybdenum	0.00150	J	0.0100	0.000540	mg/L	-	05/01/19 09:28	05/08/19 16:26	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 09:28	05/08/19 16:26	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 09:28	05/08/19 16:26	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/01/19 09:28	05/08/19 16:26	1
Antimony	0.00393	U	0.0500	0.00393	mg/L	-	05/01/19 09:28	05/08/19 16:26	1
Lithium	0.0352	J	0.200	0.00162	mg/L	-	05/01/19 09:28	05/08/19 16:26	1
Boron	0.170	J	0.200	0.0116	mg/L	-	05/01/19 09:28	05/08/19 16:26	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 08:52	05/08/19 14:06	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.523		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-47

Lab Sample ID: 600-184470-13

Date Collected: 04/29/19 14:05

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L	-	05/01/19 09:28	05/08/19 16:28	1
Barium	0.233		0.0200	0.000530	mg/L	-	05/01/19 09:28	05/08/19 16:28	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 09:28	05/08/19 16:28	1
Cadmium	0.000600	J	0.00500	0.000280	mg/L	-	05/01/19 09:28	05/08/19 16:28	1
Chromium	0.00159	U	0.0100	0.00159	mg/L	-	05/01/19 09:28	05/08/19 16:28	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/01/19 09:28	05/08/19 16:28	1
Molybdenum	0.00170	J	0.0100	0.000540	mg/L	-	05/01/19 09:28	05/08/19 16:28	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 09:28	05/08/19 16:28	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 09:28	05/08/19 16:28	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/01/19 09:28	05/08/19 16:28	1
Antimony	0.00393	U	0.0500	0.00393	mg/L	-	05/01/19 09:28	05/08/19 16:28	1
Lithium	0.0437	J	0.200	0.00162	mg/L	-	05/01/19 09:28	05/08/19 16:28	1
Boron	0.271		0.200	0.0116	mg/L	-	05/01/19 09:28	05/08/19 16:28	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 08:52	05/08/19 14:08	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.520		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Client Sample ID: MW-48

Lab Sample ID: 600-184470-14

Date Collected: 04/29/19 12:50

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0175		0.0100	0.00285	mg/L	-	05/01/19 09:28	05/08/19 16:30	1
Barium	0.0849		0.0200	0.000530	mg/L	-	05/01/19 09:28	05/08/19 16:30	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 09:28	05/08/19 16:30	1
Cadmium	0.000300	J	0.00500	0.000280	mg/L	-	05/01/19 09:28	05/08/19 16:30	1
Chromium	0.00159	U	0.0100	0.00159	mg/L	-	05/01/19 09:28	05/08/19 16:30	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/01/19 09:28	05/08/19 16:30	1
Molybdenum	0.0102		0.0100	0.000540	mg/L	-	05/01/19 09:28	05/08/19 16:30	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 09:28	05/08/19 16:30	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 09:28	05/08/19 16:30	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/01/19 09:28	05/08/19 16:30	1
Antimony	0.00393	U	0.0500	0.00393	mg/L	-	05/01/19 09:28	05/08/19 16:30	1
Lithium	0.0393	J	0.200	0.00162	mg/L	-	05/01/19 09:28	05/08/19 16:30	1
Boron	0.600		0.200	0.0116	mg/L	-	05/01/19 09:28	05/08/19 16:30	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 14:09	05/09/19 09:13	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.814		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-50

Lab Sample ID: 600-184470-15

Date Collected: 04/29/19 11:40

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MLQ (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00630	J	0.0100	0.00285	mg/L	-	05/01/19 09:28	05/08/19 16:32	1
Barium	0.199		0.0200	0.000530	mg/L	-	05/01/19 09:28	05/08/19 16:32	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 09:28	05/08/19 16:32	1
Cadmium	0.000700	J	0.00500	0.000280	mg/L	-	05/01/19 09:28	05/08/19 16:32	1
Chromium	0.00159	U	0.0100	0.00159	mg/L	-	05/01/19 09:28	05/08/19 16:32	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/01/19 09:28	05/08/19 16:32	1
Molybdenum	0.00300	J	0.0100	0.000540	mg/L	-	05/01/19 09:28	05/08/19 16:32	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 09:28	05/08/19 16:32	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 09:28	05/08/19 16:32	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/01/19 09:28	05/08/19 16:32	1
Antimony	0.00393	U	0.0500	0.00393	mg/L	-	05/01/19 09:28	05/08/19 16:32	1
Lithium	0.0481	J	0.200	0.00162	mg/L	-	05/01/19 09:28	05/08/19 16:32	1
Boron	0.271		0.200	0.0116	mg/L	-	05/01/19 09:28	05/08/19 16:32	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MLQ (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 14:09	05/09/19 09:15	1

General Chemistry

Analyte	Result	Qualifier	MLQ (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.568		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Client Sample ID: MW-52

Lab Sample ID: 600-184470-16

Date Collected: 04/29/19 12:40

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MLQ (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0285		0.0100	0.00285	mg/L	-	05/01/19 09:28	05/08/19 16:34	1
Barium	0.0720		0.0200	0.000530	mg/L	-	05/01/19 09:28	05/08/19 16:34	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 09:28	05/08/19 16:34	1
Cadmium	0.000700	J	0.00500	0.000280	mg/L	-	05/01/19 09:28	05/08/19 16:34	1
Chromium	0.00159	U	0.0100	0.00159	mg/L	-	05/01/19 09:28	05/08/19 16:34	1
Cobalt	0.00100	J	0.0100	0.000310	mg/L	-	05/01/19 09:28	05/08/19 16:34	1
Molybdenum	0.00460	J	0.0100	0.000540	mg/L	-	05/01/19 09:28	05/08/19 16:34	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 09:28	05/08/19 16:34	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 09:28	05/08/19 16:34	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/01/19 09:28	05/08/19 16:34	1
Antimony	0.00393	U	0.0500	0.00393	mg/L	-	05/01/19 09:28	05/08/19 16:34	1
Lithium	0.0699	J	0.200	0.00162	mg/L	-	05/01/19 09:28	05/08/19 16:34	1
Boron	0.357		0.200	0.0116	mg/L	-	05/01/19 09:28	05/08/19 16:34	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MLQ (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 14:09	05/09/19 09:17	1

General Chemistry

Analyte	Result	Qualifier	MLQ (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.566		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-54
 Date Collected: 04/29/19 12:10
 Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-17
 Matrix: Water

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00440	J	0.0100	0.00285	mg/L	-	05/01/19 09:28	05/08/19 16:36	1
Barium	0.118		0.0200	0.000530	mg/L	-	05/01/19 09:28	05/08/19 16:36	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 09:28	05/08/19 16:36	1
Cadmium	0.000600	J	0.00500	0.000280	mg/L	-	05/01/19 09:28	05/08/19 16:36	1
Chromium	0.00230	J	0.0100	0.00159	mg/L	-	05/01/19 09:28	05/08/19 16:36	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/01/19 09:28	05/08/19 16:36	1
Molybdenum	0.00300	J	0.0100	0.000540	mg/L	-	05/01/19 09:28	05/08/19 16:36	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 09:28	05/08/19 16:36	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 09:28	05/08/19 16:36	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/01/19 09:28	05/08/19 16:36	1
Antimony	0.00393	U	0.0500	0.00393	mg/L	-	05/01/19 09:28	05/08/19 16:36	1
Lithium	0.0421	J	0.200	0.00162	mg/L	-	05/01/19 09:28	05/08/19 16:36	1
Boron	0.274		0.200	0.0116	mg/L	-	05/01/19 09:28	05/08/19 16:36	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 14:09	05/09/19 09:19	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.593		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Client Sample ID: MW-55R
 Date Collected: 04/29/19 13:25
 Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-18
 Matrix: Water

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0207		0.0100	0.00285	mg/L	-	05/01/19 09:28	05/08/19 16:38	1
Barium	0.0931		0.0200	0.000530	mg/L	-	05/01/19 09:28	05/08/19 16:38	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 09:28	05/08/19 16:38	1
Cadmium	0.000400	J	0.00500	0.000280	mg/L	-	05/01/19 09:28	05/08/19 16:38	1
Chromium	0.00159	U	0.0100	0.00159	mg/L	-	05/01/19 09:28	05/08/19 16:38	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/01/19 09:28	05/08/19 16:38	1
Molybdenum	0.0149		0.0100	0.000540	mg/L	-	05/01/19 09:28	05/08/19 16:38	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 09:28	05/08/19 16:38	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 09:28	05/08/19 16:38	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/01/19 09:28	05/08/19 16:38	1
Antimony	0.00393	U	0.0500	0.00393	mg/L	-	05/01/19 09:28	05/08/19 16:38	1
Lithium	0.0522	J	0.200	0.00162	mg/L	-	05/01/19 09:28	05/08/19 16:38	1
Boron	0.744		0.200	0.0116	mg/L	-	05/01/19 09:28	05/08/19 16:38	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 14:09	05/09/19 09:21	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.920		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-58

Lab Sample ID: 600-184470-19

Date Collected: 04/29/19 14:45

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0115		0.0100	0.00285	mg/L		05/01/19 09:28	05/08/19 16:40	1
Barium	0.163		0.0200	0.000530	mg/L		05/01/19 09:28	05/08/19 16:40	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 09:28	05/08/19 16:40	1
Cadmium	0.000600	J	0.00500	0.000280	mg/L		05/01/19 09:28	05/08/19 16:40	1
Chromium	0.00159	U	0.0100	0.00159	mg/L		05/01/19 09:28	05/08/19 16:40	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/01/19 09:28	05/08/19 16:40	1
Molybdenum	0.00270	J	0.0100	0.000540	mg/L		05/01/19 09:28	05/08/19 16:40	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 09:28	05/08/19 16:40	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 09:28	05/08/19 16:40	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 09:28	05/08/19 16:40	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 09:28	05/08/19 16:40	1
Lithium	0.0466	J	0.200	0.00162	mg/L		05/01/19 09:28	05/08/19 16:40	1
Boron	0.324		0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:40	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L		05/08/19 14:09	05/09/19 09:07	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.550		0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample ID: MW-65

Lab Sample ID: 600-184470-20

Date Collected: 04/29/19 14:50

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L		05/01/19 09:28	05/08/19 16:52	1
Barium	0.0651		0.0200	0.000530	mg/L		05/01/19 09:28	05/08/19 16:52	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 09:28	05/08/19 16:52	1
Cadmium	0.00130	J	0.00500	0.000280	mg/L		05/01/19 09:28	05/08/19 16:52	1
Chromium	0.00159	U	0.0100	0.00159	mg/L		05/01/19 09:28	05/08/19 16:52	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/01/19 09:28	05/08/19 16:52	1
Molybdenum	0.00490	J	0.0100	0.000540	mg/L		05/01/19 09:28	05/08/19 16:52	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 09:28	05/08/19 16:52	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 09:28	05/08/19 16:52	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 09:28	05/08/19 16:52	1
Antimony	0.00720	J	0.0500	0.00393	mg/L		05/01/19 09:28	05/08/19 16:52	1
Lithium	0.0525	J	0.200	0.00162	mg/L		05/01/19 09:28	05/08/19 16:52	1
Boron	0.299		0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 16:52	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000127	J	0.000250	0.000103	mg/L		05/08/19 14:09	05/13/19 22:26	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.461		0.100	0.0200	mg/L			05/04/19 11:00	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-36

Lab Sample ID: 600-184470-21

Date Collected: 04/29/19 11:40

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00300	J	0.0100	0.00285	mg/L	-	05/02/19 09:19	05/03/19 11:53	1
Barium	0.0402		0.0200	0.000530	mg/L	-	05/02/19 09:19	05/03/19 11:53	1
Beryllium	0.00120	J	0.00500	0.000420	mg/L	-	05/02/19 09:19	05/03/19 11:53	1
Cadmium	0.00100	J	0.00500	0.000280	mg/L	-	05/02/19 09:19	05/03/19 11:53	1
Chromium	0.00159	U	0.0100	0.00159	mg/L	-	05/02/19 09:19	05/03/19 11:53	1
Cobalt	0.000600	J	0.0100	0.000310	mg/L	-	05/02/19 09:19	05/03/19 11:53	1
Molybdenum	0.00190	J	0.0100	0.000540	mg/L	-	05/02/19 09:19	05/03/19 11:53	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/02/19 09:19	05/03/19 11:53	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/02/19 09:19	05/03/19 11:53	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/02/19 09:19	05/03/19 11:53	1
Antimony	0.0129	J	0.0500	0.00393	mg/L	-	05/02/19 09:19	05/03/19 11:53	1
Lithium	0.0517	J b	0.200	0.00162	mg/L	-	05/02/19 09:19	05/03/19 11:53	1
Boron	0.0715	J	0.200	0.0116	mg/L	-	05/02/19 09:19	05/03/19 11:53	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00424		0.000250	0.000103	mg/L	-	05/08/19 14:09	05/13/19 22:28	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.459		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Client Sample ID: MW-37

Lab Sample ID: 600-184470-22

Date Collected: 04/29/19 13:15

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L	-	05/02/19 09:19	05/03/19 13:36	1
Barium	0.0272		0.0200	0.000530	mg/L	-	05/02/19 09:19	05/03/19 13:36	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/02/19 09:19	05/06/19 16:26	1
Cadmium	0.000800	J	0.00500	0.000280	mg/L	-	05/02/19 09:19	05/03/19 13:36	1
Chromium	0.00260	J	0.0100	0.00159	mg/L	-	05/02/19 09:19	05/03/19 13:36	1
Cobalt	0.00110	J	0.0100	0.000310	mg/L	-	05/02/19 09:19	05/03/19 13:36	1
Molybdenum	0.00190	J	0.0100	0.000540	mg/L	-	05/02/19 09:19	05/03/19 13:36	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/02/19 09:19	05/03/19 13:36	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/02/19 09:19	05/03/19 13:36	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/02/19 09:19	05/03/19 13:36	1
Antimony	0.0261	J	0.0500	0.00393	mg/L	-	05/02/19 09:19	05/03/19 13:36	1
Lithium	0.0448	J b	0.200	0.00162	mg/L	-	05/02/19 09:19	05/03/19 13:36	1
Boron	0.310		0.200	0.0116	mg/L	-	05/02/19 09:19	05/03/19 13:36	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 14:09	05/10/19 10:09	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.348		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-38

Lab Sample ID: 600-184470-23

Date Collected: 04/29/19 14:25

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L	-	05/02/19 09:19	05/03/19 13:38	1
Barium	0.0730		0.0200	0.000530	mg/L	-	05/02/19 09:19	05/03/19 13:38	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/02/19 09:19	05/06/19 16:28	1
Cadmium	0.000500	J	0.00500	0.000280	mg/L	-	05/02/19 09:19	05/03/19 13:38	1
Chromium	0.00440	J	0.0100	0.00159	mg/L	-	05/02/19 09:19	05/03/19 13:38	1
Cobalt	0.000800	J	0.0100	0.000310	mg/L	-	05/02/19 09:19	05/03/19 13:38	1
Molybdenum	0.0115		0.0100	0.000540	mg/L	-	05/02/19 09:19	05/03/19 13:38	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/02/19 09:19	05/03/19 13:38	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/02/19 09:19	05/03/19 13:38	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/02/19 09:19	05/03/19 13:38	1
Antimony	0.0114	J	0.0500	0.00393	mg/L	-	05/02/19 09:19	05/03/19 13:38	1
Lithium	0.0498	J b	0.200	0.00162	mg/L	-	05/02/19 09:19	05/03/19 13:38	1
Boron	2.01		0.200	0.0116	mg/L	-	05/02/19 09:19	05/03/19 13:38	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L	-	05/08/19 14:09	05/10/19 10:15	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.817		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Client Sample ID: MW-60

Lab Sample ID: 600-184470-24

Date Collected: 04/29/19 13:20

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L	-	05/02/19 09:19	05/03/19 13:40	1
Barium	0.0778		0.0200	0.000530	mg/L	-	05/02/19 09:19	05/03/19 13:40	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/02/19 09:19	05/06/19 16:30	1
Cadmium	0.000400	J	0.00500	0.000280	mg/L	-	05/02/19 09:19	05/03/19 13:40	1
Chromium	0.00159	U	0.0100	0.00159	mg/L	-	05/02/19 09:19	05/03/19 13:40	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/02/19 09:19	05/03/19 13:40	1
Molybdenum	0.00140	J	0.0100	0.000540	mg/L	-	05/02/19 09:19	05/03/19 13:40	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/02/19 09:19	05/03/19 13:40	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/02/19 09:19	05/03/19 13:40	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/02/19 09:19	05/03/19 13:40	1
Antimony	0.00410	J	0.0500	0.00393	mg/L	-	05/02/19 09:19	05/03/19 13:40	1
Lithium	0.0397	J b	0.200	0.00162	mg/L	-	05/02/19 09:19	05/03/19 13:40	1
Boron	0.0939	J	0.200	0.0116	mg/L	-	05/02/19 09:19	05/03/19 13:40	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000140	J	0.000250	0.000103	mg/L	-	05/08/19 14:09	05/10/19 10:18	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.366		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-61

Date Collected: 04/29/19 12:10

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-25

Matrix: Water

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L		05/02/19 09:19	05/03/19 13:42	1
Barium	0.0239		0.0200	0.000530	mg/L		05/02/19 09:19	05/03/19 13:42	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/02/19 09:19	05/06/19 16:32	1
Cadmium	0.000500	J	0.00500	0.000280	mg/L		05/02/19 09:19	05/03/19 13:42	1
Chromium	0.00460	J	0.0100	0.00159	mg/L		05/02/19 09:19	05/03/19 13:42	1
Cobalt	0.000900	J	0.0100	0.000310	mg/L		05/02/19 09:19	05/03/19 13:42	1
Molybdenum	0.000540	U	0.0100	0.000540	mg/L		05/02/19 09:19	05/03/19 13:42	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/02/19 09:19	05/03/19 13:42	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/02/19 09:19	05/03/19 13:42	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/02/19 09:19	05/03/19 13:42	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/02/19 09:19	05/03/19 13:42	1
Lithium	0.0488	J b	0.200	0.00162	mg/L		05/02/19 09:19	05/03/19 13:42	1
Boron	1.28		0.200	0.0116	mg/L		05/02/19 09:19	05/03/19 13:42	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L		05/08/19 14:09	05/10/19 10:20	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.467		0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample ID: DUP-01

Date Collected: 04/29/19 10:00

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-26

Matrix: Water

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L		05/02/19 09:19	05/03/19 13:45	1
Barium	0.0359		0.0200	0.000530	mg/L		05/02/19 09:19	05/03/19 13:45	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/02/19 09:19	05/06/19 16:35	1
Cadmium	0.000600	J	0.00500	0.000280	mg/L		05/02/19 09:19	05/03/19 13:45	1
Chromium	0.00159	U	0.0100	0.00159	mg/L		05/02/19 09:19	05/03/19 13:45	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/02/19 09:19	05/03/19 13:45	1
Molybdenum	0.000600	J	0.0100	0.000540	mg/L		05/02/19 09:19	05/03/19 13:45	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/02/19 09:19	05/03/19 13:45	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/02/19 09:19	05/03/19 13:45	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/02/19 09:19	05/03/19 13:45	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/02/19 09:19	05/03/19 13:45	1
Lithium	0.0492	J b	0.200	0.00162	mg/L		05/02/19 09:19	05/03/19 13:45	1
Boron	0.0830	J	0.200	0.0116	mg/L		05/02/19 09:19	05/03/19 13:45	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00145		0.000250	0.000103	mg/L		05/08/19 14:09	05/10/19 10:22	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.459		0.100	0.0200	mg/L			05/04/19 11:00	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: DUP-02

Lab Sample ID: 600-184470-27

Date Collected: 04/29/19 12:00

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0102		0.0100	0.00285	mg/L		05/02/19 09:19	05/03/19 13:47	1
Barium	0.146		0.0200	0.000530	mg/L		05/02/19 09:19	05/03/19 13:47	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/02/19 09:19	05/06/19 16:37	1
Cadmium	0.000600	J	0.00500	0.000280	mg/L		05/02/19 09:19	05/03/19 13:47	1
Chromium	0.00159	U	0.0100	0.00159	mg/L		05/02/19 09:19	05/03/19 13:47	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/02/19 09:19	05/03/19 13:47	1
Molybdenum	0.00270	J	0.0100	0.000540	mg/L		05/02/19 09:19	05/03/19 13:47	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/02/19 09:19	05/03/19 13:47	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/02/19 09:19	05/03/19 13:47	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/02/19 09:19	05/03/19 13:47	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/02/19 09:19	05/03/19 13:47	1
Lithium	0.0466	J b	0.200	0.00162	mg/L		05/02/19 09:19	05/03/19 13:47	1
Boron	0.238		0.200	0.0116	mg/L		05/02/19 09:19	05/03/19 13:47	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000189	J	0.000250	0.000103	mg/L		05/08/19 14:09	05/10/19 10:33	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.462		0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample ID: FB-01

Lab Sample ID: 600-184470-28

Date Collected: 04/29/19 12:35

Matrix: Water

Date Received: 04/29/19 17:33

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L		05/02/19 09:19	05/03/19 13:49	1
Barium	0.00100	J	0.0200	0.000530	mg/L		05/02/19 09:19	05/03/19 13:49	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/02/19 09:19	05/06/19 16:39	1
Cadmium	0.000280	U	0.00500	0.000280	mg/L		05/02/19 09:19	05/03/19 13:49	1
Chromium	0.00159	U	0.0100	0.00159	mg/L		05/02/19 09:19	05/03/19 13:49	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/02/19 09:19	05/03/19 13:49	1
Molybdenum	0.000540	U	0.0100	0.000540	mg/L		05/02/19 09:19	05/03/19 13:49	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/02/19 09:19	05/03/19 13:49	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/02/19 09:19	05/03/19 13:49	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/02/19 09:19	05/03/19 13:49	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/02/19 09:19	05/03/19 13:49	1
Lithium	0.00320	J b	0.200	0.00162	mg/L		05/02/19 09:19	05/03/19 13:49	1
Boron	0.0116	U	0.200	0.0116	mg/L		05/02/19 09:19	05/03/19 13:49	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L		05/08/19 14:09	05/09/19 10:18	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L			05/04/19 11:00	1

Eurofins TestAmerica, Houston

Definitions/Glossary

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Qualifiers

Metals

Qualifier	Qualifier Description
b	The compound was found in the blank and sample
F	Duplicate RPD exceeds the control limit
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
N1	MS, MSD: Spike recovery exceeds upper or lower control limits.
U	Analyte was not detected at or above the SDL.

General Chemistry

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Lab Sample ID: MB 600-264053/1-A
Matrix: Water
Analysis Batch: 264623

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 264053

Analyte	MB MB		MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	0.00285	U	0.0100	0.00285	mg/L		05/01/19 09:28	05/08/19 15:43	1
Barium	0.000530	U	0.0200	0.000530	mg/L		05/01/19 09:28	05/08/19 15:43	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 09:28	05/08/19 15:43	1
Cadmium	0.000280	U	0.00500	0.000280	mg/L		05/01/19 09:28	05/08/19 15:43	1
Chromium	0.00159	U	0.0100	0.00159	mg/L		05/01/19 09:28	05/08/19 15:43	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/01/19 09:28	05/08/19 15:43	1
Molybdenum	0.000540	U	0.0100	0.000540	mg/L		05/01/19 09:28	05/08/19 15:43	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 09:28	05/08/19 15:43	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 09:28	05/08/19 15:43	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 09:28	05/08/19 15:43	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 09:28	05/08/19 15:43	1
Lithium	0.00162	U	0.200	0.00162	mg/L		05/01/19 09:28	05/08/19 15:43	1
Boron	0.0116	U	0.200	0.0116	mg/L		05/01/19 09:28	05/08/19 15:43	1

Lab Sample ID: LCS 600-264053/2-A
Matrix: Water
Analysis Batch: 264623

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264053

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
Arsenic	1.00	1.043		mg/L		104	80 - 120
Barium	1.00	1.032		mg/L		103	80 - 120
Beryllium	1.00	0.9870		mg/L		99	80 - 120
Cadmium	1.00	1.053		mg/L		105	80 - 120
Chromium	1.00	0.9897		mg/L		99	80 - 120
Cobalt	1.00	0.9697		mg/L		97	80 - 120
Molybdenum	1.00	1.050		mg/L		105	80 - 120
Lead	1.00	0.9707		mg/L		97	80 - 120
Selenium	1.00	1.081		mg/L		108	80 - 120
Thallium	1.00	1.016		mg/L		102	80 - 120
Antimony	1.00	1.072		mg/L		107	80 - 120
Lithium	1.00	1.059		mg/L		106	80 - 120
Boron	1.00	0.9807		mg/L		98	80 - 120

Lab Sample ID: 600-184470-5 MS
Matrix: Water
Analysis Batch: 264623

Client Sample ID: MW-63 MS
Prep Type: Total/NA
Prep Batch: 264053

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	%Rec	Limits
	Result	Qualifier		Result	Qualifier				
Arsenic	0.00320	J	1.00	1.093		mg/L		109	75 - 125
Barium	0.0957		1.00	1.114		mg/L		102	75 - 125
Beryllium	0.000420	U	1.00	0.9701		mg/L		97	75 - 125
Cadmium	0.000600	J	1.00	1.089		mg/L		109	75 - 125
Chromium	0.0465		1.00	0.9983		mg/L		95	75 - 125
Cobalt	0.000310	U	1.00	0.9972		mg/L		100	75 - 125
Molybdenum	0.00120	J	1.00	1.042		mg/L		104	75 - 125
Lead	0.00219	U	1.00	0.9813		mg/L		98	75 - 125
Selenium	0.00287	U	1.00	1.132		mg/L		113	75 - 125
Thallium	0.00420	J	1.00	0.9698		mg/L		97	75 - 125
Antimony	0.00393	U	1.00	1.107		mg/L		111	75 - 125

Eurofins TestAmerica, Houston

QC Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry (Continued)

Lab Sample ID: 600-184470-5 MS

Matrix: Water

Analysis Batch: 264623

Client Sample ID: MW-63 MS

Prep Type: Total/NA

Prep Batch: 264053

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.0393	J	1.00	1.098		mg/L		106	75 - 125
Boron	0.118	J	1.00	1.087		mg/L		97	75 - 125

Lab Sample ID: 600-184470-5 MSD

Matrix: Water

Analysis Batch: 264623

Client Sample ID: MW-63 MSD

Prep Type: Total/NA

Prep Batch: 264053

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.00320	J	1.00	1.106		mg/L		110	75 - 125	1	20
Barium	0.0957		1.00	1.132		mg/L		104	75 - 125	2	20
Beryllium	0.000420	U	1.00	0.9861		mg/L		99	75 - 125	2	20
Cadmium	0.000600	J	1.00	1.096		mg/L		110	75 - 125	1	20
Chromium	0.0465		1.00	0.9970		mg/L		95	75 - 125	0	20
Cobalt	0.000310	U	1.00	1.005		mg/L		101	75 - 125	1	20
Molybdenum	0.00120	J	1.00	1.052		mg/L		105	75 - 125	1	20
Lead	0.00219	U	1.00	0.9900		mg/L		99	75 - 125	1	20
Selenium	0.00287	U	1.00	1.138		mg/L		114	75 - 125	1	20
Thallium	0.00420	J	1.00	0.9762		mg/L		97	75 - 125	1	20
Antimony	0.00393	U	1.00	1.127		mg/L		113	75 - 125	2	20
Lithium	0.0393	J	1.00	1.119		mg/L		108	75 - 125	2	20
Boron	0.118	J	1.00	1.101		mg/L		98	75 - 125	1	20

Lab Sample ID: 600-184470-19 MS

Matrix: Water

Analysis Batch: 264623

Client Sample ID: MW-58 MS

Prep Type: Total/NA

Prep Batch: 264053

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0115		1.00	1.092		mg/L		108	75 - 125
Barium	0.163		1.00	1.201		mg/L		104	75 - 125
Beryllium	0.000420	U	1.00	1.004		mg/L		100	75 - 125
Cadmium	0.000600	J	1.00	1.079		mg/L		108	75 - 125
Chromium	0.00159	U	1.00	0.9708		mg/L		97	75 - 125
Cobalt	0.000310	U	1.00	1.010		mg/L		101	75 - 125
Molybdenum	0.00270	J	1.00	1.045		mg/L		104	75 - 125
Lead	0.00219	U	1.00	0.9917		mg/L		99	75 - 125
Selenium	0.00287	U	1.00	1.116		mg/L		112	75 - 125
Thallium	0.00417	U	1.00	0.9885		mg/L		99	75 - 125
Antimony	0.00393	U	1.00	1.097		mg/L		110	75 - 125
Lithium	0.0466	J	1.00	1.118		mg/L		107	75 - 125
Boron	0.324		1.00	1.303		mg/L		98	75 - 125

Lab Sample ID: 600-184470-19 MSD

Matrix: Water

Analysis Batch: 264623

Client Sample ID: MW-58 MSD

Prep Type: Total/NA

Prep Batch: 264053

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0115		1.00	1.121		mg/L		111	75 - 125	3	20
Barium	0.163		1.00	1.200		mg/L		104	75 - 125	0	20
Beryllium	0.000420	U	1.00	1.004		mg/L		100	75 - 125	0	20

Eurofins TestAmerica, Houston

QC Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry (Continued)

Lab Sample ID: 600-184470-19 MSD
Matrix: Water
Analysis Batch: 264623

Client Sample ID: MW-58 MSD
Prep Type: Total/NA
Prep Batch: 264053

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	0.000600	J	1.00	1.111		mg/L		111	75 - 125	3	20
Chromium	0.00159	U	1.00	0.9767		mg/L		98	75 - 125	1	20
Cobalt	0.000310	U	1.00	1.044		mg/L		104	75 - 125	3	20
Molybdenum	0.00270	J	1.00	1.078		mg/L		108	75 - 125	3	20
Lead	0.00219	U	1.00	1.021		mg/L		102	75 - 125	3	20
Selenium	0.00287	U	1.00	1.143		mg/L		114	75 - 125	2	20
Thallium	0.00417	U	1.00	1.014		mg/L		101	75 - 125	3	20
Antimony	0.00393	U	1.00	1.128		mg/L		113	75 - 125	3	20
Lithium	0.0466	J	1.00	1.108		mg/L		106	75 - 125	1	20
Boron	0.324		1.00	1.304		mg/L		98	75 - 125	0	20

Lab Sample ID: MB 600-264165/1-A
Matrix: Water
Analysis Batch: 264318

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 264165

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L		05/02/19 09:19	05/03/19 11:49	1
Barium	0.000530	U	0.0200	0.000530	mg/L		05/02/19 09:19	05/03/19 11:49	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/02/19 09:19	05/03/19 11:49	1
Cadmium	0.000280	U	0.00500	0.000280	mg/L		05/02/19 09:19	05/03/19 11:49	1
Chromium	0.00159	U	0.0100	0.00159	mg/L		05/02/19 09:19	05/03/19 11:49	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/02/19 09:19	05/03/19 11:49	1
Molybdenum	0.000540	U	0.0100	0.000540	mg/L		05/02/19 09:19	05/03/19 11:49	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/02/19 09:19	05/03/19 11:49	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/02/19 09:19	05/03/19 11:49	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/02/19 09:19	05/03/19 11:49	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/02/19 09:19	05/03/19 11:49	1
Lithium	0.003100	J	0.200	0.00162	mg/L		05/02/19 09:19	05/03/19 11:49	1
Boron	0.0116	U	0.200	0.0116	mg/L		05/02/19 09:19	05/03/19 11:49	1

Lab Sample ID: MB 600-264165/1-A
Matrix: Water
Analysis Batch: 264463

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 264165

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/02/19 09:19	05/06/19 16:22	1

Lab Sample ID: LCS 600-264165/2-A
Matrix: Water
Analysis Batch: 264318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264165

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.049		mg/L		105	80 - 120
Barium	1.00	1.014		mg/L		101	80 - 120
Beryllium	1.00	0.9217		mg/L		92	80 - 120
Cadmium	1.00	1.058		mg/L		106	80 - 120
Chromium	1.00	0.9851		mg/L		99	80 - 120
Cobalt	1.00	0.9783		mg/L		98	80 - 120
Molybdenum	1.00	1.047		mg/L		105	80 - 120

Eurofins TestAmerica, Houston

QC Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry (Continued)

Lab Sample ID: LCS 600-264165/2-A
Matrix: Water
Analysis Batch: 264318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264165

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	0.9474		mg/L		95	80 - 120
Selenium	1.00	1.086		mg/L		109	80 - 120
Thallium	1.00	0.9884		mg/L		99	80 - 120
Antimony	1.00	1.050		mg/L		105	80 - 120
Lithium	1.00	1.015		mg/L		102	80 - 120
Boron	1.00	0.9120		mg/L		91	80 - 120

Lab Sample ID: LCS 600-264165/2-A
Matrix: Water
Analysis Batch: 264463

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264165

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	0.9586		mg/L		96	80 - 120

Lab Sample ID: 600-184470-21 MS
Matrix: Water
Analysis Batch: 264318

Client Sample ID: MW-36
Prep Type: Total/NA
Prep Batch: 264165

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.00300	J	1.00	1.124		mg/L		112	75 - 125
Barium	0.0402		1.00	1.074		mg/L		103	75 - 125
Beryllium	0.00120	J	1.00	0.9213		mg/L		92	75 - 125
Cadmium	0.00100	J	1.00	1.116		mg/L		112	75 - 125
Chromium	0.00159	U	1.00	0.9859		mg/L		99	75 - 125
Cobalt	0.000600	J	1.00	1.017		mg/L		102	75 - 125
Molybdenum	0.00190	J	1.00	1.073		mg/L		107	75 - 125
Lead	0.00219	U	1.00	0.9762		mg/L		98	75 - 125
Selenium	0.00287	U	1.00	1.170		mg/L		117	75 - 125
Thallium	0.00417	U	1.00	0.9921		mg/L		99	75 - 125
Antimony	0.0129	J	1.00	1.073		mg/L		106	75 - 125
Lithium	0.0517	J b	1.00	1.092		mg/L		104	75 - 125
Boron	0.0715	J	1.00	0.9927		mg/L		92	75 - 125

Lab Sample ID: 600-184470-21 MSD
Matrix: Water
Analysis Batch: 264318

Client Sample ID: MW-36
Prep Type: Total/NA
Prep Batch: 264165

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.00300	J	1.00	1.117		mg/L		111	75 - 125	1	20
Barium	0.0402		1.00	1.076		mg/L		104	75 - 125	0	20
Beryllium	0.00120	J	1.00	0.9236		mg/L		92	75 - 125	0	20
Cadmium	0.00100	J	1.00	1.114		mg/L		111	75 - 125	0	20
Chromium	0.00159	U	1.00	0.9842		mg/L		98	75 - 125	0	20
Cobalt	0.000600	J	1.00	1.016		mg/L		102	75 - 125	0	20
Molybdenum	0.00190	J	1.00	1.066		mg/L		106	75 - 125	1	20
Lead	0.00219	U	1.00	0.9716		mg/L		97	75 - 125	0	20
Selenium	0.00287	U	1.00	1.166		mg/L		117	75 - 125	0	20
Thallium	0.00417	U	1.00	0.9885		mg/L		99	75 - 125	0	20
Antimony	0.0129	J	1.00	1.111		mg/L		110	75 - 125	3	20

Eurofins TestAmerica, Houston

QC Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry (Continued)

Lab Sample ID: 600-184470-21 MSD
Matrix: Water
Analysis Batch: 264318

Client Sample ID: MW-36
Prep Type: Total/NA
Prep Batch: 264165

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.0517	J b	1.00	1.092		mg/L		104	75 - 125	0	20
Boron	0.0715	J	1.00	1.007		mg/L		94	75 - 125	1	20

Lab Sample ID: 600-184470-21 DU
Matrix: Water
Analysis Batch: 264318

Client Sample ID: MW-36
Prep Type: Total/NA
Prep Batch: 264165

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.00300	J	0.00285	U	mg/L		NC	20
Barium	0.0402		0.03640		mg/L		10	20
Beryllium	0.00120	J	0.000420	U	mg/L		NC	20
Cadmium	0.00100	J	0.0005000	J F	mg/L		67	20
Chromium	0.00159	U	0.00159	U	mg/L		NC	20
Cobalt	0.000600	J	0.000310	U	mg/L		NC	20
Molybdenum	0.00190	J	0.0008000	J F	mg/L		81	20
Lead	0.00219	U	0.00219	U	mg/L		NC	20
Selenium	0.00287	U	0.00287	U	mg/L		NC	20
Thallium	0.00417	U	0.00417	U	mg/L		NC	20
Antimony	0.0129	J	0.004300	J F	mg/L		100	20
Lithium	0.0517	J b	0.04990	J	mg/L		4	20
Boron	0.0715	J	0.07260	J	mg/L		2	20

Method: 7470A - Mercury

Lab Sample ID: MB 600-264581/7-B
Matrix: Water
Analysis Batch: 264642

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 264581

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000103	U	0.000250	0.000103	mg/L		05/08/19 08:52	05/08/19 13:25	1

Lab Sample ID: LCS 600-264581/8-B
Matrix: Water
Analysis Batch: 264642

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264581

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00375	0.003887		mg/L		104	70 - 130

Lab Sample ID: 600-184470-5 MS
Matrix: Water
Analysis Batch: 264642

Client Sample ID: MW-63 MS
Prep Type: Total/NA
Prep Batch: 264581

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000130	J	0.00375	0.001305	N1	mg/L		31	75 - 125

QC Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Method: 7470A - Mercury (Continued)

Lab Sample ID: 600-184470-5 MSD

Matrix: Water
Analysis Batch: 264642

Client Sample ID: MW-63 MSD

Prep Type: Total/NA
Prep Batch: 264581

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Mercury	0.000130	J	0.00375	0.001339	N1	mg/L		32		75 - 125	3	20

Lab Sample ID: 600-184470-8 MS

Matrix: Water
Analysis Batch: 264642

Client Sample ID: MW-28D

Prep Type: Total/NA
Prep Batch: 264581

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Mercury	0.000103	U	0.00375	0.003599		mg/L		96		75 - 125		

Lab Sample ID: 600-184470-8 DU

Matrix: Water
Analysis Batch: 264642

Client Sample ID: MW-28D

Prep Type: Total/NA
Prep Batch: 264581

Analyte	Sample	Sample	Spike	DU	DU	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Mercury	0.000103	U	0.00375	0.000103	U	mg/L					NC	20

Lab Sample ID: MB 600-264626/1-B

Matrix: Water
Analysis Batch: 264757

Client Sample ID: Method Blank

Prep Type: Total/NA
Prep Batch: 264626

Analyte	MB	MB	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier		Unit					
Mercury	0.000103	U	0.000250	0.000103	mg/L		05/08/19 14:09	05/09/19 09:03	1

Lab Sample ID: MB 600-264626/1-B

Matrix: Water
Analysis Batch: 264811

Client Sample ID: Method Blank

Prep Type: Total/NA
Prep Batch: 264626

Analyte	MB	MB	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier		Unit					
Mercury	0.000103	U	0.000250	0.000103	mg/L		05/08/19 14:09	05/10/19 10:05	1

Lab Sample ID: LCS 600-264626/2-B

Matrix: Water
Analysis Batch: 264757

Client Sample ID: Lab Control Sample

Prep Type: Total/NA
Prep Batch: 264626

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
Mercury	0.00375	0.004205		mg/L		112		70 - 130		

Lab Sample ID: LCS 600-264626/2-B

Matrix: Water
Analysis Batch: 264811

Client Sample ID: Lab Control Sample

Prep Type: Total/NA
Prep Batch: 264626

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
Mercury	0.00375	0.003909		mg/L		104		70 - 130		

Lab Sample ID: 600-184470-19 MS

Matrix: Water
Analysis Batch: 264757

Client Sample ID: MW-58 MS

Prep Type: Total/NA
Prep Batch: 264626

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Mercury	0.000103	U	0.00375	0.004004		mg/L		107		75 - 125		

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QC Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Method: 7470A - Mercury

Lab Sample ID: 600-184470-19 MSD
Matrix: Water
Analysis Batch: 264757

Client Sample ID: MW-58 MSD
Prep Type: Total/NA
Prep Batch: 264626

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000103	U	0.00375	0.004042		mg/L		108	75 - 125	1	20

Lab Sample ID: 600-184470-22 MS
Matrix: Water
Analysis Batch: 264811

Client Sample ID: MW-37
Prep Type: Total/NA
Prep Batch: 264626

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000103	U	0.00375	0.001198	N1	mg/L		32	75 - 125		

Lab Sample ID: 600-184470-22 DU
Matrix: Water
Analysis Batch: 264811

Client Sample ID: MW-37
Prep Type: Total/NA
Prep Batch: 264626

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000103	U		0.000103	U	mg/L				NC	20

Method: 340.2 - Fluoride

Lab Sample ID: MB 560-162195/3
Matrix: Water
Analysis Batch: 162195

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L			05/04/19 11:00	1

Lab Sample ID: MB 560-162195/31
Matrix: Water
Analysis Batch: 162195

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L			05/04/19 11:00	1

Lab Sample ID: LCS 560-162195/32
Matrix: Water
Analysis Batch: 162195

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.800	0.8250		mg/L		103	85 - 115		

Lab Sample ID: LCS 560-162195/4
Matrix: Water
Analysis Batch: 162195

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.800	0.8400		mg/L		105	85 - 115		

QC Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Method: 340.2 - Fluoride (Continued)

Lab Sample ID: 600-184470-5 MS
Matrix: Water
Analysis Batch: 162195

Client Sample ID: MW-63 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.225		0.500	0.7270		mg/L		100	75 - 125

Lab Sample ID: 600-184470-5 MSD
Matrix: Water
Analysis Batch: 162195

Client Sample ID: MW-63 MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.225		0.500	0.7400		mg/L		103	75 - 125	2	20

Lab Sample ID: 600-184470-19 MS
Matrix: Water
Analysis Batch: 162195

Client Sample ID: MW-58 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.550		0.500	1.070		mg/L		104	75 - 125

Lab Sample ID: 600-184470-19 MSD
Matrix: Water
Analysis Batch: 162195

Client Sample ID: MW-58 MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.550		0.500	1.100		mg/L		110	75 - 125	3	20

Unadjusted Detection Limits

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry Prep: 3010A

Analyte	MQL	MDL	Units
Antimony	0.0500	0.00393	mg/L
Arsenic	0.0100	0.00285	mg/L
Barium	0.0200	0.000530	mg/L
Beryllium	0.00500	0.000420	mg/L
Boron	0.200	0.0116	mg/L
Cadmium	0.00500	0.000280	mg/L
Chromium	0.0100	0.00159	mg/L
Cobalt	0.0100	0.000310	mg/L
Lead	0.0100	0.00219	mg/L
Lithium	0.200	0.00162	mg/L
Molybdenum	0.0100	0.000540	mg/L
Selenium	0.0400	0.00287	mg/L
Thallium	0.0300	0.00417	mg/L

Method: 7470A - Mercury Prep: 7470A

Analyte	MQL	MDL	Units
Mercury	0.000200	0.0000820	mg/L

General Chemistry

Analyte	MQL	MDL	Units
Fluoride	0.100	0.0200	mg/L

QC Association Summary

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Metals

Prep Batch: 264053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-1	MW-39	Total/NA	Water	3010A	
600-184470-2	MW-40	Total/NA	Water	3010A	
600-184470-3	MW-41	Total/NA	Water	3010A	
600-184470-4	MW-62	Total/NA	Water	3010A	
600-184470-5	MW-63	Total/NA	Water	3010A	
600-184470-6	MW-64	Total/NA	Water	3010A	
600-184470-7	MW-23	Total/NA	Water	3010A	
600-184470-8	MW-28D	Total/NA	Water	3010A	
600-184470-9	MW-42	Total/NA	Water	3010A	
600-184470-10	MW-43	Total/NA	Water	3010A	
600-184470-11	MW-44	Total/NA	Water	3010A	
600-184470-12	MW-46R	Total/NA	Water	3010A	
600-184470-13	MW-47	Total/NA	Water	3010A	
600-184470-14	MW-48	Total/NA	Water	3010A	
600-184470-15	MW-50	Total/NA	Water	3010A	
600-184470-16	MW-52	Total/NA	Water	3010A	
600-184470-17	MW-54	Total/NA	Water	3010A	
600-184470-18	MW-55R	Total/NA	Water	3010A	
600-184470-19	MW-58	Total/NA	Water	3010A	
600-184470-20	MW-65	Total/NA	Water	3010A	
MB 600-264053/1-A	Method Blank	Total/NA	Water	3010A	
LCS 600-264053/2-A	Lab Control Sample	Total/NA	Water	3010A	
600-184470-5 MS	MW-63 MS	Total/NA	Water	3010A	
600-184470-5 MSD	MW-63 MSD	Total/NA	Water	3010A	
600-184470-19 MS	MW-58 MS	Total/NA	Water	3010A	
600-184470-19 MSD	MW-58 MSD	Total/NA	Water	3010A	

Prep Batch: 264165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-21	MW-36	Total/NA	Water	3010A	
600-184470-22	MW-37	Total/NA	Water	3010A	
600-184470-23	MW-38	Total/NA	Water	3010A	
600-184470-24	MW-60	Total/NA	Water	3010A	
600-184470-25	MW-61	Total/NA	Water	3010A	
600-184470-26	DUP-01	Total/NA	Water	3010A	
600-184470-27	DUP-02	Total/NA	Water	3010A	
600-184470-28	FB-01	Total/NA	Water	3010A	
MB 600-264165/1-A	Method Blank	Total/NA	Water	3010A	
LCS 600-264165/2-A	Lab Control Sample	Total/NA	Water	3010A	
600-184470-21 MS	MW-36	Total/NA	Water	3010A	
600-184470-21 MSD	MW-36	Total/NA	Water	3010A	
600-184470-21 DU	MW-36	Total/NA	Water	3010A	

Analysis Batch: 264318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-21	MW-36	Total/NA	Water	6010B	264165
600-184470-22	MW-37	Total/NA	Water	6010B	264165
600-184470-23	MW-38	Total/NA	Water	6010B	264165
600-184470-24	MW-60	Total/NA	Water	6010B	264165
600-184470-25	MW-61	Total/NA	Water	6010B	264165
600-184470-26	DUP-01	Total/NA	Water	6010B	264165

Eurofins TestAmerica, Houston

QC Association Summary

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Metals (Continued)

Analysis Batch: 264318 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-27	DUP-02	Total/NA	Water	6010B	264165
600-184470-28	FB-01	Total/NA	Water	6010B	264165
MB 600-264165/1-A	Method Blank	Total/NA	Water	6010B	264165
LCS 600-264165/2-A	Lab Control Sample	Total/NA	Water	6010B	264165
600-184470-21 MS	MW-36	Total/NA	Water	6010B	264165
600-184470-21 MSD	MW-36	Total/NA	Water	6010B	264165
600-184470-21 DU	MW-36	Total/NA	Water	6010B	264165

Analysis Batch: 264463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-22	MW-37	Total/NA	Water	6010B	264165
600-184470-23	MW-38	Total/NA	Water	6010B	264165
600-184470-24	MW-60	Total/NA	Water	6010B	264165
600-184470-25	MW-61	Total/NA	Water	6010B	264165
600-184470-26	DUP-01	Total/NA	Water	6010B	264165
600-184470-27	DUP-02	Total/NA	Water	6010B	264165
600-184470-28	FB-01	Total/NA	Water	6010B	264165
MB 600-264165/1-A	Method Blank	Total/NA	Water	6010B	264165
LCS 600-264165/2-A	Lab Control Sample	Total/NA	Water	6010B	264165

Prep Batch: 264581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-1	MW-39	Total/NA	Water	7470A	
600-184470-2	MW-40	Total/NA	Water	7470A	
600-184470-3	MW-41	Total/NA	Water	7470A	
600-184470-4	MW-62	Total/NA	Water	7470A	
600-184470-5	MW-63	Total/NA	Water	7470A	
600-184470-6	MW-64	Total/NA	Water	7470A	
600-184470-7	MW-23	Total/NA	Water	7470A	
600-184470-8	MW-28D	Total/NA	Water	7470A	
600-184470-9	MW-42	Total/NA	Water	7470A	
600-184470-10	MW-43	Total/NA	Water	7470A	
600-184470-11	MW-44	Total/NA	Water	7470A	
600-184470-12	MW-46R	Total/NA	Water	7470A	
600-184470-13	MW-47	Total/NA	Water	7470A	
MB 600-264581/7-B	Method Blank	Total/NA	Water	7470A	
LCS 600-264581/8-B	Lab Control Sample	Total/NA	Water	7470A	
600-184470-5 MS	MW-63 MS	Total/NA	Water	7470A	
600-184470-5 MSD	MW-63 MSD	Total/NA	Water	7470A	
600-184470-8 MS	MW-28D	Total/NA	Water	7470A	
600-184470-8 DU	MW-28D	Total/NA	Water	7470A	

Analysis Batch: 264623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-1	MW-39	Total/NA	Water	6010B	264053
600-184470-2	MW-40	Total/NA	Water	6010B	264053
600-184470-3	MW-41	Total/NA	Water	6010B	264053
600-184470-4	MW-62	Total/NA	Water	6010B	264053
600-184470-5	MW-63	Total/NA	Water	6010B	264053
600-184470-6	MW-64	Total/NA	Water	6010B	264053
600-184470-7	MW-23	Total/NA	Water	6010B	264053

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QC Association Summary

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Metals (Continued)

Analysis Batch: 264623 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-8	MW-28D	Total/NA	Water	6010B	264053
600-184470-9	MW-42	Total/NA	Water	6010B	264053
600-184470-10	MW-43	Total/NA	Water	6010B	264053
600-184470-11	MW-44	Total/NA	Water	6010B	264053
600-184470-12	MW-46R	Total/NA	Water	6010B	264053
600-184470-13	MW-47	Total/NA	Water	6010B	264053
600-184470-14	MW-48	Total/NA	Water	6010B	264053
600-184470-15	MW-50	Total/NA	Water	6010B	264053
600-184470-16	MW-52	Total/NA	Water	6010B	264053
600-184470-17	MW-54	Total/NA	Water	6010B	264053
600-184470-18	MW-55R	Total/NA	Water	6010B	264053
600-184470-19	MW-58	Total/NA	Water	6010B	264053
600-184470-20	MW-65	Total/NA	Water	6010B	264053
MB 600-264053/1-A	Method Blank	Total/NA	Water	6010B	264053
LCS 600-264053/2-A	Lab Control Sample	Total/NA	Water	6010B	264053
600-184470-5 MS	MW-63 MS	Total/NA	Water	6010B	264053
600-184470-5 MSD	MW-63 MSD	Total/NA	Water	6010B	264053
600-184470-19 MS	MW-58 MS	Total/NA	Water	6010B	264053
600-184470-19 MSD	MW-58 MSD	Total/NA	Water	6010B	264053

Prep Batch: 264626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-14	MW-48	Total/NA	Water	7470A	
600-184470-15	MW-50	Total/NA	Water	7470A	
600-184470-16	MW-52	Total/NA	Water	7470A	
600-184470-17	MW-54	Total/NA	Water	7470A	
600-184470-18	MW-55R	Total/NA	Water	7470A	
600-184470-19	MW-58	Total/NA	Water	7470A	
600-184470-20	MW-65	Total/NA	Water	7470A	
600-184470-21	MW-36	Total/NA	Water	7470A	
600-184470-22	MW-37	Total/NA	Water	7470A	
600-184470-23	MW-38	Total/NA	Water	7470A	
600-184470-24	MW-60	Total/NA	Water	7470A	
600-184470-25	MW-61	Total/NA	Water	7470A	
600-184470-26	DUP-01	Total/NA	Water	7470A	
600-184470-27	DUP-02	Total/NA	Water	7470A	
600-184470-28	FB-01	Total/NA	Water	7470A	
MB 600-264626/1-B	Method Blank	Total/NA	Water	7470A	
LCS 600-264626/2-B	Lab Control Sample	Total/NA	Water	7470A	
600-184470-19 MS	MW-58 MS	Total/NA	Water	7470A	
600-184470-19 MSD	MW-58 MSD	Total/NA	Water	7470A	
600-184470-22 MS	MW-37	Total/NA	Water	7470A	
600-184470-22 DU	MW-37	Total/NA	Water	7470A	

Analysis Batch: 264642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-1	MW-39	Total/NA	Water	7470A	264581
600-184470-2	MW-40	Total/NA	Water	7470A	264581
600-184470-3	MW-41	Total/NA	Water	7470A	264581
600-184470-4	MW-62	Total/NA	Water	7470A	264581
600-184470-5	MW-63	Total/NA	Water	7470A	264581

Eurofins TestAmerica, Houston

QC Association Summary

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Metals (Continued)

Analysis Batch: 264642 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-6	MW-64	Total/NA	Water	7470A	264581
600-184470-7	MW-23	Total/NA	Water	7470A	264581
600-184470-8	MW-28D	Total/NA	Water	7470A	264581
600-184470-9	MW-42	Total/NA	Water	7470A	264581
600-184470-10	MW-43	Total/NA	Water	7470A	264581
600-184470-11	MW-44	Total/NA	Water	7470A	264581
600-184470-12	MW-46R	Total/NA	Water	7470A	264581
600-184470-13	MW-47	Total/NA	Water	7470A	264581
MB 600-264581/7-B	Method Blank	Total/NA	Water	7470A	264581
LCS 600-264581/8-B	Lab Control Sample	Total/NA	Water	7470A	264581
600-184470-5 MS	MW-63 MS	Total/NA	Water	7470A	264581
600-184470-5 MSD	MW-63 MSD	Total/NA	Water	7470A	264581
600-184470-8 MS	MW-28D	Total/NA	Water	7470A	264581
600-184470-8 DU	MW-28D	Total/NA	Water	7470A	264581

Analysis Batch: 264757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-14	MW-48	Total/NA	Water	7470A	264626
600-184470-15	MW-50	Total/NA	Water	7470A	264626
600-184470-16	MW-52	Total/NA	Water	7470A	264626
600-184470-17	MW-54	Total/NA	Water	7470A	264626
600-184470-18	MW-55R	Total/NA	Water	7470A	264626
600-184470-19	MW-58	Total/NA	Water	7470A	264626
600-184470-28	FB-01	Total/NA	Water	7470A	264626
MB 600-264626/1-B	Method Blank	Total/NA	Water	7470A	264626
LCS 600-264626/2-B	Lab Control Sample	Total/NA	Water	7470A	264626
600-184470-19 MS	MW-58 MS	Total/NA	Water	7470A	264626
600-184470-19 MSD	MW-58 MSD	Total/NA	Water	7470A	264626

Analysis Batch: 264811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-22	MW-37	Total/NA	Water	7470A	264626
600-184470-23	MW-38	Total/NA	Water	7470A	264626
600-184470-24	MW-60	Total/NA	Water	7470A	264626
600-184470-25	MW-61	Total/NA	Water	7470A	264626
600-184470-26	DUP-01	Total/NA	Water	7470A	264626
600-184470-27	DUP-02	Total/NA	Water	7470A	264626
MB 600-264626/1-B	Method Blank	Total/NA	Water	7470A	264626
LCS 600-264626/2-B	Lab Control Sample	Total/NA	Water	7470A	264626
600-184470-22 MS	MW-37	Total/NA	Water	7470A	264626
600-184470-22 DU	MW-37	Total/NA	Water	7470A	264626

Analysis Batch: 265037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-20	MW-65	Total/NA	Water	7470A	264626
600-184470-21	MW-36	Total/NA	Water	7470A	264626

QC Association Summary

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

General Chemistry

Analysis Batch: 162195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184470-1	MW-39	Total/NA	Water	340.2	
600-184470-2	MW-40	Total/NA	Water	340.2	
600-184470-3	MW-41	Total/NA	Water	340.2	
600-184470-4	MW-62	Total/NA	Water	340.2	
600-184470-5	MW-63	Total/NA	Water	340.2	
600-184470-6	MW-64	Total/NA	Water	340.2	
600-184470-7	MW-23	Total/NA	Water	340.2	
600-184470-8	MW-28D	Total/NA	Water	340.2	
600-184470-9	MW-42	Total/NA	Water	340.2	
600-184470-10	MW-43	Total/NA	Water	340.2	
600-184470-11	MW-44	Total/NA	Water	340.2	
600-184470-12	MW-46R	Total/NA	Water	340.2	
600-184470-13	MW-47	Total/NA	Water	340.2	
600-184470-14	MW-48	Total/NA	Water	340.2	
600-184470-15	MW-50	Total/NA	Water	340.2	
600-184470-16	MW-52	Total/NA	Water	340.2	
600-184470-17	MW-54	Total/NA	Water	340.2	
600-184470-18	MW-55R	Total/NA	Water	340.2	
600-184470-19	MW-58	Total/NA	Water	340.2	
600-184470-20	MW-65	Total/NA	Water	340.2	
600-184470-21	MW-36	Total/NA	Water	340.2	
600-184470-22	MW-37	Total/NA	Water	340.2	
600-184470-23	MW-38	Total/NA	Water	340.2	
600-184470-24	MW-60	Total/NA	Water	340.2	
600-184470-25	MW-61	Total/NA	Water	340.2	
600-184470-26	DUP-01	Total/NA	Water	340.2	
600-184470-27	DUP-02	Total/NA	Water	340.2	
600-184470-28	FB-01	Total/NA	Water	340.2	
MB 560-162195/3	Method Blank	Total/NA	Water	340.2	
MB 560-162195/31	Method Blank	Total/NA	Water	340.2	
LCS 560-162195/32	Lab Control Sample	Total/NA	Water	340.2	
LCS 560-162195/4	Lab Control Sample	Total/NA	Water	340.2	
600-184470-5 MS	MW-63 MS	Total/NA	Water	340.2	
600-184470-5 MSD	MW-63 MSD	Total/NA	Water	340.2	
600-184470-19 MS	MW-58 MS	Total/NA	Water	340.2	
600-184470-19 MSD	MW-58 MSD	Total/NA	Water	340.2	

Lab Chronicle

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-39

Date Collected: 04/29/19 14:30

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 15:47	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264581	05/08/19 08:52	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264642	05/08/19 13:38	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-40

Date Collected: 04/29/19 12:25

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 15:49	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264581	05/08/19 08:52	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264642	05/08/19 13:42	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-41

Date Collected: 04/29/19 14:15

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 15:57	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264581	05/08/19 08:52	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264642	05/08/19 13:40	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-62

Date Collected: 04/29/19 13:30

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 15:59	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264581	05/08/19 08:52	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264642	05/08/19 13:44	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Lab Chronicle

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-63

Date Collected: 04/29/19 11:50

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:01	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264581	05/08/19 08:52	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264642	05/08/19 13:29	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-64

Date Collected: 04/29/19 11:20

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:07	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264581	05/08/19 08:52	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264642	05/08/19 13:50	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-23

Date Collected: 04/29/19 13:35

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:09	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264581	05/08/19 08:52	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264642	05/08/19 13:52	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-28D

Date Collected: 04/29/19 11:00

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:11	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264581	05/08/19 08:52	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264642	05/08/19 13:54	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Lab Chronicle

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-42

Date Collected: 04/29/19 12:10

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:13	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264581	05/08/19 08:52	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264642	05/08/19 14:00	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-43

Date Collected: 04/29/19 12:00

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:15	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264581	05/08/19 08:52	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264642	05/08/19 14:02	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-44

Date Collected: 04/29/19 13:15

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:24	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264581	05/08/19 08:52	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264642	05/08/19 14:04	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-46R

Date Collected: 04/29/19 14:50

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:26	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264581	05/08/19 08:52	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264642	05/08/19 14:06	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Lab Chronicle

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-47

Date Collected: 04/29/19 14:05

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:28	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264581	05/08/19 08:52	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264642	05/08/19 14:08	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-48

Date Collected: 04/29/19 12:50

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:30	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264626	05/08/19 14:09	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264757	05/09/19 09:13	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-50

Date Collected: 04/29/19 11:40

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:32	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264626	05/08/19 14:09	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264757	05/09/19 09:15	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-52

Date Collected: 04/29/19 12:40

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-16

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:34	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264626	05/08/19 14:09	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264757	05/09/19 09:17	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Lab Chronicle

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-54

Date Collected: 04/29/19 12:10

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-17

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:36	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264626	05/08/19 14:09	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264757	05/09/19 09:19	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-55R

Date Collected: 04/29/19 13:25

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-18

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:38	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264626	05/08/19 14:09	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264757	05/09/19 09:21	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-58

Date Collected: 04/29/19 14:45

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-19

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:40	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264626	05/08/19 14:09	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264757	05/09/19 09:07	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-65

Date Collected: 04/29/19 14:50

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264053	05/01/19 09:28	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264623	05/08/19 16:52	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264626	05/08/19 14:09	SOT	TAL HOU
Total/NA	Analysis	7470A		1			265037	05/13/19 22:26	TWR	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Lab Chronicle

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-36

Date Collected: 04/29/19 11:40

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-21

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264318	05/03/19 11:53	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264626	05/08/19 14:09	SOT	TAL HOU
Total/NA	Analysis	7470A		1			265037	05/13/19 22:28	TWR	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-37

Date Collected: 04/29/19 13:15

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-22

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264318	05/03/19 13:36	KP1	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264463	05/06/19 16:26	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264626	05/08/19 14:09	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264811	05/10/19 10:09	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-38

Date Collected: 04/29/19 14:25

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-23

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264318	05/03/19 13:38	KP1	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264463	05/06/19 16:28	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264626	05/08/19 14:09	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264811	05/10/19 10:15	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-60

Date Collected: 04/29/19 13:20

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-24

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264318	05/03/19 13:40	KP1	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264463	05/06/19 16:30	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264626	05/08/19 14:09	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264811	05/10/19 10:18	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Eurofins TestAmerica, Houston

Lab Chronicle

Client: TRC Solutions, Inc.
 Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: MW-61

Date Collected: 04/29/19 12:10

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-25

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264318	05/03/19 13:42	KP1	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264463	05/06/19 16:32	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264626	05/08/19 14:09	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264811	05/10/19 10:20	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: DUP-01

Date Collected: 04/29/19 10:00

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-26

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264318	05/03/19 13:45	KP1	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264463	05/06/19 16:35	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264626	05/08/19 14:09	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264811	05/10/19 10:22	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: DUP-02

Date Collected: 04/29/19 12:00

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-27

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264318	05/03/19 13:47	KP1	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264463	05/06/19 16:37	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264626	05/08/19 14:09	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264811	05/10/19 10:33	SOT	TAL HOU
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: FB-01

Date Collected: 04/29/19 12:35

Date Received: 04/29/19 17:33

Lab Sample ID: 600-184470-28

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264318	05/03/19 13:49	KP1	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264165	05/02/19 09:19	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264463	05/06/19 16:39	KP1	TAL HOU
Total/NA	Prep	7470A			40 mL	50 mL	264626	05/08/19 14:09	SOT	TAL HOU
Total/NA	Analysis	7470A		1			264757	05/09/19 10:18	SOT	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Client Sample ID: FB-01

Lab Sample ID: 600-184470-28

Date Collected: 04/29/19 12:35

Matrix: Water

Date Received: 04/29/19 17:33

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Laboratory References:

TAL CC = Eurofins TestAmerica, Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444



Accreditation/Certification Summary

Client: TRC Solutions, Inc.
Project/Site: TRC-W. A. Parish CCR App IV 4-29-19

Job ID: 600-184470-2

Laboratory: Eurofins TestAmerica, Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Texas	NELAP	6	T104704223-18-23	10-31-19

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6010B	3010A	Water	Lithium

Laboratory: Eurofins TestAmerica, Corpus Christi

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Oklahoma	State Program	6	2018-070	08-31-19
Texas	NELAP	6	T104704210-19-23	03-31-20
USDA	Federal		P330-18-00314	10-31-21

Chain of Custody Record



Client Information Company: TRC Solutions, Inc. Address: 10550 Richmond Ave Suite 210 City: Houston State, Zip: TX, 77042 Phone: _____ Email: lburtis@trcsolutions.com Project Name: NRG-Texas W. A. Parish/VCCR Wells App III Site: _____		Sampler: Brian Hillin & HME Team Phone: 713-653-3127 Lab PM: Tigrrett, C. Lance E-Mail: lance.tigrrett@testamericainc.com		Carrier Tracking No(s): _____ COC No: 600-68013-14076.4 Page: 1 of 3 Job #: _____											
Due Date Requested: _____ TAT Requested (days): _____ PO #: _____ WO #: _____ Project #: 60007663 SSOW#: _____		Analysis Requested Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 6010B-B and Ca <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 300_ORGFM_28D (Chloride/Sulfate) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 2540C_Calcid.TDS <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 340.2_Fluoride <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 9040B - Local Method <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No O = MS/MSD volume provided by TRC)													
Sample Identification MW-39 MW-40 MW-41 MW-62 MW-63 MW-64 MW-23 MW-28D MW-42 MW-43 MW-44		Sample Date 4-29-19 _____ _____ _____ _____ _____ _____ _____ _____ _____ _____		Sample Time 1430 1225 1415 1330 1150 1120 1335 1100 1210 1200 1315		Sample Type (C=comp, G=grab) G _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____		Matrix (Water, Solid, Other) (W, S, O) Water Water Water Water Water Water Water Water Water Water Water		Preservation Code _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____		Total Number of Containers _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____		Special Instructions/Note: 600-184470 Chain of Custody 	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Deliverable Requested: I, II, III, IV, Other (specify) _____		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/OC Requirements: _____									
Empty Kit Relinquished by: _____ Relinquished by: Cameron Haber Relinquished by: _____ Relinquished by: _____		Date: 4-29-19 1733 _____ _____ _____		Method of Shipment: _____ Relinquished by: _____ Relinquished by: _____ Relinquished by: _____		Date/Time: 4-29-19 1733 _____ _____ _____									
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.: _____		Cooler Temperature(s) °C and Other Remarks: _____		Ver: 01/16/2019									



Chain of Custody Record



Environment Testing
 TestAmerica

Client Information Client Contact: Lori Burris Company: TRC Solutions, Inc. Address: 10550 Richmond Ave Suite 210 City: Houston State, Zip: TX, 77042 Phone: Email: lburris@trcsolutions.com Project Name: NRG-Texas W. A. Parish/CRR Wells App IV Site:		Lab PM: Tigrrett, C. Lance E-Mail: lance.liggett@testamericainc.com Phone: 713-653-3127 Carrier Tracking No(s):		COC No: 600-68013-14076.4 Page: 1 of 3 Job #:										
Due Date Requested: TAT Requested (days): PO #: WO #: Project #: 60007663 SSOWN#:		Analysis Requested 0 = MS/MSD volume provided 903.0, 904.0 (Rad 226 and 228) 6010-Custom list metals 7470A-Mercury 3402-Fluoride												
Sample Identification Sample Date Sample Time Sample Type (C=comp, G=grab) Matrix (W=water, S=solid, O=other) Preservation Code:		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) Total Number of Containers												
MW-39	4-24-19	1430	G	Water	N	X	X	X						
MW-40		1225		Water		X	X	X						
MW-41		1415		Water		X	X	X						
MW-62		1330		Water		X	X	X						
MW-63		1150		Water	Y	X	X	X						
MW-64		1120		Water	N	X	X	X						
MW-23		1335		Water		X	X	X						
MW-28D		1100		Water		X	X	X						
MW-42		1210		Water		X	X	X						
MW-43		1200		Water		X	X	X						
MW-44		1315		Water		X	X	X						
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months												
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:												
Empty Kit Relinquished by:		Method of Shipment:												
Relinquished by: Cameron Haber Date/Time: 4-29-19 1733 Company: HMI		Received by: [Signature] Date/Time: 4-29-19 1733 Company: [Signature]												
Relinquished by:		Received by:												
Relinquished by:		Received by:												
Custody Seals Intact: Yes <input type="checkbox"/> No <input type="checkbox"/>		Cooler Temperature(s) °C and Other Remarks:												



Chain of Custody Record

Client Information Client Contact: Lori Burris Phone: 713-653-3127 Email: lance.tigrett@testamericainc.com		Lab PM: Tigrett, C. Lance E-Mail: lance.tigrett@testamericainc.com		Carrier Tracking No(s): COC No: 600-68013-14076.4 Page: 2 of 3 Job #:	
Company: TRC Solutions, Inc. Address: 10550 Richmond Ave Suite 210 City: Houston State, Zip: TX, 77042 Phone:		Due Date Requested: TAT Requested (days): PO #: WO #: Project #: 60007663 SSOW#:		Analysis Requested O = MS/MSD Volume provided 340.2 - Fluoride 7470A - Mercury 6010 - Custom list metals 903.0, 904.0 (Rad 226 and 228)	
Email: lburris@trcsolutions.com Project Name: NRG-Texas W. A. Parish/CCR Wells App IV Site:		Field Filtered Sample (Yes or No)		Total Number of Containers	
Sample Identification MW-46R MW-47 MW-48 MW-50 MW-52 MW-54 MW-55R MW-58 MW-65 MW-36 MW-37		Sample Date 4-29-19		Sample Time 1450 1405 1250 1140 1240 1210 1325 1445 1450 1140 1315	
Sample Type (C=Comp, G=grab) G ↓		Matrix (Water, Solid, Op-waste, A-Air) Water ↓		Preservation Code: G ↓	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Perform MS/MSD (Yes or No) D ↓		Special Instructions/Note: ↓	
Deliverable Requested: I, II, III, IV, Other (specify)		Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Empty Kit Relinquished by: Cameron Habar Relinquished by:		Date: 4-29-19 1733 Date/Time:		Method of Shipment: Consultant Delivery Date/Time:	
Relinquished by:		Date/Time:		Date/Time:	
Relinquished by:		Date/Time:		Date/Time:	
Custody Seals Intact Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	



Chain of Custody Record



Client Information Client Contact: Lori Burris Company: TRC Solutions, Inc. Address: 10550 Richmond Ave Suite 210 City: Houston State: TX, Zip: 77042 Phone: _____ Email: lburris@trcsolutions.com Project Name: NRG-Texas W. A. Parish/CCR Wells App IV Site: _____		Lab PM: Tigaret, C. Lance E-Mail: lance.tigaret@testamericainc.com Phone: 713-653-3127 Carrier Tracking No(s): _____		COC No: 600-68013-14076.4 Page: 3 of 3 Job #: _____								
Due Date Requested: _____ TAT Requested (days): _____ PO #: _____ WO #: _____ Project #: 60007663 SSOW#: _____		Analysis Requested										
Sample Identification MW-38 MW-60 MW-61 DUP-01 DUP-02 FB-01		Sample Date 4-29-19	Sample Time 1425 1320 1210 1000 1200 1235	Sample Type (C=Comp, G=grab) G	Matrix (W=water, S=solid, O=oil, D=dust, T=tissue, A=air) Water	Field Filtered Sample (Yes or No) X	Perform MS/MSD (Yes or No) X	6010-Custom list metals D D D N	7470A-Mercury X X X X	340.2-Fluoride X	Total Number of Containers X	Special Instructions/Note: _____
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify) _____												
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements: _____												
Empty Kit Relinquished by: _____ Relinquished by: Cameron Haber Relinquished by: _____ Relinquished by: _____ Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.: _____		Date: 4-29-19 1733 Date/Time: _____ Date/Time: _____ Date/Time: _____		Method of Shipment: _____ Received by: [Signature] Received by: _____ Received by: _____ Cooler Temperature(s) °C and Other Remarks: _____								

Sample Receipt Checklist

Date/Time Received: 19 APR 29 17:33

JOB NUMBER: _____

CLIENT: TRC

UNPACKED BY: AS

CARRIER/DRIVER: Client

Custody Seal Present: YES NO

Number of Coolers Received: 4

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
BW	<input checked="" type="checkbox"/> Y / N	Y / <input checked="" type="checkbox"/> N	0.4	676	-0.2	0.2
BW	<input checked="" type="checkbox"/> Y / N	Y / <input checked="" type="checkbox"/> N	1.6			1.4
GW	<input checked="" type="checkbox"/> Y / N	Y / <input checked="" type="checkbox"/> N	2.7	↓	↓	2.5
BW	<input checked="" type="checkbox"/> Y / N	Y / <input checked="" type="checkbox"/> N	3.8	↓	↓	3.6
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? YES NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: NO YES

Base samples are >pH 12: YES NO Acid preserved are <pH 2: YES NO

pH paper Lot # HCB09997

VOA headspace acceptable (5-6mm): YES NO NA

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	YES	NO
	<input checked="" type="checkbox"/>	<input type="checkbox"/>

COMMENTS:
~~Extra containers sent for Radiochem.~~ AS Duplicate
~~Incorrect comment labels on container BUT~~ TRC CS
~~date / time / sample ID match.~~ sample 10
AS
4/30/19

Sample Receipt Checklist

JOB NUMBER: _____

Date/Time Received: 19 APR 29 17:33

UNPACKED BY: As

CLIENT: TRC

CARRIER/DRIVER: Client

Custody Seal Present: YES NO

Number of Coolers Received: 7

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
BN	Y / N	Y / N	1.1	LO70	-0.2	0.9
BN	X / N	Y / N	3.9	↓	↓	3.7
BN	X / N	Y / N	0.9	↓	↓	0.7
BN	X / N	Y / N	1.2	↓	↓	1.0
BN	Y / N	Y / N	4.2	↓	↓	4.0
BN	X / N	Y / N	2.9	↓	↓	2.7
BN	Y / N	Y / N	4.0	↓	↓	4.4
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? YES NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: NO YES

Base samples are >pH 12: YES NO

Acid preserved are <pH 2: YES NO

pH paper Lot # HC869997

VOA headspace acceptable (5-6mm): YES NO NA

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	YES	NO
	<input checked="" type="checkbox"/>	<input type="checkbox"/>

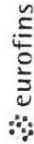
COMMENTS:

was 600-184472 : change for dup loc

As

4/30/19

Chain of Custody Record



Client Information (Sub Contract Lab)		Lab PM Tigrett, C. Lance	Carrier Tracking No(s):	COC No. 600-39155.1
Client Contact: Shipping/Receiving Company: TestAmerica Laboratories, Inc.		Phone: E-Mail: lance.tigrett@testamericainc.com	State of Origin: Texas	Page: Page 1 of 4
Address: 13715 Rider Trail North, City: Earth City State, Zip: MO, 63045 Phone: 314-298-8566(Tel) 314-298-8757(Fax) Email:		Accreditations Required (See note): NELAP - Texas	Job #: 600-184470-1	Preservation Codes: A - HCL B - NaOH M - Hexane N - None O - AsNaO2 P - Na2O4S D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA W - pH 4.5 Z - other (specify) Other:
Due Date Requested: 5/10/2019 TAT Requested (days):		Analysis Requested		
PO #		Total Number of containers		
WO #		904.0/PrecSep_0 Radium 228		
Project # 60007663		903.0/PrecSep_21 Radium-226		
SSOW#		Perform MS/MSD (Yes or No)		
		Field Filtered Sample (Yes or No)		
		Preservation Code:		
		Matrix (W=water, S=solid, O=wastewater)		
		Sample Type (C=comp, G=grab)		
		Sample Time		
		Sample Date		
		Sample Identification - Client ID (Lab ID)		
MW-39 (600-184470-1)	4/29/19	14:30 Central	Water	X
MW-40 (600-184470-2)	4/29/19	12:25 Central	Water	X
MW-41 (600-184470-3)	4/29/19	14:15 Central	Water	X
MW-62 (600-184470-4)	4/29/19	13:30 Central	Water	X
MW-63 (600-184470-5)	4/29/19	11:50 Central	Water	X
MW-63 (600-184470-5MS)	4/29/19	11:50 Central	Water	X
MW-63 (600-184470-5MSD)	4/29/19	11:50 Central	Water	X
MW-64 (600-184470-6)	4/29/19	11:20 Central	Water	X
MW-23 (600-184470-7)	4/29/19	13:35 Central	Water	X

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification

Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) _____
 Primary Deliverable Rank: 2

Empty KIL Relinquished by: _____ Date: _____
 Relinquished by: _____ Date/Time: 4/30/19 18:00
 Relinquished by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements:


Method of Shipment: _____
 Date/Time: 5-1-19 08:10
 Received by: [Signature]
 Company: [Signature]
 Date/Time: _____
 Received by: _____
 Company: _____
 Date/Time: _____
 Received by: _____
 Company: _____

Cooler Temperature(s) °C and Other Remarks:



Chain of Custody Record

Client Information (Sub Contract Lab)		Lab PM: Tigrett, C. Lance	Carrier Tracking No(s):	GOC No: 600-39155.3
Shipping/Receiving		E-Mail: lance.tigrett@testamericainc.com	State of Origin: Texas	Page: Page 3 of 4
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 600-184470-1
Address: 13715 Rider Trail North,		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify) Other:		
City: Earth City		Analysis Requested		
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		Analysis Requested		
Email:				
Project Name: TRC-Texas W. A. Parish Wells		Analysis Requested		
Site: 60007663				
SSOW#:		Analysis Requested		
Due Date Requested: 5/10/2019		Analysis Requested		
PO #:		Analysis Requested		
Sample Identification - Client ID (Lab ID)		Analysis Requested		
Sample Date		Analysis Requested		
Sample Time		Analysis Requested		
Sample Type (C=Comp, G=grab)		Analysis Requested		
Sample Preservation Code:		Analysis Requested		
Matrix (W=water, S=solid, O=water/oil)		Analysis Requested		
MW-54 (600-184470-17)		Analysis Requested		
MW-55R (600-184470-18)		Analysis Requested		
MW-58 (600-184470-19)		Analysis Requested		
MW-58 (600-184470-19MS)		Analysis Requested		
MW-58 (600-184470-19MSD)		Analysis Requested		
MW-65 (600-184470-20)		Analysis Requested		
MW-36 (600-184470-21)		Analysis Requested		
MW-37 (600-184470-22)		Analysis Requested		
MW-38 (600-184470-23)		Analysis Requested		



600-184470-02 Chain of Custody

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification

Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) _____
 Primary Deliverable Rank: 2

Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: _____ Date/Time: _____ Company: _____
 Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: _____ Custody Seal No.: _____
 Δ Yes Δ No

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements: _____

Method of Shipment: _____
 Date/Time: _____
 Date/Time: _____
 Date/Time: _____
 Company: _____
 Company: _____
 Company: _____
 Cooler Temperature(s) °C and Other Remarks: _____



Login Sample Receipt Checklist

Client: TRC Solutions, Inc.

Job Number: 600-184470-2

Login Number: 184470

List Source: Eurofins TestAmerica, Houston

List Number: 1

Creator: Taylor, Jacquelyn R

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.2, 1.4, 2.5, 3.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Received extra samples not listed on COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Login Sample Receipt Checklist

Client: TRC Solutions, Inc.

Job Number: 600-184470-2

Login Number: 184470

List Number: 2

Creator: Viveros, Ashley D

List Source: Eurofins TestAmerica, Corpus Christi

List Creation: 05/02/19 11:31 AM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

August 19, 2019

Lori Burris
TRC Corporation
10550 Richmond Ave., Suite 210
Houston, TX 77042

Work Order: **HS19041659**

Laboratory Results for: **NRG W.A Parish-CCR Program**

Dear Lori,

ALS Environmental received 3 sample(s) on Apr 29, 2019 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Generated By: RJ.MODASHIA
RJ Modashia
Project Manager

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
Work Order: HS19041659

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19041659-01	MW-37	Water		29-Apr-2019 13:15	29-Apr-2019 17:15	<input type="checkbox"/>
HS19041659-02	MW-42	Water		29-Apr-2019 12:10	29-Apr-2019 17:15	<input type="checkbox"/>
HS19041659-03	MW-63	Water		29-Apr-2019 11:50	29-Apr-2019 17:15	<input type="checkbox"/>

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
Work Order: HS19041659

CASE NARRATIVE

Work Order Comments

- Revised report to update the collection date for sample MW-63.
-

Work Order Comments

- The analyses for Radium-226 and Radium-228 were subcontracted to ALS Environmental in Fort Collins, CO. Final report attached.
 - The analysis for Fluoride was subcontracted to ALS Environmental in Holland, MI. Final report attached.
-

Metals by Method SW7470

Batch ID: 140368

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
-

Metals by Method SW6020

Batch ID: 140342

Sample ID: HS19041566-09MSD

- MSD is for an unrelated sample
-

Client: TRC Corporation
 Project: NRG W.A Parish-CCR Program
 Sample ID: MW-37
 Collection Date: 29-Apr-2019 13:15

ANALYTICAL REPORT
 WorkOrder:HS19041659
 Lab ID:HS19041659-01
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 30-Apr-2019		Analyst: JHD	
Antimony	U		0.000400	0.00200	mg/L	1	01-May-2019 13:12
Arsenic	0.000962	J	0.000400	0.00200	mg/L	1	01-May-2019 13:12
Barium	0.0225		0.00190	0.00400	mg/L	1	01-May-2019 13:12
Beryllium	U		0.000200	0.00200	mg/L	1	01-May-2019 13:12
Cadmium	U		0.000200	0.00200	mg/L	1	01-May-2019 13:12
Chromium	U		0.000400	0.00400	mg/L	1	01-May-2019 13:12
Cobalt	0.000460	J	0.000200	0.00500	mg/L	1	01-May-2019 13:12
Lead	U		0.000600	0.00200	mg/L	1	01-May-2019 13:12
Lithium	0.0377		0.00100	0.00500	mg/L	1	01-May-2019 13:12
Molybdenum	0.000658	J	0.000600	0.00500	mg/L	1	01-May-2019 13:12
Selenium	U		0.00110	0.00200	mg/L	1	01-May-2019 13:12
Thallium	U		0.000200	0.00200	mg/L	1	01-May-2019 13:12
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 30-Apr-2019		Analyst: FO	
Mercury	U		0.0000300	0.000200	mg/L	1	30-Apr-2019 17:21
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	07-May-2019 09:00
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	28-May-2019 18:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	28-May-2019 18:07

Client: TRC Corporation
 Project: NRG W.A Parish-CCR Program
 Sample ID: MW-42
 Collection Date: 29-Apr-2019 12:10

ANALYTICAL REPORT

WorkOrder:HS19041659
 Lab ID:HS19041659-02
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 30-Apr-2019		Analyst: JHD	
Antimony	U		0.000400	0.00200	mg/L	1	01-May-2019 13:13
Arsenic	0.0539		0.000400	0.00200	mg/L	1	01-May-2019 13:13
Barium	0.0574		0.00190	0.00400	mg/L	1	01-May-2019 13:13
Beryllium	U		0.000200	0.00200	mg/L	1	01-May-2019 13:13
Cadmium	U		0.000200	0.00200	mg/L	1	01-May-2019 13:13
Chromium	U		0.000400	0.00400	mg/L	1	01-May-2019 13:13
Cobalt	0.000798	J	0.000200	0.00500	mg/L	1	01-May-2019 13:13
Lead	U		0.000600	0.00200	mg/L	1	01-May-2019 13:13
Lithium	0.0435		0.00100	0.00500	mg/L	1	01-May-2019 13:13
Molybdenum	0.00817		0.000600	0.00500	mg/L	1	01-May-2019 13:13
Selenium	U		0.00110	0.00200	mg/L	1	01-May-2019 13:13
Thallium	U		0.000200	0.00200	mg/L	1	01-May-2019 13:13
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 30-Apr-2019		Analyst: FO	
Mercury	U		0.0000300	0.000200	mg/L	1	30-Apr-2019 17:22
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	07-May-2019 09:00
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	28-May-2019 18:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	28-May-2019 18:07

Client: TRC Corporation
 Project: NRG W.A Parish-CCR Program
 Sample ID: MW-63
 Collection Date: 29-Apr-2019 11:50

ANALYTICAL REPORT
 WorkOrder:HS19041659
 Lab ID:HS19041659-03
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 30-Apr-2019		Analyst: JHD	
Antimony	U		0.000400	0.00200	mg/L	1	01-May-2019 13:15
Arsenic	0.00213		0.000400	0.00200	mg/L	1	01-May-2019 13:15
Barium	0.0999		0.00190	0.00400	mg/L	1	01-May-2019 13:15
Beryllium	U		0.000200	0.00200	mg/L	1	01-May-2019 13:15
Cadmium	U		0.000200	0.00200	mg/L	1	01-May-2019 13:15
Chromium	0.0523		0.000400	0.00400	mg/L	1	01-May-2019 13:15
Cobalt	0.000367	J	0.000200	0.00500	mg/L	1	01-May-2019 13:15
Lead	U		0.000600	0.00200	mg/L	1	01-May-2019 13:15
Lithium	0.0319		0.00100	0.00500	mg/L	1	01-May-2019 13:15
Molybdenum	0.00158	J	0.000600	0.00500	mg/L	1	01-May-2019 13:15
Selenium	U		0.00110	0.00200	mg/L	1	01-May-2019 13:15
Thallium	U		0.000200	0.00200	mg/L	1	01-May-2019 13:15
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 30-Apr-2019		Analyst: FO	
Mercury	0.000367		0.0000300	0.000200	mg/L	1	30-Apr-2019 17:24
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	07-May-2019 09:00
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	28-May-2019 18:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	28-May-2019 18:07

WEIGHT LOG

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041659

Batch ID: 140342 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SamplID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19041659-01	1	10	10 (mL)	1
HS19041659-02	1	10	10 (mL)	1
HS19041659-03	1	10	10 (mL)	1

Batch ID: 140368 **Method:** MERCURY BY SW7470A **Prep:** HG_WPR

SamplID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19041659-01	1	10 (mL)	10 (mL)	1
HS19041659-02	1	10 (mL)	10 (mL)	1
HS19041659-03	1	10 (mL)	10 (mL)	1

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041659

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 140342 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Water	
HS19041659-01	MW-37	29 Apr 2019 13:15		30 Apr 2019 11:00	01 May 2019 13:12	1
HS19041659-02	MW-42	29 Apr 2019 12:10		30 Apr 2019 11:00	01 May 2019 13:13	1
HS19041659-03	MW-63	29 Apr 2019 11:50		30 Apr 2019 11:00	01 May 2019 13:15	1
Batch ID: 140368 (0)		Test Name : MERCURY BY SW7470A			Matrix: Water	
HS19041659-01	MW-37	29 Apr 2019 13:15		30 Apr 2019 11:00	30 Apr 2019 17:21	1
HS19041659-02	MW-42	29 Apr 2019 12:10		30 Apr 2019 11:00	30 Apr 2019 17:22	1
HS19041659-03	MW-63	29 Apr 2019 11:50		30 Apr 2019 11:00	30 Apr 2019 17:24	1
Batch ID: R337941 (0)		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE			Matrix: Water	
HS19041659-01	MW-37	29 Apr 2019 13:15			07 May 2019 09:00	1
HS19041659-02	MW-42	29 Apr 2019 12:10			07 May 2019 09:00	1
HS19041659-03	MW-63	29 Apr 2019 11:50			07 May 2019 09:00	1
Batch ID: R339288 (0)		Test Name : SUBCONTRACT ANALYSIS - RADIUM 228			Matrix: Water	
HS19041659-01	MW-37	29 Apr 2019 13:15			28 May 2019 18:07	1
HS19041659-01	MW-37	29 Apr 2019 13:15			28 May 2019 18:07	1
HS19041659-02	MW-42	29 Apr 2019 12:10			28 May 2019 18:07	1
HS19041659-02	MW-42	29 Apr 2019 12:10			28 May 2019 18:07	1
HS19041659-03	MW-63	29 Apr 2019 11:50			28 May 2019 18:07	1
HS19041659-03	MW-63	29 Apr 2019 11:50			28 May 2019 18:07	1

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041659

QC BATCH REPORT

Batch ID: 140342 (0)	Instrument: ICPMS06	Method: ICP-MS METALS BY SW6020A								
MBLK	Sample ID: MBLK-140342	Units: mg/L	Analysis Date: 01-May-2019 12:50							
Client ID:	Run ID: ICPMS06_337619	SeqNo: 5058072	PrepDate: 30-Apr-2019 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	U	0.00200								
Arsenic	U	0.00200								
Barium	U	0.00400								
Beryllium	U	0.00200								
Cadmium	U	0.00200								
Chromium	0.001546	0.00400								J
Cobalt	U	0.00500								
Lead	U	0.00200								
Lithium	U	0.00500								
Molybdenum	U	0.00500								
Selenium	U	0.00200								
Thallium	U	0.00200								

LCS	Sample ID: LCS-140342	Units: mg/L	Analysis Date: 01-May-2019 00:03							
Client ID:	Run ID: ICPMS06_337547	SeqNo: 5057325	PrepDate: 30-Apr-2019 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	0.05628	0.00200	0.05	0	113	80 - 120				
Arsenic	0.0566	0.00200	0.05	0	113	80 - 120				
Barium	0.05402	0.00400	0.05	0	108	80 - 120				
Beryllium	0.05575	0.00200	0.05	0	112	80 - 120				
Cadmium	0.05541	0.00200	0.05	0	111	80 - 120				
Chromium	0.05427	0.00400	0.05	0	109	80 - 120				
Cobalt	0.05742	0.00500	0.05	0	115	80 - 120				
Lead	0.05188	0.00200	0.05	0	104	80 - 120				
Lithium	0.1081	0.00500	0.1	0	108	80 - 120				
Molybdenum	0.05546	0.00500	0.05	0	111	80 - 120				
Thallium	0.05254	0.00200	0.05	0	105	80 - 120				

LCS	Sample ID: LCS-140342	Units: mg/L	Analysis Date: 01-May-2019 12:51							
Client ID:	Run ID: ICPMS06_337619	SeqNo: 5058073	PrepDate: 30-Apr-2019 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Selenium	0.05444	0.00200	0.05	0	109	80 - 120				
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Revision: 1

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041659

QC BATCH REPORT

Batch ID: 140342 (0)	Instrument: ICPMS06	Method: ICP-MS METALS BY SW6020A								
MS	Sample ID: HS19041566-09MS	Units: mg/L	Analysis Date: 01-May-2019 00:07							
Client ID:	Run ID: ICPMS06_337547	SeqNo: 5057328	PrepDate: 30-Apr-2019 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	0.05339	0.00200	0.05	0.000115	107	80 - 120				
Arsenic	0.0564	0.00200	0.05	0.000816	111	80 - 120				
Barium	0.4044	0.00400	0.05	0.3489	111	80 - 120				O
Beryllium	0.05519	0.00200	0.05	0.000067	110	80 - 120				
Cadmium	0.05219	0.00200	0.05	0.000074	104	80 - 120				
Chromium	0.05293	0.00400	0.05	0.000457	105	80 - 120				
Cobalt	0.05463	0.00500	0.05	0.000336	109	80 - 120				
Lead	0.053	0.00200	0.05	0.000084	106	80 - 120				
Lithium	0.1181	0.00500	0.1	0.0125	106	80 - 120				
Molybdenum	0.09271	0.00500	0.05	0.03999	105	80 - 120				
Selenium	0.04688	0.00200	0.05	0.000986	91.8	80 - 120				
Thallium	0.05336	0.00200	0.05	0.000066	107	80 - 120				

MSD	Sample ID: HS19041566-09MSD	Units: mg/L	Analysis Date: 01-May-2019 00:09							
Client ID:	Run ID: ICPMS06_337547	SeqNo: 5057329	PrepDate: 30-Apr-2019 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	0.05338	0.00200	0.05	0.000115	107	80 - 120	0.05339	0.00187	20	
Arsenic	0.05691	0.00200	0.05	0.000816	112	80 - 120	0.0564	0.902	20	
Barium	0.4118	0.00400	0.05	0.3489	126	80 - 120	0.4044	1.83	20	SO
Beryllium	0.05458	0.00200	0.05	0.000067	109	80 - 120	0.05519	1.11	20	
Cadmium	0.05153	0.00200	0.05	0.000074	103	80 - 120	0.05219	1.28	20	
Chromium	0.05363	0.00400	0.05	0.000457	106	80 - 120	0.05293	1.33	20	
Cobalt	0.05418	0.00500	0.05	0.000336	108	80 - 120	0.05463	0.84	20	
Lead	0.05233	0.00200	0.05	0.000084	104	80 - 120	0.053	1.29	20	
Lithium	0.1178	0.00500	0.1	0.0125	105	80 - 120	0.1181	0.309	20	
Molybdenum	0.09326	0.00500	0.05	0.03999	107	80 - 120	0.09271	0.585	20	
Selenium	0.04767	0.00200	0.05	0.000986	93.4	80 - 120	0.04688	1.68	20	
Thallium	0.05356	0.00200	0.05	0.000066	107	80 - 120	0.05336	0.376	20	

Revision: 1

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041659

QC BATCH REPORT

Batch ID: 140342 (0)	Instrument: ICPMS06	Method: ICP-MS METALS BY SW6020A
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PDS		Sample ID: HS19041566-09PDS			Units: mg/L		Analysis Date: 01-May-2019 00:11			
Client ID:		Run ID: ICPMS06_337547		SeqNo: 5057330	PrepDate: 30-Apr-2019	DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.1008	0.00200	0.1	0.000115	101	75 - 125				
Arsenic	0.1073	0.00200	0.1	0.000816	107	75 - 125				
Beryllium	0.1031	0.00200	0.1	0.000067	103	75 - 125				
Cadmium	0.09741	0.00200	0.1	0.000074	97.3	75 - 125				
Chromium	0.1007	0.00400	0.1	0.000457	100	75 - 125				
Cobalt	0.1045	0.00500	0.1	0.000336	104	75 - 125				
Lead	0.1052	0.00200	0.1	0.000084	105	75 - 125				
Lithium	0.1049	0.00500	0.1	0.0125	92.4	70 - 125				
Molybdenum	0.1389	0.00500	0.1	0.03999	98.9	75 - 125				
Selenium	0.1102	0.00200	0.1	0.000986	109	75 - 125				
Thallium	0.1072	0.00200	0.1	0.000066	107	75 - 125				

PDS		Sample ID: HS19041566-09PDS			Units: mg/L		Analysis Date: 01-May-2019 12:55			
Client ID:		Run ID: ICPMS06_337619		SeqNo: 5058076	PrepDate: 30-Apr-2019	DF: 10				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	1.289	0.0400	1	0.2841	100	75 - 125				

SD		Sample ID: HS19041566-09SD			Units: mg/L		Analysis Date: 01-May-2019 13:10			
Client ID:		Run ID: ICPMS06_337619		SeqNo: 5058079	PrepDate: 30-Apr-2019	DF: 5				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Antimony	U	0.0100					0.000115	0	10	
Arsenic	U	0.0100					0.000816	0	10	
Beryllium	U	0.0100					0.000067	0	10	
Cadmium	U	0.0100					0.000074	0	10	
Chromium	U	0.0200					0.000457	0	10	
Cobalt	U	0.0250					0.000336	0	10	
Lead	U	0.0100					0.000084	0	10	
Lithium	0.0104	0.0250					0.0125	0	10	J
Selenium	U	0.0100					0.000986	0	10	
Thallium	U	0.0100					0.000066	0	10	

Revision: 1

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041659

QC BATCH REPORT

Batch ID: 140342 (0) **Instrument:** ICPMS06 **Method:** ICP-MS METALS BY SW6020A

SD	Sample ID: HS19041566-09SD	Units: mg/L	Analysis Date: 01-May-2019 12:54							
Client ID:	Run ID: ICPMS06_337619	SeqNo: 5058075	PrepDate: 30-Apr-2019	DF: 50						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	Limit	Qual

Barium	0.2679	0.200					0.2841	5.71	10
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The following samples were analyzed in this batch:

HS19041659-01	HS19041659-02	HS19041659-03
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Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041659

QC BATCH REPORT

Batch ID: 140368 (0)	Instrument: HG03	Method: MERCURY BY SW7470A
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MBLK	Sample ID: MBLK-140368	Units: mg/L	Analysis Date: 30-Apr-2019 17:10							
Client ID:	Run ID: HG03_337577	SeqNo: 5056954	PrepDate: 30-Apr-2019 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Mercury U 0.000200

LCS	Sample ID: LCS-140368	Units: mg/L	Analysis Date: 30-Apr-2019 17:12							
Client ID:	Run ID: HG03_337577	SeqNo: 5056955	PrepDate: 30-Apr-2019 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Mercury 0.00495 0.000200 0.005 0 99.0 80 - 120

MS	Sample ID: HS19041419-09MS	Units: mg/L	Analysis Date: 30-Apr-2019 17:16							
Client ID:	Run ID: HG03_337577	SeqNo: 5056957	PrepDate: 30-Apr-2019 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Mercury 0.00513 0.000200 0.005 -0.000023 103 75 - 125

MSD	Sample ID: HS19041419-09MSD	Units: mg/L	Analysis Date: 30-Apr-2019 17:17							
Client ID:	Run ID: HG03_337577	SeqNo: 5056958	PrepDate: 30-Apr-2019 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Mercury 0.0051 0.000200 0.005 -0.000023 102 75 - 125 0.00513 0.587 20

The following samples were analyzed in this batch: HS19041659-01 HS19041659-02 HS19041659-03

Client: TRC Corporation
Project: NRG W.A Parish-CCR Program
WorkOrder: HS19041659

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2019	31-Dec-2019
Oklahoma	2018-156	31-Aug-2019
Texas	TX104704231-19-23	30-Apr-2020

Sample Receipt Checklist

Client Name: TRC-HOU
 Work Order: HS19041659

Date/Time Received: **29-Apr-2019 17:15**
 Received by: **NDR**

Checklist completed by: Raegen Giga 29-Apr-2019
 eSignature Date
 Reviewed by: RJ Modashia 30-Apr-2019
 eSignature Date

Matrices: **Water** Carrier name: **Client**

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- VOA/TX1005/TX1006 Solids in hermetically sealed vials? Yes No Not Present
- Chain of custody present? Yes No 1 Page(s)
- Chain of custody signed when relinquished and received? Yes No COC IDs:200184
- Samplers name present on COC? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No

Temperature(s)/Thermometer(s):

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: _____ Date Contacted: _____ Person Contacted: _____

Contacted By: _____ Regarding: _____

Comments:

Corrective Action:



Cincinnati, OH
+1 513 733 5336
Everett, WA
+1 425 356 2600

Fort Collins, CO
+1 970 490 1511
Holland, MI
+1 616 399 6070

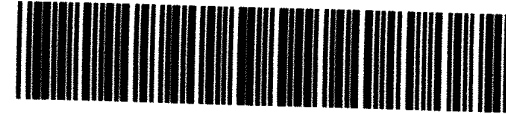
Chain of Custody Form

Page 1 of 1

COC ID: 200184

HS19041659

TRC Corporation
NRG



NV


Customer Information		Project Information		ALS Project Manager:	
Purchase Order	294645.0001	Project Name	NRG W.A Parish- CCR Program	A	HG_W (Mercury)- Appendix IV
Work Order		Project Number		B	Sb,As,Ba,Be,Cd,Cr,Co,Pb,Li,Mo,Se,Tl- Appendix IV
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C	Sub_Fluoride (Sub Fluoride to ALS Michigan)- App IV
Send Report To	Lori Burris	Invoice Attn	A/P	D	SUB_RA 226 (Sub RA 226 to ALS Fort Collins)- App IV
Address	10550 Richmond Ave., Suite 210	Address	10550 Richmond Ave., Suite 210	E	SUB_RA 226 (Sub RA 226 to ALS Fort Collins)- App IV
				F	
City/State/Zip	Houston, TX 77042	City/State/Zip	Houston TX 77042	G	
Phone	(713) 244-1000	Phone	(713) 244-1000	H	
Fax	(713) 244-1099	Fax	(713) 244-1099	I	
e-Mail Address	LBurris@trcsolutions.com	e-Mail Address	apinvoiceapproval@trcsolutions.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-37	4-29-19	1315	W	2.8		X	X	X	X	X						
2	MW-42	↓	1210	↓	↓		X	X	X	X	X						
3	MW-63	↓	1150	↓	↓		X	X	X	X	X						
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>Brian Hillin & HMF Team</i>		Shipment Method <i>Consultant Delivery</i>		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour <input type="checkbox"/> Other _____			Results Due Date: _____		
Relinquished by: <i>[Signature]</i>	Date: 4-29-19	Time: 1715	Received by: <i>[Signature]</i>	Notes: NRG				QC Package: (Check One Box Below)	
Relinquished by: <i>[Signature]</i>	Date: 4-29-19	Time: 17.15	Received by (Laboratory): <i>NM</i>	Cooler ID 6011	Cooler Temp. 23	<input checked="" type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist		
Logged by (Laboratory): <i>[Signature]</i>	Date: 4-29-19	Time: 17.15	Checked by (Laboratory): <i>[Signature]</i>	<input type="checkbox"/> Level III Std QC/Rev Date	<input type="checkbox"/> TRRP Level IV	<input type="checkbox"/> Level IV SW846/CLP	<input type="checkbox"/> Other		
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035								<i>CKJ</i>	

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2011 by ALS Environmental.

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: <i>ACN</i>
	Date: <i>4-27-19</i>	Time: <i>1600</i>	Date:
	Name: <i>B Hillis</i>	Company: <i>HMI</i>	<i>4/29/19</i>



Friday, May 24, 2019

RJ Modashia
ALS Environmental
10450 Stancliff Rd, Suite 210
Houston, TX 77099

Re: ALS Workorder: 1905017
Project Name:
Project Number: HS19041659

Dear Mr. Modashia:

Three water samples were received from ALS Environmental, on 5/1/2019. The samples were scheduled for the following analyses:

Radium-226

Radium-228

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,


ALS Environmental
Jeff R. Kujawa
Project Manager

ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
AIHA	214884
Alaska (AK)	UST-086
Alaska (AK)	CO01099
Arizona (AZ)	AZ0742
California (CA)	06251CA
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
PJ-LA (DoD ELAP/ISO 170250)	95377
Louisiana (LA)	05057
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO000782008A
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280



1905017

Radium-228:

The samples were analyzed for the presence of ^{228}Ra by low background gas flow proportional counting of ^{228}Ac , which is the ingrown progeny of ^{228}Ra , according to EPA method 904.0.

All acceptance criteria were met.

Radium-226:

The samples were prepared and analyzed according to EPA method 903.1.

All acceptance criteria were met.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1905017

Client Name: ALS Environmental

Client Project Name:

Client Project Number: HS19041659

Client PO Number: 10-11220

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
MW-37	1905017-1		WATER	29-Apr-19	13:15
MW-42	1905017-2		WATER	29-Apr-19	12:10
MW-63	1905017-3		WATER	29-Apr-19	11:50



10450 Stancliff Rd, Ste 210
 Houston, TX 77099
 T: +1 281 530 5656
 F: +1 281 530 5887
 www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11220

SUBCONTRACT TO:

ALS Environmental, Fort Collins
 225 Commerce Drive
 Fort Collins, CO 80524

1905017

Phone: +1 970 490 1511

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: RJ Modashia
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RJ.Modashia@alsglobal.com
Alternate Contact: Jumoke M. Lawal
Email: jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19041659
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19041659-01	MW-37	Water	29 Apr 2019 13:15
	SUB_RA 226			07 May 2019
	SUB_RA 228			07 May 2019
2.	HS19041659-02	MW-42	Water	29 Apr 2019 12:10
	SUB_RA 226			07 May 2019
	SUB_RA 228			07 May 2019
3.	HS19041659-03	MW-63	Water	29 Apr 2019 12:10
	SUB_RA 226			07 May 2019
	SUB_RA 228			07 May 2019

Comments: Please analyze for the analysis listed above.
 Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By: A.C.
 Received By: Emily Lyons
 Cooler ID(s): _____

Date/Time: 4/30/19 18:00
 Date/Time: 05.01.19
 Temperature(s): _____

Must Deliver Next Business Day
Time and Temperature Sensitive!



ORIGIN ID: SGRA (281) 530-5656
CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

SHIP DATE: 30APR19
ACTWGT: 20.55 LB
CAD: 300130/CAT: E3211
DIMS: 19x16x13 IN
BILL THIRD PARTY

551CL/PSEC/104C

TO **SAMPLE RECEIVING**
ALS ENVIRONMENTAL
225 COMMERCE DRIVE

9-2
AMO

FORT COLLINS CO 80524

(970) 490-1611
REF: HS19041659 RJ



FedEx
Express



WED - 01 MAY 3:00P
STANDARD OVERNIGHT

TRK# 4809 7833 3467
0201

80524
CO-US DEN

AG FTCA



Client: ALS Environmental

Date: 24-May-19

Project: HS19041659

Work Order: 1905017

Sample ID: MW-37

Lab ID: 1905017-1

Legal Location:

Matrix: WATER

Collection Date: 4/29/2019 13:15

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 5/15/2019	PrepBy: JXH
Ra-226	ND (+/- 0.13)	U	0.22	pCi/l	NA	5/23/2019 11:47
Carr: BARIUM	92.7		40-110	%REC	DL = NA	5/23/2019 11:47
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 5/7/2019	PrepBy: MLB
Ra-228	ND (+/- 0.36)	U	0.78	pCi/l	NA	5/10/2019 10:26
Carr: BARIUM	91.7		40-110	%REC	DL = NA	5/10/2019 10:26

Client: ALS Environmental

Date: 24-May-19

Project: HS19041659

Work Order: 1905017

Sample ID: MW-42

Lab ID: 1905017-2

Legal Location:

Matrix: WATER

Collection Date: 4/29/2019 12:10

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	0.37 (+/- 0.21)		SOP 783		Prep Date: 5/15/2019	PrepBy: JXH
<i>Carr: BARIUM</i>	95.6		0.24	pCi/l	NA	5/23/2019 12:18
			40-110	%REC	DL = NA	5/23/2019 12:18
Radium-228 Analysis by GFPC						
Ra-228	ND (+/- 0.4)	U	SOP 724		Prep Date: 5/7/2019	PrepBy: MLB
<i>Carr: BARIUM</i>	98.8		0.86	pCi/l	NA	5/10/2019 10:26
			40-110	%REC	DL = NA	5/10/2019 10:26

Client: ALS Environmental

Date: 24-May-19

Project: HS19041659

Work Order: 1905017

Sample ID: MW-63

Lab ID: 1905017-3

Legal Location:

Matrix: WATER

Collection Date: 4/29/2019 11:50

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 5/15/2019	PrepBy: JXH
Ra-226	ND (+/- 0.18)	U	0.29	pCi/l	NA	5/23/2019 12:18
Carr: BARIUM	93.7		40-110	%REC	DL = NA	5/23/2019 12:18
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 5/7/2019	PrepBy: MLB
Ra-228	ND (+/- 0.35)	U	0.73	pCi/l	NA	5/10/2019 10:26
Carr: BARIUM	98.7		40-110	%REC	DL = NA	5/10/2019 10:26

Client: ALS Environmental

Date: 24-May-19

Project: HS19041659

Work Order: 1905017

Sample ID: MW-63

Lab ID: 1905017-3

Legal Location:

Matrix: WATER

Collection Date: 4/29/2019 11:50

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
----------	--------	------	--------------	-------	-----------------	---------------

Explanation of Qualifiers

Radiochemistry:

- "Report Limit" is the MDC
- U or ND - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 - Chemical Yield outside default limits.
- W - DER is greater than Warning Limit of 1.42
- * - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.
- # - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.
- G - Sample density differs by more than 15% of LCS density.
- D - DER is greater than Control Limit
- M - Requested MDC not met.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS, Matrix Spike Recovery within control limits.
- N - Matrix Spike Recovery outside control limits
- NC - Not Calculated for duplicate results less than 5 times MDC
- B - Analyte concentration greater than MDC.
- B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

- B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).
- U or ND - Indicates that the compound was analyzed for but not detected.
- E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
- M - Duplicate injection precision was not met.
- N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
- Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
- * - Duplicate analysis (relative percent difference) not within control limits.
- S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

- U or ND - Indicates that the compound was analyzed for but not detected.
- B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.
- E - Analyte concentration exceeds the upper level of the calibration range.
- J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).
- A - A tentatively identified compound is a suspected aldol-condensation product.
- X - The analyte was diluted below an accurate quantitation level.
- * - The spike recovery is equal to or outside the control criteria used.
- + - The relative percent difference (RPD) equals or exceeds the control criteria.
- G - A pattern resembling gasoline was detected in this sample.
- D - A pattern resembling diesel was detected in this sample.
- M - A pattern resembling motor oil was detected in this sample.
- C - A pattern resembling crude oil was detected in this sample.
- 4 - A pattern resembling JP-4 was detected in this sample.
- 5 - A pattern resembling JP-5 was detected in this sample.
- H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
- L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
- Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
 - gasoline
 - JP-8
 - diesel
 - mineral spirits
 - motor oil
 - Stoddard solvent
 - bunker C

ALS -- Fort Collins

Date: 5/24/2019 11:11

Client: ALS Environmental
 Work Order: 1905017
 Project: HS19041659

QC BATCH REPORT

Batch ID: **RE190515-1-2** Instrument ID **Alpha Scin** Method: **Radium-226 by Radon Emanation**

LCS		Sample ID: RE190515-1			Units: pCi/l		Analysis Date: 5/23/2019 12:18				
Client ID:		Run ID: RE190515-1A			Prep Date: 5/15/2019		DF: NA				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	50 (+/- 12)	0	47.86		104	67-120					P
Carr: BARIUM	14980		15470		96.8	40-110					

MB		Sample ID: RE190515-1			Units: pCi/l		Analysis Date: 5/23/2019 12:18				
Client ID:		Run ID: RE190515-1A			Prep Date: 5/15/2019		DF: NA				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	ND	0.097									U
Carr: BARIUM	15100		15490		97.5	40-110					

The following samples were analyzed in this batch:

1905017-1	1905017-2	1905017-3
-----------	-----------	-----------

Client: ALS Environmental
 Work Order: 1905017
 Project: HS19041659

QC BATCH REPORT

Batch ID: RA190507-2-2 Instrument ID LB4100-C Method: Radium-228 Analysis by GFPC

LCS		Sample ID: RA190507-2		Units: pCi/l			Analysis Date: 5/10/2019 10:31				
Client ID:		Run ID: RA190507-2A			Prep Date: 5/7/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-228	16.2 (+/- 3.9)	1.1	14.45		112	70-130					P,M3
Carr: BARIUM	31590		32700		96.6	40-110					

MB		Sample ID: RA190507-2		Units: pCi/l			Analysis Date: 5/10/2019 10:26				
Client ID:		Run ID: RA190507-2A			Prep Date: 5/7/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-228	ND	0.7									Y1,U
Carr: BARIUM	32810		32700		100	40-110					Y1

The following samples were analyzed in this batch:

1905017-1	1905017-2	1905017-3
-----------	-----------	-----------



07-May-2019

RJ Modashia
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS19041659**

Work Order: **19050059**

Dear RJ,

ALS Environmental received 3 samples on 01-May-2019 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 9.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton", is written over a light blue horizontal line.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

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Page 32 of 40

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALS Environmental
Project: HS19041659
Work Order: 19050059

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
19050059-01	HS19041659-01	Water	MW-37	4/29/2019 13:15	5/1/2019 09:30	<input type="checkbox"/>
19050059-02	HS19041659-02	Water	MW-42	4/29/2019 12:10	5/1/2019 09:30	<input type="checkbox"/>
19050059-03	HS19041659-03	Water	MW-63	4/29/2019 11:50	5/1/2019 09:30	<input type="checkbox"/>

Client: ALS Environmental
Project: HS19041659
WorkOrder: 19050059

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
mg/L	Milligrams per Liter

ALS Group, USA

Date: 07-May-19

Client: ALS Environmental
Project: HS19041659
Sample ID: HS19041659-01
Collection Date: 4/29/2019 01:15 PM

Work Order: 19050059
Lab ID: 19050059-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
FLUORIDE Fluoride	0.28		A4500-F C-11 0.10	mg/L	1	Analyst: RZM 5/6/2019 02:03 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 07-May-19

Client: ALS Environmental

Project: HS19041659

Work Order: 19050059

Sample ID: HS19041659-02

Lab ID: 19050059-02

Collection Date: 4/29/2019 12:10 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
FLUORIDE Fluoride	0.61		A4500-F C-11 0.10	mg/L	1	Analyst: RZM 5/6/2019 02:03 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 07-May-19

Client: ALS Environmental
Project: HS19041659
Sample ID: HS19041659-03
Collection Date: 4/29/2019 11:50 AM

Work Order: 19050059
Lab ID: 19050059-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
FLUORIDE Fluoride	0.16		A4500-F C-11 0.10	mg/L	1	Analyst: RZM 5/6/2019 02:03 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: ALS Environmental
Work Order: 19050059
Project: HS19041659

QC BATCH REPORT

Batch ID: **R259888** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK		Sample ID: MB-R259888-R259888				Units: mg/L		Analysis Date: 5/6/2019 02:03 PM		
Client ID:		Run ID: TITRATOR 1_190506A		SeqNo: 5643277		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	ND	0.10								

LCS		Sample ID: LCS-R259888-R259888				Units: mg/L		Analysis Date: 5/6/2019 02:03 PM		
Client ID:		Run ID: TITRATOR 1_190506A		SeqNo: 5643278		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.976	0.10	5	0	99.5	80-120	0			

MS		Sample ID: 19050057-01A MS				Units: mg/L		Analysis Date: 5/6/2019 02:03 PM		
Client ID:		Run ID: TITRATOR 1_190506A		SeqNo: 5643282		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	5.194	0.10	5	0.281	98.3	75-125	0			

MSD		Sample ID: 19050057-01A MSD				Units: mg/L		Analysis Date: 5/6/2019 02:03 PM		
Client ID:		Run ID: TITRATOR 1_190506A		SeqNo: 5643283		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	5.168	0.10	5	0.281	97.7	75-125	5.194	0.502	20	

The following samples were analyzed in this batch:

19050059-01A	19050059-02A	19050059-03A
--------------	--------------	--------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

19050059



10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11219

SUBCONTRACT TO:

ALS Laboratory Group
3352 128th Ave.
Holland, MI 494249263

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: RJ Modashia
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RJ.Modashia@alsglobal.com
Alternate Contact: Jumoke M. Lawal
Email: jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19041659
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19041659-01	MW-37	Water	29 Apr 2019 13:15
	Fluoride by ISE 4500			07 May 2019
2.	HS19041659-02	MW-42	Water	29 Apr 2019 12:10
	Fluoride by ISE 4500			07 May 2019
3.	HS19041659-03	MW-63	Water	29 Apr 2019 12:10
	Fluoride by ISE 4500			07 May 2019

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By: A.C.
Received By: [Signature]
Cooler ID(s): _____

Date/Time: 4/30/19 18:00
Date/Time: 5/1/19 0930
Temperature(s): SR2 26°C

RIGHT SOLUTIONS | RIGHT PARTNER

[Signature]

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**

Date/Time Received: **01-May-19 09:30**

Work Order: **19050059**

Received by: **DS**

Checklist completed by Diane Shaw 01-May-19
eSignature Date

Reviewed by: Chad Whilton 01-May-19
eSignature Date

Matrices: Water

Carrier name: FedEx

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s):

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

Appendix B

Detection Monitoring Data (July 2019)

TRC Environmental Corporation | NRG Texas Power, LLC

2020 Annual Groundwater

S:\NRG\W.A. PARISH\2019\2019 CRR ANNUAL REPORT\2. REPORTS\FINAL 2019 W A PARISH ANNUAL GW REPORT_1-29-2020.DOCX

January 31, 2020



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

August 06, 2019

Lori Burris
TRC Corporation
10550 Richmond Ave., Suite 210
Houston, TX 77042

Work Order: **HS19071444**

Laboratory Results for: **WA Parish – CCR Program Appendix III**

Dear Lori,

ALS Environmental received 27 sample(s) on Jul 29, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

**TRRP Laboratory Data
Package Cover Page**

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC Chapter 5,
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits.
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

**TRRP Laboratory Data
Package Cover Page**

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by TCEQ or _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.



RJ Modashia
Project Manager

Laboratory Review Checklist: Reportable Data

Laboratory Name: ALS Laboratory Group			LRC Date: 08/05/2019				
Project Name: WA Parish – CCR Program Appendix III			Laboratory Job Number: HS19071444				
Reviewer Name: RJ Modashia			Prep Batch Number(s): 143610,14361,14361,R343630,R343646,R343652,R343668,R343682,R343689				
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSS included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				2
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 08/05/2019				
Project Name: WA Parish – CCR Program Appendix III			Laboratory Job Number: HS19071444				
Reviewer Name: RJ Modashia			Prep Batch Number(s): 143610,14361,14361,R343630,R343646,R343652,R343668,R343682,R34368				
			9				
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		X			3
S3	O	Mass spectral tuning:					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS):					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs):					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results:					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?		X			4
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports:					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs):					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);

NA = Not Applicable;

NR = Not Reviewed;

R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Exception Reports

Laboratory Name: ALS Laboratory Group	LRC Date: 08/05/2019
Project Name: WA Parish – CCR Program Appendix III	Laboratory Job Number: HS19071444
Reviewer Name: RJ Modashia	Prep Batch Number(s): 143610,14361,14361,R343630,R343646,R343652,R343668,R343682,R343689

ER# ⁵	Description
1	<p>Batch 143610, Metals Method SW6020, sample HS19071331-10, MS and MSD were performed on unrelated sample</p> <p>Batch 143611, Metals Method SW6020, sample MW-63, MS and MSD recovered outside the control limit for Calcium, however the result in the parent sample is greater than 4x the spike amount.</p> <p>Batch 143613, Metals Method SW6020, sample MW-58, MS and MSD recovered outside the control limit for Calcium, however the result in the parent sample is greater than 4x the spike amount.</p>
2	Analysis of Fluoride was performed by ALS Holland, MI. Report and Laboratory Review Checklist are attached to the final report.
3	See Run Log and CCB Exceptions Report.
4	<p>Batch 143610, Metals Method SW6020, sample HS19071331-10, PDS was performed on unrelated sample.</p> <p>Batch 143611, Metals Method SW6020, sample MW-63, PDS recovered outside the control limit for Calcium, however the result in the parent sample is greater than 4x the spike amount.</p> <p>Batch 143611, Metals Method SW6020, sample MW-63, the percent difference between the results of the sample and the serial dilution were greater than 10% for Calcium</p> <p>Batch 143613, Metals Method SW6020, sample MW-58, PDS recovered outside the control limit for Calcium, however the result in the parent sample is greater than 4x the spike amount.</p>

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444
Start Date: 02-Aug-2019 **End Date:** 05-Aug-2019

Run ID: ICS2100_343630
Instrument: ICS2100
Method: E300

Sample No.	D/F	Time	FileID	Analyses
CCB 1	1	02-Aug-2019 12:43		CL SO4
WBLKW1-080219	1	02-Aug-2019 13:30		CL SO4
WLCSW1-080219	1	02-Aug-2019 13:50		CL SO4
WLCSDW1-080219	1	02-Aug-2019 14:05		CL SO4
MW-39	20	02-Aug-2019 15:12		CL SO4
MW-40	20	02-Aug-2019 15:27		CL SO4
MW-41	20	02-Aug-2019 15:42		CL SO4
MW-62	20	02-Aug-2019 15:56		CL SO4
MW-64	20	02-Aug-2019 16:11		CL SO4
CCV 1	1	02-Aug-2019 16:26		CL SO4
CCB 2	1	02-Aug-2019 16:40		CL SO4
MW-63	20	02-Aug-2019 16:55		SO4
MW-63MS	20	02-Aug-2019 17:10		CL SO4
MW-63MSD	20	02-Aug-2019 17:24		CL SO4
MW-23	20	02-Aug-2019 17:39		SO4
MW-28D	20	02-Aug-2019 17:53		SO4
MW-42	10	02-Aug-2019 18:08		SO4
MW-43	10	02-Aug-2019 18:23		SO4
MW-44	10	02-Aug-2019 18:37		SO4
MW-46R	10	02-Aug-2019 18:52		SO4
MW-47	10	02-Aug-2019 19:07		SO4
CCB 3	1	02-Aug-2019 19:36		SO4
MW-48	10	02-Aug-2019 20:05		SO4
MW-50	10	02-Aug-2019 20:20		SO4
MW-52	20	02-Aug-2019 20:35		SO4
MW-54	10	02-Aug-2019 20:49		SO4
MW-55R	10	02-Aug-2019 21:04		SO4
MW-58	10	02-Aug-2019 21:18		SO4
MW-58MS	10	02-Aug-2019 21:33		CL SO4
MW-58MSD	10	02-Aug-2019 21:48		CL SO4
CCV 2	1	02-Aug-2019 22:02		CL SO4
CCB 4	1	02-Aug-2019 22:17		CL SO4
CCB 5	1	05-Aug-2019 11:24		CL SO4
MW-63	20	05-Aug-2019 12:09		CL
MW-63MS	20	05-Aug-2019 12:23		CL SO4
MW-63MSD	20	05-Aug-2019 12:38		CL SO4
MW-28D	20	05-Aug-2019 12:53		CL
MW-42	10	05-Aug-2019 13:07		CL
MW-43	10	05-Aug-2019 13:22		CL
MW-23	20	05-Aug-2019 13:36		CL
MW-44	10	05-Aug-2019 13:51		CL
CCV 3	1	05-Aug-2019 14:20		CL SO4
CCB 6	1	05-Aug-2019 14:35		CL SO4
MW-46R	10	05-Aug-2019 14:50		CL
MW-47	10	05-Aug-2019 15:04		CL
MW-48	10	05-Aug-2019 15:19		CL
MW-50	10	05-Aug-2019 15:34		CL
MW-52	20	05-Aug-2019 15:48		CL
MW-54	10	05-Aug-2019 16:03		CL
MW-55R	10	05-Aug-2019 16:18		CL

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

Run ID: ICS2100_343630
Instrument: ICS2100
Method: E300

CCB	Date	Seq	D/F	Units
CCB 2	02-Aug-2019 16:40	5195475	1	ug/L
	Analyte	Result	MDL	Report Limit
	Chloride	247	200	500
CCB 4	02-Aug-2019 22:17	5195498	1	ug/L
	Analyte	Result	MDL	Report Limit
	Chloride	217	200	500
CCB 5	05-Aug-2019 11:24	5196541	1	ug/L
	Analyte	Result	MDL	Report Limit
	Chloride	215	200	500
CCB 6	05-Aug-2019 14:35	5196553	1	ug/L
	Analyte	Result	MDL	Report Limit
	Chloride	218	200	500

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444
Start Date: 31-Jul-2019 **End Date:** 01-Aug-2019

Run ID: ICPMS05_343367
Instrument: ICPMS05
Method: SW6020

Sample No.	D/F	Time	FileID	Analyses
ICV	1	31-Jul-2019 12:20	017_ICV.d	B CA
LLICV2	1	31-Jul-2019 12:22	018LCV2.d	B
LLICV5	1	31-Jul-2019 12:24	019LCV5.d	B
ICB	1	31-Jul-2019 12:26	020_ICB.d	B CA
ICSA	1	31-Jul-2019 12:39	022ICSA.d	B
ICSAB	1	31-Jul-2019 12:54	025ICSB.d	B
CCV 1	1	31-Jul-2019 13:16	033_CCV.d	B CA
CCB 1	1	31-Jul-2019 13:18	034_CCB.d	B CA
CCV 2	1	31-Jul-2019 13:51	044_CCV.d	B CA
CCB 2	1	31-Jul-2019 13:53	045_CCB.d	B CA
CCV 3	1	31-Jul-2019 14:21	056_CCV.d	B CA
CCB 3	1	31-Jul-2019 14:23	057_CCB.d	B CA
CCV 4	1	31-Jul-2019 14:49	068_CCV.d	B CA
CCB 4	1	31-Jul-2019 14:52	069_CCB.d	B CA
CCV 5	1	31-Jul-2019 15:17	080_CCV.d	B CA
CCB 5	1	31-Jul-2019 15:19	081_CCB.d	B CA
CCV 6	1	31-Jul-2019 15:44	091_CCV.d	B CA
CCB 6	1	31-Jul-2019 15:46	092_CCB.d	B CA
CCV 7	1	31-Jul-2019 18:10	103_CCV.d	B CA
CCB 7	1	31-Jul-2019 18:25	106_CCB.d	B CA
CCV 8	1	31-Jul-2019 18:47	116_CCV.d	B CA
CCB 8	1	31-Jul-2019 18:50	117_CCB.d	B CA
CCV 9	1	31-Jul-2019 19:14	128_CCV.d	B CA
CCB 9	1	31-Jul-2019 19:17	129_CCB.d	B CA
ICCV 10	1	31-Jul-2019 23:50	165_ICV.d	B CA
LLICCV2	1	31-Jul-2019 23:52	166LCV2.d	B
LLICCV5	1	31-Jul-2019 23:55	167LCV5.d	B
ICCB 10	1	31-Jul-2019 23:57	168_ICB.d	B CA
MBLK-143610	1	31-Jul-2019 23:59	169SMPL.d	CA
LCS-143610	1	01-Aug-2019 00:01	170SMPL.d	CA
ZZZZZMS	1	01-Aug-2019 00:08	173SMPL.d	CA
ZZZZZMSD	1	01-Aug-2019 00:10	174SMPL.d	CA
ZZZZZPDS	1	01-Aug-2019 00:13	175SMPL.d	CA
CCV 11	1	01-Aug-2019 00:17	177_CCV.d	B CA
CCB 11	1	01-Aug-2019 00:19	178_CCB.d	B CA
CCV 12	1	01-Aug-2019 00:44	189_CCV.d	B CA
CCB 12	1	01-Aug-2019 00:47	190_CCB.d	B CA
MW-39	5	01-Aug-2019 00:51	192SMPL.d	B
MW-40	5	01-Aug-2019 00:53	193SMPL.d	B
MW-41	5	01-Aug-2019 00:56	194SMPL.d	B
MW-62	5	01-Aug-2019 00:58	195SMPL.d	B
MW-64	5	01-Aug-2019 01:00	196SMPL.d	B
MW-23	5	01-Aug-2019 01:03	197SMPL.d	B
CCV 13	1	01-Aug-2019 01:07	199_CCV.d	B CA
CCB 13	1	01-Aug-2019 01:09	200_CCB.d	B CA
CCV 14	1	01-Aug-2019 01:27	208_CCV.d	B CA
CCB 14	1	01-Aug-2019 01:30	209_CCB.d	B CA
CCV 15	1	01-Aug-2019 01:54	220_CCV.d	B CA
CCB 15	1	01-Aug-2019 01:57	221_CCB.d	B CA
CCV 16	1	01-Aug-2019 02:21	232_CCV.d	B CA
CCB 16	1	01-Aug-2019 02:24	233_CCB.d	B CA

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

Run ID: ICPMS05_343367
Instrument: ICPMS05
Method: SW6020

Start Date: 31-Jul-2019 End Date: 01-Aug-2019

Sample No.	D/F	Time	FileID	Analytes
LLICV2	1	01-Aug-2019 02:35	238LCV2.d	B
LLICV5	1	01-Aug-2019 02:38	239LCV5.d	B
ICSA	1	01-Aug-2019 02:40	240ICSA.d	B
ICSAB	1	01-Aug-2019 02:42	241ICSB.d	B

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 WorkOrder: HS19071444
 Start Date: 01-Aug-2019

Run ID:ICPMS05_343478
 Instrument:ICPMS05
 Method:SW6020

End Date: 02-Aug-2019

Sample No.	D/F	Time	FileID	Analyses
ICV	1	01-Aug-2019 13:00	017_ICV.d	B CA
LLICV2	1	01-Aug-2019 13:02	018LCV2.d	CA
LLICV5	1	01-Aug-2019 13:04	019LCV5.d	CA
ICB	1	01-Aug-2019 13:07	020_ICB.d	B CA
ICSA	1	01-Aug-2019 13:12	022ICSA.d	CA
ICSAB	1	01-Aug-2019 13:33	025ICSB.d	CA
CCV 1	1	01-Aug-2019 14:15	035_CCV.d	B CA
CCB 1	1	01-Aug-2019 14:18	036_CCB.d	B CA
CCV 2	1	01-Aug-2019 14:46	047_CCV.d	B CA
CCB 2	1	01-Aug-2019 14:48	048_CCB.d	B CA
CCV 3	1	01-Aug-2019 14:54	050_CCV.d	B CA
CCB 3	1	01-Aug-2019 14:56	051_CCB.d	B CA
CCV 4	1	01-Aug-2019 15:27	062_CCV.d	B CA
CCB 4	1	01-Aug-2019 15:29	063_CCB.d	B CA
CCB 5	1	01-Aug-2019 16:00	075_CCB.d	B CA
CCV 5	1	01-Aug-2019 16:02	076_CCV.d	B CA
MBLK-143610	1	01-Aug-2019 16:15	081SMPL.d	B
LCS-143610	1	01-Aug-2019 16:17	082SMPL.d	B
CCV 6	1	01-Aug-2019 16:28	087_CCV.d	B CA
CCB 6	1	01-Aug-2019 16:31	088_CCB.d	B CA
ZZZZZSD	5	01-Aug-2019 16:40	092SMPL.d	CA
ZZZZZMS	1	01-Aug-2019 16:43	093SMPL.d	B
ZZZZZMSD	1	01-Aug-2019 16:45	094SMPL.d	B
ZZZZZPDS	1	01-Aug-2019 16:47	095SMPL.d	B
CCB 7	1	01-Aug-2019 16:58	100_CCB.d	B CA
CCV 7	1	01-Aug-2019 17:01	101_CCV.d	B CA
MW-39	50	01-Aug-2019 17:10	105SMPL.d	CA
MW-40	50	01-Aug-2019 17:13	106SMPL.d	CA
MW-41	50	01-Aug-2019 17:15	107SMPL.d	CA
MW-62	50	01-Aug-2019 17:17	108SMPL.d	CA
MW-64	50	01-Aug-2019 17:20	109SMPL.d	CA
MW-23	50	01-Aug-2019 17:22	110SMPL.d	CA
CCB 8	1	01-Aug-2019 17:29	113_CCB.d	B CA
CCV 8	1	01-Aug-2019 17:31	114_CCV.d	B CA
CCV 9	1	01-Aug-2019 17:56	125_CCV.d	B CA
CCB 9	1	01-Aug-2019 17:58	126_CCB.d	B CA
CCV 10	1	01-Aug-2019 18:30	137_CCV.d	B CA
CCB 10	1	01-Aug-2019 18:32	138_CCB.d	B CA
CCV 11	1	01-Aug-2019 18:58	149_CCV.d	B CA
CCB 11	1	01-Aug-2019 19:00	150_CCB.d	B CA
CCV 12	1	01-Aug-2019 19:25	161_CCV.d	B CA
CCB 12	1	01-Aug-2019 19:27	162_CCB.d	B CA
CCV 13	1	01-Aug-2019 20:11	173_CCV.d	B CA
CCB 13	1	01-Aug-2019 20:13	174_CCB.d	B CA
CCV 14	1	01-Aug-2019 20:38	185_CCV.d	B CA
CCB 14	1	01-Aug-2019 20:40	186_CCB.d	B CA
CCV 15	1	01-Aug-2019 21:03	196_CCV.d	B CA
CCB 15	1	01-Aug-2019 21:05	197_CCB.d	B CA
CCV 16	1	01-Aug-2019 21:30	208_CCV.d	B CA
CCB 16	1	01-Aug-2019 21:33	209_CCB.d	B CA
CCV 17	1	01-Aug-2019 21:55	219_CCV.d	B CA

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444
Start Date: 01-Aug-2019 **End Date:** 02-Aug-2019

Run ID: ICPMS05_343478
Instrument: ICPMS05
Method: SW6020

Sample No.	D/F	Time	FileID	Analytes
CCB 17	1	01-Aug-2019 21:58	220_CCB.d	B CA
CCV 18	1	01-Aug-2019 22:35	232_CCV.d	B CA
CCB 18	1	01-Aug-2019 22:37	233_CCB.d	B CA
CCV 19	1	01-Aug-2019 22:55	241_CCV.d	B CA
CCB 19	1	01-Aug-2019 22:57	242_CCB.d	B CA
CCV 20	1	01-Aug-2019 23:22	253_CCV.d	B CA
CCB 20	1	01-Aug-2019 23:24	254_CCB.d	B CA
CCV 21	1	01-Aug-2019 23:49	265_CCV.d	B CA
CCB 21	1	01-Aug-2019 23:51	266_CCB.d	B CA
CCV 22	1	02-Aug-2019 00:09	274_CCV.d	B CA
CCB 22	1	02-Aug-2019 00:12	275_CCB.d	B CA
CCV 23	1	02-Aug-2019 00:36	286_CCV.d	B CA
CCB 23	1	02-Aug-2019 00:38	287_CCB.d	B CA
CCV 24	1	02-Aug-2019 01:03	298_CCV.d	B CA
CCB 24	1	02-Aug-2019 01:05	299_CCB.d	B CA
CCV 25	1	02-Aug-2019 01:10	301_CCV.d	B CA
CCB 25	1	02-Aug-2019 01:12	302_CCB.d	B CA
LLICV2	1	02-Aug-2019 01:14	303LCV2.d	CA
LLICV5	1	02-Aug-2019 01:17	304LCV5.d	CA
ICSA	1	02-Aug-2019 01:19	305ICSA.d	CA

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444
Start Date: 02-Aug-2019 **End Date:** 03-Aug-2019

Run ID: ICPMS05_343536
Instrument: ICPMS05
Method: SW6020

Sample No.	D/F	Time	FileID	Analyses
ICV	1	02-Aug-2019 11:25	017_ICV.d	B CA
LLICV2	1	02-Aug-2019 11:27	018LCV2.d	B CA
ICB	1	02-Aug-2019 11:31	020_ICB.d	B CA
LLICV5	1	02-Aug-2019 11:49	022LCV5.d	B CA
ICSA	1	02-Aug-2019 11:53	023ICSA.d	B CA
ICSAB	1	02-Aug-2019 11:55	024ICSB.d	B CA
CCB 1	1	02-Aug-2019 12:33	034_CCB.d	B CA
CCV 1	1	02-Aug-2019 12:39	035_CCV.d	B CA
CCV 2	1	02-Aug-2019 13:04	045_CCV.d	B CA
CCB 2	1	02-Aug-2019 13:10	047_CCB.d	B CA
CCV 3	1	02-Aug-2019 13:35	058_CCV.d	B CA
CCB 3	1	02-Aug-2019 13:38	059_CCB.d	B CA
CCV 4	1	02-Aug-2019 14:22	070_CCV.d	B CA
CCB 4	1	02-Aug-2019 14:24	071_CCB.d	B CA
CCV 5	1	02-Aug-2019 14:51	082_CCV.d	B CA
CCB 5	1	02-Aug-2019 14:53	083_CCB.d	B CA
CCV 6	1	02-Aug-2019 15:20	094_CCV.d	B CA
CCB 6	1	02-Aug-2019 15:22	095_CCB.d	B CA
CCV 7	1	02-Aug-2019 15:49	106_CCV.d	B CA
CCB 7	1	02-Aug-2019 15:51	107_CCB.d	B CA
CCV 8	1	02-Aug-2019 16:17	118_CCV.d	B CA
CCB 8	1	02-Aug-2019 16:19	119_CCB.d	B CA
CCV 9	1	02-Aug-2019 16:49	130_CCV.d	B CA
CCB 9	1	02-Aug-2019 16:52	131_CCB.d	B CA
CCV 10	1	02-Aug-2019 17:21	142_CCV.d	B CA
CCB 10	1	02-Aug-2019 17:23	143_CCB.d	B CA
CCV 11	1	02-Aug-2019 17:56	154_CCV.d	B CA
CCB 11	1	02-Aug-2019 17:59	155_CCB.d	B CA
CCV 12	1	02-Aug-2019 18:33	166_CCV.d	B CA
CCB 12	1	02-Aug-2019 18:35	167_CCB.d	B CA
CCV 13	1	02-Aug-2019 19:02	178_CCV.d	B CA
CCB 13	1	02-Aug-2019 19:04	179_CCB.d	B CA
CCV 14	1	02-Aug-2019 19:30	190_CCV.d	B CA
CCB 14	1	02-Aug-2019 19:33	191_CCB.d	B CA
ICCV 15	1	02-Aug-2019 20:06	205_ICV.d	B CA
LLICCV2	1	02-Aug-2019 20:08	206LCV2.d	B CA
LLICCV5	1	02-Aug-2019 20:11	207LCV5.d	B CA
ICCB 15	1	02-Aug-2019 20:13	208_ICB.d	B CA
CCV 16	1	02-Aug-2019 20:39	217_CCV.d	B CA
CCB 16	1	02-Aug-2019 20:41	218_CCB.d	B CA
CCV 17	1	02-Aug-2019 21:01	227_CCV.d	B CA
CCB 17	1	02-Aug-2019 21:03	228_CCB.d	B CA
CCV 18	1	02-Aug-2019 21:24	237_CCV.d	B CA
CCB 18	1	02-Aug-2019 21:26	238_CCB.d	B CA
CCV 19	1	02-Aug-2019 21:40	244_CCV.d	B CA
CCB 19	1	02-Aug-2019 21:42	245_CCB.d	B CA
CCV 20	1	02-Aug-2019 22:23	256_CCV.d	B CA
CCB 20	1	02-Aug-2019 22:25	257_CCB.d	B CA
MBLK-143611	1	02-Aug-2019 22:48	263SMPL.d	B CA
LCS-143611	1	02-Aug-2019 22:50	264SMPL.d	B CA
MW-63	5	02-Aug-2019 22:53	265SMPL.d	CA

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444
Start Date: 02-Aug-2019 **End Date:** 03-Aug-2019

Run ID: ICPMS05_343536
Instrument: ICPMS05
Method: SW6020

Sample No.	D/F	Time	FileID	Analyses
MW-63SD	25	02-Aug-2019 22:55	266SMPL.d	CA
MW-63MS	5	02-Aug-2019 22:57	267SMPL.d	CA
MW-63MSD	5	02-Aug-2019 23:00	268SMPL.d	CA
MW-63PDS	5	02-Aug-2019 23:02	269SMPL.d	CA
CCV 21	1	02-Aug-2019 23:06	271_CCV.d	B CA
CCB 21	1	02-Aug-2019 23:09	272_CCB.d	B CA
MW-28D	5	02-Aug-2019 23:11	273SMPL.d	B CA
MW-42	5	02-Aug-2019 23:13	274SMPL.d	B CA
MW-43	5	02-Aug-2019 23:15	275SMPL.d	B CA
MW-44	5	02-Aug-2019 23:18	276SMPL.d	B CA
MW-46R	5	02-Aug-2019 23:20	277SMPL.d	B CA
MW-47	5	02-Aug-2019 23:22	278SMPL.d	B CA
MW-48	5	02-Aug-2019 23:24	279SMPL.d	B CA
MW-50	5	02-Aug-2019 23:27	280SMPL.d	B CA
MW-52	5	02-Aug-2019 23:29	281SMPL.d	B CA
MW-54	5	02-Aug-2019 23:31	282SMPL.d	B CA
CCV 22	1	02-Aug-2019 23:33	283_CCV.d	B CA
CCB 22	1	02-Aug-2019 23:36	284_CCB.d	B CA
MW-55R	5	02-Aug-2019 23:38	285SMPL.d	B CA
MW-65	5	02-Aug-2019 23:40	286SMPL.d	B CA
MW-36	5	02-Aug-2019 23:43	287SMPL.d	CA
MW-37	5	02-Aug-2019 23:45	288SMPL.d	B CA
MW-60	5	02-Aug-2019 23:47	289SMPL.d	CA
MW-61	5	02-Aug-2019 23:49	290SMPL.d	B CA
DUP-01	5	02-Aug-2019 23:52	291SMPL.d	CA
DUP-02	5	02-Aug-2019 23:54	292SMPL.d	B CA
CCV 23	1	03-Aug-2019 00:01	295_CCV.d	B CA
CCB 23	1	03-Aug-2019 00:03	296_CCB.d	B CA
MBLK-143613	1	03-Aug-2019 00:05	297SMPL.d	B CA
LCS-143613	1	03-Aug-2019 00:07	298SMPL.d	B CA
MW-58	1	03-Aug-2019 00:10	299SMPL.d	B CA
MW-58SD	5	03-Aug-2019 00:12	300SMPL.d	CA
MW-58MS	1	03-Aug-2019 00:14	301SMPL.d	B CA
MW-58MSD	1	03-Aug-2019 00:16	302SMPL.d	B CA
MW-58PDS	1	03-Aug-2019 00:19	303SMPL.d	B CA
CCV 24	1	03-Aug-2019 00:21	304_CCV.d	B CA
CCB 24	1	03-Aug-2019 00:23	305_CCB.d	B CA
ICSA	1	03-Aug-2019 00:25	306ICSA.d	B CA
ICSAB	1	03-Aug-2019 00:28	307ICSB.d	B CA
CCV 25	1	03-Aug-2019 00:46	315_CCV.d	B CA
CCB 25	1	03-Aug-2019 00:48	316_CCB.d	B CA
CCV 26	1	03-Aug-2019 01:06	324_CCV.d	B CA
CCB 26	1	03-Aug-2019 01:08	325_CCB.d	B CA
CCV 27	1	03-Aug-2019 01:26	333_CCV.d	B CA
CCB 27	1	03-Aug-2019 01:29	334_CCB.d	B CA
CCV 28	1	03-Aug-2019 01:51	344_CCV.d	B CA
CCB 28	1	03-Aug-2019 01:54	345_CCB.d	B CA
LLICV2	1	03-Aug-2019 01:56	346LCV2.d	B CA
LLICV5	1	03-Aug-2019 01:58	347LCV5.d	B CA
ICSA	1	03-Aug-2019 02:01	348ICSA.d	B CA
ICSAB	1	03-Aug-2019 02:03	349ICSB.d	B CA

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

Run ID:ICPMS05_343367
Instrument:ICPMS05
Method:SW6020

CCB 11	Date: 01-Aug-2019 00:19	Seq: 5190835	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Boron	14.82	11	20
CCB 12	Date: 01-Aug-2019 00:47	Seq: 5190847	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Boron	12.78	11	20
CCB 13	Date: 01-Aug-2019 01:09	Seq: 5190804	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Boron	15.43	11	20
CCB 14	Date: 01-Aug-2019 01:30	Seq: 5190813	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Boron	14.69	11	20
CCB 15	Date: 01-Aug-2019 01:57	Seq: 5190825	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Boron	13.31	11	20
CCB 16	Date: 01-Aug-2019 02:24	Seq: 5190863	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Boron	13.74	11	20

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

Run ID:ICPMS05_343478
Instrument:ICPMS05
Method:SW6020

CCB #	Date	Seq	D/F	Units
CCB 4	01-Aug-2019 15:29	5191333	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	11.39	11	20
CCB 5	01-Aug-2019 16:00	5191345	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	13.3	11	20
CCB 6	01-Aug-2019 16:31	5191697	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	17.97	11	20
CCB 7	01-Aug-2019 16:58	5191709	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	17.2	11	20
CCB 14	01-Aug-2019 20:40	5192114	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	11.34	11	20
CCB 15	01-Aug-2019 21:05	5192166	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	12.37	11	20
CCB 16	01-Aug-2019 21:33	5192178	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	11.44	11	20
CCB 17	01-Aug-2019 21:58	5192203	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	12.72	11	20
CCB 18	01-Aug-2019 22:37	5192192	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	42.35	11	20
CCB 19	01-Aug-2019 22:57	5192212	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	24.4	11	20
CCB 20	01-Aug-2019 23:24	5192224	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	15.42	11	20
CCB 22	02-Aug-2019 00:12	5192266	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	17.4	11	20
CCB 23	02-Aug-2019 00:38	5192278	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	21.51	11	20
CCB 24	02-Aug-2019 01:05	5192252	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	20.24	11	20

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

Run ID:ICPMS05_343478
Instrument:ICPMS05
Method:SW6020

CCB 25	Date: 02-Aug-2019 01:12	Seq: 5192255	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
Boron		17.86	11	20

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

Run ID: ICPMS05_343536
Instrument: ICPMS05
Method: SW6020

CCB	Date	Seq	D/F	Units
CCB 1	02-Aug-2019 12:33	5193426	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	111.6	11	20
CCB 2	02-Aug-2019 13:10	5193440	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	33.5	11	20
CCB 3	02-Aug-2019 13:38	5193452	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	53.81	11	20
CCB 4	02-Aug-2019 14:24	5193462	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	26.74	11	20
CCB 5	02-Aug-2019 14:53	5193514	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	32.67	11	20
	Calcium	55.31	34	500
CCB 6	02-Aug-2019 15:22	5193526	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	25.56	11	20
CCB 7	02-Aug-2019 15:51	5193538	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	18.81	11	20
CCB 8	02-Aug-2019 16:19	5193562	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	18.2	11	20
CCB 9	02-Aug-2019 16:52	5193978	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	13.78	11	20
CCB 10	02-Aug-2019 17:23	5193988	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	12.62	11	20
CCB 11	02-Aug-2019 17:59	5194000	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	11.4	11	20
CCB 12	02-Aug-2019 18:35	5194012	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	13.26	11	20
CCB 13	02-Aug-2019 19:04	5194582	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	14.32	11	20
	Calcium	145.8	34	500

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

Run ID:ICPMS05_343536
Instrument:ICPMS05
Method:SW6020

CCB ID	Date	Seq	D/F	Units
CCB 14	02-Aug-2019 19:33	5194594	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	19.74	11	20
ICCB 15	02-Aug-2019 20:13	5194620	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	14.8	11	20
CCB 16	02-Aug-2019 20:41	5194629	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	31.4	11	20
	Calcium	103.3	34	500
CCB 17	02-Aug-2019 21:03	5194639	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	31.7	11	20
	Calcium	37.73	34	500
CCB 18	02-Aug-2019 21:26	5194649	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	57.55	11	20
	Calcium	80.83	34	500
CCB 19	02-Aug-2019 21:42	5194661	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	44.55	11	20
CCB 20	02-Aug-2019 22:25	5194654	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	30.29	11	20
CCB 21	02-Aug-2019 23:09	5194678	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	20.65	11	20
CCB 22	02-Aug-2019 23:36	5194690	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	16.19	11	20
CCB 23	03-Aug-2019 00:03	5194717	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	15.85	11	20
CCB 24	03-Aug-2019 00:23	5194726	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	29.76	11	20
CCB 25	03-Aug-2019 00:48	5194737	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	19.53	11	20
	Calcium	77.03	34	500
CCB 26	03-Aug-2019 01:08	5194704	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	17.69	11	20

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

Run ID:ICPMS05_343536
Instrument:ICPMS05
Method:SW6020

		Calcium	65.45	34	500
CCB 27	Date: 03-Aug-2019 01:29	Seq: 5194713		D/F: 1	Units: ug/L
		Analyte	Result	MDL	Report Limit
		Boron	19.25	11	20
CCB 28	Date: 03-Aug-2019 01:54	Seq: 5194755		D/F: 1	Units: ug/L
		Analyte	Result	MDL	Report Limit
		Boron	23.16	11	20

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
Work Order: HS19071444

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19071444-01	MW-39	Groundwater		29-Jul-2019 12:50	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-02	MW-40	Groundwater		29-Jul-2019 11:55	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-03	MW-41	Groundwater		29-Jul-2019 10:15	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-04	MW-62	Groundwater		29-Jul-2019 13:40	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-05	MW-63	Groundwater		29-Jul-2019 08:55	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-06	MW-64	Groundwater		29-Jul-2019 11:05	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-07	MW-23	Groundwater		29-Jul-2019 12:40	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-08	MW-28D	Groundwater		29-Jul-2019 08:25	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-09	MW-42	Groundwater		29-Jul-2019 11:55	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-10	MW-43	Groundwater		29-Jul-2019 11:40	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-11	MW-44	Groundwater		29-Jul-2019 12:45	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-12	MW-46R	Groundwater		29-Jul-2019 09:00	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-13	MW-47	Groundwater		29-Jul-2019 10:50	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-14	MW-48	Groundwater		29-Jul-2019 10:00	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-15	MW-50	Groundwater		29-Jul-2019 13:40	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-16	MW-52	Groundwater		29-Jul-2019 14:20	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-17	MW-54	Groundwater		29-Jul-2019 11:10	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-18	MW-55R	Groundwater		29-Jul-2019 12:00	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-19	MW-58	Groundwater		29-Jul-2019 09:45	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-20	MW-65	Groundwater		29-Jul-2019 12:45	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-21	MW-36	Groundwater		29-Jul-2019 10:45	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-22	MW-37	Groundwater		29-Jul-2019 08:25	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-23	MW-60	Groundwater		29-Jul-2019 09:05	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-24	MW-61	Groundwater		29-Jul-2019 09:50	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-25	DUP-01	Groundwater		29-Jul-2019 08:00	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071444-26	DUP-02	Groundwater		29-Jul-2019 10:00	29-Jul-2019 16:25	<input type="checkbox"/>

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
Work Order: HS19071444

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19071444-27	FB-01	Water		29-Jul-2019 10:05	29-Jul-2019 16:25	<input type="checkbox"/>

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-39
 Collection Date: 29-Jul-2019 12:50

ANALYTICAL REPORT

WorkOrder:HS19071444
 Lab ID:HS19071444-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 31-Jul-2019		Analyst: JHD
Boron	2.18		0.0550	0.100	mg/L	5	01-Aug-2019 00:51
Calcium	245		1.70	25.0	mg/L	50	01-Aug-2019 17:10
ANIONS BY E300.0		Method:E300					Analyst: KMU
Chloride	663		4.00	10.0	mg/L	20	02-Aug-2019 15:12
Sulfate	161		4.00	10.0	mg/L	20	02-Aug-2019 15:12
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,950		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA					Analyst: SUBHO
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-40
 Collection Date: 29-Jul-2019 11:55

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 31-Jul-2019		Analyst: JHD
Boron	1.30		0.0550	0.100	mg/L	5	01-Aug-2019 00:53
Calcium	260		1.70	25.0	mg/L	50	01-Aug-2019 17:13
ANIONS BY E300.0		Method:E300					Analyst: KMU
Chloride	567		4.00	10.0	mg/L	20	02-Aug-2019 15:27
Sulfate	51.0		4.00	10.0	mg/L	20	02-Aug-2019 15:27
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,990		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA					Analyst: SUBHO
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-41
 Collection Date: 29-Jul-2019 10:15

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.996		0.0550	0.100	mg/L	5	01-Aug-2019 00:56
Calcium	187		1.70	25.0	mg/L	50	01-Aug-2019 17:15
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	458		4.00	10.0	mg/L	20	02-Aug-2019 15:42
Sulfate	47.8		4.00	10.0	mg/L	20	02-Aug-2019 15:42
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,450		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-62
 Collection Date: 29-Jul-2019 13:40

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	1.00		0.0550	0.100	mg/L	5	01-Aug-2019 00:58
Calcium	235		1.70	25.0	mg/L	50	01-Aug-2019 17:17
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	564		4.00	10.0	mg/L	20	02-Aug-2019 15:56
Sulfate	84.4		4.00	10.0	mg/L	20	02-Aug-2019 15:56
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,870		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-63
 Collection Date: 29-Jul-2019 08:55

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.0866		0.0110	0.0200	mg/L	1	03-Aug-2019 13:16
Calcium	276		0.170	2.50	mg/L	5	02-Aug-2019 22:53
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	368		4.00	10.0	mg/L	20	05-Aug-2019 12:09
Sulfate	399		4.00	10.0	mg/L	20	02-Aug-2019 16:55
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,770		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-64
 Collection Date: 29-Jul-2019 11:05

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.991		0.0550	0.100	mg/L	5	01-Aug-2019 01:00
Calcium	222		1.70	25.0	mg/L	50	01-Aug-2019 17:20
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	456		4.00	10.0	mg/L	20	02-Aug-2019 16:11
Sulfate	36.1		4.00	10.0	mg/L	20	02-Aug-2019 16:11
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,670		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-23
 Collection Date: 29-Jul-2019 12:40

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	1.25		0.0550	0.100	mg/L	5	01-Aug-2019 01:03
Calcium	258		1.70	25.0	mg/L	50	01-Aug-2019 17:22
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	920		4.00	10.0	mg/L	20	05-Aug-2019 13:36
Sulfate	328		4.00	10.0	mg/L	20	02-Aug-2019 17:39
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	2,610		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-28D
 Collection Date: 29-Jul-2019 08:25

ANALYTICAL REPORT

WorkOrder:HS19071444
 Lab ID:HS19071444-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.231		0.0550	0.100	mg/L	5	02-Aug-2019 23:11
Calcium	116		0.170	2.50	mg/L	5	02-Aug-2019 23:11
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	130		4.00	10.0	mg/L	20	05-Aug-2019 12:53
Sulfate	86.9		4.00	10.0	mg/L	20	02-Aug-2019 17:53
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	782		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-42
 Collection Date: 29-Jul-2019 11:55

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.613		0.0550	0.100	mg/L	5	02-Aug-2019 23:13
Calcium	168		0.170	2.50	mg/L	5	02-Aug-2019 23:13
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	597		2.00	5.00	mg/L	10	05-Aug-2019 13:07
Sulfate	624		2.00	5.00	mg/L	10	02-Aug-2019 18:08
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,890		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-43
 Collection Date: 29-Jul-2019 11:40

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.483		0.0550	0.100	mg/L	5	02-Aug-2019 23:15
Calcium	85.1		0.170	2.50	mg/L	5	02-Aug-2019 23:15
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	207		2.00	5.00	mg/L	10	05-Aug-2019 13:22
Sulfate	70.0		2.00	5.00	mg/L	10	02-Aug-2019 18:23
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	862		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-44
 Collection Date: 29-Jul-2019 12:45

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.284		0.0550	0.100	mg/L	5	02-Aug-2019 23:18
Calcium	164		0.170	2.50	mg/L	5	02-Aug-2019 23:18
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	406		2.00	5.00	mg/L	10	05-Aug-2019 13:51
Sulfate	234		2.00	5.00	mg/L	10	02-Aug-2019 18:37
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,530		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-46R
 Collection Date: 29-Jul-2019 09:00

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.211		0.0550	0.100	mg/L	5	02-Aug-2019 23:20
Calcium	111		0.170	2.50	mg/L	5	02-Aug-2019 23:20
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	145		2.00	5.00	mg/L	10	05-Aug-2019 14:50
Sulfate	74.9		2.00	5.00	mg/L	10	02-Aug-2019 18:52
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	766		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-47
 Collection Date: 29-Jul-2019 10:50

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.279		0.0550	0.100	mg/L	5	02-Aug-2019 23:22
Calcium	106		0.170	2.50	mg/L	5	02-Aug-2019 23:22
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	272		2.00	5.00	mg/L	10	05-Aug-2019 15:04
Sulfate	67.7		2.00	5.00	mg/L	10	02-Aug-2019 19:07
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	970		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-48
 Collection Date: 29-Jul-2019 10:00

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-14
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.650		0.0550	0.100	mg/L	5	02-Aug-2019 23:24
Calcium	80.5		0.170	2.50	mg/L	5	02-Aug-2019 23:24
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	368		2.00	5.00	mg/L	10	05-Aug-2019 15:19
Sulfate	96.5		2.00	5.00	mg/L	10	02-Aug-2019 20:05
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,220		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-50
 Collection Date: 29-Jul-2019 13:40

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-15
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.307		0.0550	0.100	mg/L	5	02-Aug-2019 23:27
Calcium	135		0.170	2.50	mg/L	5	02-Aug-2019 23:27
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	370		2.00	5.00	mg/L	10	05-Aug-2019 15:34
Sulfate	111		2.00	5.00	mg/L	10	02-Aug-2019 20:20
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,260		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-52
 Collection Date: 29-Jul-2019 14:20

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-16
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.405		0.0550	0.100	mg/L	5	02-Aug-2019 23:29
Calcium	275		0.170	2.50	mg/L	5	02-Aug-2019 23:29
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	667		4.00	10.0	mg/L	20	05-Aug-2019 15:48
Sulfate	433		4.00	10.0	mg/L	20	02-Aug-2019 20:35
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	2,390		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-54
 Collection Date: 29-Jul-2019 11:10

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-17
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.291		0.0550	0.100	mg/L	5	02-Aug-2019 23:31
Calcium	98.4		0.170	2.50	mg/L	5	02-Aug-2019 23:31
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	234		2.00	5.00	mg/L	10	05-Aug-2019 16:03
Sulfate	69.8		2.00	5.00	mg/L	10	02-Aug-2019 20:49
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	878		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-55R
 Collection Date: 29-Jul-2019 12:00

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-18
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.684		0.0550	0.100	mg/L	5	02-Aug-2019 23:38
Calcium	120		0.170	2.50	mg/L	5	02-Aug-2019 23:38
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	295		2.00	5.00	mg/L	10	05-Aug-2019 16:18
Sulfate	184		2.00	5.00	mg/L	10	02-Aug-2019 21:04
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,180		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-58
 Collection Date: 29-Jul-2019 09:45

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-19
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.302		0.0110	0.0200	mg/L	1	03-Aug-2019 00:10
Calcium	110		0.0340	0.500	mg/L	1	03-Aug-2019 00:10
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	281		2.00	5.00	mg/L	10	05-Aug-2019 13:35
Sulfate	82.7		2.00	5.00	mg/L	10	02-Aug-2019 21:18
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,060		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-65
 Collection Date: 29-Jul-2019 12:45

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-20
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.341		0.0550	0.100	mg/L	5	02-Aug-2019 23:40
Calcium	195		0.170	2.50	mg/L	5	02-Aug-2019 23:40
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	217		2.00	5.00	mg/L	10	03-Aug-2019 08:49
Sulfate	602		2.00	5.00	mg/L	10	03-Aug-2019 08:49
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,700		5.00	10.0	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-36
 Collection Date: 29-Jul-2019 10:45

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-21
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.0620		0.0110	0.0200	mg/L	1	03-Aug-2019 13:29
Calcium	254		0.170	2.50	mg/L	5	02-Aug-2019 23:43
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	307		2.00	5.00	mg/L	10	03-Aug-2019 09:07
Sulfate	454		2.00	5.00	mg/L	10	03-Aug-2019 09:07
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,650		5.00	10.0	mg/L	1	05-Aug-2019 08:00
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-37
 Collection Date: 29-Jul-2019 08:25

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-22
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 31-Jul-2019		Analyst: JHD
Boron	0.355		0.0550	0.100	mg/L	5	02-Aug-2019 23:45
Calcium	257		0.170	2.50	mg/L	5	02-Aug-2019 23:45
ANIONS BY E300.0		Method:E300					Analyst: KMU
Chloride	259		2.00	5.00	mg/L	10	03-Aug-2019 09:24
Sulfate	809		2.00	5.00	mg/L	10	03-Aug-2019 09:24
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	2,030		5.00	10.0	mg/L	1	05-Aug-2019 08:00
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA					Analyst: SUBHO
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-60
 Collection Date: 29-Jul-2019 09:05

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-23
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.0849		0.0110	0.0200	mg/L	1	03-Aug-2019 13:54
Calcium	234		0.170	2.50	mg/L	5	02-Aug-2019 23:47
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	344		2.00	5.00	mg/L	10	03-Aug-2019 09:42
Sulfate	198		2.00	5.00	mg/L	10	03-Aug-2019 09:42
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,450		5.00	10.0	mg/L	1	05-Aug-2019 08:00
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: MW-61
 Collection Date: 29-Jul-2019 09:50

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-24
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	1.36		0.0550	0.100	mg/L	5	02-Aug-2019 23:49
Calcium	246		0.170	2.50	mg/L	5	02-Aug-2019 23:49
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	129		2.00	5.00	mg/L	10	03-Aug-2019 10:52
Sulfate	990		4.00	10.0	mg/L	20	05-Aug-2019 15:03
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	2,050		5.00	10.0	mg/L	1	05-Aug-2019 08:00
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: DUP-01
 Collection Date: 29-Jul-2019 08:00

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-25
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.0620		0.0110	0.0200	mg/L	1	03-Aug-2019 13:56
Calcium	253		0.170	2.50	mg/L	5	02-Aug-2019 23:52
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	307		2.00	5.00	mg/L	10	03-Aug-2019 11:10
Sulfate	455		2.00	5.00	mg/L	10	03-Aug-2019 11:10
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,590		5.00	10.0	mg/L	1	05-Aug-2019 08:00
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: DUP-02
 Collection Date: 29-Jul-2019 10:00

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-26
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	0.258		0.0550	0.100	mg/L	5	02-Aug-2019 23:54
Calcium	166		0.170	2.50	mg/L	5	02-Aug-2019 23:54
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	438		2.00	5.00	mg/L	10	03-Aug-2019 11:28
Sulfate	244		2.00	5.00	mg/L	10	03-Aug-2019 11:28
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,590		5.00	10.0	mg/L	1	05-Aug-2019 08:00
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: WA Parish – CCR Program Appendix III
 Sample ID: FB-01
 Collection Date: 29-Jul-2019 10:05

ANALYTICAL REPORT
 WorkOrder:HS19071444
 Lab ID:HS19071444-27
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Boron	< 0.0110		0.0110	0.0200	mg/L	1	03-Aug-2019 13:58
Calcium	0.164	J	0.0340	0.500	mg/L	1	03-Aug-2019 13:58
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	< 0.200		0.200	0.500	mg/L	1	03-Aug-2019 10:35
Sulfate	< 0.200		0.200	0.500	mg/L	1	03-Aug-2019 10:35
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	< 5.00		5.00	10.0	mg/L	1	05-Aug-2019 08:00
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

Batch ID: 143610 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19071444-01	1	10	10 (mL)	1
HS19071444-02	1	10	10 (mL)	1
HS19071444-03	1	10	10 (mL)	1
HS19071444-04	1	10	10 (mL)	1
HS19071444-06	1	10	10 (mL)	1
HS19071444-07	1	10	10 (mL)	1

Batch ID: 143611 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19071444-05	1	10	10 (mL)	1
HS19071444-08	1	10	10 (mL)	1
HS19071444-09	1	10	10 (mL)	1
HS19071444-10	1	10	10 (mL)	1
HS19071444-11	1	10	10 (mL)	1
HS19071444-12	1	10	10 (mL)	1
HS19071444-13	1	10	10 (mL)	1
HS19071444-14	1	10	10 (mL)	1
HS19071444-15	1	10	10 (mL)	1
HS19071444-16	1	10	10 (mL)	1
HS19071444-17	1	10	10 (mL)	1
HS19071444-18	1	10	10 (mL)	1
HS19071444-20	1	10	10 (mL)	1
HS19071444-21	1	10	10 (mL)	1
HS19071444-22	1	10	10 (mL)	1
HS19071444-23	1	10	10 (mL)	1
HS19071444-24	1	10	10 (mL)	1
HS19071444-25	1	10	10 (mL)	1
HS19071444-26	1	10	10 (mL)	1
HS19071444-27	1	10	10 (mL)	1

Batch ID: 143613 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19071444-19	1	10	10 (mL)	1

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143610 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS19071444-01	MW-39	29 Jul 2019 12:50		31 Jul 2019 10:30	01 Aug 2019 17:10	50
HS19071444-01	MW-39	29 Jul 2019 12:50		31 Jul 2019 10:30	01 Aug 2019 00:51	5
HS19071444-02	MW-40	29 Jul 2019 11:55		31 Jul 2019 10:30	01 Aug 2019 17:13	50
HS19071444-02	MW-40	29 Jul 2019 11:55		31 Jul 2019 10:30	01 Aug 2019 00:53	5
HS19071444-03	MW-41	29 Jul 2019 10:15		31 Jul 2019 10:30	01 Aug 2019 17:15	50
HS19071444-03	MW-41	29 Jul 2019 10:15		31 Jul 2019 10:30	01 Aug 2019 00:56	5
HS19071444-04	MW-62	29 Jul 2019 13:40		31 Jul 2019 10:30	01 Aug 2019 17:17	50
HS19071444-04	MW-62	29 Jul 2019 13:40		31 Jul 2019 10:30	01 Aug 2019 00:58	5
HS19071444-06	MW-64	29 Jul 2019 11:05		31 Jul 2019 10:30	01 Aug 2019 17:20	50
HS19071444-06	MW-64	29 Jul 2019 11:05		31 Jul 2019 10:30	01 Aug 2019 01:00	5
HS19071444-07	MW-23	29 Jul 2019 12:40		31 Jul 2019 10:30	01 Aug 2019 17:22	50
HS19071444-07	MW-23	29 Jul 2019 12:40		31 Jul 2019 10:30	01 Aug 2019 01:03	5
Batch ID: 143611 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Water	
HS19071444-27	FB-01	29 Jul 2019 10:05		31 Jul 2019 10:30	03 Aug 2019 13:58	1
Batch ID: 143611 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS19071444-05	MW-63	29 Jul 2019 08:55		31 Jul 2019 10:30	03 Aug 2019 13:16	1
HS19071444-05	MW-63	29 Jul 2019 08:55		31 Jul 2019 10:30	02 Aug 2019 22:53	5
HS19071444-08	MW-28D	29 Jul 2019 08:25		31 Jul 2019 10:30	02 Aug 2019 23:11	5
HS19071444-09	MW-42	29 Jul 2019 11:55		31 Jul 2019 10:30	02 Aug 2019 23:13	5
HS19071444-10	MW-43	29 Jul 2019 11:40		31 Jul 2019 10:30	02 Aug 2019 23:15	5
HS19071444-11	MW-44	29 Jul 2019 12:45		31 Jul 2019 10:30	02 Aug 2019 23:18	5
HS19071444-12	MW-46R	29 Jul 2019 09:00		31 Jul 2019 10:30	02 Aug 2019 23:20	5
HS19071444-13	MW-47	29 Jul 2019 10:50		31 Jul 2019 10:30	02 Aug 2019 23:22	5
HS19071444-14	MW-48	29 Jul 2019 10:00		31 Jul 2019 10:30	02 Aug 2019 23:24	5
HS19071444-15	MW-50	29 Jul 2019 13:40		31 Jul 2019 10:30	02 Aug 2019 23:27	5
HS19071444-16	MW-52	29 Jul 2019 14:20		31 Jul 2019 10:30	02 Aug 2019 23:29	5
HS19071444-17	MW-54	29 Jul 2019 11:10		31 Jul 2019 10:30	02 Aug 2019 23:31	5
HS19071444-18	MW-55R	29 Jul 2019 12:00		31 Jul 2019 10:30	02 Aug 2019 23:38	5
HS19071444-20	MW-65	29 Jul 2019 12:45		31 Jul 2019 10:30	02 Aug 2019 23:40	5
HS19071444-21	MW-36	29 Jul 2019 10:45		31 Jul 2019 10:30	03 Aug 2019 13:29	1
HS19071444-21	MW-36	29 Jul 2019 10:45		31 Jul 2019 10:30	02 Aug 2019 23:43	5
HS19071444-22	MW-37	29 Jul 2019 08:25		31 Jul 2019 10:30	02 Aug 2019 23:45	5
HS19071444-23	MW-60	29 Jul 2019 09:05		31 Jul 2019 10:30	03 Aug 2019 13:54	1
HS19071444-23	MW-60	29 Jul 2019 09:05		31 Jul 2019 10:30	02 Aug 2019 23:47	5
HS19071444-24	MW-61	29 Jul 2019 09:50		31 Jul 2019 10:30	02 Aug 2019 23:49	5
HS19071444-25	DUP-01	29 Jul 2019 08:00		31 Jul 2019 10:30	03 Aug 2019 13:56	1
HS19071444-25	DUP-01	29 Jul 2019 08:00		31 Jul 2019 10:30	02 Aug 2019 23:52	5
HS19071444-26	DUP-02	29 Jul 2019 10:00		31 Jul 2019 10:30	02 Aug 2019 23:54	5

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143613 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS19071444-19	MW-58	29 Jul 2019 09:45		31 Jul 2019 10:30	03 Aug 2019 00:10	1
Batch ID: R343630 (0)		Test Name : ANIONS BY E300.0			Matrix: Groundwater	
HS19071444-01	MW-39	29 Jul 2019 12:50			02 Aug 2019 15:12	20
HS19071444-02	MW-40	29 Jul 2019 11:55			02 Aug 2019 15:27	20
HS19071444-03	MW-41	29 Jul 2019 10:15			02 Aug 2019 15:42	20
HS19071444-04	MW-62	29 Jul 2019 13:40			02 Aug 2019 15:56	20
HS19071444-05	MW-63	29 Jul 2019 08:55			05 Aug 2019 12:09	20
HS19071444-05	MW-63	29 Jul 2019 08:55			02 Aug 2019 16:55	20
HS19071444-06	MW-64	29 Jul 2019 11:05			02 Aug 2019 16:11	20
HS19071444-07	MW-23	29 Jul 2019 12:40			05 Aug 2019 13:36	20
HS19071444-07	MW-23	29 Jul 2019 12:40			02 Aug 2019 17:39	20
HS19071444-08	MW-28D	29 Jul 2019 08:25			05 Aug 2019 12:53	20
HS19071444-08	MW-28D	29 Jul 2019 08:25			02 Aug 2019 17:53	20
HS19071444-09	MW-42	29 Jul 2019 11:55			05 Aug 2019 13:07	10
HS19071444-09	MW-42	29 Jul 2019 11:55			02 Aug 2019 18:08	10
HS19071444-10	MW-43	29 Jul 2019 11:40			05 Aug 2019 13:22	10
HS19071444-10	MW-43	29 Jul 2019 11:40			02 Aug 2019 18:23	10
HS19071444-11	MW-44	29 Jul 2019 12:45			05 Aug 2019 13:51	10
HS19071444-11	MW-44	29 Jul 2019 12:45			02 Aug 2019 18:37	10
HS19071444-12	MW-46R	29 Jul 2019 09:00			05 Aug 2019 14:50	10
HS19071444-12	MW-46R	29 Jul 2019 09:00			02 Aug 2019 18:52	10
HS19071444-13	MW-47	29 Jul 2019 10:50			05 Aug 2019 15:04	10
HS19071444-13	MW-47	29 Jul 2019 10:50			02 Aug 2019 19:07	10
HS19071444-14	MW-48	29 Jul 2019 10:00			05 Aug 2019 15:19	10
HS19071444-14	MW-48	29 Jul 2019 10:00			02 Aug 2019 20:05	10
HS19071444-15	MW-50	29 Jul 2019 13:40			05 Aug 2019 15:34	10
HS19071444-15	MW-50	29 Jul 2019 13:40			02 Aug 2019 20:20	10
HS19071444-16	MW-52	29 Jul 2019 14:20			05 Aug 2019 15:48	20
HS19071444-16	MW-52	29 Jul 2019 14:20			02 Aug 2019 20:35	20
HS19071444-17	MW-54	29 Jul 2019 11:10			05 Aug 2019 16:03	10
HS19071444-17	MW-54	29 Jul 2019 11:10			02 Aug 2019 20:49	10
HS19071444-18	MW-55R	29 Jul 2019 12:00			05 Aug 2019 16:18	10
HS19071444-18	MW-55R	29 Jul 2019 12:00			02 Aug 2019 21:04	10
HS19071444-19	MW-58	29 Jul 2019 09:45			02 Aug 2019 21:18	10
Batch ID: R343646 (0)		Test Name : ANIONS BY E300.0			Matrix: Water	
HS19071444-27	FB-01	29 Jul 2019 10:05			03 Aug 2019 10:35	1

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R343646 (0)		Test Name : ANIONS BY E300.0			Matrix: Groundwater	
HS19071444-20	MW-65	29 Jul 2019 12:45			03 Aug 2019 08:49	10
HS19071444-21	MW-36	29 Jul 2019 10:45			03 Aug 2019 09:07	10
HS19071444-22	MW-37	29 Jul 2019 08:25			03 Aug 2019 09:24	10
HS19071444-23	MW-60	29 Jul 2019 09:05			03 Aug 2019 09:42	10
HS19071444-24	MW-61	29 Jul 2019 09:50			03 Aug 2019 10:52	10
HS19071444-25	DUP-01	29 Jul 2019 08:00			03 Aug 2019 11:10	10
HS19071444-26	DUP-02	29 Jul 2019 10:00			03 Aug 2019 11:28	10
Batch ID: R343652 (0)		Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C			Matrix: Groundwater	
HS19071444-01	MW-39	29 Jul 2019 12:50			02 Aug 2019 16:40	1
HS19071444-02	MW-40	29 Jul 2019 11:55			02 Aug 2019 16:40	1
HS19071444-03	MW-41	29 Jul 2019 10:15			02 Aug 2019 16:40	1
HS19071444-04	MW-62	29 Jul 2019 13:40			02 Aug 2019 16:40	1
HS19071444-05	MW-63	29 Jul 2019 08:55			02 Aug 2019 16:40	1
HS19071444-06	MW-64	29 Jul 2019 11:05			02 Aug 2019 16:40	1
HS19071444-07	MW-23	29 Jul 2019 12:40			02 Aug 2019 16:40	1
HS19071444-08	MW-28D	29 Jul 2019 08:25			02 Aug 2019 16:40	1
HS19071444-09	MW-42	29 Jul 2019 11:55			02 Aug 2019 16:40	1
HS19071444-10	MW-43	29 Jul 2019 11:40			02 Aug 2019 16:40	1
HS19071444-11	MW-44	29 Jul 2019 12:45			02 Aug 2019 16:40	1
HS19071444-12	MW-46R	29 Jul 2019 09:00			02 Aug 2019 16:40	1
HS19071444-13	MW-47	29 Jul 2019 10:50			02 Aug 2019 16:40	1
HS19071444-14	MW-48	29 Jul 2019 10:00			02 Aug 2019 16:40	1
HS19071444-15	MW-50	29 Jul 2019 13:40			02 Aug 2019 16:40	1
HS19071444-16	MW-52	29 Jul 2019 14:20			02 Aug 2019 16:40	1
HS19071444-17	MW-54	29 Jul 2019 11:10			02 Aug 2019 16:40	1
HS19071444-18	MW-55R	29 Jul 2019 12:00			02 Aug 2019 16:40	1
HS19071444-19	MW-58	29 Jul 2019 09:45			02 Aug 2019 16:40	1
HS19071444-20	MW-65	29 Jul 2019 12:45			02 Aug 2019 16:40	1
Batch ID: R343668 (0)		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE			Matrix: Water	
HS19071444-27	FB-01	29 Jul 2019 10:05			05 Aug 2019 15:29	1

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R343668 (0)		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE			Matrix: Groundwater	
HS19071444-01	MW-39	29 Jul 2019 12:50			05 Aug 2019 15:29	1
HS19071444-02	MW-40	29 Jul 2019 11:55			05 Aug 2019 15:29	1
HS19071444-03	MW-41	29 Jul 2019 10:15			05 Aug 2019 15:29	1
HS19071444-04	MW-62	29 Jul 2019 13:40			05 Aug 2019 15:29	1
HS19071444-05	MW-63	29 Jul 2019 08:55			05 Aug 2019 15:29	1
HS19071444-06	MW-64	29 Jul 2019 11:05			05 Aug 2019 15:29	1
HS19071444-07	MW-23	29 Jul 2019 12:40			05 Aug 2019 15:29	1
HS19071444-08	MW-28D	29 Jul 2019 08:25			05 Aug 2019 15:29	1
HS19071444-09	MW-42	29 Jul 2019 11:55			05 Aug 2019 15:29	1
HS19071444-10	MW-43	29 Jul 2019 11:40			05 Aug 2019 15:29	1
HS19071444-11	MW-44	29 Jul 2019 12:45			05 Aug 2019 15:29	1
HS19071444-12	MW-46R	29 Jul 2019 09:00			05 Aug 2019 15:29	1
HS19071444-13	MW-47	29 Jul 2019 10:50			05 Aug 2019 15:29	1
HS19071444-14	MW-48	29 Jul 2019 10:00			05 Aug 2019 15:29	1
HS19071444-15	MW-50	29 Jul 2019 13:40			05 Aug 2019 15:29	1
HS19071444-16	MW-52	29 Jul 2019 14:20			05 Aug 2019 15:29	1
HS19071444-17	MW-54	29 Jul 2019 11:10			05 Aug 2019 15:29	1
HS19071444-18	MW-55R	29 Jul 2019 12:00			05 Aug 2019 15:29	1
HS19071444-19	MW-58	29 Jul 2019 09:45			05 Aug 2019 15:29	1
HS19071444-20	MW-65	29 Jul 2019 12:45			05 Aug 2019 15:29	1
HS19071444-21	MW-36	29 Jul 2019 10:45			05 Aug 2019 15:29	1
HS19071444-22	MW-37	29 Jul 2019 08:25			05 Aug 2019 15:29	1
HS19071444-23	MW-60	29 Jul 2019 09:05			05 Aug 2019 15:29	1
HS19071444-24	MW-61	29 Jul 2019 09:50			05 Aug 2019 15:29	1
HS19071444-25	DUP-01	29 Jul 2019 08:00			05 Aug 2019 15:29	1
HS19071444-26	DUP-02	29 Jul 2019 10:00			05 Aug 2019 15:29	1
Batch ID: R343682 (0)		Test Name : ANIONS BY E300.0			Matrix: Groundwater	
HS19071444-19	MW-58	29 Jul 2019 09:45			05 Aug 2019 13:35	10
HS19071444-24	MW-61	29 Jul 2019 09:50			05 Aug 2019 15:03	20
Batch ID: R343689 (0)		Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C			Matrix: Water	
HS19071444-27	FB-01	29 Jul 2019 10:05			05 Aug 2019 08:00	1
Batch ID: R343689 (0)		Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C			Matrix: Groundwater	
HS19071444-21	MW-36	29 Jul 2019 10:45			05 Aug 2019 08:00	1
HS19071444-22	MW-37	29 Jul 2019 08:25			05 Aug 2019 08:00	1
HS19071444-23	MW-60	29 Jul 2019 09:05			05 Aug 2019 08:00	1
HS19071444-24	MW-61	29 Jul 2019 09:50			05 Aug 2019 08:00	1
HS19071444-25	DUP-01	29 Jul 2019 08:00			05 Aug 2019 08:00	1
HS19071444-26	DUP-02	29 Jul 2019 10:00			05 Aug 2019 08:00	1

WorkOrder: HS19071444
 InstrumentID: ICPMS05
 Test Code: ICP_TW
 Test Number: SW6020
 Test Name: ICP-MS Metals by SW6020A

**METHOD DETECTION /
 REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Boron	7440-42-8	0.0125	0.0125	0.0110	0.0200
A	Calcium	7440-70-2	0.0500	0.0366	0.0340	0.500

WorkOrder: HS19071444
InstrumentID: Subcontract
Test Code: Sub_Flouride
Test Number: NA
Test Name: Subcontract Analysis - Flouride

**METHOD DETECTION /
REPORTING LIMITS**

Matrix:

Units:

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Subcontract Analysis		0	0	0	0

WorkOrder: HS19071444
 InstrumentID: ICS2100
 Test Code: 300_W
 Test Number: E300
 Test Name: Anions by E300.0

**METHOD DETECTION /
 REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Chloride	16887-00-6	0.500	1.00	0.200	0.500
A	Sulfate	14808-79-8	1.00	1.07	0.200	0.500

WorkOrder: HS19071444
 InstrumentID: ICS-Integrion
 Test Code: 300_W
 Test Number: E300
 Test Name: Anions by E300.0

**METHOD DETECTION /
 REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Chloride	16887-00-6	0.500	0.552	0.200	0.500
A	Sulfate	14808-79-8	0.500	0.406	0.200	0.500

WorkOrder: HS19071444
 InstrumentID: Balance1
 Test Code: TDS_W 2540C
 Test Number: M2540C
 Test Name: Total Dissolved Solids by

**METHOD DETECTION /
 REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Total Dissolved Solids (Residue, Filterable)	TDS	0	0	5.00	10.0

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

QC BATCH REPORT

Batch ID: 143610 (0)		Instrument: ICPMS05		Method: ICP-MS METALS BY SW6020A						
MBLK	Sample ID: MBLK-143610	Units: mg/L		Analysis Date: 01-Aug-2019 16:15						
Client ID:		Run ID: ICPMS05_343478		SeqNo: 5191351		PrepDate: 31-Jul-2019		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Boron	< 0.0110	0.0200								
MBLK	Sample ID: MBLK-143610	Units: mg/L		Analysis Date: 31-Jul-2019 23:59						
Client ID:		Run ID: ICPMS05_343367		SeqNo: 5190799		PrepDate: 31-Jul-2019		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Calcium	< 0.0340	0.500								
LCS	Sample ID: LCS-143610	Units: mg/L		Analysis Date: 01-Aug-2019 16:17						
Client ID:		Run ID: ICPMS05_343478		SeqNo: 5191352		PrepDate: 31-Jul-2019		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Boron	0.5007	0.0200	0.5	0	100	80 - 120				
LCS	Sample ID: LCS-143610	Units: mg/L		Analysis Date: 01-Aug-2019 00:01						
Client ID:		Run ID: ICPMS05_343367		SeqNo: 5190827		PrepDate: 31-Jul-2019		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Calcium	5.221	0.500	5	0	104	80 - 120				
MS	Sample ID: HS19071331-10MS	Units: mg/L		Analysis Date: 01-Aug-2019 16:43						
Client ID:		Run ID: ICPMS05_343478		SeqNo: 5191702		PrepDate: 31-Jul-2019		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Boron	0.7052	0.0200	0.5	0.1795	105	80 - 120				
MS	Sample ID: HS19071331-10MS	Units: mg/L		Analysis Date: 01-Aug-2019 00:08						
Client ID:		Run ID: ICPMS05_343367		SeqNo: 5190830		PrepDate: 31-Jul-2019		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Calcium	36.52	0.500	5	33.16	67.1	80 - 120			SO	

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

QC BATCH REPORT

Batch ID: 143610 (0)		Instrument: ICPMS05			Method: ICP-MS METALS BY SW6020A					
MSD	Sample ID: HS19071331-10MSD	Units: mg/L			Analysis Date: 01-Aug-2019 16:45					
Client ID:	Run ID: ICPMS05_343478	SeqNo: 5191703		PrepDate: 31-Jul-2019		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Boron	0.718	0.0200	0.5	0.1795	108	80 - 120	0.682	5.14	20
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MSD	Sample ID: HS19071331-10MSD	Units: mg/L			Analysis Date: 01-Aug-2019 00:10					
Client ID:	Run ID: ICPMS05_343367	SeqNo: 5190831		PrepDate: 31-Jul-2019		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Calcium	35.99	0.500	5	33.16	56.6	80 - 120	36.52	1.44	20	SO
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PDS	Sample ID: HS19071331-10PDS	Units: mg/L			Analysis Date: 01-Aug-2019 00:13					
Client ID:	Run ID: ICPMS05_343367	SeqNo: 5190832		PrepDate: 31-Jul-2019		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Calcium	38.77	0.500	10	33.16	56.1	75 - 125				S
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SD	Sample ID: HS19071331-10SD	Units: mg/L			Analysis Date: 01-Aug-2019 16:40					
Client ID:	Run ID: ICPMS05_343478	SeqNo: 5191701		PrepDate: 31-Jul-2019		DF: 5				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual

Calcium	29.4	2.50					29.64	0.781	10
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The following samples were analyzed in this batch:

HS19071444-01	HS19071444-02	HS19071444-03	HS19071444-04
HS19071444-06	HS19071444-07		

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

QC BATCH REPORT

Batch ID: 143611 (0)		Instrument: ICPMS05		Method: ICP-MS METALS BY SW6020A						
MBLK	Sample ID: MBLK-143611	Units: mg/L		Analysis Date: 02-Aug-2019 22:48						
Client ID:		Run ID: ICPMS05_343536	SeqNo: 5194669	PrepDate: 31-Jul-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.01114	0.0200								J
Calcium	< 0.0340	0.500								
LCS	Sample ID: LCS-143611	Units: mg/L		Analysis Date: 02-Aug-2019 22:50						
Client ID:		Run ID: ICPMS05_343536	SeqNo: 5194670	PrepDate: 31-Jul-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.4716	0.0200	0.5	0	94.3	80 - 120				
Calcium	5.088	0.500	5	0	102	80 - 120				
MS	Sample ID: HS19071444-05MS	Units: mg/L		Analysis Date: 03-Aug-2019 13:20						
Client ID: MW-63		Run ID: ICPMS05_343610	SeqNo: 5194819	PrepDate: 31-Jul-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.6042	0.0200	0.5	0.08665	104	80 - 120				
MS	Sample ID: HS19071444-05MS	Units: mg/L		Analysis Date: 02-Aug-2019 22:57						
Client ID: MW-63		Run ID: ICPMS05_343536	SeqNo: 5194673	PrepDate: 31-Jul-2019	DF: 5					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	290.2	2.50	5	276	283	80 - 120				SO
MSD	Sample ID: HS19071444-05MSD	Units: mg/L		Analysis Date: 03-Aug-2019 13:22						
Client ID: MW-63		Run ID: ICPMS05_343610	SeqNo: 5194820	PrepDate: 31-Jul-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.6068	0.0200	0.5	0.08665	104	80 - 120	0.6042	0.428	20	
MSD	Sample ID: HS19071444-05MSD	Units: mg/L		Analysis Date: 02-Aug-2019 23:00						
Client ID: MW-63		Run ID: ICPMS05_343536	SeqNo: 5194674	PrepDate: 31-Jul-2019	DF: 5					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	302.9	2.50	5	276	537	80 - 120	290.2	4.28	20	SO

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

QC BATCH REPORT

Batch ID: 143611 (0)		Instrument: ICPMS05		Method: ICP-MS METALS BY SW6020A						
PDS	Sample ID: HS19071444-05PDS	Units: mg/L			Analysis Date: 03-Aug-2019 13:25					
Client ID: MW-63	Run ID: ICPMS05_343610	SeqNo: 5194821		PrepDate: 31-Jul-2019		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Boron	0.5774	0.0200	0.5	0.08665	98.1	75 - 125				
PDS	Sample ID: HS19071444-05PDS	Units: mg/L			Analysis Date: 02-Aug-2019 23:02					
Client ID: MW-63	Run ID: ICPMS05_343536	SeqNo: 5194675		PrepDate: 31-Jul-2019		DF: 5				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Calcium	369.3	2.50	50	276	187	75 - 125 SO				
SD	Sample ID: HS19071444-05SD	Units: mg/L			Analysis Date: 03-Aug-2019 13:18					
Client ID: MW-63	Run ID: ICPMS05_343610	SeqNo: 5194818		PrepDate: 31-Jul-2019		DF: 5				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual	
Boron	0.1134	0.100					0.08665	0	10	
SD	Sample ID: HS19071444-05SD	Units: mg/L			Analysis Date: 02-Aug-2019 22:55					
Client ID: MW-63	Run ID: ICPMS05_343536	SeqNo: 5194672		PrepDate: 31-Jul-2019		DF: 25				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual	
Calcium	305.2	12.5					276	10.6	10 R	

The following samples were analyzed in this batch:

HS19071444-05	HS19071444-08	HS19071444-09	HS19071444-10
HS19071444-11	HS19071444-12	HS19071444-13	HS19071444-14
HS19071444-15	HS19071444-16	HS19071444-17	HS19071444-18
HS19071444-20	HS19071444-21	HS19071444-22	HS19071444-23
HS19071444-24	HS19071444-25	HS19071444-26	HS19071444-27

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

QC BATCH REPORT

Batch ID: 143613 (0)		Instrument: ICPMS05			Method: ICP-MS METALS BY SW6020A					
MBLK	Sample ID: MBLK-143613	Units: mg/L			Analysis Date: 03-Aug-2019 00:05					
Client ID:		Run ID: ICPMS05_343536			SeqNo: 5194718		PrepDate: 31-Jul-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	< 0.0110	0.0200								
Calcium	< 0.0340	0.500								
LCS	Sample ID: LCS-143613	Units: mg/L			Analysis Date: 03-Aug-2019 00:07					
Client ID:		Run ID: ICPMS05_343536			SeqNo: 5194719		PrepDate: 31-Jul-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.4653	0.0200	0.5	0	93.1	80 - 120				
Calcium	4.906	0.500	5	0	98.1	80 - 120				
MS	Sample ID: HS19071444-19MS	Units: mg/L			Analysis Date: 03-Aug-2019 00:14					
Client ID: MW-58		Run ID: ICPMS05_343536			SeqNo: 5194722		PrepDate: 31-Jul-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.8452	0.0200	0.5	0.3022	109	80 - 120				
Calcium	121.2	0.500	5	110	224	80 - 120				SO
MSD	Sample ID: HS19071444-19MSD	Units: mg/L			Analysis Date: 03-Aug-2019 00:16					
Client ID: MW-58		Run ID: ICPMS05_343536			SeqNo: 5194723		PrepDate: 31-Jul-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.8511	0.0200	0.5	0.3022	110	80 - 120	0.8452	0.692	20	
Calcium	116.8	0.500	5	110	137	80 - 120	121.2	3.66	20	SO
PDS	Sample ID: HS19071444-19PDS	Units: mg/L			Analysis Date: 03-Aug-2019 00:19					
Client ID: MW-58		Run ID: ICPMS05_343536			SeqNo: 5194724		PrepDate: 31-Jul-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.8453	0.0200	0.5	0.3022	109	75 - 125				
Calcium	117.2	0.500	10	110	72.6	75 - 125				SO

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

QC BATCH REPORT

Batch ID: 143613 (0) Instrument: ICPMS05 Method: ICP-MS METALS BY SW6020A

SD	Sample ID: HS19071444-19SD	Units: mg/L	Analysis Date: 03-Aug-2019 00:12							
Client ID: MW-58	Run ID: ICPMS05_343536	SeqNo: 5194721	PrepDate: 31-Jul-2019 DF: 5							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	Limit	Qual

Calcium 115.1 2.50 110 4.67 10

The following samples were analyzed in this batch: HS19071444-19

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

QC BATCH REPORT

Batch ID: R343630 (0)		Instrument: ICS2100		Method: ANIONS BY E300.0						
MBLK	Sample ID: WBLKW1-080219	Units: mg/L			Analysis Date: 02-Aug-2019 13:30					
Client ID:	Run ID: ICS2100_343630	SeqNo: 5195465		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	< 0.200	0.500								
Sulfate	< 0.200	0.500								
LCS	Sample ID: WLCSW1-080219	Units: mg/L			Analysis Date: 02-Aug-2019 13:50					
Client ID:	Run ID: ICS2100_343630	SeqNo: 5195466		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	19.36	0.500	20	0	96.8	90 - 110				
Sulfate	19.26	0.500	20	0	96.3	90 - 110				
LCSD	Sample ID: WLCSDW1-080219	Units: mg/L			Analysis Date: 02-Aug-2019 14:05					
Client ID:	Run ID: ICS2100_343630	SeqNo: 5195467		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	19.22	0.500	20	0	96.1	90 - 110	19.36	0.741	20	
Sulfate	19.12	0.500	20	0	95.6	90 - 110	19.26	0.756	20	
MS	Sample ID: HS19071444-19MS	Units: mg/L			Analysis Date: 02-Aug-2019 21:33					
Client ID: MW-58	Run ID: ICS2100_343630	SeqNo: 5195495		PrepDate:			DF: 10			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	413.6	5.00	100	303.5	110	80 - 120				
Sulfate	189.9	5.00	100	82.65	107	80 - 120				
MS	Sample ID: HS19071444-05MS	Units: mg/L			Analysis Date: 05-Aug-2019 12:23					
Client ID: MW-63	Run ID: ICS2100_343630	SeqNo: 5196544		PrepDate:			DF: 20			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	536.8	10.0	200	367.9	84.5	80 - 120				
Sulfate	573.4	10.0	200	405	84.2	80 - 120				

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

QC BATCH REPORT

Batch ID: R343630 (0) **Instrument:** ICS2100 **Method:** ANIONS BY E300.0

MS		Sample ID: HS19071444-05MS		Units: mg/L		Analysis Date: 02-Aug-2019 17:10			
Client ID:	MW-63	Run ID:	ICS2100_343630	SeqNo:	5195477	PrepDate:		DF:	20
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	602.4	10.0	200	403	99.7	80 - 120			
Sulfate	598.3	10.0	200	399.3	99.5	80 - 120			

MSD		Sample ID: HS19071444-19MSD		Units: mg/L		Analysis Date: 02-Aug-2019 21:48			
Client ID:	MW-58	Run ID:	ICS2100_343630	SeqNo:	5195496	PrepDate:		DF:	10
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	400.2	5.00	100	303.5	96.7	80 - 120	413.6	3.29	20
Sulfate	182.2	5.00	100	82.65	99.6	80 - 120	189.9	4.14	20

MSD		Sample ID: HS19071444-05MSD		Units: mg/L		Analysis Date: 05-Aug-2019 12:38			
Client ID:	MW-63	Run ID:	ICS2100_343630	SeqNo:	5196545	PrepDate:		DF:	20
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	569.4	10.0	200	367.9	101	80 - 120	536.8	5.9	20
Sulfate	607.9	10.0	200	405	101	80 - 120	573.4	5.84	20

MSD		Sample ID: HS19071444-05MSD		Units: mg/L		Analysis Date: 02-Aug-2019 17:24			
Client ID:	MW-63	Run ID:	ICS2100_343630	SeqNo:	5195478	PrepDate:		DF:	20
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	606.5	10.0	200	403	102	80 - 120	602.4	0.68	20
Sulfate	602	10.0	200	399.3	101	80 - 120	598.3	0.614	20

The following samples were analyzed in this batch:

HS19071444-01	HS19071444-02	HS19071444-03	HS19071444-04
HS19071444-05	HS19071444-06	HS19071444-07	HS19071444-08
HS19071444-09	HS19071444-10	HS19071444-11	HS19071444-12
HS19071444-13	HS19071444-14	HS19071444-15	HS19071444-16
HS19071444-17	HS19071444-18	HS19071444-19	

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

QC BATCH REPORT

Batch ID: R343646 (0)		Instrument: ICS-Integrion		Method: ANIONS BY E300.0						
MBLK	Sample ID: WBLKW2-080219	Units: mg/L			Analysis Date: 03-Aug-2019 03:32					
Client ID:	Run ID: ICS-Integrion_343646	SeqNo: 5195776	PrepDate:	DF: 1						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	< 0.200	0.500								
Sulfate	< 0.200	0.500								
LCS	Sample ID: WLCSW2-080219	Units: mg/L			Analysis Date: 03-Aug-2019 03:50					
Client ID:	Run ID: ICS-Integrion_343646	SeqNo: 5195777	PrepDate:	DF: 1						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	19.59	0.500	20	0	97.9	90 - 110				
Sulfate	19.6	0.500	20	0	98.0	90 - 110				
LCSD	Sample ID: WLCSDW2-080219	Units: mg/L			Analysis Date: 03-Aug-2019 04:07					
Client ID:	Run ID: ICS-Integrion_343646	SeqNo: 5195778	PrepDate:	DF: 1						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	19.57	0.500	20	0	97.9	90 - 110	19.59	0.0766	20	
Sulfate	19.58	0.500	20	0	97.9	90 - 110	19.6	0.133	20	
MS	Sample ID: HS19071538-11MS	Units: mg/L			Analysis Date: 03-Aug-2019 08:14					
Client ID:	Run ID: ICS-Integrion_343646	SeqNo: 5195792	PrepDate:	DF: 1						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	25.4	0.500	10	14.61	108	80 - 120				
Sulfate	67.47	0.500	10	57.78	96.9	80 - 120			O	
MS	Sample ID: HS19071230-01MS	Units: mg/L			Analysis Date: 03-Aug-2019 04:42					
Client ID:	Run ID: ICS-Integrion_343646	SeqNo: 5195780	PrepDate:	DF: 1						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	49.23	0.500	10	40.34	88.9	80 - 120			O	
Sulfate	63.15	0.500	10	54.53	86.2	80 - 120			O	

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

QC BATCH REPORT

Batch ID: R343646 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY E300.0

MSD		Sample ID: HS19071538-11MSD			Units: mg/L		Analysis Date: 03-Aug-2019 08:31			
Client ID:		Run ID: ICS-Integrion_343646			SeqNo: 5195793		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	25.11	0.500	10	14.61	105	80 - 120	25.4	1.14	20	
Sulfate	66.47	0.500	10	57.78	86.9	80 - 120	67.47	1.48	20	O

MSD		Sample ID: HS19071230-01MSD			Units: mg/L		Analysis Date: 03-Aug-2019 05:00			
Client ID:		Run ID: ICS-Integrion_343646			SeqNo: 5195781		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	49.31	0.500	10	40.34	89.7	80 - 120	49.23	0.168	20	O
Sulfate	63.07	0.500	10	54.53	85.4	80 - 120	63.15	0.133	20	O

The following samples were analyzed in this batch:

HS19071444-20	HS19071444-21	HS19071444-22	HS19071444-23
HS19071444-24	HS19071444-25	HS19071444-26	HS19071444-27

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

QC BATCH REPORT

Batch ID: R343652 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C

MBLK	Sample ID: WBLK-080219	Units: mg/L		Analysis Date: 02-Aug-2019 16:40						
Client ID:	Run ID: Balance1_343652	SeqNo: 5195946		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids (Residue, Filterable) < 5.00 10.0

LCS	Sample ID: WLCS-080219	Units: mg/L		Analysis Date: 02-Aug-2019 16:40						
Client ID:	Run ID: Balance1_343652	SeqNo: 5195947		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids (Residue, Filterable) 1050 10.0 1000 0 105 85 - 115

DUP	Sample ID: HS19071444-19DUP	Units: mg/L		Analysis Date: 02-Aug-2019 16:40						
Client ID: MW-58	Run ID: Balance1_343652	SeqNo: 5195944		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids (Residue, Filterable) 1066 10.0 1058 0.753 5

DUP	Sample ID: HS19071444-05DUP	Units: mg/L		Analysis Date: 02-Aug-2019 16:40						
Client ID: MW-63	Run ID: Balance1_343652	SeqNo: 5195929		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids (Residue, Filterable) 1714 10.0 1770 3.21 5

The following samples were analyzed in this batch:

HS19071444-01	HS19071444-02	HS19071444-03	HS19071444-04
HS19071444-05	HS19071444-06	HS19071444-07	HS19071444-08
HS19071444-09	HS19071444-10	HS19071444-11	HS19071444-12
HS19071444-13	HS19071444-14	HS19071444-15	HS19071444-16
HS19071444-17	HS19071444-18	HS19071444-19	HS19071444-20

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

QC BATCH REPORT

Batch ID: R343682 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY E300.0

MBLK		Sample ID: WBLKW1-080519		Units: mg/L		Analysis Date: 05-Aug-2019 12:42			
Client ID:		Run ID: ICS-Integrion_343682		SeqNo: 5196527		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	< 0.200	0.500							
Sulfate	< 0.200	0.500							

LCS		Sample ID: WLCSW1-080519		Units: mg/L		Analysis Date: 05-Aug-2019 13:00			
Client ID:		Run ID: ICS-Integrion_343682		SeqNo: 5196528		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	19.54	0.500	20	0	97.7	90 - 110			
Sulfate	19.57	0.500	20	0	97.9	90 - 110			

LCSD		Sample ID: WLCSDW1-080519		Units: mg/L		Analysis Date: 05-Aug-2019 13:17			
Client ID:		Run ID: ICS-Integrion_343682		SeqNo: 5196529		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	19.46	0.500	20	0	97.3	90 - 110	19.54	0.405	20
Sulfate	19.47	0.500	20	0	97.4	90 - 110	19.57	0.53	20

MS		Sample ID: HS19071444-19MS		Units: mg/L		Analysis Date: 05-Aug-2019 13:52			
Client ID: MW-58		Run ID: ICS-Integrion_343682		SeqNo: 5196531		PrepDate:		DF: 10	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	371.5	5.00	100	280.5	91.0	80 - 120			
Sulfate	175.7	5.00	100	80.47	95.3	80 - 120			

MSD		Sample ID: HS19071444-19MSD		Units: mg/L		Analysis Date: 05-Aug-2019 14:10			
Client ID: MW-58		Run ID: ICS-Integrion_343682		SeqNo: 5196532		PrepDate:		DF: 10	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	371.8	5.00	100	280.5	91.3	80 - 120	371.5	0.0834	20
Sulfate	176.8	5.00	100	80.47	96.4	80 - 120	175.7	0.622	20

The following samples were analyzed in this batch: HS19071444-19 HS19071444-24

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

QC BATCH REPORT

Batch ID: R343689 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C

MBLK	Sample ID: WBLK-080519	Units: mg/L			Analysis Date: 05-Aug-2019 08:00				
Client ID:	Run ID: Balance1_343689	SeqNo: 5196646	PrepDate:	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable) < 5.00 10.0

LCS	Sample ID: WLCS-080519	Units: mg/L			Analysis Date: 05-Aug-2019 08:00				
Client ID:	Run ID: Balance1_343689	SeqNo: 5196647	PrepDate:	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable) 1054 10.0 1000 0 105 85 - 115

DUP	Sample ID: HS19071444-21DUP	Units: mg/L			Analysis Date: 05-Aug-2019 08:00				
Client ID: MW-36	Run ID: Balance1_343689	SeqNo: 5196639	PrepDate:	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable) 1602 10.0 1652 3.07 5

The following samples were analyzed in this batch: HS19071444-21 HS19071444-22 HS19071444-23 HS19071444-24
 HS19071444-25 HS19071444-26 HS19071444-27

Client: TRC Corporation
Project: WA Parish – CCR Program Appendix III
WorkOrder: HS19071444

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2019	31-Dec-2019
Oklahoma	2018-156	31-Aug-2019
Texas	TX104704231-19-23	30-Apr-2020

Sample Receipt Checklist

Client Name: TRC-HOU
Work Order: HS19071444

Date/Time Received: 29-Jul-2019 16:25
Received by: JRM

Checklist completed by: Paresh M. Giga
eSignature
Date: 30-Jul-2019

Reviewed by: RJ Modashia
eSignature
Date: 30-Jul-2019

Matrices: Groundwater

Carrier name: Client

- Shipping container/cooler in good condition?
Custody seals intact on shipping container/cooler?
Custody seals intact on sample bottles?
VOA/TX1005/TX1006 Solids in hermetically sealed vials?
Chain of custody present?
Chain of custody signed when relinquished and received?
Samplers name present on COC?
Chain of custody agrees with sample labels?
Samples in proper container/bottle?
Sample containers intact?
Sufficient sample volume for indicated test?
All samples received within holding time?
Container/Temp Blank temperature in compliance?

- Yes/No checkboxes for each item in the list above.

Not Present checkboxes
3 Page(s)
COC
IDs:195793/195791/195792

Temperature(s)/Thermometer(s):

0.9c/0.4c/0.3c/0.3c/1.3c /4.5c/0.3c/0.2c U/C IR11

Cooler(s)/Kit(s):

5972/44482/45152/45090/45142/45011/45044/45109

Date/Time sample(s) sent to storage:

7/29/19 19:00

Water - VOA vials have zero headspace?

Yes/No checkboxes and No VOA vials submitted checkbox

Water - pH acceptable upon receipt?

Yes/No checkboxes and N/A checkbox

pH adjusted?

Yes/No checkboxes and N/A checkbox

pH adjusted by:

Empty text box for pH adjusted by

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Empty text box for comments

Corrective Action:

Empty text box for corrective action



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Chain of Custody Form

HS19071444

TRC Corporation

NRG WA Parish - State Program Appendix III

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COC ID: 195793



Customer Information		Project Information		ALS Project Manager:	
Purchase Order	294645.0001	Project Name	NRG WA Parish - Appendix III	A	300_W (Cl, SC4)
Work Order		Project Number	CCR Program	B	ICP_TW (B and Ca (App III))
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C	Sub_Fluoride (Sub Fluoride to ALS Michigan)
Send Report To	Lori Burris	Invoice Attn	A/P	D	TDS_W 2540C (TDS)
Address	10550 Richmond Ave., Suite 210	Address	10550 Richmond Ave., Suite 210	E	
				F	
City/State/Zip	Houston, TX 77042	City/State/Zip	Houston TX 77042	G	O = ms/msd volume provided
Phone	(713) 244-1000	Phone	(713) 244-1000	H	
Fax	(713) 244-1099	Fax	(713) 244-1099	I	
e-Mail Address	LBurris@trcsolutions.com	e-Mail Address	apinvoiceapproval@trcsolutions.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	MW-39	7-29-19	1250	Gw	2, 8		X	X	X	X									
2	MW-40	↓	1155	↓	↓		X	X	X	X									
3	MW-41		1015			X	X	X	X										
4	MW-62		1340			X	X	X	X										
5	MW-63		855			X	X	X	X										
6	MW-64		1105			X	X	X	X										
7	MW-23		1240			X	X	X	X										
8	MW-28D		825			X	X	X	X										
9	MW-42		1155			X	X	X	X										
10	MW-43		1140			X	X	X	X										

Sampler(s) Please Print & Sign <i>Brian Hillin & HMI Team</i>		Shipment Method <i>Consult. Delivery</i>		Required Turnaround Time: (Check Box) <input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:	
Relinquished by: <i>[Signature]</i>	Date: 7/29/19	Time: 16:25	Received by:	Notes: NRG WA Parish - State Program				
Relinquished by:	Date: 7/29/19	Time: 16:25	Received by (Laboratory): <i>J. W. [Signature]</i>	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):			<input type="checkbox"/> Level II Std OC	<input checked="" type="checkbox"/> TRP Checklist	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035						<input type="checkbox"/> Level III Std OC/Raw Data	<input type="checkbox"/> TRP Level IV	
						<input type="checkbox"/> Level IV SW846/CLP		
						<input type="checkbox"/> Other		

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

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Chain of Custody Form

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COC ID: 195791

HS19071444

TRC Corporation
NRG WA Parish - State Program Appendix III



ALS Project Manager:

Customer Information		Project Information	
Purchase Order	294645.0001	Project Name	NRG WA Parish - Appendix III
Work Order		Project Number	CCR Program
Company Name	TRC Corporation	Bill To Company	TRC Corporation
Send Report To	Lori Burris	Invoice Attn	A/P
Address	10550 Richmond Ave., Suite 210	Address	10550 Richmond Ave., Suite 210
City/State/Zip	Houston, TX 77042	City/State/Zip	Houston TX 77042
Phone	(713) 244-1000	Phone	(713) 244-1000
Fax	(713) 244-1099	Fax	(713) 244-1099
e-Mail Address	LBurris@trcsolutions.com	e-Mail Address	apinvoiceapproval@trcsolutions.com

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold			
1	MW-44	7-29-19	1245	GW	2.8		X	X	X	X										
2	MW-46R	↓	900	↓	↓		X	X	X	X										
3	MW-47		1050				X	X	X	X										
4	MW-48		1000				X	X	X	X										
5	MW-50		1340				X	X	X	X										
6	MW-52		1420				X	X	X	X										
7	MW-54		1110				X	X	X	X										
8	MW-55R		1200				X	X	X	X										
9	MW-58		945				X	X	X	X										
10	MW-65		1245				X	X	X	X										

Sampler(s) Please Print & Sign: Brian Hillin & HMI Team

Shipment Method: Consult. Delivery

Required Turnaround Time: (Check Box) Other 5 Wk. Days 2 Wk. Days 24 Hour

Results Due Date: _____

Relinquished by: [Signature] Date: 7/29/19 Time: 16:25

Received by: _____ Date: _____ Time: _____

Relinquished by: _____ Date: 7/29/19 Time: 16:25

Received by (Laboratory): J. [Signature]

Checked by (Laboratory): _____

Notes: NRG WA Parish - State Program

QC Package: (Check One Box Below)

Level II Std QC TRRP Checklist

Level III Std OC/Raw Data TRRP Level IV

Level IV SW846/CLP

Other _____

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035

Cooler ID: 45090 Cooler Temp.: 0.3

45142 1.3

45011 4.5

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

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Fort Collins, CO
+1 970 490 1511

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

Chain of Custody Form

Page 3 of 3

COC ID: 195792

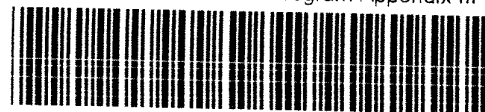
HS19071444

TRC Corporation
NRG WA Parish - State Program Appendix III

on, WV
58

30

ALS Project Manager:



Customer Information		Project Information		
Purchase Order	291645.0001	Project Name	NRG WA Parish - Appendix III	A 300_W (Cl, SO4)
Work Order		Project Number	CCR Program	B ICP_TW (B and Ca (App III))
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C Sub_Fluoride (Sub Fluoride to ALS Michigan)
Send Report To	Lori Burris	Invoice Attn	A/P	D TDS_W 2540C (TDS)
Address	10550 Richmond Ave., Suite 210	Address	10550 Richmond Ave., Suite 210	E
City/State/Zip	Houston, TX 77042	City/State/Zip	Houston TX 77042	F
Phone	(713) 244-1000	Phone	(713) 244-1000	G
Fax	(713) 244-1099	Fax	(713) 244-1099	H
e-Mail Address	LBurris@trcsolutions.com	e-Mail Address	apinvoiceapproval@trcsolutions.com	I
				J


No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-36	7-29-19	1045	GW	2,8		X	X	X	X							
2	MW-37	↓	825	↓	↓		X	X	X	X							
3	MW-38						X	X	X	X							
4	MW-60	7-29-19	905	↓	↓		X	X	X	X							
5	MW-61	↓	950	↓	↓		X	X	X	X							
6	DUP-01	↓	800	↓	↓		X	X	X	X							
7	DUP-02	↓	1000	↓	↓		X	X	X	X							
8	FB-01	↓	1005	FB	↓		X	X	X	X							
9																	
10																	

Sampler(s) Please Print & Sign
 Brian Hillin & HMF Team
 Shipment Method: Consult. Delivery
 Required Turnaround Time: (Check One Box)
 STD 10 Wk Days 5 Wk Days 2 Wk Days 24 Hour
 Results Due Date: _____
 Relinquished by: [Signature] Date: 7/29/19 Time: 16:25
 Received by: [Signature] Date: 7/29/19 Time: 16:25
 Relinquished by: [Signature] Date: 7/29/19 Time: 16:25
 Received by (Laboratory): J. MURPHY
 Checked by (Laboratory):
 Logged by (Laboratory):
 Notes: NRG WA Parish - State Program
 Cooler ID: _____ Cooler Temp.: _____
 QC Package: (Check One Box Below)
 Level II Std QC TRRP Checklist
 Level III Std QC/Raw Data TRRP Level IV
 Level IV SW/646/CLP
 Other: _____


Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035

- Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.


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 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: SM
	Date: 7/29/19	Time: 1600	Date: 07/29/19
5972	Name: Brian Hillin	Company: HMT	


5972 JUL 29 2019

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: SM
	Date: 7/29/19	Time: 1600	Date: 07/29/19
44482	Name: Brian Hillin	Company: HMT	


44482 JUL 29 2019

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: SM
	Date: 7/29/19	Time: 1600	Date: 07/29/19
45152	Name: Brian Hillin	Company: HMT	


45152 JUL 29 2019

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: SM
	Date: 7/29/19	Time: 1600	Date: 07/29/19
45090	Name: Brian Hillin	Company: HMT	


45090 JUL 29 2019

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: SM
	Date: 7/29/19	Time: 1600	Date: 07/29/19
45142	Name: Brian Hillin	Company: HMT	


45142 JUL 29 2019

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: SM
	Date: 7/29/19	Time: 1600	Date: 07/29/19
45011	Name: Brian Hillin	Company: HMT	

45011 JUL 29 2019

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: SM
	Date: 7/29/19	Time: 1600	Date: 07/29/19
45044	Name: Brian Hillin	Company: HMT	

45044 JUL 29 2019

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: SM
	Date: 7/29/19	Time: 1600	Date: 07/29/19
45109	Name: Brian Hillin	Company: HMT	

45109 JUL 29 2019



05-Aug-2019

RJ Modashia
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS19071444**

Work Order: **19071949**

Dear RJ,

ALS Environmental received 27 samples on 31-Jul-2019 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 44.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton", is written over a light blue horizontal line.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

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RIGHT SOLUTIONS RIGHT PARTNER
Privileged and Confidential
Page 80 of 123

Client: ALS Environmental
Project: HS19071444
Work Order: 19071949

**TRRP Laboratory Data
Package Cover Page**

This data package consists of all or some of the following as applicable:

This signature page, the laboratory case narrative, and the following reportable data:

- R1 Field chain-of-custody documentation:
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC Chapter 5
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies:
See Case Narrative.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached Case Narrative and QC Summaries. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified, and no information affecting the quality of the data has been knowingly withheld.



Chad Whelton
Project Manager

Client: ALS Environmental
 Project: HS19071444
 Work Order: 19071949

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
19071949-01	HS19071444-01	Groundwater	MW-39	7/29/2019 12:50	7/31/2019 09:30	<input type="checkbox"/>
19071949-02	HS19071444-02	Groundwater	MW-40	7/29/2019 11:55	7/31/2019 09:30	<input type="checkbox"/>
19071949-03	HS19071444-03	Groundwater	MW-41	7/29/2019 10:15	7/31/2019 09:30	<input type="checkbox"/>
19071949-04	HS19071444-04	Groundwater	MW-62	7/29/2019 13:40	7/31/2019 09:30	<input type="checkbox"/>
19071949-05	HS19071444-05	Groundwater	MW-63	7/29/2019 08:55	7/31/2019 09:30	<input type="checkbox"/>
19071949-06	HS19071444-06	Groundwater	MW-64	7/29/2019 11:05	7/31/2019 09:30	<input type="checkbox"/>
19071949-07	HS19071444-07	Groundwater	MW-23	7/29/2019 12:40	7/31/2019 09:30	<input type="checkbox"/>
19071949-08	HS19071444-08	Groundwater	MW-28D	7/29/2019 08:25	7/31/2019 09:30	<input type="checkbox"/>
19071949-09	HS19071444-09	Groundwater	MW-42	7/29/2019 11:55	7/31/2019 09:30	<input type="checkbox"/>
19071949-10	HS19071444-10	Groundwater	MW-43	7/29/2019 11:40	7/31/2019 09:30	<input type="checkbox"/>
19071949-11	HS19071444-11	Groundwater	MW-44	7/29/2019 12:45	7/31/2019 09:30	<input type="checkbox"/>
19071949-12	HS19071444-12	Groundwater	MW-46R	7/29/2019 09:00	7/31/2019 09:30	<input type="checkbox"/>
19071949-13	HS19071444-13	Groundwater	MW-47	7/29/2019 10:50	7/31/2019 09:30	<input type="checkbox"/>
19071949-14	HS19071444-14	Groundwater	MW-48	7/29/2019 10:00	7/31/2019 09:30	<input type="checkbox"/>
19071949-15	HS19071444-15	Groundwater	MW-50	7/29/2019 13:40	7/31/2019 09:30	<input type="checkbox"/>
19071949-16	HS19071444-16	Groundwater	MW-52	7/29/2019 14:20	7/31/2019 09:30	<input type="checkbox"/>
19071949-17	HS19071444-17	Groundwater	MW-54	7/29/2019 11:10	7/31/2019 09:30	<input type="checkbox"/>
19071949-18	HS19071444-18	Groundwater	MW-55R	7/29/2019 12:00	7/31/2019 09:30	<input type="checkbox"/>
19071949-19	HS19071444-19	Groundwater	MW-58	7/29/2019 09:45	7/31/2019 09:30	<input type="checkbox"/>
19071949-20	HS19071444-20	Groundwater	MW-65	7/29/2019 12:45	7/31/2019 09:30	<input type="checkbox"/>
19071949-21	HS19071444-21	Groundwater	MW-36	7/29/2019 10:45	7/31/2019 09:30	<input type="checkbox"/>
19071949-22	HS19071444-22	Groundwater	MW-37	7/29/2019 08:25	7/31/2019 09:30	<input type="checkbox"/>
19071949-23	HS19071444-23	Groundwater	MW-60	7/29/2019 09:05	7/31/2019 09:30	<input type="checkbox"/>
19071949-24	HS19071444-24	Groundwater	MW-61	7/29/2019 09:50	7/31/2019 09:30	<input type="checkbox"/>
19071949-25	HS19071444-25	Groundwater	DUP-01	7/29/2019 08:00	7/31/2019 09:30	<input type="checkbox"/>
19071949-26	HS19071444-26	Groundwater	DUP-02	7/29/2019 10:00	7/31/2019 09:30	<input type="checkbox"/>
19071949-27	HS19071444-27	Water	FB-01	7/29/2019 10:05	7/31/2019 09:30	<input type="checkbox"/>

Client: ALS Environmental
Project: HS19071444
WorkOrder: 19071949

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
mg/L	Milligrams per Liter

Work Order: 19071949
 Client: ALS Environmental
 Project: HS19071444

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
Batch ID R267358	Test Name: Fluoride					
19071949-01	HS19071444-01	Groundwater	7/29/2019 12:50:00 PM			8/1/2019 11:15 AM
^						
19071949-02	HS19071444-02		7/29/2019 11:55:00 AM			8/1/2019 11:15 AM
^						
19071949-03	HS19071444-03		7/29/2019 10:15:00 AM			8/1/2019 11:15 AM
^						
19071949-04	HS19071444-04		7/29/2019 1:40:00 PM			8/1/2019 11:15 AM
^						
19071949-05	HS19071444-05		7/29/2019 8:55:00 AM			8/1/2019 11:15 AM
^						
19071949-06	HS19071444-06		7/29/2019 11:05:00 AM			8/1/2019 11:15 AM
^						
19071949-07	HS19071444-07		7/29/2019 12:40:00 PM			8/1/2019 11:15 AM
^						
19071949-08	HS19071444-08		7/29/2019 8:25:00 AM			8/1/2019 11:15 AM
^						
19071949-09	HS19071444-09		7/29/2019 11:55:00 AM			8/1/2019 11:15 AM
^						
19071949-10	HS19071444-10		7/29/2019 11:40:00 AM			8/1/2019 11:15 AM
^						
19071949-11	HS19071444-11		7/29/2019 12:45:00 PM			8/1/2019 11:15 AM
^						
19071949-12	HS19071444-12		7/29/2019 9:00:00 AM			8/1/2019 11:15 AM
^						
19071949-13	HS19071444-13		7/29/2019 10:50:00 AM			8/1/2019 11:15 AM
^						
19071949-14	HS19071444-14		7/29/2019 10:00:00 AM			8/1/2019 11:15 AM
^						
19071949-15	HS19071444-15		7/29/2019 1:40:00 PM			8/1/2019 11:15 AM
^						
19071949-16	HS19071444-16		7/29/2019 2:20:00 PM			8/1/2019 11:15 AM
^						
19071949-17	HS19071444-17		7/29/2019 11:10:00 AM			8/1/2019 11:15 AM
^						
19071949-18	HS19071444-18		7/29/2019 12:00:00 PM			8/1/2019 11:15 AM
^						

Work Order: 19071949
 Client: ALS Environmental
 Project: HS19071444

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date	
Batch ID R267398 Test Name: Fluoride							
19071949-19	HS19071444-19	Groundwater	7/29/2019 9:45:00 AM			8/1/2019 02:20 PM	
19071949-20	HS19071444-20		7/29/2019 12:45:00 PM			8/1/2019 02:20 PM	
19071949-21	HS19071444-21		7/29/2019 10:45:00 AM			8/1/2019 02:20 PM	
19071949-22	HS19071444-22		7/29/2019 8:25:00 AM			8/1/2019 02:20 PM	
19071949-23	HS19071444-23		7/29/2019 9:05:00 AM			8/1/2019 02:20 PM	
19071949-24	HS19071444-24		7/29/2019 9:50:00 AM			8/1/2019 02:20 PM	
19071949-25	HS19071444-25		7/29/2019 8:00:00 AM			8/1/2019 02:20 PM	
19071949-26	HS19071444-26		7/29/2019 10:00:00 AM			8/1/2019 02:20 PM	
19071949-27	HS19071444-27		Water	7/29/2019 10:05:00 AM			8/1/2019 02:20 PM

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-01
Collection Date: 7/29/2019 12:50 PM

Work Order: 19071949
Lab ID: 19071949-01
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.16		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-02
Collection Date: 7/29/2019 11:55 AM

Work Order: 19071949
Lab ID: 19071949-02
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.13		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-03
Collection Date: 7/29/2019 10:15 AM

Work Order: 19071949
Lab ID: 19071949-03
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.19		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-04
Collection Date: 7/29/2019 01:40 PM

Work Order: 19071949
Lab ID: 19071949-04
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.20		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-05
Collection Date: 7/29/2019 08:55 AM

Work Order: 19071949
Lab ID: 19071949-05
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.13		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-06
Collection Date: 7/29/2019 11:05 AM

Work Order: 19071949
Lab ID: 19071949-06
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.25		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-07
Collection Date: 7/29/2019 12:40 PM

Work Order: 19071949
Lab ID: 19071949-07
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.090	J	0.058	0.10	mg/L	1	8/1/2019 11:15

Method: A4500-F C-11

Analyst: DVD

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-08
Collection Date: 7/29/2019 08:25 AM

Work Order: 19071949
Lab ID: 19071949-08
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.34		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-09
Collection Date: 7/29/2019 11:55 AM

Work Order: 19071949
Lab ID: 19071949-09
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.59		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-10
Collection Date: 7/29/2019 11:40 AM

Work Order: 19071949
Lab ID: 19071949-10
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.63		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-11
Collection Date: 7/29/2019 12:45 PM

Work Order: 19071949
Lab ID: 19071949-11
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.39		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-12
Collection Date: 7/29/2019 09:00 AM

Work Order: 19071949
Lab ID: 19071949-12
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.38		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-13
Collection Date: 7/29/2019 10:50 AM

Work Order: 19071949
Lab ID: 19071949-13
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.42		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-14
Collection Date: 7/29/2019 10:00 AM

Work Order: 19071949
Lab ID: 19071949-14
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.72		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-15
Collection Date: 7/29/2019 01:40 PM

Work Order: 19071949
Lab ID: 19071949-15
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.47		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-16
Collection Date: 7/29/2019 02:20 PM

Work Order: 19071949
Lab ID: 19071949-16
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.50		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-17
Collection Date: 7/29/2019 11:10 AM

Work Order: 19071949
Lab ID: 19071949-17
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.50		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-18
Collection Date: 7/29/2019 12:00 PM

Work Order: 19071949
Lab ID: 19071949-18
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.79		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-19
Collection Date: 7/29/2019 09:45 AM

Work Order: 19071949
Lab ID: 19071949-19
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.48		0.058	0.10	mg/L	1	8/1/2019 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-20
Collection Date: 7/29/2019 12:45 PM

Work Order: 19071949
Lab ID: 19071949-20
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.39		0.058	0.10	mg/L	1	8/1/2019 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-21
Collection Date: 7/29/2019 10:45 AM

Work Order: 19071949
Lab ID: 19071949-21
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.42		0.058	0.10	mg/L	1	8/1/2019 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-22
Collection Date: 7/29/2019 08:25 AM

Work Order: 19071949
Lab ID: 19071949-22
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.26		0.058	0.10	mg/L	1	8/1/2019 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-23
Collection Date: 7/29/2019 09:05 AM

Work Order: 19071949
Lab ID: 19071949-23
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.17		0.058	0.10	mg/L	1	8/1/2019 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-24
Collection Date: 7/29/2019 09:50 AM

Work Order: 19071949
Lab ID: 19071949-24
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.30		0.058	0.10	mg/L	1	8/1/2019 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-25
Collection Date: 7/29/2019 08:00 AM

Work Order: 19071949
Lab ID: 19071949-25
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.41		0.058	0.10	mg/L	1	8/1/2019 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-26
Collection Date: 7/29/2019 10:00 AM

Work Order: 19071949
Lab ID: 19071949-26
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.40		0.058	0.10	mg/L	1	8/1/2019 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071444
Sample ID: HS19071444-27
Collection Date: 7/29/2019 10:05 AM

Work Order: 19071949
Lab ID: 19071949-27
Matrix: WATER

Analyses	Result	Qual	SDL	SQL	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	U		0.058	0.10	mg/L	1	8/1/2019 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

WorkOrder: 19071949
InstrumentID: Titrator 1
Test Code: FL_4500C_W
Test Number: A4500-F C-11
Test Name: Fluoride

**METHOD DETECTION /
 REPORTING LIMITS**

Matrix: Water **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	Unadjusted MQL
A	Fluoride	16984-48-8	0.075	0.050	0.058	0.10

Client: ALS Environmental
 Work Order: 19071949
 Project: HS19071444

QC BATCH REPORT

Batch ID: **R267358** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK		Sample ID: MB-R267358-R267358				Units: mg/L		Analysis Date: 8/1/2019 11:15 AM		
Client ID:		Run ID: TITRATOR 1_190801B		SeqNo: 5818736		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride U 0.10

LCS		Sample ID: LCS-R267358-R267358				Units: mg/L		Analysis Date: 8/1/2019 11:15 AM		
Client ID:		Run ID: TITRATOR 1_190801B		SeqNo: 5818737		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.05 0.10 5 0 101 80-120 0

MS		Sample ID: 19071949-05AMS				Units: mg/L		Analysis Date: 8/1/2019 11:15 AM		
Client ID: HS19071444-05		Run ID: TITRATOR 1_190801B		SeqNo: 5818743		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.19 0.10 5 0.13 101 75-125 0

MS		Sample ID: 19071950-05AMS				Units: mg/L		Analysis Date: 8/1/2019 11:15 AM		
Client ID:		Run ID: TITRATOR 1_190801B		SeqNo: 5818763		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.19 0.10 5 0.13 101 75-125 0

MSD		Sample ID: 19071949-05AMSD				Units: mg/L		Analysis Date: 8/1/2019 11:15 AM		
Client ID: HS19071444-05		Run ID: TITRATOR 1_190801B		SeqNo: 5818744		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.24 0.10 5 0.13 102 75-125 5.19 0.959 20

MSD		Sample ID: 19071950-05AMSD				Units: mg/L		Analysis Date: 8/1/2019 11:15 AM		
Client ID:		Run ID: TITRATOR 1_190801B		SeqNo: 5818764		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.24 0.10 5 0.13 102 75-125 5.19 0.959 20

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: ALS Environmental

Work Order: 19071949

Project: HS19071444

QC BATCH REPORT

Batch ID: **R267358**

Instrument ID **Titration 1**

Method: **A4500-F C-11**

The following samples were analyzed in this batch:

19071949-01A	19071949-02A	19071949-03A
19071949-04A	19071949-05A	19071949-06A
19071949-07A	19071949-08A	19071949-09A
19071949-10A	19071949-11A	19071949-12A
19071949-13A	19071949-14A	19071949-15A
19071949-16A	19071949-17A	19071949-18A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: ALS Environmental
 Work Order: 19071949
 Project: HS19071444

QC BATCH REPORT

Batch ID: **R267398** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK	Sample ID: MB-R267398-R267398		Units: mg/L		Analysis Date: 8/1/2019 02:20 PM					
Client ID:	Run ID: TITRATOR 1_190801A		SeqNo: 5819765		Prep Date:		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride U 0.10

LCS	Sample ID: LCS-R267398-R267398		Units: mg/L		Analysis Date: 8/1/2019 02:20 PM					
Client ID:	Run ID: TITRATOR 1_190801A		SeqNo: 5819766		Prep Date:		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.05 0.10 5 0 101 80-120 0

MS	Sample ID: 19071949-19AMS		Units: mg/L		Analysis Date: 8/1/2019 02:20 PM					
Client ID: HS19071444-19	Run ID: TITRATOR 1_190801A		SeqNo: 5819768		Prep Date:		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.49 0.10 5 0.48 100 75-125 0

MS	Sample ID: 19071950-19AMS		Units: mg/L		Analysis Date: 8/1/2019 02:20 PM					
Client ID:	Run ID: TITRATOR 1_190801A		SeqNo: 5819779		Prep Date:		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.49 0.10 5 0.48 100 75-125 0

MSD	Sample ID: 19071949-19AMSD		Units: mg/L		Analysis Date: 8/1/2019 02:20 PM					
Client ID: HS19071444-19	Run ID: TITRATOR 1_190801A		SeqNo: 5819769		Prep Date:		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.34 0.10 5 0.48 97.2 75-125 5.49 2.77 20

MSD	Sample ID: 19071950-19AMSD		Units: mg/L		Analysis Date: 8/1/2019 02:20 PM					
Client ID:	Run ID: TITRATOR 1_190801A		SeqNo: 5819780		Prep Date:		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.34 0.10 5 0.48 97.2 75-125 5.49 2.77 20

The following samples were analyzed in this batch:

19071949-19A	19071949-20A	19071949-21A
19071949-22A	19071949-23A	19071949-24A
19071949-25A	19071949-26A	19071949-27A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

WET CHEMISTRY DATA ASSESSMENT CHECKLIST

Wet Chemistry		Batch Number: Multiple	Instrument ID: Titrator 1				
Method: Fluoride		Work order Number (s): 19071949					
Analyst Name: DMD		Date 8/1/19	Reviewer Name: JB		Date: 8/2/19		
	A ¹	Description	Yes	No	NA ₂	NR ³	ER# ⁴
R1	I	Chain-of-Custody					
		1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?			X		
		2) Were all departures from standard conditions described in an exception report?			X		
R2	I	SAMPLE AND QUALITY CONTROL (QC) IDENTIFICATION					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?			X		
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?			X		
R3	I	TEST REPORTS					
		1) Were all samples prepared and analyzed within holding times?	X				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		3) Were calculations checked by a peer or supervisor?	X				
		4) Were all analyte identifications checked by a peer or supervisor?	X				
		5) Were sample quantitation limits reported for all analytes not detected?	X				
		6) Were all results for soil and sediment samples reported on a dry weight basis?			X		
		7) Was % moisture (or solids) reported for all soil and sediment samples?			X		
		8) If required for the project, TICs reported?			X		
R4	I	SURROGATE RECOVERY DATA					
		1) Were surrogates added prior to extraction?			X		
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	I	TEST REPORTS/SUMMARY FORMS FOR BLANK SAMPLES					
		1) Were appropriate type(s) of blanks analyzed?	X				
		2) Were blanks analyzed at the appropriate frequency?	X				
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		4) Were blank concentrations < 1/2 MQL?	X				
R6	I	LABORATORY CONTROL SAMPLES (LCS):					
		1) Were all COCs included in the LCS?	X				
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		3) Were LCSs analyzed at the required frequency?	X				
		4) Were LCS and LCSD %Rs within the laboratory QC limits?	X				
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	X				
		6) Was the LCSD RPD within QC limits?	X				
R7	I	MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) DATA					
		1) Were the project or method specified analytes included in the MS and MSD?	X				
		2) Were MS/MSD analyzed at the appropriate frequency?	X				
		3) Were MS and MSD %Rs within the laboratory QC limits?	X				
		4) Were MS/MSD RPDs within laboratory QC limits?	X				
R8	I	ANALYTICAL DUPLICATE DATA (IF REQUIRED)					
		1) Were appropriate analytical duplicates analyzed for each matrix?	X				
		2) Were analytical duplicates analyzed at the appropriate frequency?	X				
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	I	METHOD QUANTITATION LIMITS (MQLS):					
		1) Are the MQLs for each method analyte listed and included in the laboratory data package?	X				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		3) Are unadjusted MQLs included in the laboratory data package?			X		
R10	I	OTHER PROBLEMS/ANOMALIES					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		2) Were all necessary corrective actions performed for the reported data?	X				
		3) If requested, is the justification for elevated SQLs documented?			X		

S1	I	INITIAL CALIBRATION (ICAL)					
		1) Were response factors (RFs) and/or relative response factors (RRFs) for each analyte within the QC limits?			X		
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	I	INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICCV AND CCV) AND					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?	X				
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the organic CCB < MDL?	X				
S3	I	MASS SPECTRAL TUNING:					
		1) Was the appropriate compound for the method used for tuning?			X		
		2) Were ion abundance data within the method-required QC limits?			X		
S4	I	INTERNAL STANDARDS (IS):					
		Were IS area counts within the method-required QC limits?			X		
S5	I	RAW DATA					
		1) Were the raw data (e.g., chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				
S6	I	DUAL COLUMN CONFIRMATION (IF REQUIRED)					
		Did dual column confirmation results meet the method-required QC?			X		
S7	I	TENTATIVELY IDENTIFIED COMPOUNDS (TICS):					
		If TICS were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	INTERFERENCE CHECK SAMPLE (ICS) RESULTS:					
		Were percent recoveries within method QC limits?			X		
S9	I	SERIAL DILUTIONS, POST DIGESTION SPIKES, AND METHOD OF STANDARD					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	I	PROFICIENCY TEST REPORTS:					
		Are proficiency testing or inter-laboratory comparison results on file?	X				
S11	I	METHOD DETECTION LIMIT (MDL) STUDIES					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S12	I	STANDARDS DOCUMENTATION					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	I	COMPOUND/ANALYTE IDENTIFICATION PROCEDURES					
		Are the procedures for compound/analyte identification documented?	X				
S14	I	DEMONSTRATION OF ANALYST COMPETENCY (DOC)					
		1) Was DOC conducted consistent with NELAC 5C or ISO/IEC 4.2.2?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	I	VERIFICATION/VALIDATION DOCUMENTATION FOR METHODS					
		Are all the methods used to generate the data documented, verified, and validated, where applicable, (NELAC 5.10.2 or ISO/IEC 17025 Section 5.4.5)?	X				
S16	I	LABORATORY STANDARD OPERATING PROCEDURES (SOPS):					
		Are laboratory SOPs current and on file for each method performed?	X				

1 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

2 NA = Not applicable.

3 NR = Not Reviewed.

4 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

WET CHEMISTRY DATA ASSESSMENT CHECKLIST

Wet Chemistry		Batch Number:	
ER # ¹	DESCRIPTION		
1			
2			
3			
4			
5			
6			

- 1 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

19071449



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Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11850

SUBCONTRACT TO:

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Holland, MI 494249263

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CUSTOMER INFORMATION:

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Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19071444
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19071444-01	MW-39	Groundwater	29 Jul 2019 12:50
	Fluoride by ISE 4500			05 Aug 2019
2.	HS19071444-02	MW-40	Groundwater	29 Jul 2019 11:55
	Fluoride by ISE 4500			05 Aug 2019
3.	HS19071444-03	MW-41	Groundwater	29 Jul 2019 10:15
	Fluoride by ISE 4500			05 Aug 2019
4.	HS19071444-04	MW-62	Groundwater	29 Jul 2019 13:40
	Fluoride by ISE 4500			05 Aug 2019
5.	HS19071444-05	MW-63	Groundwater	29 Jul 2019 08:55
	Fluoride by ISE 4500			05 Aug 2019
6.	HS19071444-06	MW-64	Groundwater	29 Jul 2019 11:05
	Fluoride by ISE 4500			05 Aug 2019
7.	HS19071444-07	MW-23	Groundwater	29 Jul 2019 12:40
	Fluoride by ISE 4500			05 Aug 2019
8.	HS19071444-08	MW-28D	Groundwater	29 Jul 2019 08:25
	Fluoride by ISE 4500			05 Aug 2019
9.	HS19071444-09	MW-42	Groundwater	29 Jul 2019 11:55

RIGHT SOLUTIONS | RIGHT PARTNER

Page 1 of 1





19071949

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11850

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
	Fluoride by ISE 4500		05 Aug 2019
10. HS19071444-10	MW-43	Groundwater	29 Jul 2019 11:40
	Fluoride by ISE 4500		05 Aug 2019
11. HS19071444-11	MW-44	Groundwater	29 Jul 2019 12:45
	Fluoride by ISE 4500		05 Aug 2019
12. HS19071444-12	MW-46R	Groundwater	29 Jul 2019 09:00
	Fluoride by ISE 4500		05 Aug 2019
13. HS19071444-13	MW-47	Groundwater	29 Jul 2019 10:50
	Fluoride by ISE 4500		05 Aug 2019
14. HS19071444-14	MW-48	Groundwater	29 Jul 2019 10:00
	Fluoride by ISE 4500		05 Aug 2019
15. HS19071444-15	MW-50	Groundwater	29 Jul 2019 13:40
	Fluoride by ISE 4500		05 Aug 2019
16. HS19071444-16	MW-52	Groundwater	29 Jul 2019 14:20
	Fluoride by ISE 4500		05 Aug 2019
17. HS19071444-17	MW-54	Groundwater	29 Jul 2019 11:10
	Fluoride by ISE 4500		05 Aug 2019
18. HS19071444-18	MW-55R	Groundwater	29 Jul 2019 12:00
	Fluoride by ISE 4500		05 Aug 2019
19. HS19071444-19	MW-58	Groundwater	29 Jul 2019 09:45
	Fluoride by ISE 4500		05 Aug 2019
20. HS19071444-20	MW-65	Groundwater	29 Jul 2019 12:45
	Fluoride by ISE 4500		05 Aug 2019
21. HS19071444-21	MW-36	Groundwater	29 Jul 2019 10:45
	Fluoride by ISE 4500		05 Aug 2019
22. HS19071444-22	MW-37	Groundwater	29 Jul 2019 08:25
	Fluoride by ISE 4500		05 Aug 2019
23. HS19071444-23	MW-60	Groundwater	29 Jul 2019 09:05
	Fluoride by ISE 4500		05 Aug 2019
24. HS19071444-24	MW-61	Groundwater	29 Jul 2019 09:50
	Fluoride by ISE 4500		05 Aug 2019



19071949

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11850

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
25. HS19071444-25	DUP-01	Groundwater	29 Jul 2019 08:00
Fluoride by ISE 4500			05 Aug 2019
26. HS19071444-26	DUP-02	Groundwater	29 Jul 2019 10:00
Fluoride by ISE 4500			05 Aug 2019
27. HS19071444-27	FB-01	Water	29 Jul 2019 10:05
Fluoride by ISE 4500			05 Aug 2019

Comments: Please analyze for the analysis listed above.
 Send report to the emails shown above.
 Samples HS19071444-05 & HS19071444-19 are MS/MSD

QC Level: TRRP LRC (TRRP checklist only+Level II (normal))

Relinquished By: [Signature]
 Received By: [Signature]
 Cooler ID(s): _____

Date/Time: 7/30/19 1800.
 Date/Time: 7/31/19 0930
 Temperature(s): SR2 26°C

Q

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**

Date/Time Received: **31-Jul-19 09:30**

Work Order: **19071949**

Received by: **DS**

Checklist completed by Diane Shaw 31-Jul-19
eSignature Date

Reviewed by: Chad Whilton 31-Jul-19
eSignature Date

Matrices: **Groundwater**

Carrier name: **FedEx**

Shipping container/cooler in good condition? Yes No Not Present

Custody seals intact on shipping container/cooler? Yes No Not Present

Custody seals intact on sample bottles? Yes No Not Present

Chain of custody present? Yes No

Chain of custody signed when relinquished and received? Yes No

Chain of custody agrees with sample labels? Yes No

Samples in proper container/bottle? Yes No

Sample containers intact? Yes No

Sufficient sample volume for indicated test? Yes No

All samples received within holding time? Yes No

Container/Temp Blank temperature in compliance? Yes No

Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 2.6/2.6 c SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 7/31/2019 12:48:04 PM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

August 12, 2019

Lori Burris
TRC Corporation
10550 Richmond Ave., Suite 210
Houston, TX 77042

Work Order: **HS19080198**

Laboratory Results for: **NRG WA Parish- Appendix III**

Dear Lori,

ALS Environmental received 1 sample(s) on Aug 05, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Raj. Modashia', enclosed in a simple oval outline.

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

Client: TRC Corporation
Project: NRG WA Parish- Appendix III
WorkOrder: HS19080198

**TRRP Laboratory Data
Package Cover Page**

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC Chapter 5,
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits.
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client: TRC Corporation
Project: NRG WA Parish- Appendix III
WorkOrder: HS19080198

**TRRP Laboratory Data
Package Cover Page**

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by TCEQ or _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.



RJ Modashia
Project Manager

Laboratory Review Checklist: Reportable Data

Laboratory Name: ALS Laboratory Group			LRC Date: 08/12/2019				
Project Name: NRG WA Parish- Appendix III			Laboratory Job Number: HS19080198				
Reviewer Name: RJ Modashia			Prep Batch Number(s): 143819,R343833,R343944,R343992				
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				2
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data

Laboratory Name: ALS Laboratory Group		LRC Date: 08/12/2019					
Project Name: NRG WA Parish- Appendix III		Laboratory Job Number: HS19080198					
Reviewer Name: RJ Modashia		Prep Batch Number(s): 143819,R343833,R343944,R343992					
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		X			3
S3	O	Mass spectral tuning:					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS):					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs):					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results:					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports:					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs):					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);

NA = Not Applicable;

NR = Not Reviewed;

R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Exception Reports

Laboratory Name: ALS Laboratory Group	LRC Date: 08/12/2019
Project Name: NRG WA Parish- Appendix III	Laboratory Job Number: HS19080198
Reviewer Name: RJ Modashia	Prep Batch Number(s): 143819,R343833,R343944,R343992

ER# ⁵	Description
1	Batch 143819, Metals Method SW6020, sample HS19080013-03, MS and MSD were performed on unrelated sample Batch R343833, Anions Method E300, sample MW-38R, MS and MSD recovered outside the control limit for sulfate, however, the result in the parent sample is greater than 4x the spike amount.
2	Analysis of Fluoride was performed by ALS Holland, MI. Report and Laboratory Review Checklist are attached to the report.
3	See Run Log and CCB Exceptions Report.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
 O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
 NA = Not Applicable;
 NR = Not Reviewed;
 R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: NRG WA Parish- Appendix III
WorkOrder: HS19080198
Start Date: 06-Aug-2019

End Date: 07-Aug-2019

Run ID: ICS2100_343833
Instrument: ICS2100
Method: E300

Sample No.	D/F	Time	FileID	Analytes
CCV 1	1	06-Aug-2019 13:40		CL SO4
CCB 1	1	06-Aug-2019 13:55		CL SO4
WBLKW1-080619	1	06-Aug-2019 14:10		CL SO4
WLCSW1-080619	1	06-Aug-2019 14:24		CL SO4
WLCSDW1-080619	1	06-Aug-2019 14:39		CL SO4
CCB 2	1	06-Aug-2019 17:05		CL SO4
CCV 2	1	06-Aug-2019 20:28		CL SO4
CCB 3	1	06-Aug-2019 20:43		CL SO4
ZZZZZMS	1	06-Aug-2019 21:27		CL SO4
ZZZZZMSD	1	06-Aug-2019 21:41		CL SO4
MW-38R	10	06-Aug-2019 22:40		CL SO4
MW-38RMS	10	06-Aug-2019 22:55		CL SO4
MW-38RMSD	10	06-Aug-2019 23:09		CL SO4
CCB 4	1	06-Aug-2019 23:38		CL SO4
CCV 3	1	07-Aug-2019 01:06		CL SO4
CCB 5	1	07-Aug-2019 01:21		CL SO4
CCB 6	1	07-Aug-2019 14:22		CL SO4
CCV 4	1	07-Aug-2019 14:52		CL SO4
CCB 7	1	07-Aug-2019 15:06		CL SO4

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish- Appendix III
WorkOrder: HS19080198

Run ID: ICS2100_343833
Instrument: ICS2100
Method: E300

CCB	Date	Seq	D/F	Units
CCB 2	06-Aug-2019 17:05	5200346	1	ug/L
	Analyte	Result	MDL	Report Limit
	Chloride	225	200	500
CCB 3	06-Aug-2019 20:43	5200358	1	ug/L
	Analyte	Result	MDL	Report Limit
	Chloride	220	200	500
	Sulfate	285	200	500
CCB 4	06-Aug-2019 23:38	5200366	1	ug/L
	Analyte	Result	MDL	Report Limit
	Chloride	225	200	500
	Sulfate	287	200	500
CCB 5	07-Aug-2019 01:21	5200372	1	ug/L
	Analyte	Result	MDL	Report Limit
	Chloride	227	200	500
CCB 6	07-Aug-2019 14:22	5200374	1	ug/L
	Analyte	Result	MDL	Report Limit
	Chloride	215	200	500
CCB 7	07-Aug-2019 15:06	5200377	1	ug/L
	Analyte	Result	MDL	Report Limit
	Chloride	215	200	500

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: NRG WA Parish- Appendix III
WorkOrder: HS19080198
Start Date: 07-Aug-2019

End Date: 08-Aug-2019

Run ID: ICPMS05_343857
Instrument: ICPMS05
Method: SW6020

Sample No.	D/F	Time	FileID	Analyses
ICV	1	07-Aug-2019 20:35	017_ICV.d	B CA
LLICV5	1	07-Aug-2019 20:40	019LCV5.d	B
ICB	1	07-Aug-2019 20:42	020_ICB.d	B CA
LLICV2	1	07-Aug-2019 20:45	021LCV2.d	B
ICSA	1	07-Aug-2019 20:50	023ICSA.d	B
ICSAB	1	07-Aug-2019 20:52	024ICSB.d	B
CCV 1	1	07-Aug-2019 21:09	029_CCV.d	B CA
CCB 1	1	07-Aug-2019 21:11	030_CCB.d	B CA
CCB 2	1	07-Aug-2019 21:27	037_CCB.d	B CA
CCV 2	1	07-Aug-2019 21:40	039_CCV.d	B CA
CCV 3	1	07-Aug-2019 22:02	049_CCV.d	B CA
CCB 3	1	07-Aug-2019 22:04	050_CCB.d	B CA
CCV 4	1	07-Aug-2019 22:39	063_CCV.d	B CA
CCB 4	1	07-Aug-2019 22:42	064_CCB.d	B CA
ICCV 5	1	07-Aug-2019 23:28	083_ICV.d	B CA
LLICCV2	1	07-Aug-2019 23:30	084LCV2.d	B
ICCB 5	1	07-Aug-2019 23:35	086_ICB.d	B CA
LLICCV5	1	07-Aug-2019 23:40	088LCV5.d	B
MBLK-143819	1	07-Aug-2019 23:45	090SMPL.d	B CA
LCS-143819	1	07-Aug-2019 23:48	091SMPL.d	B CA
ZZZZZSD	5	07-Aug-2019 23:52	093SMPL.d	B CA
ZZZZZMS	1	07-Aug-2019 23:55	094SMPL.d	B CA
ZZZZZMSD	1	07-Aug-2019 23:57	095SMPL.d	B CA
ZZZZZPDS	1	07-Aug-2019 23:59	096SMPL.d	CA
CCV 6	1	08-Aug-2019 00:01	097_CCV.d	B CA
CCB 6	1	08-Aug-2019 00:03	098_CCB.d	B CA
CCV 7	1	08-Aug-2019 00:28	109_CCV.d	B CA
CCB 7	1	08-Aug-2019 00:31	110_CCB.d	B CA
MW-38R	1	08-Aug-2019 00:49	118SMPL.d	B
CCV 8	1	08-Aug-2019 00:55	121_CCV.d	B CA
CCB 8	1	08-Aug-2019 00:58	122_CCB.d	B CA
LLICV2	1	08-Aug-2019 01:07	126LCV2.d	B
LLICV5	1	08-Aug-2019 01:09	127LCV5.d	B
ICSA	1	08-Aug-2019 01:12	128ICSA.d	B
ICSAB	1	08-Aug-2019 01:14	129ICSB.d	B

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish- Appendix III
WorkOrder: HS19080198

Run ID:ICPMS05_343857
Instrument:ICPMS05
Method:SW6020

ICB	Date: 07-Aug-2019 20:42	Seq: 5200979	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Calcium	46.37	34	500

CCB 1	Date: 07-Aug-2019 21:11	Seq: 5200989	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Boron	12.49	11	20
	Calcium	73.16	34	500

CCB 2	Date: 07-Aug-2019 21:27	Seq: 5200996	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Boron	25.63	11	20
	Calcium	43.89	34	500

CCB 3	Date: 07-Aug-2019 22:04	Seq: 5200954	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Boron	12.99	11	20
	Calcium	236.2	34	500

CCB 4	Date: 07-Aug-2019 22:42	Seq: 5200968	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Boron	29.24	11	20
	Calcium	181.3	34	500

CCB 7	Date: 08-Aug-2019 00:31	Seq: 5201066	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Calcium	80.51	34	500

Client: TRC Corporation
Project: NRG WA Parish- Appendix III
Work Order: HS19080198

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19080198-01	MW-38R	Groundwater		05-Aug-2019 10:50	05-Aug-2019 13:20	<input type="checkbox"/>

Client: TRC Corporation
 Project: NRG WA Parish- Appendix III
 Sample ID: MW-38R
 Collection Date: 05-Aug-2019 10:50

ANALYTICAL REPORT

WorkOrder:HS19080198
 Lab ID:HS19080198-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 06-Aug-2019		Analyst: JHD	
Boron	0.359		0.0110	0.0200	mg/L	1	08-Aug-2019 00:49
Calcium	323		0.340	5.00	mg/L	10	08-Aug-2019 19:49
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	180		2.00	5.00	mg/L	10	06-Aug-2019 22:40
Sulfate	775		2.00	5.00	mg/L	10	06-Aug-2019 22:40
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,870		5.00	10.0	mg/L	1	07-Aug-2019 16:55
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	09-Aug-2019 15:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: TRC Corporation
Project: NRG WA Parish- Appendix III
WorkOrder: HS19080198

Batch ID: 143819 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19080198-01	1	10	10 (mL)	1

Client: TRC Corporation
Project: NRG WA Parish- Appendix III
WorkOrder: HS19080198

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143819 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS19080198-01	MW-38R	05 Aug 2019 10:50		06 Aug 2019 09:00	08 Aug 2019 19:49	10
HS19080198-01	MW-38R	05 Aug 2019 10:50		06 Aug 2019 09:00	08 Aug 2019 00:49	1
Batch ID: R343833 (0)		Test Name : ANIONS BY E300.0			Matrix: Groundwater	
HS19080198-01	MW-38R	05 Aug 2019 10:50			06 Aug 2019 22:40	10
Batch ID: R343944 (0)		Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C			Matrix: Groundwater	
HS19080198-01	MW-38R	05 Aug 2019 10:50			07 Aug 2019 16:55	1
Batch ID: R343992 (0)		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE			Matrix: Groundwater	
HS19080198-01	MW-38R	05 Aug 2019 10:50			09 Aug 2019 15:11	1

WorkOrder: HS19080198
 InstrumentID: ICPMS05
 Test Code: ICP_TW
 Test Number: SW6020
 Test Name: ICP-MS Metals by SW6020A

**METHOD DETECTION /
 REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Boron	7440-42-8	0.0125	0.0125	0.0110	0.0200
A	Calcium	7440-70-2	0.0500	0.0366	0.0340	0.500

WorkOrder: HS19080198 **METHOD DETECTION /**
InstrumentID: Subcontract **REPORTING LIMITS**
Test Code: Sub_Flouride
Test Number: NA **Matrix:** **Units:**
Test Name: Subcontract Analysis - Flouride

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Subcontract Analysis		0	0	0	0

WorkOrder: HS19080198
 InstrumentID: ICS2100
 Test Code: 300_W
 Test Number: E300
 Test Name: Anions by E300.0

**METHOD DETECTION /
 REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Chloride	16887-00-6	0.500	1.00	0.200	0.500
A	Sulfate	14808-79-8	1.00	1.07	0.200	0.500

WorkOrder: HS19080198
 InstrumentID: Balance1
 Test Code: TDS_W 2540C
 Test Number: M2540C
 Test Name: Total Dissolved Solids by

**METHOD DETECTION /
 REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Total Dissolved Solids (Residue, Filterable)	TDS	5.00	4.00	5.00	10.0

Client: TRC Corporation
Project: NRG WA Parish- Appendix III
WorkOrder: HS19080198

QC BATCH REPORT

Batch ID: 143819 (0)		Instrument: ICPMS05		Method: ICP-MS METALS BY SW6020A						
MBLK	Sample ID: MBLK-143819	Units: mg/L		Analysis Date: 07-Aug-2019 23:45						
Client ID:	Run ID: ICPMS05_343857	SeqNo: 5201038	PrepDate: 06-Aug-2019	DF: 1						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	< 0.0110	0.0200								
Calcium	< 0.0340	0.500								
LCS	Sample ID: LCS-143819	Units: mg/L		Analysis Date: 07-Aug-2019 23:48						
Client ID:	Run ID: ICPMS05_343857	SeqNo: 5201039	PrepDate: 06-Aug-2019	DF: 1						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.4743	0.0200	0.5	0	94.9	80 - 120				
Calcium	5.134	0.500	5	0	103	80 - 120				
MS	Sample ID: HS19080113-03MS	Units: mg/L		Analysis Date: 07-Aug-2019 23:55						
Client ID:	Run ID: ICPMS05_343857	SeqNo: 5201042	PrepDate: 06-Aug-2019	DF: 1						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.5701	0.0200	0.5	0.07446	99.1	80 - 120				
Calcium	73.94	0.500	5	70.55	67.9	80 - 120				SO
MSD	Sample ID: HS19080113-03MSD	Units: mg/L		Analysis Date: 07-Aug-2019 23:57						
Client ID:	Run ID: ICPMS05_343857	SeqNo: 5201043	PrepDate: 06-Aug-2019	DF: 1						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.5842	0.0200	0.5	0.07446	102	80 - 120	0.5701	2.44	20	
Calcium	73.21	0.500	5	70.55	53.2	80 - 120	73.94	0.996	20	SO
PDS	Sample ID: HS19080113-03PDS	Units: mg/L		Analysis Date: 07-Aug-2019 23:59						
Client ID:	Run ID: ICPMS05_343857	SeqNo: 5201044	PrepDate: 06-Aug-2019	DF: 1						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	78.36	0.500	10	70.55	78.1	75 - 125				O

Client: TRC Corporation
Project: NRG WA Parish- Appendix III
WorkOrder: HS19080198

QC BATCH REPORT

Batch ID: 143819 (0) Instrument: ICPMS05 Method: ICP-MS METALS BY SW6020A

SD Sample ID: HS19080113-03SD Units: mg/L Analysis Date: 07-Aug-2019 23:52
Client ID: Run ID: ICPMS05_343857 SeqNo: 5201041 PrepDate: 06-Aug-2019 DF: 5
Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %D Limit Qual

Boron	< 0.0550	0.100						0.07446	0	10
Calcium	71.03	2.50						70.55	0.678	10

The following samples were analyzed in this batch: HS19080198-01

Client: TRC Corporation
Project: NRG WA Parish- Appendix III
WorkOrder: HS19080198

QC BATCH REPORT

Batch ID: R343833 (0)		Instrument: ICS2100		Method: ANIONS BY E300.0						
MBLK	Sample ID: WBLKW1-080619	Units: mg/L			Analysis Date: 06-Aug-2019 14:10					
Client ID:	Run ID: ICS2100_343833	SeqNo: 5200335		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	< 0.200	0.500								
Sulfate	< 0.200	0.500								
LCS	Sample ID: WLCSW1-080619	Units: mg/L			Analysis Date: 06-Aug-2019 14:24					
Client ID:	Run ID: ICS2100_343833	SeqNo: 5200336		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	19.49	0.500	20	0	97.5	90 - 110				
Sulfate	19.15	0.500	20	0	95.8	90 - 110				
LCSD	Sample ID: WLCSDW1-080619	Units: mg/L			Analysis Date: 06-Aug-2019 14:39					
Client ID:	Run ID: ICS2100_343833	SeqNo: 5200337		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	19.09	0.500	20	0	95.5	90 - 110	19.49	2.06	20	
Sulfate	18.8	0.500	20	0	94.0	90 - 110	19.15	1.83	20	
MS	Sample ID: HS19080238-06MS	Units: mg/L			Analysis Date: 06-Aug-2019 21:27					
Client ID:	Run ID: ICS2100_343833	SeqNo: 5200360		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	12.15	0.500	10	2.427	97.3	80 - 120				
Sulfate	27.21	0.500	10	17.03	102	80 - 120				
MS	Sample ID: HS19080198-01MS	Units: mg/L			Analysis Date: 06-Aug-2019 22:55					
Client ID: MW-38R	Run ID: ICS2100_343833	SeqNo: 5200363		PrepDate:			DF: 10			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	269.7	5.00	100	179.5	90.2	80 - 120				
Sulfate	827.5	5.00	100	774.6	53.0	80 - 120			SO	

Client: TRC Corporation
Project: NRG WA Parish- Appendix III
WorkOrder: HS19080198

QC BATCH REPORT

Batch ID: R343833 (0) **Instrument:** ICS2100 **Method:** ANIONS BY E300.0

MSD		Sample ID: HS19080238-06MSD			Units: mg/L		Analysis Date: 06-Aug-2019 21:41			
Client ID:		Run ID: ICS2100_343833			SeqNo: 5200361		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	11.51	0.500	10	2.427	90.8	80 - 120	12.15	5.43	20	
Sulfate	25.92	0.500	10	17.03	88.8	80 - 120	27.21	4.87	20	

MSD		Sample ID: HS19080198-01MSD			Units: mg/L		Analysis Date: 06-Aug-2019 23:09			
Client ID: MW-38R		Run ID: ICS2100_343833			SeqNo: 5200364		PrepDate:		DF: 10	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	263.7	5.00	100	179.5	84.2	80 - 120	269.7	2.23	20	
Sulfate	811	5.00	100	774.6	36.4	80 - 120	827.5	2.02	20	SO

The following samples were analyzed in this batch: HS19080198-01

Client: TRC Corporation
Project: NRG WA Parish- Appendix III
WorkOrder: HS19080198

QC BATCH REPORT

Batch ID: R343944 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C

MBLK	Sample ID: WBLK-080719	Units: mg/L			Analysis Date: 07-Aug-2019 16:55				
Client ID:	Run ID: Balance1_343944	SeqNo: 5202749	PrepDate:	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable) < 5.00 10.0

LCS	Sample ID: WLCS-080719	Units: mg/L			Analysis Date: 07-Aug-2019 16:55				
Client ID:	Run ID: Balance1_343944	SeqNo: 5202750	PrepDate:	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable) 1064 10.0 1000 0 106 85 - 115

DUP	Sample ID: HS19080098-01DUP	Units: mg/L			Analysis Date: 07-Aug-2019 16:55				
Client ID:	Run ID: Balance1_343944	SeqNo: 5202742	PrepDate:	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable) 2208 10.0 2206 0.0906 5

The following samples were analyzed in this batch:

Client: TRC Corporation
Project: NRG WA Parish- Appendix III
WorkOrder: HS19080198

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2019	31-Dec-2019
Oklahoma	2018-156	31-Aug-2019
Texas	TX104704231-19-23	30-Apr-2020

Client: TRC Corporation
Project: NRG WA Parish- Appendix III
Work Order: HS19080198

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19080198-01	MW-38R	Login	05/08/2019 15:23:39	PMG	WET130
HS19080198-01	MW-38R	Login	05/08/2019 15:23:39	PMG	Sub
HS19080198-01	MW-38R	Login	05/08/2019 15:23:39	PMG	MET019

Sample Receipt Checklist

Client Name: TRC-HOU
Work Order: HS19080198

Date/Time Received: 05-Aug-2019 13:20
Received by: AC

Checklist completed by: Paresh M. Giga
eSignature
Date: 5-Aug-2019

Reviewed by: RJ Modashia
eSignature
Date: 5-Aug-2019

Matrices: Groundwater

Carrier name: Client

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [checked] No [] Not Present []
Custody seals intact on sample bottles? Yes [] No [] Not Present [checked]
VOA/TX1005/TX1006 Solids in hermetically sealed vials? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Samplers name present on COC? Yes [] No [checked]
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Container/Temp Blank temperature in compliance? Yes [checked] No []

1 Page(s)
COC IDs:195790

Temperature(s)/Thermometer(s): 1.4c U/C IR25
Cooler(s)/Kit(s): 25582
Date/Time sample(s) sent to storage: 8/5/19 15:35
Water - VOA vials have zero headspace? Yes [] No [] No VOA vials submitted [checked]
Water - pH acceptable upon receipt? Yes [checked] No [] N/A []
pH adjusted? Yes [] No [checked] N/A []
pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



Cincinnati, OH
+1 513 733 5336
Everett, WA
+1 425 356 2600

Fort Collins, CO
+1 970 490 1511
Holland, MI
+1 616 399 6070

Chain of Custody Form

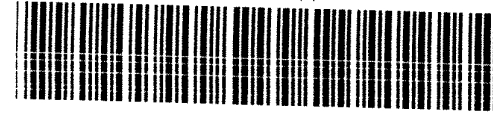
Page 1 of 1

COC ID: 195790

HS19080198

TRC Corporation
NRG Limestone- Appendix III

WV



ALS Project Manager:


Customer Information		Project Information		
Purchase Order	294645.0001	Project Name	NRG WA Parish - Appendix III	A
Work Order		Project Number	CCR Program	B
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C
Send Report To	Lori Burris	Invoice Attn	A/P	D
Address	10550 Richmond Ave., Suite 210	Address	10550 Richmond Ave., Suite 210	E
				F
City/State/Zip	Houston, TX 77042	City/State/Zip	Houston TX 77042	G
Phone	(713) 244-1000	Phone	(713) 244-1000	H
Fax	(713) 244-1099	Fax	(713) 244-1099	I
e-Mail Address	LBurris@trcsolutions.com	e-Mail Address	apinvoiceapproval@trcsolutions.com	J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-38R	8-5-19	1050	6w	2,9		X	X	X	X							
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>Brian Hillin</i>		Shipment Method Consult-Delivery		Required Turnaround Time: (Check Box) <input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:	
Relinquished by: <i>Brian Hillin</i>	Date: 8-5-19	Time: 13:20	Received by:	Notes: NRG WA Parish - State Program				
Relinquished by:	Date: 8-5-19	Time: 13:20	Received by (Laboratory): AC	Cooler ID 25587	Cooler Temp. 1.4	QC Package: (Check One Box Below)		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):			<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> RRP Checklist	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035						<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> RRP Level IV	
						<input type="checkbox"/> Level IV SW846/CLP		
						<input type="checkbox"/> Other		

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2011 by ALS Environmental.

 <p>ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887</p>	CUSTODY SEAL		Seal Broken By:
	Date: 8-5-19	Time: 1300	SM
	Name: Brian Hillin		Date: 08/05/19
	Company: HNT		

25582

AUG 05 2019



09-Aug-2019

RJ Modashia
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS19080198**

Work Order: **19080339**

Dear RJ,

ALS Environmental received 1 sample on 06-Aug-2019 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 13.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton", is written over a light blue horizontal line.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: ALS Environmental
Project: HS19080198
Work Order: 19080339

**TRRP Laboratory Data
Package Cover Page**

This data package consists of all or some of the following as applicable:

This signature page, the laboratory case narrative, and the following reportable data:

- R1 Field chain-of-custody documentation:
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC Chapter 5
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies:
See Case Narrative.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached Case Narrative and QC Summaries. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified, and no information affecting the quality of the data has been knowingly withheld.



Chad Whelton
Project Manager

Client: ALS Environmental
Project: HS19080198
Work Order: 19080339

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
19080339-01	HS19080198-01	Groundwater	MW-38R	8/5/2019 10:50	8/6/2019 09:30	<input type="checkbox"/>

Client: ALS Environmental
Project: HS19080198
WorkOrder: 19080339

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
mg/L	Milligrams per Liter

Work Order: 19080339
Client: ALS Environmental
Project: HS19080198

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
-----------	------------------	--------	-----------------	-----------	-----------	---------------

Batch ID R267747 **Test Name:** Fluoride

19080339-01	HS19080198-01	Groundwater	8/5/2019 10:50:00 AM			8/7/2019 01:05 PM
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^

ALS Group, USA

Date: 09-Aug-19

Client: ALS Environmental
Project: HS19080198
Sample ID: HS19080198-01
Collection Date: 8/5/2019 10:50 AM

Work Order: 19080339
Lab ID: 19080339-01
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.52		0.058	0.10	mg/L	1	8/7/2019 13:05

Note: See Qualifiers page for a list of qualifiers and their definitions.

WorkOrder: 19080339
InstrumentID: Titrator 1
Test Code: FL_4500C_W
Test Number: A4500-F C-11
Test Name: Fluoride

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Water Units: mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	Unadjusted MQL
A	Fluoride	16984-48-8	0.075	0.050	0.058	0.10

Client: ALS Environmental
Work Order: 19080339
Project: HS19080198

QC BATCH REPORT

Batch ID: **R267747** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK		Sample ID: MB-R267747-R267747				Units: mg/L		Analysis Date: 8/7/2019 01:05 PM		
Client ID:		Run ID: TITRATOR 1_190807C		SeqNo: 5829401		Prep Date:		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride U 0.10

LCS		Sample ID: LCS-R267747-R267747				Units: mg/L		Analysis Date: 8/7/2019 01:05 PM		
Client ID:		Run ID: TITRATOR 1_190807C		SeqNo: 5829402		Prep Date:		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 4.91 0.10 5 0 98.2 80-120 0

MS		Sample ID: 19080268-04C MS				Units: mg/L		Analysis Date: 8/7/2019 01:05 PM		
Client ID:		Run ID: TITRATOR 1_190807C		SeqNo: 5829406		Prep Date:		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.22 0.10 5 0.1 102 75-125 0

MSD		Sample ID: 19080268-04C MSD				Units: mg/L		Analysis Date: 8/7/2019 01:05 PM		
Client ID:		Run ID: TITRATOR 1_190807C		SeqNo: 5829407		Prep Date:		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.05 0.10 5 0.1 99 75-125 5.22 3.31 20

The following samples were analyzed in this batch:

19080339-01A

WET CHEMISTRY DATA ASSESSMENT CHECKLIST

Wet Chemistry		Batch Number: TITRATOR1_190807C	Instrument ID: Titrator 1				
Method: Fluoride		Work order Number (s): 19080339					
Analyst Name: DMD		Date 8/7/19	Reviewer Name: JLB			Date: 8/8/19	
	A ¹	Description	Yes	No	NA ₂	NR ³	ER# ⁴
R1	I	Chain-of-Custody					
		1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?			X		
		2) Were all departures from standard conditions described in an exception report?			X		
R2	I	SAMPLE AND QUALITY CONTROL (QC) IDENTIFICATION					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?			X		
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?			X		
R3	I	TEST REPORTS					
		1) Were all samples prepared and analyzed within holding times?	X				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		3) Were calculations checked by a peer or supervisor?	X				
		4) Were all analyte identifications checked by a peer or supervisor?	X				
		5) Were sample quantitation limits reported for all analytes not detected?	X				
		6) Were all results for soil and sediment samples reported on a dry weight basis?			X		
		7) Was % moisture (or solids) reported for all soil and sediment samples?			X		
		8) If required for the project, TICs reported?			X		
R4	I	SURROGATE RECOVERY DATA					
		1) Were surrogates added prior to extraction?			X		
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	I	TEST REPORTS/SUMMARY FORMS FOR BLANK SAMPLES					
		1) Were appropriate type(s) of blanks analyzed?	X				
		2) Were blanks analyzed at the appropriate frequency?	X				
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		4) Were blank concentrations < 1/2 MQL?	X				
R6	I	LABORATORY CONTROL SAMPLES (LCS):					
		1) Were all COCs included in the LCS?	X				
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		3) Were LCSs analyzed at the required frequency?	X				
		4) Were LCS and LCSD %Rs within the laboratory QC limits?	X				
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	X				
		6) Was the LCSD RPD within QC limits?	X				
R7	I	MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) DATA					
		1) Were the project or method specified analytes included in the MS and MSD?	X				
		2) Were MS/MSD analyzed at the appropriate frequency?	X				
		3) Were MS and MSD %Rs within the laboratory QC limits?	X				
		4) Were MS/MSD RPDs within laboratory QC limits?	X				
R8	I	ANALYTICAL DUPLICATE DATA (IF REQUIRED)					
		1) Were appropriate analytical duplicates analyzed for each matrix?	X				
		2) Were analytical duplicates analyzed at the appropriate frequency?	X				
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	I	METHOD QUANTITATION LIMITS (MQLS):					
		1) Are the MQLs for each method analyte listed and included in the laboratory data package?	X				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		3) Are unadjusted MQLs included in the laboratory data package?			X		
R10	I	OTHER PROBLEMS/ANOMALIES					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		2) Were all necessary corrective actions performed for the reported data?	X				
		3) If requested, is the justification for elevated SQLs documented?			X		

S1	I	INITIAL CALIBRATION (ICAL)					
		1) Were response factors (RFs) and/or relative response factors (RRFs) for each analyte within the QC limits?			X		
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	I	INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICCV AND CCV) AND					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?	X				
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the organic CCB < MDL?	X				
S3	I	MASS SPECTRAL TUNING:					
		1) Was the appropriate compound for the method used for tuning?			X		
		2) Were ion abundance data within the method-required QC limits?			X		
S4	I	INTERNAL STANDARDS (IS):					
		Were IS area counts within the method-required QC limits?			X		
S5	I	RAW DATA					
		1) Were the raw data (e.g., chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				
S6	I	DUAL COLUMN CONFIRMATION (IF REQUIRED)					
		Did dual column confirmation results meet the method-required QC?			X		
S7	I	TENTATIVELY IDENTIFIED COMPOUNDS (TICS):					
		If TICS were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	INTERFERENCE CHECK SAMPLE (ICS) RESULTS:					
		Were percent recoveries within method QC limits?			X		
S9	I	SERIAL DILUTIONS, POST DIGESTION SPIKES, AND METHOD OF STANDARD					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	I	PROFICIENCY TEST REPORTS:					
		Are proficiency testing or inter-laboratory comparison results on file?	X				
S11	I	METHOD DETECTION LIMIT (MDL) STUDIES					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S12	I	STANDARDS DOCUMENTATION					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	I	COMPOUND/ANALYTE IDENTIFICATION PROCEDURES					
		Are the procedures for compound/analyte identification documented?	X				
S14	I	DEMONSTRATION OF ANALYST COMPETENCY (DOC)					
		1) Was DOC conducted consistent with NELAC 5C or ISO/IEC 4.2.2?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	I	VERIFICATION/VALIDATION DOCUMENTATION FOR METHODS					
		Are all the methods used to generate the data documented, verified, and validated, where applicable, (NELAC 5.10.2 or ISO/IEC 17025 Section 5.4.5)?	X				
S16	I	LABORATORY STANDARD OPERATING PROCEDURES (SOPS):					
		Are laboratory SOPs current and on file for each method performed?	X				

- 1 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
- 2 NA = Not applicable.
- 3 NR = Not Reviewed.
- 4 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

WET CHEMISTRY DATA ASSESSMENT CHECKLIST

Wet Chemistry		Batch Number:	
ER # ¹	DESCRIPTION		
1			
2			
3			
4			
5			
6			

- 1 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

19080339



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Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11916

SUBCONTRACT TO:

ALS Group USA, Corp.
3352 - 128th Ave
Holland, MI 494249263

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: RJ Modashia
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RJ.Modashia@alsglobal.com
Alternate Contact:
Email:


INVOICE INFORMATION:


Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19080198
TSR: Sonia West

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
1. HS19080198-01	MW-38R	Groundwater	05 Aug 2019 10:50
Fluoride by ISE 4500			12 Aug 2019

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
Samples may be high in Salts & Minerals

QC Level: TRRP LRC (TRRP checklist only+Level II (normal))

Relinquished By: 

Received By: 

Cooler ID(s): _____

Date/Time: 8/5/19 1800

Date/Time: 8/6/19 0930

Temperature(s): _____

RIGHT SOLUTIONS | RIGHT PARTNER

05 Aug 2019

Page 1 of 1
3.26 SRZ
PHI 7

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**

Date/Time Received: **06-Aug-19 09:30**

Work Order: **19080339**

Received by: **KRW**

Checklist completed by Keith Wierenga 06-Aug-19
eSignature Date

Reviewed by: Chad Whelton 07-Aug-19
eSignature Date

Matrices: Water

Carrier name: FedEx

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s):

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

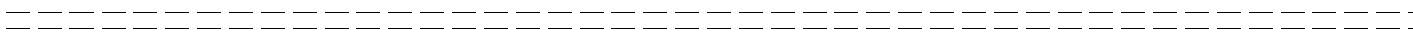
Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

DRAFT



10450 Stancliff Rd. Suite 210
Houston, TX 77099
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August 30, 2019

Lori Burris
TRC Corporation
10550 Richmond Ave., Suite 210
Houston, TX 77042

Work Order: **HS19071445**

Laboratory Results for: **NRG WA Parish – CCR Program App IV**

Dear Lori,

ALS Environmental received 27 sample(s) on Jul 29, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Raj. P. Modashia', enclosed in a simple oval scribble.

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

**TRRP Laboratory Data
Package Cover Page**

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC Chapter 5,
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits.
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

**TRRP Laboratory Data
Package Cover Page**

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by TCEQ or _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.



RJ Modashia
Project Manager

Laboratory Review Checklist: Reportable Data

Laboratory Name: ALS Laboratory Group		LRC Date: 08/30/2019					
Project Name: NRG WA Parish – CCR Program App IV		Laboratory Job Number: HS19071445					
Reviewer Name: Corey Grandits		Prep Batch Number(s): 143612,143613,143734,143736,144172,R343668,R345257					
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory’s standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory’s capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				2
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 08/30/2019				
Project Name: NRG WA Parish – CCR Program App IV			Laboratory Job Number: HS19071445				
Reviewer Name: Corey Grandits			Prep Batch Number(s): 143612,143613,143734,143736,144172,R343668,R345257				
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		X			3
S3	O	Mass spectral tuning:					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS):					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs):					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results:					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports:					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs):					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);

NA = Not Applicable;

NR = Not Reviewed;

R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Exception Reports

Laboratory Name: ALS Laboratory Group	LRC Date: 08/30/2019
Project Name: NRG WA Parish – CCR Program App IV	Laboratory Job Number: HS19071445
Reviewer Name: Corey Grandits	Prep Batch Number(s): 143612,143613,143734,143736,144172,R343668,R345257

ER#⁵	Description
1	<p>Batch 143612, Metals Method SW6020, sample MW-39, MS and MSD recovered outside the control limit for Barium due to suspect matrix effect.</p> <p>Batch 143613, Metals Method SW6020, sample HS19071444-19, MSD was performed on unrelated sample.</p> <p>Batch 144172, Metals Method SW6020, sample HS19080620-04, MS and MSD were performed on unrelated sample.</p>
2	<p>Analysis of Fluoride was performed by ALS Holland, MI. Report and Laboratory Review Checklist are attached to the final report.</p> <p>Analysis of Radium 226 and Radium 228 was performed by ALS Fort Collins, CO. Final Report is attached.</p>
3	See Run Log and CCB Exceptions Report.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445
Start Date: 31-Jul-2019

Run ID: ICPMS05_343367
Instrument: ICPMS05
Method: SW6020

End Date: 01-Aug-2019

Sample No.	D/F	Time	FileID	Analytes
ICV	1	31-Jul-2019 12:20	017_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	31-Jul-2019 12:22	018LCV2.d	AS BE CD CO CR LI MO PB SB SE TL
LLICV5	1	31-Jul-2019 12:24	019LCV5.d	AS BE CD CO CR LI MO PB SB SE TL
ICB	1	31-Jul-2019 12:26	020_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	31-Jul-2019 12:39	022ICSA.d	AS BE CD CO CR LI MO PB SB SE TL
ICSAB	1	31-Jul-2019 12:54	025ICSB.d	AS BE CD CO CR LI MO PB SB SE TL
CCV 1	1	31-Jul-2019 13:16	033_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 1	1	31-Jul-2019 13:18	034_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 2	1	31-Jul-2019 13:51	044_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 2	1	31-Jul-2019 13:53	045_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 3	1	31-Jul-2019 14:21	056_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 3	1	31-Jul-2019 14:23	057_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 4	1	31-Jul-2019 14:49	068_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 4	1	31-Jul-2019 14:52	069_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 5	1	31-Jul-2019 15:17	080_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 5	1	31-Jul-2019 15:19	081_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 6	1	31-Jul-2019 15:44	091_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 6	1	31-Jul-2019 15:46	092_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 7	1	31-Jul-2019 18:10	103_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 7	1	31-Jul-2019 18:25	106_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 8	1	31-Jul-2019 18:47	116_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 8	1	31-Jul-2019 18:50	117_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 9	1	31-Jul-2019 19:14	128_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 9	1	31-Jul-2019 19:17	129_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCV 10	1	31-Jul-2019 23:50	165_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV2	1	31-Jul-2019 23:52	166LCV2.d	AS BE CD CO CR LI MO PB SB SE TL
LLICCV5	1	31-Jul-2019 23:55	167LCV5.d	AS BE CD CO CR LI MO PB SB SE TL
ICCB 10	1	31-Jul-2019 23:57	168_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 11	1	01-Aug-2019 00:17	177_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 11	1	01-Aug-2019 00:19	178_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 12	1	01-Aug-2019 00:44	189_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 12	1	01-Aug-2019 00:47	190_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 13	1	01-Aug-2019 01:07	199_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 13	1	01-Aug-2019 01:09	200_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 14	1	01-Aug-2019 01:27	208_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 14	1	01-Aug-2019 01:30	209_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 15	1	01-Aug-2019 01:54	220_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 15	1	01-Aug-2019 01:57	221_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-46R	1	01-Aug-2019 01:59	222SMPL.d	AS BE CD CO CR LI MO PB SB SE TL
MW-47	1	01-Aug-2019 02:01	223SMPL.d	AS BE CD CO CR LI MO PB SB SE TL
MW-48	1	01-Aug-2019 02:03	224SMPL.d	AS BE CD CO CR LI MO PB SB SE TL
MW-50	1	01-Aug-2019 02:06	225SMPL.d	AS BE CD CO CR LI MO PB SB SE TL
MW-52	1	01-Aug-2019 02:08	226SMPL.d	AS BE CD CO CR LI MO PB SB SE TL
MW-54	1	01-Aug-2019 02:10	227SMPL.d	AS BE CD CO CR LI MO PB SB SE TL
MW-55R	1	01-Aug-2019 02:12	228SMPL.d	BE CD CO CR LI MO PB SB SE TL
MW-58	1	01-Aug-2019 02:15	229SMPL.d	AS BE CD CO CR LI MO PB SB SE TL
MW-65	1	01-Aug-2019 02:17	230SMPL.d	AS BE CD CO CR LI MO PB SB SE TL
CCV 16	1	01-Aug-2019 02:21	232_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 16	1	01-Aug-2019 02:24	233_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	01-Aug-2019 02:35	238LCV2.d	AS BE CD CO CR LI MO PB SB SE TL
LLICV5	1	01-Aug-2019 02:38	239LCV5.d	AS BE CD CO CR LI MO PB SB SE TL

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445
Start Date: 31-Jul-2019 End Date: 01-Aug-2019

Run ID:ICPMS05_343367
Instrument:ICPMS05
Method:SW6020

Sample No.	D/F	Time	FileID	Analytes
ICSA	1	01-Aug-2019 02:40	240ICSA.d	AS BE CD CO CR LI MO PB SB SE TL
ICSAB	1	01-Aug-2019 02:42	241ICSB.d	AS BE CD CO CR LI MO PB SB SE TL

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445
Start Date: 01-Aug-2019

Run ID: ICPMS05_343478
Instrument: ICPMS05
Method: SW6020

End Date: 02-Aug-2019

Sample No.	D/F	Time	FileID	Analytes
ICV	1	01-Aug-2019 13:00	017_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	01-Aug-2019 13:02	018LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV5	1	01-Aug-2019 13:04	019LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICB	1	01-Aug-2019 13:07	020_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	01-Aug-2019 13:12	022ICSA.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSAB	1	01-Aug-2019 13:33	025ICSB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MBLK-143612	1	01-Aug-2019 13:57	027SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
LCS-143612	1	01-Aug-2019 14:00	028SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-39	1	01-Aug-2019 14:02	029SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-39SD	5	01-Aug-2019 14:04	030SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-39MS	1	01-Aug-2019 14:06	031SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-39MSD	1	01-Aug-2019 14:09	032SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-39PDS	1	01-Aug-2019 14:11	033SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 1	1	01-Aug-2019 14:15	035_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 1	1	01-Aug-2019 14:18	036_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-40	1	01-Aug-2019 14:23	037SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-41	1	01-Aug-2019 14:25	038SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-62	1	01-Aug-2019 14:28	039SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-63	1	01-Aug-2019 14:32	041SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-64	1	01-Aug-2019 14:35	042SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-23	1	01-Aug-2019 14:37	043SMPL.d	AS BA BE CD CO LI MO PB SB SE TL
MW-28D	1	01-Aug-2019 14:39	044SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-42	1	01-Aug-2019 14:41	045SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 2	1	01-Aug-2019 14:46	047_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 2	1	01-Aug-2019 14:48	048_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 3	1	01-Aug-2019 14:54	050_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 3	1	01-Aug-2019 14:56	051_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-43	1	01-Aug-2019 15:04	052SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-44	1	01-Aug-2019 15:07	053SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-46R	1	01-Aug-2019 15:09	054SMPL.d	BA
MW-47	1	01-Aug-2019 15:13	056SMPL.d	BA
MW-48	1	01-Aug-2019 15:16	057SMPL.d	BA
MW-50	1	01-Aug-2019 15:20	059SMPL.d	BA
MW-52	1	01-Aug-2019 15:22	060SMPL.d	BA
MW-54	1	01-Aug-2019 15:25	061SMPL.d	BA
CCV 4	1	01-Aug-2019 15:27	062_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 4	1	01-Aug-2019 15:29	063_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-55R	1	01-Aug-2019 15:35	064SMPL.d	BA
MW-58	1	01-Aug-2019 15:37	065SMPL.d	BA
MW-65	1	01-Aug-2019 15:40	066SMPL.d	BA
CCB 5	1	01-Aug-2019 16:00	075_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 5	1	01-Aug-2019 16:02	076_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 6	1	01-Aug-2019 16:28	087_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 6	1	01-Aug-2019 16:31	088_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 7	1	01-Aug-2019 16:58	100_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 7	1	01-Aug-2019 17:01	101_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 8	1	01-Aug-2019 17:29	113_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 8	1	01-Aug-2019 17:31	114_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 9	1	01-Aug-2019 17:56	125_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 9	1	01-Aug-2019 17:58	126_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 10	1	01-Aug-2019 18:30	137_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445
Start Date: 01-Aug-2019 **End Date:** 02-Aug-2019

Run ID: ICPMS05_343478
Instrument: ICPMS05
Method: SW6020

Sample No.	D/F	Time	FileID	Analytes
CCB 10	1	01-Aug-2019 18:32	138_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 11	1	01-Aug-2019 18:58	149_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 11	1	01-Aug-2019 19:00	150_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 12	1	01-Aug-2019 19:25	161_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 12	1	01-Aug-2019 19:27	162_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 13	1	01-Aug-2019 20:11	173_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 13	1	01-Aug-2019 20:13	174_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 14	1	01-Aug-2019 20:38	185_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 14	1	01-Aug-2019 20:40	186_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 15	1	01-Aug-2019 21:03	196_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 15	1	01-Aug-2019 21:05	197_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 16	1	01-Aug-2019 21:30	208_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 16	1	01-Aug-2019 21:33	209_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 17	1	01-Aug-2019 21:55	219_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 17	1	01-Aug-2019 21:58	220_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 18	1	01-Aug-2019 22:35	232_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 18	1	01-Aug-2019 22:37	233_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 19	1	01-Aug-2019 22:55	241_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 19	1	01-Aug-2019 22:57	242_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 20	1	01-Aug-2019 23:22	253_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 20	1	01-Aug-2019 23:24	254_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 21	1	01-Aug-2019 23:49	265_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 21	1	01-Aug-2019 23:51	266_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 22	1	02-Aug-2019 00:09	274_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 22	1	02-Aug-2019 00:12	275_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 23	1	02-Aug-2019 00:36	286_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 23	1	02-Aug-2019 00:38	287_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 24	1	02-Aug-2019 01:03	298_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 24	1	02-Aug-2019 01:05	299_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 25	1	02-Aug-2019 01:10	301_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 25	1	02-Aug-2019 01:12	302_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	02-Aug-2019 01:14	303LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV5	1	02-Aug-2019 01:17	304LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	02-Aug-2019 01:19	305ICSA.d	AS BA BE CD CO CR LI MO PB SB SE TL

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 WorkOrder: HS19071445
 Start Date: 02-Aug-2019

Run ID:ICPMS05_343536
 Instrument:ICPMS05
 Method:SW6020

End Date: 03-Aug-2019

Sample No.	D/F	Time	FileID	Analytes
ICV	1	02-Aug-2019 11:25	017_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	02-Aug-2019 11:27	018LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICB	1	02-Aug-2019 11:31	020_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV5	1	02-Aug-2019 11:49	022LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	02-Aug-2019 11:53	023ICSA.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSAB	1	02-Aug-2019 11:55	024ICSB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 1	1	02-Aug-2019 12:33	034_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 1	1	02-Aug-2019 12:39	035_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 2	1	02-Aug-2019 13:04	045_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 2	1	02-Aug-2019 13:10	047_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 3	1	02-Aug-2019 13:35	058_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 3	1	02-Aug-2019 13:38	059_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 4	1	02-Aug-2019 14:22	070_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 4	1	02-Aug-2019 14:24	071_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 5	1	02-Aug-2019 14:51	082_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 5	1	02-Aug-2019 14:53	083_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 6	1	02-Aug-2019 15:20	094_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 6	1	02-Aug-2019 15:22	095_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 7	1	02-Aug-2019 15:49	106_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 7	1	02-Aug-2019 15:51	107_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 8	1	02-Aug-2019 16:17	118_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 8	1	02-Aug-2019 16:19	119_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 9	1	02-Aug-2019 16:49	130_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 9	1	02-Aug-2019 16:52	131_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 10	1	02-Aug-2019 17:21	142_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 10	1	02-Aug-2019 17:23	143_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 11	1	02-Aug-2019 17:56	154_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 11	1	02-Aug-2019 17:59	155_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 12	1	02-Aug-2019 18:33	166_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 12	1	02-Aug-2019 18:35	167_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 13	1	02-Aug-2019 19:02	178_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 13	1	02-Aug-2019 19:04	179_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 14	1	02-Aug-2019 19:30	190_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 14	1	02-Aug-2019 19:33	191_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCV 15	1	02-Aug-2019 20:06	205_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV2	1	02-Aug-2019 20:08	206LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV5	1	02-Aug-2019 20:11	207LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCB 15	1	02-Aug-2019 20:13	208_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 16	1	02-Aug-2019 20:39	217_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 16	1	02-Aug-2019 20:41	218_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 17	1	02-Aug-2019 21:01	227_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 17	1	02-Aug-2019 21:03	228_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 18	1	02-Aug-2019 21:24	237_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 18	1	02-Aug-2019 21:26	238_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 19	1	02-Aug-2019 21:40	244_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 19	1	02-Aug-2019 21:42	245_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 20	1	02-Aug-2019 22:23	256_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 20	1	02-Aug-2019 22:25	257_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 21	1	02-Aug-2019 23:06	271_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 21	1	02-Aug-2019 23:09	272_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 22	1	02-Aug-2019 23:33	283_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 WorkOrder: HS19071445
 Start Date: 02-Aug-2019

Run ID: ICPMS05_343536
 Instrument: ICPMS05
 Method: SW6020

End Date: 03-Aug-2019

Sample No.	D/F	Time	FileID	Analyses
CCB 22	1	02-Aug-2019 23:36	284_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 23	1	03-Aug-2019 00:01	295_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 23	1	03-Aug-2019 00:03	296_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MBLK-143613	1	03-Aug-2019 00:05	297SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
LCS-143613	1	03-Aug-2019 00:07	298SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
ZZZZZSD	5	03-Aug-2019 00:12	300SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
ZZZZZMS	1	03-Aug-2019 00:14	301SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
ZZZZZMSD	1	03-Aug-2019 00:16	302SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
ZZZZZPDS	1	03-Aug-2019 00:19	303SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 24	1	03-Aug-2019 00:21	304_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 24	1	03-Aug-2019 00:23	305_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	03-Aug-2019 00:25	306ICSA.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSAB	1	03-Aug-2019 00:28	307ICSB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 25	1	03-Aug-2019 00:46	315_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 25	1	03-Aug-2019 00:48	316_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-36	1	03-Aug-2019 01:02	322SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-37	1	03-Aug-2019 01:04	323SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 26	1	03-Aug-2019 01:06	324_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 26	1	03-Aug-2019 01:08	325_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-60	1	03-Aug-2019 01:11	326SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-61	1	03-Aug-2019 01:13	327SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
DUP-01	1	03-Aug-2019 01:15	328SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
DUP-02	1	03-Aug-2019 01:17	329SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
FB-01	1	03-Aug-2019 01:20	330SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 27	1	03-Aug-2019 01:26	333_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 27	1	03-Aug-2019 01:29	334_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 28	1	03-Aug-2019 01:51	344_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 28	1	03-Aug-2019 01:54	345_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	03-Aug-2019 01:56	346LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV5	1	03-Aug-2019 01:58	347LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	03-Aug-2019 02:01	348ICSA.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSAB	1	03-Aug-2019 02:03	349ICSB.d	AS BA BE CD CO CR LI MO PB SB SE TL

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 WorkOrder: HS19071445
 Start Date: 15-Aug-2019

Run ID:ICPMS05_344316
 Instrument:ICPMS05
 Method:SW6020

End Date: 16-Aug-2019

Sample No.	D/F	Time	FileID	Analytes
ICV	1	15-Aug-2019 13:11	018_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	15-Aug-2019 13:14	019LCV2.d	AS CR
LLICV5	1	15-Aug-2019 13:16	020LCV5.d	AS CR
ICB	1	15-Aug-2019 13:18	021_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	15-Aug-2019 13:21	022ICSA.d	AS CR
ICSAB	1	15-Aug-2019 13:23	023ICSB.d	AS CR
CCV 1	1	15-Aug-2019 13:45	031_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 1	1	15-Aug-2019 13:48	032_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 2	1	15-Aug-2019 14:11	042_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 2	1	15-Aug-2019 14:14	043_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 3	1	15-Aug-2019 14:46	054_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 3	1	15-Aug-2019 14:49	055_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 4	1	15-Aug-2019 15:15	066_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 4	1	15-Aug-2019 15:17	067_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 5	1	15-Aug-2019 15:47	079_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 5	1	15-Aug-2019 16:00	080_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 6	1	15-Aug-2019 16:27	091_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 6	1	15-Aug-2019 16:29	092_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 7	1	15-Aug-2019 17:34	103_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 7	1	15-Aug-2019 17:37	104_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 8	1	15-Aug-2019 18:10	114_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 8	1	15-Aug-2019 18:12	115_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCV 9	1	15-Aug-2019 22:52	143_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV2	1	15-Aug-2019 22:54	144LCV2.d	AS CR
LLICCV5	1	15-Aug-2019 22:56	145LCV5.d	AS CR
ICCB 9	1	15-Aug-2019 22:59	146_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 10	1	15-Aug-2019 23:15	153_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 10	1	15-Aug-2019 23:17	154_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 11	1	15-Aug-2019 23:42	165_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 11	1	15-Aug-2019 23:44	166_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 12	1	16-Aug-2019 00:04	175_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 12	1	16-Aug-2019 00:06	176_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 13	1	16-Aug-2019 00:31	187_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 13	1	16-Aug-2019 00:34	188_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 14	1	16-Aug-2019 00:50	195_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 14	1	16-Aug-2019 00:52	196_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MBLK-144172	1	16-Aug-2019 00:54	197SMPL.d	AS BA BE CD CO CR MO PB SB SE TL
LCS-144172	1	16-Aug-2019 00:56	198SMPL.d	AS BA BE CD CO CR MO PB SB SE TL
ZZZZZSD	5	16-Aug-2019 01:01	200SMPL.d	AS BA BE CD CO MO PB SB SE TL
ZZZZZMS	1	16-Aug-2019 01:03	201SMPL.d	AS BA CD CO CR MO PB SB SE TL
ZZZZZMSD	1	16-Aug-2019 01:05	202SMPL.d	AS BA CD CO CR MO PB SB SE TL
ZZZZZPDS	1	16-Aug-2019 01:08	203SMPL.d	AS BA CD CO CR MO PB SB SE TL
CCV 15	1	16-Aug-2019 01:10	204_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 15	1	16-Aug-2019 01:12	205_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-23	1	16-Aug-2019 01:26	211SMPL.d	CR
MW-55R	1	16-Aug-2019 01:28	212SMPL.d	AS
CCV 16	1	16-Aug-2019 01:37	216_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 16	1	16-Aug-2019 01:39	217_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 17	1	16-Aug-2019 02:04	228_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 17	1	16-Aug-2019 02:06	229_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 18	1	16-Aug-2019 02:11	231_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445
Start Date: 15-Aug-2019 **End Date:** 16-Aug-2019

Run ID: ICPMS05_344316
Instrument: ICPMS05
Method: SW6020

Sample No.	D/F	Time	FileID	Analytes
CCB 18	1	16-Aug-2019 02:13	232_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	16-Aug-2019 02:16	233LCV2.d	AS CR
LLICV5	1	16-Aug-2019 02:18	234LCV5.d	AS CR
ICSA	1	16-Aug-2019 02:20	235ICSA.d	AS CR
ICSAB	1	16-Aug-2019 02:22	236ICSB.d	AS CR

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

Run ID:ICPMS05_343367
Instrument:ICPMS05
Method:SW6020

CCB	Date	Seq	D/F	Units
CCB 2	31-Jul-2019 13:53	5189143	1	ug/L
	Analyte	Result	MDL	Report Limit
	Lithium	-1.18	1	5
CCB 3	31-Jul-2019 14:23	5189776	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.767	0.4	2
	Lithium	-1.412	1	5
	Thallium	0.231	0.2	2
CCB 4	31-Jul-2019 14:52	5189788	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	1.189	0.4	2
	Lithium	-1.645	1	5
CCB 5	31-Jul-2019 15:19	5189800	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.722	0.4	2
	Lithium	-1.734	1	5
	Thallium	0.234	0.2	2
CCB 6	31-Jul-2019 15:46	5189811	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.54	0.4	2
	Lithium	-1.649	1	5
CCB 7	31-Jul-2019 18:25	5190884	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.846	0.4	2
	Lithium	-1.685	1	5
	Molybdenum	0.782	0.6	5
CCB 8	31-Jul-2019 18:50	5190895	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.525	0.4	2
	Lithium	-1.247	1	5
CCB 9	31-Jul-2019 19:17	5190907	1	ug/L
	Analyte	Result	MDL	Report Limit
	Lithium	-1.148	1	5
CCB 11	01-Aug-2019 00:19	5190835	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.216	0.2	2
CCB 12	01-Aug-2019 00:47	5190847	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.211	0.2	2
CCB 13	01-Aug-2019 01:09	5190804	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.216	0.2	2
CCB 14	01-Aug-2019 01:30	5190813	1	ug/L
	Analyte	Result	MDL	Report Limit

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

Run ID:ICPMS05_343367
Instrument:ICPMS05
Method:SW6020

		Thallium	0.237	0.2	2
CCB 15	Date: 01-Aug-2019 01:57	Seq: 5190825		D/F: 1	Units: ug/L
		Analyte	Result	MDL	Report Limit
		Thallium	0.23	0.2	2
CCB 16	Date: 01-Aug-2019 02:24	Seq: 5190863		D/F: 1	Units: ug/L
		Analyte	Result	MDL	Report Limit
		Thallium	0.208	0.2	2

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

Run ID:ICPMS05_343478
Instrument:ICPMS05
Method:SW6020

CCB 1	Date: 01-Aug-2019 14:18	Seq: 5191306	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.254	0.2	2
CCB 17	Date: 01-Aug-2019 21:58	Seq: 5192203	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.756	0.4	2
CCB 20	Date: 01-Aug-2019 23:24	Seq: 5192224	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.237	0.2	2
CCB 22	Date: 02-Aug-2019 00:12	Seq: 5192266	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.242	0.2	2
CCB 23	Date: 02-Aug-2019 00:38	Seq: 5192278	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.207	0.2	2
CCB 24	Date: 02-Aug-2019 01:05	Seq: 5192252	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.206	0.2	2
CCB 25	Date: 02-Aug-2019 01:12	Seq: 5192255	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.217	0.2	2

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

Run ID:ICPMS05_343536
Instrument:ICPMS05
Method:SW6020

CCB	Date	Seq	D/F	Units
CCB 1	02-Aug-2019 12:33	5193426	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.443	0.4	2
	Thallium	0.212	0.2	2
CCB 3	02-Aug-2019 13:38	5193452	1	ug/L
	Analyte	Result	MDL	Report Limit
	Lithium	4.071	1	5
CCB 5	02-Aug-2019 14:53	5193514	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.59	0.4	2
CCB 11	02-Aug-2019 17:59	5194000	1	ug/L
	Analyte	Result	MDL	Report Limit
	Cadmium	0.256	0.2	2
	Thallium	0.253	0.2	2
CCB 12	02-Aug-2019 18:35	5194012	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.266	0.2	2
CCB 13	02-Aug-2019 19:04	5194582	1	ug/L
	Analyte	Result	MDL	Report Limit
	Lead	1.363	0.6	2
	Thallium	0.224	0.2	2
CCB 14	02-Aug-2019 19:33	5194594	1	ug/L
	Analyte	Result	MDL	Report Limit
	Cadmium	0.256	0.2	2
	Thallium	0.3	0.2	2
CCB 17	02-Aug-2019 21:03	5194639	1	ug/L
	Analyte	Result	MDL	Report Limit
	Lithium	1.101	1	5
	Thallium	0.237	0.2	2
CCB 18	02-Aug-2019 21:26	5194649	1	ug/L
	Analyte	Result	MDL	Report Limit
	Selenium	1.154	1.1	2
CCB 22	02-Aug-2019 23:36	5194690	1	ug/L
	Analyte	Result	MDL	Report Limit
	Selenium	1.383	1.1	2
CCB 23	03-Aug-2019 00:03	5194717	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.249	0.2	2
CCB 24	03-Aug-2019 00:23	5194726	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.677	0.4	2
	Beryllium	0.224	0.2	2
	Thallium	0.303	0.2	2

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

Run ID:ICPMS05_343536
Instrument:ICPMS05
Method:SW6020

CCB	Date	Seq	D/F	Units
CCB 25	03-Aug-2019 00:48	5194737	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.202	0.2	2
CCB 26	03-Aug-2019 01:08	5194704	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.251	0.2	2
CCB 27	03-Aug-2019 01:29	5194713	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.241	0.2	2
CCB 28	03-Aug-2019 01:54	5194755	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.242	0.2	2

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

Run ID:ICPMS05_344316
Instrument:ICPMS05
Method:SW6020

CCB 1	Date: 15-Aug-2019 13:48	Seq: 5211363	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.256	0.2	2
CCB 2	Date: 15-Aug-2019 14:14	Seq: 5211381	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.268	0.2	2
CCB 3	Date: 15-Aug-2019 14:49	Seq: 5211370	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.82	0.4	2
	Thallium	0.213	0.2	2
CCB 4	Date: 15-Aug-2019 15:17	Seq: 5212007	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.948	0.4	2
	Thallium	0.267	0.2	2
CCB 5	Date: 15-Aug-2019 15:47	Seq: 5212019	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.551	0.4	2
	Thallium	0.236	0.2	2
CCB 6	Date: 15-Aug-2019 16:29	Seq: 5212032	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.407	0.4	2
	Thallium	0.28	0.2	2
CCB 7	Date: 15-Aug-2019 17:37	Seq: 5212044	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.315	0.2	2
CCB 8	Date: 15-Aug-2019 18:12	Seq: 5212055	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.231	0.2	2
ICCB 9	Date: 15-Aug-2019 22:59	Seq: 5212072	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Molybdenum	1.129	0.6	5
CCB 10	Date: 15-Aug-2019 23:17	Seq: 5212080	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.629	0.4	2
CCB 11	Date: 15-Aug-2019 23:44	Seq: 5212092	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.427	0.4	2
CCB 15	Date: 16-Aug-2019 01:12	Seq: 5212164	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.533	0.4	2
CCB 17	Date: 16-Aug-2019 02:06	Seq: 5212191	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.438	0.4	2

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

Run ID:ICPMS05_344316
 Instrument:ICPMS05
 Method:SW6020

Molybdenum	0.639	0.6	5
Selenium	1.958	1.1	2
Thallium	0.21	0.2	2

CCB 18	Date: 16-Aug-2019 02:13	Seq: 5212194	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.434	0.4	2
	Selenium	1.6	1.1	2
	Thallium	0.205	0.2	2

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Date: 30-Aug-19

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
Work Order: HS19071445

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19071445-01	MW-39	Groundwater		29-Jul-2019 12:50	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-02	MW-40	Groundwater		29-Jul-2019 11:55	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-03	MW-41	Groundwater		29-Jul-2019 10:15	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-04	MW-62	Groundwater		29-Jul-2019 13:40	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-05	MW-63	Groundwater		29-Jul-2019 08:55	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-06	MW-64	Groundwater		29-Jul-2019 11:05	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-07	MW-23	Groundwater		29-Jul-2019 12:40	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-08	MW-28D	Groundwater		29-Jul-2019 08:25	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-09	MW-42	Groundwater		29-Jul-2019 11:55	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-10	MW-43	Groundwater		29-Jul-2019 11:40	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-11	MW-44	Groundwater		29-Jul-2019 12:45	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-12	MW-46R	Groundwater		29-Jul-2019 09:00	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-13	MW-47	Groundwater		29-Jul-2019 10:50	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-14	MW-48	Groundwater		29-Jul-2019 10:00	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-15	MW-50	Groundwater		29-Jul-2019 13:40	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-16	MW-52	Groundwater		29-Jul-2019 14:20	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-17	MW-54	Groundwater		29-Jul-2019 11:10	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-18	MW-55R	Groundwater		29-Jul-2019 12:00	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-19	MW-58	Groundwater		29-Jul-2019 09:45	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-20	MW-65	Groundwater		29-Jul-2019 12:45	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-21	MW-36	Groundwater		29-Jul-2019 10:45	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-22	MW-37	Groundwater		29-Jul-2019 08:25	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-23	MW-60	Groundwater		29-Jul-2019 09:05	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-24	MW-61	Groundwater		29-Jul-2019 09:50	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-25	DUP-01	Groundwater		29-Jul-2019 08:00	29-Jul-2019 16:25	<input type="checkbox"/>
HS19071445-26	DUP-02	Groundwater		29-Jul-2019 10:00	29-Jul-2019 16:25	<input type="checkbox"/>

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ALS Houston, US

Date: 30-Aug-19

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
Work Order: HS19071445

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19071445-27	FB-01	Water		29-Jul-2019 10:05	29-Jul-2019 16:25	<input type="checkbox"/>

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-39
 Collection Date: 29-Jul-2019 12:50

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 14:02
Arsenic	0.000996	J	0.000400	0.00200	mg/L	1	01-Aug-2019 14:02
Barium	0.152		0.00190	0.00400	mg/L	1	01-Aug-2019 14:02
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:02
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:02
Chromium	0.00210	J	0.000400	0.00400	mg/L	1	01-Aug-2019 14:02
Cobalt	0.000252	J	0.000200	0.00500	mg/L	1	01-Aug-2019 14:02
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 14:02
Lithium	0.0385		0.00100	0.00500	mg/L	1	01-Aug-2019 14:02
Molybdenum	0.000627	J	0.000600	0.00500	mg/L	1	01-Aug-2019 14:02
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 14:02
Thallium	0.000202	J	0.000200	0.00200	mg/L	1	01-Aug-2019 14:02
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	0.0000740	J	0.0000300	0.000200	mg/L	1	02-Aug-2019 16:32
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-40
 Collection Date: 29-Jul-2019 11:55

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 14:23
Arsenic	0.00107	J	0.000400	0.00200	mg/L	1	01-Aug-2019 14:23
Barium	0.622		0.00190	0.00400	mg/L	1	01-Aug-2019 14:23
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:23
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:23
Chromium	0.00565		0.000400	0.00400	mg/L	1	01-Aug-2019 14:23
Cobalt	0.00113	J	0.000200	0.00500	mg/L	1	01-Aug-2019 14:23
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 14:23
Lithium	0.0435		0.00100	0.00500	mg/L	1	01-Aug-2019 14:23
Molybdenum	0.00198	J	0.000600	0.00500	mg/L	1	01-Aug-2019 14:23
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 14:23
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:23
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:37
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-41
 Collection Date: 29-Jul-2019 10:15

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 14:25
Arsenic	0.000646	J	0.000400	0.00200	mg/L	1	01-Aug-2019 14:25
Barium	0.315		0.00190	0.00400	mg/L	1	01-Aug-2019 14:25
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:25
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:25
Chromium	0.00196	J	0.000400	0.00400	mg/L	1	01-Aug-2019 14:25
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	01-Aug-2019 14:25
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 14:25
Lithium	0.0321		0.00100	0.00500	mg/L	1	01-Aug-2019 14:25
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	01-Aug-2019 14:25
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 14:25
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:25
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:39
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-62
 Collection Date: 29-Jul-2019 13:40

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 14:28
Arsenic	0.000636	J	0.000400	0.00200	mg/L	1	01-Aug-2019 14:28
Barium	0.327		0.00190	0.00400	mg/L	1	01-Aug-2019 14:28
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:28
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:28
Chromium	0.00798		0.000400	0.00400	mg/L	1	01-Aug-2019 14:28
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	01-Aug-2019 14:28
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 14:28
Lithium	0.0519		0.00100	0.00500	mg/L	1	01-Aug-2019 14:28
Molybdenum	0.00100	J	0.000600	0.00500	mg/L	1	01-Aug-2019 14:28
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 14:28
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:28
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 30-Aug-19

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-63
 Collection Date: 29-Jul-2019 08:55

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 14:32
Arsenic	0.00186	J	0.000400	0.00200	mg/L	1	01-Aug-2019 14:32
Barium	0.0954		0.00190	0.00400	mg/L	1	01-Aug-2019 14:32
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:32
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:32
Chromium	0.0793		0.000400	0.00400	mg/L	1	01-Aug-2019 14:32
Cobalt	0.000275	J	0.000200	0.00500	mg/L	1	01-Aug-2019 14:32
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 14:32
Lithium	0.0299		0.00100	0.00500	mg/L	1	01-Aug-2019 14:32
Molybdenum	0.00136	J	0.000600	0.00500	mg/L	1	01-Aug-2019 14:32
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 14:32
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:32
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	0.000256		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:27
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-64
 Collection Date: 29-Jul-2019 11:05

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 14:35
Arsenic	0.00107	J	0.000400	0.00200	mg/L	1	01-Aug-2019 14:35
Barium	0.284		0.00190	0.00400	mg/L	1	01-Aug-2019 14:35
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:35
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:35
Chromium	0.00131	J	0.000400	0.00400	mg/L	1	01-Aug-2019 14:35
Cobalt	0.000855	J	0.000200	0.00500	mg/L	1	01-Aug-2019 14:35
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 14:35
Lithium	0.0312		0.00100	0.00500	mg/L	1	01-Aug-2019 14:35
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	01-Aug-2019 14:35
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 14:35
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:35
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:42
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-23
 Collection Date: 29-Jul-2019 12:40

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 14:37
Arsenic	0.00284		0.000400	0.00200	mg/L	1	01-Aug-2019 14:37
Barium	0.139		0.00190	0.00400	mg/L	1	01-Aug-2019 14:37
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:37
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:37
Chromium	0.251		0.000400	0.00400	mg/L	1	16-Aug-2019 01:26
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	01-Aug-2019 14:37
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 14:37
Lithium	0.0869		0.00100	0.00500	mg/L	1	01-Aug-2019 14:37
Molybdenum	0.00576		0.000600	0.00500	mg/L	1	01-Aug-2019 14:37
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 14:37
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:37
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:44
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-28D
 Collection Date: 29-Jul-2019 08:25

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 14:39
Arsenic	0.0108		0.000400	0.00200	mg/L	1	01-Aug-2019 14:39
Barium	0.216		0.00190	0.00400	mg/L	1	01-Aug-2019 14:39
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:39
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:39
Chromium	0.00220	J	0.000400	0.00400	mg/L	1	01-Aug-2019 14:39
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	01-Aug-2019 14:39
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 14:39
Lithium	0.0323		0.00100	0.00500	mg/L	1	01-Aug-2019 14:39
Molybdenum	0.00191	J	0.000600	0.00500	mg/L	1	01-Aug-2019 14:39
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 14:39
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:39
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:45
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-42
 Collection Date: 29-Jul-2019 11:55

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 14:41
Arsenic	0.0455		0.000400	0.00200	mg/L	1	01-Aug-2019 14:41
Barium	0.0518		0.00190	0.00400	mg/L	1	01-Aug-2019 14:41
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:41
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:41
Chromium	0.00144	J	0.000400	0.00400	mg/L	1	01-Aug-2019 14:41
Cobalt	0.000701	J	0.000200	0.00500	mg/L	1	01-Aug-2019 14:41
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 14:41
Lithium	0.0393		0.00100	0.00500	mg/L	1	01-Aug-2019 14:41
Molybdenum	0.00746		0.000600	0.00500	mg/L	1	01-Aug-2019 14:41
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 14:41
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 14:41
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:47
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-43
 Collection Date: 29-Jul-2019 11:40

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 15:04
Arsenic	0.0214		0.000400	0.00200	mg/L	1	01-Aug-2019 15:04
Barium	0.136		0.00190	0.00400	mg/L	1	01-Aug-2019 15:04
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 15:04
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 15:04
Chromium	0.00206	J	0.000400	0.00400	mg/L	1	01-Aug-2019 15:04
Cobalt	0.000221	J	0.000200	0.00500	mg/L	1	01-Aug-2019 15:04
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 15:04
Lithium	0.0436		0.00100	0.00500	mg/L	1	01-Aug-2019 15:04
Molybdenum	0.00842		0.000600	0.00500	mg/L	1	01-Aug-2019 15:04
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 15:04
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 15:04
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:49
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 30-Aug-19

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-44
 Collection Date: 29-Jul-2019 12:45

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 15:07
Arsenic	0.00800		0.000400	0.00200	mg/L	1	01-Aug-2019 15:07
Barium	0.142		0.00190	0.00400	mg/L	1	01-Aug-2019 15:07
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 15:07
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 15:07
Chromium	0.00164	J	0.000400	0.00400	mg/L	1	01-Aug-2019 15:07
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	01-Aug-2019 15:07
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 15:07
Lithium	0.0396		0.00100	0.00500	mg/L	1	01-Aug-2019 15:07
Molybdenum	0.00311	J	0.000600	0.00500	mg/L	1	01-Aug-2019 15:07
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 15:07
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 15:07
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:51
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-46R
 Collection Date: 29-Jul-2019 09:00

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 01:59
Arsenic	0.00659		0.000400	0.00200	mg/L	1	01-Aug-2019 01:59
Barium	0.209		0.00190	0.00400	mg/L	1	01-Aug-2019 15:09
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 01:59
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 01:59
Chromium	0.00125	J	0.000400	0.00400	mg/L	1	01-Aug-2019 01:59
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	01-Aug-2019 01:59
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 01:59
Lithium	0.0324		0.00100	0.00500	mg/L	1	01-Aug-2019 01:59
Molybdenum	0.00193	J	0.000600	0.00500	mg/L	1	01-Aug-2019 01:59
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 01:59
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 01:59
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:52
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-47
 Collection Date: 29-Jul-2019 10:50

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 02:01
Arsenic	0.000415	J	0.000400	0.00200	mg/L	1	01-Aug-2019 02:01
Barium	0.218		0.00190	0.00400	mg/L	1	01-Aug-2019 15:13
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:01
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:01
Chromium	0.00170	J	0.000400	0.00400	mg/L	1	01-Aug-2019 02:01
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	01-Aug-2019 02:01
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 02:01
Lithium	0.0399		0.00100	0.00500	mg/L	1	01-Aug-2019 02:01
Molybdenum	0.00168	J	0.000600	0.00500	mg/L	1	01-Aug-2019 02:01
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 02:01
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:01
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:57
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 30-Aug-19

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-48
 Collection Date: 29-Jul-2019 10:00

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-14
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 02:03
Arsenic	0.0104		0.000400	0.00200	mg/L	1	01-Aug-2019 02:03
Barium	0.0783		0.00190	0.00400	mg/L	1	01-Aug-2019 15:16
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:03
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:03
Chromium	0.00127	J	0.000400	0.00400	mg/L	1	01-Aug-2019 02:03
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	01-Aug-2019 02:03
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 02:03
Lithium	0.0408		0.00100	0.00500	mg/L	1	01-Aug-2019 02:03
Molybdenum	0.0115		0.000600	0.00500	mg/L	1	01-Aug-2019 02:03
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 02:03
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:03
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:59
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-50
 Collection Date: 29-Jul-2019 13:40

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-15
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 02:06
Arsenic	0.00986		0.000400	0.00200	mg/L	1	01-Aug-2019 02:06
Barium	0.216		0.00190	0.00400	mg/L	1	01-Aug-2019 15:20
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:06
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:06
Chromium	0.00169	J	0.000400	0.00400	mg/L	1	01-Aug-2019 02:06
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	01-Aug-2019 02:06
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 02:06
Lithium	0.0455		0.00100	0.00500	mg/L	1	01-Aug-2019 02:06
Molybdenum	0.00312	J	0.000600	0.00500	mg/L	1	01-Aug-2019 02:06
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 02:06
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:06
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 17:01
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 30-Aug-19

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-52
 Collection Date: 29-Jul-2019 14:20

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-16
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 02:08
Arsenic	0.0358		0.000400	0.00200	mg/L	1	01-Aug-2019 02:08
Barium	0.0689		0.00190	0.00400	mg/L	1	01-Aug-2019 15:22
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:08
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:08
Chromium	0.00344	J	0.000400	0.00400	mg/L	1	01-Aug-2019 02:08
Cobalt	0.00125	J	0.000200	0.00500	mg/L	1	01-Aug-2019 02:08
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 02:08
Lithium	0.0624		0.00100	0.00500	mg/L	1	01-Aug-2019 02:08
Molybdenum	0.00577		0.000600	0.00500	mg/L	1	01-Aug-2019 02:08
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 02:08
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:08
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 17:02
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-54
 Collection Date: 29-Jul-2019 11:10

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-17
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 02:10
Arsenic	0.00586		0.000400	0.00200	mg/L	1	01-Aug-2019 02:10
Barium	0.112		0.00190	0.00400	mg/L	1	01-Aug-2019 15:25
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:10
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:10
Chromium	0.00292	J	0.000400	0.00400	mg/L	1	01-Aug-2019 02:10
Cobalt	0.000488	J	0.000200	0.00500	mg/L	1	01-Aug-2019 02:10
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 02:10
Lithium	0.0400		0.00100	0.00500	mg/L	1	01-Aug-2019 02:10
Molybdenum	0.00299	J	0.000600	0.00500	mg/L	1	01-Aug-2019 02:10
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 02:10
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:10
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 17:04
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-55R
 Collection Date: 29-Jul-2019 12:00

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-18
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 02:12
Arsenic	0.0163		0.000400	0.00200	mg/L	1	16-Aug-2019 01:28
Barium	0.0858		0.00190	0.00400	mg/L	1	01-Aug-2019 15:35
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:12
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:12
Chromium	0.00137	J	0.000400	0.00400	mg/L	1	01-Aug-2019 02:12
Cobalt	0.000357	J	0.000200	0.00500	mg/L	1	01-Aug-2019 02:12
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 02:12
Lithium	0.0512		0.00100	0.00500	mg/L	1	01-Aug-2019 02:12
Molybdenum	0.0129		0.000600	0.00500	mg/L	1	01-Aug-2019 02:12
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 02:12
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:12
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 17:06
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-58
 Collection Date: 29-Jul-2019 09:45

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-19
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 02:15
Arsenic	0.0139		0.000400	0.00200	mg/L	1	01-Aug-2019 02:15
Barium	0.166		0.00190	0.00400	mg/L	1	01-Aug-2019 15:37
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:15
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:15
Chromium	0.00146	J	0.000400	0.00400	mg/L	1	01-Aug-2019 02:15
Cobalt	0.000387	J	0.000200	0.00500	mg/L	1	01-Aug-2019 02:15
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 02:15
Lithium	0.0417		0.00100	0.00500	mg/L	1	01-Aug-2019 02:15
Molybdenum	0.00265	J	0.000600	0.00500	mg/L	1	01-Aug-2019 02:15
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 02:15
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:15
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 15:35
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 30-Aug-19

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-65
 Collection Date: 29-Jul-2019 12:45

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-20
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	01-Aug-2019 02:17
Arsenic	0.00167	J	0.000400	0.00200	mg/L	1	01-Aug-2019 02:17
Barium	0.0612		0.00190	0.00400	mg/L	1	01-Aug-2019 15:40
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:17
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:17
Chromium	0.00144	J	0.000400	0.00400	mg/L	1	01-Aug-2019 02:17
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	01-Aug-2019 02:17
Lead	< 0.000600		0.000600	0.00200	mg/L	1	01-Aug-2019 02:17
Lithium	0.0529		0.00100	0.00500	mg/L	1	01-Aug-2019 02:17
Molybdenum	0.00314	J	0.000600	0.00500	mg/L	1	01-Aug-2019 02:17
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Aug-2019 02:17
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	01-Aug-2019 02:17
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 17:07
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-36
 Collection Date: 29-Jul-2019 10:45

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-21
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	03-Aug-2019 01:02
Arsenic	0.000663	J	0.000400	0.00200	mg/L	1	03-Aug-2019 01:02
Barium	0.0373		0.00190	0.00400	mg/L	1	03-Aug-2019 01:02
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:02
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:02
Chromium	0.00162	J	0.000400	0.00400	mg/L	1	03-Aug-2019 01:02
Cobalt	0.000443	J	0.000200	0.00500	mg/L	1	03-Aug-2019 01:02
Lead	< 0.000600		0.000600	0.00200	mg/L	1	03-Aug-2019 01:02
Lithium	0.0397		0.00100	0.00500	mg/L	1	03-Aug-2019 01:02
Molybdenum	0.000948	J	0.000600	0.00500	mg/L	1	03-Aug-2019 01:02
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	03-Aug-2019 01:02
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:02
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	0.000372		0.0000300	0.000200	mg/L	1	02-Aug-2019 17:09
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-37
 Collection Date: 29-Jul-2019 08:25

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-22
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	03-Aug-2019 01:04
Arsenic	0.000620	J	0.000400	0.00200	mg/L	1	03-Aug-2019 01:04
Barium	0.0234		0.00190	0.00400	mg/L	1	03-Aug-2019 01:04
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:04
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:04
Chromium	0.00134	J	0.000400	0.00400	mg/L	1	03-Aug-2019 01:04
Cobalt	0.000596	J	0.000200	0.00500	mg/L	1	03-Aug-2019 01:04
Lead	< 0.000600		0.000600	0.00200	mg/L	1	03-Aug-2019 01:04
Lithium	0.0349		0.00100	0.00500	mg/L	1	03-Aug-2019 01:04
Molybdenum	0.000668	J	0.000600	0.00500	mg/L	1	03-Aug-2019 01:04
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	03-Aug-2019 01:04
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:04
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:00
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-60
 Collection Date: 29-Jul-2019 09:05

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-23
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	03-Aug-2019 01:11
Arsenic	0.000689	J	0.000400	0.00200	mg/L	1	03-Aug-2019 01:11
Barium	0.0704		0.00190	0.00400	mg/L	1	03-Aug-2019 01:11
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:11
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:11
Chromium	0.00133	J	0.000400	0.00400	mg/L	1	03-Aug-2019 01:11
Cobalt	0.000585	J	0.000200	0.00500	mg/L	1	03-Aug-2019 01:11
Lead	< 0.000600		0.000600	0.00200	mg/L	1	03-Aug-2019 01:11
Lithium	0.0293		0.00100	0.00500	mg/L	1	03-Aug-2019 01:11
Molybdenum	0.00184	J	0.000600	0.00500	mg/L	1	03-Aug-2019 01:11
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	03-Aug-2019 01:11
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:11
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:02
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: MW-61
 Collection Date: 29-Jul-2019 09:50

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-24
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	03-Aug-2019 01:13
Arsenic	0.000585	J	0.000400	0.00200	mg/L	1	03-Aug-2019 01:13
Barium	0.0144		0.00190	0.00400	mg/L	1	03-Aug-2019 01:13
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:13
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:13
Chromium	0.00132	J	0.000400	0.00400	mg/L	1	03-Aug-2019 01:13
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	03-Aug-2019 01:13
Lead	< 0.000600		0.000600	0.00200	mg/L	1	03-Aug-2019 01:13
Lithium	0.0349		0.00100	0.00500	mg/L	1	03-Aug-2019 01:13
Molybdenum	0.000929	J	0.000600	0.00500	mg/L	1	03-Aug-2019 01:13
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	03-Aug-2019 01:13
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:13
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:03
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: DUP-01
 Collection Date: 29-Jul-2019 08:00

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-25
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	03-Aug-2019 01:15
Arsenic	0.000431	J	0.000400	0.00200	mg/L	1	03-Aug-2019 01:15
Barium	0.0335		0.00190	0.00400	mg/L	1	03-Aug-2019 01:15
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:15
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:15
Chromium	0.00149	J	0.000400	0.00400	mg/L	1	03-Aug-2019 01:15
Cobalt	0.000377	J	0.000200	0.00500	mg/L	1	03-Aug-2019 01:15
Lead	< 0.000600		0.000600	0.00200	mg/L	1	03-Aug-2019 01:15
Lithium	0.0391		0.00100	0.00500	mg/L	1	03-Aug-2019 01:15
Molybdenum	0.00100	J	0.000600	0.00500	mg/L	1	03-Aug-2019 01:15
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	03-Aug-2019 01:15
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:15
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	0.000354		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:05
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 30-Aug-19

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: DUP-02
 Collection Date: 29-Jul-2019 10:00

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-26
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	03-Aug-2019 01:17
Arsenic	0.00712		0.000400	0.00200	mg/L	1	03-Aug-2019 01:17
Barium	0.129		0.00190	0.00400	mg/L	1	03-Aug-2019 01:17
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:17
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:17
Chromium	0.00143	J	0.000400	0.00400	mg/L	1	03-Aug-2019 01:17
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	03-Aug-2019 01:17
Lead	< 0.000600		0.000600	0.00200	mg/L	1	03-Aug-2019 01:17
Lithium	0.0364		0.00100	0.00500	mg/L	1	03-Aug-2019 01:17
Molybdenum	0.00289	J	0.000600	0.00500	mg/L	1	03-Aug-2019 01:17
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	03-Aug-2019 01:17
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:17
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:07
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish – CCR Program App IV
 Sample ID: FB-01
 Collection Date: 29-Jul-2019 10:05

ANALYTICAL REPORT

WorkOrder:HS19071445
 Lab ID:HS19071445-27
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 31-Jul-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	03-Aug-2019 01:20
Arsenic	< 0.000400		0.000400	0.00200	mg/L	1	03-Aug-2019 01:20
Barium	< 0.00190		0.00190	0.00400	mg/L	1	03-Aug-2019 01:20
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:20
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:20
Chromium	0.00127	J	0.000400	0.00400	mg/L	1	03-Aug-2019 01:20
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	03-Aug-2019 01:20
Lead	< 0.000600		0.000600	0.00200	mg/L	1	03-Aug-2019 01:20
Lithium	< 0.00100		0.00100	0.00500	mg/L	1	03-Aug-2019 01:20
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	03-Aug-2019 01:20
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	03-Aug-2019 01:20
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	03-Aug-2019 01:20
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	02-Aug-2019 16:12
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	05-Aug-2019 15:29
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 09:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

Batch ID: 143612 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19071445-01	1	10	10 (mL)	1
HS19071445-02	1	10	10 (mL)	1
HS19071445-03	1	10	10 (mL)	1
HS19071445-04	1	10	10 (mL)	1
HS19071445-05	1	10	10 (mL)	1
HS19071445-06	1	10	10 (mL)	1
HS19071445-07	1	10	10 (mL)	1
HS19071445-08	1	10	10 (mL)	1
HS19071445-09	1	10	10 (mL)	1
HS19071445-10	1	10	10 (mL)	1
HS19071445-11	1	10	10 (mL)	1
HS19071445-12	1	10	10 (mL)	1
HS19071445-13	1	10	10 (mL)	1
HS19071445-14	1	10	10 (mL)	1
HS19071445-15	1	10	10 (mL)	1
HS19071445-16	1	10	10 (mL)	1
HS19071445-17	1	10	10 (mL)	1
HS19071445-18	1	10	10 (mL)	1
HS19071445-19	1	10	10 (mL)	1
HS19071445-20	1	10	10 (mL)	1

Batch ID: 143613 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19071445-21	1	10	10 (mL)	1
HS19071445-22	1	10	10 (mL)	1
HS19071445-23	1	10	10 (mL)	1
HS19071445-24	1	10	10 (mL)	1
HS19071445-25	1	10	10 (mL)	1
HS19071445-26	1	10	10 (mL)	1
HS19071445-27	1	10	10 (mL)	1

Batch ID: 143734 **Method:** MERCURY BY SW7470A **Prep:** HG_WPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19071445-19	1	10 (mL)	10 (mL)	1
HS19071445-22	1	10 (mL)	10 (mL)	1
HS19071445-23	1	10 (mL)	10 (mL)	1
HS19071445-24	1	10 (mL)	10 (mL)	1
HS19071445-25	1	10 (mL)	10 (mL)	1
HS19071445-26	1	10 (mL)	10 (mL)	1
HS19071445-27	1	10 (mL)	10 (mL)	1

WEIGHT LOG

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

Batch ID: 143736 **Method:** MERCURY BY SW7470A **Prep:** HG_WPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19071445-01	1	10 (mL)	10 (mL)	1
HS19071445-02	1	10 (mL)	10 (mL)	1
HS19071445-03	1	10 (mL)	10 (mL)	1
HS19071445-04	1	10 (mL)	10 (mL)	1
HS19071445-05	1	10 (mL)	10 (mL)	1
HS19071445-06	1	10 (mL)	10 (mL)	1
HS19071445-07	1	10 (mL)	10 (mL)	1
HS19071445-08	1	10 (mL)	10 (mL)	1
HS19071445-09	1	10 (mL)	10 (mL)	1
HS19071445-10	1	10 (mL)	10 (mL)	1
HS19071445-11	1	10 (mL)	10 (mL)	1
HS19071445-12	1	10 (mL)	10 (mL)	1
HS19071445-13	1	10 (mL)	10 (mL)	1
HS19071445-14	1	10 (mL)	10 (mL)	1
HS19071445-15	1	10 (mL)	10 (mL)	1
HS19071445-16	1	10 (mL)	10 (mL)	1
HS19071445-17	1	10 (mL)	10 (mL)	1
HS19071445-18	1	10 (mL)	10 (mL)	1
HS19071445-20	1	10 (mL)	10 (mL)	1
HS19071445-21	1	10 (mL)	10 (mL)	1

Batch ID: 144172 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19071445-07	1	10	10 (mL)	1
HS19071445-18	1	10	10 (mL)	1

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ALS Houston, US

Date: 30-Aug-19

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143612 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS19071445-01	MW-39	29 Jul 2019 12:50		31 Jul 2019 10:30	01 Aug 2019 14:02	1
HS19071445-02	MW-40	29 Jul 2019 11:55		31 Jul 2019 10:30	01 Aug 2019 14:23	1
HS19071445-03	MW-41	29 Jul 2019 10:15		31 Jul 2019 10:30	01 Aug 2019 14:25	1
HS19071445-04	MW-62	29 Jul 2019 13:40		31 Jul 2019 10:30	01 Aug 2019 14:28	1
HS19071445-05	MW-63	29 Jul 2019 08:55		31 Jul 2019 10:30	01 Aug 2019 14:32	1
HS19071445-06	MW-64	29 Jul 2019 11:05		31 Jul 2019 10:30	01 Aug 2019 14:35	1
HS19071445-07	MW-23	29 Jul 2019 12:40		31 Jul 2019 10:30	01 Aug 2019 14:37	1
HS19071445-08	MW-28D	29 Jul 2019 08:25		31 Jul 2019 10:30	01 Aug 2019 14:39	1
HS19071445-09	MW-42	29 Jul 2019 11:55		31 Jul 2019 10:30	01 Aug 2019 14:41	1
HS19071445-10	MW-43	29 Jul 2019 11:40		31 Jul 2019 10:30	01 Aug 2019 15:04	1
HS19071445-11	MW-44	29 Jul 2019 12:45		31 Jul 2019 10:30	01 Aug 2019 15:07	1
HS19071445-12	MW-46R	29 Jul 2019 09:00		31 Jul 2019 10:30	01 Aug 2019 15:09	1
HS19071445-12	MW-46R	29 Jul 2019 09:00		31 Jul 2019 10:30	01 Aug 2019 01:59	1
HS19071445-13	MW-47	29 Jul 2019 10:50		31 Jul 2019 10:30	01 Aug 2019 15:13	1
HS19071445-13	MW-47	29 Jul 2019 10:50		31 Jul 2019 10:30	01 Aug 2019 02:01	1
HS19071445-14	MW-48	29 Jul 2019 10:00		31 Jul 2019 10:30	01 Aug 2019 15:16	1
HS19071445-14	MW-48	29 Jul 2019 10:00		31 Jul 2019 10:30	01 Aug 2019 02:03	1
HS19071445-15	MW-50	29 Jul 2019 13:40		31 Jul 2019 10:30	01 Aug 2019 15:20	1
HS19071445-15	MW-50	29 Jul 2019 13:40		31 Jul 2019 10:30	01 Aug 2019 02:06	1
HS19071445-16	MW-52	29 Jul 2019 14:20		31 Jul 2019 10:30	01 Aug 2019 15:22	1
HS19071445-16	MW-52	29 Jul 2019 14:20		31 Jul 2019 10:30	01 Aug 2019 02:08	1
HS19071445-17	MW-54	29 Jul 2019 11:10		31 Jul 2019 10:30	01 Aug 2019 15:25	1
HS19071445-17	MW-54	29 Jul 2019 11:10		31 Jul 2019 10:30	01 Aug 2019 02:10	1
HS19071445-18	MW-55R	29 Jul 2019 12:00		31 Jul 2019 10:30	01 Aug 2019 15:35	1
HS19071445-18	MW-55R	29 Jul 2019 12:00		31 Jul 2019 10:30	01 Aug 2019 02:12	1
HS19071445-19	MW-58	29 Jul 2019 09:45		31 Jul 2019 10:30	01 Aug 2019 15:37	1
HS19071445-19	MW-58	29 Jul 2019 09:45		31 Jul 2019 10:30	01 Aug 2019 02:15	1
HS19071445-20	MW-65	29 Jul 2019 12:45		31 Jul 2019 10:30	01 Aug 2019 15:40	1
HS19071445-20	MW-65	29 Jul 2019 12:45		31 Jul 2019 10:30	01 Aug 2019 02:17	1
Batch ID: 143613 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Water	
HS19071445-27	FB-01	29 Jul 2019 10:05		31 Jul 2019 10:30	03 Aug 2019 01:20	1
Batch ID: 143613 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS19071445-21	MW-36	29 Jul 2019 10:45		31 Jul 2019 10:30	03 Aug 2019 01:02	1
HS19071445-22	MW-37	29 Jul 2019 08:25		31 Jul 2019 10:30	03 Aug 2019 01:04	1
HS19071445-23	MW-60	29 Jul 2019 09:05		31 Jul 2019 10:30	03 Aug 2019 01:11	1
HS19071445-24	MW-61	29 Jul 2019 09:50		31 Jul 2019 10:30	03 Aug 2019 01:13	1
HS19071445-25	DUP-01	29 Jul 2019 08:00		31 Jul 2019 10:30	03 Aug 2019 01:15	1
HS19071445-26	DUP-02	29 Jul 2019 10:00		31 Jul 2019 10:30	03 Aug 2019 01:17	1

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Project: NRG WA Parish – CCR Program App IV
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Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143734 (0)		Test Name : MERCURY BY SW7470A			Matrix: Water	
HS19071445-27	FB-01	29 Jul 2019 10:05		02 Aug 2019 10:30	02 Aug 2019 16:12	1
Batch ID: 143734 (0)		Test Name : MERCURY BY SW7470A			Matrix: Groundwater	
HS19071445-19	MW-58	29 Jul 2019 09:45		02 Aug 2019 10:30	02 Aug 2019 15:35	1
HS19071445-22	MW-37	29 Jul 2019 08:25		02 Aug 2019 10:30	02 Aug 2019 16:00	1
HS19071445-23	MW-60	29 Jul 2019 09:05		02 Aug 2019 10:30	02 Aug 2019 16:02	1
HS19071445-24	MW-61	29 Jul 2019 09:50		02 Aug 2019 10:30	02 Aug 2019 16:03	1
HS19071445-25	DUP-01	29 Jul 2019 08:00		02 Aug 2019 10:30	02 Aug 2019 16:05	1
HS19071445-26	DUP-02	29 Jul 2019 10:00		02 Aug 2019 10:30	02 Aug 2019 16:07	1
Batch ID: 143736 (0)		Test Name : MERCURY BY SW7470A			Matrix: Groundwater	
HS19071445-01	MW-39	29 Jul 2019 12:50		02 Aug 2019 11:00	02 Aug 2019 16:32	1
HS19071445-02	MW-40	29 Jul 2019 11:55		02 Aug 2019 11:00	02 Aug 2019 16:37	1
HS19071445-03	MW-41	29 Jul 2019 10:15		02 Aug 2019 11:00	02 Aug 2019 16:39	1
HS19071445-04	MW-62	29 Jul 2019 13:40		02 Aug 2019 11:00	02 Aug 2019 16:40	1
HS19071445-05	MW-63	29 Jul 2019 08:55		02 Aug 2019 11:00	02 Aug 2019 16:27	1
HS19071445-06	MW-64	29 Jul 2019 11:05		02 Aug 2019 11:00	02 Aug 2019 16:42	1
HS19071445-07	MW-23	29 Jul 2019 12:40		02 Aug 2019 11:00	02 Aug 2019 16:44	1
HS19071445-08	MW-28D	29 Jul 2019 08:25		02 Aug 2019 11:00	02 Aug 2019 16:45	1
HS19071445-09	MW-42	29 Jul 2019 11:55		02 Aug 2019 11:00	02 Aug 2019 16:47	1
HS19071445-10	MW-43	29 Jul 2019 11:40		02 Aug 2019 11:00	02 Aug 2019 16:49	1
HS19071445-11	MW-44	29 Jul 2019 12:45		02 Aug 2019 11:00	02 Aug 2019 16:51	1
HS19071445-12	MW-46R	29 Jul 2019 09:00		02 Aug 2019 11:00	02 Aug 2019 16:52	1
HS19071445-13	MW-47	29 Jul 2019 10:50		02 Aug 2019 11:00	02 Aug 2019 16:57	1
HS19071445-14	MW-48	29 Jul 2019 10:00		02 Aug 2019 11:00	02 Aug 2019 16:59	1
HS19071445-15	MW-50	29 Jul 2019 13:40		02 Aug 2019 11:00	02 Aug 2019 17:01	1
HS19071445-16	MW-52	29 Jul 2019 14:20		02 Aug 2019 11:00	02 Aug 2019 17:02	1
HS19071445-17	MW-54	29 Jul 2019 11:10		02 Aug 2019 11:00	02 Aug 2019 17:04	1
HS19071445-18	MW-55R	29 Jul 2019 12:00		02 Aug 2019 11:00	02 Aug 2019 17:06	1
HS19071445-20	MW-65	29 Jul 2019 12:45		02 Aug 2019 11:00	02 Aug 2019 17:07	1
HS19071445-21	MW-36	29 Jul 2019 10:45		02 Aug 2019 11:00	02 Aug 2019 17:09	1
Batch ID: 144172 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS19071445-07	MW-23	29 Jul 2019 12:40		15 Aug 2019 09:00	16 Aug 2019 01:26	1
HS19071445-18	MW-55R	29 Jul 2019 12:00		15 Aug 2019 09:00	16 Aug 2019 01:28	1
Batch ID: R343668 (0)		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE			Matrix: Water	
HS19071445-27	FB-01	29 Jul 2019 10:05			05 Aug 2019 15:29	1

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Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R343668 (0)		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE			Matrix: Groundwater	
HS19071445-01	MW-39	29 Jul 2019 12:50			05 Aug 2019 15:29	1
HS19071445-02	MW-40	29 Jul 2019 11:55			05 Aug 2019 15:29	1
HS19071445-03	MW-41	29 Jul 2019 10:15			05 Aug 2019 15:29	1
HS19071445-04	MW-62	29 Jul 2019 13:40			05 Aug 2019 15:29	1
HS19071445-05	MW-63	29 Jul 2019 08:55			05 Aug 2019 15:29	1
HS19071445-06	MW-64	29 Jul 2019 11:05			05 Aug 2019 15:29	1
HS19071445-07	MW-23	29 Jul 2019 12:40			05 Aug 2019 15:29	1
HS19071445-08	MW-28D	29 Jul 2019 08:25			05 Aug 2019 15:29	1
HS19071445-09	MW-42	29 Jul 2019 11:55			05 Aug 2019 15:29	1
HS19071445-10	MW-43	29 Jul 2019 11:40			05 Aug 2019 15:29	1
HS19071445-11	MW-44	29 Jul 2019 12:45			05 Aug 2019 15:29	1
HS19071445-12	MW-46R	29 Jul 2019 09:00			05 Aug 2019 15:29	1
HS19071445-13	MW-47	29 Jul 2019 10:50			05 Aug 2019 15:29	1
HS19071445-14	MW-48	29 Jul 2019 10:00			05 Aug 2019 15:29	1
HS19071445-15	MW-50	29 Jul 2019 13:40			05 Aug 2019 15:29	1
HS19071445-16	MW-52	29 Jul 2019 14:20			05 Aug 2019 15:29	1
HS19071445-17	MW-54	29 Jul 2019 11:10			05 Aug 2019 15:29	1
HS19071445-18	MW-55R	29 Jul 2019 12:00			05 Aug 2019 15:29	1
HS19071445-19	MW-58	29 Jul 2019 09:45			05 Aug 2019 15:29	1
HS19071445-20	MW-65	29 Jul 2019 12:45			05 Aug 2019 15:29	1
HS19071445-21	MW-36	29 Jul 2019 10:45			05 Aug 2019 15:29	1
HS19071445-22	MW-37	29 Jul 2019 08:25			05 Aug 2019 15:29	1
HS19071445-23	MW-60	29 Jul 2019 09:05			05 Aug 2019 15:29	1
HS19071445-24	MW-61	29 Jul 2019 09:50			05 Aug 2019 15:29	1
HS19071445-25	DUP-01	29 Jul 2019 08:00			05 Aug 2019 15:29	1
HS19071445-26	DUP-02	29 Jul 2019 10:00			05 Aug 2019 15:29	1
Batch ID: R345257 (0)		Test Name : SUBCONTRACT ANALYSIS - RADIUM 228			Matrix: Water	
HS19071445-27	FB-01	29 Jul 2019 10:05			30 Aug 2019 09:01	1
HS19071445-27	FB-01	29 Jul 2019 10:05			30 Aug 2019 09:01	1

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Project: NRG WA Parish – CCR Program App IV
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Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R345257 (0)		Test Name : SUBCONTRACT ANALYSIS - RADIUM 228			Matrix: Groundwater	
HS19071445-01	MW-39	29 Jul 2019 12:50			30 Aug 2019 09:01	1
HS19071445-01	MW-39	29 Jul 2019 12:50			30 Aug 2019 09:01	1
HS19071445-02	MW-40	29 Jul 2019 11:55			30 Aug 2019 09:01	1
HS19071445-02	MW-40	29 Jul 2019 11:55			30 Aug 2019 09:01	1
HS19071445-03	MW-41	29 Jul 2019 10:15			30 Aug 2019 09:01	1
HS19071445-03	MW-41	29 Jul 2019 10:15			30 Aug 2019 09:01	1
HS19071445-04	MW-62	29 Jul 2019 13:40			30 Aug 2019 09:01	1
HS19071445-04	MW-62	29 Jul 2019 13:40			30 Aug 2019 09:01	1
HS19071445-05	MW-63	29 Jul 2019 08:55			30 Aug 2019 09:01	1
HS19071445-05	MW-63	29 Jul 2019 08:55			30 Aug 2019 09:01	1
HS19071445-06	MW-64	29 Jul 2019 11:05			30 Aug 2019 09:01	1
HS19071445-06	MW-64	29 Jul 2019 11:05			30 Aug 2019 09:01	1
HS19071445-07	MW-23	29 Jul 2019 12:40			30 Aug 2019 09:01	1
HS19071445-07	MW-23	29 Jul 2019 12:40			30 Aug 2019 09:01	1
HS19071445-08	MW-28D	29 Jul 2019 08:25			30 Aug 2019 09:01	1
HS19071445-08	MW-28D	29 Jul 2019 08:25			30 Aug 2019 09:01	1
HS19071445-09	MW-42	29 Jul 2019 11:55			30 Aug 2019 09:01	1
HS19071445-09	MW-42	29 Jul 2019 11:55			30 Aug 2019 09:01	1
HS19071445-10	MW-43	29 Jul 2019 11:40			30 Aug 2019 09:01	1
HS19071445-10	MW-43	29 Jul 2019 11:40			30 Aug 2019 09:01	1
HS19071445-11	MW-44	29 Jul 2019 12:45			30 Aug 2019 09:01	1
HS19071445-11	MW-44	29 Jul 2019 12:45			30 Aug 2019 09:01	1
HS19071445-12	MW-46R	29 Jul 2019 09:00			30 Aug 2019 09:01	1
HS19071445-12	MW-46R	29 Jul 2019 09:00			30 Aug 2019 09:01	1
HS19071445-13	MW-47	29 Jul 2019 10:50			30 Aug 2019 09:01	1
HS19071445-13	MW-47	29 Jul 2019 10:50			30 Aug 2019 09:01	1
HS19071445-14	MW-48	29 Jul 2019 10:00			30 Aug 2019 09:01	1
HS19071445-14	MW-48	29 Jul 2019 10:00			30 Aug 2019 09:01	1
HS19071445-15	MW-50	29 Jul 2019 13:40			30 Aug 2019 09:01	1
HS19071445-15	MW-50	29 Jul 2019 13:40			30 Aug 2019 09:01	1
HS19071445-16	MW-52	29 Jul 2019 14:20			30 Aug 2019 09:01	1
HS19071445-16	MW-52	29 Jul 2019 14:20			30 Aug 2019 09:01	1
HS19071445-17	MW-54	29 Jul 2019 11:10			30 Aug 2019 09:01	1
HS19071445-17	MW-54	29 Jul 2019 11:10			30 Aug 2019 09:01	1
HS19071445-18	MW-55R	29 Jul 2019 12:00			30 Aug 2019 09:01	1
HS19071445-18	MW-55R	29 Jul 2019 12:00			30 Aug 2019 09:01	1
HS19071445-19	MW-58	29 Jul 2019 09:45			30 Aug 2019 09:01	1
HS19071445-19	MW-58	29 Jul 2019 09:45			30 Aug 2019 09:01	1
HS19071445-20	MW-65	29 Jul 2019 12:45			30 Aug 2019 09:01	1

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Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
HS19071445-20	MW-65	29 Jul 2019 12:45			30 Aug 2019 09:01	1
HS19071445-21	MW-36	29 Jul 2019 10:45			30 Aug 2019 09:01	1
HS19071445-21	MW-36	29 Jul 2019 10:45			30 Aug 2019 09:01	1
HS19071445-22	MW-37	29 Jul 2019 08:25			30 Aug 2019 09:01	1
HS19071445-22	MW-37	29 Jul 2019 08:25			30 Aug 2019 09:01	1
HS19071445-23	MW-60	29 Jul 2019 09:05			30 Aug 2019 09:01	1
HS19071445-23	MW-60	29 Jul 2019 09:05			30 Aug 2019 09:01	1
HS19071445-24	MW-61	29 Jul 2019 09:50			30 Aug 2019 09:01	1
HS19071445-24	MW-61	29 Jul 2019 09:50			30 Aug 2019 09:01	1
HS19071445-25	DUP-01	29 Jul 2019 08:00			30 Aug 2019 09:01	1
HS19071445-25	DUP-01	29 Jul 2019 08:00			30 Aug 2019 09:01	1
HS19071445-26	DUP-02	29 Jul 2019 10:00			30 Aug 2019 09:01	1
HS19071445-26	DUP-02	29 Jul 2019 10:00			30 Aug 2019 09:01	1

WorkOrder: HS19071445
InstrumentID: HG03
Test Code: HG_W
Test Number: SW7470
Test Name: Mercury by SW7470A

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Mercury	7439-97-6	0.000100	0.000101	0.0000300	0.000200

WorkOrder: HS19071445

InstrumentID: ICPMS05

Test Code: ICP_TW

Test Number: SW6020

Test Name: ICP-MS Metals by SW6020A

**METHOD DETECTION /
REPORTING LIMITS****Matrix:** Aqueous**Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Antimony	7440-36-0	0.000500	0.000457	0.000400	0.00200
A	Arsenic	7440-38-2	0.000500	0.000547	0.000400	0.00200
A	Barium	7440-39-3	0.00250	0.00244	0.00190	0.00400
A	Beryllium	7440-41-7	0.000500	0.000524	0.000200	0.00200
A	Cadmium	7440-43-9	0.000500	0.000527	0.000200	0.00200
A	Chromium	7440-47-3	0.000500	0.000397	0.000400	0.00400
A	Cobalt	7440-48-4	0.000500	0.000495	0.000200	0.00500
A	Lead	7439-92-1	0.00100	0.000955	0.000600	0.00200
A	Lithium	7439-93-2	0.00100	0.000897	0.00100	0.00500
A	Molybdenum	7439-98-7	0.00100	0.000878	0.000600	0.00500
A	Selenium	7782-49-2	0.00250	0.00266	0.00110	0.00200
A	Thallium	7440-28-0	0.000500	0.000445	0.000200	0.00200

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
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QC BATCH REPORT

Batch ID: 143612 (0)	Instrument: ICPMS05	Method: ICP-MS METALS BY SW6020A
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MBLK		Sample ID: MBLK-143612		Units: mg/L		Analysis Date: 01-Aug-2019 13:57			
Client ID:		Run ID: ICPMS05_343478		SeqNo: 5191290		PrepDate: 31-Jul-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	< 0.000400	0.00200							
Arsenic	< 0.000400	0.00200							
Barium	< 0.00190	0.00400							
Beryllium	< 0.000200	0.00200							
Cadmium	< 0.000200	0.00200							
Chromium	< 0.000400	0.00400							
Cobalt	< 0.000200	0.00500							
Lead	< 0.000600	0.00200							
Lithium	< 0.00100	0.00500							
Molybdenum	< 0.000600	0.00500							
Selenium	< 0.00110	0.00200							
Thallium	< 0.000200	0.00200							

LCS		Sample ID: LCS-143612		Units: mg/L		Analysis Date: 01-Aug-2019 14:00			
Client ID:		Run ID: ICPMS05_343478		SeqNo: 5191298		PrepDate: 31-Jul-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	0.05179	0.00200	0.05	0	104	80 - 120			
Arsenic	0.051	0.00200	0.05	0	102	80 - 120			
Barium	0.05	0.00400	0.05	0	100	80 - 120			
Beryllium	0.04969	0.00200	0.05	0	99.4	80 - 120			
Cadmium	0.05145	0.00200	0.05	0	103	80 - 120			
Chromium	0.05267	0.00400	0.05	0	105	80 - 120			
Cobalt	0.05283	0.00500	0.05	0	106	80 - 120			
Lead	0.0501	0.00200	0.05	0	100	80 - 120			
Lithium	0.1019	0.00500	0.1	0	102	80 - 120			
Molybdenum	0.0506	0.00500	0.05	0	101	80 - 120			
Selenium	0.05359	0.00200	0.05	0	107	80 - 120			
Thallium	0.04937	0.00200	0.05	0	98.7	80 - 120			

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

QC BATCH REPORT

Batch ID: 143612 (0)		Instrument: ICPMS05			Method: ICP-MS METALS BY SW6020A					
MS		Sample ID: HS19071445-01MS			Units: mg/L		Analysis Date: 01-Aug-2019 14:06			
Client ID: MW-39		Run ID: ICPMS05_343478			SeqNo: 5191301		PrepDate: 31-Jul-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04963	0.00200	0.05	0.000184	98.9	80 - 120				
Arsenic	0.04987	0.00200	0.05	0.000983	97.8	80 - 120				
Barium	0.192	0.00400	0.05	0.1606	62.8	80 - 120				S
Beryllium	0.05044	0.00200	0.05	0.000036	101	80 - 120				
Cadmium	0.04948	0.00200	0.05	0.000073	98.8	80 - 120				
Chromium	0.0507	0.00400	0.05	0.002142	97.1	80 - 120				
Cobalt	0.04848	0.00500	0.05	0.000245	96.5	80 - 120				
Lead	0.04759	0.00200	0.05	0.000092	95.0	80 - 120				
Lithium	0.1372	0.00500	0.1	0.03961	97.6	80 - 120				
Molybdenum	0.05015	0.00500	0.05	0.000623	99.1	80 - 120				
Selenium	0.05141	0.00200	0.05	0.001242	100	80 - 120				
Thallium	0.04742	0.00200	0.05	0.000165	94.5	80 - 120				
MSD		Sample ID: HS19071445-01MSD			Units: mg/L		Analysis Date: 01-Aug-2019 14:09			
Client ID: MW-39		Run ID: ICPMS05_343478			SeqNo: 5191302		PrepDate: 31-Jul-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.0515	0.00200	0.05	0.000184	103	80 - 120	0.04935	4.26	20	
Arsenic	0.0515	0.00200	0.05	0.000983	101	80 - 120	0.05101	0.958	20	
Barium	0.1999	0.00400	0.05	0.1606	78.6	80 - 120	0.2053	2.68	20	S
Beryllium	0.05359	0.00200	0.05	0.000036	107	80 - 120	0.05408	0.906	20	
Cadmium	0.05022	0.00200	0.05	0.000073	100	80 - 120	0.04904	2.39	20	
Chromium	0.05178	0.00400	0.05	0.002142	99.3	80 - 120	0.05128	0.962	20	
Cobalt	0.04908	0.00500	0.05	0.000245	97.7	80 - 120	0.04874	0.683	20	
Lead	0.04909	0.00200	0.05	0.000092	98.0	80 - 120	0.04781	2.64	20	
Lithium	0.145	0.00500	0.1	0.03961	105	80 - 120	0.1408	2.93	20	
Molybdenum	0.05151	0.00500	0.05	0.000623	102	80 - 120	0.05073	1.52	20	
Selenium	0.05034	0.00200	0.05	0.001242	98.2	80 - 120	0.05048	0.276	20	
Thallium	0.04952	0.00200	0.05	0.000165	98.7	80 - 120	0.04434	11	20	

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ALS Houston, US

Date: 30-Aug-19

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

QC BATCH REPORT

Batch ID: 143612 (0) **Instrument:** ICPMS05 **Method:** ICP-MS METALS BY SW6020A

PDS		Sample ID: HS19071445-01PDS			Units: mg/L		Analysis Date: 01-Aug-2019 14:11			
Client ID:	MW-39	Run ID: ICPMS05_343478		SeqNo: 5191303	PrepDate: 31-Jul-2019	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.1007	0.00200	0.1	0.000184	100	75 - 125				
Arsenic	0.1002	0.00200	0.1	0.000983	99.2	75 - 125				
Barium	0.2573	0.00400	0.1	0.1606	96.7	75 - 125				
Beryllium	0.1079	0.00200	0.1	0.000036	108	75 - 125				
Cadmium	0.09991	0.00200	0.1	0.000073	99.8	75 - 125				
Chromium	0.1017	0.00400	0.1	0.002142	99.6	75 - 125				
Cobalt	0.09645	0.00500	0.1	0.000245	96.2	75 - 125				
Lead	0.09865	0.00200	0.1	0.000092	98.6	75 - 125				
Lithium	0.1517	0.00500	0.1	0.03961	112	70 - 125				
Molybdenum	0.1022	0.00500	0.1	0.000623	102	75 - 125				
Selenium	0.1054	0.00200	0.1	0.001242	104	75 - 125				
Thallium	0.09601	0.00200	0.1	0.000165	95.8	75 - 125				

SD		Sample ID: HS19071445-01SD			Units: mg/L		Analysis Date: 01-Aug-2019 14:04			
Client ID:	MW-39	Run ID: ICPMS05_343478		SeqNo: 5191300	PrepDate: 31-Jul-2019	DF: 5				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Antimony	< 0.00200	0.0100					0.000184	0	10	
Arsenic	< 0.00200	0.0100					0.000983	0	10	
Barium	0.1537	0.0200					0.1606	4.32	10	
Beryllium	< 0.00100	0.0100					0.000036	0	10	
Cadmium	< 0.00100	0.0100					0.000073	0	10	
Chromium	0.00206	0.0200					0.002142	0	10	J
Cobalt	< 0.00100	0.0250					0.000245	0	10	
Lead	< 0.00300	0.0100					0.000092	0	10	
Lithium	0.03759	0.0250					0.03961	5.1	10	
Molybdenum	< 0.00300	0.0250					0.000623	0	10	
Selenium	< 0.00550	0.0100					0.001242	0	10	
Thallium	< 0.00100	0.0100					0.000165	0	10	

The following samples were analyzed in this batch:

HS19071445-01	HS19071445-02	HS19071445-03	HS19071445-04
HS19071445-05	HS19071445-06	HS19071445-07	HS19071445-08
HS19071445-09	HS19071445-10	HS19071445-11	HS19071445-12
HS19071445-13	HS19071445-14	HS19071445-15	HS19071445-16
HS19071445-17	HS19071445-18	HS19071445-19	HS19071445-20

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

QC BATCH REPORT

Batch ID: 143613 (0)	Instrument: ICPMS05	Method: ICP-MS METALS BY SW6020A
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MBLK		Sample ID: MBLK-143613		Units: mg/L		Analysis Date: 03-Aug-2019 00:05			
Client ID:		Run ID: ICPMS05_343536		SeqNo: 5194718		PrepDate: 31-Jul-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	< 0.000400	0.00200							
Arsenic	< 0.000400	0.00200							
Barium	< 0.00190	0.00400							
Beryllium	< 0.000200	0.00200							
Cadmium	< 0.000200	0.00200							
Chromium	< 0.000400	0.00400							
Cobalt	< 0.000200	0.00500							
Lead	< 0.000600	0.00200							
Lithium	< 0.00100	0.00500							
Molybdenum	< 0.000600	0.00500							
Selenium	< 0.00110	0.00200							
Thallium	< 0.000200	0.00200							

LCS		Sample ID: LCS-143613		Units: mg/L		Analysis Date: 03-Aug-2019 00:07			
Client ID:		Run ID: ICPMS05_343536		SeqNo: 5194719		PrepDate: 31-Jul-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	0.0477	0.00200	0.05	0	95.4	80 - 120			
Arsenic	0.04704	0.00200	0.05	0	94.1	80 - 120			
Barium	0.0478	0.00400	0.05	0	95.6	80 - 120			
Beryllium	0.04752	0.00200	0.05	0	95.0	80 - 120			
Cadmium	0.04744	0.00200	0.05	0	94.9	80 - 120			
Chromium	0.04664	0.00400	0.05	0	93.3	80 - 120			
Cobalt	0.04837	0.00500	0.05	0	96.7	80 - 120			
Lead	0.04624	0.00200	0.05	0	92.5	80 - 120			
Lithium	0.09309	0.00500	0.1	0	93.1	80 - 120			
Molybdenum	0.05146	0.00500	0.05	0	103	80 - 120			
Selenium	0.04778	0.00200	0.05	0	95.6	80 - 120			
Thallium	0.04755	0.00200	0.05	0	95.1	80 - 120			

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

QC BATCH REPORT

Batch ID: 143613 (0)	Instrument: ICPMS05	Method: ICP-MS METALS BY SW6020A
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MS		Sample ID: HS19071444-19MS			Units: mg/L		Analysis Date: 03-Aug-2019 00:14			
Client ID:		Run ID: ICPMS05_343536			SeqNo: 5194722		PrepDate: 31-Jul-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.0493	0.00200	0.05	0	98.6	80 - 120				
Arsenic	0.06312	0.00200	0.05	0.01358	99.1	80 - 120				
Barium	0.2139	0.00400	0.05	0.1551	117	80 - 120				
Beryllium	0.05106	0.00200	0.05	0	102	80 - 120				
Cadmium	0.0472	0.00200	0.05	0	94.4	80 - 120				
Chromium	0.04884	0.00400	0.05	0.001592	94.5	80 - 120				
Cobalt	0.04796	0.00500	0.05	0.000371	95.2	80 - 120				
Lead	0.04708	0.00200	0.05	0	94.2	80 - 120				
Lithium	0.1366	0.00500	0.1	0.03703	99.6	80 - 120				
Molybdenum	0.05435	0.00500	0.05	0.002903	103	80 - 120				
Selenium	0.0499	0.00200	0.05	0	99.8	80 - 120				
Thallium	0.04678	0.00200	0.05	0.000274	93.0	80 - 120				

MSD		Sample ID: HS19071444-19MSD			Units: mg/L		Analysis Date: 03-Aug-2019 00:16			
Client ID:		Run ID: ICPMS05_343536			SeqNo: 5194723		PrepDate: 31-Jul-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04985	0.00200	0.05	0	99.7	80 - 120	0.0493	1.12	20	
Arsenic	0.06301	0.00200	0.05	0.01358	98.9	80 - 120	0.06312	0.174	20	
Barium	0.2152	0.00400	0.05	0.1551	120	80 - 120	0.2139	0.629	20	S
Beryllium	0.05294	0.00200	0.05	0	106	80 - 120	0.05106	3.62	20	
Cadmium	0.04928	0.00200	0.05	0	98.6	80 - 120	0.0472	4.3	20	
Chromium	0.04916	0.00400	0.05	0.001592	95.1	80 - 120	0.04884	0.649	20	
Cobalt	0.0481	0.00500	0.05	0.000371	95.5	80 - 120	0.04796	0.283	20	
Lead	0.05026	0.00200	0.05	0	101	80 - 120	0.04708	6.55	20	
Lithium	0.1387	0.00500	0.1	0.03703	102	80 - 120	0.1366	1.5	20	
Molybdenum	0.05941	0.00500	0.05	0.002903	113	80 - 120	0.05435	8.88	20	
Selenium	0.04754	0.00200	0.05	0	95.1	80 - 120	0.0499	4.84	20	
Thallium	0.05207	0.00200	0.05	0.000274	104	80 - 120	0.04678	10.7	20	

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

QC BATCH REPORT

Batch ID: 143613 (0) **Instrument:** ICPMS05 **Method:** ICP-MS METALS BY SW6020A

PDS		Sample ID: HS19071444-19PDS			Units: mg/L		Analysis Date: 03-Aug-2019 00:19			
Client ID:		Run ID: ICPMS05_343536			SeqNo: 5194724		PrepDate: 31-Jul-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.0876	0.00200	0.1	0.000177	87.4	75 - 125				
Arsenic	0.1073	0.00200	0.1	0.01358	93.7	75 - 125				
Barium	0.25	0.00400	0.1	0.1551	94.9	75 - 125				
Beryllium	0.1017	0.00200	0.1	0.000109	102	75 - 125				
Cadmium	0.09737	0.00200	0.1	0.000064	97.3	75 - 125				
Chromium	0.09394	0.00400	0.1	0.001592	92.3	75 - 125				
Cobalt	0.09177	0.00500	0.1	0.000371	91.4	75 - 125				
Lead	0.0966	0.00200	0.1	0.000089	96.5	75 - 125				
Lithium	0.1359	0.00500	0.1	0.03703	98.9	70 - 125				
Molybdenum	0.1046	0.00500	0.1	0.002903	102	75 - 125				
Selenium	0.0988	0.00200	0.1	0.00018	98.6	75 - 125				
Thallium	0.1002	0.00200	0.1	0.000274	100.0	75 - 125				

SD		Sample ID: HS19071444-19SD			Units: mg/L		Analysis Date: 03-Aug-2019 00:12			
Client ID:		Run ID: ICPMS05_343536			SeqNo: 5194721		PrepDate: 31-Jul-2019		DF: 5	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Antimony	< 0.00200	0.0100					0.000177	0	10	
Arsenic	0.01463	0.0100					0.01358	7.75	10	
Barium	0.16	0.0200					0.1551	3.15	10	
Beryllium	< 0.00100	0.0100					0.000109	0	10	
Cadmium	< 0.00100	0.0100					0.000064	0	10	
Chromium	< 0.00200	0.0200					0.001592	0	10	
Cobalt	< 0.00100	0.0250					0.000371	0	10	
Lead	< 0.00300	0.0100					0.000089	0	10	
Lithium	0.03858	0.0250					0.03703	4.19	10	
Molybdenum	0.003112	0.0250					0.002903	0	10	J
Selenium	< 0.00550	0.0100					0.00018	0	10	
Thallium	< 0.00100	0.0100					0.000274	0	10	

The following samples were analyzed in this batch:

HS19071445-21	HS19071445-22	HS19071445-23	HS19071445-24
HS19071445-25	HS19071445-26	HS19071445-27	

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

QC BATCH REPORT

Batch ID: 143734 (0)	Instrument: HG03	Method: MERCURY BY SW7470A
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MBLK	Sample ID: MBLK-143734	Units: mg/L	Analysis Date: 02-Aug-2019 15:31							
Client ID:	Run ID: HG03_343577	SeqNo: 5193836	PrepDate: 02-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury < 0.0000300 0.000200

LCS	Sample ID: LCS-143734	Units: mg/L	Analysis Date: 02-Aug-2019 15:33							
Client ID:	Run ID: HG03_343577	SeqNo: 5193837	PrepDate: 02-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 0.00513 0.000200 0.005 0 103 80 - 120

MS	Sample ID: HS19071445-19MS	Units: mg/L	Analysis Date: 02-Aug-2019 15:36							
Client ID: MW-58	Run ID: HG03_343577	SeqNo: 5193839	PrepDate: 02-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 0.00501 0.000200 0.005 -0.000005 100 75 - 125

MSD	Sample ID: HS19071445-19MSD	Units: mg/L	Analysis Date: 02-Aug-2019 15:38							
Client ID: MW-58	Run ID: HG03_343577	SeqNo: 5193840	PrepDate: 02-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 0.00513 0.000200 0.005 -0.000005 103 75 - 125 0.00501 2.37 20

The following samples were analyzed in this batch: HS19071445-19 HS19071445-22 HS19071445-23 HS19071445-24
 HS19071445-25 HS19071445-26 HS19071445-27

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

QC BATCH REPORT

Batch ID: 143736 (0)	Instrument: HG03	Method: MERCURY BY SW7470A
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MBLK	Sample ID: MBLK-143736	Units: mg/L	Analysis Date: 02-Aug-2019 16:23							
Client ID:	Run ID: HG03_343577	SeqNo: 5193864	PrepDate: 02-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Mercury < 0.0000300 0.000200

LCS	Sample ID: LCS-143736	Units: mg/L	Analysis Date: 02-Aug-2019 16:25							
Client ID:	Run ID: HG03_343577	SeqNo: 5193865	PrepDate: 02-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Mercury 0.00509 0.000200 0.005 0 102 80 - 120

MS	Sample ID: HS19071445-05MS	Units: mg/L	Analysis Date: 02-Aug-2019 16:28							
Client ID: MW-63	Run ID: HG03_343577	SeqNo: 5193867	PrepDate: 02-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Mercury 0.00527 0.000200 0.005 0.000256 100 75 - 125

MSD	Sample ID: HS19071445-05MSD	Units: mg/L	Analysis Date: 02-Aug-2019 16:30							
Client ID: MW-63	Run ID: HG03_343577	SeqNo: 5193868	PrepDate: 02-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Mercury 0.00523 0.000200 0.005 0.000256 99.5 75 - 125 0.00527 0.762 20

The following samples were analyzed in this batch:

HS19071445-01	HS19071445-02	HS19071445-03	HS19071445-04
HS19071445-05	HS19071445-06	HS19071445-07	HS19071445-08
HS19071445-09	HS19071445-10	HS19071445-11	HS19071445-12
HS19071445-13	HS19071445-14	HS19071445-15	HS19071445-16
HS19071445-17	HS19071445-18	HS19071445-20	HS19071445-21

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

QC BATCH REPORT

Batch ID: 144172 (0)	Instrument: ICPMS05	Method: ICP-MS METALS BY SW6020A
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MBLK		Sample ID: MBLK-144172			Units: mg/L		Analysis Date: 16-Aug-2019 00:54			
Client ID:		Run ID: ICPMS05_344316			SeqNo: 5212185		PrepDate: 15-Aug-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	< 0.000400	0.00200								
Arsenic	< 0.000400	0.00200								
Barium	< 0.00190	0.00400								
Beryllium	< 0.000200	0.00200								
Cadmium	< 0.000200	0.00200								
Chromium	0.000482	0.00400								J
Cobalt	< 0.000200	0.00500								
Lead	< 0.000600	0.00200								
Molybdenum	< 0.000600	0.00500								
Selenium	< 0.00110	0.00200								
Thallium	< 0.000200	0.00200								

LCS		Sample ID: LCS-144172			Units: mg/L		Analysis Date: 16-Aug-2019 00:56			
Client ID:		Run ID: ICPMS05_344316			SeqNo: 5212186		PrepDate: 15-Aug-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04918	0.00200	0.05	0	98.4	80 - 120				
Arsenic	0.04845	0.00200	0.05	0	96.9	80 - 120				
Barium	0.05019	0.00400	0.05	0	100	80 - 120				
Beryllium	0.05531	0.00200	0.05	0	111	80 - 120				
Cadmium	0.04814	0.00200	0.05	0	96.3	80 - 120				
Chromium	0.04924	0.00400	0.05	0	98.5	80 - 120				
Cobalt	0.0509	0.00500	0.05	0	102	80 - 120				
Lead	0.04809	0.00200	0.05	0	96.2	80 - 120				
Molybdenum	0.04746	0.00500	0.05	0	94.9	80 - 120				
Selenium	0.04857	0.00200	0.05	0	97.1	80 - 120				
Thallium	0.04614	0.00200	0.05	0	92.3	80 - 120				

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

QC BATCH REPORT

Batch ID: 144172 (0)		Instrument: ICPMS05			Method: ICP-MS METALS BY SW6020A					
MS		Sample ID: HS19080620-04MS			Units: mg/L		Analysis Date: 16-Aug-2019 01:03			
Client ID:		Run ID: ICPMS05_344316			SeqNo: 5212160		PrepDate: 15-Aug-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.05497	0.00200	0.05	0.001228	107	80 - 120				
Arsenic	0.05452	0.00200	0.05	0.001296	106	80 - 120				
Barium	0.5207	0.00400	0.05	0.4487	144	80 - 120				SO
Cadmium	0.04927	0.00200	0.05	0.000067	98.4	80 - 120				
Chromium	0.07356	0.00400	0.05	0.02018	107	80 - 120				
Cobalt	0.05202	0.00500	0.05	0.000106	104	80 - 120				
Lead	0.04984	0.00200	0.05	0.000288	99.1	80 - 120				
Molybdenum	0.05892	0.00500	0.05	0.007916	102	80 - 120				
Selenium	0.05387	0.00200	0.05	0.000943	106	80 - 120				
Thallium	0.04763	0.00200	0.05	0.000148	95.0	80 - 120				
MS		Sample ID: HS19080620-04MS			Units: mg/L		Analysis Date: 16-Aug-2019 15:54			
Client ID:		Run ID: ICPMS05_344425			SeqNo: 5213360		PrepDate: 15-Aug-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Beryllium	0.05534	0.00200	0.05	0	111	80 - 120				
MSD		Sample ID: HS19080620-04MSD			Units: mg/L		Analysis Date: 16-Aug-2019 01:05			
Client ID:		Run ID: ICPMS05_344316			SeqNo: 5212161		PrepDate: 15-Aug-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.0549	0.00200	0.05	0.001228	107	80 - 120	0.05497	0.129	20	
Arsenic	0.05405	0.00200	0.05	0.001296	106	80 - 120	0.05452	0.858	20	
Barium	0.5285	0.00400	0.05	0.4487	160	80 - 120	0.5207	1.5	20	SO
Cadmium	0.04947	0.00200	0.05	0.000067	98.8	80 - 120	0.04927	0.407	20	
Chromium	0.07416	0.00400	0.05	0.02018	108	80 - 120	0.07356	0.822	20	
Cobalt	0.05223	0.00500	0.05	0.000106	104	80 - 120	0.05202	0.399	20	
Lead	0.05119	0.00200	0.05	0.000288	102	80 - 120	0.04984	2.67	20	
Molybdenum	0.06031	0.00500	0.05	0.007916	105	80 - 120	0.05892	2.33	20	
Selenium	0.05415	0.00200	0.05	0.000943	106	80 - 120	0.05387	0.511	20	
Thallium	0.04872	0.00200	0.05	0.000148	97.1	80 - 120	0.04763	2.26	20	

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ALS Houston, US

Date: 30-Aug-19

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

QC BATCH REPORT

Batch ID: 144172 (0)	Instrument: ICPMS05	Method: ICP-MS METALS BY SW6020A
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MSD	Sample ID: HS19080620-04MSD	Units: mg/L	Analysis Date: 16-Aug-2019 15:57							
Client ID:	Run ID: ICPMS05_344425	SeqNo: 5213361	PrepDate: 15-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Beryllium	0.05372	0.00200	0.05	0	107	80 - 120	0.05534	2.96	20	

PDS	Sample ID: HS19080620-04PDS	Units: mg/L	Analysis Date: 16-Aug-2019 01:08							
Client ID:	Run ID: ICPMS05_344316	SeqNo: 5212162	PrepDate: 15-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.09308	0.00200	0.1	0.001228	91.9	75 - 125				
Arsenic	0.09964	0.00200	0.1	0.001296	98.3	75 - 125				
Barium	0.5267	0.00400	0.1	0.4487	78.0	75 - 125				O
Cadmium	0.09393	0.00200	0.1	0.000067	93.9	75 - 125				
Chromium	0.115	0.00400	0.1	0.02018	94.8	75 - 125				
Cobalt	0.09511	0.00500	0.1	0.000106	95.0	75 - 125				
Lead	0.0951	0.00200	0.1	0.000288	94.8	75 - 125				
Molybdenum	0.1054	0.00500	0.1	0.007916	97.5	75 - 125				
Selenium	0.09589	0.00200	0.1	0.000943	95.0	75 - 125				
Thallium	0.09331	0.00200	0.1	0.000148	93.2	75 - 125				

PDS	Sample ID: HS19080620-04PDS	Units: mg/L	Analysis Date: 16-Aug-2019 15:59							
Client ID:	Run ID: ICPMS05_344425	SeqNo: 5213362	PrepDate: 15-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Beryllium	0.1071	0.00200	0.1	0	107	75 - 125				

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ALS Houston, US

Date: 30-Aug-19

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

QC BATCH REPORT

Batch ID: 144172 (0) **Instrument:** ICPMS05 **Method:** ICP-MS METALS BY SW6020A

SD	Sample ID: HS19080620-04SD	Units: mg/L			Analysis Date: 16-Aug-2019 01:01					
Client ID:	Run ID: ICPMS05_344316	SeqNo: 5212159	PrepDate: 15-Aug-2019	DF: 5						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	Limit	Qual
Antimony	< 0.00200	0.0100					0.001228	0	10	
Arsenic	< 0.00200	0.0100					0.001296	0	10	
Barium	0.4152	0.0200					0.4487	7.46	10	
Beryllium	< 0.00100	0.0100					0.000055	0	10	
Cadmium	< 0.00100	0.0100					0.000067	0	10	
Cobalt	< 0.00100	0.0250					0.000106	0	10	
Lead	< 0.00300	0.0100					0.000288	0	10	
Molybdenum	0.007285	0.0250					0.007916	0	10	J
Selenium	< 0.00550	0.0100					0.000943	0	10	
Thallium	< 0.00100	0.0100					0.000148	0	10	

The following samples were analyzed in this batch: HS19071445-07 HS19071445-18

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
WorkOrder: HS19071445

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS, ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2019	31-Dec-2019
North Dakota	R-193 2019	30-Apr-2020
Oklahoma	2019-141	31-Aug-2020
Oklahoma	2018-156	31-Aug-2019
Texas	TX104704231-19-23	30-Apr-2020

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ALS Houston, US

Date: 30-Aug-19

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
Work Order: HS19071445

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19071445-01	MW-39	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-01	MW-39	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-01	MW-39	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-02	MW-40	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-02	MW-40	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-02	MW-40	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-03	MW-41	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-03	MW-41	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-03	MW-41	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-04	MW-62	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-04	MW-62	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-04	MW-62	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-05	MW-63	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-05	MW-63	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-05	MW-63	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-06	MW-64	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-06	MW-64	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-06	MW-64	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-07	MW-23	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-07	MW-23	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-07	MW-23	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-08	MW-28D	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-08	MW-28D	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-08	MW-28D	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-09	MW-42	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-09	MW-42	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-09	MW-42	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-10	MW-43	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-10	MW-43	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-10	MW-43	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-11	MW-44	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-11	MW-44	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-11	MW-44	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-12	MW-46R	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-12	MW-46R	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-12	MW-46R	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-13	MW-47	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-13	MW-47	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-13	MW-47	Login	7/30/2019 10:32:15 AM	PMG	MET008

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ALS Houston, US

Date: 30-Aug-19

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
Work Order: HS19071445

SAMPLE TRACKING

HS19071445-14	MW-48	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-14	MW-48	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-14	MW-48	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-15	MW-50	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-15	MW-50	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-15	MW-50	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-16	MW-52	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-16	MW-52	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-16	MW-52	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-17	MW-54	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-17	MW-54	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-17	MW-54	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-18	MW-55R	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-18	MW-55R	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-18	MW-55R	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-19	MW-58	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-19	MW-58	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-19	MW-58	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-20	MW-65	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-20	MW-65	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-20	MW-65	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-21	MW-36	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-21	MW-36	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-21	MW-36	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-22	MW-37	Login	7/30/2019 10:32:15 AM	PMG	WET066
HS19071445-22	MW-37	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-22	MW-37	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-23	MW-60	Login	7/30/2019 10:32:15 AM	PMG	WET067
HS19071445-23	MW-60	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-23	MW-60	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-24	MW-61	Login	7/30/2019 10:32:15 AM	PMG	WET067
HS19071445-24	MW-61	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-24	MW-61	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-25	DUP-01	Login	7/30/2019 10:32:15 AM	PMG	WET067
HS19071445-25	DUP-01	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-25	DUP-01	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-26	DUP-02	Login	7/30/2019 10:32:15 AM	PMG	WET067
HS19071445-26	DUP-02	Login	7/30/2019 10:32:15 AM	PMG	Sub
HS19071445-26	DUP-02	Login	7/30/2019 10:32:15 AM	PMG	MET008
HS19071445-27	FB-01	Login	7/30/2019 10:32:15 AM	PMG	WET067
HS19071445-27	FB-01	Login	7/30/2019 10:32:15 AM	PMG	Sub

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ALS Houston, US

Date: 30-Aug-19

Client: TRC Corporation
Project: NRG WA Parish – CCR Program App IV
Work Order: HS19071445

SAMPLE TRACKING

HS19071445-27	FB-01	Login	7/30/2019 10:32:15 AM	PMG	MET008
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Sample Receipt Checklist

Client Name: TRC-HOU
Work Order: HS19071445

Date/Time Received: 29-Jul-2019 16:25
Received by: JRM

Checklist completed by: Paresh M. Giga
eSignature | 30-Jul-2019
Date

Reviewed by: RJ Modashia
eSignature | 30-Jul-2019
Date

Matrices: Groundwater

Carrier name: Client

- Shipping container/cooler in good condition?
- Custody seals intact on shipping container/cooler?
- Custody seals intact on sample bottles?
- VOA/TX1005/TX1006 Solids in hermetically sealed vials?
- Chain of custody present?
- Chain of custody signed when relinquished and received?
- Samplers name present on COC?
- Chain of custody agrees with sample labels?
- Samples in proper container/bottle?
- Sample containers intact?
- Sufficient sample volume for indicated test?
- All samples received within holding time?
- Container/Temp Blank temperature in compliance?

- Yes No Not Present
- Yes No Not Present
- Yes No Not Present
- Yes No Not Present
- Yes No 3 Page(s)
- Yes No COC
- Yes No IDs:195793/195791/195792
- Yes No
- Yes No
- Yes No
- Yes No
- Yes No
- Yes No

Temperature(s)/Thermometer(s):

0.9c/0.4c/0.3c/0.3c/1.3c /4.5c/0.3c/0.2cU/C | IR11

Cooler(s)/Kit(s):

5972/44482/45152/45090/45142/45011/45044/45109

Date/Time sample(s) sent to storage:

7/29/19 19:00

Water - VOA vials have zero headspace?

- Yes No No VOA vials submitted

Water - pH acceptable upon receipt?

- Yes No N/A

pH adjusted?

- Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



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Chain of Custody Form

Page 1 of 3

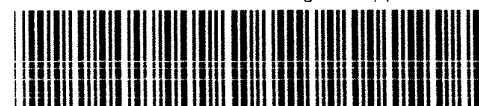
COC ID: 195780

HS19071445

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TRC Corporation

NRG WA Parish - State Program Appendix IV



ALS Project Manager:

Customer Information		Project Information		
Purchase Order	294645.0001	Project Name	NRG WA Parish- Appendix IV	A ICP_TW (Sb,As,Ba,Be,Cd,Cr,Co,Pb,Li,Mo,Se,Tl)-App IV
Work Order		Project Number	CCR Program	B HG_W (Mercury)
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C SUB_RA 225 (Sub RA 226 to ALS Fort Collins)
Send Report To	Lori Burris	Invoice Attn	A/P	D SUB_RA 228 (Sub RA 228 to ALS Fort Collins)
Address	10550 Richmond Ave., Suite 210	Address	10550 Richmond Ave., Suite 210	E Sub_Fluoride (Report from Appendix III COC)
				F
City/State/Zip	Houston, TX 77042	City/State/Zip	Houston TX 77042	G O = ms/msd volume provided
Phone	(713) 244-1000	Phone	(713) 244-1000	H
Fax	(713) 244-1099	Fax	(713) 244-1099	I
e-Mail Address	LBurris@trcsolutions.com	e-Mail Address	apinvoiceapproval@trcsolutions.com	J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold			
1	MW-39	7-29-19	1250	GW	2.8		X	X	X	X	X									
2	MW-40	↓	1155	↓	↓		X	X	X	X	X									
3	MW-41		X				X	X	X	X										
4	MW-62		X				X	X	X	X										
5	MW-63		X				X	X	X	X										
6	MW-64		X				X	X	X	X										
7	MW-23		X				X	X	X	X										
8	MW-28D		X				X	X	X	X										
9	MW-42		X				X	X	X	X										
10	MW-43		X				X	X	X	X										

Sampler(s) Please Print & Sign <i>Brian Hillin & HMF Team</i>		Shipment Method Consult. Delivery		Required Turnaround Time: (Check Box) <input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:	
Relinquished by: <i>Burris</i>	Date: 7/29/19	Time: 1625	Received by:		Notes: NRG WA Parish - State Program IPRIVILEGED &			
Relinquished by:	Date: 7/29/19	Time: 1625	Received by (Laboratory): <i>J. Wynn</i>		Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):		5972	0.9	<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035					44482	0.4	<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV
					45191	0.3	<input type="checkbox"/> Level IV SWB46/CLP	<input type="checkbox"/> Other

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

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Chain of Custody Form

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COC ID: 195779

HS19071445

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TRC Corporation
NRG WA Parish - State Program Appendix IV



ALS Project Manager:

Customer Information		Project Information		
Purchase Order	294645.0001	Project Name	NRG WA Parish- Appendix IV	A
Work Order		Project Number	CCR Program	B
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C
Send Report To	Lori Burris	Invoice Attn	AP	D
Address	10550 Richmond Ave., Suite 210	Address	10550 Richmond Ave., Suite 210	E
				F
City/State/Zip	Houston, TX 77042	City/State/Zip	Houston TX 77042	G
Phone	(713) 244-1000	Phone	(713) 244-1000	H
Fax	(713) 244-1099	Fax	(713) 244-1099	I
e-Mail Address	LBurris@trcsolutions.com	e-Mail Address	apinvoiceapproval@trcsolutions.com	J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-44	7-29-19	1245	GLW	2, 8		X	X	X	X	X						
2	MW-46R		900				X	X	X	X	X						
3	MW-47		1050				X	X	X	X	X						
4	MW-48		1000				X	X	X	X	X						
5	MW-50		1310				X	X	X	X	X						
6	MW-52		1420				X	X	X	X	X						
7	MW-54		1110				X	X	X	X	X						
8	MW-55R		1200				X	X	X	X	X						
9	MW-58		945				X	X	X	X	X						
10	MW-65		1245				X	X	X	X	X						

Sampler(s) Please Print & Sign <i>Brian Hillin & HMF Team</i>		Shipment Method Consult. Delivery		Required Turnaround Time: (Check Box) <input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:			
Relinquished by: <i>Lori</i>	Date: 7/29/19	Time: 16:25	Received by:	Notes: NRG WA Parish - State Program JPRIVILEGED &							
Relinquished by:	Date: 7/29/19	Time: 16:25	Received by (Laboratory): <i>J. Johnson</i>	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)					
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	45090	0.3	<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist				
				45142	1.3	<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV				
				45011	4.5	<input type="checkbox"/> Level IV SW846/CLP					

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.



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Chain of Custody Form

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COC ID: 195781

HS19071445

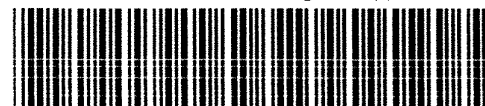
TRC Corporation

NRG WA Parish - State Program Appendix IV

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ALS Project Manager:




Customer Information		Project Information		
Purchase Order	294645.0001	Project Name	NRG WA Parish- Appendix IV	A ICP_TW (Sb,As,Ba,Be,Cd,Cr,Co,Pb, Li,Mo,Se,Tl)-App IV
Work Order		Project Number	CCR Program	B HG_W (Mercury)
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C SUB_RA 226 (Sub RA 226 to ALS Fort Collins)
Send Report To	Lori Burris	Invoice Attn	A/P	D SUB_RA 228 (Sub RA 228 to ALS Fort Collins)
Address	10550 Richmond Ave., Suite 210	Address	10550 Richmond Ave., Suite 210	E Sub_Fluoride (Report from Appendix III COC)
				F
City/State/Zip	Houston, TX 77042	City/State/Zip	Houston TX 77042	G
Phone	(713) 244-1000	Phone	(713) 244-1000	H
Fax	(713) 244-1099	Fax	(713) 244-1099	I
e-Mail Address	LBurris@trcsolutions.com	e-Mail Address	apinvoiceapproval@trcsolutions.com	J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-36	7-29-19	1045	GW	2,8		X	X	X	X	X						
2	MW-37	↓	825	↓	↓		X	X	X	X	X						
3	MW-38						X	X	X	X	X	Not Sampled; well destroyed (B&H)					
4	MW-60	7-29-19	905	↓	↓		X	X	X	X	X						
5	MW-61	↓	950	↓	↓		X	X	X	X	X						
6	DUP-01	↓	800	↓	↓		X	X	X	X	X						
7	DUP-02	↓	1000	↓	↓		X	X	X	X	X						
8	FB-01	↓	1005	FB	↓		X	X	X	X	X						
9																	
10																	


Sampler(s) Please Print & Sign <i>Brian Hillin & HMF Team</i>		Shipment Method Consult. Delivery	Required Turnaround Time: (Check Box) <input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour	Other _____	Results Due Date:
Relinquished by: <i>Brian Hillin</i>	Date: 7/29/19	Time: 16:25	Received by: <i>J. ...</i>	Notes: NRG WA Parish - State Program PRIVILEGED &	
Relinquished by:	Date: 7/29/19	Time: 16:25	Received by (Laboratory): <i>J. ...</i>	Cooler ID 45044	Cooler Temp. 0.3
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	Cooler ID 45109	Cooler Temp. 0.2
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035			QC Package: (Check One Box Below) <input type="checkbox"/> Level II Std QC <input checked="" type="checkbox"/> TRRP Checklist <input type="checkbox"/> Level III Std QC/Raw Data <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other		

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.


Copyright 2011 by ALS Environmental.

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: <i>SM</i>
	Date: <i>7/29/19</i> Time: <i>1600</i>	Name: <i>Brian Hillin</i>	Date: <i>07/29/19</i>
<i>5972</i>	Company: <i>HME</i>		


5972 JUL 29 2019

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: <i>SM</i>
	Date: <i>7/29/19</i> Time: <i>1600</i>	Name: <i>Brian Hillin</i>	Date: <i>07/29/19</i>
<i>44482</i>	Company: <i>HME</i>		


44482 JUL 29 2019

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: <i>SM</i>
	Date: <i>7/29/19</i> Time: <i>1600</i>	Name: <i>Brian Hillin</i>	Date: <i>07/29/19</i>
<i>45152</i>	Company: <i>HME</i>		


45152 JUL 29 2019

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: <i>SM</i>
	Date: <i>7/29/19</i> Time: <i>1600</i>	Name: <i>Brian Hillin</i>	Date: <i>07/29/19</i>
<i>45090</i>	Company: <i>HME</i>		


45090 JUL 29 2019

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: <i>SM</i>
	Date: <i>7/29/19</i> Time: <i>1600</i>	Name: <i>Brian Hillin</i>	Date: <i>07/29/19</i>
<i>45142</i>	Company: <i>HME</i>		


45142 JUL 29 2019

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: <i>SM</i>
	Date: <i>7/29/19</i> Time: <i>1600</i>	Name: <i>Brian Hillin</i>	Date: <i>07/29/19</i>
<i>45011</i>	Company: <i>HME</i>		

45011 JUL 29 2019

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: <i>SM</i>
	Date: <i>7/29/19</i> Time: <i>1600</i>	Name: <i>Brian Hillin</i>	Date: <i>07/29/19</i>
<i>45044</i>	Company: <i>HME</i>		

45044 JUL 29 2019

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: <i>SM</i>
	Date: <i>7/29/19</i> Time: <i>1600</i>	Name: <i>Brian Hillin</i>	Date: <i>07/29/19</i>
<i>45109</i>	Company: <i>HME</i>		

45109 JUL 29 2019
 Privileged and Confidential
 Page 81 of 171



DRAFT

Ft. Collins, Colorado

LIMS Version: 6.907

Page 1 of 1

Thursday, August 29, 2019

RJ Modashia
ALS Environmental
10450 Stancliff Rd, Suite 210
Houston, TX 77099

Re: ALS Workorder: 1907691
Project Name:
Project Number: HS19071445

Dear Mr. Modashia:

Twenty seven water samples were received from ALS Environmental, on 7/31/2019. The samples were scheduled for the following analyses:

Radium-226

Radium-228

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental

For Jeff R. Kujawa

Project Manager

DRAFT

ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
AIHA	214884
Alaska (AK)	UST-086
Alaska (AK)	CO01099
Arizona (AZ)	AZ0742
California (CA)	06251CA
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
PJ-LA (DoD ELAP/ISO 170250)	95377
Louisiana (LA)	05057
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO000782008A
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280



1907691

Radium-228:

The samples were analyzed for the presence of ^{228}Ra by low background gas flow proportional counting of ^{228}Ac , which is the ingrown progeny of ^{228}Ra , according to EPA method 904.0.

Ra-228 activity is reported in the associated method blank RA190820-1MB above the minimum detectable concentration value. The measured blank activity is below the requested MDC. Results are acceptable according to the current revision of SOP 715 and are submitted without further qualification.

All remaining acceptance criteria were met.

Radium-226:

The samples were prepared and analyzed according to EPA method 903.1.

All acceptance criteria were met.

DRAFT

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1907691

Client Name: ALS Environmental

Client Project Name:

Client Project Number: HS19071445

Client PO Number: 10-11851

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
MW-39	1907691-1		WATER	29-Jul-19	12:50
MW-40	1907691-2		WATER	29-Jul-19	11:55
MW-41	1907691-3		WATER	29-Jul-19	10:15
MW-62	1907691-4		WATER	29-Jul-19	13:40
MW-63	1907691-5		WATER	29-Jul-19	8:55
MW-64	1907691-6		WATER	29-Jul-19	11:05
MW-23	1907691-7		WATER	29-Jul-19	12:40
MW-28D	1907691-8		WATER	29-Jul-19	8:25
MW-42	1907691-9		WATER	29-Jul-19	11:55
MW-43	1907691-10		WATER	29-Jul-19	11:40
MW-44	1907691-11		WATER	29-Jul-19	12:45
MW-46R	1907691-12		WATER	29-Jul-19	9:00
MW-47	1907691-13		WATER	29-Jul-19	10:50
MW-48	1907691-14		WATER	29-Jul-19	10:00
MW-50	1907691-15		WATER	29-Jul-19	13:40
MW-52	1907691-16		WATER	29-Jul-19	14:20
MW-54	1907691-17		WATER	29-Jul-19	11:10
MW-55R	1907691-18		WATER	29-Jul-19	12:00
MW-58	1907691-19		WATER	29-Jul-19	9:45
MW-65	1907691-20		WATER	29-Jul-19	12:45
MW-36	1907691-21		WATER	29-Jul-19	10:45
MW-37	1907691-22		WATER	29-Jul-19	8:25
MW-60	1907691-23		WATER	29-Jul-19	9:05
MW-61	1907691-24		WATER	29-Jul-19	9:50
DUP-01	1907691-25		WATER	29-Jul-19	8:00
DUP-02	1907691-26		WATER	29-Jul-19	10:00
FB-01	1907691-27		WATER	29-Jul-19	10:05



DRAFT

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11851

SUBCONTRACT TO:

1907691

ALS Environmental, Fort Collins
225 Commerce Drive
Fort Collins, CO 80524

Phone: +1 970 490 1511

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: RJ Modashia
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RJ.Modashia@alsglobal.com
Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19071445
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19071445-01	MW-39	Groundwater	29 Jul 2019 12:50
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
2.	HS19071445-02	MW-40	Groundwater	29 Jul 2019 11:55
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
3.	HS19071445-03	MW-41	Groundwater	29 Jul 2019 10:15
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
4.	HS19071445-04	MW-62	Groundwater	29 Jul 2019 13:40
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
5.	HS19071445-05	MW-63	Groundwater	29 Jul 2019 08:55
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
6.	HS19071445-06	MW-64	Groundwater	29 Jul 2019 11:05
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019

RIGHT SOLUTIONS | RIGHT PARTNER



Subcontract Chain of Custody

1907691

SAMPLING STATE: Texas

COC ID: 11851

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
7.	HS19071445-07	MW-23	Groundwater	29 Jul 2019 12:40
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
8.	HS19071445-08	MW-28D	Groundwater	29 Jul 2019 08:25
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
9.	HS19071445-09	MW-42	Groundwater	29 Jul 2019 11:55
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
10.	HS19071445-10	MW-43	Groundwater	29 Jul 2019 11:40
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
11.	HS19071445-11	MW-44	Groundwater	29 Jul 2019 12:45
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
12.	HS19071445-12	MW-46R	Groundwater	29 Jul 2019 09:00
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
13.	HS19071445-13	MW-47	Groundwater	29 Jul 2019 10:50
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
14.	HS19071445-14	MW-48	Groundwater	29 Jul 2019 10:00
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
15.	HS19071445-15	MW-50	Groundwater	29 Jul 2019 13:40
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
16.	HS19071445-16	MW-52	Groundwater	29 Jul 2019 14:20
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			05 Aug 2019
17.	HS19071445-17	MW-54	Groundwater	29 Jul 2019 11:10



Subcontract Chain of Custody

1907691

SAMPLING STATE: Texas

COC ID: 11851

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
18.	HS19071445-18 MW-55R	Groundwater	29 Jul 2019 12:00
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
19.	HS19071445-19 MW-58	Groundwater	29 Jul 2019 09:45
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
20.	HS19071445-20 MW-65	Groundwater	29 Jul 2019 12:45
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
21.	HS19071445-21 MW-36	Groundwater	29 Jul 2019 10:45
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
22.	HS19071445-22 MW-37	Groundwater	29 Jul 2019 08:25
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
23.	HS19071445-23 MW-60	Groundwater	29 Jul 2019 09:05
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
24.	HS19071445-24 MW-61	Groundwater	29 Jul 2019 09:50
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
25.	HS19071445-25 DUP-01	Groundwater	29 Jul 2019 08:00
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
26.	HS19071445-26 DUP-02	Groundwater	29 Jul 2019 10:00
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019
27.	HS19071445-27 FB-01	Water	29 Jul 2019 10:05
	Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019



Subcontract Chain of Custody

1907691
COC ID: 11851

SAMPLING STATE: Texas

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED		DUE DATE	
Report Combined RA 226/228 Value &the 2 Individual		05 Aug 2019	

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
Samples HS19071445-05 & HS19071445-19 MS/MSD

QC Level: TRRP LRC (TRRP checklist only+Level II (normal))

Relinquished By:

Emily Lyons

Date/Time:

7/30/19 1800.

Received By:

Date/Time:

07-31-19 0925

Cooler ID(s):

Temperature(s):

DRAFT



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ALS-TX

Workorder No: 1907691

Project Manager: JRK

Initials: Em

Date: 07.31.19

1. Are airbills / shipping documents present and/or removable?		DROP OFF	<input checked="" type="radio"/> YES	<input type="radio"/> NO			
2. Are custody seals on shipping containers intact?		NONE	<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
3. Are custody seals on sample containers intact?		<input checked="" type="radio"/> NONE	<input type="radio"/> YES	<input type="radio"/> NO *			
4. Is there a COC (chain-of-custody) present?			<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
5. Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)			<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
6. Are short-hold samples present?			<input type="radio"/> YES	<input checked="" type="radio"/> NO			
7. Are all samples within holding times for the requested analyses?			<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
8. Were all sample containers received intact? (not broken or leaking)			<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
9. Is there sufficient sample for the requested analyses?			<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
10. Are all samples in the proper containers for the requested analyses?			<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
11. Are all aqueous samples preserved correctly, if required? (excluding volatiles)		N/A	<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
12. Are all aqueous non-preserved samples pH 4-9?		<input checked="" type="radio"/> N/A	<input type="radio"/> YES	<input type="radio"/> NO *			
13. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)		<input checked="" type="radio"/> N/A	<input type="radio"/> YES	<input type="radio"/> NO			
14. Were the samples shipped on ice?			<input type="radio"/> YES	<input checked="" type="radio"/> NO			
15. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*:	#1	#3	#4	<input checked="" type="radio"/> RAD ONLY	<input type="radio"/> YES	<input type="radio"/> NO
Cooler #:		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>		
Temperature (°C):		<u>Amb.</u>	<u>Amb.</u>	<u>Amb.</u>	<u>Amb.</u>		
No. of custody seals on cooler:		<u>2</u>	<u>2</u>	<u>2</u>	<u>0</u>		
External µR/hr reading:		<u>7</u>	<u>8</u>	<u>8</u>	<u>7</u>		
Background µR/hr reading:		<u>9</u>					
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO / NA (If no, see Form 008.)							

* Please provide details here for NO responses to gray boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.

All client bottle ID's vs ALS lab ID's double-checked by: Em EE

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: [Signature] 8.2.19

1907691



**Must Deliver Next Business Day
Time and Temperature Sensitive!**

Part # 109489-434 RITE EXP 10/19

ORIGIN ID:SGRA (281) 530-5656
CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

SHIP DATE: 30JUL19
ACTWT: 45.30 LB
CAD: 300130/CAFE3211
DIMS: 26x14x14 IN
BILL THIRD PARTY

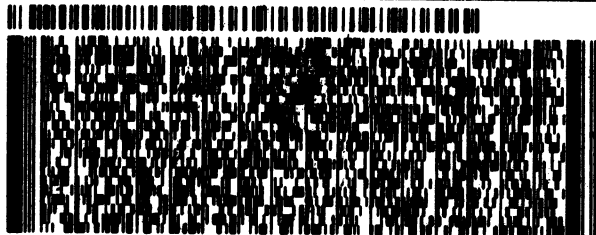
TO **SAMPLE RECEIVING
ALS ENVIRONMENTAL
225 COMMERCE DRIVE**

**8-2
Amb**

FORT COLLINS CO 80524

(970) 490-1511
REF: HS19071445 - RJ

551C2/FSS/104C



**FedEx
Express**



J18111606061w

2 of 4

**WED - 31 JUL 3:00P
STANDARD OVERNIGHT**

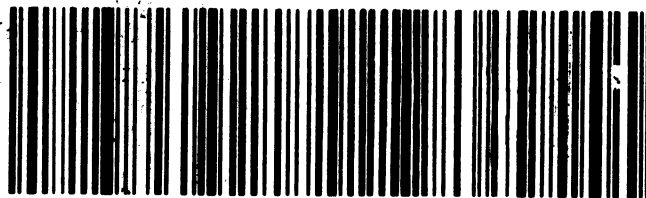
MPS# 4809 7836 2717

Mstr# 4809 7836 2706

0201

AG FTCA

**80524
CO-US DEN**



1907691

Must Deliver Next Business Day
Time and Temperature Sensitive!



Part # 15049-434 RIT2 EXP 11/19

ORIGIN ID:SGRA (281) 530-5656
CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

SHIP DATE: 30JUL19
ACTWGT: 45.30 LB
CAD: 300130/CAFE3211
DIMS: 26x14x14 IN

BILL THIRD PARTY

TO **SAMPLE RECEIVING**
ALS ENVIRONMENTAL
225 COMMERCE DRIVE

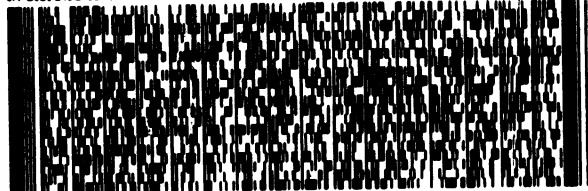
FORT COLLINS CO 80524

(970) 490-1511
REF: HS19071445 - RJ

Amo 2-8

55102/F551/104C

01 0000 01001001 01 0000 000 1 01 1001 01 01 0000 1 0 100 1 000 1 01 00 000



FedEx
Express



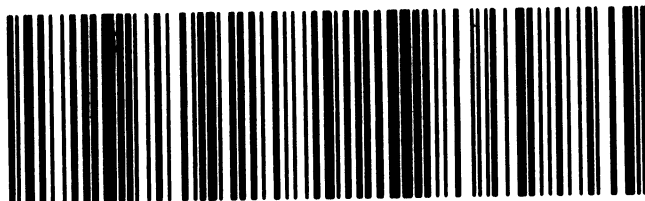
1 of 4

TRK# 4809 7836 2706
0201
MASTER

WED - 31 JUL 3:00P
STANDARD OVERNIGHT

AG FTCA

80524
CO-US DEN



190769u



**Must Deliver Next Business Day
Time and Temperature Sensitive!**

Part # 109459-434 RITE EXP 1110

ORIGIN ID:SGRA (281) 530-5656
CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

SHIP DATE: 30JUL19
ACTWGT: 45.30 LB
CAD: 300130/CAFE3211
DIMS: 26x14x14 IN
BILL THIRD PARTY

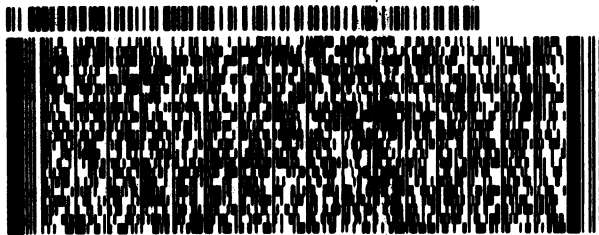
TO **SAMPLE RECEIVING
ALS ENVIRONMENTAL
225 COMMERCE DRIVE**

FORT COLLINS CO 80524

(970) 400-1511
REF: HS19071445 - RJ

Handwritten: Amb 9-11
D-7

3001/1554/2155



**FedEx
Express**



14109090808081118111

3 of 4

MPS# 4809 7836 2728
0263

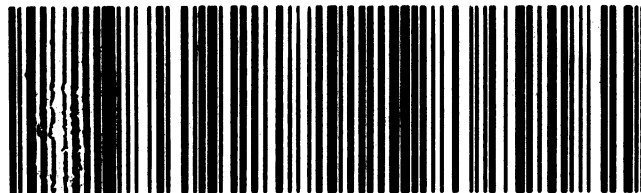
Metr# 4809 7836 2706

0201

**WED - 31 JUL 3:00P
STANDARD OVERNIGHT**

AG FTCA

**80524
CO-US DEN**



Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-39

Lab ID: 1907691-1

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 12:50

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783	Prep Date: 8/8/2019		PrepBy: JXH
Ra-226	ND (+/- 0.29)	U	0.48	pCi/l	NA	8/20/2019 10:45
Carr: BARIUM	97.3		40-110	%REC	DL = NA	8/20/2019 10:45
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 8/16/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.8	pCi/l	NA	8/22/2019 10:43
Ra-228	ND (+/- 0.4)	U	0.8	pCi/l	NA	8/22/2019 10:43
Carr: BARIUM	90.7		40-110	%REC	DL = NA	8/22/2019 10:43

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-40

Lab ID: 1907691-2

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 11:55

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
Ra-226	0.55 (+/- 0.38)		0.49	pCi/l	NA	8/20/2019 10:45
<i>Carr: BARIUM</i>	<i>97.1</i>		<i>40-110</i>	<i>%REC</i>	DL = NA	8/20/2019 10:45
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/16/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	1.85 (+/- 0)		0.81	pCi/l	NA	8/22/2019 10:43
Ra-228	1.3 (+/- 0.52)		0.81	pCi/l	NA	8/22/2019 10:43
<i>Carr: BARIUM</i>	<i>88</i>		<i>40-110</i>	<i>%REC</i>	DL = NA	8/22/2019 10:43

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-41

Lab ID: 1907691-3

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 10:15

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
Ra-226	ND (+/- 0.23)	U	0.3	pCi/l	NA	8/20/2019 10:45
Carr: BARIUM	99		40-110	%REC	DL = NA	8/20/2019 10:45
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/16/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	0.78 (+/- 0)		0.75	pCi/l	NA	8/22/2019 10:43
Ra-228	0.78 (+/- 0.42)		0.75	pCi/l	NA	8/22/2019 10:43
Carr: BARIUM	94.5		40-110	%REC	DL = NA	8/22/2019 10:43

Client: ALS Environmental
 Project: HS19071445
 Sample ID: MW-62
 Legal Location:
 Collection Date: 7/29/2019 13:40

Date: 29-Aug-19
 Work Order: 1907691
 Lab ID: 1907691-4
 Matrix: WATER
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	ND (+/- 0.15)	U	0.2	pCi/l	NA	8/20/2019 10:45
Carr: BARIUM	96.8		40-110	%REC	DL = NA	8/20/2019 10:45
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)						
	1.14 (+/- 0)		0.77	pCi/l	NA	8/22/2019 10:43
Ra-228	1.14 (+/- 0.48)		0.77	pCi/l	NA	8/22/2019 10:43
Carr: BARIUM	94.4		40-110	%REC	DL = NA	8/22/2019 10:43

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-63

Lab ID: 1907691-5

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 08:55

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
Ra-226	ND (+/- 0.17)	U	0.25	pCi/l	NA	8/20/2019 10:45
<i>Carr: BARIUM</i>	97.7		40-110	%REC	DL = NA	8/20/2019 10:45
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/16/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.79	pCi/l	NA	8/22/2019 10:43
Ra-228	ND (+/- 0.43)	U	0.79	pCi/l	NA	8/22/2019 10:43
<i>Carr: BARIUM</i>	93.2		40-110	%REC	DL = NA	8/22/2019 10:43

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-64

Lab ID: 1907691-6

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 11:05

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	0.52 (+/- 0.32)		SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
<i>Carr: BARIUM</i>	94.8		0.3	pCi/l	NA	8/20/2019 10:45
			40-110	%REC	DL = NA	8/20/2019 10:45
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)	1.84 (+/- 0)		SOP 724		Prep Date: 8/16/2019	PrepBy: RGS
Ra-228	1.32 (+/- 0.52)		0.78	pCi/l	NA	8/22/2019 10:43
<i>Carr: BARIUM</i>	94.2		40-110	%REC	DL = NA	8/22/2019 10:43

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-23

Lab ID: 1907691-7

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 12:40

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
Ra-226	0.34 (+/- 0.24)		0.23	pCi/l	NA	8/20/2019 11:02
<i>Carr: BARIUM</i>	<i>94.1</i>		<i>40-110</i>	<i>%REC</i>	DL = NA	8/20/2019 11:02
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/16/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.76	pCi/l	NA	8/22/2019 10:43
Ra-228	ND (+/- 0.41)	U	0.76	pCi/l	NA	8/22/2019 10:43
<i>Carr: BARIUM</i>	<i>95.1</i>		<i>40-110</i>	<i>%REC</i>	DL = NA	8/22/2019 10:43

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-28D

Lab ID: 1907691-8

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 08:25

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/8/2019 PrepBy: JXH	
Ra-226	ND (+/- 0.19)	U	0.29	pCi/l	NA	8/20/2019 11:02
Carr: BARIUM	95.4		40-110	%REC	DL = NA	8/20/2019 11:02
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/16/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.77	pCi/l	NA	8/22/2019 10:43
Ra-228	ND (+/- 0.36)	U	0.77	pCi/l	NA	8/22/2019 10:43
Carr: BARIUM	92.1		40-110	%REC	DL = NA	8/22/2019 10:43

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-42

Lab ID: 1907691-9

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 11:55

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783	Prep Date: 8/8/2019		PrepBy: JXH
Ra-226	ND (+/- 0.25)	U	0.38	pCi/l	NA	8/20/2019 11:02
Carr: BARIUM	98.6		40-110	%REC	DL = NA	8/20/2019 11:02
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 8/16/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	1.02 (+/- 0)		0.88	pCi/l	NA	8/22/2019 10:43
Ra-228	1.02 (+/- 0.51)		0.88	pCi/l	NA	8/22/2019 10:43
Carr: BARIUM	80.7		40-110	%REC	DL = NA	8/22/2019 10:43

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-43

Lab ID: 1907691-10

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 11:40

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	0.59 (+/- 0.32)		SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
<i>Carr: BARIUM</i>	97.5		0.26	pCi/l	NA	8/20/2019 11:02
			40-110	%REC	DL = NA	8/20/2019 11:02
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)	ND (+/- 0)	U	SOP 724		Prep Date: 8/16/2019	PrepBy: RGS
Ra-228	ND (+/- 0.44)	U	0.82	pCi/l	NA	8/22/2019 10:43
<i>Carr: BARIUM</i>	91.7		40-110	%REC	DL = NA	8/22/2019 10:43

Client: ALS Environmental
 Project: HS19071445
 Sample ID: MW-44
 Legal Location:
 Collection Date: 7/29/2019 12:45

Date: 29-Aug-19
 Work Order: 1907691
 Lab ID: 1907691-11
 Matrix: WATER
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
Ra-226	0.37 (+/- 0.24)		0.25	pCi/l	NA	8/20/2019 11:02
Carr: BARIUM	96.9		40-110	%REC	DL = NA	8/20/2019 11:02
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/16/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	1.33 (+/- 0)		0.8	pCi/l	NA	8/22/2019 10:43
Ra-228	0.96 (+/- 0.46)		0.8	pCi/l	NA	8/22/2019 10:43
Carr: BARIUM	91.9		40-110	%REC	DL = NA	8/22/2019 10:43

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-46R

Lab ID: 1907691-12

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 09:00

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/8/2019 PrepBy: JXH	
Ra-226	ND (+/- 0.22)	U	0.31	pCi/l	NA	8/20/2019 11:02
Carr: BARIUM	97.5		40-110	%REC	DL = NA	8/20/2019 11:02
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/16/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.8	pCi/l	NA	8/22/2019 10:43
Ra-228	ND (+/- 0.4)	U	0.8	pCi/l	NA	8/22/2019 10:43
Carr: BARIUM	94.8		40-110	%REC	DL = NA	8/22/2019 10:43

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-47

Lab ID: 1907691-13

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 10:50

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783	Prep Date: 8/8/2019		PrepBy: JXH
Ra-226	0.47 (+/- 0.26)		0.19	pCi/l	NA	8/20/2019 11:02
<i>Carr: BARIUM</i>	98.6		40-110	%REC	DL = NA	8/20/2019 11:02
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 8/16/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.81	pCi/l	NA	8/23/2019 08:45
Ra-228	ND (+/- 0.44)	U	0.81	pCi/l	NA	8/23/2019 08:45
<i>Carr: BARIUM</i>	91.4		40-110	%REC	DL = NA	8/23/2019 08:45

Client: ALS Environmental
Project: HS19071445
Sample ID: MW-48
Legal Location:
Collection Date: 7/29/2019 10:00

Date: 29-Aug-19
Work Order: 1907691
Lab ID: 1907691-14
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783	Prep Date: 8/8/2019		PrepBy: JXH
Ra-226	ND (+/- 0.22)	U	0.35	pCi/l	NA	8/20/2019 11:02
Carr: BARIUM	94.2		40-110	%REC	DL = NA	8/20/2019 11:02
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 8/16/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.8	pCi/l	NA	8/23/2019 08:45
Ra-228	ND (+/- 0.43)	U	0.8	pCi/l	NA	8/23/2019 08:45
Carr: BARIUM	90.8		40-110	%REC	DL = NA	8/23/2019 08:45

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-50

Lab ID: 1907691-15

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 13:40

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/8/2019 PrepBy: JXH	
Ra-226	ND (+/- 0.3)	U	0.42	pCi/l	NA	8/20/2019 11:02
Carr: BARIUM	94		40-110	%REC	DL = NA	8/20/2019 11:02
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/16/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.77	pCi/l	NA	8/23/2019 08:45
Ra-228	ND (+/- 0.39)	U	0.77	pCi/l	NA	8/23/2019 08:45
Carr: BARIUM	94.4		40-110	%REC	DL = NA	8/23/2019 08:45

Client: ALS Environmental
Project: HS19071445
Sample ID: MW-52
Legal Location:
Collection Date: 7/29/2019 14:20

Date: 29-Aug-19
Work Order: 1907691
Lab ID: 1907691-16
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
Ra-226	ND (+/- 0.25)	U	0.45	pCi/l	NA	8/20/2019 11:25
Carr: BARIUM	95.5		40-110	%REC	DL = NA	8/20/2019 11:25
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/16/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	0.98 (+/- 0)		0.8	pCi/l	NA	8/23/2019 08:45
Ra-228	0.98 (+/- 0.47)		0.8	pCi/l	NA	8/23/2019 08:45
Carr: BARIUM	91.9		40-110	%REC	DL = NA	8/23/2019 08:45

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-54

Lab ID: 1907691-17

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 11:10

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
Ra-226	ND (+/- 0.25)	U	0.45	pCi/l	NA	8/20/2019 11:25
<i>Carr: BARIUM</i>	98.1		40-110	%REC	DL = NA	8/20/2019 11:25
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/16/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.83	pCi/l	NA	8/23/2019 08:45
Ra-228	ND (+/- 0.41)	U	0.83	pCi/l	NA	8/23/2019 08:45
<i>Carr: BARIUM</i>	91.5		40-110	%REC	DL = NA	8/23/2019 08:45

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-55R

Lab ID: 1907691-18

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 12:00

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/8/2019 PrepBy: JXH	
Ra-226	ND (+/- 0.21)	U	0.31	pCi/l	NA	8/20/2019 11:25
Carr: BARIUM	86		40-110	%REC	DL = NA	8/20/2019 11:25
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/16/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.79	pCi/l	NA	8/23/2019 08:45
Ra-228	ND (+/- 0.39)	U	0.79	pCi/l	NA	8/23/2019 08:45
Carr: BARIUM	90		40-110	%REC	DL = NA	8/23/2019 08:45

Client: ALS Environmental
Project: HS19071445
Sample ID: MW-58
Legal Location:
Collection Date: 7/29/2019 09:45

Date: 29-Aug-19
Work Order: 1907691
Lab ID: 1907691-19
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	0.75 (+/- 0.35)		SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
<i>Carr: BARIUM</i>	97.9			0.2 pCi/l	NA	8/20/2019 11:25
				40-110 %REC	DL = NA	8/20/2019 11:25
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)	1.63 (+/- 0)		SOP 724		Prep Date: 8/16/2019	PrepBy: RGS
Ra-228	0.88 (+/- 0.46)			0.83 pCi/l	NA	8/23/2019 08:45
<i>Carr: BARIUM</i>	91.1			40-110 %REC	DL = NA	8/23/2019 08:45

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-65

Lab ID: 1907691-20

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 12:45

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
Ra-226	ND (+/- 0.29)	U	0.39	pCi/l	NA	8/20/2019 11:25
<i>Carr: BARIUM</i>	92.1		40-110	%REC	DL = NA	8/20/2019 11:25
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/16/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.78	pCi/l	NA	8/23/2019 08:45
Ra-228	ND (+/- 0.41)	U	0.78	pCi/l	NA	8/23/2019 08:45
<i>Carr: BARIUM</i>	93.4		40-110	%REC	DL = NA	8/23/2019 08:45

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-36

Lab ID: 1907691-21

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 10:45

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783	Prep Date: 8/8/2019		PrepBy: JXH
Ra-226	ND (+/- 0.2)	U	0.35	pCi/l	NA	8/20/2019 11:25
Carr: BARIUM	84.6		40-110	%REC	DL = NA	8/20/2019 11:25
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 8/16/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.82	pCi/l	NA	8/23/2019 08:45
Ra-228	ND (+/- 0.39)	U	0.82	pCi/l	NA	8/23/2019 08:45
Carr: BARIUM	93.3		40-110	%REC	DL = NA	8/23/2019 08:45

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-37

Lab ID: 1907691-22

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 08:25

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
Ra-226	ND (+/- 0.19)	U	0.28	pCi/l	NA	8/20/2019 11:25
<i>Carr: BARIUM</i>	83.4		40-110	%REC	DL = NA	8/20/2019 11:25
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/16/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.82	pCi/l	NA	8/23/2019 08:45
Ra-228	ND (+/- 0.43)	U	0.82	pCi/l	NA	8/23/2019 08:45
<i>Carr: BARIUM</i>	91.8		40-110	%REC	DL = NA	8/23/2019 08:45

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: MW-60

Lab ID: 1907691-23

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 09:05

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
Ra-226	ND (+/- 0.28)	U	0.48	pCi/l	NA	8/20/2019 11:42
<i>Carr: BARIUM</i>	92.4		40-110	%REC	DL = NA	8/20/2019 11:42
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/16/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.83	pCi/l	NA	8/23/2019 08:45
Ra-228	ND (+/- 0.43)	U	0.83	pCi/l	NA	8/23/2019 08:45
<i>Carr: BARIUM</i>	93.4		40-110	%REC	DL = NA	8/23/2019 08:45

Client: ALS Environmental
Project: HS19071445
Sample ID: MW-61
Legal Location:
Collection Date: 7/29/2019 09:50

Date: 29-Aug-19
Work Order: 1907691
Lab ID: 1907691-24
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
Ra-226	ND (+/- 0.24)	U	0.44	pCi/l	NA	8/20/2019 11:42
Carr: BARIUM	95.6		40-110	%REC	DL = NA	8/20/2019 11:42
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/16/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.75	pCi/l	NA	8/23/2019 08:45
Ra-228	ND (+/- 0.37)	U	0.75	pCi/l	NA	8/23/2019 08:45
Carr: BARIUM	94.2		40-110	%REC	DL = NA	8/23/2019 08:45

Client: ALS Environmental
Project: HS19071445
Sample ID: DUP-01
Legal Location:
Collection Date: 7/29/2019 08:00

Date: 29-Aug-19
Work Order: 1907691
Lab ID: 1907691-25
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783	Prep Date: 8/8/2019		PrepBy: JXH
Ra-226	1.87 (+/- 0.66)		0.33	pCi/l	NA	8/20/2019 11:42
Carr: BARIUM	91.8		40-110	%REC	DL = NA	8/20/2019 11:42
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 8/20/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	1.87 (+/- 0)		0.8	pCi/l	NA	8/28/2019 08:05
Ra-228	ND (+/- 0.43)	U	0.8	pCi/l	NA	8/28/2019 08:05
Carr: BARIUM	86.9		40-110	%REC	DL = NA	8/28/2019 08:05

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: DUP-02

Lab ID: 1907691-26

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 10:00

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783	Prep Date: 8/8/2019		PrepBy: JXH
Ra-226	ND (+/- 0.17)	U	0.31	pCi/l	NA	8/20/2019 11:42
Carr: BARIUM	97.5		40-110	%REC	DL = NA	8/20/2019 11:42
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 8/20/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.8	pCi/l	NA	8/28/2019 08:05
Ra-228	ND (+/- 0.4)	U	0.8	pCi/l	NA	8/28/2019 08:05
Carr: BARIUM	86.2		40-110	%REC	DL = NA	8/28/2019 08:05

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: FB-01

Lab ID: 1907691-27

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 10:05

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/8/2019 PrepBy: JXH	
Ra-226	ND (+/- 0.15)	Y1,U	0.23	pCi/l	NA	8/20/2019 11:42
Carr: BARIUM	100	Y1	40-110	%REC	DL = NA	8/20/2019 11:42
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/20/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.79	pCi/l	NA	8/28/2019 08:05
Ra-228	ND (+/- 0.38)	U	0.79	pCi/l	NA	8/28/2019 08:05
Carr: BARIUM	89		40-110	%REC	DL = NA	8/28/2019 08:05

Client: ALS Environmental

Date: 29-Aug-19

Project: HS19071445

Work Order: 1907691

Sample ID: FB-01

Lab ID: 1907691-27

Legal Location:

Matrix: WATER

Collection Date: 7/29/2019 10:05

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
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Explanation of Qualifiers**Radiochemistry:**

- "Report Limit" is the MDC

U or ND - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

W - DER is greater than Warning Limit of 1.42

* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.

- Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.

G - Sample density differs by more than 15% of LCS density.

D - DER is greater than Control Limit

M - Requested MDC not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS, Matrix Spike Recovery within control limits.

N - Matrix Spike Recovery outside control limits

NC - Not Calculated for duplicate results less than 5 times MDC

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).

U or ND - Indicates that the compound was analyzed for but not detected.

E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.

M - Duplicate injection precision was not met.

N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.

Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.

* - Duplicate analysis (relative percent difference) not within control limits.

S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

U or ND - Indicates that the compound was analyzed for but not detected.

B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.

E - Analyte concentration exceeds the upper level of the calibration range.

J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).

A - A tentatively identified compound is a suspected aldol-condensation product.

X - The analyte was diluted below an accurate quantitation level.

* - The spike recovery is equal to or outside the control criteria used.

+ - The relative percent difference (RPD) equals or exceeds the control criteria.

G - A pattern resembling gasoline was detected in this sample.

D - A pattern resembling diesel was detected in this sample.

M - A pattern resembling motor oil was detected in this sample.

C - A pattern resembling crude oil was detected in this sample.

4 - A pattern resembling JP-4 was detected in this sample.

5 - A pattern resembling JP-5 was detected in this sample.

H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.

L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.

Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:

- gasoline

- JP-8

- diesel

- mineral spirits

- motor oil

- Stoddard solvent

- bunker C

ALS -- Fort Collins

Client: ALS Environmental
Work Order: 1907691
Project: HS19071445

QC BATCH REPORT

Batch ID: RE190808-2-1 Instrument ID Alpha Scin Method: Radium-226 by Radon Emanation

Table for DUP Sample ID: 1907691-5. Columns include Analyte, Result, ReportLimit, SPK Val, SPK Ref Value, %REC, Control Limit, Decision Level, DER Ref, DER, DER Limit, Qual. Rows for Ra-226 and Carr: BARIUM.

Table for LCS Sample ID: RE190808-2. Columns include Analyte, Result, ReportLimit, SPK Val, SPK Ref Value, %REC, Control Limit, Decision Level, DER Ref, DER, DER Limit, Qual. Rows for Ra-226 and Carr: BARIUM.

Table for MB Sample ID: RE190808-2. Columns include Analyte, Result, ReportLimit, SPK Val, SPK Ref Value, %REC, Control Limit, Decision Level, DER Ref, DER, DER Limit, Qual. Rows for Ra-226 and Carr: BARIUM.

The following samples were analyzed in this batch:

Table listing sample IDs: 1907691-1 through 1907691-17.

Client: ALS Environmental
 Work Order: 1907691
 Project: HS19071445

Batch ID: RE190808-3-1 Instrument ID Alpha Scin Method: Radium-226 by Radon Emanation

DUP Sample ID: 1907691-19 Units: pCi/l Analysis Date: 8/20/2019 11:25
 Client ID: MW-58 Run ID: RE190808-3A Prep Date: 8/8/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	0.51 (+/- 0.29)	0.26						0.75	0.5	2.1	
Carr: BARIUM	14250		15670		91	40-110		15330			

LCS Sample ID: RE190808-3 Units: pCi/l Analysis Date: 8/21/2019 13:02
 Client ID: Run ID: RE190808-3A Prep Date: 8/8/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	48 (+/- 12)	0	46.48		104	67-120					P,Y1
Carr: BARIUM	15690		15510		101	40-110					Y1

MB Sample ID: RE190808-3 Units: pCi/l Analysis Date: 8/20/2019 10:45
 Client ID: Run ID: RE190808-3A Prep Date: 8/8/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	ND	0.32									Y1,U
Carr: BARIUM	15720		15540		101	40-110					Y1

The following samples were analyzed in this batch:

1907691-18	1907691-19	1907691-20
1907691-21	1907691-22	1907691-23
1907691-24	1907691-25	1907691-26
1907691-27		

Client: ALS Environmental
Work Order: 1907691
Project: HS19071445

Batch ID: RA190816-1-1 Instrument ID GASPROP Method: Radium-228 Analysis by GFPC

DUP Sample ID: 1907691-5 Units: ug Analysis Date: 8/22/2019 10:43
 Client ID: MW-63 Run ID: RA190816-1A Prep Date: 8/16/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	31900		33740		94.6	40-110		31440			
Ra-228	ND	0.73						0.75	0.4	2.1	U

LCS Sample ID: RA190816-1 Units: ug Analysis Date: 8/22/2019 10:43
 Client ID: Run ID: RA190816-1A Prep Date: 8/16/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	31760		33660		94.3	40-110					
Ra-228	14.8 (+/- 3.5)	0.8	13.96		106	70-130					P

MB Sample ID: RA190816-1 Units: ug Analysis Date: 8/22/2019 10:43
 Client ID: Run ID: RA190816-1A Prep Date: 8/16/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	31790		33650		94.5	40-110					
Ra-228	ND	0.73									U

The following samples were analyzed in this batch:

1907691-1	1907691-2	1907691-3
1907691-4	1907691-5	1907691-6
1907691-7	1907691-8	1907691-9
1907691-10	1907691-11	1907691-12

Client: ALS Environmental
Work Order: 1907691
Project: HS19071445

Batch ID: RA190816-2-1 Instrument ID GASPROP Method: Radium-228 Analysis by GFPC

DUP Sample ID: 1907691-19 Units: ug Analysis Date: 8/23/2019 08:45
 Client ID: MW-58 Run ID: RA190816-2A Prep Date: 8/16/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	31790		34700		91.6	40-110		31620			
Ra-228	1.14 (+/- 0.5)	0.81						0.88	0.4	2.1	

LCS Sample ID: RA190816-2 Units: ug Analysis Date: 8/23/2019 08:07
 Client ID: Run ID: RA190816-2A Prep Date: 8/16/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	32300		34540		93.5	40-110					
Ra-228	15.4 (+/- 3.9)	1.5	13.96		110	70-130					P,M3

MB Sample ID: RA190816-2 Units: ug Analysis Date: 8/23/2019 08:45
 Client ID: Run ID: RA190816-2A Prep Date: 8/16/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	31010		34550		89.8	40-110					
Ra-228	ND	0.83									U

The following samples were analyzed in this batch:

1907691-13	1907691-14	1907691-15
1907691-16	1907691-17	1907691-18
1907691-19	1907691-20	1907691-21
1907691-22	1907691-23	1907691-24

Client: ALS Environmental
Work Order: 1907691
Project: HS19071445

Batch ID: RA190820-1-2 Instrument ID GASPROP Method: Radium-228 Analysis by GFPC

LCS		Sample ID: RA190820-1		Units: ug		Analysis Date: 8/28/2019 08:05					
Client ID:		Run ID: RA190820-1A			Prep Date: 8/20/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	31010		34670		89.4	40-110					
Ra-228	16.5 (+/- 3.9)	0.8	13.94		119	70-130					P

MB		Sample ID: RA190820-1		Units: ug		Analysis Date: 8/28/2019 08:05					
Client ID:		Run ID: RA190820-1A			Prep Date: 8/20/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	31220		34650		90.1	40-110					
Ra-228	0.78 (+/- 0.41)	0.74									B3

The following samples were analyzed in this batch:

1907691-25	1907691-26	1907691-27
------------	------------	------------

DRAFT



05-Aug-2019

RJ Modashia
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS19071445**

Work Order: **19071950**

Dear RJ,

ALS Environmental received 27 samples on 31-Jul-2019 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 44.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton", is written over a light blue horizontal line.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

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Page 128 of 171

Client: ALS Environmental
Project: HS19071445
Work Order: 19071950

**TRRP Laboratory Data
Package Cover Page**

This data package consists of all or some of the following as applicable:

This signature page, the laboratory case narrative, and the following reportable data:

- R1 Field chain-of-custody documentation:
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC Chapter 5
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies:
See Case Narrative.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached Case Narrative and QC Summaries. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified, and no information affecting the quality of the data has been knowingly withheld.

Chad Whelton

Chad Whelton
Project Manager

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Work Order: 19071950

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
19071950-01	HS19071445-01	Groundwater	MW-39	7/29/2019 12:50	7/31/2019 09:30	<input type="checkbox"/>
19071950-02	HS19071445-02	Groundwater	MW-40	7/29/2019 11:55	7/31/2019 09:30	<input type="checkbox"/>
19071950-03	HS19071445-03	Groundwater	MW-41	7/29/2019 10:15	7/31/2019 09:30	<input type="checkbox"/>
19071950-04	HS19071445-04	Groundwater	MW-62	7/29/2019 13:40	7/31/2019 09:30	<input type="checkbox"/>
19071950-05	HS19071445-05	Groundwater	MW-63	7/29/2019 08:55	7/31/2019 09:30	<input type="checkbox"/>
19071950-06	HS19071445-06	Groundwater	MW-64	7/29/2019 11:05	7/31/2019 09:30	<input type="checkbox"/>
19071950-07	HS19071445-07	Groundwater	MW-23	7/29/2019 12:40	7/31/2019 09:30	<input type="checkbox"/>
19071950-08	HS19071445-08	Groundwater	MW-28D	7/29/2019 08:25	7/31/2019 09:30	<input type="checkbox"/>
19071950-09	HS19071445-09	Groundwater	MW-42	7/29/2019 11:55	7/31/2019 09:30	<input type="checkbox"/>
19071950-10	HS19071445-10	Groundwater	MW-43	7/29/2019 11:40	7/31/2019 09:30	<input type="checkbox"/>
19071950-11	HS19071445-11	Groundwater	MW-44	7/29/2019 12:45	7/31/2019 09:30	<input type="checkbox"/>
19071950-12	HS19071445-12	Groundwater	MW-46R	7/29/2019 09:00	7/31/2019 09:30	<input type="checkbox"/>
19071950-13	HS19071445-13	Groundwater	MW-47	7/29/2019 10:50	7/31/2019 09:30	<input type="checkbox"/>
19071950-14	HS19071445-14	Groundwater	MW-48	7/29/2019 10:00	7/31/2019 09:30	<input type="checkbox"/>
19071950-15	HS19071445-15	Groundwater	MW-50	7/29/2019 13:40	7/31/2019 09:30	<input type="checkbox"/>
19071950-16	HS19071445-16	Groundwater	MW-52	7/29/2019 14:20	7/31/2019 09:30	<input type="checkbox"/>
19071950-17	HS19071445-17	Groundwater	MW-54	7/29/2019 11:10	7/31/2019 09:30	<input type="checkbox"/>
19071950-18	HS19071445-18	Groundwater	MW-55R	7/29/2019 12:00	7/31/2019 09:30	<input type="checkbox"/>
19071950-19	HS19071445-19	Groundwater	MW-58	7/29/2019 09:45	7/31/2019 09:30	<input type="checkbox"/>
19071950-20	HS19071445-20	Groundwater	MW-65	7/29/2019 12:45	7/31/2019 09:30	<input type="checkbox"/>
19071950-21	HS19071445-21	Groundwater	MW-36	7/29/2019 10:45	7/31/2019 09:30	<input type="checkbox"/>
19071950-22	HS19071445-22	Groundwater	MW-37	7/29/2019 08:25	7/31/2019 09:30	<input type="checkbox"/>
19071950-23	HS19071445-23	Groundwater	MW-60	7/29/2019 09:05	7/31/2019 09:30	<input type="checkbox"/>
19071950-24	HS19071445-24	Groundwater	MW-61	7/29/2019 09:50	7/31/2019 09:30	<input type="checkbox"/>
19071950-25	HS19071445-25	Groundwater	DUP-01	7/29/2019 08:00	7/31/2019 09:30	<input type="checkbox"/>
19071950-26	HS19071445-26	Groundwater	DUP-02	7/29/2019 10:00	7/31/2019 09:30	<input type="checkbox"/>
19071950-27	HS19071445-27	Water	FB-01	7/29/2019 10:05	7/31/2019 09:30	<input type="checkbox"/>

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
WorkOrder: 19071950

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
mg/L	Milligrams per Liter

Work Order: 19071950
 Client: ALS Environmental
 Project: HS19071445

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R267358						
		<u>Test Name:</u> Fluoride				
19071950-01	HS19071445-01	Groundwater	7/29/2019 12:50:00 PM			8/1/2019 11:15 AM
^						
19071950-02	HS19071445-02		7/29/2019 11:55:00 AM			8/1/2019 11:15 AM
^						
19071950-03	HS19071445-03		7/29/2019 10:15:00 AM			8/1/2019 11:15 AM
^						
19071950-04	HS19071445-04		7/29/2019 1:40:00 PM			8/1/2019 11:15 AM
^						
19071950-05	HS19071445-05		7/29/2019 8:55:00 AM			8/1/2019 11:15 AM
^						
19071950-06	HS19071445-06		7/29/2019 11:05:00 AM			8/1/2019 11:15 AM
^						
19071950-07	HS19071445-07		7/29/2019 12:40:00 PM			8/1/2019 11:15 AM
^						
19071950-08	HS19071445-08		7/29/2019 8:25:00 AM			8/1/2019 11:15 AM
^						
19071950-09	HS19071445-09		7/29/2019 11:55:00 AM			8/1/2019 11:15 AM
^						
19071950-10	HS19071445-10		7/29/2019 11:40:00 AM			8/1/2019 11:15 AM
^						
19071950-11	HS19071445-11		7/29/2019 12:45:00 PM			8/1/2019 11:15 AM
^						
19071950-12	HS19071445-12		7/29/2019 9:00:00 AM			8/1/2019 11:15 AM
^						
19071950-13	HS19071445-13		7/29/2019 10:50:00 AM			8/1/2019 11:15 AM
^						
19071950-14	HS19071445-14		7/29/2019 10:00:00 AM			8/1/2019 11:15 AM
^						
19071950-15	HS19071445-15		7/29/2019 1:40:00 PM			8/1/2019 11:15 AM
^						
19071950-16	HS19071445-16		7/29/2019 2:20:00 PM			8/1/2019 11:15 AM
^						
19071950-17	HS19071445-17		7/29/2019 11:10:00 AM			8/1/2019 11:15 AM
^						
19071950-18	HS19071445-18		7/29/2019 12:00:00 PM			8/1/2019 11:15 AM
^						

Work Order: 19071950
 Client: ALS Environmental
 Project: HS19071445

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date	
Batch ID R267398 Test Name: Fluoride							
19071950-19	HS19071445-19	Groundwater	7/29/2019 9:45:00 AM			8/1/2019 02:20 PM	
19071950-20	HS19071445-20		7/29/2019 12:45:00 PM			8/1/2019 02:20 PM	
19071950-21	HS19071445-21		7/29/2019 10:45:00 AM			8/1/2019 02:20 PM	
19071950-22	HS19071445-22		7/29/2019 8:25:00 AM			8/1/2019 02:20 PM	
19071950-23	HS19071445-23		7/29/2019 9:05:00 AM			8/1/2019 02:20 PM	
19071950-24	HS19071445-24		7/29/2019 9:50:00 AM			8/1/2019 02:20 PM	
19071950-25	HS19071445-25		7/29/2019 8:00:00 AM			8/1/2019 02:20 PM	
19071950-26	HS19071445-26		7/29/2019 10:00:00 AM			8/1/2019 02:20 PM	
19071950-27	HS19071445-27		Water	7/29/2019 10:05:00 AM			8/1/2019 02:20 PM

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-01
Collection Date: 7/29/2019 12:50 PM

Work Order: 19071950
Lab ID: 19071950-01
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.16		0.058	0.10	mg/L	1	8/1/2019 11:15

Method: A4500-F C-11

Analyst: DVD

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-02
Collection Date: 7/29/2019 11:55 AM

Work Order: 19071950
Lab ID: 19071950-02
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.13		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-03
Collection Date: 7/29/2019 10:15 AM

Work Order: 19071950
Lab ID: 19071950-03
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.19		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-04
Collection Date: 7/29/2019 01:40 PM

Work Order: 19071950
Lab ID: 19071950-04
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.20		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-05
Collection Date: 7/29/2019 08:55 AM

Work Order: 19071950
Lab ID: 19071950-05
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.13		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-06
Collection Date: 7/29/2019 11:05 AM

Work Order: 19071950
Lab ID: 19071950-06
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.25		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-07
Collection Date: 7/29/2019 12:40 PM

Work Order: 19071950
Lab ID: 19071950-07
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	MLL	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.090	J	0.058	0.10	mg/L	1	8/1/2019 11:15

Method: A4500-F C-11 Analyst: DVD

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-08
Collection Date: 7/29/2019 08:25 AM

Work Order: 19071950
Lab ID: 19071950-08
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.34		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-09
Collection Date: 7/29/2019 11:55 AM

Work Order: 19071950
Lab ID: 19071950-09
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.59		0.058	0.10	mg/L	1	8/1/2019 11:15

Method: A4500-F C-11 Analyst: DVD

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-10
Collection Date: 7/29/2019 11:40 AM

Work Order: 19071950
Lab ID: 19071950-10
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.63		0.058	0.10	mg/L	1	8/1/2019 11:15

Method: A4500-F C-11 Analyst: DVD

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-11
Collection Date: 7/29/2019 12:45 PM

Work Order: 19071950
Lab ID: 19071950-11
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.39		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-12
Collection Date: 7/29/2019 09:00 AM

Work Order: 19071950
Lab ID: 19071950-12
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.38		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-13
Collection Date: 7/29/2019 10:50 AM

Work Order: 19071950
Lab ID: 19071950-13
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.42		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-14
Collection Date: 7/29/2019 10:00 AM

Work Order: 19071950
Lab ID: 19071950-14
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.72		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-15
Collection Date: 7/29/2019 01:40 PM

Work Order: 19071950
Lab ID: 19071950-15
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.47		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-16
Collection Date: 7/29/2019 02:20 PM

Work Order: 19071950
Lab ID: 19071950-16
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.50		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-17
Collection Date: 7/29/2019 11:10 AM

Work Order: 19071950
Lab ID: 19071950-17
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.50		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-18
Collection Date: 7/29/2019 12:00 PM

Work Order: 19071950
Lab ID: 19071950-18
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.79		0.058	0.10	mg/L	1	8/1/2019 11:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-19
Collection Date: 7/29/2019 09:45 AM

Work Order: 19071950
Lab ID: 19071950-19
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.48		0.058	0.10	mg/L	1	8/1/2019 14:20

Method: A4500-F C-11

Analyst: DVD

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-20
Collection Date: 7/29/2019 12:45 PM

Work Order: 19071950
Lab ID: 19071950-20
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.39		0.058	0.10	mg/L	1	8/1/2019 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-21
Collection Date: 7/29/2019 10:45 AM

Work Order: 19071950
Lab ID: 19071950-21
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.42		0.058	0.10	mg/L	1	8/1/2019 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-22
Collection Date: 7/29/2019 08:25 AM

Work Order: 19071950
Lab ID: 19071950-22
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.26		0.058	0.10	mg/L	1	8/1/2019 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-23
Collection Date: 7/29/2019 09:05 AM

Work Order: 19071950
Lab ID: 19071950-23
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.17		0.058	0.10	mg/L	1	8/1/2019 14:20

Method: A4500-F C-11 Analyst: DVD

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-24
Collection Date: 7/29/2019 09:50 AM

Work Order: 19071950
Lab ID: 19071950-24
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.30		0.058	0.10	mg/L	1	8/1/2019 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-25
Collection Date: 7/29/2019 08:00 AM

Work Order: 19071950
Lab ID: 19071950-25
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.41		0.058	0.10	mg/L	1	8/1/2019 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-26
Collection Date: 7/29/2019 10:00 AM

Work Order: 19071950
Lab ID: 19071950-26
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.40		0.058	0.10	mg/L	1	8/1/2019 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

DRAFT

ALS Group, USA

Date: 05-Aug-19

Client: ALS Environmental
Project: HS19071445
Sample ID: HS19071445-27
Collection Date: 7/29/2019 10:05 AM

Work Order: 19071950
Lab ID: 19071950-27
Matrix: WATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	U		0.058	0.10	mg/L	1	8/1/2019 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-Aug-19

WorkOrder: 19071950
InstrumentID: Titrator 1
Test Code: FL_4500C_W
Test Number: A4500-F C-11
Test Name: Fluoride

**METHOD DETECTION /
 REPORTING LIMITS**

Matrix: Water **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	Unadjusted MQL
A	Fluoride	16984-48-8	0.075	0.050	0.058	0.10

ALS Group, USA

Client: ALS Environmental
 Work Order: 19071950
 Project: HS19071445

QC BATCH REPORT

Batch ID: **R267358** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK		Sample ID: MB-R267358-R267358				Units: mg/L		Analysis Date: 8/1/2019 11:15 AM		
Client ID:		Run ID: TITRATOR 1_190801B		SeqNo: 5818736		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride U 0.10

LCS		Sample ID: LCS-R267358-R267358				Units: mg/L		Analysis Date: 8/1/2019 11:15 AM		
Client ID:		Run ID: TITRATOR 1_190801B		SeqNo: 5818737		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.05 0.10 5 0 101 80-120 0

MS		Sample ID: 19071949-05AMS				Units: mg/L		Analysis Date: 8/1/2019 11:15 AM		
Client ID:		Run ID: TITRATOR 1_190801B		SeqNo: 5818743		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.19 0.10 5 0.13 101 75-125 0

MS		Sample ID: 19071950-05AMS				Units: mg/L		Analysis Date: 8/1/2019 11:15 AM		
Client ID: HS19071445-05		Run ID: TITRATOR 1_190801B		SeqNo: 5818763		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.19 0.10 5 0.13 101 75-125 0

MSD		Sample ID: 19071949-05AMSD				Units: mg/L		Analysis Date: 8/1/2019 11:15 AM		
Client ID:		Run ID: TITRATOR 1_190801B		SeqNo: 5818744		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.24 0.10 5 0.13 102 75-125 5.19 0.959 20

MSD		Sample ID: 19071950-05AMSD				Units: mg/L		Analysis Date: 8/1/2019 11:15 AM		
Client ID: HS19071445-05		Run ID: TITRATOR 1_190801B		SeqNo: 5818764		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.24 0.10 5 0.13 102 75-125 5.19 0.959 20

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: ALS Environmental

Work Order: 19071950

Project: HS19071445

Batch ID: R267358

Instrument ID Titrator 1

Method: A4500-F C-11

The following samples were analyzed in this batch:

19071950-01A	19071950-02A	19071950-03A
19071950-04A	19071950-05A	19071950-06A
19071950-07A	19071950-08A	19071950-09A
19071950-10A	19071950-11A	19071950-12A
19071950-13A	19071950-14A	19071950-15A
19071950-16A	19071950-17A	19071950-18A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: ALS Environmental
Work Order: 19071950
Project: HS19071445

QC BATCH REPORT

Batch ID: **R267398** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK	Sample ID: MB-R267398-R267398				Units: mg/L			Analysis Date: 8/1/2019 02:20 PM		
Client ID:	Run ID: TITRATOR 1_190801A				SeqNo: 5819765		Prep Date:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride U 0.10

LCS	Sample ID: LCS-R267398-R267398				Units: mg/L			Analysis Date: 8/1/2019 02:20 PM		
Client ID:	Run ID: TITRATOR 1_190801A				SeqNo: 5819766		Prep Date:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.05 0.10 5 0 101 80-120 0

MS	Sample ID: 19071949-19AMS				Units: mg/L			Analysis Date: 8/1/2019 02:20 PM		
Client ID:	Run ID: TITRATOR 1_190801A				SeqNo: 5819768		Prep Date:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.49 0.10 5 0.48 100 75-125 0

MS	Sample ID: 19071950-19AMS				Units: mg/L			Analysis Date: 8/1/2019 02:20 PM		
Client ID: HS19071445-19	Run ID: TITRATOR 1_190801A				SeqNo: 5819779		Prep Date:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.49 0.10 5 0.48 100 75-125 0

MSD	Sample ID: 19071949-19AMSD				Units: mg/L			Analysis Date: 8/1/2019 02:20 PM		
Client ID:	Run ID: TITRATOR 1_190801A				SeqNo: 5819769		Prep Date:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.34 0.10 5 0.48 97.2 75-125 5.49 2.77 20

MSD	Sample ID: 19071950-19AMSD				Units: mg/L			Analysis Date: 8/1/2019 02:20 PM		
Client ID: HS19071445-19	Run ID: TITRATOR 1_190801A				SeqNo: 5819780		Prep Date:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.34 0.10 5 0.48 97.2 75-125 5.49 2.77 20

The following samples were analyzed in this batch:

19071950-19A	19071950-20A	19071950-21A
19071950-22A	19071950-23A	19071950-24A
19071950-25A	19071950-26A	19071950-27A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

DRAFT

WET CHEMISTRY DATA ASSESSMENT CHECKLIST									
Wet Chemistry			Batch Number: Multiple			Instrument ID: Titrator 1			
Method: Fluoride			Work order Number (s): 19071950						
Analyst Name: DMD			Date 8/1/19		Reviewer Name: JB			Date: 8/2/19	
	A ¹	Description	Yes	No	NA ₂	NR ³	ER# ⁴		
R1	I	Chain-of-Custody							
		1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?				X			
		2) Were all departures from standard conditions described in an exception report?				X			
R2	I	SAMPLE AND QUALITY CONTROL (QC) IDENTIFICATION							
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?				X			
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?				X			
R3	I	TEST REPORTS							
		1) Were all samples prepared and analyzed within holding times?	X						
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	X						
		3) Were calculations checked by a peer or supervisor?	X						
		4) Were all analyte identifications checked by a peer or supervisor?	X						
		5) Were sample quantitation limits reported for all analytes not detected?	X						
		6) Were all results for soil and sediment samples reported on a dry weight basis?					X		
		7) Was % moisture (or solids) reported for all soil and sediment samples?					X		
		8) If required for the project, TICs reported?					X		
R4	I	SURROGATE RECOVERY DATA							
		1) Were surrogates added prior to extraction?				X			
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?				X			
R5	I	TEST REPORTS/SUMMARY FORMS FOR BLANK SAMPLES							
		1) Were appropriate type(s) of blanks analyzed?	X						
		2) Were blanks analyzed at the appropriate frequency?	X						
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X						
		4) Were blank concentrations < 1/2 MQL?	X						
R6	I	LABORATORY CONTROL SAMPLES (LCS):							
		1) Were all COCs included in the LCS?	X						
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X						
		3) Were LCSs analyzed at the required frequency?	X						
		4) Were LCS and LCSD %Rs within the laboratory QC limits?	X						
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	X						
		6) Was the LCSD RPD within QC limits?	X						
R7	I	MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) DATA							
		1) Were the project or method specified analytes included in the MS and MSD?	X						
		2) Were MS/MSD analyzed at the appropriate frequency?	X						
		3) Were MS and MSD %Rs within the laboratory QC limits?	X						
		4) Were MS/MSD RPDs within laboratory QC limits?	X						
R8	I	ANALYTICAL DUPLICATE DATA (IF REQUIRED)							
		1) Were appropriate analytical duplicates analyzed for each matrix?	X						
		2) Were analytical duplicates analyzed at the appropriate frequency?	X						
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	X						
R9	I	METHOD QUANTITATION LIMITS (MQLS):							
		1) Are the MQLs for each method analyte listed and included in the laboratory data package?	X						
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X						
		3) Are unadjusted MQLs included in the laboratory data package?					X		
R10	I	OTHER PROBLEMS/ANOMALIES							
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	X						
		2) Were all necessary corrective actions performed for the reported data?	X						
		3) If requested, is the justification for elevated SQLs documented?					X		

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S1	I	INITIAL CALIBRATION (ICAL)					
		1) Were response factors (RFs) and/or relative response factors (RRFs) for each analyte within the QC limits?			X		
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	I	INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICCV AND CCV) AND					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?	X				
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the organic CCB < MDL?	X				
S3	I	MASS SPECTRAL TUNING:					
		1) Was the appropriate compound for the method used for tuning?			X		
		2) Were ion abundance data within the method-required QC limits?			X		
S4	I	INTERNAL STANDARDS (IS):					
		Were IS area counts within the method-required QC limits?			X		
S5	I	RAW DATA					
		1) Were the raw data (e.g., chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				
S6	I	DUAL COLUMN CONFIRMATION (IF REQUIRED)					
		Did dual column confirmation results meet the method-required QC?			X		
S7	I	TENTATIVELY IDENTIFIED COMPOUNDS (TICS):					
		If TICS were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	INTERFERENCE CHECK SAMPLE (ICS) RESULTS:					
		Were percent recoveries within method QC limits?			X		
S9	I	SERIAL DILUTIONS, POST DIGESTION SPIKES, AND METHOD OF STANDARD					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	I	PROFICIENCY TEST REPORTS:					
		Are proficiency testing or inter-laboratory comparison results on file?	X				
S11	I	METHOD DETECTION LIMIT (MDL) STUDIES					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S12	I	STANDARDS DOCUMENTATION					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	I	COMPOUND/ANALYTE IDENTIFICATION PROCEDURES					
		Are the procedures for compound/analyte identification documented?	X				
S14	I	DEMONSTRATION OF ANALYST COMPETENCY (DOC)					
		1) Was DOC conducted consistent with NELAC 5C or ISO/IEC 4.2.2?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	I	VERIFICATION/VALIDATION DOCUMENTATION FOR METHODS					
		Are all the methods used to generate the data documented, verified, and validated, where applicable, (NELAC 5.10.2 or ISO/IEC 17025 Section 5.4.5)?	X				
S16	I	LABORATORY STANDARD OPERATING PROCEDURES (SOPS):					
		Are laboratory SOPs current and on file for each method performed?	X				

- 1 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
- 2 NA = Not applicable.
- 3 NR = Not Reviewed.
- 4 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

WET CHEMISTRY DATA ASSESSMENT CHECKLIST	
Wet Chemistry	Batch Number:
ER #¹	DESCRIPTION
1	
2	
3	
4	
5	
6	

1 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)



DRAFT

19071950

10450 Stancliff Rd, Ste 210
Houston, TX 77099
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F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11855

SUBCONTRACT TO:

ALS Laboratory Group
3352 128th Ave.
Holland, MI 494249263

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: RJ Modashia
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RJ.Modashia@alsglobal.com
Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19071445
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19071445-01	MW-39	Groundwater	29 Jul 2019 12:50
	Fluoride by ISE 4500			05 Aug 2019
2.	HS19071445-02	MW-40	Groundwater	29 Jul 2019 11:55
	Fluoride by ISE 4500			05 Aug 2019
3.	HS19071445-03	MW-41	Groundwater	29 Jul 2019 10:15
	Fluoride by ISE 4500			05 Aug 2019
4.	HS19071445-04	MW-62	Groundwater	29 Jul 2019 13:40
	Fluoride by ISE 4500			05 Aug 2019
5.	HS19071445-05	MW-63	Groundwater	29 Jul 2019 08:55
	Fluoride by ISE 4500			05 Aug 2019
6.	HS19071445-06	MW-64	Groundwater	29 Jul 2019 11:05
	Fluoride by ISE 4500			05 Aug 2019
7.	HS19071445-07	MW-23	Groundwater	29 Jul 2019 12:40
	Fluoride by ISE 4500			05 Aug 2019
8.	HS19071445-08	MW-28D	Groundwater	29 Jul 2019 08:25
	Fluoride by ISE 4500			05 Aug 2019
9.	HS19071445-09	MW-42	Groundwater	29 Jul 2019 11:55

RIGHT SOLUTIONS | RIGHT PARTNER

Import Data from work order HS19071444



Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11855

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
	Fluoride by ISE 4500		05 Aug 2019
10. HS19071445-10	MW-43	Groundwater	29 Jul 2019 11:40
	Fluoride by ISE 4500		05 Aug 2019
11. HS19071445-11	MW-44	Groundwater	29 Jul 2019 12:45
	Fluoride by ISE 4500		05 Aug 2019
12. HS19071445-12	MW-46R	Groundwater	29 Jul 2019 09:00
	Fluoride by ISE 4500		05 Aug 2019
13. HS19071445-13	MW-47	Groundwater	29 Jul 2019 10:50
	Fluoride by ISE 4500		05 Aug 2019
14. HS19071445-14	MW-48	Groundwater	29 Jul 2019 10:00
	Fluoride by ISE 4500		05 Aug 2019
15. HS19071445-15	MW-50	Groundwater	29 Jul 2019 13:40
	Fluoride by ISE 4500		05 Aug 2019
16. HS19071445-16	MW-52	Groundwater	29 Jul 2019 14:20
	Fluoride by ISE 4500		05 Aug 2019
17. HS19071445-17	MW-54	Groundwater	29 Jul 2019 11:10
	Fluoride by ISE 4500		05 Aug 2019
18. HS19071445-18	MW-55R	Groundwater	29 Jul 2019 12:00
	Fluoride by ISE 4500		05 Aug 2019
19. HS19071445-19	MW-58	Groundwater	29 Jul 2019 09:45
	Fluoride by ISE 4500		05 Aug 2019
20. HS19071445-20	MW-65	Groundwater	29 Jul 2019 12:45
	Fluoride by ISE 4500		05 Aug 2019
21. HS19071445-21	MW-36	Groundwater	29 Jul 2019 10:45
	Fluoride by ISE 4500		05 Aug 2019
22. HS19071445-22	MW-37	Groundwater	29 Jul 2019 08:25
	Fluoride by ISE 4500		05 Aug 2019
23. HS19071445-23	MW-60	Groundwater	29 Jul 2019 09:05
	Fluoride by ISE 4500		05 Aug 2019
24. HS19071445-24	MW-61	Groundwater	29 Jul 2019 09:50
	Fluoride by ISE 4500		05 Aug 2019



Subcontract Chain of Custody

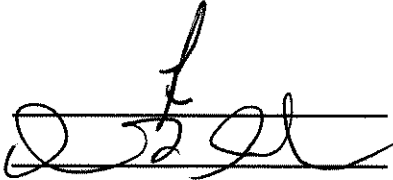

SAMPLING STATE: Texas

COC ID: 11855

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
25. HS19071445-25	DUP-01	Groundwater	29 Jul 2019 08:00
Fluoride by ISE 4500			05 Aug 2019
26. HS19071445-26	DUP-02	Groundwater	29 Jul 2019 10:00
Fluoride by ISE 4500			05 Aug 2019
27. HS19071445-27	FB-01	Water	29 Jul 2019 10:05
Fluoride by ISE 4500			05 Aug 2019

Comments: Please analyze for the analysis listed above.
 Send report to the emails shown above.
 Import Data from work order HS19071444
 Samples HS19071445-05 & HS19071445-19 MS/MSD

QC Level: TRRP LRC (TRRP checklist only+Level II (normal))

Relinquished By:  Date/Time: 7/30/19 1800.
 Received By:  Date/Time: 7/31/19 0930
 Cooler ID(s): _____ Temperature(s): SR2 2.60c

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**

Date/Time Received: **31-Jul-19 09:30**

Work Order: **19071950**

Received by: **DS**

Checklist completed by Diane Shaw 31-Jul-19
eSignature Date

Reviewed by: Chad Whilton 31-Jul-19
eSignature Date

Matrices: **Groundwater**

Carrier name: **FedEx**

Shipping container/cooler in good condition? Yes No Not Present

Custody seals intact on shipping container/cooler? Yes No Not Present

Custody seals intact on sample bottles? Yes No Not Present

Chain of custody present? Yes No

Chain of custody signed when relinquished and received? Yes No

Chain of custody agrees with sample labels? Yes No

Samples in proper container/bottle? Yes No

Sample containers intact? Yes No

Sufficient sample volume for indicated test? Yes No

All samples received within holding time? Yes No

Container/Temp Blank temperature in compliance? Yes No

Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 2.6/2.6 c SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 7/31/2019 1:38:07 PM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



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Houston, TX 77099
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September 04, 2019

Lori Burris
TRC Corporation
10550 Richmond Ave., Suite 210
Houston, TX 77042

Work Order: **HS19080199**

Laboratory Results for: **NRG WA Parish- Appendix IV**

Dear Lori,

ALS Environmental received 1 sample(s) on Aug 05, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Raj. P. Modashia', enclosed in a simple oval outline.

Generated By: DAYNA.FISHER
RJ Modashia
Project Manager

Client: TRC Corporation
Project: NRG WA Parish- Appendix IV
WorkOrder: HS19080199

**TRRP Laboratory Data
Package Cover Page**

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC Chapter 5,
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits.
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

ALS Houston, US

Date: 04-Sep-19

Client: TRC Corporation
Project: NRG WA Parish- Appendix IV
WorkOrder: HS19080199

**TRRP Laboratory Data
Package Cover Page**

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by TCEQ or _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.



RJ Modashia
Project Manager

Laboratory Review Checklist: Reportable Data

Laboratory Name: ALS Laboratory Group		LRC Date: 09/04/2019					
Project Name: NRG WA Parish- Appendix IV		Laboratory Job Number: HS19080199					
Reviewer Name: Corey Grandits		Prep Batch Number(s): 143819, 143940, R343992, R345447					
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				2
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group				LRC Date: 09/04/2019			
Project Name: NRG WA Parish- Appendix IV				Laboratory Job Number: HS19080199			
Reviewer Name: Corey Grandits				Prep Batch Number(s): 143819, 143940, R343992, R345447			
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		X			3
S3	O	Mass spectral tuning:					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS):					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs):					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results:					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports:					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs):					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);

NA = Not Applicable;

NR = Not Reviewed;

R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

DRAFT

Laboratory Review Checklist: Exception Reports	
Laboratory Name: ALS Laboratory Group	LRC Date: 09/04/2019
Project Name: NRG WA Parish- Appendix IV	Laboratory Job Number: HS19080199
Reviewer Name: Corey Grandits	Prep Batch Number(s): 143819, 143940, R343992, R345447
ER# ⁵	Description
1	Batch 143819, Metals Method SW6020, sample HS19080113-03, MS was performed on unrelated sample.
2	Analysis of Fluoride was performed by ALS Holland, MI. Report and Laboratory Review Checklist are attached. The analyses for Radium-226 and Radium-228 were subcontracted to ALS Environmental in Fort Collins, CO. Final report attached.
3	See Run Log and CCB Exceptions Report.
<p>Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.</p> <p>O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable); NA = Not Applicable; NR = Not Reviewed; R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>	

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
 Project: NRG WA Parish- Appendix IV
 WorkOrder: HS19080199
 Start Date: 07-Aug-2019

End Date: 08-Aug-2019

Run ID:ICPMS05_343857
 Instrument:ICPMS05
 Method:SW6020

Sample No.	D/F	Time	FileID	Analytes
ICV	1	07-Aug-2019 20:35	017_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV5	1	07-Aug-2019 20:40	019LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICB	1	07-Aug-2019 20:42	020_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	07-Aug-2019 20:45	021LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	07-Aug-2019 20:50	023ICSA.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSAB	1	07-Aug-2019 20:52	024ICSB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 1	1	07-Aug-2019 21:09	029_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 1	1	07-Aug-2019 21:11	030_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 2	1	07-Aug-2019 21:27	037_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 2	1	07-Aug-2019 21:40	039_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 3	1	07-Aug-2019 22:02	049_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 3	1	07-Aug-2019 22:04	050_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 4	1	07-Aug-2019 22:39	063_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 4	1	07-Aug-2019 22:42	064_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCV 5	1	07-Aug-2019 23:28	083_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV2	1	07-Aug-2019 23:30	084LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCB 5	1	07-Aug-2019 23:35	086_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV5	1	07-Aug-2019 23:40	088LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
MBLK-143819	1	07-Aug-2019 23:45	090SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
LCS-143819	1	07-Aug-2019 23:48	091SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
ZZZZZSD	5	07-Aug-2019 23:52	093SMPL.d	AS BE CD CO CR LI MO PB SB SE TL
ZZZZZMS	1	07-Aug-2019 23:55	094SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
ZZZZZMSD	1	07-Aug-2019 23:57	095SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
ZZZZZPDS	1	07-Aug-2019 23:59	096SMPL.d	AS BE CD CO CR LI MO PB SB SE TL
CCV 6	1	08-Aug-2019 00:01	097_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 6	1	08-Aug-2019 00:03	098_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 7	1	08-Aug-2019 00:28	109_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 7	1	08-Aug-2019 00:31	110_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-38R	1	08-Aug-2019 00:51	119SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 8	1	08-Aug-2019 00:55	121_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 8	1	08-Aug-2019 00:58	122_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	08-Aug-2019 01:07	126LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV5	1	08-Aug-2019 01:09	127LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	08-Aug-2019 01:12	128ICSA.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSAB	1	08-Aug-2019 01:14	129ICSB.d	AS BA BE CD CO CR LI MO PB SB SE TL

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish- Appendix IV
WorkOrder: HS19080199

Run ID:ICPMS05_343857
Instrument:ICPMS05
Method:SW6020

ICB	Date: 07-Aug-2019 20:42	Seq: 5200979	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Antimony	1.045	0.4	2	
Arsenic	0.442	0.4	2	
Cobalt	0.277	0.2	5	
Thallium	0.381	0.2	2	

CCB 1	Date: 07-Aug-2019 21:11	Seq: 5200989	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Antimony	2.106	0.4	2	
Arsenic	0.786	0.4	2	
Cobalt	0.508	0.2	5	
Molybdenum	1.012	0.6	5	
Thallium	1.062	0.2	2	

CCB 2	Date: 07-Aug-2019 21:27	Seq: 5200996	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Antimony	2.182	0.4	2	
Arsenic	0.423	0.4	2	
Cobalt	0.215	0.2	5	
Molybdenum	0.712	0.6	5	
Thallium	0.654	0.2	2	

CCB 3	Date: 07-Aug-2019 22:04	Seq: 5200954	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Antimony	2.054	0.4	2	
Arsenic	0.817	0.4	2	
Cobalt	0.453	0.2	5	
Molybdenum	0.73	0.6	5	
Thallium	0.91	0.2	2	

CCB 4	Date: 07-Aug-2019 22:42	Seq: 5200968	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Antimony	2.192	0.4	2	
Arsenic	1.274	0.4	2	
Chromium	0.896	0.4	4	
Cobalt	0.959	0.2	5	
Molybdenum	0.861	0.6	5	
Thallium	1.211	0.2	2	

CCB 6	Date: 08-Aug-2019 00:03	Seq: 5201054	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Antimony	0.969	0.4	2	
Selenium	1.103	1.1	2	
Thallium	0.241	0.2	2	

CCB 7	Date: 08-Aug-2019 00:31	Seq: 5201066	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	
Antimony	0.471	0.4	2	
Molybdenum	0.644	0.6	5	
Thallium	0.276	0.2	2	

CCB 8	Date: 08-Aug-2019 00:58	Seq: 5201078	D/F: 1	Units: ug/L
Analyte	Result	MDL	Report Limit	

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish- Appendix IV
WorkOrder: HS19080199

Run ID:ICPMS05_343857
Instrument:ICPMS05
Method:SW6020

Antimony	0.449	0.4	2
Thallium	0.27	0.2	2

Client: TRC Corporation
Project: NRG WA Parish- Appendix IV
Work Order: HS19080199

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19080199-01	MW-38R	Groundwater		05-Aug-2019 10:50	05-Aug-2019 13:20	<input type="checkbox"/>

Client: TRC Corporation
 Project: NRG WA Parish- Appendix IV
 Sample ID: MW-38R
 Collection Date: 05-Aug-2019 10:50

ANALYTICAL REPORT

WorkOrder:HS19080199
 Lab ID:HS19080199-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 06-Aug-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	08-Aug-2019 00:51
Arsenic	0.00109	J	0.000400	0.00200	mg/L	1	08-Aug-2019 00:51
Barium	0.0577		0.00190	0.00400	mg/L	1	08-Aug-2019 00:51
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	08-Aug-2019 00:51
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	08-Aug-2019 00:51
Chromium	0.00237	J	0.000400	0.00400	mg/L	1	08-Aug-2019 00:51
Cobalt	0.00362	J	0.000200	0.00500	mg/L	1	08-Aug-2019 00:51
Lead	< 0.000600		0.000600	0.00200	mg/L	1	08-Aug-2019 00:51
Lithium	0.0341		0.00100	0.00500	mg/L	1	08-Aug-2019 00:51
Molybdenum	0.00345	J	0.000600	0.00500	mg/L	1	08-Aug-2019 00:51
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	08-Aug-2019 00:51
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	08-Aug-2019 00:51
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 08-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	08-Aug-2019 16:52
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	09-Aug-2019 15:11
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	04-Sep-2019 08:47
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	04-Sep-2019 08:47

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: TRC Corporation
Project: NRG WA Parish- Appendix IV
WorkOrder: HS19080199

Batch ID: 143819 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19080199-01	1	10	10 (mL)	1

Batch ID: 143940 **Method:** MERCURY BY SW7470A **Prep:** HG_WPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19080199-01	1	10 (mL)	10 (mL)	1

Client: TRC Corporation
Project: NRG WA Parish- Appendix IV
WorkOrder: HS19080199

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143819 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS19080199-01	MW-38R	05 Aug 2019 10:50		06 Aug 2019 09:00	08 Aug 2019 00:51	1
Batch ID: 143940 (0)		Test Name : MERCURY BY SW7470A			Matrix: Groundwater	
HS19080199-01	MW-38R	05 Aug 2019 10:50		08 Aug 2019 10:30	08 Aug 2019 16:52	1
Batch ID: R343992 (0)		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE			Matrix: Groundwater	
HS19080199-01	MW-38R	05 Aug 2019 10:50			09 Aug 2019 15:11	1
Batch ID: R345447 (0)		Test Name : SUBCONTRACT ANALYSIS - RADIUM 228			Matrix: Groundwater	
HS19080199-01	MW-38R	05 Aug 2019 10:50			04 Sep 2019 08:47	1
HS19080199-01	MW-38R	05 Aug 2019 10:50			04 Sep 2019 08:47	1

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ALS Houston, US

Date: 04-Sep-19

WorkOrder: HS19080199
InstrumentID: HG03
Test Code: HG_W
Test Number: SW7470
Test Name: Mercury by SW7470A

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Mercury	7439-97-6	0.000100	0.000101	0.0000300	0.000200

WorkOrder: HS19080199

InstrumentID: ICPMS05

Test Code: ICP_TW

Test Number: SW6020

Test Name: ICP-MS Metals by SW6020A

**METHOD DETECTION /
REPORTING LIMITS****Matrix:** Aqueous**Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Antimony	7440-36-0	0.000500	0.000457	0.000400	0.00200
A	Arsenic	7440-38-2	0.000500	0.000547	0.000400	0.00200
A	Barium	7440-39-3	0.00250	0.00244	0.00190	0.00400
A	Beryllium	7440-41-7	0.000500	0.000524	0.000200	0.00200
A	Cadmium	7440-43-9	0.000500	0.000527	0.000200	0.00200
A	Chromium	7440-47-3	0.000500	0.000397	0.000400	0.00400
A	Cobalt	7440-48-4	0.000500	0.000495	0.000200	0.00500
A	Lead	7439-92-1	0.00100	0.000955	0.000600	0.00200
A	Lithium	7439-93-2	0.00100	0.000897	0.00100	0.00500
A	Molybdenum	7439-98-7	0.00100	0.000878	0.000600	0.00500
A	Selenium	7782-49-2	0.00250	0.00266	0.00110	0.00200
A	Thallium	7440-28-0	0.000500	0.000445	0.000200	0.00200

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ALS Houston, US

Date: 04-Sep-19

WorkOrder: HS19080199
InstrumentID: Subcontract
Test Code: Sub_Flouride
Test Number: NA
Test Name: Subcontract Analysis - Flouride

**METHOD DETECTION /
REPORTING LIMITS**

Matrix:

Units:

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Subcontract Analysis		0	0	0	0

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ALS Houston, US

Date: 04-Sep-19

WorkOrder: HS19080199
InstrumentID: Subcontract
Test Code: SUB_RA 226
Test Number: NA
Test Name: Subcontract Analysis - Radium

METHOD DETECTION / REPORTING LIMITS

Matrix: NA **Units:** NA

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Subcontract Analysis		0	0	0	0

WorkOrder: HS19080199
InstrumentID: Subcontract
Test Code: SUB_RA 228
Test Number: NA
Test Name: Subcontract Analysis - Radium 228

METHOD DETECTION / REPORTING LIMITS

Matrix: NA **Units:** NA

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Subcontract Analysis		0	0	0	0

Client: TRC Corporation
Project: NRG WA Parish- Appendix IV
WorkOrder: HS19080199

QC BATCH REPORT

Batch ID: 143819 (0)	Instrument: ICPMS05	Method: ICP-MS METALS BY SW6020A								
MBLK	Sample ID: MBLK-143819	Units: mg/L	Analysis Date: 07-Aug-2019 23:45							
Client ID:	Run ID: ICPMS05_343857	SeqNo: 5201038	PrepDate: 06-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	< 0.000400	0.00200								
Arsenic	< 0.000400	0.00200								
Barium	< 0.00190	0.00400								
Beryllium	< 0.000200	0.00200								
Cadmium	< 0.000200	0.00200								
Chromium	< 0.000400	0.00400								
Cobalt	< 0.000200	0.00500								
Lead	< 0.000600	0.00200								
Lithium	< 0.00100	0.00500								
Molybdenum	< 0.000600	0.00500								
Selenium	< 0.00110	0.00200								
Thallium	< 0.000200	0.00200								

LCS	Sample ID: LCS-143819	Units: mg/L	Analysis Date: 07-Aug-2019 23:48							
Client ID:	Run ID: ICPMS05_343857	SeqNo: 5201039	PrepDate: 06-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	0.05098	0.00200	0.05	0	102	80 - 120				
Arsenic	0.04979	0.00200	0.05	0	99.6	80 - 120				
Barium	0.05053	0.00400	0.05	0	101	80 - 120				
Beryllium	0.05164	0.00200	0.05	0	103	80 - 120				
Cadmium	0.05157	0.00200	0.05	0	103	80 - 120				
Chromium	0.0505	0.00400	0.05	0	101	80 - 120				
Cobalt	0.05157	0.00500	0.05	0	103	80 - 120				
Lead	0.04995	0.00200	0.05	0	99.9	80 - 120				
Lithium	0.1045	0.00500	0.1	0	104	80 - 120				
Molybdenum	0.04977	0.00500	0.05	0	99.5	80 - 120				
Selenium	0.05242	0.00200	0.05	0	105	80 - 120				
Thallium	0.05008	0.00200	0.05	0	100	80 - 120				

Client: TRC Corporation
Project: NRG WA Parish- Appendix IV
WorkOrder: HS19080199

QC BATCH REPORT

Batch ID: 143819 (0)	Instrument: ICPMS05	Method: ICP-MS METALS BY SW6020A								
MS	Sample ID: HS19080113-03MS	Units: mg/L	Analysis Date: 07-Aug-2019 23:55							
Client ID:	Run ID: ICPMS05_343857	SeqNo: 5201042	PrepDate: 06-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	0.04944	0.00200	0.05	0	98.9	80 - 120				
Arsenic	0.0508	0.00200	0.05	0.001348	98.9	80 - 120				
Barium	0.3203	0.00400	0.05	0.2589	123	80 - 120				SO
Beryllium	0.05493	0.00200	0.05	0	110	80 - 120				
Cadmium	0.05327	0.00200	0.05	0	107	80 - 120				
Chromium	0.0507	0.00400	0.05	0.001201	99.0	80 - 120				
Cobalt	0.05246	0.00500	0.05	0.002866	99.2	80 - 120				
Lead	0.05063	0.00200	0.05	0	101	80 - 120				
Lithium	0.178	0.00500	0.1	0.06388	114	80 - 120				
Molybdenum	0.0591	0.00500	0.05	0.01035	97.5	80 - 120				
Selenium	0.05586	0.00200	0.05	0	112	80 - 120				
Thallium	0.04994	0.00200	0.05	0.000316	99.2	80 - 120				

MSD	Sample ID: HS19080113-03MSD	Units: mg/L	Analysis Date: 07-Aug-2019 23:57							
Client ID:	Run ID: ICPMS05_343857	SeqNo: 5201043	PrepDate: 06-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	0.04989	0.00200	0.05	0	99.8	80 - 120	0.04944	0.902	20	
Arsenic	0.05054	0.00200	0.05	0.001348	98.4	80 - 120	0.0508	0.507	20	
Barium	0.3072	0.00400	0.05	0.2589	96.7	80 - 120	0.3203	4.17	20	O
Beryllium	0.05573	0.00200	0.05	0	111	80 - 120	0.05493	1.45	20	
Cadmium	0.0521	0.00200	0.05	0	104	80 - 120	0.05327	2.23	20	
Chromium	0.05018	0.00400	0.05	0.001201	98.0	80 - 120	0.0507	1.03	20	
Cobalt	0.05298	0.00500	0.05	0.002866	100	80 - 120	0.05246	0.99	20	
Lead	0.05022	0.00200	0.05	0	100	80 - 120	0.05063	0.801	20	
Lithium	0.1768	0.00500	0.1	0.06388	113	80 - 120	0.178	0.698	20	
Molybdenum	0.05843	0.00500	0.05	0.01035	96.2	80 - 120	0.0591	1.13	20	
Selenium	0.05146	0.00200	0.05	0	103	80 - 120	0.05586	8.18	20	
Thallium	0.04775	0.00200	0.05	0.000316	94.9	80 - 120	0.04994	4.47	20	

Client: TRC Corporation
Project: NRG WA Parish- Appendix IV
WorkOrder: HS19080199

QC BATCH REPORT

Batch ID: 143819 (0) **Instrument:** ICPMS05 **Method:** ICP-MS METALS BY SW6020A

PDS		Sample ID: HS19080113-03PDS			Units: mg/L		Analysis Date: 07-Aug-2019 23:59			
Client ID:		Run ID: ICPMS05_343857			SeqNo: 5201044		PrepDate: 06-Aug-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.09134	0.00200	0.1	0.000055	91.3	75 - 125				
Arsenic	0.1012	0.00200	0.1	0.001348	99.9	75 - 125				
Beryllium	0.1051	0.00200	0.1	0.000023	105	75 - 125				
Cadmium	0.09546	0.00200	0.1	0.000062	95.4	75 - 125				
Chromium	0.1	0.00400	0.1	0.001201	98.8	75 - 125				
Cobalt	0.1046	0.00500	0.1	0.002866	102	75 - 125				
Lead	0.09664	0.00200	0.1	0.000245	96.4	75 - 125				
Lithium	0.1685	0.00500	0.1	0.06388	105	70 - 125				
Molybdenum	0.1028	0.00500	0.1	0.01035	92.5	75 - 125				
Selenium	0.1053	0.00200	0.1	0.000724	105	75 - 125				
Thallium	0.09668	0.00200	0.1	0.000316	96.4	75 - 125				

SD		Sample ID: HS19080113-03SD			Units: mg/L		Analysis Date: 07-Aug-2019 23:52			
Client ID:		Run ID: ICPMS05_343857			SeqNo: 5201041		PrepDate: 06-Aug-2019		DF: 5	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Antimony	< 0.00200	0.0100					0.000055	0	10	
Arsenic	< 0.00200	0.0100					0.001348	0	10	
Beryllium	< 0.00100	0.0100					0.000023	0	10	
Cadmium	< 0.00100	0.0100					0.000062	0	10	
Chromium	< 0.00200	0.0200					0.001201	0	10	
Cobalt	0.002724	0.0250					0.002866	0	10	J
Lead	< 0.00300	0.0100					0.000245	0	10	
Lithium	0.06496	0.0250					0.06388	1.7	10	
Molybdenum	0.01055	0.0250					0.01035	0	10	J
Selenium	< 0.00550	0.0100					0.000724	0	10	
Thallium	< 0.00100	0.0100					0.000316	0	10	

SD		Sample ID: HS19080113-03SD			Units: mg/L		Analysis Date: 08-Aug-2019 19:28			
Client ID:		Run ID: ICPMS05_343891			SeqNo: 5202585		PrepDate: 06-Aug-2019		DF: 50	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Barium	0.2625	0.200					0.2511	4.53	10	

The following samples were analyzed in this batch: HS19080199-01

Client: TRC Corporation
Project: NRG WA Parish- Appendix IV
WorkOrder: HS19080199

QC BATCH REPORT

Batch ID: 143940 (0)		Instrument: HG03		Method: MERCURY BY SW7470A					
MBLK	Sample ID: MBLK-143940	Units: mg/L		Analysis Date: 08-Aug-2019 16:48					
Client ID:	Run ID: HG03_343933	SeqNo: 5202362		PrepDate: 08-Aug-2019		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual	

Mercury < 0.0000300 0.000200

LCS	Sample ID: LCS-143940	Units: mg/L		Analysis Date: 08-Aug-2019 16:50					
Client ID:	Run ID: HG03_343933	SeqNo: 5202363		PrepDate: 08-Aug-2019		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual	

Mercury 0.00484 0.000200 0.005 0 96.8 80 - 120

MS	Sample ID: HS19080199-01MS	Units: mg/L		Analysis Date: 08-Aug-2019 16:54					
Client ID: MW-38R	Run ID: HG03_343933	SeqNo: 5202365		PrepDate: 08-Aug-2019		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual	

Mercury 0.00517 0.000200 0.005 -0.00001 104 75 - 125

MSD	Sample ID: HS19080199-01MSD	Units: mg/L		Analysis Date: 08-Aug-2019 16:55					
Client ID: MW-38R	Run ID: HG03_343933	SeqNo: 5202366		PrepDate: 08-Aug-2019		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual	

Mercury 0.00522 0.000200 0.005 -0.00001 105 75 - 125 0.00517 0.962 20

The following samples were analyzed in this batch: HS19080199-01

Client: TRC Corporation
Project: NRG WA Parish- Appendix IV
WorkOrder: HS19080199

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2019	31-Dec-2019
North Dakota	R-193 2019	30-Apr-2020
Oklahoma	2019-141	31-Aug-2020
Texas	TX104704231-19-23	30-Apr-2020

Client: TRC Corporation
Project: NRG WA Parish- Appendix IV
Work Order: HS19080199

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19080199-01	MW-38R	Login	8/5/2019 3:24:11 PM	PMG	Sub
HS19080199-01	MW-38R	Login	8/5/2019 3:24:11 PM	PMG	Sub
HS19080199-01	MW-38R	Login	8/5/2019 3:24:11 PM	PMG	Sub
HS19080199-01	MW-38R	Login	8/5/2019 3:24:11 PM	PMG	MET019

Sample Receipt Checklist

Client Name: TRC-HOU
Work Order: HS19080199

Date/Time Received: 05-Aug-2019 13:20
Received by: AC

Checklist completed by: Paresh M. Giga
eSignature Date 5-Aug-2019

Reviewed by: RJ Modashia
eSignature Date 5-Aug-2019

Matrices: Groundwater

Carrier name: Client

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- VOA/TX1005/TX1006 Solids in hermetically sealed vials? Yes No Not Present
- Chain of custody present? Yes No 1 Page(s)
- Chain of custody signed when relinquished and received? Yes No COC IDs:195782
- Samplers name present on COC? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No

Temperature(s)/Thermometer(s): 1.4c U/C IR25

Cooler(s)/Kit(s): 25587

Date/Time sample(s) sent to storage: 8/5/19 15:45

- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH acceptable upon receipt? Yes No N/A
- pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



Cincinnati, OH
+1 513 733 5336

Fort Collins, CO
+1 970 490 1511

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

Chain of Custody Form

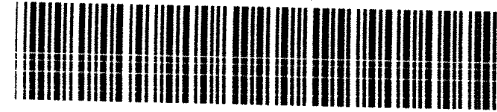
Page 1 of 1

COC ID: 195782

HS19080199

TRC Corporation
NRG Limestone- Appendix IV

NV



ALS Project Manager:


Customer Information		Project Information		
Purchase Order	294645.0001	Project Name	NRG WA Parish- Appendix IV	A
Work Order		Project Number	CCR Program	B
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C
Send Report To	Lori Burris	Invoice Attn	A/P	D
Address	10550 Richmond Ave., Suite 210	Address	10550 Richmond Ave., Suite 210	E
				F
City/State/Zip	Houston, TX 77042	City/State/Zip	Houston TX 77042	G
Phone	(713) 244-1000	Phone	(713) 244-1000	H
Fax	(713) 244-1099	Fax	(713) 244-1099	I
e-Mail Address	LBurris@trcsolutions.com	e-Mail Address	apinvoiceapproval@trcsolutions.com	J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-382	8-5-19	1050	GW	2, 8		X	X	X	X	X						
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>Brian Hillin</i>		Shipment Method Consult. Delivery		Required Turnaround Time: (Check Box) <input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:	
Relinquished by: <i>Brian Hillin</i>	Date: 8-5-19	Time: 1320	Received by:		Notes: NRG WA Parish - State Program UNPRIVILEGED &				
Relinquished by:	Date: 8-5-19	Time: 13:20	Received by (Laboratory): AC		Cooler ID: 35587	Cooler Temp.: 0/C 1.4	QC Package: (Check One Box Below)		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):				<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035							<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV	
							<input type="checkbox"/> Level IV SW846/CLP		

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2011 by ALS Environmental.

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By:
	Date: 8-5-19	Time: 1300	SM
	Name: Brian Hillin	Company: HMI	Date: 08/05/19

25582



09-Aug-2019

RJ Modashia
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS19080199**

Work Order: **19080340**

Dear RJ,

ALS Environmental received 1 sample on 06-Aug-2019 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 13.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton", is written over a light blue horizontal line.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Client: ALS Environmental
Project: HS19080199
Work Order: 19080340

**TRRP Laboratory Data
Package Cover Page**

This data package consists of all or some of the following as applicable:

This signature page, the laboratory case narrative, and the following reportable data:

- R1 Field chain-of-custody documentation:
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC Chapter 5
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies:
See Case Narrative.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached Case Narrative and QC Summaries. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified, and no information affecting the quality of the data has been knowingly withheld.

Chad Whelton

Chad Whelton
Project Manager

ALS Group, USA

Date: 09-Aug-19

Client: ALS Environmental
Project: HS19080199
Work Order: 19080340

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
19080340-01	HS19080199-01	Groundwater	MW-38R	8/5/2019 10:50	8/6/2019 09:30	<input type="checkbox"/>

ALS Group, USA

Date: 09-Aug-19

Client: ALS Environmental
Project: HS19080199
WorkOrder: 19080340

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
mg/L	Milligrams per Liter

Work Order: 19080340
Client: ALS Environmental
Project: HS19080199

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R267747						
<u>Test Name:</u> Fluoride						
19080340-01	HS19080199-01	Groundwater	8/5/2019 10:50:00 AM			8/7/2019 01:05 PM

ALS Group, USA

Date: 09-Aug-19

Client: ALS Environmental
Project: HS19080199
Sample ID: HS19080199-01
Collection Date: 8/5/2019 10:50 AM

Work Order: 19080340
Lab ID: 19080340-01
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.52		0.058	0.10	mg/L	1	8/7/2019 13:05

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 09-Aug-19

WorkOrder: 19080340
InstrumentID: Titrator 1
Test Code: FL_4500C_W
Test Number: A4500-F C-11
Test Name: Fluoride

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Water Units: mg/L

Type Analyte	CAS	DCS Spike	DCS	MDL	Unadjusted MQL
A Fluoride	16984-48-8	0.075	0.050	0.058	0.10

ALS Group, USA

Date: 09-Aug-19

Client: ALS Environmental
 Work Order: 19080340
 Project: HS19080199

QC BATCH REPORT

Batch ID: **R267747** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK		Sample ID: MB-R267747-R267747				Units: mg/L		Analysis Date: 8/7/2019 01:05 PM		
Client ID:		Run ID: TITRATOR 1_190807C			SeqNo: 5829401		Prep Date:		DF: 1	
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride U 0.10

LCS		Sample ID: LCS-R267747-R267747				Units: mg/L		Analysis Date: 8/7/2019 01:05 PM		
Client ID:		Run ID: TITRATOR 1_190807C			SeqNo: 5829402		Prep Date:		DF: 1	
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 4.91 0.10 5 0 98.2 80-120 0

MS		Sample ID: 19080268-04C MS				Units: mg/L		Analysis Date: 8/7/2019 01:05 PM		
Client ID:		Run ID: TITRATOR 1_190807C			SeqNo: 5829406		Prep Date:		DF: 1	
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.22 0.10 5 0.1 102 75-125 0

MSD		Sample ID: 19080268-04C MSD				Units: mg/L		Analysis Date: 8/7/2019 01:05 PM		
Client ID:		Run ID: TITRATOR 1_190807C			SeqNo: 5829407		Prep Date:		DF: 1	
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.05 0.10 5 0.1 99 75-125 5.22 3.31 20

The following samples were analyzed in this batch:

19080340-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

WET CHEMISTRY DATA ASSESSMENT CHECKLIST									
Wet Chemistry			Batch Number: TITRATOR1_190807C			Instrument ID: Titrator 1			
Method: Fluoride			Work order Number (s): 19080340						
Analyst Name: DMD			Date 8/7/19		Reviewer Name:JLB			Date:8/8/19	
	A ¹	Description	Yes	No	NA ₂	NR ³	ER# ⁴		
R1	I	Chain-of-Custody							
		1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?			X				
		2) Were all departures from standard conditions described in an exception report?			X				
R2	I	SAMPLE AND QUALITY CONTROL (QC) IDENTIFICATION							
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?			X				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?			X				
R3	I	TEST REPORTS							
		1) Were all samples prepared and analyzed within holding times?	X						
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	X						
		3) Were calculations checked by a peer or supervisor?	X						
		4) Were all analyte identifications checked by a peer or supervisor?	X						
		5) Were sample quantitation limits reported for all analytes not detected?	X						
		6) Were all results for soil and sediment samples reported on a dry weight basis?			X				
		7) Was % moisture (or solids) reported for all soil and sediment samples?			X				
		8) If required for the project, TICs reported?			X				
R4	I	SURROGATE RECOVERY DATA							
		1) Were surrogates added prior to extraction?			X				
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?			X				
R5	I	TEST REPORTS/SUMMARY FORMS FOR BLANK SAMPLES							
		1) Were appropriate type(s) of blanks analyzed?	X						
		2) Were blanks analyzed at the appropriate frequency?	X						
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X						
		4) Were blank concentrations < ½ MQL?	X						
R6	I	LABORATORY CONTROL SAMPLES (LCS):							
		1) Were all COCs included in the LCS?	X						
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X						
		3) Were LCSs analyzed at the required frequency?	X						
		4) Were LCS and LCSD %Rs within the laboratory QC limits?	X						
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	X						
		6) Was the LCSD RPD within QC limits?	X						
R7	I	MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) DATA							
		1) Were the project or method specified analytes included in the MS and MSD?	X						
		2) Were MS/MSD analyzed at the appropriate frequency?	X						
		3) Were MS and MSD %Rs within the laboratory QC limits?	X						
		4) Were MS/MSD RPDs within laboratory QC limits?	X						
R8	I	ANALYTICAL DUPLICATE DATA (IF REQUIRED)							
		1) Were appropriate analytical duplicates analyzed for each matrix?	X						
		2) Were analytical duplicates analyzed at the appropriate frequency?	X						
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	X						
R9	I	METHOD QUANTITATION LIMITS (MQLS):							
		1) Are the MQLs for each method analyte listed and included in the laboratory data package?	X						
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X						
		3) Are unadjusted MQLs included in the laboratory data package?			X				
R10	I	OTHER PROBLEMS/ANOMALIES							
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	X						
		2) Were all necessary corrective actions performed for the reported data?	X						
		3) If requested, is the justification for elevated SQLs documented?			X				

DRAFT

S1	I	INITIAL CALIBRATION (ICAL)					
		1) Were response factors (RFs) and/or relative response factors (RRFs) for each analyte within the QC limits?			X		
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	I	INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICCV AND CCV) AND					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?	X				
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the organic CCB < MDL?	X				
S3	I	MASS SPECTRAL TUNING:					
		1) Was the appropriate compound for the method used for tuning?			X		
		2) Were ion abundance data within the method-required QC limits?			X		
S4	I	INTERNAL STANDARDS (IS):					
		Were IS area counts within the method-required QC limits?			X		
S5	I	RAW DATA					
		1) Were the raw data (e.g., chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				
S6	I	DUAL COLUMN CONFIRMATION (IF REQUIRED)					
		Did dual column confirmation results meet the method-required QC?			X		
S7	I	TENTATIVELY IDENTIFIED COMPOUNDS (TICS):					
		If TICS were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	INTERFERENCE CHECK SAMPLE (ICS) RESULTS:					
		Were percent recoveries within method QC limits?			X		
S9	I	SERIAL DILUTIONS, POST DIGESTION SPIKES, AND METHOD OF STANDARD					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	I	PROFICIENCY TEST REPORTS:					
		Are proficiency testing or inter-laboratory comparison results on file?	X				
S11	I	METHOD DETECTION LIMIT (MDL) STUDIES					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S12	I	STANDARDS DOCUMENTATION					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	I	COMPOUND/ANALYTE IDENTIFICATION PROCEDURES					
		Are the procedures for compound/analyte identification documented?	X				
S14	I	DEMONSTRATION OF ANALYST COMPETENCY (DOC)					
		1) Was DOC conducted consistent with NELAC 5C or ISO/IEC 4.2.2?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	I	VERIFICATION/VALIDATION DOCUMENTATION FOR METHODS					
		Are all the methods used to generate the data documented, verified, and validated, where applicable, (NELAC 5.10.2 or ISO/IEC 17025 Section 5.4.5)?	X				
S16	I	LABORATORY STANDARD OPERATING PROCEDURES (SOPS):					
		Are laboratory SOPs current and on file for each method performed?	X				

- 1 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
- 2 NA = Not applicable.
- 3 NR = Not Reviewed.
- 4 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

WET CHEMISTRY DATA ASSESSMENT CHECKLIST	
Wet Chemistry	
Batch Number:	
ER # ¹	DESCRIPTION
1	
2	
3	
4	
5	
6	

1 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)



DRAFT

19080340

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11918

SUBCONTRACT TO:

ALS Group USA, Corp.
3352 - 128th Ave
Holland, MI 494249263

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: RJ Modashia
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RJ.Modashia@alsglobal.com
Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19080199
TSR: Sonia West

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
1. HS19080199-01	MW-38R	Groundwater	05 Aug 2019 10:50
Fluoride by ISE 4500			12 Aug 2019

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
SUB Fluoride - Import Data from HS19080198.
Samples may be high in Salts & Minerals

QC Level: TRRP LRC (TRRP checklist only+Level II (normal))

Relinquished By:

Date/Time:

8/5/19 1800.

Received By:

Date/Time:

8/6/19 0930

Cooler ID(s):

Temperature(s):

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05 Aug 2019

Page 1 of 3.2°C 502
Pu17

ALS Group, USA

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**

Date/Time Received: **06-Aug-19 09:30**

Work Order: **19080340**

Received by: **KRW**

Checklist completed by Keith Wierenga 06-Aug-19
eSignature Date

Reviewed by: Chad Whilton 07-Aug-19
eSignature Date

Matrices: Water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.2/3.2 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>8/6/2019 3:44:54 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:
Contacted By: Regarding:

Comments:

CorrectiveAction:



Wednesday, September 04, 2019

RJ Modashia
ALS Environmental
10450 Stancliff Rd, Suite 210
Houston, TX 77099

Re: ALS Workorder: 1908149
Project Name:
Project Number: HS19080199

Dear Mr. Modashia:

One water sample was received from ALS Environmental, on 8/6/2019. The sample was scheduled for the following analyses:

Radium-226

Radium-228

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

A handwritten signature in black ink, appearing to read 'JK' followed by a stylized name.

ALS Environmental
Jeff R. Kujawa
Project Manager

DRAFT

ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
AIHA	214884
Alaska (AK)	UST-086
Alaska (AK)	CO01099
Arizona (AZ)	AZ0742
California (CA)	06251CA
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
PJ-LA (DoD ELAP/ISO 170250)	95377
Louisiana (LA)	05057
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO000782008A
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280



1908149

Radium-228:

The sample was analyzed for the presence of ^{228}Ra by low background gas flow proportional counting of ^{228}Ac , which is the ingrown progeny of ^{228}Ra , according to EPA method 904.0.

All acceptance criteria were met.

Radium-226:

The sample was prepared and analyzed according to EPA method 903.1.

All acceptance criteria were met.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1908149

Client Name: ALS Environmental

Client Project Name:

Client Project Number: HS19080199

Client PO Number: 10-11917

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
MW-38R	1908149-1		WATER	05-Aug-19	10:50



10450 Stancliff Rd, Ste 210
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www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11917

SUBCONTRACT TO:

1908149

ALS Environmental, Fort Collins
225 Commerce Drive
Fort Collins, CO 80524

Phone: +1 970 490 1511

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: RJ Modashia
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RJ.Modashia@alsglobal.com
Alternate Contact:
Email:

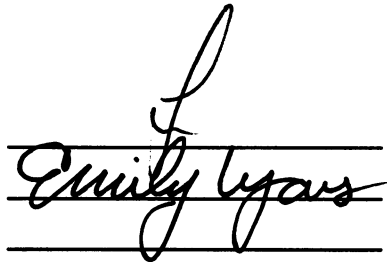
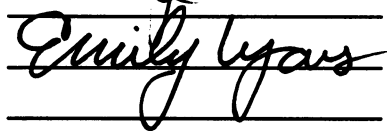
INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19080199
TSR: Sonia West

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
1. HS19080199-01	MW-38R	Groundwater	05 Aug 2019 10:50
Report Combined RA 226/228 Value &the 2 Individual			12 Aug 2019
Report Combined RA 226/228 Value &the 2 Individual			12 Aug 2019

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
Samples may be high in Salts & Minerals

QC Level: TRRP LRC (TRRP checklist only+Level II (normal))

Relinquished By: 
Received By: 
Cooler ID(s): _____

Date/Time: 8/5/19 1800.
Date/Time: 08-06-19 0940
Temperature(s): _____

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ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ALS-TX

Workorder No: 1908149

Project Manager: JRK

Initials: Em Date: 08-07-19

1. Are airbills / shipping documents present and/or removable?		DROP OFF	<input checked="" type="radio"/> YES	<input type="radio"/> NO			
2. Are custody seals on shipping containers intact?		NONE	<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
3. Are custody seals on sample containers intact?		NONE	<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
4. Is there a COC (chain-of-custody) present?			<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
5. Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)			<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
6. Are short-hold samples present?			<input type="radio"/> YES	<input checked="" type="radio"/> NO			
7. Are all samples within holding times for the requested analyses?			<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
8. Were all sample containers received intact? (not broken or leaking)			<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
9. Is there sufficient sample for the requested analyses?			<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
10. Are all samples in the proper containers for the requested analyses?			<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
11. Are all aqueous samples preserved correctly, if required? (excluding volatiles)		N/A	<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
12. Are all aqueous non-preserved samples pH 4-9?		<input checked="" type="radio"/> N/A	<input checked="" type="radio"/> YES	<input type="radio"/> NO *			
13. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)		<input checked="" type="radio"/> N/A	<input type="radio"/> YES	<input type="radio"/> NO			
14. Were the samples shipped on ice?			<input type="radio"/> YES	<input checked="" type="radio"/> NO			
15. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*:	#1	#3	#4	<input checked="" type="radio"/> RAD ONLY	<input type="radio"/> YES	<input type="radio"/> NO
Cooler #: <u>1</u>							
Temperature (°C): <u>Amb.</u>							
No. of custody seals on cooler: <u>2</u>							
External µR/hr reading: <u>11</u>							
Background µR/hr reading: <u>12</u>							
<div style="border: 1px solid black; padding: 2px; width: fit-content;">DOT Survey/Acceptance Information</div> Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO / NA (If no, see Form 008.)							

* Please provide details here for NO responses to gray boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.

All client bottle ID's vs ALS lab ID's double-checked by: Em

If applicable, was the client contacted? YES / NO / ~~NA~~ Contact: _____ Date/Time: _____

Project Manager Signature / Date: [Signature] 8-8-19

Client: ALS Environmental

Date: 04-Sep-19

Project: HS19080199

Work Order: 1908149

Sample ID: MW-38R

Lab ID: 1908149-1

Legal Location:

Matrix: WATER

Collection Date: 8/5/2019 10:50

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783	Prep Date: 8/27/2019		PrepBy: TRW
Ra-226	ND (+/- 0.25)	U	0.46	pCi/l	NA	9/3/2019 11:57
Carr: BARIUM	96.6		40-110	%REC	DL = NA	9/3/2019 11:57
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 8/27/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.72	pCi/l	NA	9/3/2019 08:16
Ra-228	ND (+/- 0.35)	U	0.72	pCi/l	NA	9/3/2019 08:16
Carr: BARIUM	94.1		40-110	%REC	DL = NA	9/3/2019 08:16

Client: ALS Environmental
Project: HS19080199
Sample ID: MW-38R
Legal Location:
Collection Date: 8/5/2019 10:50

Date: 04-Sep-19
Work Order: 1908149
Lab ID: 1908149-1
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
----------	--------	------	--------------	-------	-----------------	---------------

Explanation of Qualifiers

Radiochemistry:

- "Report Limit" is the MDC
- U or ND - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 - Chemical Yield outside default limits.
- W - DER is greater than Warning Limit of 1.42
- * - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.
- # - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.
- G - Sample density differs by more than 15% of LCS density.
- D - DER is greater than Control Limit
- M - Requested MDC not met.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS, Matrix Spike Recovery within control limits.
- N - Matrix Spike Recovery outside control limits
- NC - Not Calculated for duplicate results less than 5 times MDC
- B - Analyte concentration greater than MDC.
- B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

- B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).
- U or ND - Indicates that the compound was analyzed for but not detected.
- E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
- M - Duplicate injection precision was not met.
- N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
- Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
- * - Duplicate analysis (relative percent difference) not within control limits.
- S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

- U or ND - Indicates that the compound was analyzed for but not detected.
- B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.
- E - Analyte concentration exceeds the upper level of the calibration range.
- J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).
- A - A tentatively identified compound is a suspected aldol-condensation product.
- X - The analyte was diluted below an accurate quantitation level.
- * - The spike recovery is equal to or outside the control criteria used.
- + - The relative percent difference (RPD) equals or exceeds the control criteria.
- G - A pattern resembling gasoline was detected in this sample.
- D - A pattern resembling diesel was detected in this sample.
- M - A pattern resembling motor oil was detected in this sample.
- C - A pattern resembling crude oil was detected in this sample.
- 4 - A pattern resembling JP-4 was detected in this sample.
- 5 - A pattern resembling JP-5 was detected in this sample.
- H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
- L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
- Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
 - gasoline
 - JP-8
 - diesel
 - mineral spirits
 - motor oil
 - Stoddard solvent
 - bunker C

ALS -- Fort Collins

Date: 9/4/2019 11:43:

Client: ALS Environmental

QC BATCH REPORT

Work Order: 1908149

Project: HS19080199

Batch ID: RE190827-1-2

Instrument ID Alpha Scin

Method: Radium-226 by Radon Emanation

LCS Sample ID: RE190827-1 Units: pCi/l Analysis Date: 9/3/2019 12:16

Client ID: Run ID: RE190827-1A Prep Date: 8/27/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	44 (+/- 11)	0	46.48		94.5	67-120					P
Carr: BARIUM	15840		16760		94.5	40-110					

LCSD Sample ID: RE190827-1 Units: pCi/l Analysis Date: 9/3/2019 12:16

Client ID: Run ID: RE190827-1A Prep Date: 8/27/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	43 (+/- 11)	0	46.48		91.7	67-120		44	0.08	2.1	P
Carr: BARIUM	16580		16750		99	40-110		15840			

MB Sample ID: RE190827-1 Units: pCi/l Analysis Date: 9/3/2019 12:16

Client ID: Run ID: RE190827-1A Prep Date: 8/27/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	ND	0.36									U
Carr: BARIUM	16630		16800		99	40-110					

The following samples were analyzed in this batch:

1908149-1

Client: ALS Environmental
 Work Order: 1908149
 Project: HS19080199

QC BATCH REPORT

Batch ID: RA190827-1-3 Instrument ID GASPROP Method: Radium-228 Analysis by GFPC

LCS		Sample ID: RA190827-1		Units: ug			Analysis Date: 9/3/2019 08:16				
Client ID:		Run ID: RA190827-1A			Prep Date: 8/27/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	32880		34480		95.3	40-110					
Ra-228	16.1 (+/- 3.8)	0.8	13.91		116	70-130					P

LCSD		Sample ID: RA190827-1		Units: ug			Analysis Date: 9/3/2019 08:16				
Client ID:		Run ID: RA190827-1A			Prep Date: 8/27/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	33200		34490		96.3	40-110		32880			
Ra-228	14 (+/- 3.3)	0.7	13.91		100	70-130		16.1	0.4	2.1	P

MB		Sample ID: RA190827-1		Units: ug			Analysis Date: 9/3/2019 08:16				
Client ID:		Run ID: RA190827-1A			Prep Date: 8/27/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	32440		34490		94	40-110					
Ra-228	ND	0.74									U

The following samples were analyzed in this batch:

Appendix C

Detection Monitoring Data (October 2019)

TRC Environmental Corporation | NRG Texas Power, LLC

2020 Annual Groundwater

S:\NRG\W.A. PARISH\2019\2019 CRR ANNUAL REPORT\2. REPORTS\FINAL 2019 W A PARISH ANNUAL GW REPORT_1-29-2020.DOCX

January 31, 2020



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

October 30, 2019

Lori Burris
TRC Corporation
10550 Richmond Ave., Suite 210
Houston, TX 77042

Work Order: **HS19101137**

Laboratory Results for: **NRG WA Parish - Appendix III**

Dear Lori,

ALS Environmental received 28 sample(s) on Oct 18, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL

RJ Modashia
Project Manager

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

**TRRP Laboratory Data
Package Cover Page**

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC Chapter 5,
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits.
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

**TRRP Laboratory Data
Package Cover Page**

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by TCEQ or _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.



RJ Modashia
Project Manager

Laboratory Review Checklist: Reportable Data

Laboratory Name: ALS Laboratory Group			LRC Date: 10/30/2019				
Project Name: NRG WA Parish - Appendix III			Laboratory Job Number: HS19101137				
Reviewer Name: RJ Modashia			Prep Batch Number(s): 146601, 146602, R349051, R349082, R349084, R349121, R349131, R349140, R3493337				
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?		X			1
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			2
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?		X			3
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				4
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group				LRC Date: 10/30/2019			
Project Name: NRG WA Parish - Appendix III				Laboratory Job Number: HS19101137			
Reviewer Name: RJ Modashia				Prep Batch Number(s): 146601, 146602, R349051, R349082, R349084, R349121, R349131, R349140, R349337			
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		X			5
S3	O	Mass spectral tuning:					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS):					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs):					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results:					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports:					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs):					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Exception Reports

Laboratory Name: ALS Laboratory Group	LRC Date: 10/30/2019
Project Name: NRG WA Parish - Appendix III	Laboratory Job Number: HS19101137
Reviewer Name: RJ Modashia	Prep Batch Number(s): 146601, 146602, R349051, R349082, R349084, R349121, R349131, R349140, R349337

ER# ⁵	Description
1	Total Dissolved Solids (Residue, Filterable), samples MW-65 and MW-36 were originally analyzed within holding time, however, the results were incorrect due to lab error. The samples were reanalyzed out of holding time. Both sets of results are reported. Analytical results for the reanalysis are flagged with an H qualifier.
2	<p>Batch 146601, Metals by Method SW6020, Sample MW-58, MSD recovered outside control limits for Calcium; however, the results in the parent sample is greater than 4x the spike amount.</p> <p>Batch 146602, Metals by Method SW6020, Sample MW-63, MS/MSD recovered outside control limits for Calcium; however, the results in the parent sample is greater than 4x the spike amount.</p> <p>Batch R349051, Anions by Method E300.0, Sample MW-63, MS and/or MSD recovered outside control limits for Chloride and Sulfate.</p>
3	<p>Batch R349121, Total Dissolved Solids (Residue, Filterable), Sample HS19101048-20, Duplicate RPD was performed on an unrelated sample.</p> <p>Batch R349131, Total Dissolved Solids (Residue, Filterable), Sample MW-46R: The RPD between the sample and its duplicate was outside the control limit.</p> <p>Batch R349140, Total Dissolved Solids (Residue, Filterable), Sample MW-60: The RPD between the sample and its duplicate was outside the control limit.</p>
4	Analyses of Fluoride were performed by ALS Holland, MI. Report and Laboratory Review Checklist are appended.
5	See Run Log and CCB Exception Reports.

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);

NA = Not Applicable;

NR = Not Reviewed;

R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 WorkOrder: HS19101137
 Start Date: 22-Oct-2019

End Date: 23-Oct-2019

Run ID:ICPMS04_348814
 Instrument:ICPMS04
 Method:SW6020

Sample No.	D/F	Time	FileID	Analyses
ICV	1	22-Oct-2019 12:08	023_ICV.d	B CA
LLICV2	1	22-Oct-2019 12:10	024LCV2.d	B CA
LLICV5	1	22-Oct-2019 12:13	025LCV5.d	B CA
ICB	1	22-Oct-2019 12:15	026_ICB.d	B CA
ICSA	1	22-Oct-2019 12:17	027ICSA.d	B CA
ICSAB	1	22-Oct-2019 12:19	028ICSB.d	B CA
CCV 1	1	22-Oct-2019 12:50	039_CCV.d	B CA
CCB 1	1	22-Oct-2019 12:52	040_CCB.d	B CA
CCV 2	1	22-Oct-2019 13:18	051_CCV.d	B CA
CCB 2	1	22-Oct-2019 13:25	053_CCB.d	B CA
CCV 3	1	22-Oct-2019 13:52	064_CCV.d	B CA
CCB 3	1	22-Oct-2019 13:54	065_CCB.d	B CA
CCV 4	1	22-Oct-2019 14:22	076_CCV.d	B CA
CCB 4	1	22-Oct-2019 14:28	078_CCB.d	B CA
CCV 5	1	22-Oct-2019 14:56	089_CCV.d	B CA
CCB 5	1	22-Oct-2019 14:59	090_CCB.d	B CA
CCV 6	1	22-Oct-2019 15:26	101_CCV.d	B CA
CCB 6	1	22-Oct-2019 15:29	102_CCB.d	B CA
CCV 7	1	22-Oct-2019 15:34	103_CCV.d	B CA
CCB 7	1	22-Oct-2019 16:06	115_CCB.d	B CA
CCV 8	1	22-Oct-2019 16:08	116_CCV.d	B CA
MBLK-146602	1	22-Oct-2019 16:15	118SMPL.d	B CA
LCS-146602	1	22-Oct-2019 16:17	119SMPL.d	B CA
MW-39	5	22-Oct-2019 16:20	120SMPL.d	CA
MW-40	5	22-Oct-2019 16:22	121SMPL.d	CA
CCV 9	1	22-Oct-2019 16:36	126_CCV.d	B CA
CCB 8	1	22-Oct-2019 16:38	127_CCB.d	B CA
CCV 10	1	22-Oct-2019 17:13	138_CCV.d	B CA
CCB 9	1	22-Oct-2019 17:15	139_CCB.d	B CA
CCV 11	1	22-Oct-2019 17:41	150_CCV.d	B CA
CCB 10	1	22-Oct-2019 17:44	151_CCB.d	B CA
MW-41	1	22-Oct-2019 17:46	152SMPL.d	B CA
MW-62	1	22-Oct-2019 17:48	153SMPL.d	B
MW-63	1	22-Oct-2019 17:51	154SMPL.d	B
MW-63SD	5	22-Oct-2019 17:53	155SMPL.d	B
MW-63MS	1	22-Oct-2019 17:55	156SMPL.d	B CA
MW-63MSD	1	22-Oct-2019 17:57	157SMPL.d	B CA
MW-63PDS	1	22-Oct-2019 18:00	158SMPL.d	B
MW-64	1	22-Oct-2019 18:02	159SMPL.d	B
CCV 12	1	22-Oct-2019 18:09	162_CCV.d	B CA
CCB 11	1	22-Oct-2019 18:11	163_CCB.d	B CA
MW-23	1	22-Oct-2019 18:13	164SMPL.d	B
MW-28D	1	22-Oct-2019 18:15	165SMPL.d	B CA
MW-42	1	22-Oct-2019 18:18	166SMPL.d	B CA
MW-43	1	22-Oct-2019 18:22	168SMPL.d	B CA
MW-44	1	22-Oct-2019 18:24	169SMPL.d	B CA
MW-46R	1	22-Oct-2019 18:27	170SMPL.d	B CA
MW-47	1	22-Oct-2019 18:29	171SMPL.d	B CA
MW-48	1	22-Oct-2019 18:31	172SMPL.d	B CA
CCV 13	1	22-Oct-2019 18:36	174_CCV.d	B CA
CCB 12	1	22-Oct-2019 18:38	175_CCB.d	B CA

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 WorkOrder: HS19101137
 Start Date: 22-Oct-2019 End Date: 23-Oct-2019

Run ID:ICPMS04_348814
 Instrument:ICPMS04
 Method:SW6020

Sample No.	D/F	Time	FileID	Analyses
MW-50	1	22-Oct-2019 18:40	176SMPL.d	B CA
MW-52	1	22-Oct-2019 18:43	177SMPL.d	B
MW-54	1	22-Oct-2019 18:45	178SMPL.d	B CA
MW-55R	1	22-Oct-2019 18:49	180SMPL.d	B CA
MW-65	1	22-Oct-2019 18:52	181SMPL.d	B
MW-36	1	22-Oct-2019 18:54	182SMPL.d	B
CCV 14	1	22-Oct-2019 18:58	184_CCV.d	B CA
CCB 13	1	22-Oct-2019 19:01	185_CCB.d	B CA
ICCV 15	1	22-Oct-2019 20:55	210_ICV.d	B CA
LLICCV2	1	22-Oct-2019 20:57	211LCV2.d	B CA
LLICCV5	1	22-Oct-2019 21:00	212LCV5.d	B CA
ICCB 14	1	22-Oct-2019 21:02	213_ICB.d	B CA
CCV 16	1	22-Oct-2019 21:15	219_CCV.d	B CA
CCB 15	1	22-Oct-2019 21:18	220_CCB.d	B CA
CCV 17	1	22-Oct-2019 21:43	231_CCV.d	B CA
CCB 16	1	22-Oct-2019 21:45	232_CCB.d	B CA
CCB 17	1	22-Oct-2019 22:05	241_CCB.d	B CA
CCV 18	1	22-Oct-2019 22:12	244_CCV.d	B CA
CCV 19	1	22-Oct-2019 22:37	255_CCV.d	B CA
CCB 18	1	22-Oct-2019 22:39	256_CCB.d	B CA
CCV 20	1	22-Oct-2019 23:04	267_CCV.d	B CA
CCB 19	1	22-Oct-2019 23:06	268_CCB.d	B CA
ICCV 21	1	22-Oct-2019 23:33	280_ICV.d	B CA
LLICCV2	1	22-Oct-2019 23:35	281LCV2.d	B CA
LLICCV5	1	22-Oct-2019 23:38	282LCV5.d	B CA
ICCB 20	1	22-Oct-2019 23:40	283_ICB.d	B CA
CCV 22	1	23-Oct-2019 00:00	292_CCV.d	B CA
CCB 21	1	23-Oct-2019 00:03	293_CCB.d	B CA
CCV 23	1	23-Oct-2019 00:16	299_CCV.d	B CA
CCB 22	1	23-Oct-2019 00:18	300_CCB.d	B CA
ICSA	1	23-Oct-2019 00:21	301ICSA.d	B CA
ICSAB	1	23-Oct-2019 00:23	302ICSB.d	B CA
CCV 24	1	23-Oct-2019 00:43	311_CCV.d	B CA
CCB 23	1	23-Oct-2019 00:46	312_CCB.d	B CA
CCV 25	1	23-Oct-2019 01:10	323_CCV.d	B CA
CCB 24	1	23-Oct-2019 01:13	324_CCB.d	B CA
LCS-146601	1	23-Oct-2019 01:17	326SMPL.d	CA
MW-58	1	23-Oct-2019 01:20	327SMPL.d	CA
MW-58SD	5	23-Oct-2019 01:22	328SMPL.d	CA
MW-58MS	1	23-Oct-2019 01:24	329SMPL.d	CA
MW-58MSD	1	23-Oct-2019 01:26	330SMPL.d	CA
MW-58PDS	1	23-Oct-2019 01:28	331SMPL.d	CA
CCV 26	1	23-Oct-2019 01:33	333_CCV.d	B CA
CCB 25	1	23-Oct-2019 01:35	334_CCB.d	B CA
CCV 27	1	23-Oct-2019 01:56	343_CCV.d	B CA
CCB 26	1	23-Oct-2019 01:58	344_CCB.d	B CA
CCV 28	1	23-Oct-2019 02:14	351_CCV.d	B CA
CCB 27	1	23-Oct-2019 02:16	352_CCB.d	B CA
CCV 29	1	23-Oct-2019 02:39	362_CCV.d	B CA
CCB 28	1	23-Oct-2019 02:41	363_CCB.d	B CA
LLICV2	1	23-Oct-2019 02:45	365LCV2.d	B CA

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137
 Start Date: 22-Oct-2019 End Date: 23-Oct-2019

Run ID:ICPMS04_348814
 Instrument:ICPMS04
 Method:SW6020

Sample No.	D/F	Time	FileID	Analytes
LLICV5	1	23-Oct-2019 02:48	366LCV5.d	B CA
ICSA	1	23-Oct-2019 02:50	367ICSA.d	B CA
ICSAB	1	23-Oct-2019 02:52	368ICSB.d	B CA

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 WorkOrder: HS19101137
 Start Date: 23-Oct-2019 End Date: 23-Oct-2019

Run ID:ICPMS05_348910
 Instrument:ICPMS05
 Method:SW6020

Sample No.	D/F	Time	FileID	Analyses
ICV	1	23-Oct-2019 12:38	017_ICV.d	B CA
LLICV2	1	23-Oct-2019 12:40	018LCV2.d	B CA
LLICV5	1	23-Oct-2019 12:42	019LCV5.d	B CA
ICB	1	23-Oct-2019 12:45	020_ICB.d	B CA
ICSA	1	23-Oct-2019 12:52	022ICSA.d	B CA
ICSAB	1	23-Oct-2019 12:54	023ICSB.d	B CA
MW-39	1	23-Oct-2019 13:08	026SMPL.d	B
MW-40	1	23-Oct-2019 13:10	027SMPL.d	B
MW-62	10	23-Oct-2019 13:13	028SMPL.d	CA
MW-63	10	23-Oct-2019 13:15	029SMPL.d	CA
MW-63SD	50	23-Oct-2019 13:17	030SMPL.d	CA
MW-63PDS	10	23-Oct-2019 13:19	031SMPL.d	CA
CCV 1	1	23-Oct-2019 13:24	033_CCV.d	B CA
CCB 1	1	23-Oct-2019 13:26	034_CCB.d	B CA
MBLK-146601	1	23-Oct-2019 13:31	035SMPL.d	B CA
LCS-146601	1	23-Oct-2019 13:34	036SMPL.d	B
MW-58	1	23-Oct-2019 13:36	037SMPL.d	B
MW-58SD	5	23-Oct-2019 13:38	038SMPL.d	B
MW-58MS	1	23-Oct-2019 13:40	039SMPL.d	B
MW-58MSD	1	23-Oct-2019 13:43	040SMPL.d	B
MW-58PDS	1	23-Oct-2019 13:45	041SMPL.d	B
MW-64	10	23-Oct-2019 13:47	042SMPL.d	CA
MW-23	10	23-Oct-2019 13:49	043SMPL.d	CA
CCV 2	1	23-Oct-2019 13:54	045_CCV.d	B CA
CCB 2	1	23-Oct-2019 13:56	046_CCB.d	B CA
MW-52	10	23-Oct-2019 13:59	047SMPL.d	CA
MW-65	10	23-Oct-2019 14:01	048SMPL.d	CA
MW-60	2	23-Oct-2019 14:10	052SMPL.d	B CA
DUP-01	2	23-Oct-2019 14:14	054SMPL.d	B CA
DUP-02	2	23-Oct-2019 14:17	055SMPL.d	B CA
CCV 3	1	23-Oct-2019 14:37	057_CCV.d	B CA
CCB 3	1	23-Oct-2019 14:39	058_CCB.d	B CA
FB-01	1	23-Oct-2019 14:43	060SMPL.d	B CA
CCV 4	1	23-Oct-2019 15:07	069_CCV.d	B CA
CCB 4	1	23-Oct-2019 15:09	070_CCB.d	B CA
CCV 5	1	23-Oct-2019 15:41	081_CCV.d	B CA
CCB 5	1	23-Oct-2019 15:44	082_CCB.d	B CA
CCB 6	1	23-Oct-2019 16:36	094_CCB.d	B CA
CCV 6	1	23-Oct-2019 16:39	095_CCV.d	B CA
CCV 7	1	23-Oct-2019 17:10	106_CCV.d	B CA
CCB 7	1	23-Oct-2019 17:12	107_CCB.d	B CA
CCV 8	1	23-Oct-2019 17:38	118_CCV.d	B CA
CCB 8	1	23-Oct-2019 17:40	119_CCB.d	B CA
CCV 9	1	23-Oct-2019 18:05	130_CCV.d	B CA
CCB 9	1	23-Oct-2019 18:07	131_CCB.d	B CA
CCB 10	1	23-Oct-2019 18:47	143_CCB.d	B CA
CCV 10	1	23-Oct-2019 18:49	144_CCV.d	B CA
CCV 11	1	23-Oct-2019 19:11	153_CCV.d	B CA
CCB 11	1	23-Oct-2019 19:13	154_CCB.d	B CA
CCV 12	1	23-Oct-2019 19:38	165_CCV.d	B CA
CCB 12	1	23-Oct-2019 19:40	166_CCB.d	B CA

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137
Start Date: 23-Oct-2019 **End Date:** 23-Oct-2019

Run ID: ICPMS05_348910
Instrument: ICPMS05
Method: SW6020

Sample No.	D/F	Time	FileID	Analytes
CCV 13	1	23-Oct-2019 20:04	177_CCV.d	B CA
CCB 13	1	23-Oct-2019 20:07	178_CCB.d	B CA
CCV 14	1	23-Oct-2019 20:29	188_CCV.d	B CA
CCB 14	1	23-Oct-2019 20:31	189_CCB.d	B CA
CCV 15	1	23-Oct-2019 20:51	198_CCV.d	B CA
CCB 15	1	23-Oct-2019 20:54	199_CCB.d	B CA
CCV 16	1	23-Oct-2019 21:09	206_CCV.d	B CA
CCB 16	1	23-Oct-2019 21:11	207_CCB.d	B CA
CCV 17	1	23-Oct-2019 21:36	218_CCV.d	B CA
CCB 17	1	23-Oct-2019 21:38	219_CCB.d	B CA
LLICCV2	1	23-Oct-2019 22:23	238LCV2.d	B CA
LLICCV5	1	23-Oct-2019 22:25	239LCV5.d	B CA
ICCV 18	1	23-Oct-2019 22:28	240_ICV.d	B CA
ICCB 18	1	23-Oct-2019 22:30	241_ICB.d	B CA
CCV 19	1	23-Oct-2019 22:48	249_CCV.d	B CA
CCB 19	1	23-Oct-2019 22:50	250_CCB.d	B CA
CCV 20	1	23-Oct-2019 23:15	261_CCV.d	B CA
CCB 20	1	23-Oct-2019 23:17	262_CCB.d	B CA
CCV 21	1	23-Oct-2019 23:41	273_CCV.d	B CA
CCB 21	1	23-Oct-2019 23:44	274_CCB.d	B CA
LLICV2	1	23-Oct-2019 23:53	278LCV2.d	B CA
LLICV5	1	23-Oct-2019 23:55	279LCV5.d	B CA
ICSA	1	23-Oct-2019 23:57	280ICSA.d	B CA
ICSAB	1	23-Oct-2019 23:59	281ICSB.d	B CA

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 WorkOrder: HS19101137
 Start Date: 24-Oct-2019

End Date: 24-Oct-2019

Run ID:ICPMS05_348991
 Instrument:ICPMS05
 Method:SW6020

Sample No.	D/F	Time	FileID	Analyses
ICV	1	24-Oct-2019 10:41	021_ICV.d	B CA
LLICV2	1	24-Oct-2019 10:44	022LCV2.d	B CA
LLICV5	1	24-Oct-2019 10:46	023LCV5.d	B CA
ICB	1	24-Oct-2019 10:48	024_ICB.d	B CA
ICSA	1	24-Oct-2019 10:54	026ICSA.d	B CA
ICSAB	1	24-Oct-2019 10:56	027ICSB.d	B CA
MW-36	10	24-Oct-2019 11:22	035SMPL.d	CA
MW-37	5	24-Oct-2019 11:24	036SMPL.d	B CA
MW-38R	5	24-Oct-2019 11:26	037SMPL.d	B CA
MW-61	10	24-Oct-2019 11:28	038SMPL.d	B CA
CCV 1	1	24-Oct-2019 11:33	040_CCV.d	B CA
CCB 1	1	24-Oct-2019 11:35	041_CCB.d	B CA
CCV 2	1	24-Oct-2019 12:00	052_CCV.d	B CA
CCB 2	1	24-Oct-2019 12:02	053_CCB.d	B CA
CCV 3	1	24-Oct-2019 12:27	064_CCV.d	B CA
CCB 3	1	24-Oct-2019 12:29	065_CCB.d	B CA
CCV 4	1	24-Oct-2019 12:54	076_CCV.d	B CA
CCB 4	1	24-Oct-2019 12:56	077_CCB.d	B CA
CCV 5	1	24-Oct-2019 13:18	087_CCV.d	B CA
CCB 5	1	24-Oct-2019 13:21	088_CCB.d	B CA
CCV 6	1	24-Oct-2019 13:45	099_CCV.d	B CA
CCB 6	1	24-Oct-2019 13:48	100_CCB.d	B CA
CCV 7	1	24-Oct-2019 17:02	110_CCV.d	B CA
CCB 7	1	24-Oct-2019 17:04	111_CCB.d	B CA
CCV 8	1	24-Oct-2019 17:27	121_CCV.d	B CA
CCB 8	1	24-Oct-2019 17:29	122_CCB.d	B CA
CCV 9	1	24-Oct-2019 17:56	129_CCV.d	B CA
CCB 9	1	24-Oct-2019 17:58	130_CCB.d	B CA
CCV 10	1	24-Oct-2019 18:33	141_CCV.d	B CA
CCB 10	1	24-Oct-2019 18:35	142_CCB.d	B CA
CCV 11	1	24-Oct-2019 19:00	153_CCV.d	B CA
CCB 11	1	24-Oct-2019 19:02	154_CCB.d	B CA
CCV 12	1	24-Oct-2019 20:58	158_CCV.d	B CA
CCB 12	1	24-Oct-2019 21:00	159_CCB.d	B CA
CCV 13	1	24-Oct-2019 21:14	165_CCV.d	B CA
CCB 13	1	24-Oct-2019 21:17	166_CCB.d	B CA
CCV 14	1	24-Oct-2019 21:42	177_CCV.d	B CA
CCB 14	1	24-Oct-2019 21:44	178_CCB.d	B CA
CCV 15	1	24-Oct-2019 21:57	184_CCV.d	B CA
CCB 15	1	24-Oct-2019 22:00	185_CCB.d	B CA
CCV 16	1	24-Oct-2019 22:24	196_CCV.d	B CA
CCB 16	1	24-Oct-2019 22:26	197_CCB.d	B CA
CCV 17	1	24-Oct-2019 22:47	206_CCV.d	B CA
CCB 17	1	24-Oct-2019 22:49	207_CCB.d	B CA
CCV 18	1	24-Oct-2019 23:13	218_CCV.d	B CA
CCB 18	1	24-Oct-2019 23:16	219_CCB.d	B CA
CCV 19	1	24-Oct-2019 23:40	230_CCV.d	B CA
CCB 19	1	24-Oct-2019 23:42	231_CCB.d	B CA
LLICV2	1	24-Oct-2019 23:52	235LCV2.d	B CA
LLICV5	1	24-Oct-2019 23:54	236LCV5.d	B CA
ICSA	1	24-Oct-2019 23:56	237ICSA.d	B CA

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137
Start Date: 24-Oct-2019 End Date: 24-Oct-2019

Run ID:ICPMS05_348991
Instrument:ICPMS05
Method:SW6020

Sample No.	D/F	Time	FileID	Analytes
ICSAB	1	24-Oct-2019 23:58	238ICSB.d	B CA

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

Run ID: ICPMS04_348814
Instrument: ICPMS04
Method: SW6020

CCB	Date	Seq	D/F	Units
CCB 1	22-Oct-2019 12:52	5307320	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	12.88	11	20
CCB 3	22-Oct-2019 13:54	5307368	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	14.73	11	20
CCB 5	22-Oct-2019 14:59	5307682	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	12.44	11	20
CCB 6	22-Oct-2019 15:29	5307775	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	12.66	11	20
CCB 7	22-Oct-2019 16:06	5307995	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	11.64	11	20
CCB 8	22-Oct-2019 16:38	5308007	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	14.6	11	20
CCB 9	22-Oct-2019 17:15	5308051	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	14.62	11	20
CCB 10	22-Oct-2019 17:44	5308063	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	13.95	11	20
CCB 11	22-Oct-2019 18:11	5308231	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	14.34	11	20
CCB 12	22-Oct-2019 18:38	5308243	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	26.14	11	20
CCB 13	22-Oct-2019 19:01	5308253	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	24.9	11	20
CCB 15	22-Oct-2019 21:18	5308271	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	15.02	11	20
CCB 16	22-Oct-2019 21:45	5308283	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	69.69	11	20
CCB 17	22-Oct-2019 22:05	5308301	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	37.01	11	20

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

Run ID:ICPMS04_348814
Instrument:ICPMS04
Method:SW6020

CCB 18	Date: 22-Oct-2019 22:39	Seq: 5308316	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Boron	23.08	11	20
CCB 19	Date: 22-Oct-2019 23:06	Seq: 5308328	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Boron	18.53	11	20
CCB 21	Date: 23-Oct-2019 00:03	Seq: 5308417	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Boron	23.84	11	20
CCB 22	Date: 23-Oct-2019 00:18	Seq: 5308424	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Boron	13.42	11	20
CCB 24	Date: 23-Oct-2019 01:13	Seq: 5308415	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Boron	76.58	11	20
CCB 25	Date: 23-Oct-2019 01:35	Seq: 5308357	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Boron	50	11	20
CCB 26	Date: 23-Oct-2019 01:58	Seq: 5308367	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Boron	29.41	11	20
CCB 27	Date: 23-Oct-2019 02:16	Seq: 5308378	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Boron	35.61	11	20
CCB 28	Date: 23-Oct-2019 02:41	Seq: 5308389	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Boron	28.51	11	20

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

Run ID:ICPMS05_348910
 Instrument:ICPMS05
 Method:SW6020

ICB	Date: 23-Oct-2019 12:45	Seq: 5309190	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Calcium	-42.42	34	500
CCB 1	Date: 23-Oct-2019 13:26	Seq: 5309654	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Calcium	-45.66	34	500
CCB 2	Date: 23-Oct-2019 13:56	Seq: 5309666	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Boron	13.02	11	20
	Calcium	-48.55	34	500
CCB 3	Date: 23-Oct-2019 14:39	Seq: 5309678	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Calcium	-78.32	34	500
CCB 4	Date: 23-Oct-2019 15:09	Seq: 5310380	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Calcium	-85.87	34	500
CCB 5	Date: 23-Oct-2019 15:44	Seq: 5310391	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Calcium	-86.49	34	500
CCB 6	Date: 23-Oct-2019 16:36	Seq: 5310414	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Boron	14.62	11	20
	Calcium	-85.31	34	500
CCB 7	Date: 23-Oct-2019 17:12	Seq: 5310427	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Calcium	-119.7	34	500
CCB 8	Date: 23-Oct-2019 17:40	Seq: 5310439	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Boron	13.4	11	20
	Calcium	-125.2	34	500
CCB 9	Date: 23-Oct-2019 18:07	Seq: 5310451	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Boron	11.74	11	20
	Calcium	-130	34	500
CCB 10	Date: 23-Oct-2019 18:47	Seq: 5310486	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Calcium	-109	34	500
CCB 11	Date: 23-Oct-2019 19:13	Seq: 5310497	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Calcium	-135.8	34	500
CCB 12	Date: 23-Oct-2019 19:40	Seq: 5310509	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Calcium	-131.4	34	500

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

Run ID:ICPMS05_348910
Instrument:ICPMS05
Method:SW6020

CCB	Date	Seq	D/F	Units
CCB 13	23-Oct-2019 20:07	5310521	1	ug/L
Analyte				
		Result	MDL	Report Limit
		Calcium	-150.1	34 500
CCB 14	23-Oct-2019 20:31	5310532	1	ug/L
Analyte				
		Result	MDL	Report Limit
		Calcium	-155.8	34 500
CCB 15	23-Oct-2019 20:54	5310542	1	ug/L
Analyte				
		Result	MDL	Report Limit
		Boron	11.21	11 20
		Calcium	-172.7	34 500
CCB 16	23-Oct-2019 21:11	5310554	1	ug/L
Analyte				
		Result	MDL	Report Limit
		Boron	13.43	11 20
		Calcium	-168.1	34 500
CCB 17	23-Oct-2019 21:38	5310566	1	ug/L
Analyte				
		Result	MDL	Report Limit
		Calcium	-174.6	34 500
CCB 19	23-Oct-2019 22:50	5310587	1	ug/L
Analyte				
		Result	MDL	Report Limit
		Boron	11.49	11 20
CCB 21	23-Oct-2019 23:44	5310611	1	ug/L
Analyte				
		Result	MDL	Report Limit
		Boron	35.83	11 20

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

Run ID:ICPMS05_348991
Instrument:ICPMS05
Method:SW6020

CCB	Date	Seq	D/F	Units
CCB 1	24-Oct-2019 11:35	5311995	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	11.12	11	20
CCB 2	24-Oct-2019 12:02	5312184	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	12.08	11	20
CCB 3	24-Oct-2019 12:29	5312019	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	16.48	11	20
CCB 4	24-Oct-2019 12:56	5312031	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	17.39	11	20
CCB 5	24-Oct-2019 13:21	5312917	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	20.52	11	20
CCB 6	24-Oct-2019 13:48	5312929	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	16.14	11	20
CCB 8	24-Oct-2019 17:29	5312962	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	12.53	11	20
CCB 9	24-Oct-2019 17:58	5312970	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	27.73	11	20
	Calcium	-34.02	34	500
CCB 10	24-Oct-2019 18:35	5312995	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	15.5	11	20
	Calcium	-43.06	34	500
CCB 11	24-Oct-2019 19:02	5313007	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	13.61	11	20
	Calcium	-45.78	34	500
CCB 13	24-Oct-2019 21:17	5313029	1	ug/L
	Analyte	Result	MDL	Report Limit
	Calcium	-37.7	34	500
CCB 14	24-Oct-2019 21:44	5313041	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	12.32	11	20
CCB 15	24-Oct-2019 22:00	5313008	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	21.26	11	20

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

Run ID:ICPMS05_348991
Instrument:ICPMS05
Method:SW6020

CCB ID	Date	Seq	D/F	Units												
CCB 16	24-Oct-2019 22:26	5313020	1	ug/L												
<table border="1"> <thead> <tr> <th>Analyte</th> <th>Result</th> <th>MDL</th> <th>Report Limit</th> </tr> </thead> <tbody> <tr> <td>Boron</td> <td>18.66</td> <td>11</td> <td>20</td> </tr> </tbody> </table>					Analyte	Result	MDL	Report Limit	Boron	18.66	11	20				
Analyte	Result	MDL	Report Limit													
Boron	18.66	11	20													
CCB 17	24-Oct-2019 22:49	5313056	1	ug/L												
<table border="1"> <thead> <tr> <th>Analyte</th> <th>Result</th> <th>MDL</th> <th>Report Limit</th> </tr> </thead> <tbody> <tr> <td>Boron</td> <td>19.64</td> <td>11</td> <td>20</td> </tr> <tr> <td>Calcium</td> <td>-38.23</td> <td>34</td> <td>500</td> </tr> </tbody> </table>					Analyte	Result	MDL	Report Limit	Boron	19.64	11	20	Calcium	-38.23	34	500
Analyte	Result	MDL	Report Limit													
Boron	19.64	11	20													
Calcium	-38.23	34	500													
CCB 18	24-Oct-2019 23:16	5313068	1	ug/L												
<table border="1"> <thead> <tr> <th>Analyte</th> <th>Result</th> <th>MDL</th> <th>Report Limit</th> </tr> </thead> <tbody> <tr> <td>Boron</td> <td>17.26</td> <td>11</td> <td>20</td> </tr> <tr> <td>Calcium</td> <td>-53.39</td> <td>34</td> <td>500</td> </tr> </tbody> </table>					Analyte	Result	MDL	Report Limit	Boron	17.26	11	20	Calcium	-53.39	34	500
Analyte	Result	MDL	Report Limit													
Boron	17.26	11	20													
Calcium	-53.39	34	500													
CCB 19	24-Oct-2019 23:42	5313080	1	ug/L												
<table border="1"> <thead> <tr> <th>Analyte</th> <th>Result</th> <th>MDL</th> <th>Report Limit</th> </tr> </thead> <tbody> <tr> <td>Boron</td> <td>12.75</td> <td>11</td> <td>20</td> </tr> <tr> <td>Calcium</td> <td>-63.95</td> <td>34</td> <td>500</td> </tr> </tbody> </table>					Analyte	Result	MDL	Report Limit	Boron	12.75	11	20	Calcium	-63.95	34	500
Analyte	Result	MDL	Report Limit													
Boron	12.75	11	20													
Calcium	-63.95	34	500													

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
Work Order: HS19101137

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19101137-01	MW-39	Groundwater		18-Oct-2019 13:25	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-02	MW-40	Groundwater		18-Oct-2019 12:40	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-03	MW-41	Groundwater		18-Oct-2019 10:55	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-04	MW-62	Groundwater		18-Oct-2019 08:40	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-05	MW-63	Groundwater		18-Oct-2019 09:30	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-06	MW-64	Groundwater		18-Oct-2019 11:50	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-07	MW-23	Groundwater		18-Oct-2019 13:55	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-08	MW-28D	Groundwater		18-Oct-2019 13:05	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-09	MW-42	Groundwater		18-Oct-2019 13:55	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-10	MW-43	Groundwater		18-Oct-2019 12:55	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-11	MW-44	Groundwater		18-Oct-2019 12:15	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-12	MW-46R	Groundwater		18-Oct-2019 08:25	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-13	MW-47	Groundwater		18-Oct-2019 12:05	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-14	MW-48	Groundwater		18-Oct-2019 11:20	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-15	MW-50	Groundwater		18-Oct-2019 13:30	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-16	MW-52	Groundwater		18-Oct-2019 10:50	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-17	MW-54	Groundwater		18-Oct-2019 08:40	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-18	MW-55R	Groundwater		18-Oct-2019 09:35	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-19	MW-58	Groundwater		18-Oct-2019 09:25	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-20	MW-65	Groundwater		18-Oct-2019 10:35	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-21	MW-36	Groundwater		18-Oct-2019 10:00	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-22	MW-37	Groundwater		18-Oct-2019 08:20	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-23	MW-38R	Groundwater		18-Oct-2019 12:00	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-24	MW-60	Groundwater		18-Oct-2019 11:00	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-25	MW-61	Groundwater		18-Oct-2019 09:10	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-26	DUP-01	Groundwater		18-Oct-2019 12:00	18-Oct-2019 15:45	<input type="checkbox"/>

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
Work Order: HS19101137

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19101137-27	DUP-02	Groundwater		18-Oct-2019 10:00	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101137-28	FB-01	Groundwater		18-Oct-2019 09:25	18-Oct-2019 15:45	<input type="checkbox"/>

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-39
 Collection Date: 18-Oct-2019 13:25

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JHD	
Boron	0.0809		0.0110	0.0200	mg/L	1	23-Oct-2019 13:08
Calcium	239		0.170	2.50	mg/L	5	22-Oct-2019 16:20
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	710		4.00	10.0	mg/L	20	24-Oct-2019 05:52
Sulfate	169		4.00	10.0	mg/L	20	24-Oct-2019 05:52
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	2,010		5.00	10.0	mg/L	1	24-Oct-2019 14:29
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-40
 Collection Date: 18-Oct-2019 12:40

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JHD	
Boron	0.0933		0.0110	0.0200	mg/L	1	23-Oct-2019 13:10
Calcium	253		0.170	2.50	mg/L	5	22-Oct-2019 16:22
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	554		4.00	10.0	mg/L	20	24-Oct-2019 06:10
Sulfate	56.8		4.00	10.0	mg/L	20	24-Oct-2019 06:10
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	1,810		5.00	10.0	mg/L	1	24-Oct-2019 14:29
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-41
 Collection Date: 18-Oct-2019 10:55

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.0651		0.0110	0.0200	mg/L	1	22-Oct-2019 17:46
Calcium	156		0.0340	0.500	mg/L	1	22-Oct-2019 17:46
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	453		4.00	10.0	mg/L	20	24-Oct-2019 06:29
Sulfate	53.1		4.00	10.0	mg/L	20	24-Oct-2019 06:29
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	1,290		5.00	10.0	mg/L	1	24-Oct-2019 14:29
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-62
 Collection Date: 18-Oct-2019 08:40

ANALYTICAL REPORT

WorkOrder:HS19101137
 Lab ID:HS19101137-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.0891		0.0110	0.0200	mg/L	1	22-Oct-2019 17:48
Calcium	213		0.340	5.00	mg/L	10	23-Oct-2019 13:13
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	565		4.00	10.0	mg/L	20	24-Oct-2019 06:47
Sulfate	115		4.00	10.0	mg/L	20	24-Oct-2019 06:47
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	1,650		5.00	10.0	mg/L	1	24-Oct-2019 14:29
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-63
 Collection Date: 18-Oct-2019 09:30

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.0912		0.0110	0.0200	mg/L	1	22-Oct-2019 17:51
Calcium	295		0.340	5.00	mg/L	10	23-Oct-2019 13:15
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	399		2.00	5.00	mg/L	10	25-Oct-2019 09:17
Sulfate	390		2.00	5.00	mg/L	10	25-Oct-2019 09:17
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	1,760		5.00	10.0	mg/L	1	24-Oct-2019 14:29
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-64
 Collection Date: 18-Oct-2019 11:50

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.102		0.0110	0.0200	mg/L	1	22-Oct-2019 18:02
Calcium	197		0.340	5.00	mg/L	10	23-Oct-2019 13:47
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	468		2.00	5.00	mg/L	10	24-Oct-2019 08:36
Sulfate	42.0		2.00	5.00	mg/L	10	24-Oct-2019 08:36
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	1,380		5.00	10.0	mg/L	1	24-Oct-2019 14:29
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-23
 Collection Date: 18-Oct-2019 13:55

ANALYTICAL REPORT

WorkOrder:HS19101137
 Lab ID:HS19101137-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.140		0.0110	0.0200	mg/L	1	22-Oct-2019 18:13
Calcium	236		0.340	5.00	mg/L	10	23-Oct-2019 13:49
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	1,050		4.00	10.0	mg/L	20	24-Oct-2019 08:54
Sulfate	356		4.00	10.0	mg/L	20	24-Oct-2019 08:54
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	2,530		5.00	10.0	mg/L	1	24-Oct-2019 14:29
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-28D
 Collection Date: 18-Oct-2019 13:05

ANALYTICAL REPORT

WorkOrder:HS19101137
 Lab ID:HS19101137-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.151		0.0110	0.0200	mg/L	1	22-Oct-2019 18:15
Calcium	104		0.0340	0.500	mg/L	1	22-Oct-2019 18:15
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	112		2.00	5.00	mg/L	10	24-Oct-2019 09:12
Sulfate	81.0		2.00	5.00	mg/L	10	24-Oct-2019 09:12
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	868		5.00	10.0	mg/L	1	24-Oct-2019 14:29
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-42
 Collection Date: 18-Oct-2019 13:55

ANALYTICAL REPORT

WorkOrder:HS19101137
 Lab ID:HS19101137-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.538		0.0110	0.0200	mg/L	1	22-Oct-2019 18:18
Calcium	162		0.0340	0.500	mg/L	1	22-Oct-2019 18:18
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	306		2.00	5.00	mg/L	10	24-Oct-2019 09:30
Sulfate	635		2.00	5.00	mg/L	10	24-Oct-2019 09:30
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	1,780		5.00	10.0	mg/L	1	24-Oct-2019 14:29
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-43
 Collection Date: 18-Oct-2019 12:55

ANALYTICAL REPORT

WorkOrder:HS19101137
 Lab ID:HS19101137-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 21-Oct-2019		Analyst: JC
Boron	0.375		0.0110	0.0200	mg/L	1	22-Oct-2019 18:22
Calcium	77.8		0.0340	0.500	mg/L	1	22-Oct-2019 18:22
ANIONS BY E300.0		Method:E300					Analyst: KMU
Chloride	226		2.00	5.00	mg/L	10	24-Oct-2019 11:19
Sulfate	72.0		2.00	5.00	mg/L	10	24-Oct-2019 11:19
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C					Analyst: MZD
Total Dissolved Solids (Residue, Filterable)	894		5.00	10.0	mg/L	1	24-Oct-2019 14:29
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA					Analyst: SUBHO
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-44
 Collection Date: 18-Oct-2019 12:15

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.214		0.0110	0.0200	mg/L	1	22-Oct-2019 18:24
Calcium	155		0.0340	0.500	mg/L	1	22-Oct-2019 18:24
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	427		4.00	10.0	mg/L	20	24-Oct-2019 11:37
Sulfate	235		4.00	10.0	mg/L	20	24-Oct-2019 11:37
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	1,340		5.00	10.0	mg/L	1	24-Oct-2019 15:08
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-46R
 Collection Date: 18-Oct-2019 08:25

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.173		0.0110	0.0200	mg/L	1	22-Oct-2019 18:27
Calcium	108		0.0340	0.500	mg/L	1	22-Oct-2019 18:27
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	98.9		2.00	5.00	mg/L	10	24-Oct-2019 11:55
Sulfate	56.3		2.00	5.00	mg/L	10	24-Oct-2019 11:55
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	700		5.00	10.0	mg/L	1	24-Oct-2019 15:08
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-47
 Collection Date: 18-Oct-2019 12:05

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.224		0.0110	0.0200	mg/L	1	22-Oct-2019 18:29
Calcium	95.6		0.0340	0.500	mg/L	1	22-Oct-2019 18:29
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	274		2.00	5.00	mg/L	10	24-Oct-2019 12:13
Sulfate	72.2		2.00	5.00	mg/L	10	24-Oct-2019 12:13
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	852		5.00	10.0	mg/L	1	24-Oct-2019 15:08
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-48
 Collection Date: 18-Oct-2019 11:20

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-14
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.521		0.0110	0.0200	mg/L	1	22-Oct-2019 18:31
Calcium	66.0		0.0340	0.500	mg/L	1	22-Oct-2019 18:31
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	346		2.00	5.00	mg/L	10	24-Oct-2019 12:32
Sulfate	87.8		2.00	5.00	mg/L	10	24-Oct-2019 12:32
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	1,120		5.00	10.0	mg/L	1	24-Oct-2019 15:08
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-50
 Collection Date: 18-Oct-2019 13:30

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-15
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.227		0.0110	0.0200	mg/L	1	22-Oct-2019 18:40
Calcium	109		0.0340	0.500	mg/L	1	22-Oct-2019 18:40
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	360		2.00	5.00	mg/L	10	24-Oct-2019 12:50
Sulfate	105		2.00	5.00	mg/L	10	24-Oct-2019 12:50
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	1,040		5.00	10.0	mg/L	1	24-Oct-2019 15:08
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-52
 Collection Date: 18-Oct-2019 10:50

ANALYTICAL REPORT

WorkOrder:HS19101137
 Lab ID:HS19101137-16
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.338		0.0110	0.0200	mg/L	1	22-Oct-2019 18:43
Calcium	268		0.340	5.00	mg/L	10	23-Oct-2019 13:59
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	690		4.00	10.0	mg/L	20	24-Oct-2019 13:08
Sulfate	411		4.00	10.0	mg/L	20	24-Oct-2019 13:08
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	2,120		5.00	10.0	mg/L	1	24-Oct-2019 15:08
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-54
 Collection Date: 18-Oct-2019 08:40

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-17
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.254		0.0110	0.0200	mg/L	1	22-Oct-2019 18:45
Calcium	89.2		0.0340	0.500	mg/L	1	22-Oct-2019 18:45
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	235		2.00	5.00	mg/L	10	24-Oct-2019 14:02
Sulfate	74.0		2.00	5.00	mg/L	10	24-Oct-2019 14:02
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	852		5.00	10.0	mg/L	1	24-Oct-2019 15:08
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-55R
 Collection Date: 18-Oct-2019 09:35

ANALYTICAL REPORT

WorkOrder:HS19101137
 Lab ID:HS19101137-18
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.578		0.0110	0.0200	mg/L	1	22-Oct-2019 18:49
Calcium	116		0.0340	0.500	mg/L	1	22-Oct-2019 18:49
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	305		2.00	5.00	mg/L	10	24-Oct-2019 14:21
Sulfate	153		2.00	5.00	mg/L	10	24-Oct-2019 14:21
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	1,050		5.00	10.0	mg/L	1	24-Oct-2019 15:08
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-58
 Collection Date: 18-Oct-2019 09:25

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-19
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JHD	
Boron	0.294		0.0110	0.0200	mg/L	1	23-Oct-2019 13:36
Calcium	112		0.0340	0.500	mg/L	1	23-Oct-2019 01:20
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	294		2.00	5.00	mg/L	10	24-Oct-2019 14:39
Sulfate	84.2		2.00	5.00	mg/L	10	24-Oct-2019 14:39
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	928		5.00	10.0	mg/L	1	24-Oct-2019 15:08
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-65
 Collection Date: 18-Oct-2019 10:35

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-20
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.320		0.0110	0.0200	mg/L	1	22-Oct-2019 18:52
Calcium	214		0.340	5.00	mg/L	10	23-Oct-2019 14:01
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	228		2.00	5.00	mg/L	10	24-Oct-2019 15:33
Sulfate	557		2.00	5.00	mg/L	10	24-Oct-2019 15:33
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	< 5.00		5.00	10.0	mg/L	1	24-Oct-2019 15:08
Total Dissolved Solids (Residue, Filterable)	1,900	H	5.00	10.0	mg/L	1	28-Oct-2019 16:30
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-36
 Collection Date: 18-Oct-2019 10:00

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-21
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JC	
Boron	0.0815		0.0110	0.0200	mg/L	1	22-Oct-2019 18:54
Calcium	222		0.340	5.00	mg/L	10	24-Oct-2019 11:22
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	292		2.00	5.00	mg/L	10	24-Oct-2019 15:51
Sulfate	418		2.00	5.00	mg/L	10	24-Oct-2019 15:51
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	9,940		5.00	10.0	mg/L	1	24-Oct-2019 15:08
Total Dissolved Solids (Residue, Filterable)	1,480	H	5.00	10.0	mg/L	1	28-Oct-2019 16:30
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-37
 Collection Date: 18-Oct-2019 08:20

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-22
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JHD	
Boron	0.296		0.0550	0.100	mg/L	5	24-Oct-2019 11:24
Calcium	262		0.170	2.50	mg/L	5	24-Oct-2019 11:24
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	245		2.00	5.00	mg/L	10	24-Oct-2019 16:09
Sulfate	782		2.00	5.00	mg/L	10	24-Oct-2019 16:09
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	1,870		5.00	10.0	mg/L	1	24-Oct-2019 15:08
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-38R
 Collection Date: 18-Oct-2019 12:00

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-23
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JHD	
Boron	0.332		0.0550	0.100	mg/L	5	24-Oct-2019 11:26
Calcium	231		0.170	2.50	mg/L	5	24-Oct-2019 11:26
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	232		2.00	5.00	mg/L	10	24-Oct-2019 16:28
Sulfate	670		2.00	5.00	mg/L	10	24-Oct-2019 16:28
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	1,610		5.00	10.0	mg/L	1	24-Oct-2019 15:08
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-60
 Collection Date: 18-Oct-2019 11:00

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-24
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JHD	
Boron	0.0892		0.0220	0.0400	mg/L	2	23-Oct-2019 14:10
Calcium	228		0.0680	1.00	mg/L	2	23-Oct-2019 14:10
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	323		2.00	5.00	mg/L	10	24-Oct-2019 16:46
Sulfate	184		2.00	5.00	mg/L	10	24-Oct-2019 16:46
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	1,150		5.00	10.0	mg/L	1	25-Oct-2019 10:00
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: MW-61
 Collection Date: 18-Oct-2019 09:10

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-25
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JHD	
Boron	1.22		0.110	0.200	mg/L	10	24-Oct-2019 11:28
Calcium	240		0.340	5.00	mg/L	10	24-Oct-2019 11:28
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	114		2.00	5.00	mg/L	10	24-Oct-2019 17:58
Sulfate	940		2.00	5.00	mg/L	10	24-Oct-2019 17:58
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	1,930		5.00	10.0	mg/L	1	25-Oct-2019 10:00
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: DUP-01
 Collection Date: 18-Oct-2019 12:00

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-26
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JHD	
Boron	0.0724		0.0220	0.0400	mg/L	2	23-Oct-2019 14:14
Calcium	250		0.0680	1.00	mg/L	2	23-Oct-2019 14:14
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	288		2.00	5.00	mg/L	10	24-Oct-2019 18:35
Sulfate	411		2.00	5.00	mg/L	10	24-Oct-2019 18:35
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	1,380		5.00	10.0	mg/L	1	25-Oct-2019 10:00
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: DUP-02
 Collection Date: 18-Oct-2019 10:00

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-27
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JHD	
Boron	0.215		0.0220	0.0400	mg/L	2	23-Oct-2019 14:17
Calcium	159		0.0680	1.00	mg/L	2	23-Oct-2019 14:17
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	418		2.00	5.00	mg/L	10	24-Oct-2019 18:53
Sulfate	229		2.00	5.00	mg/L	10	24-Oct-2019 18:53
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	1,510		5.00	10.0	mg/L	1	25-Oct-2019 10:00
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix III
 Sample ID: FB-01
 Collection Date: 18-Oct-2019 09:25

ANALYTICAL REPORT
 WorkOrder:HS19101137
 Lab ID:HS19101137-28
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 21-Oct-2019		Analyst: JHD	
Boron	< 0.0110		0.0110	0.0200	mg/L	1	23-Oct-2019 14:43
Calcium	< 0.0340		0.0340	0.500	mg/L	1	23-Oct-2019 14:43
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	< 0.200		0.200	0.500	mg/L	1	24-Oct-2019 17:40
Sulfate	< 0.200		0.200	0.500	mg/L	1	24-Oct-2019 17:40
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: MZD	
Total Dissolved Solids (Residue, Filterable)	< 5.00		5.00	10.0	mg/L	1	25-Oct-2019 10:00
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

Batch ID: 146601 **Start Date:** 21 Oct 2019 12:00 **End Date:** 21 Oct 2019 16:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19101137-19		10 (mL)	10 (mL)	1
HS19101137-22		10 (mL)	10 (mL)	1
HS19101137-23		10 (mL)	10 (mL)	1
HS19101137-24		10 (mL)	10 (mL)	1
HS19101137-25		10 (mL)	10 (mL)	1
HS19101137-26		10 (mL)	10 (mL)	1
HS19101137-27		10 (mL)	10 (mL)	1
HS19101137-28		10 (mL)	10 (mL)	1

Batch ID: 146602 **Start Date:** 21 Oct 2019 12:00 **End Date:** 21 Oct 2019 16:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19101137-01		10 (mL)	10 (mL)	1
HS19101137-02		10 (mL)	10 (mL)	1
HS19101137-03		10 (mL)	10 (mL)	1
HS19101137-04		10 (mL)	10 (mL)	1
HS19101137-05		10 (mL)	10 (mL)	1
HS19101137-06		10 (mL)	10 (mL)	1
HS19101137-07		10 (mL)	10 (mL)	1
HS19101137-08		10 (mL)	10 (mL)	1
HS19101137-09		10 (mL)	10 (mL)	1
HS19101137-10		10 (mL)	10 (mL)	1
HS19101137-11		10 (mL)	10 (mL)	1
HS19101137-12		10 (mL)	10 (mL)	1
HS19101137-13		10 (mL)	10 (mL)	1
HS19101137-14		10 (mL)	10 (mL)	1
HS19101137-15		10 (mL)	10 (mL)	1
HS19101137-16		10 (mL)	10 (mL)	1
HS19101137-17		10 (mL)	10 (mL)	1
HS19101137-18		10 (mL)	10 (mL)	1
HS19101137-20		10 (mL)	10 (mL)	1
HS19101137-21		10 (mL)	10 (mL)	1

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 146601 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS19101137-19	MW-58	18 Oct 2019 09:25		21 Oct 2019 12:00	23 Oct 2019 13:36	1
HS19101137-19	MW-58	18 Oct 2019 09:25		21 Oct 2019 12:00	23 Oct 2019 01:20	1
HS19101137-22	MW-37	18 Oct 2019 08:20		21 Oct 2019 12:00	24 Oct 2019 11:24	5
HS19101137-23	MW-38R	18 Oct 2019 12:00		21 Oct 2019 12:00	24 Oct 2019 11:26	5
HS19101137-24	MW-60	18 Oct 2019 11:00		21 Oct 2019 12:00	23 Oct 2019 14:10	2
HS19101137-25	MW-61	18 Oct 2019 09:10		21 Oct 2019 12:00	24 Oct 2019 11:28	10
HS19101137-26	DUP-01	18 Oct 2019 12:00		21 Oct 2019 12:00	23 Oct 2019 14:14	2
HS19101137-27	DUP-02	18 Oct 2019 10:00		21 Oct 2019 12:00	23 Oct 2019 14:17	2
HS19101137-28	FB-01	18 Oct 2019 09:25		21 Oct 2019 12:00	23 Oct 2019 14:43	1

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 146602 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS19101137-01	MW-39	18 Oct 2019 13:25		21 Oct 2019 12:00	23 Oct 2019 13:08	1
HS19101137-01	MW-39	18 Oct 2019 13:25		21 Oct 2019 12:00	22 Oct 2019 16:20	5
HS19101137-02	MW-40	18 Oct 2019 12:40		21 Oct 2019 12:00	23 Oct 2019 13:10	1
HS19101137-02	MW-40	18 Oct 2019 12:40		21 Oct 2019 12:00	22 Oct 2019 16:22	5
HS19101137-03	MW-41	18 Oct 2019 10:55		21 Oct 2019 12:00	22 Oct 2019 17:46	1
HS19101137-04	MW-62	18 Oct 2019 08:40		21 Oct 2019 12:00	23 Oct 2019 13:13	10
HS19101137-04	MW-62	18 Oct 2019 08:40		21 Oct 2019 12:00	22 Oct 2019 17:48	1
HS19101137-05	MW-63	18 Oct 2019 09:30		21 Oct 2019 12:00	23 Oct 2019 13:15	10
HS19101137-05	MW-63	18 Oct 2019 09:30		21 Oct 2019 12:00	22 Oct 2019 17:51	1
HS19101137-06	MW-64	18 Oct 2019 11:50		21 Oct 2019 12:00	23 Oct 2019 13:47	10
HS19101137-06	MW-64	18 Oct 2019 11:50		21 Oct 2019 12:00	22 Oct 2019 18:02	1
HS19101137-07	MW-23	18 Oct 2019 13:55		21 Oct 2019 12:00	23 Oct 2019 13:49	10
HS19101137-07	MW-23	18 Oct 2019 13:55		21 Oct 2019 12:00	22 Oct 2019 18:13	1
HS19101137-08	MW-28D	18 Oct 2019 13:05		21 Oct 2019 12:00	22 Oct 2019 18:15	1
HS19101137-09	MW-42	18 Oct 2019 13:55		21 Oct 2019 12:00	22 Oct 2019 18:18	1
HS19101137-10	MW-43	18 Oct 2019 12:55		21 Oct 2019 12:00	22 Oct 2019 18:22	1
HS19101137-11	MW-44	18 Oct 2019 12:15		21 Oct 2019 12:00	22 Oct 2019 18:24	1
HS19101137-12	MW-46R	18 Oct 2019 08:25		21 Oct 2019 12:00	22 Oct 2019 18:27	1
HS19101137-13	MW-47	18 Oct 2019 12:05		21 Oct 2019 12:00	22 Oct 2019 18:29	1
HS19101137-14	MW-48	18 Oct 2019 11:20		21 Oct 2019 12:00	22 Oct 2019 18:31	1
HS19101137-15	MW-50	18 Oct 2019 13:30		21 Oct 2019 12:00	22 Oct 2019 18:40	1
HS19101137-16	MW-52	18 Oct 2019 10:50		21 Oct 2019 12:00	23 Oct 2019 13:59	10
HS19101137-16	MW-52	18 Oct 2019 10:50		21 Oct 2019 12:00	22 Oct 2019 18:43	1
HS19101137-17	MW-54	18 Oct 2019 08:40		21 Oct 2019 12:00	22 Oct 2019 18:45	1
HS19101137-18	MW-55R	18 Oct 2019 09:35		21 Oct 2019 12:00	22 Oct 2019 18:49	1
HS19101137-20	MW-65	18 Oct 2019 10:35		21 Oct 2019 12:00	23 Oct 2019 14:01	10
HS19101137-20	MW-65	18 Oct 2019 10:35		21 Oct 2019 12:00	22 Oct 2019 18:52	1
HS19101137-21	MW-36	18 Oct 2019 10:00		21 Oct 2019 12:00	24 Oct 2019 11:22	10
HS19101137-21	MW-36	18 Oct 2019 10:00		21 Oct 2019 12:00	22 Oct 2019 18:54	1

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R349051 (0)		Test Name : ANIONS BY E300.0			Matrix: Groundwater	
HS19101137-01	MW-39	18 Oct 2019 13:25			24 Oct 2019 05:52	20
HS19101137-02	MW-40	18 Oct 2019 12:40			24 Oct 2019 06:10	20
HS19101137-03	MW-41	18 Oct 2019 10:55			24 Oct 2019 06:29	20
HS19101137-04	MW-62	18 Oct 2019 08:40			24 Oct 2019 06:47	20
HS19101137-05	MW-63	18 Oct 2019 09:30			25 Oct 2019 09:17	10
HS19101137-06	MW-64	18 Oct 2019 11:50			24 Oct 2019 08:36	10
HS19101137-07	MW-23	18 Oct 2019 13:55			24 Oct 2019 08:54	20
HS19101137-08	MW-28D	18 Oct 2019 13:05			24 Oct 2019 09:12	10
HS19101137-09	MW-42	18 Oct 2019 13:55			24 Oct 2019 09:30	10
Batch ID: R349082 (0)		Test Name : ANIONS BY E300.0			Matrix: Groundwater	
HS19101137-10	MW-43	18 Oct 2019 12:55			24 Oct 2019 11:19	10
HS19101137-11	MW-44	18 Oct 2019 12:15			24 Oct 2019 11:37	20
HS19101137-12	MW-46R	18 Oct 2019 08:25			24 Oct 2019 11:55	10
HS19101137-13	MW-47	18 Oct 2019 12:05			24 Oct 2019 12:13	10
HS19101137-14	MW-48	18 Oct 2019 11:20			24 Oct 2019 12:32	10
HS19101137-15	MW-50	18 Oct 2019 13:30			24 Oct 2019 12:50	10
HS19101137-16	MW-52	18 Oct 2019 10:50			24 Oct 2019 13:08	20
HS19101137-17	MW-54	18 Oct 2019 08:40			24 Oct 2019 14:02	10
HS19101137-18	MW-55R	18 Oct 2019 09:35			24 Oct 2019 14:21	10
HS19101137-19	MW-58	18 Oct 2019 09:25			24 Oct 2019 14:39	10
HS19101137-20	MW-65	18 Oct 2019 10:35			24 Oct 2019 15:33	10
HS19101137-21	MW-36	18 Oct 2019 10:00			24 Oct 2019 15:51	10
HS19101137-22	MW-37	18 Oct 2019 08:20			24 Oct 2019 16:09	10
HS19101137-23	MW-38R	18 Oct 2019 12:00			24 Oct 2019 16:28	10
HS19101137-24	MW-60	18 Oct 2019 11:00			24 Oct 2019 16:46	10
HS19101137-25	MW-61	18 Oct 2019 09:10			24 Oct 2019 17:58	10
HS19101137-26	DUP-01	18 Oct 2019 12:00			24 Oct 2019 18:35	10
HS19101137-27	DUP-02	18 Oct 2019 10:00			24 Oct 2019 18:53	10
HS19101137-28	FB-01	18 Oct 2019 09:25			24 Oct 2019 17:40	1

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R349084 (0)		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE			Matrix: Groundwater	
HS19101137-01	MW-39	18 Oct 2019 13:25			25 Oct 2019 10:33	1
HS19101137-02	MW-40	18 Oct 2019 12:40			25 Oct 2019 10:33	1
HS19101137-03	MW-41	18 Oct 2019 10:55			25 Oct 2019 10:33	1
HS19101137-04	MW-62	18 Oct 2019 08:40			25 Oct 2019 10:33	1
HS19101137-05	MW-63	18 Oct 2019 09:30			25 Oct 2019 10:33	1
HS19101137-06	MW-64	18 Oct 2019 11:50			25 Oct 2019 10:33	1
HS19101137-07	MW-23	18 Oct 2019 13:55			25 Oct 2019 10:33	1
HS19101137-08	MW-28D	18 Oct 2019 13:05			25 Oct 2019 10:33	1
HS19101137-09	MW-42	18 Oct 2019 13:55			25 Oct 2019 10:33	1
HS19101137-10	MW-43	18 Oct 2019 12:55			25 Oct 2019 10:33	1
HS19101137-11	MW-44	18 Oct 2019 12:15			25 Oct 2019 10:33	1
HS19101137-12	MW-46R	18 Oct 2019 08:25			25 Oct 2019 10:33	1
HS19101137-13	MW-47	18 Oct 2019 12:05			25 Oct 2019 10:33	1
HS19101137-14	MW-48	18 Oct 2019 11:20			25 Oct 2019 10:33	1
HS19101137-15	MW-50	18 Oct 2019 13:30			25 Oct 2019 10:33	1
HS19101137-16	MW-52	18 Oct 2019 10:50			25 Oct 2019 10:33	1
HS19101137-17	MW-54	18 Oct 2019 08:40			25 Oct 2019 10:33	1
HS19101137-18	MW-55R	18 Oct 2019 09:35			25 Oct 2019 10:33	1
HS19101137-19	MW-58	18 Oct 2019 09:25			25 Oct 2019 10:33	1
HS19101137-20	MW-65	18 Oct 2019 10:35			25 Oct 2019 10:33	1
HS19101137-21	MW-36	18 Oct 2019 10:00			25 Oct 2019 10:33	1
HS19101137-22	MW-37	18 Oct 2019 08:20			25 Oct 2019 10:33	1
HS19101137-23	MW-38R	18 Oct 2019 12:00			25 Oct 2019 10:33	1
HS19101137-24	MW-60	18 Oct 2019 11:00			25 Oct 2019 10:33	1
HS19101137-25	MW-61	18 Oct 2019 09:10			25 Oct 2019 10:33	1
HS19101137-26	DUP-01	18 Oct 2019 12:00			25 Oct 2019 10:33	1
HS19101137-27	DUP-02	18 Oct 2019 10:00			25 Oct 2019 10:33	1
HS19101137-28	FB-01	18 Oct 2019 09:25			25 Oct 2019 10:33	1

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R349121 (0)		Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C			Matrix: Groundwater	
HS19101137-01	MW-39	18 Oct 2019 13:25			24 Oct 2019 14:29	1
HS19101137-02	MW-40	18 Oct 2019 12:40			24 Oct 2019 14:29	1
HS19101137-03	MW-41	18 Oct 2019 10:55			24 Oct 2019 14:29	1
HS19101137-04	MW-62	18 Oct 2019 08:40			24 Oct 2019 14:29	1
HS19101137-05	MW-63	18 Oct 2019 09:30			24 Oct 2019 14:29	1
HS19101137-06	MW-64	18 Oct 2019 11:50			24 Oct 2019 14:29	1
HS19101137-07	MW-23	18 Oct 2019 13:55			24 Oct 2019 14:29	1
HS19101137-08	MW-28D	18 Oct 2019 13:05			24 Oct 2019 14:29	1
HS19101137-09	MW-42	18 Oct 2019 13:55			24 Oct 2019 14:29	1
HS19101137-10	MW-43	18 Oct 2019 12:55			24 Oct 2019 14:29	1
Batch ID: R349131 (0)		Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C			Matrix: Groundwater	
HS19101137-11	MW-44	18 Oct 2019 12:15			24 Oct 2019 15:08	1
HS19101137-12	MW-46R	18 Oct 2019 08:25			24 Oct 2019 15:08	1
HS19101137-13	MW-47	18 Oct 2019 12:05			24 Oct 2019 15:08	1
HS19101137-14	MW-48	18 Oct 2019 11:20			24 Oct 2019 15:08	1
HS19101137-15	MW-50	18 Oct 2019 13:30			24 Oct 2019 15:08	1
HS19101137-16	MW-52	18 Oct 2019 10:50			24 Oct 2019 15:08	1
HS19101137-17	MW-54	18 Oct 2019 08:40			24 Oct 2019 15:08	1
HS19101137-18	MW-55R	18 Oct 2019 09:35			24 Oct 2019 15:08	1
HS19101137-19	MW-58	18 Oct 2019 09:25			24 Oct 2019 15:08	1
HS19101137-20	MW-65	18 Oct 2019 10:35			24 Oct 2019 15:08	1
HS19101137-21	MW-36	18 Oct 2019 10:00			24 Oct 2019 15:08	1
HS19101137-22	MW-37	18 Oct 2019 08:20			24 Oct 2019 15:08	1
HS19101137-23	MW-38R	18 Oct 2019 12:00			24 Oct 2019 15:08	1
Batch ID: R349140 (0)		Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C			Matrix: Groundwater	
HS19101137-24	MW-60	18 Oct 2019 11:00			25 Oct 2019 10:00	1
HS19101137-25	MW-61	18 Oct 2019 09:10			25 Oct 2019 10:00	1
HS19101137-26	DUP-01	18 Oct 2019 12:00			25 Oct 2019 10:00	1
HS19101137-27	DUP-02	18 Oct 2019 10:00			25 Oct 2019 10:00	1
HS19101137-28	FB-01	18 Oct 2019 09:25			25 Oct 2019 10:00	1
Batch ID: R349337 (0)		Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C			Matrix: Groundwater	
HS19101137-20	MW-65	18 Oct 2019 10:35			28 Oct 2019 16:30	1
HS19101137-21	MW-36	18 Oct 2019 10:00			28 Oct 2019 16:30	1

WorkOrder: HS19101137
 InstrumentID: ICPMS05
 Test Code: ICP_TW
 Test Number: SW6020
 Test Name: ICP-MS Metals by SW6020A

**METHOD DETECTION /
 REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Boron	7440-42-8	0.0125	0.0153	0.0110	0.0200
A	Calcium	7440-70-2	0.0500	0.0541	0.0340	0.500

WorkOrder: HS19101137
 InstrumentID: ICPMS04
 Test Code: ICP_TW
 Test Number: SW6020
 Test Name: ICP-MS Metals by SW6020A

**METHOD DETECTION /
 REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Boron	7440-42-8	0.0125	0.0154	0.0110	0.0200
A	Calcium	7440-70-2	0.0500	0.0378	0.0340	0.500

WorkOrder: HS19101137 **METHOD DETECTION /**
InstrumentID: Subcontract **REPORTING LIMITS**
Test Code: Sub_Flouride
Test Number: NA **Matrix:** **Units:**
Test Name: Subcontract Analysis - Flouride

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Subcontract Analysis		0	0	0	0

WorkOrder: HS19101137
 InstrumentID: ICS2100
 Test Code: 300_W
 Test Number: E300
 Test Name: Anions by E300.0

**METHOD DETECTION /
 REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Chloride	16887-00-6	0.500	0.478	0.200	0.500
A	Sulfate	14808-79-8	0.500	0.491	0.200	0.500

WorkOrder: HS19101137
InstrumentID: Balance1
Test Code: TDS_W 2540C
Test Number: M2540C
Test Name: Total Dissolved Solids by

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Total Dissolved Solids (Residue, Filterable)	TDS	5.00	4.00	5.00	10.0

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

QC BATCH REPORT

Batch ID: 146601 (0)		Instrument: ICPMS05		Method: ICP-MS METALS BY SW6020A						
MBLK	Sample ID: MBLK-146601	Units: mg/L		Analysis Date: 23-Oct-2019 13:31						
Client ID:		Run ID: ICPMS05_348910	SeqNo: 5309655	PrepDate: 21-Oct-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	< 0.0110	0.0200								
Calcium	< 0.0340	0.500								
LCS	Sample ID: LCS-146601	Units: mg/L		Analysis Date: 23-Oct-2019 13:34						
Client ID:		Run ID: ICPMS05_348910	SeqNo: 5309656	PrepDate: 21-Oct-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.5184	0.0200	0.5	0	104	80 - 120				
LCS	Sample ID: LCS-146601	Units: mg/L		Analysis Date: 23-Oct-2019 01:17						
Client ID:		Run ID: ICPMS04_348814	SeqNo: 5308349	PrepDate: 21-Oct-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	4.784	0.500	5	0	95.7	80 - 120				
MS	Sample ID: HS19101137-19MS	Units: mg/L		Analysis Date: 23-Oct-2019 13:40						
Client ID: MW-58		Run ID: ICPMS05_348910	SeqNo: 5309659	PrepDate: 21-Oct-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.9029	0.0200	0.5	0.3495	111	80 - 120				
MS	Sample ID: HS19101137-19MS	Units: mg/L		Analysis Date: 23-Oct-2019 01:24						
Client ID: MW-58		Run ID: ICPMS04_348814	SeqNo: 5308352	PrepDate: 21-Oct-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	115.7	0.500	5	111.6	82.0	80 - 120				O
MSD	Sample ID: HS19101137-19MSD	Units: mg/L		Analysis Date: 23-Oct-2019 13:43						
Client ID: MW-58		Run ID: ICPMS05_348910	SeqNo: 5309660	PrepDate: 21-Oct-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.9062	0.0200	0.5	0.3495	111	80 - 120	0.8533	6.01	20	

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

QC BATCH REPORT

Batch ID: 146601 (0)		Instrument: ICPMS05			Method: ICP-MS METALS BY SW6020A					
MSD		Sample ID: HS19101137-19MSD			Units: mg/L		Analysis Date: 23-Oct-2019 01:26			
Client ID: MW-58	Run ID: ICPMS04_348814			SeqNo: 5308353	PrepDate: 21-Oct-2019		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	117.7	0.500	5	111.6	121	80 - 120	115.7	1.68	20	SO
PDS		Sample ID: HS19101137-19PDS			Units: mg/L		Analysis Date: 23-Oct-2019 13:45			
Client ID: MW-58	Run ID: ICPMS05_348910			SeqNo: 5309661	PrepDate: 21-Oct-2019		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.57	0.0200	0.25	0.3495	88.2	75 - 125				
PDS		Sample ID: HS19101137-19PDS			Units: mg/L		Analysis Date: 23-Oct-2019 01:28			
Client ID: MW-58	Run ID: ICPMS04_348814			SeqNo: 5308354	PrepDate: 21-Oct-2019		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	120.5	0.500	10	111.6	88.8	75 - 125				O
SD		Sample ID: HS19101137-19SD			Units: mg/L		Analysis Date: 23-Oct-2019 13:38			
Client ID: MW-58	Run ID: ICPMS05_348910			SeqNo: 5309658	PrepDate: 21-Oct-2019		DF: 5			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Boron	0.3305	0.100					0.3495	5.44	10	
SD		Sample ID: HS19101137-19SD			Units: mg/L		Analysis Date: 23-Oct-2019 01:22			
Client ID: MW-58	Run ID: ICPMS04_348814			SeqNo: 5308351	PrepDate: 21-Oct-2019		DF: 5			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Calcium	111.9	2.50					111.6	0.251	10	

The following samples were analyzed in this batch:

HS19101137-19	HS19101137-22	HS19101137-23	HS19101137-24
HS19101137-25	HS19101137-26	HS19101137-27	HS19101137-28

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

QC BATCH REPORT

Batch ID: 146602 (0)		Instrument: ICPMS04		Method: ICP-MS METALS BY SW6020A						
MBLK	Sample ID: MBLK-146602	Units: mg/L		Analysis Date: 22-Oct-2019 16:15						
Client ID:		Run ID: ICPMS04_348814	SeqNo: 5307998	PrepDate: 21-Oct-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	< 0.0110	0.0200								
Calcium	< 0.0340	0.500								
LCS	Sample ID: LCS-146602	Units: mg/L		Analysis Date: 22-Oct-2019 16:17						
Client ID:		Run ID: ICPMS04_348814	SeqNo: 5307999	PrepDate: 21-Oct-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.4369	0.0200	0.5	0	87.4	80 - 120				
Calcium	4.611	0.500	5	0	92.2	80 - 120				
MS	Sample ID: HS19101137-05MS	Units: mg/L		Analysis Date: 22-Oct-2019 17:55						
Client ID: MW-63		Run ID: ICPMS04_348814	SeqNo: 5308224	PrepDate: 21-Oct-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.5531	0.0200	0.5	0.09121	92.4	80 - 120				
Calcium	279.1	0.500	5	291.7	-252	80 - 120				SEO
MSD	Sample ID: HS19101137-05MSD	Units: mg/L		Analysis Date: 22-Oct-2019 17:57						
Client ID: MW-63		Run ID: ICPMS04_348814	SeqNo: 5308225	PrepDate: 21-Oct-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.5831	0.0200	0.5	0.09121	98.4	80 - 120	0.5531	5.29	20	
Calcium	286.2	0.500	5	291.7	-111	80 - 120	279.1	2.5	20	SEO
PDS	Sample ID: HS19101137-05PDS	Units: mg/L		Analysis Date: 22-Oct-2019 18:00						
Client ID: MW-63		Run ID: ICPMS04_348814	SeqNo: 5308226	PrepDate: 21-Oct-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.3432	0.0200	0.25	0.09121	101	75 - 125				

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

QC BATCH REPORT

Batch ID: 146602 (0)	Instrument: ICPMS04	Method: ICP-MS METALS BY SW6020A								
PDS	Sample ID: HS19101137-05PDS	Units: mg/L	Analysis Date: 23-Oct-2019 13:19							
Client ID: MW-63	Run ID: ICPMS05_348910	SeqNo: 5309651	PrepDate: 21-Oct-2019 DF: 10							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	396.3	5.00	100	294.9	101	75 - 125				

SD	Sample ID: HS19101137-05SD	Units: mg/L	Analysis Date: 22-Oct-2019 17:53							
Client ID: MW-63	Run ID: ICPMS04_348814	SeqNo: 5308223	PrepDate: 21-Oct-2019 DF: 5							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Boron	0.119	0.100					0.09121	0	10	

SD	Sample ID: HS19101137-05SD	Units: mg/L	Analysis Date: 23-Oct-2019 13:17							
Client ID: MW-63	Run ID: ICPMS05_348910	SeqNo: 5309650	PrepDate: 21-Oct-2019 DF: 50							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Calcium	301.6	25.0					294.9	2.26	10	

The following samples were analyzed in this batch:

HS19101137-01	HS19101137-02	HS19101137-03	HS19101137-04
HS19101137-05	HS19101137-06	HS19101137-07	HS19101137-08
HS19101137-09	HS19101137-10	HS19101137-11	HS19101137-12
HS19101137-13	HS19101137-14	HS19101137-15	HS19101137-16
HS19101137-17	HS19101137-18	HS19101137-20	HS19101137-21

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

QC BATCH REPORT

Batch ID: R349051 (0)		Instrument: ICS2100			Method: ANIONS BY E300.0					
MBLK	Sample ID: WBLKW1-102319	Units: mg/L			Analysis Date: 24-Oct-2019 00:26					
Client ID:	Run ID: ICS2100_349051	SeqNo: 5312319			PrepDate:			DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	< 0.200	0.500								
Sulfate	< 0.200	0.500								
LCS	Sample ID: WLCSW1-102319	Units: mg/L			Analysis Date: 24-Oct-2019 00:44					
Client ID:	Run ID: ICS2100_349051	SeqNo: 5312320			PrepDate:			DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.33	0.500	20	0	102	90 - 110				
Sulfate	20.27	0.500	20	0	101	90 - 110				
LCSD	Sample ID: WLCSDW1-102319	Units: mg/L			Analysis Date: 24-Oct-2019 01:02					
Client ID:	Run ID: ICS2100_349051	SeqNo: 5312321			PrepDate:			DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.23	0.500	20	0	101	90 - 110	20.33	0.493	20	
Sulfate	20.1	0.500	20	0	101	90 - 110	20.27	0.837	20	
MS	Sample ID: HS19101137-05MS	Units: mg/L			Analysis Date: 24-Oct-2019 07:59					
Client ID: MW-63	Run ID: ICS2100_349051	SeqNo: 5312344			PrepDate:			DF: 10		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	465.7	5.00	100	399.9	65.8	80 - 120				S
Sulfate	468	5.00	100	392.7	75.2	80 - 120				S
MS	Sample ID: HS19101137-05MS	Units: mg/L			Analysis Date: 25-Oct-2019 11:06					
Client ID: MW-63	Run ID: ICS2100_349051	SeqNo: 5314236			PrepDate:			DF: 10		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	484.7	5.00	100	399.4	85.3	80 - 120				
Sulfate	485.4	5.00	100	390.4	94.9	80 - 120				

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

QC BATCH REPORT

Batch ID: R349051 (0) **Instrument:** ICS2100 **Method:** ANIONS BY E300.0

MS		Sample ID: HS19100733-03MS		Units: mg/L		Analysis Date: 24-Oct-2019 02:14				
Client ID:		Run ID: ICS2100_349051		SeqNo: 5312325		PrepDate:		DF: 100		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	5329	50.0	1000	4418	91.1	80 - 120				O
Sulfate	1186	50.0	1000	211.4	97.5	80 - 120				

MSD		Sample ID: HS19101137-05MSD		Units: mg/L		Analysis Date: 25-Oct-2019 11:24				
Client ID: MW-63		Run ID: ICS2100_349051		SeqNo: 5314237		PrepDate:		DF: 10		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	482.4	5.00	100	399.4	83.1	80 - 120	484.7	0.466	20	
Sulfate	483.9	5.00	100	390.4	93.5	80 - 120	485.4	0.307	20	

MSD		Sample ID: HS19101137-05MSD		Units: mg/L		Analysis Date: 24-Oct-2019 08:17				
Client ID: MW-63		Run ID: ICS2100_349051		SeqNo: 5312345		PrepDate:		DF: 10		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	472.1	5.00	100	399.9	72.2	80 - 120	465.7	1.37	20	S
Sulfate	472.8	5.00	100	392.7	80.1	80 - 120	468	1.03	20	

MSD		Sample ID: HS19100733-03MSD		Units: mg/L		Analysis Date: 24-Oct-2019 02:33				
Client ID:		Run ID: ICS2100_349051		SeqNo: 5312326		PrepDate:		DF: 100		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	5346	50.0	1000	4418	92.8	80 - 120	5329	0.32	20	O
Sulfate	1185	50.0	1000	211.4	97.3	80 - 120	1186	0.119	20	

The following samples were analyzed in this batch:

HS19101137-01	HS19101137-02	HS19101137-03	HS19101137-04
HS19101137-05	HS19101137-06	HS19101137-07	HS19101137-08
HS19101137-09			

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

QC BATCH REPORT

Batch ID: R349082 (0) **Instrument:** ICS2100 **Method:** ANIONS BY E300.0

MBLK		Sample ID: WBLKW2-102319		Units: mg/L		Analysis Date: 24-Oct-2019 10:25			
Client ID:		Run ID: ICS2100_349082		SeqNo: 5313491		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	< 0.200	0.500							
Sulfate	< 0.200	0.500							

LCS		Sample ID: WLCSW2-102319		Units: mg/L		Analysis Date: 24-Oct-2019 10:43			
Client ID:		Run ID: ICS2100_349082		SeqNo: 5313492		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	20.01	0.500	20	0	100	90 - 110			
Sulfate	19.92	0.500	20	0	99.6	90 - 110			

LCSD		Sample ID: WLCSDW2-102319		Units: mg/L		Analysis Date: 24-Oct-2019 11:01			
Client ID:		Run ID: ICS2100_349082		SeqNo: 5313493		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	19.94	0.500	20	0	99.7	90 - 110	20.01	0.315	20
Sulfate	19.92	0.500	20	0	99.6	90 - 110	19.92	0.01	20

MS		Sample ID: HS19101137-27MS		Units: mg/L		Analysis Date: 24-Oct-2019 19:11			
Client ID: DUP-02		Run ID: ICS2100_349082		SeqNo: 5313532		PrepDate:		DF: 10	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	517.5	5.00	100	418.1	99.4	80 - 120			O
Sulfate	325.9	5.00	100	229.1	96.8	80 - 120			

MS		Sample ID: HS19101137-19MS		Units: mg/L		Analysis Date: 24-Oct-2019 14:57			
Client ID: MW-58		Run ID: ICS2100_349082		SeqNo: 5313506		PrepDate:		DF: 10	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	383.4	5.00	100	294.4	89.0	80 - 120			
Sulfate	178.7	5.00	100	84.18	94.6	80 - 120			

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

QC BATCH REPORT

Batch ID: R349082 (0)		Instrument: ICS2100		Method: ANIONS BY E300.0						
MSD	Sample ID: HS19101137-27MSD	Units: mg/L			Analysis Date: 24-Oct-2019 19:29					
Client ID: DUP-02	Run ID: ICS2100_349082	SeqNo: 5313533		PrepDate:			DF: 10			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	513.3	5.00	100	418.1	95.2	80 - 120	517.5	0.816	20	O
Sulfate	323.9	5.00	100	229.1	94.8	80 - 120	325.9	0.62	20	

MSD	Sample ID: HS19101137-19MSD	Units: mg/L			Analysis Date: 24-Oct-2019 15:15					
Client ID: MW-58	Run ID: ICS2100_349082	SeqNo: 5313507		PrepDate:			DF: 10			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	388.3	5.00	100	294.4	94.0	80 - 120	383.4	1.29	20	
Sulfate	180.6	5.00	100	84.18	96.4	80 - 120	178.7	1.04	20	

The following samples were analyzed in this batch:

HS19101137-10	HS19101137-11	HS19101137-12	HS19101137-13
HS19101137-14	HS19101137-15	HS19101137-16	HS19101137-17
HS19101137-18	HS19101137-19	HS19101137-20	HS19101137-21
HS19101137-22	HS19101137-23	HS19101137-24	HS19101137-25
HS19101137-26	HS19101137-27	HS19101137-28	

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

QC BATCH REPORT

Batch ID: R349121 (0)		Instrument: Balance1		Method: TOTAL DISSOLVED SOLIDS BY SM2540C						
MBLK	Sample ID: WBLK-102419	Units: mg/L		Analysis Date: 24-Oct-2019 14:29						
Client ID:	Run ID: Balance1_349121	SeqNo: 5314412		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)		< 5.00	10.0							
LCS	Sample ID: WLCS-102419	Units: mg/L		Analysis Date: 24-Oct-2019 14:29						
Client ID:	Run ID: Balance1_349121	SeqNo: 5314413		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)		942	10.0	1000	0	94.2	85 - 115			
DUP	Sample ID: HS19101137-05DUP	Units: mg/L		Analysis Date: 24-Oct-2019 14:29						
Client ID: MW-63	Run ID: Balance1_349121	SeqNo: 5314406		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)		1756	10.0				1758	0.114	5	
DUP	Sample ID: HS19101048-20DUP	Units: mg/L		Analysis Date: 24-Oct-2019 14:29						
Client ID:	Run ID: Balance1_349121	SeqNo: 5314392		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)		880	10.0				772	13.1	5	R

The following samples were analyzed in this batch:

HS19101137-01	HS19101137-02	HS19101137-03	HS19101137-04
HS19101137-05	HS19101137-06	HS19101137-07	HS19101137-08
HS19101137-09	HS19101137-10		

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

QC BATCH REPORT

Batch ID: R349131 (0)		Instrument: Balance1		Method: TOTAL DISSOLVED SOLIDS BY SM2540C						
MBLK	Sample ID: WBLK-102419	Units: mg/L		Analysis Date: 24-Oct-2019 15:08						
Client ID:	Run ID: Balance1_349131	SeqNo: 5314545		PrepDate:			DF: 1			
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)		< 5.00	10.0							
LCS	Sample ID: WLCS-102419	Units: mg/L		Analysis Date: 24-Oct-2019 15:08						
Client ID:	Run ID: Balance1_349131	SeqNo: 5314546		PrepDate:			DF: 1			
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)		902	10.0	1000	0	90.2	85 - 115			
DUP	Sample ID: HS19101137-19DUP	Units: mg/L		Analysis Date: 24-Oct-2019 15:08						
Client ID: MW-58	Run ID: Balance1_349131	SeqNo: 5314533		PrepDate:			DF: 1			
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)		954	10.0				928	2.76	5	
DUP	Sample ID: HS19101137-12DUP	Units: mg/L		Analysis Date: 24-Oct-2019 15:08						
Client ID: MW-46R	Run ID: Balance1_349131	SeqNo: 5314525		PrepDate:			DF: 1			
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)		738	10.0				700	5.29	5	R

The following samples were analyzed in this batch:

HS19101137-11	HS19101137-12	HS19101137-13	HS19101137-14
HS19101137-15	HS19101137-16	HS19101137-17	HS19101137-18
HS19101137-19	HS19101137-20	HS19101137-21	HS19101137-22
HS19101137-23			

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

QC BATCH REPORT

Batch ID: R349140 (0)		Instrument: Balance1		Method: TOTAL DISSOLVED SOLIDS BY SM2540C						
MBLK	Sample ID: WBLK-102519	Units: mg/L		Analysis Date: 25-Oct-2019 10:00						
Client ID:	Run ID: Balance1_349140	SeqNo: 5314644		PrepDate:			DF: 1			
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Total Dissolved Solids (Residue, Filterable)		< 5.00	10.0							
LCS	Sample ID: WLCS-102519	Units: mg/L		Analysis Date: 25-Oct-2019 10:00						
Client ID:	Run ID: Balance1_349140	SeqNo: 5314645		PrepDate:			DF: 1			
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Total Dissolved Solids (Residue, Filterable)		962	10.0	1000	0	96.2	85 - 115			
DUP	Sample ID: HS19101404-02DUP	Units: mg/L		Analysis Date: 25-Oct-2019 10:00						
Client ID:	Run ID: Balance1_349140	SeqNo: 5314641		PrepDate:			DF: 1			
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Total Dissolved Solids (Residue, Filterable)		1348	10.0				1414	4.78	5	
DUP	Sample ID: HS19101137-24DUP	Units: mg/L		Analysis Date: 25-Oct-2019 10:00						
Client ID: MW-60	Run ID: Balance1_349140	SeqNo: 5314631		PrepDate:			DF: 1			
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Total Dissolved Solids (Residue, Filterable)		1414	10.0				1150	20.6	5 R	

The following samples were analyzed in this batch:

HS19101137-24	HS19101137-25	HS19101137-26	HS19101137-27
HS19101137-28			

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

QC BATCH REPORT

Batch ID: R349337 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C

MBLK	Sample ID: WBLK-102819	Units: mg/L			Analysis Date: 28-Oct-2019 16:30					
Client ID:	Run ID: Balance1_349337	SeqNo: 5318846	PrepDate:	DF: 1						
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids (Residue, Filterable) < 5.00 10.0

LCS	Sample ID: WLCS-102819	Units: mg/L			Analysis Date: 28-Oct-2019 16:30					
Client ID:	Run ID: Balance1_349337	SeqNo: 5318847	PrepDate:	DF: 1						
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids (Residue, Filterable) 1008 10.0 1000 0 101 85 - 115

DUP	Sample ID: HS19101295-06DUP	Units: mg/L			Analysis Date: 28-Oct-2019 16:30					
Client ID:	Run ID: Balance1_349337	SeqNo: 5318838	PrepDate:	DF: 1						
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids (Residue, Filterable) 3832 10.0 3840 0.209 5

DUP	Sample ID: HS19101295-01DUP	Units: mg/L			Analysis Date: 28-Oct-2019 16:30					
Client ID:	Run ID: Balance1_349337	SeqNo: 5318832	PrepDate:	DF: 1						
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids (Residue, Filterable) 5412 10.0 5484 1.32 5

The following samples were analyzed in this batch: HS19101137-20 HS19101137-21

Client: TRC Corporation
Project: NRG WA Parish - Appendix III
WorkOrder: HS19101137

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2019	31-Dec-2019
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	TX104704231-19-23	30-Apr-2020

Sample Receipt Checklist

Client Name: TRC-HOU
Work Order: HS19101137

Date/Time Received: 18-Oct-2019 15:45
Received by: PMG

Checklist completed by: Paresh M. Giga 18-Oct-2019
Reviewed by: RJ Modashia 20-Oct-2019

Matrices: GW/Water Carrier name: Client

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [checked] No [] Not Present []
Custody seals intact on sample bottles? Yes [] No [] Not Present [checked]
VOA/TX1005/TX1006 Solids in hermetically sealed vials? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Samplers name present on COC? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Container/Temp Blank temperature in compliance? Yes [checked] No []

Temperature(s)/Thermometer(s): 1.2c;2.4c;1.8c;3.8c;1.9c;1.6c;3.2c;0.7c U/C IR25
Cooler(s)/Kit(s): 45084/45130/43013/45371/44385/45058/45370/43642
Date/Time sample(s) sent to storage: 10/18/19 18:40

- Water - VOA vials have zero headspace? Yes [] No [] No VOA vials submitted [checked]
Water - pH acceptable upon receipt? Yes [] No [checked] N/A []
pH adjusted? Yes [checked] No [] N/A []

pH adjusted by: Corey Grandits

Login Notes: MW-65 Metals pH>2 (7)
Preserved with 0.25ml HNO3
10/18/19 @ 18:00 Final pH (1)

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



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Chain of Custody Form

Page 1 of 3

COC ID: **210222**

HS19101137

TRC Corporation
NRG WA Parish - Appendix III

wv



Customer Information		Project Information		ALS Project Manager:	
Purchase Order	294645.0001	Project Name	NRG WA Parish - Appendix III	A	300_W (Cl, SO4)
Work Order		Project Number	CCR Program	B	ICP_TW (B and Ca (App III))
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C	Sub_Fluoride (Sub Fluoride to ALS Michigan)
Send Report To	Lori Burris	Invoice Attn	A/P	D	TDS_W 2540C (TDS)
Address	10550 Richmond Ave., Suite 210	Address	10550 Richmond Ave., Suite 210	E	
City/State/Zip	Houston, TX 77042	City/State/Zip	Houston TX 77042	F	
Phone	(713) 244-1000	Phone	(713) 244-1000	G	⊙ = MS/MSD volume provided
Fax	(713) 244-1099	Fax	(713) 244-1099	H	
e-Mail Address	LBurris@trcsolutions.com	e-Mail Address	apinvoiceapproval@trcsolutions.com	I	
				J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-39	10-18-19	1325	GW	2,8		X	X	X	X							
2	MW-40		1240				X	X	X	X							
3	MW-41		1055				X	X	X	X							
4	MW-62		840				X	X	X	X							
5	MW-63		930				X	X	X	X							
6	MW-64		1150				X	X	X	X							
7	MW-23		1355				X	X	X	X							
8	MW-28D		1305				X	X	X	X							
9	MW-42		1355				X	X	X	X							
10	MW-43		1255				X	X	X	X							

Sampler(s) Please Print & Sign <i>Brian Hillin & HMF Team</i>		Shipment Method Consult - Delivery		Required Turnaround Time: (Check Box) <input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> Other <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:		
Relinquished by: <i>Cameron Haber</i>		Date: <i>10.18.19</i>	Time: <i>14:45</i>	Received by: <i>[Signature]</i>		Notes: NRG WA Parish - PRIVILEGED & CONFIDENTIAL			
Relinquished by:		Date:	Time:	Checked by (Laboratory): <i>10/18/19 15:45</i>		QC Package: (Check One Box Below)			
Logged by (Laboratory):		Date:	Time:	Cooler ID		Cooler Temp.		Level II Std QC <input checked="" type="checkbox"/> TRRP Checklist	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035				45084		1.20		Level III Std QC/Raw Data <input type="checkbox"/> TRRP Level IV	
				45130		2.40		Level IV SW846/CLP <input type="checkbox"/>	
				43013		1.80		Other <input type="checkbox"/>	
				45371		3.80			

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

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Chain of Custody Form

Page 2 of 3

COC ID: 210224

HS19101137

TRC Corporation
NRG WA Parish - Appendix III



, WV

Customer Information		Project Information		ALS Project Manager:	
Purchase Order	294645.0001	Project Name	NRG WA Parish - Appendix III	A	300_W (Cl, SO4)
Work Order		Project Number	CCR Program	B	ICP_TW (B and Ca (App III))
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C	Sub_Fluoride (Sub Fluoride to ALS Michigan)
Send Report To	Lori Burris	Invoice Attn	A/P	D	TDS_W 2540C (TDS)
Address	10550 Richmond Ave., Suite 210	Address	10550 Richmond Ave., Suite 210	E	
City/State/Zip	Houston, TX 77042	City/State/Zip	Houston TX 77042	F	
Phone	(713) 244-1000	Phone	(713) 244-1000	G	O = ms/msd volume provided
Fax	(713) 244-1099	Fax	(713) 244-1099	H	
e-Mail Address	LBurris@trcsolutions.com	e-Mail Address	apinvoiceapproval@trcsolutions.com	I	
				J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-44	10-18-19	1215	GW	2.8		X	X	X	X							
2	MW-46R		825				X	X	X	X							
3	MW-47		1205				X	X	X	X							
4	MW-48		1120				X	X	X	X							
5	MW-50		1330				X	X	X	X							
6	MW-52		1050				X	X	X	X							
7	MW-54		840				X	X	X	X							
8	MW-55R		935				X	X	X	X							
9	MW-58		925				X	X	X	X							
10	MW-65		1035				X	X	X	X							

Sampler(s) Please Print & Sign <i>Brian Hillin & HMI Team</i>		Shipment Method Consult-Delivery		Required Turnaround Time: (Check Box) <input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:	
Relinquished by <i>Cameron Haber</i>	Date: 10-18-19	Time: 15:45	Received by: <i>[Signature]</i>	Notes: NRG WA Parish - PRIVILEGED & CONFIDENTIAL				
Relinquished by:	Date:	Time:	Received by (Laboratory): 10/18/19 15:45	Cooler ID 44385	Cooler Temp. 19.0	QC Package: (Check One Box Below)		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	45058	1.60	<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035				45370	3.20	<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV	
						<input type="checkbox"/> Level IV SWB46/CLP	<input type="checkbox"/> Other	

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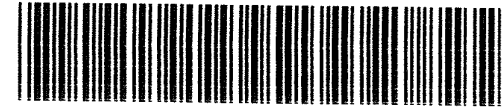
Chain of Custody Form

Page 3 of 3

COC ID: 210223

HS19101137

TRC Corporation
NRG WA Parish - Appendix III



, WV


Customer Information		Project Information		ALS Project Manager:	
Purchase Order	294645.0001	Project Name	NRG WA Parish - Appendix III	A	300_W (Cl, SO4)
Work Order		Project Number	CCR Program	B	ICP_TW (B and Ca (App III))
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C	Sub_Fluoride (Sub Fluoride to ALS Michigan)
Send Report To	Lori Burris	Invoice Attn	A/P	D	TDS_W 2540C (TDS)
Address	10550 Richmond Ave., Suite 210	Address	10550 Richmond Ave., Suite 210	E	
				F	
City/State/Zip	Houston, TX 77042	City/State/Zip	Houston TX 77042	G	
Phone	(713) 244-1000	Phone	(713) 244-1000	H	
Fax	(713) 244-1099	Fax	(713) 244-1099	I	
e-Mail Address	LBurris@trcsolutions.com	e-Mail Address	apinvoiceapproval@trcsolutions.com	J	


No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold			
1	MW-36	10-18-19	1000	GW	2,8		X	X	X	X										
2	MW-37	↓	820	↓	↓	↓	X	X	X	X										
3	MW-38R		1200				X	X	X	X										
4	MW-60		1100				X	X	X	X										
5	MW-61		910				X	X	X	X										
6	DUP-01		1200				X	X	X	X										
7	DUP-02		1000				X	X	X	X										
8	FB-01		925				X	X	X	X										
9																				
10																				


Sampler(s) Please Print & Sign Brian Hillin & HMI Team		Shipment Method Consult. Delivery		Required Turnaround Time: (Check Box) <input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:	
Relinquished by: Cameron Haber		Date: 10.18.19	Time: 1545	Received by: [Signature]		Notes: NRG WA Parish - PRIVILEGED & CONFIDENTIAL		
Relinquished by:		Date:	Time:	Received by (Laboratory):		Cooler ID		
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):		Cooler Temp.		
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035						QC Package: (Check One Box Below)		
						<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist	
						<input type="checkbox"/> Level III Std QC/Raw Date	<input type="checkbox"/> TRRP Level IV	
						<input type="checkbox"/> Level IV SWB46/CLP		
						<input type="checkbox"/> Other		

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 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	4385	CUSTODY SEAL		Seal Broken By: <i>[Signature]</i>
		Date: 10-18-19	Time:	Date: 10/18/19
		Name: B Hillin	lin	
		Company: HMI		


 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	45058	CUSTODY SEAL		Seal Broken By: <i>[Signature]</i>
		Date: 10-18-19	Time:	Date: 10/18/19
		Name: B Hillin		
		Company: HMI		


 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	43642	CUSTODY SEAL		Seal Broken By: <i>[Signature]</i>
		Date: 10-18-19	Time:	Date: 10/18/19
		Name: B Hillin	HMI	
		Company: HMI		

CUSTODY SEAL		Seal Broken By: <i>[Signature]</i>
Date: 10-18-19	Time:	Date: 10/18/19
Name: B Hillin		
Company: HMI		

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	45084	CUSTODY SEAL		Seal Broken By: <i>[Signature]</i>
		Date: 10-18-19	Time:	Date: 10/18/19
		Name: B Hillin		
		Company: HMI		

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	45370	CUSTODY SEAL		Seal Broken By: <i>[Signature]</i>
		Date: 10-18-19	Time:	Date: 10/18/19
		Name: B Hillin		
		Company: HMI		

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	45371	CUSTODY SEAL		Seal Broken By: <i>[Signature]</i>
		Date: 10-18-19	Time:	Date: 10/18/19
		Name: B Hillin		
		Company: HMI		

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	43013	CUSTODY SEAL		Seal Broken By: <i>[Signature]</i>
		Date: 10-18-19	Time:	Date: 10/18/19
		Name: B Hillin	HMI	
		Company: HMI		



25-Oct-2019

RJ Modashia
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS19101137**

Work Order: **19101683**

Dear RJ,

ALS Environmental received 28 samples on 22-Oct-2019 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 46.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton", is written over a light blue horizontal line.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

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Page 80 of 125

Client: ALS Environmental
Project: HS19101137
Work Order: 19101683

**TRRP Laboratory Data
Package Cover Page**

This data package consists of all or some of the following as applicable:

This signature page, the laboratory case narrative, and the following reportable data:

- R1 Field chain-of-custody documentation:
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC Chapter 5
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies:
See Case Narrative.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached Case Narrative and QC Summaries. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified, and no information affecting the quality of the data has been knowingly withheld.



Chad Whelton
Project Manager

Client: ALS Environmental
Project: HS19101137
Work Order: 19101683

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
19101683-01	HS19101137-01	Groundwater	MW-39	10/18/2019 13:25	10/22/2019 10:00	<input type="checkbox"/>
19101683-02	HS19101137-02	Groundwater	MW-40	10/18/2019 12:40	10/22/2019 10:00	<input type="checkbox"/>
19101683-03	HS19101137-03	Groundwater	MW-41	10/18/2019 10:55	10/22/2019 10:00	<input type="checkbox"/>
19101683-04	HS19101137-04	Groundwater	MW-62	10/18/2019 08:40	10/22/2019 10:00	<input type="checkbox"/>
19101683-05	HS19101137-05	Groundwater	MW-63	10/18/2019 09:30	10/22/2019 10:00	<input type="checkbox"/>
19101683-06	HS19101137-06	Groundwater	MW-64	10/18/2019 11:50	10/22/2019 10:00	<input type="checkbox"/>
19101683-07	HS19101137-07	Groundwater	MW-23	10/18/2019 13:55	10/22/2019 10:00	<input type="checkbox"/>
19101683-08	HS19101137-08	Groundwater	MW-28D	10/18/2019 13:05	10/22/2019 10:00	<input type="checkbox"/>
19101683-09	HS19101137-09	Groundwater	MW-42	10/18/2019 13:55	10/22/2019 10:00	<input type="checkbox"/>
19101683-10	HS19101137-10	Groundwater	MW-43	10/18/2019 12:55	10/22/2019 10:00	<input type="checkbox"/>
19101683-11	HS19101137-11	Groundwater	MW-44	10/18/2019 12:15	10/22/2019 10:00	<input type="checkbox"/>
19101683-12	HS19101137-12	Groundwater	MW-46R	10/18/2019 08:25	10/22/2019 10:00	<input type="checkbox"/>
19101683-13	HS19101137-13	Groundwater	MW-47	10/18/2019 12:05	10/22/2019 10:00	<input type="checkbox"/>
19101683-14	HS19101137-14	Groundwater	MW-48	10/18/2019 11:20	10/22/2019 10:00	<input type="checkbox"/>
19101683-15	HS19101137-15	Groundwater	MW-50	10/18/2019 13:30	10/22/2019 10:00	<input type="checkbox"/>
19101683-16	HS19101137-16	Groundwater	MW-52	10/18/2019 10:50	10/22/2019 10:00	<input type="checkbox"/>
19101683-17	HS19101137-17	Groundwater	MW-54	10/18/2019 08:40	10/22/2019 10:00	<input type="checkbox"/>
19101683-18	HS19101137-18	Groundwater	MW-55R	10/18/2019 09:35	10/22/2019 10:00	<input type="checkbox"/>
19101683-19	HS19101137-19	Groundwater	MW-58	10/18/2019 09:25	10/22/2019 10:00	<input type="checkbox"/>
19101683-20	HS19101137-20	Groundwater	MW-65	10/18/2019 10:35	10/22/2019 10:00	<input type="checkbox"/>
19101683-21	HS19101137-21	Groundwater	MW-36	10/18/2019 10:00	10/22/2019 10:00	<input type="checkbox"/>
19101683-22	HS19101137-22	Groundwater	MW-37	10/18/2019 08:20	10/22/2019 10:00	<input type="checkbox"/>
19101683-23	HS19101137-23	Groundwater	MW-38R	10/18/2019 12:00	10/22/2019 10:00	<input type="checkbox"/>
19101683-24	HS19101137-24	Groundwater	MW-60	10/18/2019 11:00	10/22/2019 10:00	<input type="checkbox"/>
19101683-25	HS19101137-25	Groundwater	MW-61	10/18/2019 09:10	10/22/2019 10:00	<input type="checkbox"/>
19101683-26	HS19101137-26	Groundwater	DUP-1	10/18/2019 12:00	10/22/2019 10:00	<input type="checkbox"/>
19101683-27	HS19101137-27	Groundwater	DUP-2	10/18/2019 10:00	10/22/2019 10:00	<input type="checkbox"/>
19101683-28	HS19101137-28	Groundwater	FB-01	10/18/2019 09:25	10/22/2019 10:00	<input type="checkbox"/>

Client: ALS Environmental
Project: HS19101137
Work Order: 19101683

Case Narrative

Samples for the above noted Work Order were received on 10/22/2019. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting. A copy of the laboratory's scope of accreditation is available upon request.

With the following exceptions, all sample analyses achieved analytical criteria.

Wet Chemistry:

No other deviations or anomalies were noted.

Client: ALS Environmental
Project: HS19101137
WorkOrder: 19101683

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
mg/L	Milligrams per Liter

Work Order: 19101683
 Client: ALS Environmental
 Project: HS19101137

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
Batch ID R273673	Test Name: Fluoride					
19101683-01	HS19101137-01	Groundwater	10/18/2019 1:25:00 PM			10/23/2019 01:17 PM
^						
19101683-02	HS19101137-02		10/18/2019 12:40:00 PM			10/23/2019 01:17 PM
^						
19101683-03	HS19101137-03		10/18/2019 10:55:00 AM			10/23/2019 01:17 PM
^						
19101683-04	HS19101137-04		10/18/2019 8:40:00 AM			10/23/2019 01:17 PM
^						
19101683-05	HS19101137-05		10/18/2019 9:30:00 AM			10/23/2019 01:17 PM
^						
19101683-06	HS19101137-06		10/18/2019 11:50:00 AM			10/23/2019 01:17 PM
^						
19101683-07	HS19101137-07		10/18/2019 1:55:00 PM			10/23/2019 01:17 PM
^						
19101683-08	HS19101137-08		10/18/2019 1:05:00 PM			10/23/2019 01:17 PM
^						
19101683-09	HS19101137-09		10/18/2019 1:55:00 PM			10/23/2019 01:17 PM
^						
19101683-10	HS19101137-10		10/18/2019 12:55:00 PM			10/23/2019 01:17 PM
^						
19101683-11	HS19101137-11		10/18/2019 12:15:00 PM			10/23/2019 01:17 PM
^						
19101683-12	HS19101137-12		10/18/2019 8:25:00 AM			10/23/2019 01:17 PM
^						
19101683-13	HS19101137-13		10/18/2019 12:05:00 PM			10/23/2019 01:17 PM
^						
19101683-14	HS19101137-14		10/18/2019 11:20:00 AM			10/23/2019 01:17 PM
^						
19101683-15	HS19101137-15		10/18/2019 1:30:00 PM			10/23/2019 01:17 PM
^						
19101683-16	HS19101137-16		10/18/2019 10:50:00 AM			10/23/2019 01:17 PM
^						
19101683-17	HS19101137-17		10/18/2019 8:40:00 AM			10/23/2019 01:17 PM
^						
19101683-18	HS19101137-18		10/18/2019 9:35:00 AM			10/23/2019 01:17 PM
^						
19101683-19	HS19101137-19		10/18/2019 9:25:00 AM			10/23/2019 01:17 PM
^						

Work Order: 19101683
 Client: ALS Environmental
 Project: HS19101137

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
Batch ID R273735 Test Name: Fluoride						
19101683-20	HS19101137-20	Groundwater	10/18/2019 10:35:00 AM			10/24/2019 03:17 PM
^						
19101683-21	HS19101137-21		10/18/2019 10:00:00 AM			10/24/2019 03:17 PM
^						
19101683-22	HS19101137-22		10/18/2019 8:20:00 AM			10/24/2019 03:17 PM
^						
19101683-23	HS19101137-23		10/18/2019 12:00:00 PM			10/24/2019 03:17 PM
^						
19101683-24	HS19101137-24		10/18/2019 11:00:00 AM			10/24/2019 03:17 PM
^						
19101683-25	HS19101137-25		10/18/2019 9:10:00 AM			10/24/2019 03:17 PM
^						
19101683-26	HS19101137-26		10/18/2019 12:00:00 PM			10/24/2019 03:17 PM
^						
19101683-27	HS19101137-27		10/18/2019 10:00:00 AM			10/24/2019 03:17 PM
^						
19101683-28	HS19101137-28		10/18/2019 9:25:00 AM			10/24/2019 03:17 PM
^						

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-01
Collection Date: 10/18/2019 01:25 PM

Work Order: 19101683
Lab ID: 19101683-01
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.070	J	0.058	0.10	mg/L	1	10/23/2019 13:17

Method: A4500-F C-11

Analyst: QTN

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-02
Collection Date: 10/18/2019 12:40 PM

Work Order: 19101683
Lab ID: 19101683-02
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.060	J	0.058	0.10	mg/L	1	10/23/2019 13:17

Method: A4500-F C-11

Analyst: QTN

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-03
Collection Date: 10/18/2019 10:55 AM

Work Order: 19101683
Lab ID: 19101683-03
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.11		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-04
Collection Date: 10/18/2019 08:40 AM

Work Order: 19101683
Lab ID: 19101683-04
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.13		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-05
Collection Date: 10/18/2019 09:30 AM

Work Order: 19101683
Lab ID: 19101683-05
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	U		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-06
Collection Date: 10/18/2019 11:50 AM

Work Order: 19101683
Lab ID: 19101683-06
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.24		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-07
Collection Date: 10/18/2019 01:55 PM

Work Order: 19101683
Lab ID: 19101683-07
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	U		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-08
Collection Date: 10/18/2019 01:05 PM

Work Order: 19101683
Lab ID: 19101683-08
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.44		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-09
Collection Date: 10/18/2019 01:55 PM

Work Order: 19101683
Lab ID: 19101683-09
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.77		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-10
Collection Date: 10/18/2019 12:55 PM

Work Order: 19101683
Lab ID: 19101683-10
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.79		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-11
Collection Date: 10/18/2019 12:15 PM

Work Order: 19101683
Lab ID: 19101683-11
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.53		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-12
Collection Date: 10/18/2019 08:25 AM

Work Order: 19101683
Lab ID: 19101683-12
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.51		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-13
Collection Date: 10/18/2019 12:05 PM

Work Order: 19101683
Lab ID: 19101683-13
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.54		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-14
Collection Date: 10/18/2019 11:20 AM

Work Order: 19101683
Lab ID: 19101683-14
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.92		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-15
Collection Date: 10/18/2019 01:30 PM

Work Order: 19101683
Lab ID: 19101683-15
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.59		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-16
Collection Date: 10/18/2019 10:50 AM

Work Order: 19101683
Lab ID: 19101683-16
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.64		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-17
Collection Date: 10/18/2019 08:40 AM

Work Order: 19101683
Lab ID: 19101683-17
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.63		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-18
Collection Date: 10/18/2019 09:35 AM

Work Order: 19101683
Lab ID: 19101683-18
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.99		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-19
Collection Date: 10/18/2019 09:25 AM

Work Order: 19101683
Lab ID: 19101683-19
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.57		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-20
Collection Date: 10/18/2019 10:35 AM

Work Order: 19101683
Lab ID: 19101683-20
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.38		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-21
Collection Date: 10/18/2019 10:00 AM

Work Order: 19101683
Lab ID: 19101683-21
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.38		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-22
Collection Date: 10/18/2019 08:20 AM

Work Order: 19101683
Lab ID: 19101683-22
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.21		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-23
Collection Date: 10/18/2019 12:00 PM

Work Order: 19101683
Lab ID: 19101683-23
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.25		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-24
Collection Date: 10/18/2019 11:00 AM

Work Order: 19101683
Lab ID: 19101683-24
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.12		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-25
Collection Date: 10/18/2019 09:10 AM

Work Order: 19101683
Lab ID: 19101683-25
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.23		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-26
Collection Date: 10/18/2019 12:00 PM

Work Order: 19101683
Lab ID: 19101683-26
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.36		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-27
Collection Date: 10/18/2019 10:00 AM

Work Order: 19101683
Lab ID: 19101683-27
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.34		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101137
Sample ID: HS19101137-28
Collection Date: 10/18/2019 09:25 AM

Work Order: 19101683
Lab ID: 19101683-28
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	U		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

WorkOrder: 19101683
InstrumentID: Titrator 1
Test Code: FL_4500C_W
Test Number: A4500-F C-11
Test Name: Fluoride

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Water Units: mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	Unadjusted MQL
A	Fluoride	16984-48-8	0.075	0.050	0.058	0.10

Client: ALS Environmental
Work Order: 19101683
Project: HS19101137

QC BATCH REPORT

Batch ID: **R273673** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK		Sample ID: MB-R273673-R273673				Units: mg/L		Analysis Date: 10/23/2019 01:17 P		
Client ID:		Run ID: TITRATOR 1_191023B		SeqNo: 6008610		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride U 0.10

LCS		Sample ID: LCS-R273673-R273673				Units: mg/L		Analysis Date: 10/23/2019 01:17 P		
Client ID:		Run ID: TITRATOR 1_191023B		SeqNo: 6008611		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.06 0.10 5 0 101 80-120 0

MS		Sample ID: 19101683-05AMS				Units: mg/L		Analysis Date: 10/23/2019 01:17 P		
Client ID: HS19101137-05		Run ID: TITRATOR 1_191023B		SeqNo: 6008617		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.13 0.10 5 0.05 102 75-125 0

MS		Sample ID: 19101683-19AMS				Units: mg/L		Analysis Date: 10/23/2019 01:17 P		
Client ID: HS19101137-19		Run ID: TITRATOR 1_191023B		SeqNo: 6008633		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.17 0.10 5 0.57 92 75-125 0

MSD		Sample ID: 19101683-05AMSD				Units: mg/L		Analysis Date: 10/23/2019 01:17 P		
Client ID: HS19101137-05		Run ID: TITRATOR 1_191023B		SeqNo: 6008618		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.3 0.10 5 0.05 105 75-125 5.13 3.26 20

MSD		Sample ID: 19101683-19AMSD				Units: mg/L		Analysis Date: 10/23/2019 01:17 P		
Client ID: HS19101137-19		Run ID: TITRATOR 1_191023B		SeqNo: 6008634		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.34 0.10 5 0.57 95.4 75-125 5.17 3.24 20

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: ALS Environmental

Work Order: 19101683

Project: HS19101137

QC BATCH REPORT

Batch ID: **R273673**

Instrument ID **Titration 1**

Method: **A4500-F C-11**

The following samples were analyzed in this batch:

19101683-01A	19101683-02A	19101683-03A
19101683-04A	19101683-05A	19101683-06A
19101683-07A	19101683-08A	19101683-09A
19101683-10A	19101683-11A	19101683-12A
19101683-13A	19101683-14A	19101683-15A
19101683-16A	19101683-17A	19101683-18A
19101683-19A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: ALS Environmental
 Work Order: 19101683
 Project: HS19101137

QC BATCH REPORT

Batch ID: **R273735** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK		Sample ID: MB-R273735-R273735				Units: mg/L		Analysis Date: 10/24/2019 03:17 P		
Client ID:		Run ID: TITRATOR 1_191024B				SeqNo: 6010247		Prep Date:		DF: 1
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	U	0.10								

LCS		Sample ID: LCS-R273735-R273735				Units: mg/L		Analysis Date: 10/24/2019 03:17 P		
Client ID:		Run ID: TITRATOR 1_191024B				SeqNo: 6010248		Prep Date:		DF: 1
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.72	0.10	5	0	94.4	80-120	0			

MS		Sample ID: 19101608-08AMS				Units: mg/L		Analysis Date: 10/24/2019 03:17 P		
Client ID:		Run ID: TITRATOR 1_191024B				SeqNo: 6010250		Prep Date:		DF: 1
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	5.07	0.10	5	0.25	96.4	75-125	0			

MSD		Sample ID: 19101608-08AMSD				Units: mg/L		Analysis Date: 10/24/2019 03:17 P		
Client ID:		Run ID: TITRATOR 1_191024B				SeqNo: 6010251		Prep Date:		DF: 1
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	5.07	0.10	5	0.25	96.4	75-125	5.07	0	20	

The following samples were analyzed in this batch:

19101683-20A	19101683-21A	19101683-22A
19101683-23A	19101683-24A	19101683-25A
19101683-26A	19101683-27A	19101683-28A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

WET CHEMISTRY DATA ASSESSMENT CHECKLIST

Wet Chemistry		Batch Number: Multiple	Instrument ID: Titrator 1				
Method: Fluoride		Work order Number (s): 19101683					
Analyst Name: DMD		Date 10/24/19	Reviewer Name: JB		Date: 10/23/19		
A ¹	Description	Yes	No	NA ₂	NR ³	ER# ⁴	
R1	I	Chain-of-Custody					
		1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?					
		2) Were all departures from standard conditions described in an exception report?					
R2	I	SAMPLE AND QUALITY CONTROL (QC) IDENTIFICATION					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?					
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?					
R3	I	TEST REPORTS					
		1) Were all samples prepared and analyzed within holding times?					
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?					
		3) Were calculations checked by a peer or supervisor?					
		4) Were all analyte identifications checked by a peer or supervisor?					
		5) Were sample quantitation limits reported for all analytes not detected?					
		6) Were all results for soil and sediment samples reported on a dry weight basis?					
		7) Was % moisture (or solids) reported for all soil and sediment samples?					
		8) If required for the project, TICs reported?					
R4	I	SURROGATE RECOVERY DATA					
		1) Were surrogates added prior to extraction?					
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?					
R5	I	TEST REPORTS/SUMMARY FORMS FOR BLANK SAMPLES					
		1) Were appropriate type(s) of blanks analyzed?					
		2) Were blanks analyzed at the appropriate frequency?					
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?					
		4) Were blank concentrations < 1/2 MQL?					
R6	I	LABORATORY CONTROL SAMPLES (LCS):					
		1) Were all COCs included in the LCS?					
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?					
		3) Were LCSs analyzed at the required frequency?					
		4) Were LCS and LCSD %Rs within the laboratory QC limits?					
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?					
		6) Was the LCSD RPD within QC limits?					
R7	I	MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) DATA					
		1) Were the project or method specified analytes included in the MS and MSD?					
		2) Were MS/MSD analyzed at the appropriate frequency?					
		3) Were MS and MSD %Rs within the laboratory QC limits?					
		4) Were MS/MSD RPDs within laboratory QC limits?					
R8	I	ANALYTICAL DUPLICATE DATA (IF REQUIRED)					
		1) Were appropriate analytical duplicates analyzed for each matrix?					
		2) Were analytical duplicates analyzed at the appropriate frequency?					
		3) Were RPDs or relative standard deviations within the laboratory QC limits?					
R9	I	METHOD QUANTITATION LIMITS (MQLS):					
		1) Are the MQLs for each method analyte listed and included in the laboratory data package?					
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?					
		3) Are unadjusted MQLs included in the laboratory data package?					
R10	I	OTHER PROBLEMS/ANOMALIES					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?					
		2) Were all necessary corrective actions performed for the reported data?					
		3) If requested, is the justification for elevated SQLs documented?					

S1	I	INITIAL CALIBRATION (ICAL)					
		1) Were response factors (RFs) and/or relative response factors (RRFs) for each analyte within the QC limits?			X		
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	I	INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICCV AND CCV) AND					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?	X				
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the organic CCB < MDL?	X				
S3	I	MASS SPECTRAL TUNING:					
		1) Was the appropriate compound for the method used for tuning?			X		
		2) Were ion abundance data within the method-required QC limits?			X		
S4	I	INTERNAL STANDARDS (IS):					
		Were IS area counts within the method-required QC limits?			X		
S5	I	RAW DATA					
		1) Were the raw data (e.g., chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				
S6	I	DUAL COLUMN CONFIRMATION (IF REQUIRED)					
		Did dual column confirmation results meet the method-required QC?			X		
S7	I	TENTATIVELY IDENTIFIED COMPOUNDS (TICS):					
		If TICS were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	INTERFERENCE CHECK SAMPLE (ICS) RESULTS:					
		Were percent recoveries within method QC limits?			X		
S9	I	SERIAL DILUTIONS, POST DIGESTION SPIKES, AND METHOD OF STANDARD					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	I	PROFICIENCY TEST REPORTS:					
		Are proficiency testing or inter-laboratory comparison results on file?	X				
S11	I	METHOD DETECTION LIMIT (MDL) STUDIES					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S12	I	STANDARDS DOCUMENTATION					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	I	COMPOUND/ANALYTE IDENTIFICATION PROCEDURES					
		Are the procedures for compound/analyte identification documented?	X				
S14	I	DEMONSTRATION OF ANALYST COMPETENCY (DOC)					
		1) Was DOC conducted consistent with NELAC 5C or ISO/IEC 4.2.2?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	I	VERIFICATION/VALIDATION DOCUMENTATION FOR METHODS					
		Are all the methods used to generate the data documented, verified, and validated, where applicable, (NELAC 5.10.2 or ISO/IEC 17025 Section 5.4.5)?	X				
S16	I	LABORATORY STANDARD OPERATING PROCEDURES (SOPS):					
		Are laboratory SOPs current and on file for each method performed?	X				

1 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

2 NA = Not applicable.

3 NR = Not Reviewed.

4 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

WET CHEMISTRY DATA ASSESSMENT CHECKLIST

Wet Chemistry		Batch Number:	
ER # ¹	DESCRIPTION		
1			
2			
3			
4			
5			
6			

- 1 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

19101683



10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 12445

SUBCONTRACT TO:

ALS Laboratory Group
3352 128th Ave.
Holland, MI 494249263

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: RJ Modashia
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RJ.Modashia@alsglobal.com
Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19101137
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19101137-01	MW-39	Groundwater	18 Oct 2019 13:25
	Fluoride by ISE 4500			25 Oct 2019
2.	HS19101137-02	MW-40	Groundwater	18 Oct 2019 12:40
	Fluoride by ISE 4500			25 Oct 2019
3.	HS19101137-03	MW-41	Groundwater	18 Oct 2019 10:55
	Fluoride by ISE 4500			25 Oct 2019
4.	HS19101137-04	MW-62	Groundwater	18 Oct 2019 08:40
	Fluoride by ISE 4500			25 Oct 2019
5.	HS19101137-05	MW-63	Groundwater	18 Oct 2019 09:30
	Fluoride by ISE 4500			25 Oct 2019
6.	HS19101137-06	MW-64	Groundwater	18 Oct 2019 11:50
	Fluoride by ISE 4500			25 Oct 2019
7.	HS19101137-07	MW-23	Groundwater	18 Oct 2019 13:55
	Fluoride by ISE 4500			25 Oct 2019
8.	HS19101137-08	MW-28D	Groundwater	18 Oct 2019 13:05
	Fluoride by ISE 4500			25 Oct 2019
9.	HS19101137-09	MW-42	Groundwater	18 Oct 2019 13:55



Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 12445

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
	Fluoride by ISE 4500			25 Oct 2019
10.	HS19101137-10	MW-43	Groundwater	18 Oct 2019 12:55
	Fluoride by ISE 4500			25 Oct 2019
11.	HS19101137-11	MW-44	Groundwater	18 Oct 2019 12:15
	Fluoride by ISE 4500			25 Oct 2019
12.	HS19101137-12	MW-46R	Groundwater	18 Oct 2019 08:25
	Fluoride by ISE 4500			25 Oct 2019
13.	HS19101137-13	MW-47	Groundwater	18 Oct 2019 12:05
	Fluoride by ISE 4500			25 Oct 2019
14.	HS19101137-14	MW-48	Groundwater	18 Oct 2019 11:20
	Fluoride by ISE 4500			25 Oct 2019
15.	HS19101137-15	MW-50	Groundwater	18 Oct 2019 13:30
	Fluoride by ISE 4500			25 Oct 2019
16.	HS19101137-16	MW-52	Groundwater	18 Oct 2019 10:50
	Fluoride by ISE 4500			25 Oct 2019
17.	HS19101137-17	MW-54	Groundwater	18 Oct 2019 08:40
	Fluoride by ISE 4500			25 Oct 2019
18.	HS19101137-18	MW-55R	Groundwater	18 Oct 2019 09:35
	Fluoride by ISE 4500			25 Oct 2019
19.	HS19101137-19	MW-58	Groundwater	18 Oct 2019 09:25
	Fluoride by ISE 4500			25 Oct 2019
20.	HS19101137-20	MW-65	Groundwater	18 Oct 2019 10:35
	Fluoride by ISE 4500			25 Oct 2019
21.	HS19101137-21	MW-36	Groundwater	18 Oct 2019 10:00
	Fluoride by ISE 4500			25 Oct 2019
22.	HS19101137-22	MW-37	Groundwater	18 Oct 2019 08:20
	Fluoride by ISE 4500			25 Oct 2019
23.	HS19101137-23	MW-38R	Groundwater	18 Oct 2019 12:00
	Fluoride by ISE 4500			25 Oct 2019
24.	HS19101137-24	MW-60	Groundwater	18 Oct 2019 11:00
	Fluoride by ISE 4500			25 Oct 2019



Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 12445

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
25.	HS19101137-25	MW-61	Groundwater	18 Oct 2019 09:10
	Fluoride by ISE 4500			25 Oct 2019
26.	HS19101137-26	DUP-01	Groundwater	18 Oct 2019 12:00
	Fluoride by ISE 4500			25 Oct 2019
27.	HS19101137-27	DUP-02	Groundwater	18 Oct 2019 10:00
	Fluoride by ISE 4500			25 Oct 2019
28.	HS19101137-28	FB-01	Groundwater	18 Oct 2019 09:25
	Fluoride by ISE 4500			25 Oct 2019

Comments: Please analyze for the analysis listed above.
 Send report to the emails shown above.
 Sample maybe high in Salts and Minerals.
 MS/MSD must be performed on client sample.
 HS19101137-05 & HS19101137-19 MS/MSD

QC Level: TRRP LRC (TRRP checklist only+Level II (normal))

Relinquished By: J. Williams
 Received By: [Signature]
 Cooler ID(s): _____

Date/Time: 10/21/19 18:00
 Date/Time: 10/21/19 10:00
 Temperature(s): 1.80C SR2 PH18

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**

Date/Time Received: **22-Oct-19 10:00**

Work Order: **19101683**

Received by: **MJG**

Checklist completed by Matthew Gaylord 22-Oct-19
eSignature Date

Reviewed by: Chad Whilton 23-Oct-19
eSignature Date

Matrices: Groundwater

Carrier name: FedEx

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s):

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

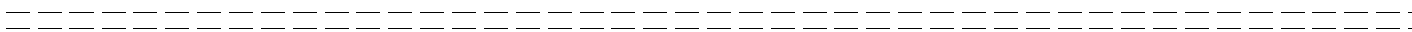
Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



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November 25, 2019

Lori Burris
TRC Corporation
10550 Richmond Ave., Suite 210
Houston, TX 77042

Work Order: **HS19101144**

Laboratory Results for: **NRG WA Parish - Appendix IV**

Dear Lori,

ALS Environmental received 28 sample(s) on Oct 18, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

**TRRP Laboratory Data
Package Cover Page**

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC Chapter 5,
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits.
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 Other problems or anomalies.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

**TRRP Laboratory Data
Package Cover Page**

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by TCEQ or _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.



RJ Modashia
Project Manager

Laboratory Review Checklist: Reportable Data

Laboratory Name: ALS Laboratory Group			LRC Date: 11/25/2019				
Project Name: NRG WA Parish - Appendix IV			Laboratory Job Number: HS19101144				
Reviewer Name: RJ Modashia			Prep Batch Number(s): 146635,146636,146655,146656,R349084,R351196				
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				1
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group				LRC Date: 11/25/2019			
Project Name: NRG WA Parish - Appendix IV				Laboratory Job Number: HS19101144			
Reviewer Name: RJ Modashia				Prep Batch Number(s): 146635,146636,146655,146656,R349084,R351196			
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		X			2
S3	O	Mass spectral tuning:					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS):					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs):					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results:					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports:					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs):					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);

NA = Not Applicable;

NR = Not Reviewed;

R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Exception Reports

Laboratory Name: ALS Laboratory Group		LRC Date: 11/25/2019
Project Name: NRG WA Parish - Appendix IV		Laboratory Job Number: HS19101144
Reviewer Name: RJ Modashia		Prep Batch Number(s): 146635,146636,146655,146656,R349084,R351196
ER#⁵	Description	
1	Analysis of Fluoride by Method ISE4500 was performed by ALS Holland Michigan. Report and Laboratory Review Checklist are attached The analyses of Radium 226 and Radium 228 were performed by ALS Environmental in Kelso, WA The Final Report is attached	
2	See Run Log and CCB Exceptions Report.	
<p>Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.</p> <p>O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable); NA = Not Applicable; NR = Not Reviewed; R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>		

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 WorkOrder: HS19101144
 Start Date: 23-Oct-2019

End Date: 23-Oct-2019

Run ID:ICPMS05_348910
 Instrument:ICPMS05
 Method:SW6020

Sample No.	D/F	Time	FileID	Analytes
ICV	1	23-Oct-2019 12:38	017_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	23-Oct-2019 12:40	018LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV5	1	23-Oct-2019 12:42	019LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICB	1	23-Oct-2019 12:45	020_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	23-Oct-2019 12:52	022ICSA.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSAB	1	23-Oct-2019 12:54	023ICSB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 1	1	23-Oct-2019 13:24	033_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 1	1	23-Oct-2019 13:26	034_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 2	1	23-Oct-2019 13:54	045_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 2	1	23-Oct-2019 13:56	046_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 3	1	23-Oct-2019 14:37	057_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 3	1	23-Oct-2019 14:39	058_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 4	1	23-Oct-2019 15:07	069_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 4	1	23-Oct-2019 15:09	070_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 5	1	23-Oct-2019 15:41	081_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 5	1	23-Oct-2019 15:44	082_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MBLK-146635	1	23-Oct-2019 16:29	091SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
LCS-146635	1	23-Oct-2019 16:32	092SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 6	1	23-Oct-2019 16:36	094_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 6	1	23-Oct-2019 16:39	095_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-39	1	23-Oct-2019 16:42	096SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-40	1	23-Oct-2019 16:44	097SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-41	1	23-Oct-2019 16:46	098SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-62	1	23-Oct-2019 16:49	099SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-64	1	23-Oct-2019 16:53	101SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-23	1	23-Oct-2019 16:55	102SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-28D	1	23-Oct-2019 16:58	103SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-42	1	23-Oct-2019 17:00	104SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
CCV 7	1	23-Oct-2019 17:10	106_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 7	1	23-Oct-2019 17:12	107_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-63	1	23-Oct-2019 17:15	108SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-63SD	5	23-Oct-2019 17:17	109SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-63MS	1	23-Oct-2019 17:20	110SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-63MSD	1	23-Oct-2019 17:22	111SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-63PDS	1	23-Oct-2019 17:24	112SMPL.d	AS BA CD CO CR MO PB SB SE TL
MW-43	1	23-Oct-2019 17:29	114SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-44	1	23-Oct-2019 17:31	115SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-46R	1	23-Oct-2019 17:33	116SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
CCV 8	1	23-Oct-2019 17:38	118_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 8	1	23-Oct-2019 17:40	119_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-47	1	23-Oct-2019 17:43	120SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-48	1	23-Oct-2019 17:45	121SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-50	1	23-Oct-2019 17:47	122SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-52	1	23-Oct-2019 17:52	124SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-54	1	23-Oct-2019 17:54	125SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-55R	1	23-Oct-2019 17:56	126SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-65	1	23-Oct-2019 17:58	127SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
MW-36	1	23-Oct-2019 18:00	128SMPL.d	AS BA CD CO CR LI MO PB SB SE TL
CCV 9	1	23-Oct-2019 18:05	130_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 9	1	23-Oct-2019 18:07	131_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 10	1	23-Oct-2019 18:47	143_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 WorkOrder: HS19101144
 Start Date: 23-Oct-2019

End Date: 23-Oct-2019

Run ID:ICPMS05_348910
 Instrument:ICPMS05
 Method:SW6020

Sample No.	D/F	Time	FileID	Analytes
CCV 10	1	23-Oct-2019 18:49	144_CC.V.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 11	1	23-Oct-2019 19:11	153_CC.V.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 11	1	23-Oct-2019 19:13	154_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 12	1	23-Oct-2019 19:38	165_CC.V.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 12	1	23-Oct-2019 19:40	166_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 13	1	23-Oct-2019 20:04	177_CC.V.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 13	1	23-Oct-2019 20:07	178_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 14	1	23-Oct-2019 20:29	188_CC.V.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 14	1	23-Oct-2019 20:31	189_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 15	1	23-Oct-2019 20:51	198_CC.V.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 15	1	23-Oct-2019 20:54	199_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 16	1	23-Oct-2019 21:09	206_CC.V.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 16	1	23-Oct-2019 21:11	207_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 17	1	23-Oct-2019 21:36	218_CC.V.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 17	1	23-Oct-2019 21:38	219_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV2	1	23-Oct-2019 22:23	238LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV5	1	23-Oct-2019 22:25	239LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCV 18	1	23-Oct-2019 22:28	240_IC.V.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCB 18	1	23-Oct-2019 22:30	241_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MBLK-146636	1	23-Oct-2019 22:32	242SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
LCS-146636	1	23-Oct-2019 22:34	243SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-58	1	23-Oct-2019 22:37	244SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-58SD	5	23-Oct-2019 22:39	245SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-58MS	1	23-Oct-2019 22:41	246SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-58MSD	1	23-Oct-2019 22:43	247SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-58PDS	1	23-Oct-2019 22:46	248SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 19	1	23-Oct-2019 22:48	249_CC.V.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 19	1	23-Oct-2019 22:50	250_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-37	1	23-Oct-2019 22:52	251SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-38R	1	23-Oct-2019 22:54	252SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-60	1	23-Oct-2019 22:57	253SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-61	1	23-Oct-2019 22:59	254SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
DUP-01	1	23-Oct-2019 23:01	255SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
DUP-02	1	23-Oct-2019 23:03	256SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
FB-01	1	23-Oct-2019 23:06	257SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 20	1	23-Oct-2019 23:15	261_CC.V.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 20	1	23-Oct-2019 23:17	262_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 21	1	23-Oct-2019 23:41	273_CC.V.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 21	1	23-Oct-2019 23:44	274_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	23-Oct-2019 23:53	278LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV5	1	23-Oct-2019 23:55	279LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	23-Oct-2019 23:57	280ICSA.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSAB	1	23-Oct-2019 23:59	281ICSB.d	AS BA BE CD CO CR LI MO PB SB SE TL

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

Run ID:ICPMS05_348910
Instrument:ICPMS05
Method:SW6020

CCB	Date	Seq	D/F	Units
CCB 6	23-Oct-2019 16:36	5310414	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.333	0.2	2
CCB 7	23-Oct-2019 17:12	5310427	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.246	0.2	2
CCB 8	23-Oct-2019 17:40	5310439	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.223	0.2	2
CCB 9	23-Oct-2019 18:07	5310451	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.244	0.2	2
CCB 10	23-Oct-2019 18:47	5310486	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.333	0.2	2
CCB 11	23-Oct-2019 19:13	5310497	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.242	0.2	2
CCB 12	23-Oct-2019 19:40	5310509	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.269	0.2	2
CCB 13	23-Oct-2019 20:07	5310521	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.231	0.2	2
CCB 14	23-Oct-2019 20:31	5310532	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.239	0.2	2
CCB 16	23-Oct-2019 21:11	5310554	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.205	0.2	2
CCB 17	23-Oct-2019 21:38	5310566	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.235	0.2	2
ICCB 18	23-Oct-2019 22:30	5310578	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.255	0.2	2
CCB 19	23-Oct-2019 22:50	5310587	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.546	0.4	2
	Thallium	0.317	0.2	2
CCB 20	23-Oct-2019 23:17	5310599	1	ug/L
	Analyte	Result	MDL	Report Limit

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

Run ID:ICPMS05_348910
Instrument:ICPMS05
Method:SW6020

Thallium		0.258	0.2	2
CCB 21	Date: 23-Oct-2019 23:44	Seq: 5310611	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
Thallium		0.287	0.2	2

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
Work Order: HS19101144

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19101144-01	MW-39	Groundwater		18-Oct-2019 13:25	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-02	MW-40	Groundwater		18-Oct-2019 12:40	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-03	MW-41	Groundwater		18-Oct-2019 10:55	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-04	MW-62	Groundwater		18-Oct-2019 08:40	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-05	MW-63	Groundwater		18-Oct-2019 09:30	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-06	MW-64	Groundwater		18-Oct-2019 11:50	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-07	MW-23	Groundwater		18-Oct-2019 13:55	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-08	MW-28D	Groundwater		18-Oct-2019 13:05	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-09	MW-42	Groundwater		18-Oct-2019 13:55	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-10	MW-43	Groundwater		18-Oct-2019 12:55	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-11	MW-44	Groundwater		18-Oct-2019 12:15	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-12	MW-46R	Groundwater		18-Oct-2019 08:25	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-13	MW-47	Groundwater		18-Oct-2019 12:05	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-14	MW-48	Groundwater		18-Oct-2019 11:20	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-15	MW-50	Groundwater		18-Oct-2019 13:30	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-16	MW-52	Groundwater		18-Oct-2019 10:50	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-17	MW-54	Groundwater		18-Oct-2019 08:40	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-18	MW-55R	Groundwater		18-Oct-2019 09:35	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-19	MW-58	Groundwater		18-Oct-2019 09:25	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-20	MW-65	Groundwater		18-Oct-2019 10:35	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-21	MW-36	Groundwater		18-Oct-2019 10:00	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-22	MW-37	Groundwater		18-Oct-2019 08:20	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-23	MW-38R	Groundwater		18-Oct-2019 12:00	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-24	MW-60	Groundwater		18-Oct-2019 11:00	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-25	MW-61	Groundwater		18-Oct-2019 09:10	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-26	DUP-01	Groundwater		18-Oct-2019 12:00	18-Oct-2019 15:45	<input type="checkbox"/>

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
Work Order: HS19101144

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19101144-27	DUP-02	Groundwater		18-Oct-2019 10:00	18-Oct-2019 15:45	<input type="checkbox"/>
HS19101144-28	FB-01	Groundwater		18-Oct-2019 09:25	18-Oct-2019 15:45	<input type="checkbox"/>

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-39
 Collection Date: 18-Oct-2019 13:25

ANALYTICAL REPORT
 WorkOrder:HS19101144
 Lab ID:HS19101144-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 16:42
Arsenic	0.000822	J	0.000400	0.00200	mg/L	1	23-Oct-2019 16:42
Barium	0.151		0.00190	0.00400	mg/L	1	23-Oct-2019 16:42
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 11:51
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 16:42
Chromium	0.000828	J	0.000400	0.00400	mg/L	1	23-Oct-2019 16:42
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	23-Oct-2019 16:42
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 16:42
Lithium	0.0343		0.00100	0.00500	mg/L	1	23-Oct-2019 16:42
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	23-Oct-2019 16:42
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 16:42
Thallium	0.000271	J	0.000200	0.00200	mg/L	1	23-Oct-2019 16:42
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	0.0000740	J	0.0000300	0.000200	mg/L	1	22-Oct-2019 14:26
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-40
 Collection Date: 18-Oct-2019 12:40

ANALYTICAL REPORT

WorkOrder:HS19101144
 Lab ID:HS19101144-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 16:44
Arsenic	0.00126	J	0.000400	0.00200	mg/L	1	23-Oct-2019 16:44
Barium	0.578		0.00190	0.00400	mg/L	1	23-Oct-2019 16:44
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 11:53
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 16:44
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 16:44
Cobalt	0.00132	J	0.000200	0.00500	mg/L	1	23-Oct-2019 16:44
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 16:44
Lithium	0.0368		0.00100	0.00500	mg/L	1	23-Oct-2019 16:44
Molybdenum	0.000690	J	0.000600	0.00500	mg/L	1	23-Oct-2019 16:44
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 16:44
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 16:44
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 14:31
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-41
 Collection Date: 18-Oct-2019 10:55

ANALYTICAL REPORT

WorkOrder:HS19101144
 Lab ID:HS19101144-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 16:46
Arsenic	0.000520	J	0.000400	0.00200	mg/L	1	23-Oct-2019 16:46
Barium	0.241		0.00190	0.00400	mg/L	1	23-Oct-2019 16:46
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 11:56
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 16:46
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 16:46
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	23-Oct-2019 16:46
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 16:46
Lithium	0.0244		0.00100	0.00500	mg/L	1	23-Oct-2019 16:46
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	23-Oct-2019 16:46
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 16:46
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 16:46
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 14:33
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-62
 Collection Date: 18-Oct-2019 08:40

ANALYTICAL REPORT
 WorkOrder:HS19101144
 Lab ID:HS19101144-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 16:49
Arsenic	0.000599	J	0.000400	0.00200	mg/L	1	23-Oct-2019 16:49
Barium	0.234		0.00190	0.00400	mg/L	1	23-Oct-2019 16:49
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 12:05
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 16:49
Chromium	0.00198	J	0.000400	0.00400	mg/L	1	23-Oct-2019 16:49
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	23-Oct-2019 16:49
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 16:49
Lithium	0.0379		0.00100	0.00500	mg/L	1	23-Oct-2019 16:49
Molybdenum	0.000677	J	0.000600	0.00500	mg/L	1	23-Oct-2019 16:49
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 16:49
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 16:49
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 14:35
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-63
 Collection Date: 18-Oct-2019 09:30

ANALYTICAL REPORT
 WorkOrder:HS19101144
 Lab ID:HS19101144-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 17:15
Arsenic	0.00181	J	0.000400	0.00200	mg/L	1	23-Oct-2019 17:15
Barium	0.0921		0.00190	0.00400	mg/L	1	23-Oct-2019 17:15
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 12:07
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:15
Chromium	0.0158		0.000400	0.00400	mg/L	1	23-Oct-2019 17:15
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	23-Oct-2019 17:15
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 17:15
Lithium	0.0252		0.00100	0.00500	mg/L	1	23-Oct-2019 17:15
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	23-Oct-2019 17:15
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 17:15
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:15
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	0.000213		0.0000300	0.000200	mg/L	1	22-Oct-2019 14:21
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-64
 Collection Date: 18-Oct-2019 11:50

ANALYTICAL REPORT
 WorkOrder:HS19101144
 Lab ID:HS19101144-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 16:53
Arsenic	0.00115	J	0.000400	0.00200	mg/L	1	23-Oct-2019 16:53
Barium	0.269		0.00190	0.00400	mg/L	1	23-Oct-2019 16:53
Beryllium	< 0.00100		0.00100	0.0100	mg/L	5	24-Oct-2019 11:40
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 16:53
Chromium	0.000468	J	0.000400	0.00400	mg/L	1	23-Oct-2019 16:53
Cobalt	0.00154	J	0.000200	0.00500	mg/L	1	23-Oct-2019 16:53
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 16:53
Lithium	0.0267		0.00100	0.00500	mg/L	1	23-Oct-2019 16:53
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	23-Oct-2019 16:53
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 16:53
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 16:53
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 14:37
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-23
 Collection Date: 18-Oct-2019 13:55

ANALYTICAL REPORT

WorkOrder:HS19101144
 Lab ID:HS19101144-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 16:55
Arsenic	0.00192	J	0.000400	0.00200	mg/L	1	23-Oct-2019 16:55
Barium	0.140		0.00190	0.00400	mg/L	1	23-Oct-2019 16:55
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 11:42
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 16:55
Chromium	0.273		0.000400	0.00400	mg/L	1	23-Oct-2019 16:55
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	23-Oct-2019 16:55
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 16:55
Lithium	0.0661		0.00100	0.00500	mg/L	1	23-Oct-2019 16:55
Molybdenum	0.00533		0.000600	0.00500	mg/L	1	23-Oct-2019 16:55
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 16:55
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 16:55
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 14:38
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-28D
 Collection Date: 18-Oct-2019 13:05

ANALYTICAL REPORT
 WorkOrder:HS19101144
 Lab ID:HS19101144-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 16:58
Arsenic	0.00889		0.000400	0.00200	mg/L	1	23-Oct-2019 16:58
Barium	0.179		0.00190	0.00400	mg/L	1	23-Oct-2019 16:58
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 11:44
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 16:58
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 16:58
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	23-Oct-2019 16:58
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 16:58
Lithium	0.0253		0.00100	0.00500	mg/L	1	23-Oct-2019 16:58
Molybdenum	0.00157	J	0.000600	0.00500	mg/L	1	23-Oct-2019 16:58
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 16:58
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 16:58
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 14:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-42
 Collection Date: 18-Oct-2019 13:55

ANALYTICAL REPORT

WorkOrder:HS19101144
 Lab ID:HS19101144-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 17:00
Arsenic	0.0438		0.000400	0.00200	mg/L	1	23-Oct-2019 17:00
Barium	0.0475		0.00190	0.00400	mg/L	1	23-Oct-2019 17:00
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 11:47
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:00
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 17:00
Cobalt	0.000627	J	0.000200	0.00500	mg/L	1	23-Oct-2019 17:00
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 17:00
Lithium	0.0354		0.00100	0.00500	mg/L	1	23-Oct-2019 17:00
Molybdenum	0.00658		0.000600	0.00500	mg/L	1	23-Oct-2019 17:00
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 17:00
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:00
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 14:42
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-43
 Collection Date: 18-Oct-2019 12:55

ANALYTICAL REPORT
 WorkOrder:HS19101144
 Lab ID:HS19101144-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 17:29
Arsenic	0.0394		0.000400	0.00200	mg/L	1	23-Oct-2019 17:29
Barium	0.102		0.00190	0.00400	mg/L	1	23-Oct-2019 17:29
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 12:18
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:29
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 17:29
Cobalt	0.000386	J	0.000200	0.00500	mg/L	1	23-Oct-2019 17:29
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 17:29
Lithium	0.0348		0.00100	0.00500	mg/L	1	23-Oct-2019 17:29
Molybdenum	0.00626		0.000600	0.00500	mg/L	1	23-Oct-2019 17:29
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 17:29
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:29
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 14:43
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-44
 Collection Date: 18-Oct-2019 12:15

ANALYTICAL REPORT
 WorkOrder:HS19101144
 Lab ID:HS19101144-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 17:31
Arsenic	0.0130		0.000400	0.00200	mg/L	1	23-Oct-2019 17:31
Barium	0.144		0.00190	0.00400	mg/L	1	23-Oct-2019 17:31
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 12:20
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:31
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 17:31
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	23-Oct-2019 17:31
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 17:31
Lithium	0.0353		0.00100	0.00500	mg/L	1	23-Oct-2019 17:31
Molybdenum	0.00289	J	0.000600	0.00500	mg/L	1	23-Oct-2019 17:31
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 17:31
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:31
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 14:45
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-46R
 Collection Date: 18-Oct-2019 08:25

ANALYTICAL REPORT

WorkOrder:HS19101144
 Lab ID:HS19101144-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 17:33
Arsenic	0.00624		0.000400	0.00200	mg/L	1	23-Oct-2019 17:33
Barium	0.207		0.00190	0.00400	mg/L	1	23-Oct-2019 17:33
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 12:22
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:33
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 17:33
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	23-Oct-2019 17:33
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 17:33
Lithium	0.0262		0.00100	0.00500	mg/L	1	23-Oct-2019 17:33
Molybdenum	0.00197	J	0.000600	0.00500	mg/L	1	23-Oct-2019 17:33
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 17:33
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:33
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 14:47
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-47
 Collection Date: 18-Oct-2019 12:05

ANALYTICAL REPORT
 WorkOrder:HS19101144
 Lab ID:HS19101144-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 17:43
Arsenic	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 17:43
Barium	0.188		0.00190	0.00400	mg/L	1	23-Oct-2019 17:43
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 12:31
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:43
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 17:43
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	23-Oct-2019 17:43
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 17:43
Lithium	0.0307		0.00100	0.00500	mg/L	1	23-Oct-2019 17:43
Molybdenum	0.00144	J	0.000600	0.00500	mg/L	1	23-Oct-2019 17:43
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 17:43
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:43
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 14:52
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-48
 Collection Date: 18-Oct-2019 11:20

ANALYTICAL REPORT
 WorkOrder:HS19101144
 Lab ID:HS19101144-14
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 17:45
Arsenic	0.0241		0.000400	0.00200	mg/L	1	23-Oct-2019 17:45
Barium	0.0742		0.00190	0.00400	mg/L	1	23-Oct-2019 17:45
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 12:34
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:45
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 17:45
Cobalt	0.000283	J	0.000200	0.00500	mg/L	1	23-Oct-2019 17:45
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 17:45
Lithium	0.0318		0.00100	0.00500	mg/L	1	23-Oct-2019 17:45
Molybdenum	0.00848		0.000600	0.00500	mg/L	1	23-Oct-2019 17:45
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 17:45
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:45
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 14:53
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-50
 Collection Date: 18-Oct-2019 13:30

ANALYTICAL REPORT

WorkOrder:HS19101144
 Lab ID:HS19101144-15
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 17:47
Arsenic	0.00990		0.000400	0.00200	mg/L	1	23-Oct-2019 17:47
Barium	0.176		0.00190	0.00400	mg/L	1	23-Oct-2019 17:47
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 12:36
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:47
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 17:47
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	23-Oct-2019 17:47
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 17:47
Lithium	0.0343		0.00100	0.00500	mg/L	1	23-Oct-2019 17:47
Molybdenum	0.00251	J	0.000600	0.00500	mg/L	1	23-Oct-2019 17:47
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 17:47
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:47
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 14:55
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-52
 Collection Date: 18-Oct-2019 10:50

ANALYTICAL REPORT
 WorkOrder:HS19101144
 Lab ID:HS19101144-16
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 17:52
Arsenic	0.0305		0.000400	0.00200	mg/L	1	23-Oct-2019 17:52
Barium	0.0612		0.00190	0.00400	mg/L	1	23-Oct-2019 17:52
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 12:38
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:52
Chromium	0.000844	J	0.000400	0.00400	mg/L	1	23-Oct-2019 17:52
Cobalt	0.00119	J	0.000200	0.00500	mg/L	1	23-Oct-2019 17:52
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 17:52
Lithium	0.0507		0.00100	0.00500	mg/L	1	23-Oct-2019 17:52
Molybdenum	0.00410	J	0.000600	0.00500	mg/L	1	23-Oct-2019 17:52
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 17:52
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:52
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 14:57
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-54
 Collection Date: 18-Oct-2019 08:40

ANALYTICAL REPORT

WorkOrder:HS19101144
 Lab ID:HS19101144-17
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 17:54
Arsenic	0.00517		0.000400	0.00200	mg/L	1	23-Oct-2019 17:54
Barium	0.0997		0.00190	0.00400	mg/L	1	23-Oct-2019 17:54
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 12:43
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:54
Chromium	0.000602	J	0.000400	0.00400	mg/L	1	23-Oct-2019 17:54
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	23-Oct-2019 17:54
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 17:54
Lithium	0.0327		0.00100	0.00500	mg/L	1	23-Oct-2019 17:54
Molybdenum	0.00265	J	0.000600	0.00500	mg/L	1	23-Oct-2019 17:54
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 17:54
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:54
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 14:59
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-55R
 Collection Date: 18-Oct-2019 09:35

ANALYTICAL REPORT

WorkOrder:HS19101144
 Lab ID:HS19101144-18
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 17:56
Arsenic	0.0257		0.000400	0.00200	mg/L	1	23-Oct-2019 17:56
Barium	0.0773		0.00190	0.00400	mg/L	1	23-Oct-2019 17:56
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 12:45
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:56
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 17:56
Cobalt	0.000797	J	0.000200	0.00500	mg/L	1	23-Oct-2019 17:56
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 17:56
Lithium	0.0403		0.00100	0.00500	mg/L	1	23-Oct-2019 17:56
Molybdenum	0.00990		0.000600	0.00500	mg/L	1	23-Oct-2019 17:56
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 17:56
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:56
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 15:00
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-58
 Collection Date: 18-Oct-2019 09:25

ANALYTICAL REPORT
 WorkOrder:HS19101144
 Lab ID:HS19101144-19
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 22:37
Arsenic	0.0115		0.000400	0.00200	mg/L	1	23-Oct-2019 22:37
Barium	0.155		0.00190	0.00400	mg/L	1	23-Oct-2019 22:37
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 22:37
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 22:37
Chromium	0.00154	J	0.000400	0.00400	mg/L	1	23-Oct-2019 22:37
Cobalt	0.000402	J	0.000200	0.00500	mg/L	1	23-Oct-2019 22:37
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 22:37
Lithium	0.0349		0.00100	0.00500	mg/L	1	23-Oct-2019 22:37
Molybdenum	0.00241	J	0.000600	0.00500	mg/L	1	23-Oct-2019 22:37
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 22:37
Thallium	0.000373	J	0.000200	0.00200	mg/L	1	23-Oct-2019 22:37
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 15:16
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-65
 Collection Date: 18-Oct-2019 10:35

ANALYTICAL REPORT
 WorkOrder:HS19101144
 Lab ID:HS19101144-20
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 17:58
Arsenic	0.00122	J	0.000400	0.00200	mg/L	1	23-Oct-2019 17:58
Barium	0.0541		0.00190	0.00400	mg/L	1	23-Oct-2019 17:58
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 12:47
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:58
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 17:58
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	23-Oct-2019 17:58
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 17:58
Lithium	0.0391		0.00100	0.00500	mg/L	1	23-Oct-2019 17:58
Molybdenum	0.00223	J	0.000600	0.00500	mg/L	1	23-Oct-2019 17:58
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 17:58
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 17:58
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 15:02
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-36
 Collection Date: 18-Oct-2019 10:00

ANALYTICAL REPORT

WorkOrder:HS19101144
 Lab ID:HS19101144-21
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 18:00
Arsenic	0.000547	J	0.000400	0.00200	mg/L	1	23-Oct-2019 18:00
Barium	0.0318		0.00190	0.00400	mg/L	1	23-Oct-2019 18:00
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	24-Oct-2019 12:49
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 18:00
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 18:00
Cobalt	0.000468	J	0.000200	0.00500	mg/L	1	23-Oct-2019 18:00
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 18:00
Lithium	0.0339		0.00100	0.00500	mg/L	1	23-Oct-2019 18:00
Molybdenum	0.000782	J	0.000600	0.00500	mg/L	1	23-Oct-2019 18:00
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 18:00
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 18:00
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	0.000227		0.0000300	0.000200	mg/L	1	22-Oct-2019 15:04
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-37
 Collection Date: 18-Oct-2019 08:20

ANALYTICAL REPORT
 WorkOrder:HS19101144
 Lab ID:HS19101144-22
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 22:52
Arsenic	0.000737	J	0.000400	0.00200	mg/L	1	23-Oct-2019 22:52
Barium	0.0188		0.00190	0.00400	mg/L	1	23-Oct-2019 22:52
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 22:52
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 22:52
Chromium	0.00109	J	0.000400	0.00400	mg/L	1	23-Oct-2019 22:52
Cobalt	0.000359	J	0.000200	0.00500	mg/L	1	23-Oct-2019 22:52
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 22:52
Lithium	0.0299		0.00100	0.00500	mg/L	1	23-Oct-2019 22:52
Molybdenum	0.000617	J	0.000600	0.00500	mg/L	1	23-Oct-2019 22:52
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 22:52
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 22:52
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 15:28
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-38R
 Collection Date: 18-Oct-2019 12:00

ANALYTICAL REPORT
 WorkOrder:HS19101144
 Lab ID:HS19101144-23
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 22:54
Arsenic	0.0109		0.000400	0.00200	mg/L	1	23-Oct-2019 22:54
Barium	0.0516		0.00190	0.00400	mg/L	1	23-Oct-2019 22:54
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 22:54
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 22:54
Chromium	0.0670		0.000400	0.00400	mg/L	1	23-Oct-2019 22:54
Cobalt	0.00279	J	0.000200	0.00500	mg/L	1	23-Oct-2019 22:54
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 22:54
Lithium	0.0485		0.00100	0.00500	mg/L	1	23-Oct-2019 22:54
Molybdenum	0.00310	J	0.000600	0.00500	mg/L	1	23-Oct-2019 22:54
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 22:54
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 22:54
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 15:33
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-60
 Collection Date: 18-Oct-2019 11:00

ANALYTICAL REPORT

WorkOrder:HS19101144
 Lab ID:HS19101144-24
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 22:57
Arsenic	0.000429	J	0.000400	0.00200	mg/L	1	23-Oct-2019 22:57
Barium	0.0610		0.00190	0.00400	mg/L	1	23-Oct-2019 22:57
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 22:57
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 22:57
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 22:57
Cobalt	0.000518	J	0.000200	0.00500	mg/L	1	23-Oct-2019 22:57
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 22:57
Lithium	0.0254		0.00100	0.00500	mg/L	1	23-Oct-2019 22:57
Molybdenum	0.00106	J	0.000600	0.00500	mg/L	1	23-Oct-2019 22:57
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 22:57
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 22:57
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 15:35
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: MW-61
 Collection Date: 18-Oct-2019 09:10

ANALYTICAL REPORT
 WorkOrder:HS19101144
 Lab ID:HS19101144-25
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 22:59
Arsenic	0.000462	J	0.000400	0.00200	mg/L	1	23-Oct-2019 22:59
Barium	0.0128		0.00190	0.00400	mg/L	1	23-Oct-2019 22:59
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 22:59
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 22:59
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 22:59
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	23-Oct-2019 22:59
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 22:59
Lithium	0.0306		0.00100	0.00500	mg/L	1	23-Oct-2019 22:59
Molybdenum	0.000686	J	0.000600	0.00500	mg/L	1	23-Oct-2019 22:59
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 22:59
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 22:59
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 15:36
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: DUP-01
 Collection Date: 18-Oct-2019 12:00

ANALYTICAL REPORT

WorkOrder:HS19101144
 Lab ID:HS19101144-26
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 23:01
Arsenic	0.000465	J	0.000400	0.00200	mg/L	1	23-Oct-2019 23:01
Barium	0.0317		0.00190	0.00400	mg/L	1	23-Oct-2019 23:01
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 23:01
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 23:01
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 23:01
Cobalt	0.000537	J	0.000200	0.00500	mg/L	1	23-Oct-2019 23:01
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 23:01
Lithium	0.0343		0.00100	0.00500	mg/L	1	23-Oct-2019 23:01
Molybdenum	0.000809	J	0.000600	0.00500	mg/L	1	23-Oct-2019 23:01
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 23:01
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 23:01
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	0.000217		0.0000300	0.000200	mg/L	1	22-Oct-2019 15:38
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: DUP-02
 Collection Date: 18-Oct-2019 10:00

ANALYTICAL REPORT
 WorkOrder:HS19101144
 Lab ID:HS19101144-27
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 22-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 23:03
Arsenic	0.0139		0.000400	0.00200	mg/L	1	23-Oct-2019 23:03
Barium	0.144		0.00190	0.00400	mg/L	1	23-Oct-2019 23:03
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 23:03
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 23:03
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 23:03
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	23-Oct-2019 23:03
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 23:03
Lithium	0.0354		0.00100	0.00500	mg/L	1	23-Oct-2019 23:03
Molybdenum	0.00282	J	0.000600	0.00500	mg/L	1	23-Oct-2019 23:03
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 23:03
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 23:03
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 15:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: TRC Corporation
 Project: NRG WA Parish - Appendix IV
 Sample ID: FB-01
 Collection Date: 18-Oct-2019 09:25

ANALYTICAL REPORT

WorkOrder:HS19101144
 Lab ID:HS19101144-28
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 22-Oct-2019		Analyst: JHD
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 23:06
Arsenic	< 0.000400		0.000400	0.00200	mg/L	1	23-Oct-2019 23:06
Barium	< 0.00190		0.00190	0.00400	mg/L	1	23-Oct-2019 23:06
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 23:06
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 23:06
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	23-Oct-2019 23:06
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	23-Oct-2019 23:06
Lead	< 0.000600		0.000600	0.00200	mg/L	1	23-Oct-2019 23:06
Lithium	< 0.00100		0.00100	0.00500	mg/L	1	23-Oct-2019 23:06
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	23-Oct-2019 23:06
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	23-Oct-2019 23:06
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	23-Oct-2019 23:06
MERCURY BY SW7470A		Method:SW7470			Prep:SW7470 / 22-Oct-2019		Analyst: FO
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Oct-2019 15:41
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA					Analyst: SUBHO
Subcontract Analysis	See Attached		0			1	25-Oct-2019 10:33
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA					Analyst: SUBK
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA					Analyst: SUBK
Subcontract Analysis	See Attached		0		NA	1	25-Nov-2019 09:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

Batch ID: 146635 **Start Date:** 22 Oct 2019 07:30 **End Date:** 22 Oct 2019 11:30
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19101144-01		10 (mL)	10 (mL)	1
HS19101144-02		10 (mL)	10 (mL)	1
HS19101144-03		10 (mL)	10 (mL)	1
HS19101144-04		10 (mL)	10 (mL)	1
HS19101144-05		10 (mL)	10 (mL)	1
HS19101144-06		10 (mL)	10 (mL)	1
HS19101144-07		10 (mL)	10 (mL)	1
HS19101144-08		10 (mL)	10 (mL)	1
HS19101144-09		10 (mL)	10 (mL)	1
HS19101144-10		10 (mL)	10 (mL)	1
HS19101144-11		10 (mL)	10 (mL)	1
HS19101144-12		10 (mL)	10 (mL)	1
HS19101144-13		10 (mL)	10 (mL)	1
HS19101144-14		10 (mL)	10 (mL)	1
HS19101144-15		10 (mL)	10 (mL)	1
HS19101144-16		10 (mL)	10 (mL)	1
HS19101144-17		10 (mL)	10 (mL)	1
HS19101144-18		10 (mL)	10 (mL)	1
HS19101144-20		10 (mL)	10 (mL)	1
HS19101144-21		10 (mL)	10 (mL)	1

Batch ID: 146636 **Start Date:** 22 Oct 2019 07:30 **End Date:** 22 Oct 2019 11:30
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19101144-19		10 (mL)	10 (mL)	1
HS19101144-22		10 (mL)	10 (mL)	1
HS19101144-23		10 (mL)	10 (mL)	1
HS19101144-24		10 (mL)	10 (mL)	1
HS19101144-25		10 (mL)	10 (mL)	1
HS19101144-26		10 (mL)	10 (mL)	1
HS19101144-27		10 (mL)	10 (mL)	1
HS19101144-28		10 (mL)	10 (mL)	1

Weight / Prep Log

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

Batch ID: 146655 **Start Date:** 22 Oct 2019 10:00 **End Date:** 22 Oct 2019 12:00
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19101144-01		10 (mL)	10 (mL)	1
HS19101144-02		10 (mL)	10 (mL)	1
HS19101144-03		10 (mL)	10 (mL)	1
HS19101144-04		10 (mL)	10 (mL)	1
HS19101144-05		10 (mL)	10 (mL)	1
HS19101144-06		10 (mL)	10 (mL)	1
HS19101144-07		10 (mL)	10 (mL)	1
HS19101144-08		10 (mL)	10 (mL)	1
HS19101144-09		10 (mL)	10 (mL)	1
HS19101144-10		10 (mL)	10 (mL)	1
HS19101144-11		10 (mL)	10 (mL)	1
HS19101144-12		10 (mL)	10 (mL)	1
HS19101144-13		10 (mL)	10 (mL)	1
HS19101144-14		10 (mL)	10 (mL)	1
HS19101144-15		10 (mL)	10 (mL)	1
HS19101144-16		10 (mL)	10 (mL)	1
HS19101144-17		10 (mL)	10 (mL)	1
HS19101144-18		10 (mL)	10 (mL)	1
HS19101144-20		10 (mL)	10 (mL)	1
HS19101144-21		10 (mL)	10 (mL)	1

Batch ID: 146656 **Start Date:** 22 Oct 2019 10:30 **End Date:** 22 Oct 2019 12:30
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19101144-19		10 (mL)	10 (mL)	1
HS19101144-22		10 (mL)	10 (mL)	1
HS19101144-23		10 (mL)	10 (mL)	1
HS19101144-24		10 (mL)	10 (mL)	1
HS19101144-25		10 (mL)	10 (mL)	1
HS19101144-26		10 (mL)	10 (mL)	1
HS19101144-27		10 (mL)	10 (mL)	1
HS19101144-28		10 (mL)	10 (mL)	1

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 146635 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS19101144-01	MW-39	18 Oct 2019 13:25		22 Oct 2019 07:30	24 Oct 2019 11:51	1
HS19101144-01	MW-39	18 Oct 2019 13:25		22 Oct 2019 07:30	23 Oct 2019 16:42	1
HS19101144-02	MW-40	18 Oct 2019 12:40		22 Oct 2019 07:30	24 Oct 2019 11:53	1
HS19101144-02	MW-40	18 Oct 2019 12:40		22 Oct 2019 07:30	23 Oct 2019 16:44	1
HS19101144-03	MW-41	18 Oct 2019 10:55		22 Oct 2019 07:30	24 Oct 2019 11:56	1
HS19101144-03	MW-41	18 Oct 2019 10:55		22 Oct 2019 07:30	23 Oct 2019 16:46	1
HS19101144-04	MW-62	18 Oct 2019 08:40		22 Oct 2019 07:30	24 Oct 2019 12:05	1
HS19101144-04	MW-62	18 Oct 2019 08:40		22 Oct 2019 07:30	23 Oct 2019 16:49	1
HS19101144-05	MW-63	18 Oct 2019 09:30		22 Oct 2019 07:30	24 Oct 2019 12:07	1
HS19101144-05	MW-63	18 Oct 2019 09:30		22 Oct 2019 07:30	23 Oct 2019 17:15	1
HS19101144-06	MW-64	18 Oct 2019 11:50		22 Oct 2019 07:30	24 Oct 2019 11:40	5
HS19101144-06	MW-64	18 Oct 2019 11:50		22 Oct 2019 07:30	23 Oct 2019 16:53	1
HS19101144-07	MW-23	18 Oct 2019 13:55		22 Oct 2019 07:30	24 Oct 2019 11:42	1
HS19101144-07	MW-23	18 Oct 2019 13:55		22 Oct 2019 07:30	23 Oct 2019 16:55	1
HS19101144-08	MW-28D	18 Oct 2019 13:05		22 Oct 2019 07:30	24 Oct 2019 11:44	1
HS19101144-08	MW-28D	18 Oct 2019 13:05		22 Oct 2019 07:30	23 Oct 2019 16:58	1
HS19101144-09	MW-42	18 Oct 2019 13:55		22 Oct 2019 07:30	24 Oct 2019 11:47	1
HS19101144-09	MW-42	18 Oct 2019 13:55		22 Oct 2019 07:30	23 Oct 2019 17:00	1
HS19101144-10	MW-43	18 Oct 2019 12:55		22 Oct 2019 07:30	24 Oct 2019 12:18	1
HS19101144-10	MW-43	18 Oct 2019 12:55		22 Oct 2019 07:30	23 Oct 2019 17:29	1
HS19101144-11	MW-44	18 Oct 2019 12:15		22 Oct 2019 07:30	24 Oct 2019 12:20	1
HS19101144-11	MW-44	18 Oct 2019 12:15		22 Oct 2019 07:30	23 Oct 2019 17:31	1
HS19101144-12	MW-46R	18 Oct 2019 08:25		22 Oct 2019 07:30	24 Oct 2019 12:22	1
HS19101144-12	MW-46R	18 Oct 2019 08:25		22 Oct 2019 07:30	23 Oct 2019 17:33	1
HS19101144-13	MW-47	18 Oct 2019 12:05		22 Oct 2019 07:30	24 Oct 2019 12:31	1
HS19101144-13	MW-47	18 Oct 2019 12:05		22 Oct 2019 07:30	23 Oct 2019 17:43	1
HS19101144-14	MW-48	18 Oct 2019 11:20		22 Oct 2019 07:30	24 Oct 2019 12:34	1
HS19101144-14	MW-48	18 Oct 2019 11:20		22 Oct 2019 07:30	23 Oct 2019 17:45	1
HS19101144-15	MW-50	18 Oct 2019 13:30		22 Oct 2019 07:30	24 Oct 2019 12:36	1
HS19101144-15	MW-50	18 Oct 2019 13:30		22 Oct 2019 07:30	23 Oct 2019 17:47	1
HS19101144-16	MW-52	18 Oct 2019 10:50		22 Oct 2019 07:30	24 Oct 2019 12:38	1
HS19101144-16	MW-52	18 Oct 2019 10:50		22 Oct 2019 07:30	23 Oct 2019 17:52	1
HS19101144-17	MW-54	18 Oct 2019 08:40		22 Oct 2019 07:30	24 Oct 2019 12:43	1
HS19101144-17	MW-54	18 Oct 2019 08:40		22 Oct 2019 07:30	23 Oct 2019 17:54	1
HS19101144-18	MW-55R	18 Oct 2019 09:35		22 Oct 2019 07:30	24 Oct 2019 12:45	1
HS19101144-18	MW-55R	18 Oct 2019 09:35		22 Oct 2019 07:30	23 Oct 2019 17:56	1
HS19101144-20	MW-65	18 Oct 2019 10:35		22 Oct 2019 07:30	24 Oct 2019 12:47	1
HS19101144-20	MW-65	18 Oct 2019 10:35		22 Oct 2019 07:30	23 Oct 2019 17:58	1
HS19101144-21	MW-36	18 Oct 2019 10:00		22 Oct 2019 07:30	24 Oct 2019 12:49	1

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
HS19101144-21	MW-36	18 Oct 2019 10:00		22 Oct 2019 07:30	23 Oct 2019 18:00	1
Batch ID: 146636 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS19101144-19	MW-58	18 Oct 2019 09:25		22 Oct 2019 07:30	23 Oct 2019 22:37	1
HS19101144-22	MW-37	18 Oct 2019 08:20		22 Oct 2019 07:30	23 Oct 2019 22:52	1
HS19101144-23	MW-38R	18 Oct 2019 12:00		22 Oct 2019 07:30	23 Oct 2019 22:54	1
HS19101144-24	MW-60	18 Oct 2019 11:00		22 Oct 2019 07:30	23 Oct 2019 22:57	1
HS19101144-25	MW-61	18 Oct 2019 09:10		22 Oct 2019 07:30	23 Oct 2019 22:59	1
HS19101144-26	DUP-01	18 Oct 2019 12:00		22 Oct 2019 07:30	23 Oct 2019 23:01	1
HS19101144-27	DUP-02	18 Oct 2019 10:00		22 Oct 2019 07:30	23 Oct 2019 23:03	1
HS19101144-28	FB-01	18 Oct 2019 09:25		22 Oct 2019 07:30	23 Oct 2019 23:06	1
Batch ID: 146655 (0)		Test Name : MERCURY BY SW7470A			Matrix: Groundwater	
HS19101144-01	MW-39	18 Oct 2019 13:25		22 Oct 2019 10:00	22 Oct 2019 14:26	1
HS19101144-02	MW-40	18 Oct 2019 12:40		22 Oct 2019 10:00	22 Oct 2019 14:31	1
HS19101144-03	MW-41	18 Oct 2019 10:55		22 Oct 2019 10:00	22 Oct 2019 14:33	1
HS19101144-04	MW-62	18 Oct 2019 08:40		22 Oct 2019 10:00	22 Oct 2019 14:35	1
HS19101144-05	MW-63	18 Oct 2019 09:30		22 Oct 2019 10:00	22 Oct 2019 14:21	1
HS19101144-06	MW-64	18 Oct 2019 11:50		22 Oct 2019 10:00	22 Oct 2019 14:37	1
HS19101144-07	MW-23	18 Oct 2019 13:55		22 Oct 2019 10:00	22 Oct 2019 14:38	1
HS19101144-08	MW-28D	18 Oct 2019 13:05		22 Oct 2019 10:00	22 Oct 2019 14:40	1
HS19101144-09	MW-42	18 Oct 2019 13:55		22 Oct 2019 10:00	22 Oct 2019 14:42	1
HS19101144-10	MW-43	18 Oct 2019 12:55		22 Oct 2019 10:00	22 Oct 2019 14:43	1
HS19101144-11	MW-44	18 Oct 2019 12:15		22 Oct 2019 10:00	22 Oct 2019 14:45	1
HS19101144-12	MW-46R	18 Oct 2019 08:25		22 Oct 2019 10:00	22 Oct 2019 14:47	1
HS19101144-13	MW-47	18 Oct 2019 12:05		22 Oct 2019 10:00	22 Oct 2019 14:52	1
HS19101144-14	MW-48	18 Oct 2019 11:20		22 Oct 2019 10:00	22 Oct 2019 14:53	1
HS19101144-15	MW-50	18 Oct 2019 13:30		22 Oct 2019 10:00	22 Oct 2019 14:55	1
HS19101144-16	MW-52	18 Oct 2019 10:50		22 Oct 2019 10:00	22 Oct 2019 14:57	1
HS19101144-17	MW-54	18 Oct 2019 08:40		22 Oct 2019 10:00	22 Oct 2019 14:59	1
HS19101144-18	MW-55R	18 Oct 2019 09:35		22 Oct 2019 10:00	22 Oct 2019 15:00	1
HS19101144-20	MW-65	18 Oct 2019 10:35		22 Oct 2019 10:00	22 Oct 2019 15:02	1
HS19101144-21	MW-36	18 Oct 2019 10:00		22 Oct 2019 10:00	22 Oct 2019 15:04	1

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 146656 (0)		Test Name : MERCURY BY SW7470A			Matrix: Groundwater	
HS19101144-19	MW-58	18 Oct 2019 09:25		22 Oct 2019 10:30	22 Oct 2019 15:16	1
HS19101144-22	MW-37	18 Oct 2019 08:20		22 Oct 2019 10:30	22 Oct 2019 15:28	1
HS19101144-23	MW-38R	18 Oct 2019 12:00		22 Oct 2019 10:30	22 Oct 2019 15:33	1
HS19101144-24	MW-60	18 Oct 2019 11:00		22 Oct 2019 10:30	22 Oct 2019 15:35	1
HS19101144-25	MW-61	18 Oct 2019 09:10		22 Oct 2019 10:30	22 Oct 2019 15:36	1
HS19101144-26	DUP-01	18 Oct 2019 12:00		22 Oct 2019 10:30	22 Oct 2019 15:38	1
HS19101144-27	DUP-02	18 Oct 2019 10:00		22 Oct 2019 10:30	22 Oct 2019 15:40	1
HS19101144-28	FB-01	18 Oct 2019 09:25		22 Oct 2019 10:30	22 Oct 2019 15:41	1
Batch ID: R349084 (0)		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE			Matrix: Groundwater	
HS19101144-01	MW-39	18 Oct 2019 13:25			25 Oct 2019 10:33	1
HS19101144-02	MW-40	18 Oct 2019 12:40			25 Oct 2019 10:33	1
HS19101144-03	MW-41	18 Oct 2019 10:55			25 Oct 2019 10:33	1
HS19101144-04	MW-62	18 Oct 2019 08:40			25 Oct 2019 10:33	1
HS19101144-05	MW-63	18 Oct 2019 09:30			25 Oct 2019 10:33	1
HS19101144-06	MW-64	18 Oct 2019 11:50			25 Oct 2019 10:33	1
HS19101144-07	MW-23	18 Oct 2019 13:55			25 Oct 2019 10:33	1
HS19101144-08	MW-28D	18 Oct 2019 13:05			25 Oct 2019 10:33	1
HS19101144-09	MW-42	18 Oct 2019 13:55			25 Oct 2019 10:33	1
HS19101144-10	MW-43	18 Oct 2019 12:55			25 Oct 2019 10:33	1
HS19101144-11	MW-44	18 Oct 2019 12:15			25 Oct 2019 10:33	1
HS19101144-12	MW-46R	18 Oct 2019 08:25			25 Oct 2019 10:33	1
HS19101144-13	MW-47	18 Oct 2019 12:05			25 Oct 2019 10:33	1
HS19101144-14	MW-48	18 Oct 2019 11:20			25 Oct 2019 10:33	1
HS19101144-15	MW-50	18 Oct 2019 13:30			25 Oct 2019 10:33	1
HS19101144-16	MW-52	18 Oct 2019 10:50			25 Oct 2019 10:33	1
HS19101144-17	MW-54	18 Oct 2019 08:40			25 Oct 2019 10:33	1
HS19101144-18	MW-55R	18 Oct 2019 09:35			25 Oct 2019 10:33	1
HS19101144-19	MW-58	18 Oct 2019 09:25			25 Oct 2019 10:33	1
HS19101144-20	MW-65	18 Oct 2019 10:35			25 Oct 2019 10:33	1
HS19101144-21	MW-36	18 Oct 2019 10:00			25 Oct 2019 10:33	1
HS19101144-22	MW-37	18 Oct 2019 08:20			25 Oct 2019 10:33	1
HS19101144-23	MW-38R	18 Oct 2019 12:00			25 Oct 2019 10:33	1
HS19101144-24	MW-60	18 Oct 2019 11:00			25 Oct 2019 10:33	1
HS19101144-25	MW-61	18 Oct 2019 09:10			25 Oct 2019 10:33	1
HS19101144-26	DUP-01	18 Oct 2019 12:00			25 Oct 2019 10:33	1
HS19101144-27	DUP-02	18 Oct 2019 10:00			25 Oct 2019 10:33	1
HS19101144-28	FB-01	18 Oct 2019 09:25			25 Oct 2019 10:33	1

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R351196 (0)		Test Name : SUBCONTRACT ANALYSIS - RADIUM 228			Matrix: Groundwater	
HS19101144-01	MW-39	18 Oct 2019 13:25			25 Nov 2019 09:52	1
HS19101144-01	MW-39	18 Oct 2019 13:25			25 Nov 2019 09:52	1
HS19101144-02	MW-40	18 Oct 2019 12:40			25 Nov 2019 09:52	1
HS19101144-02	MW-40	18 Oct 2019 12:40			25 Nov 2019 09:52	1
HS19101144-03	MW-41	18 Oct 2019 10:55			25 Nov 2019 09:52	1
HS19101144-03	MW-41	18 Oct 2019 10:55			25 Nov 2019 09:52	1
HS19101144-04	MW-62	18 Oct 2019 08:40			25 Nov 2019 09:52	1
HS19101144-04	MW-62	18 Oct 2019 08:40			25 Nov 2019 09:52	1
HS19101144-05	MW-63	18 Oct 2019 09:30			25 Nov 2019 09:52	1
HS19101144-05	MW-63	18 Oct 2019 09:30			25 Nov 2019 09:52	1
HS19101144-06	MW-64	18 Oct 2019 11:50			25 Nov 2019 09:52	1
HS19101144-06	MW-64	18 Oct 2019 11:50			25 Nov 2019 09:52	1
HS19101144-07	MW-23	18 Oct 2019 13:55			25 Nov 2019 09:52	1
HS19101144-07	MW-23	18 Oct 2019 13:55			25 Nov 2019 09:52	1
HS19101144-08	MW-28D	18 Oct 2019 13:05			25 Nov 2019 09:52	1
HS19101144-08	MW-28D	18 Oct 2019 13:05			25 Nov 2019 09:52	1
HS19101144-09	MW-42	18 Oct 2019 13:55			25 Nov 2019 09:52	1
HS19101144-09	MW-42	18 Oct 2019 13:55			25 Nov 2019 09:52	1
HS19101144-10	MW-43	18 Oct 2019 12:55			25 Nov 2019 09:52	1
HS19101144-10	MW-43	18 Oct 2019 12:55			25 Nov 2019 09:52	1
HS19101144-11	MW-44	18 Oct 2019 12:15			25 Nov 2019 09:52	1
HS19101144-11	MW-44	18 Oct 2019 12:15			25 Nov 2019 09:52	1
HS19101144-12	MW-46R	18 Oct 2019 08:25			25 Nov 2019 09:52	1
HS19101144-12	MW-46R	18 Oct 2019 08:25			25 Nov 2019 09:52	1
HS19101144-13	MW-47	18 Oct 2019 12:05			25 Nov 2019 09:52	1
HS19101144-13	MW-47	18 Oct 2019 12:05			25 Nov 2019 09:52	1
HS19101144-14	MW-48	18 Oct 2019 11:20			25 Nov 2019 09:52	1
HS19101144-14	MW-48	18 Oct 2019 11:20			25 Nov 2019 09:52	1
HS19101144-15	MW-50	18 Oct 2019 13:30			25 Nov 2019 09:52	1
HS19101144-15	MW-50	18 Oct 2019 13:30			25 Nov 2019 09:52	1
HS19101144-16	MW-52	18 Oct 2019 10:50			25 Nov 2019 09:52	1
HS19101144-16	MW-52	18 Oct 2019 10:50			25 Nov 2019 09:52	1
HS19101144-17	MW-54	18 Oct 2019 08:40			25 Nov 2019 09:52	1
HS19101144-17	MW-54	18 Oct 2019 08:40			25 Nov 2019 09:52	1
HS19101144-18	MW-55R	18 Oct 2019 09:35			25 Nov 2019 09:52	1
HS19101144-18	MW-55R	18 Oct 2019 09:35			25 Nov 2019 09:52	1
HS19101144-19	MW-58	18 Oct 2019 09:25			25 Nov 2019 09:52	1
HS19101144-19	MW-58	18 Oct 2019 09:25			25 Nov 2019 09:52	1
HS19101144-20	MW-65	18 Oct 2019 10:35			25 Nov 2019 09:52	1

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
HS19101144-20	MW-65	18 Oct 2019 10:35			25 Nov 2019 09:52	1
HS19101144-21	MW-36	18 Oct 2019 10:00			25 Nov 2019 09:52	1
HS19101144-21	MW-36	18 Oct 2019 10:00			25 Nov 2019 09:52	1
HS19101144-22	MW-37	18 Oct 2019 08:20			25 Nov 2019 09:52	1
HS19101144-22	MW-37	18 Oct 2019 08:20			25 Nov 2019 09:52	1
HS19101144-23	MW-38R	18 Oct 2019 12:00			25 Nov 2019 09:52	1
HS19101144-23	MW-38R	18 Oct 2019 12:00			25 Nov 2019 09:52	1
HS19101144-24	MW-60	18 Oct 2019 11:00			25 Nov 2019 09:52	1
HS19101144-24	MW-60	18 Oct 2019 11:00			25 Nov 2019 09:52	1
HS19101144-25	MW-61	18 Oct 2019 09:10			25 Nov 2019 09:52	1
HS19101144-25	MW-61	18 Oct 2019 09:10			25 Nov 2019 09:52	1
HS19101144-26	DUP-01	18 Oct 2019 12:00			25 Nov 2019 09:52	1
HS19101144-26	DUP-01	18 Oct 2019 12:00			25 Nov 2019 09:52	1
HS19101144-27	DUP-02	18 Oct 2019 10:00			25 Nov 2019 09:52	1
HS19101144-27	DUP-02	18 Oct 2019 10:00			25 Nov 2019 09:52	1
HS19101144-28	FB-01	18 Oct 2019 09:25			25 Nov 2019 09:52	1
HS19101144-28	FB-01	18 Oct 2019 09:25			25 Nov 2019 09:52	1

WorkOrder: HS19101144
 InstrumentID: HG03
 Test Code: HG_W
 Test Number: SW7470
 Test Name: Mercury by SW7470A

**METHOD DETECTION /
 REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Mercury	7439-97-6	0.000100	0.000105	0.0000300	0.000200

WorkOrder: HS19101144
 InstrumentID: ICPMS05
 Test Code: ICP_TW
 Test Number: SW6020
 Test Name: ICP-MS Metals by SW6020A

**METHOD DETECTION /
 REPORTING LIMITS**

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Antimony	7440-36-0	0.000500	0.000900	0.000400	0.00200
A	Arsenic	7440-38-2	0.000500	0.000572	0.000400	0.00200
A	Barium	7440-39-3	0.00250	0.00259	0.00190	0.00400
A	Beryllium	7440-41-7	0.000500	0.000398	0.000200	0.00200
A	Cadmium	7440-43-9	0.000500	0.000494	0.000200	0.00200
A	Chromium	7440-47-3	0.000500	0.000546	0.000400	0.00400
A	Cobalt	7440-48-4	0.000500	0.000514	0.000200	0.00500
A	Lead	7439-92-1	0.00100	0.000983	0.000600	0.00200
A	Lithium	7439-93-2	0.00100	0.000735	0.00100	0.00500
A	Molybdenum	7439-98-7	0.00100	0.00116	0.000600	0.00500
A	Selenium	7782-49-2	0.00250	0.00130	0.00110	0.00200
A	Thallium	7440-28-0	0.000500	0.000662	0.000200	0.00200

WorkOrder: HS19101144
InstrumentID: Subcontract
Test Code: Sub_Flouride
Test Number: NA
Test Name: Subcontract Analysis - Flouride

**METHOD DETECTION /
REPORTING LIMITS**

Matrix:

Units:

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Subcontract Analysis		0	0	0	0

WorkOrder: HS19101144
InstrumentID: Subcontract
Test Code: SUB_RA 226
Test Number: NA
Test Name: Subcontract Analysis - Radium

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: NA **Units:** NA

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Subcontract Analysis		0	0	0	0

WorkOrder: HS19101144
InstrumentID: Subcontract
Test Code: SUB_RA 228
Test Number: NA
Test Name: Subcontract Analysis - Radium 228

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: NA **Units:** NA

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Subcontract Analysis		0	0	0	0

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

QC BATCH REPORT

Batch ID: 146635 (0) **Instrument:** ICPMS05 **Method:** ICP-MS METALS BY SW6020A

MBLK		Sample ID: MBLK-146635		Units: mg/L		Analysis Date: 23-Oct-2019 16:29				
Client ID:		Run ID: ICPMS05_348910		SeqNo: 5310411		PrepDate: 22-Oct-2019		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	< 0.000400	0.00200								
Arsenic	< 0.000400	0.00200								
Barium	< 0.00190	0.00400								
Beryllium	< 0.000200	0.00200								
Cadmium	< 0.000200	0.00200								
Chromium	< 0.000400	0.00400								
Cobalt	< 0.000200	0.00500								
Lead	< 0.000600	0.00200								
Lithium	< 0.00100	0.00500								
Molybdenum	< 0.000600	0.00500								
Selenium	< 0.00110	0.00200								
Thallium	< 0.000200	0.00200								

LCS		Sample ID: LCS-146635		Units: mg/L		Analysis Date: 23-Oct-2019 16:32				
Client ID:		Run ID: ICPMS05_348910		SeqNo: 5310412		PrepDate: 22-Oct-2019		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.05142	0.00200	0.05	0	103	80 - 120				
Arsenic	0.05162	0.00200	0.05	0	103	80 - 120				
Barium	0.04976	0.00400	0.05	0	99.5	80 - 120				
Beryllium	0.04895	0.00200	0.05	0	97.9	80 - 120				
Cadmium	0.0498	0.00200	0.05	0	99.6	80 - 120				
Chromium	0.05044	0.00400	0.05	0	101	80 - 120				
Cobalt	0.0489	0.00500	0.05	0	97.8	80 - 120				
Lead	0.04989	0.00200	0.05	0	99.8	80 - 120				
Lithium	0.09956	0.00500	0.1	0	99.6	80 - 120				
Molybdenum	0.04936	0.00500	0.05	0	98.7	80 - 120				
Selenium	0.05086	0.00200	0.05	0	102	80 - 120				
Thallium	0.04808	0.00200	0.05	0	96.2	80 - 120				

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

QC BATCH REPORT

Batch ID: 146635 (0) **Instrument:** ICPMS05 **Method:** ICP-MS METALS BY SW6020A

MS		Sample ID: HS19101144-05MS			Units: mg/L		Analysis Date: 23-Oct-2019 17:20			
Client ID: MW-63		Run ID: ICPMS05_348910			SeqNo: 5310430		PrepDate: 22-Oct-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.05228	0.00200	0.05	0	105	80 - 120				
Arsenic	0.05428	0.00200	0.05	0.001808	105	80 - 120				
Barium	0.1363	0.00400	0.05	0.09206	88.6	80 - 120				
Cadmium	0.04879	0.00200	0.05	0	97.6	80 - 120				
Chromium	0.06582	0.00400	0.05	0.01584	100.0	80 - 120				
Cobalt	0.0464	0.00500	0.05	0	92.8	80 - 120				
Lead	0.05075	0.00200	0.05	0	102	80 - 120				
Lithium	0.1353	0.00500	0.1	0.02524	110	80 - 120				
Molybdenum	0.04916	0.00500	0.05	0	98.3	80 - 120				
Selenium	0.0515	0.00200	0.05	0	103	80 - 120				
Thallium	0.04713	0.00200	0.05	0	94.3	80 - 120				

MS		Sample ID: HS19101144-05MS			Units: mg/L		Analysis Date: 24-Oct-2019 12:11			
Client ID: MW-63		Run ID: ICPMS05_348991			SeqNo: 5312188		PrepDate: 22-Oct-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Beryllium	0.05193	0.00200	0.05	0	104	80 - 120				

MSD		Sample ID: HS19101144-05MSD			Units: mg/L		Analysis Date: 23-Oct-2019 17:22			
Client ID: MW-63		Run ID: ICPMS05_348910			SeqNo: 5310431		PrepDate: 22-Oct-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.05131	0.00200	0.05	0	103	80 - 120	0.05228	1.88	20	
Arsenic	0.05267	0.00200	0.05	0.001808	102	80 - 120	0.05428	3.01	20	
Barium	0.1373	0.00400	0.05	0.09206	90.5	80 - 120	0.1363	0.707	20	
Cadmium	0.04812	0.00200	0.05	0	96.2	80 - 120	0.04879	1.37	20	
Chromium	0.06195	0.00400	0.05	0.01584	92.2	80 - 120	0.06582	6.06	20	
Cobalt	0.04547	0.00500	0.05	0	90.9	80 - 120	0.0464	2.03	20	
Lead	0.04859	0.00200	0.05	0	97.2	80 - 120	0.05075	4.34	20	
Lithium	0.1305	0.00500	0.1	0.02524	105	80 - 120	0.1353	3.61	20	
Molybdenum	0.04905	0.00500	0.05	0	98.1	80 - 120	0.04916	0.234	20	
Selenium	0.05033	0.00200	0.05	0	101	80 - 120	0.0515	2.28	20	
Thallium	0.04678	0.00200	0.05	0	93.6	80 - 120	0.04713	0.743	20	

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

QC BATCH REPORT

Batch ID: 146635 (0) **Instrument:** ICPMS05 **Method:** ICP-MS METALS BY SW6020A

MSD Sample ID: **HS19101144-05MSD** Units: **mg/L** Analysis Date: **24-Oct-2019 12:16**
 Client ID: **MW-63** Run ID: **ICPMS05_348991** SeqNo: **5312190** PrepDate: **22-Oct-2019** DF: **1**
 Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

Beryllium 0.05301 0.00200 0.05 0 106 80 - 120 0.0503 5.24 20

PDS Sample ID: **HS19101144-05PDS** Units: **mg/L** Analysis Date: **23-Oct-2019 17:24**
 Client ID: **MW-63** Run ID: **ICPMS05_348910** SeqNo: **5310432** PrepDate: **22-Oct-2019** DF: **1**
 Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

Antimony 0.1073 0.00200 0.1 -0.000021 107 75 - 125
 Arsenic 0.1089 0.00200 0.1 0.001808 107 75 - 125
 Barium 0.1937 0.00400 0.1 0.09206 102 75 - 125
 Cadmium 0.09939 0.00200 0.1 0.000087 99.3 75 - 125
 Chromium 0.1153 0.00400 0.1 0.01584 99.5 75 - 125
 Cobalt 0.09284 0.00500 0.1 0.000089 92.8 75 - 125
 Lead 0.1004 0.00200 0.1 0.000027 100 75 - 125
 Molybdenum 0.1041 0.00500 0.1 0.000554 104 75 - 125
 Selenium 0.1017 0.00200 0.1 0.00023 101 75 - 125
 Thallium 0.09928 0.00200 0.1 0.000017 99.3 75 - 125

PDS Sample ID: **HS19101144-05PDS** Units: **mg/L** Analysis Date: **24-Oct-2019 11:38**
 Client ID: **MW-63** Run ID: **ICPMS05_348991** SeqNo: **5312173** PrepDate: **22-Oct-2019** DF: **1**
 Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

Beryllium 0.09381 0.00200 0.1 0 93.8 75 - 125

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

QC BATCH REPORT

Batch ID: 146635 (0)		Instrument: ICPMS05		Method: ICP-MS METALS BY SW6020A						
SD	Sample ID: HS19101144-05SD	Units: mg/L			Analysis Date: 23-Oct-2019 17:17					
Client ID: MW-63	Run ID: ICPMS05_348910	SeqNo: 5310429	PrepDate: 22-Oct-2019	DF: 5						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual	
Antimony	< 0.00200	0.0100					-0.000021	0	10	
Arsenic	0.002046	0.0100					0.001808	0	10 J	
Barium	0.08363	0.0200					0.09206	9.16	10	
Cadmium	< 0.00100	0.0100					0.000087	0	10	
Chromium	0.01674	0.0200					0.01584	0	10 J	
Cobalt	< 0.00100	0.0250					0.000089	0	10	
Lead	< 0.00300	0.0100					0.000027	0	10	
Lithium	0.02685	0.0250					0.02524	6.37	10	
Molybdenum	< 0.00300	0.0250					0.000554	0	10	
Selenium	< 0.00550	0.0100					0.00023	0	10	
Thallium	< 0.00100	0.0100					0.000017	0	10	

SD	Sample ID: HS19101144-05SD	Units: mg/L			Analysis Date: 24-Oct-2019 12:09				
Client ID: MW-63	Run ID: ICPMS05_348991	SeqNo: 5312187	PrepDate: 22-Oct-2019	DF: 5					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual
Beryllium	< 0.00100	0.0100					0	0	10

The following samples were analyzed in this batch:

HS19101144-01	HS19101144-02	HS19101144-03	HS19101144-04
HS19101144-05	HS19101144-06	HS19101144-07	HS19101144-08
HS19101144-09	HS19101144-10	HS19101144-11	HS19101144-12
HS19101144-13	HS19101144-14	HS19101144-15	HS19101144-16
HS19101144-17	HS19101144-18	HS19101144-20	HS19101144-21

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

QC BATCH REPORT

Batch ID: 146636 (0)	Instrument: ICPMS05	Method: ICP-MS METALS BY SW6020A								
MBLK	Sample ID: MBLK-146636	Units: mg/L	Analysis Date: 23-Oct-2019 22:32							
Client ID:	Run ID: ICPMS05_348910	SeqNo: 5310579	PrepDate: 22-Oct-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Antimony	< 0.000400	0.00200								
Arsenic	< 0.000400	0.00200								
Barium	< 0.00190	0.00400								
Beryllium	< 0.000200	0.00200								
Cadmium	< 0.000200	0.00200								
Chromium	< 0.000400	0.00400								
Cobalt	< 0.000200	0.00500								
Lead	< 0.000600	0.00200								
Lithium	< 0.00100	0.00500								
Molybdenum	< 0.000600	0.00500								
Selenium	< 0.00110	0.00200								
Thallium	< 0.000200	0.00200								

LCS	Sample ID: LCS-146636	Units: mg/L	Analysis Date: 23-Oct-2019 22:34							
Client ID:	Run ID: ICPMS05_348910	SeqNo: 5310580	PrepDate: 22-Oct-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Antimony	0.04828	0.00200	0.05	0	96.6	80 - 120				
Arsenic	0.04875	0.00200	0.05	0	97.5	80 - 120				
Barium	0.04853	0.00400	0.05	0	97.1	80 - 120				
Beryllium	0.05126	0.00200	0.05	0	103	80 - 120				
Cadmium	0.04882	0.00200	0.05	0	97.6	80 - 120				
Chromium	0.04676	0.00400	0.05	0	93.5	80 - 120				
Cobalt	0.04674	0.00500	0.05	0	93.5	80 - 120				
Lead	0.04638	0.00200	0.05	0	92.8	80 - 120				
Lithium	0.0947	0.00500	0.1	0	94.7	80 - 120				
Molybdenum	0.0468	0.00500	0.05	0	93.6	80 - 120				
Selenium	0.04838	0.00200	0.05	0	96.8	80 - 120				
Thallium	0.0446	0.00200	0.05	0	89.2	80 - 120				

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

QC BATCH REPORT

Batch ID: 146636 (0) **Instrument:** ICPMS05 **Method:** ICP-MS METALS BY SW6020A

MS		Sample ID: HS19101144-19MS			Units: mg/L		Analysis Date: 23-Oct-2019 22:41			
Client ID: MW-58		Run ID: ICPMS05_348910			SeqNo: 5310583		PrepDate: 22-Oct-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04506	0.00200	0.05	0	90.1	80 - 120				
Arsenic	0.0564	0.00200	0.05	0.0115	89.8	80 - 120				
Barium	0.1959	0.00400	0.05	0.1554	80.9	80 - 120				
Beryllium	0.04961	0.00200	0.05	0	99.2	80 - 120				
Cadmium	0.04683	0.00200	0.05	0	93.7	80 - 120				
Chromium	0.04412	0.00400	0.05	0.001535	85.2	80 - 120				
Cobalt	0.04192	0.00500	0.05	0.000402	83.0	80 - 120				
Lead	0.0449	0.00200	0.05	0	89.8	80 - 120				
Lithium	0.127	0.00500	0.1	0.03488	92.1	80 - 120				
Molybdenum	0.04721	0.00500	0.05	0.002409	89.6	80 - 120				
Selenium	0.04465	0.00200	0.05	0	89.3	80 - 120				
Thallium	0.04415	0.00200	0.05	0.000373	87.5	80 - 120				

MSD		Sample ID: HS19101144-19MSD			Units: mg/L		Analysis Date: 23-Oct-2019 22:43			
Client ID: MW-58		Run ID: ICPMS05_348910			SeqNo: 5310584		PrepDate: 22-Oct-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04703	0.00200	0.05	0	94.1	80 - 120	0.04506	4.27	20	
Arsenic	0.0585	0.00200	0.05	0.0115	94.0	80 - 120	0.0564	3.65	20	
Barium	0.2071	0.00400	0.05	0.1554	103	80 - 120	0.1959	5.57	20	
Beryllium	0.05251	0.00200	0.05	0	105	80 - 120	0.04961	5.68	20	
Cadmium	0.04903	0.00200	0.05	0	98.1	80 - 120	0.04683	4.59	20	
Chromium	0.04692	0.00400	0.05	0.001535	90.8	80 - 120	0.04412	6.15	20	
Cobalt	0.04372	0.00500	0.05	0.000402	86.6	80 - 120	0.04192	4.2	20	
Lead	0.04572	0.00200	0.05	0	91.4	80 - 120	0.0449	1.83	20	
Lithium	0.1339	0.00500	0.1	0.03488	99.0	80 - 120	0.127	5.31	20	
Molybdenum	0.0506	0.00500	0.05	0.002409	96.4	80 - 120	0.04721	6.92	20	
Selenium	0.04758	0.00200	0.05	0	95.2	80 - 120	0.04465	6.34	20	
Thallium	0.04408	0.00200	0.05	0.000373	87.4	80 - 120	0.04415	0.154	20	

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

QC BATCH REPORT

Batch ID: 146636 (0)	Instrument: ICPMS05	Method: ICP-MS METALS BY SW6020A								
PDS	Sample ID: HS19101144-19PDS	Units: mg/L	Analysis Date: 23-Oct-2019 22:46							
Client ID: MW-58	Run ID: ICPMS05_348910	SeqNo: 5310585	PrepDate: 22-Oct-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	0.09016	0.00200	0.1	0.000087	90.1	75 - 125				
Arsenic	0.1132	0.00200	0.1	0.0115	102	75 - 125				
Barium	0.2427	0.00400	0.1	0.1554	87.3	75 - 125				
Beryllium	0.1093	0.00200	0.1	0.000021	109	75 - 125				
Cadmium	0.1015	0.00200	0.1	0.000011	102	75 - 125				
Chromium	0.09827	0.00400	0.1	0.001535	96.7	75 - 125				
Cobalt	0.09515	0.00500	0.1	0.000402	94.8	75 - 125				
Lead	0.09704	0.00200	0.1	0.000097	96.9	75 - 125				
Lithium	0.1397	0.00500	0.1	0.03488	105	70 - 125				
Molybdenum	0.1003	0.00500	0.1	0.002409	97.9	75 - 125				
Selenium	0.1004	0.00200	0.1	0.000236	100	75 - 125				
Thallium	0.09731	0.00200	0.1	0.000373	96.9	75 - 125				

SD	Sample ID: HS19101144-19SD	Units: mg/L	Analysis Date: 23-Oct-2019 22:39							
Client ID: MW-58	Run ID: ICPMS05_348910	SeqNo: 5310582	PrepDate: 22-Oct-2019 DF: 5							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual

Antimony	< 0.00200	0.0100					0.000087	0	10	
Arsenic	0.01085	0.0100					0.0115	5.65	10	
Barium	0.1563	0.0200					0.1554	0.564	10	
Beryllium	< 0.00100	0.0100					0.000021	0	10	
Cadmium	< 0.00100	0.0100					0.000011	0	10	
Chromium	< 0.00200	0.0200					0.001535	0	10	
Cobalt	< 0.00100	0.0250					0.000402	0	10	
Lead	< 0.00300	0.0100					0.000097	0	10	
Lithium	0.03662	0.0250					0.03488	4.99	10	
Molybdenum	< 0.00300	0.0250					0.002409	0	10	
Selenium	< 0.00550	0.0100					0.000236	0	10	
Thallium	< 0.00100	0.0100					0.000373	0	10	

The following samples were analyzed in this batch:

HS19101144-19	HS19101144-22	HS19101144-23	HS19101144-24
HS19101144-25	HS19101144-26	HS19101144-27	HS19101144-28

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

QC BATCH REPORT

Batch ID: 146655 (0) **Instrument:** HG03 **Method:** MERCURY BY SW7470A

MBLK Sample ID: **MBLK-146655** Units: **mg/L** Analysis Date: **22-Oct-2019 14:18**
 Client ID: Run ID: **HG03_348865** SeqNo: **5307905** PrepDate: **22-Oct-2019** DF: **1**
 Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

Mercury < 0.0000300 0.000200

LCS Sample ID: **LCS-146655** Units: **mg/L** Analysis Date: **22-Oct-2019 14:20**
 Client ID: Run ID: **HG03_348865** SeqNo: **5307906** PrepDate: **22-Oct-2019** DF: **1**
 Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

Mercury 0.00511 0.000200 0.005 0 102 80 - 120

MS Sample ID: **HS19101144-05MS** Units: **mg/L** Analysis Date: **22-Oct-2019 14:23**
 Client ID: **MW-63** Run ID: **HG03_348865** SeqNo: **5307908** PrepDate: **22-Oct-2019** DF: **1**
 Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

Mercury 0.00506 0.000200 0.005 0.000213 96.9 75 - 125

MSD Sample ID: **HS19101144-05MSD** Units: **mg/L** Analysis Date: **22-Oct-2019 14:25**
 Client ID: **MW-63** Run ID: **HG03_348865** SeqNo: **5307909** PrepDate: **22-Oct-2019** DF: **1**
 Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

Mercury 0.00505 0.000200 0.005 0.000213 96.7 75 - 125 0.00506 0.198 20

The following samples were analyzed in this batch:

HS19101144-01	HS19101144-02	HS19101144-03	HS19101144-04
HS19101144-05	HS19101144-06	HS19101144-07	HS19101144-08
HS19101144-09	HS19101144-10	HS19101144-11	HS19101144-12
HS19101144-13	HS19101144-14	HS19101144-15	HS19101144-16
HS19101144-17	HS19101144-18	HS19101144-20	HS19101144-21

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

QC BATCH REPORT

Batch ID: 146656 (0) **Instrument:** HG03 **Method:** MERCURY BY SW7470A

MBLK	Sample ID: MBLK-146656	Units: mg/L			Analysis Date: 22-Oct-2019 15:13				
Client ID:		Run ID: HG03_348865	SeqNo: 5307935	PrepDate: 22-Oct-2019	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Mercury < 0.0000300 0.000200

LCS	Sample ID: LCS-146656	Units: mg/L			Analysis Date: 22-Oct-2019 15:14				
Client ID:		Run ID: HG03_348865	SeqNo: 5307936	PrepDate: 22-Oct-2019	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Mercury 0.00496 0.000200 0.005 0 99.2 80 - 120

MS	Sample ID: HS19101144-19MS	Units: mg/L			Analysis Date: 22-Oct-2019 15:18				
Client ID: MW-58		Run ID: HG03_348865	SeqNo: 5307938	PrepDate: 22-Oct-2019	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Mercury 0.00497 0.000200 0.005 -0.00002 99.8 75 - 125

MSD	Sample ID: HS19101144-19MSD	Units: mg/L			Analysis Date: 22-Oct-2019 15:19				
Client ID: MW-58		Run ID: HG03_348865	SeqNo: 5307939	PrepDate: 22-Oct-2019	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Mercury 0.00497 0.000200 0.005 -0.00002 99.8 75 - 125 0.00497 0 20

The following samples were analyzed in this batch: HS19101144-19 HS19101144-22 HS19101144-23 HS19101144-24
 HS19101144-25 HS19101144-26 HS19101144-27 HS19101144-28

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
WorkOrder: HS19101144

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2019	31-Dec-2019
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	TX104704231-19-23	30-Apr-2020

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
Work Order: HS19101144

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19101144-01	MW-39	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-01	MW-39	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-01	MW-39	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-02	MW-40	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-02	MW-40	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-02	MW-40	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-03	MW-41	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-03	MW-41	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-03	MW-41	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-04	MW-62	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-04	MW-62	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-04	MW-62	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-05	MW-63	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-05	MW-63	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-05	MW-63	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-06	MW-64	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-06	MW-64	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-06	MW-64	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-07	MW-23	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-07	MW-23	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-07	MW-23	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-08	MW-28D	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-08	MW-28D	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-08	MW-28D	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-09	MW-42	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-09	MW-42	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-09	MW-42	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-10	MW-43	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-10	MW-43	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-10	MW-43	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-11	MW-44	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-11	MW-44	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-11	MW-44	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-12	MW-46R	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-12	MW-46R	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-12	MW-46R	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-13	MW-47	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-13	MW-47	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-13	MW-47	Login	10/18/2019 7:04:21 PM	PMG	MET007

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
Work Order: HS19101144

SAMPLE TRACKING

HS19101144-14	MW-48	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-14	MW-48	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-14	MW-48	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-15	MW-50	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-15	MW-50	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-15	MW-50	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-16	MW-52	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-16	MW-52	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-16	MW-52	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-17	MW-54	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-17	MW-54	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-17	MW-54	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-18	MW-55R	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-18	MW-55R	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-18	MW-55R	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-19	MW-58	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-19	MW-58	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-19	MW-58	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-20	MW-65	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-20	MW-65	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-20	MW-65	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-21	MW-36	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-21	MW-36	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-21	MW-36	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-22	MW-37	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-22	MW-37	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-22	MW-37	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-23	MW-38R	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-23	MW-38R	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-23	MW-38R	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-24	MW-60	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-24	MW-60	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-24	MW-60	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-25	MW-61	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-25	MW-61	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-25	MW-61	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-26	DUP-01	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-26	DUP-01	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-26	DUP-01	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-27	DUP-02	Login	10/18/2019 7:04:21 PM	PMG	WET355
HS19101144-27	DUP-02	Login	10/18/2019 7:04:21 PM	PMG	Sub

Client: TRC Corporation
Project: NRG WA Parish - Appendix IV
Work Order: HS19101144

SAMPLE TRACKING

HS19101144-27	DUP-02	Login	10/18/2019 7:04:21 PM	PMG	MET007
HS19101144-28	FB-01	Login	10/18/2019 7:04:21 PM	PMG	WET356
HS19101144-28	FB-01	Login	10/18/2019 7:04:21 PM	PMG	Sub
HS19101144-28	FB-01	Login	10/18/2019 7:04:21 PM	PMG	MET007

Sample Receipt Checklist

Client Name: TRC-HOU
Work Order: HS19101144

Date/Time Received: **18-Oct-2019 15:45**
Received by: **PMG**

Checklist completed by: Paresh M. Giga 18-Oct-2019
eSignature Date
Reviewed by: _____
eSignature Date

Matrices: **GW/Water** Carrier name: **Client**

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- VOA/TX1005/TX1006 Solids in hermetically sealed vials? Yes No Not Present
- Chain of custody present? Yes No 3 Page(s)
- Chain of custody signed when relinquished and received? Yes No COC
- Samplers name present on COC? Yes No IDs:210222/210224/210223
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No

Temperature(s)/Thermometer(s):

1.2c;2.4c;1.8c;3.8c;1.9c;1.6c;3.2c;0.7c U/C	IR25
---	------

Cooler(s)/Kit(s):

45084/45130/43013/45371/44385/45058/45370/43642

Date/Time sample(s) sent to storage:

10/18/19 20:30

- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH acceptable upon receipt? Yes No N/A
- pH adjusted? Yes No N/A
- pH adjusted by:

--

Login Notes:

Client Contacted: _____ Date Contacted: _____ Person Contacted: _____

Contacted By: _____ Regarding: _____

Comments:

--

Corrective Action:

--



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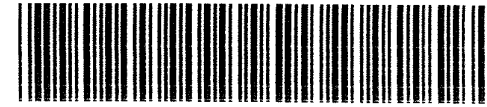
Chain of Custody Form

HS19101144

TRC Corporation
NRG WA Parish - Appendix IV

Page 1 of 3

COC ID: 210227



Customer Information		Project Information		ALS Project Manager:	
Purchase Order	294645.0001	Project Name	NRG WA Parish- Appendix IV	A	ICP_TW (Sb,As,Ba,Be,Cd,Cr,Co,Pb,Li,Mo,Se,Tl)-App IV
Work Order		Project Number	CCR Program	B	HG_W (Mercury)
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C	SUB_RA 226 (Sub RA 226 to ALS Fort Collins)
Send Report To	Lori Burris	Invoice Attn	A/P	D	SUB_RA 228 (Sub RA 228 to ALS Fort Collins)
Address	10550 Richmond Ave., Suite 210	Address	10550 Richmond Ave., Suite 210	E	Sub_Fluoride (Report from Appendix III COC)
				F	
City/State/Zip	Houston, TX 77042	City/State/Zip	Houston TX 77042	G	0 = MS/MSD volume
Phone	(713) 244-1000	Phone	(713) 244-1000	H	
Fax	(713) 244-1099	Fax	(713) 244-1099	I	
e-Mail Address	LBurris@trcsolutions.com	e-Mail Address	apinvoiceapproval@trcsolutions.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Mw-39	10-18-19	1325	GW	2,8		X	X	X	X	X						
2	Mw-40		1240				X	X	X	X	X						
3	Mw-41		1055				X	X	X	X	X						
4	Mw-62		840				X	X	X	X	X						
5	Mw-63		930				(X)	(X)	(X)	(X)	(X)						
6	Mw-64		1150				X	X	X	X	X						
7	Mw-23		1355				X	X	X	X	X						
8	Mw-28D		1305				X	X	X	X	X						
9	Mw-42		1355				X	X	X	X	X						
10	Mw-43		1255				X	X	X	X	X						

Sampler(s) Please Print & Sign <i>Brian Hillin + HMF Team</i>		Shipment Method PRIVILEGED &		Required Turnaround Time: (Check Box) <input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:		
Relinquished by: <i>Cameron Haber</i>	Date: 10.18.19	Time: 1545	Received by: <i>[Signature]</i>	Notes: NRG WA Parish - PRIVILEGED & CONFIDENTIAL					
Relinquished by:	Date:	Time:	Received by (Laboratory): <i>[Signature]</i>	Cooler ID: 45084	Cooler Temp.: 1.20	QC Package: (Check One Box Below)			
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	45130	2.40	<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRR Checklet		
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035				43013	1.80	<input type="checkbox"/> Level III Std QC/Raw Date	<input type="checkbox"/> TRR Level IV		
				45371	3.80	<input type="checkbox"/> Level IV SWB46/CLP			
						<input type="checkbox"/> Other			

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Chain of Custody Form

HS19101144

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Page 2 of 3

COC ID: **210226**

TRC Corporation
NRG WA Parish - Appendix IV



ALS Project Manager:

Customer Information		Project Information		
Purchase Order	294645.0001	Project Name	NRG WA Parish- Appendix IV	A
Work Order		Project Number	CCR Program	B
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C
Send Report To	Lori Burris	Invoice Attn	A/P	D
Address	10550 Richmond Ave., Suite 210	Address	10550 Richmond Ave., Suite 210	E
				F
City/State/Zip	Houston, TX 77042	City/State/Zip	Houston TX 77042	G
Phone	(713) 244-1000	Phone	(713) 244-1000	H
Fax	(713) 244-1099	Fax	(713) 244-1099	I
e-Mail Address	LBurris@trcsolutions.com	e-Mail Address	apinvoiceapproval@trcsolutions.com	J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Mw-44	10-18-19	1215	Gw	2,8		X	X	X	X	X						
2	Mw-46R		825				X	X	X	X	X						
3	Mw-47		1205				X	X	X	X	X						
4	Mw-48		1120				X	X	X	X	X						
5	Mw-50		1330				X	X	X	X	X						
6	Mw-52		1050				X	X	X	X	X						
7	Mw-54		840				X	X	X	X	X						
8	Mw-55R		935				X	X	X	X	X						
9	Mw-58		925				(X)	(X)	(X)	(X)	(X)						
10	Mw-65		1035				X	X	X	X	X						

Sampler(s) Please Print & Sign <i>Brian Hillin & HMF Team</i>		Shipment Method PRIVILEGED &		Required Turnaround Time: (Check Box) <input type="checkbox"/> Other _____ <input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:				
Relinquished by: <i>Cameron Haber</i>	Date: 10-18-19	Time: 1545	Received by:	Notes: NRG WA Parish - PRIVILEGED & CONFIDENTIAL							
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)					
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	44385	1.90	<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRP Checklist				
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035				45058	1.60	<input type="checkbox"/> Level III Std QC/Raw Date	<input type="checkbox"/> TRP Level IV				
				45370	3.20	<input type="checkbox"/> Level IV SWEAG/CLP					
				43642	0.70	<input type="checkbox"/> Other					

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Chain of Custody Form

HS19101144

wv

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COC ID: 210228

TRC Corporation
NRG WA Parish - Appendix IV




Customer Information		Project Information		ALS Project Manager:	
Purchase Order	294645.0001	Project Name	NRG WA Parish- Appendix IV	A	ICP_TW (Sb,As,Ba,Bi,Cd,Cr,Co,Pb,Li,Mo,Se,Ti)-App IV
Work Order		Project Number	CCR Program	B	HG_W (Mercury)
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C	SUB_RA 226 (Sub RA 226 to ALS Fort Collins)
Send Report To	Lori Burris	Invoice Attn	A/P	D	SUB_RA 228 (Sub RA 228 to ALS Fort Collins)
Address	10550 Richmond Ave., Suite 210	Address	10550 Richmond Ave., Suite 210	E	Sub_Fluoride (Report from Appendix III COC)
				F	
City/State/Zip	Houston, TX 77042	City/State/Zip	Houston TX 77042	G	
Phone	(713) 244-1000	Phone	(713) 244-1000	H	
Fax	(713) 244-1099	Fax	(713) 244-1099	I	
e-Mail Address	LBurris@trcsolutions.com	e-Mail Address	apinvoiceapproval@trcsolutions.com	J	


No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold				
1	MW-36	10-18-19	1000	GW	2.8		X	X	X	X	X										
2	MW-37	↓	820	↓			X	X	X	X	X										
3	MW-38R		1200				X	X	X	X	X										
4	MW-60		1100				X	X	X	X	X										
5	MW-61		910				X	X	X	X	X										
6	DUP-01		1200				X	X	X	X	X										
7	DUP-02		1000				X	X	X	X	X										
8	FB-01		925				FB	X	X	X	X										
9																					
10																					


Sampler(s) Please Print & Sign <i>Brian Hillin & HMI Team</i>		Shipment Method PRIVILEGED &		Required Turnaround Time: (Check Box) <input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:	
Relinquished by: <i>Cameron Haber</i>	Date: <i>10-18-19</i>	Time: <i>15:45</i>	Received by:	Notes: NRG WA Parish - PRIVILEGED & CONFIDENTIAL				
Relinquished by:	Date:	Time:	Received by (Laboratory): <i>[Signature]</i>	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory): <i>[Signature]</i>			<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> "RRP Checklist	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035						<input type="checkbox"/> Level III Std QC/Raw Date	<input type="checkbox"/> "RRP Level IV	
						<input type="checkbox"/> Level IV SW646/CLP		
						<input type="checkbox"/> Other		

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 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	44385	CUS Date: 10-18-19 Name: B Hill Company: H	TODY SEAL Time: _____ Date: 10/18/19	Seal Broken By: _____ Date: 10/18/19
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 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	45058	Date: 10-18-19 Name: _____ Company: _____	SEAL Time: _____ Date: 10/18/19	Seal Broken By: _____ Date: 10/18/19
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 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	43642	C Date: 10-18-19 Name: B-H Company: _____	USTODY SEAL Time: _____ Name: Hillin Company: HMI	Seal Broken By: _____ Date: 10/18/19
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CUSTODY S 10-18-19 B. Hillin HMI	45130	Date: 10-18-19 Name: B. Hillin Company: HMI	CUSTODY SEAL Time: _____ Name: B. Hillin Company: HMI	Seal Broken By: _____ Date: 10/18/19
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 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	45084	Date: 10-18-19 Name: B. Hillin Company: HMI	CUSTODY SEAL Time: _____ Name: B. Hillin Company: HMI	Seal Broken By: _____ Date: 10/18/19
--	-------	---	---	---

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	45370	Date: 10-18-19 Name: B. Hillin Company: HMI	CUSTODY SEAL Time: _____ Name: B. Hillin Company: HMI	Seal Broken By: _____ Date: 10/18/19
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 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	45371	Date: 10-18-19 Name: B. Hillin Company: HMI	CUSTODY SEAL Time: _____ Name: B. Hillin Company: HMI	Seal Broken By: _____ Date: 10/18/19
---	-------	---	---	---

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	43013	Date: 10-18-19 Name: B. Hillin Company: HMI	CUSTODY SEAL Time: _____ Name: B. Hillin Company: HMI	Seal Broken By: _____ Date: 10/18/19
--	-------	---	---	---



25-Oct-2019

RJ Modashia
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS19101144**

Work Order: **19101678**

Dear RJ,

ALS Environmental received 28 samples on 22-Oct-2019 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 46.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton".

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

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Environmental

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Privileged and Confidential
Page 72 of 165

Client: ALS Environmental
Project: HS19101144
Work Order: 19101678

**TRRP Laboratory Data
Package Cover Page**

This data package consists of all or some of the following as applicable:

This signature page, the laboratory case narrative, and the following reportable data:

- R1 Field chain-of-custody documentation:
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC Chapter 5
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies:
See Case Narrative.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached Case Narrative and QC Summaries. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified, and no information affecting the quality of the data has been knowingly withheld.



Chad Whelton
Project Manager

Client: ALS Environmental
 Project: HS19101144
 Work Order: 19101678

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
19101678-01	19101144-01	Groundwater	MW-39	10/18/2019 13:25	10/22/2019 10:00	<input type="checkbox"/>
19101678-02	19101144-02	Groundwater	MW-40	10/18/2019 12:40	10/22/2019 10:00	<input type="checkbox"/>
19101678-03	19101144-03	Groundwater	MW-41	10/18/2019 10:55	10/22/2019 10:00	<input type="checkbox"/>
19101678-04	19101144-04	Groundwater	MW-62	10/18/2019 08:40	10/22/2019 10:00	<input type="checkbox"/>
19101678-05	19101144-05	Groundwater	MW-63	10/18/2019 09:30	10/22/2019 10:00	<input type="checkbox"/>
19101678-06	19101144-06	Groundwater	MW-64	10/18/2019 11:50	10/22/2019 10:00	<input type="checkbox"/>
19101678-07	19101144-07	Groundwater	MW-23	10/18/2019 13:55	10/22/2019 10:00	<input type="checkbox"/>
19101678-08	19101144-08	Groundwater	MW-28D	10/18/2019 13:05	10/22/2019 10:00	<input type="checkbox"/>
19101678-09	19101144-09	Groundwater	MW-42	10/18/2019 13:55	10/22/2019 10:00	<input type="checkbox"/>
19101678-10	19101144-10	Groundwater	MW-43	10/18/2019 12:55	10/22/2019 10:00	<input type="checkbox"/>
19101678-11	19101144-11	Groundwater	MW-44	10/18/2019 12:15	10/22/2019 10:00	<input type="checkbox"/>
19101678-12	19101144-12	Groundwater	MW-46R	10/18/2019 08:25	10/22/2019 10:00	<input type="checkbox"/>
19101678-13	19101144-13	Groundwater	MW-47	10/18/2019 12:05	10/22/2019 10:00	<input type="checkbox"/>
19101678-14	19101144-14	Groundwater	MW-48	10/18/2019 11:20	10/22/2019 10:00	<input type="checkbox"/>
19101678-15	19101144-15	Groundwater	MW-50	10/18/2019 13:30	10/22/2019 10:00	<input type="checkbox"/>
19101678-16	19101144-16	Groundwater	MW-52	10/18/2019 10:50	10/22/2019 10:00	<input type="checkbox"/>
19101678-17	19101144-17	Groundwater	MW-54	10/18/2019 08:40	10/22/2019 10:00	<input type="checkbox"/>
19101678-18	19101144-18	Groundwater	MW-55R	10/18/2019 09:35	10/22/2019 10:00	<input type="checkbox"/>
19101678-19	19101144-19	Groundwater	MW-58	10/18/2019 09:25	10/22/2019 10:00	<input type="checkbox"/>
19101678-20	19101144-20	Groundwater	MW-65	10/18/2019 10:35	10/22/2019 10:00	<input type="checkbox"/>
19101678-21	19101144-21	Groundwater	MW-36	10/18/2019 10:00	10/22/2019 10:00	<input type="checkbox"/>
19101678-22	19101144-22	Groundwater	MW-37	10/18/2019 08:20	10/22/2019 10:00	<input type="checkbox"/>
19101678-23	19101144-23	Groundwater	MW-38R	10/18/2019 12:00	10/22/2019 10:00	<input type="checkbox"/>
19101678-24	19101144-24	Groundwater	MW-60	10/18/2019 11:00	10/22/2019 10:00	<input type="checkbox"/>
19101678-25	19101144-25	Groundwater	MW-61	10/18/2019 09:10	10/22/2019 10:00	<input type="checkbox"/>
19101678-26	19101144-26	Groundwater	DUP-1	10/18/2019 12:00	10/22/2019 10:00	<input type="checkbox"/>
19101678-27	19101144-27	Groundwater	DUP-2	10/18/2019 10:00	10/22/2019 10:00	<input type="checkbox"/>
19101678-28	19101144-28	Groundwater	FB-01	10/18/2019 09:25	10/22/2019 10:00	<input type="checkbox"/>

Client: ALS Environmental
Project: HS19101144
Work Order: 19101678

Case Narrative

Samples for the above noted Work Order were received on 10/22/2019. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting. A copy of the laboratory's scope of accreditation is available upon request.

With the following exceptions, all sample analyses achieved analytical criteria.

Wet Chemistry:

No other deviations or anomalies were noted.

Client: ALS Environmental
Project: HS19101144
WorkOrder: 19101678

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
mg/L	Milligrams per Liter

Work Order: 19101678
 Client: ALS Environmental
 Project: HS19101144

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
Batch ID R273613						
Test Name: Fluoride						
19101678-01	19101144-01	Groundwater	10/18/2019 1:25:00 PM			10/23/2019 01:17 PM
^						
19101678-02	19101144-02		10/18/2019 12:40:00 PM			10/23/2019 01:17 PM
^						
19101678-03	19101144-03		10/18/2019 10:55:00 AM			10/23/2019 01:17 PM
^						
19101678-04	19101144-04		10/18/2019 8:40:00 AM			10/23/2019 01:17 PM
^						
19101678-05	19101144-05		10/18/2019 9:30:00 AM			10/23/2019 01:17 PM
^						
19101678-06	19101144-06		10/18/2019 11:50:00 AM			10/23/2019 01:17 PM
^						
19101678-07	19101144-07		10/18/2019 1:55:00 PM			10/23/2019 01:17 PM
^						
19101678-08	19101144-08		10/18/2019 1:05:00 PM			10/23/2019 01:17 PM
^						
19101678-09	19101144-09		10/18/2019 1:55:00 PM			10/23/2019 01:17 PM
^						
19101678-10	19101144-10		10/18/2019 12:55:00 PM			10/23/2019 01:17 PM
^						
19101678-11	19101144-11		10/18/2019 12:15:00 PM			10/23/2019 01:17 PM
^						
19101678-12	19101144-12		10/18/2019 8:25:00 AM			10/23/2019 01:17 PM
^						
19101678-13	19101144-13		10/18/2019 12:05:00 PM			10/23/2019 01:17 PM
^						
19101678-14	19101144-14		10/18/2019 11:20:00 AM			10/23/2019 01:17 PM
^						
19101678-15	19101144-15		10/18/2019 1:30:00 PM			10/23/2019 01:17 PM
^						
19101678-16	19101144-16		10/18/2019 10:50:00 AM			10/23/2019 01:17 PM
^						
19101678-17	19101144-17		10/18/2019 8:40:00 AM			10/23/2019 01:17 PM
^						
19101678-18	19101144-18		10/18/2019 9:35:00 AM			10/23/2019 01:17 PM
^						
19101678-19	19101144-19		10/18/2019 9:25:00 AM			10/23/2019 01:17 PM
^						

Work Order: 19101678
 Client: ALS Environmental
 Project: HS19101144

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
Batch ID <u>R273735</u> Test Name: <u>Fluoride</u>						
19101678-20	19101144-20	Groundwater	10/18/2019 10:35:00 AM			10/24/2019 03:17 PM
^						
19101678-21	19101144-21		10/18/2019 10:00:00 AM			10/24/2019 03:17 PM
^						
19101678-22	19101144-22		10/18/2019 8:20:00 AM			10/24/2019 03:17 PM
^						
19101678-23	19101144-23		10/18/2019 12:00:00 PM			10/24/2019 03:17 PM
^						
19101678-24	19101144-24		10/18/2019 11:00:00 AM			10/24/2019 03:17 PM
^						
19101678-25	19101144-25		10/18/2019 9:10:00 AM			10/24/2019 03:17 PM
^						
19101678-26	19101144-26		10/18/2019 12:00:00 PM			10/24/2019 03:17 PM
^						
19101678-27	19101144-27		10/18/2019 10:00:00 AM			10/24/2019 03:17 PM
^						
19101678-28	19101144-28		10/18/2019 9:25:00 AM			10/24/2019 03:17 PM
^						

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-01
Collection Date: 10/18/2019 01:25 PM

Work Order: 19101678
Lab ID: 19101678-01
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.070	J	0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-02
Collection Date: 10/18/2019 12:40 PM

Work Order: 19101678
Lab ID: 19101678-02
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.060	J	0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-03
Collection Date: 10/18/2019 10:55 AM

Work Order: 19101678
Lab ID: 19101678-03
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.11		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-04
Collection Date: 10/18/2019 08:40 AM

Work Order: 19101678
Lab ID: 19101678-04
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.13		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-05
Collection Date: 10/18/2019 09:30 AM

Work Order: 19101678
Lab ID: 19101678-05
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	U		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-06
Collection Date: 10/18/2019 11:50 AM

Work Order: 19101678
Lab ID: 19101678-06
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.24		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-07
Collection Date: 10/18/2019 01:55 PM

Work Order: 19101678
Lab ID: 19101678-07
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	U		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-08
Collection Date: 10/18/2019 01:05 PM

Work Order: 19101678
Lab ID: 19101678-08
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.44		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-09
Collection Date: 10/18/2019 01:55 PM

Work Order: 19101678
Lab ID: 19101678-09
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.77		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-10
Collection Date: 10/18/2019 12:55 PM

Work Order: 19101678
Lab ID: 19101678-10
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.79		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-11
Collection Date: 10/18/2019 12:15 PM

Work Order: 19101678
Lab ID: 19101678-11
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.53		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-12
Collection Date: 10/18/2019 08:25 AM

Work Order: 19101678
Lab ID: 19101678-12
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.51		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-13
Collection Date: 10/18/2019 12:05 PM

Work Order: 19101678
Lab ID: 19101678-13
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.54		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-14
Collection Date: 10/18/2019 11:20 AM

Work Order: 19101678
Lab ID: 19101678-14
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.92		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-15
Collection Date: 10/18/2019 01:30 PM

Work Order: 19101678
Lab ID: 19101678-15
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.59		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-16
Collection Date: 10/18/2019 10:50 AM

Work Order: 19101678
Lab ID: 19101678-16
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.64		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-17
Collection Date: 10/18/2019 08:40 AM

Work Order: 19101678
Lab ID: 19101678-17
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.63		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-18
Collection Date: 10/18/2019 09:35 AM

Work Order: 19101678
Lab ID: 19101678-18
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.99		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-19
Collection Date: 10/18/2019 09:25 AM

Work Order: 19101678
Lab ID: 19101678-19
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: QTN
Fluoride	0.57		0.058	0.10	mg/L	1	10/23/2019 13:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-20
Collection Date: 10/18/2019 10:35 AM

Work Order: 19101678
Lab ID: 19101678-20
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.38		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-21
Collection Date: 10/18/2019 10:00 AM

Work Order: 19101678
Lab ID: 19101678-21
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.38		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-22
Collection Date: 10/18/2019 08:20 AM

Work Order: 19101678
Lab ID: 19101678-22
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.21		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-23
Collection Date: 10/18/2019 12:00 PM

Work Order: 19101678
Lab ID: 19101678-23
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.25		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-24
Collection Date: 10/18/2019 11:00 AM

Work Order: 19101678
Lab ID: 19101678-24
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.12		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-25
Collection Date: 10/18/2019 09:10 AM

Work Order: 19101678
Lab ID: 19101678-25
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.23		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-26
Collection Date: 10/18/2019 12:00 PM

Work Order: 19101678
Lab ID: 19101678-26
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.36		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-27
Collection Date: 10/18/2019 10:00 AM

Work Order: 19101678
Lab ID: 19101678-27
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.34		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Oct-19

Client: ALS Environmental
Project: HS19101144
Sample ID: 19101144-28
Collection Date: 10/18/2019 09:25 AM

Work Order: 19101678
Lab ID: 19101678-28
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	U		0.058	0.10	mg/L	1	10/24/2019 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

WorkOrder: 19101678
InstrumentID: Titrator 1
Test Code: FL_4500C_W
Test Number: A4500-F C-11
Test Name: Fluoride

**METHOD DETECTION /
REPORTING LIMITS**

Matrix: Water Units: mg/L

Type Analyte	CAS	DCS Spike	DCS	MDL	Unadjusted MQL
A Fluoride	16984-48-8	0.075	0.050	0.058	0.10

Client: ALS Environmental
Work Order: 19101678
Project: HS19101144

QC BATCH REPORT

Batch ID: **R273613** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK		Sample ID: MB-R273613-R273613				Units: mg/L		Analysis Date: 10/23/2019 01:17 P		
Client ID:		Run ID: TITRATOR 1_191023A		SeqNo: 6006526		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride U 0.10

LCS		Sample ID: LCS-R273613-R273613				Units: mg/L		Analysis Date: 10/23/2019 01:17 P		
Client ID:		Run ID: TITRATOR 1_191023A		SeqNo: 6006527		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.06 0.10 5 0 101 80-120 0

MS		Sample ID: 19101678-05AMS				Units: mg/L		Analysis Date: 10/23/2019 01:17 P		
Client ID: 19101144-05		Run ID: TITRATOR 1_191023A		SeqNo: 6006534		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.13 0.10 5 0.05 102 75-125 0

MS		Sample ID: 19101678-19AMS				Units: mg/L		Analysis Date: 10/23/2019 01:17 P		
Client ID: 19101144-19		Run ID: TITRATOR 1_191023A		SeqNo: 6006550		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.17 0.10 5 0.57 92 75-125 0

MSD		Sample ID: 19101678-05AMSD				Units: mg/L		Analysis Date: 10/23/2019 01:17 P		
Client ID: 19101144-05		Run ID: TITRATOR 1_191023A		SeqNo: 6006535		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.3 0.10 5 0.05 105 75-125 5.13 3.26 20

MSD		Sample ID: 19101678-19AMSD				Units: mg/L		Analysis Date: 10/23/2019 01:17 P		
Client ID: 19101144-19		Run ID: TITRATOR 1_191023A		SeqNo: 6006551		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.34 0.10 5 0.57 95.4 75-125 5.17 3.24 20

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: ALS Environmental
Work Order: 19101678
Project: HS19101144

QC BATCH REPORT

Batch ID: **R273613** Instrument ID **Titration 1** Method: **A4500-F C-11**

The following samples were analyzed in this batch:

19101678-01A	19101678-02A	19101678-03A
19101678-04A	19101678-05A	19101678-06A
19101678-07A	19101678-08A	19101678-09A
19101678-10A	19101678-11A	19101678-12A
19101678-13A	19101678-14A	19101678-15A
19101678-16A	19101678-17A	19101678-18A
19101678-19A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: ALS Environmental
 Work Order: 19101678
 Project: HS19101144

QC BATCH REPORT

Batch ID: **R273735** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK		Sample ID: MB-R273735-R273735				Units: mg/L		Analysis Date: 10/24/2019 03:17 P		
Client ID:		Run ID: TITRATOR 1_191024B				SeqNo: 6010247		Prep Date:		DF: 1
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	U	0.10								

LCS		Sample ID: LCS-R273735-R273735				Units: mg/L		Analysis Date: 10/24/2019 03:17 P		
Client ID:		Run ID: TITRATOR 1_191024B				SeqNo: 6010248		Prep Date:		DF: 1
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.72	0.10	5	0	94.4	80-120	0			

MS		Sample ID: 19101608-08AMS				Units: mg/L		Analysis Date: 10/24/2019 03:17 P		
Client ID:		Run ID: TITRATOR 1_191024B				SeqNo: 6010250		Prep Date:		DF: 1
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	5.07	0.10	5	0.25	96.4	75-125	0			

MSD		Sample ID: 19101608-08AMSD				Units: mg/L		Analysis Date: 10/24/2019 03:17 P		
Client ID:		Run ID: TITRATOR 1_191024B				SeqNo: 6010251		Prep Date:		DF: 1
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	5.07	0.10	5	0.25	96.4	75-125	5.07	0	20	

The following samples were analyzed in this batch:

19101678-20A	19101678-21A	19101678-22A
19101678-23A	19101678-24A	19101678-25A
19101678-26A	19101678-27A	19101678-28A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

WET CHEMISTRY DATA ASSESSMENT CHECKLIST

Wet Chemistry		Batch Number: Multiple	Instrument ID: Titrator 1				
Method: Fluoride		Work order Number (s): 19101678					
Analyst Name: DMD		Date 10/24/19	Reviewer Name: JB			Date: 10/23/19	
	A ¹	Description	Yes	No	NA ₂	NR ³	ER# ⁴
R1	I	Chain-of-Custody					
		1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?			X		
		2) Were all departures from standard conditions described in an exception report?			X		
R2	I	SAMPLE AND QUALITY CONTROL (QC) IDENTIFICATION					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?			X		
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?			X		
R3	I	TEST REPORTS					
		1) Were all samples prepared and analyzed within holding times?	X				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		3) Were calculations checked by a peer or supervisor?	X				
		4) Were all analyte identifications checked by a peer or supervisor?	X				
		5) Were sample quantitation limits reported for all analytes not detected?	X				
		6) Were all results for soil and sediment samples reported on a dry weight basis?			X		
		7) Was % moisture (or solids) reported for all soil and sediment samples?			X		
		8) If required for the project, TICs reported?			X		
R4	I	SURROGATE RECOVERY DATA					
		1) Were surrogates added prior to extraction?			X		
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	I	TEST REPORTS/SUMMARY FORMS FOR BLANK SAMPLES					
		1) Were appropriate type(s) of blanks analyzed?	X				
		2) Were blanks analyzed at the appropriate frequency?	X				
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		4) Were blank concentrations < ½ MQL?	X				
R6	I	LABORATORY CONTROL SAMPLES (LCS):					
		1) Were all COCs included in the LCS?	X				
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		3) Were LCSs analyzed at the required frequency?	X				
		4) Were LCS and LCSD %Rs within the laboratory QC limits?	X				
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	X				
		6) Was the LCSD RPD within QC limits?	X				
R7	I	MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) DATA					
		1) Were the project or method specified analytes included in the MS and MSD?	X				
		2) Were MS/MSD analyzed at the appropriate frequency?	X				
		3) Were MS and MSD %Rs within the laboratory QC limits?	X				
		4) Were MS/MSD RPDs within laboratory QC limits?	X				
R8	I	ANALYTICAL DUPLICATE DATA (IF REQUIRED)					
		1) Were appropriate analytical duplicates analyzed for each matrix?	X				
		2) Were analytical duplicates analyzed at the appropriate frequency?	X				
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	I	METHOD QUANTITATION LIMITS (MQLS):					
		1) Are the MQLs for each method analyte listed and included in the laboratory data package?	X				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		3) Are unadjusted MQLs included in the laboratory data package?			X		
R10	I	OTHER PROBLEMS/ANOMALIES					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		2) Were all necessary corrective actions performed for the reported data?	X				
		3) If requested, is the justification for elevated SQLs documented?			X		

S1	I	INITIAL CALIBRATION (ICAL)					
		1) Were response factors (RFs) and/or relative response factors (RRFs) for each analyte within the QC limits?			X		
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	I	INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICCV AND CCV) AND					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?	X				
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the organic CCB < MDL?	X				
S3	I	MASS SPECTRAL TUNING:					
		1) Was the appropriate compound for the method used for tuning?			X		
		2) Were ion abundance data within the method-required QC limits?			X		
S4	I	INTERNAL STANDARDS (IS):					
		Were IS area counts within the method-required QC limits?			X		
S5	I	RAW DATA					
		1) Were the raw data (e.g., chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				
S6	I	DUAL COLUMN CONFIRMATION (IF REQUIRED)					
		Did dual column confirmation results meet the method-required QC?			X		
S7	I	TENTATIVELY IDENTIFIED COMPOUNDS (TICS):					
		If TICS were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	INTERFERENCE CHECK SAMPLE (ICS) RESULTS:					
		Were percent recoveries within method QC limits?			X		
S9	I	SERIAL DILUTIONS, POST DIGESTION SPIKES, AND METHOD OF STANDARD					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	I	PROFICIENCY TEST REPORTS:					
		Are proficiency testing or inter-laboratory comparison results on file?	X				
S11	I	METHOD DETECTION LIMIT (MDL) STUDIES					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S12	I	STANDARDS DOCUMENTATION					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	I	COMPOUND/ANALYTE IDENTIFICATION PROCEDURES					
		Are the procedures for compound/analyte identification documented?	X				
S14	I	DEMONSTRATION OF ANALYST COMPETENCY (DOC)					
		1) Was DOC conducted consistent with NELAC 5C or ISO/IEC 4.2.2?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	I	VERIFICATION/VALIDATION DOCUMENTATION FOR METHODS					
		Are all the methods used to generate the data documented, verified, and validated, where applicable, (NELAC 5.10.2 or ISO/IEC 17025 Section 5.4.5)?	X				
S16	I	LABORATORY STANDARD OPERATING PROCEDURES (SOPS):					
		Are laboratory SOPs current and on file for each method performed?	X				

1 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

2 NA = Not applicable.

3 NR = Not Reviewed.

4 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

WET CHEMISTRY DATA ASSESSMENT CHECKLIST

Wet Chemistry		Batch Number:	
ER # ¹	DESCRIPTION		
1			
2			
3			
4			
5			
6			

- 1 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)



19101678

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 12447

SUBCONTRACT TO:

ALS Laboratory Group
3352 128th Ave.
Holland, MI 494249263

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: RJ Modashia
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RJ.Modashia@alsglobal.com
Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19101144
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19101144-01	MW-39	Groundwater	18 Oct 2019 13:25
	Fluoride by ISE 4500			25 Oct 2019
2.	HS19101144-02	MW-40	Groundwater	18 Oct 2019 12:40
	Fluoride by ISE 4500			25 Oct 2019
3.	HS19101144-03	MW-41	Groundwater	18 Oct 2019 10:55
	Fluoride by ISE 4500			25 Oct 2019
4.	HS19101144-04	MW-62	Groundwater	18 Oct 2019 08:40
	Fluoride by ISE 4500			25 Oct 2019
5.	HS19101144-05	MW-63	Groundwater	18 Oct 2019 09:30
	Fluoride by ISE 4500			25 Oct 2019
6.	HS19101144-06	MW-64	Groundwater	18 Oct 2019 11:50
	Fluoride by ISE 4500			25 Oct 2019
7.	HS19101144-07	MW-23	Groundwater	18 Oct 2019 13:55
	Fluoride by ISE 4500			25 Oct 2019
8.	HS19101144-08	MW-28D	Groundwater	18 Oct 2019 13:05
	Fluoride by ISE 4500			25 Oct 2019
9.	HS19101144-09	MW-42	Groundwater	18 Oct 2019 13:55

Report Data from Work Order HS19101137



Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 12447

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
	Fluoride by ISE 4500		25 Oct 2019
10. HS19101144-10	MW-43	Groundwater	18 Oct 2019 12:55
	Fluoride by ISE 4500		25 Oct 2019
11. HS19101144-11	MW-44	Groundwater	18 Oct 2019 12:15
	Fluoride by ISE 4500		25 Oct 2019
12. HS19101144-12	MW-46R	Groundwater	18 Oct 2019 08:25
	Fluoride by ISE 4500		25 Oct 2019
13. HS19101144-13	MW-47	Groundwater	18 Oct 2019 12:05
	Fluoride by ISE 4500		25 Oct 2019
14. HS19101144-14	MW-48	Groundwater	18 Oct 2019 11:20
	Fluoride by ISE 4500		25 Oct 2019
15. HS19101144-15	MW-50	Groundwater	18 Oct 2019 13:30
	Fluoride by ISE 4500		25 Oct 2019
16. HS19101144-16	MW-52	Groundwater	18 Oct 2019 10:50
	Fluoride by ISE 4500		25 Oct 2019
17. HS19101144-17	MW-54	Groundwater	18 Oct 2019 08:40
	Fluoride by ISE 4500		25 Oct 2019
18. HS19101144-18	MW-55R	Groundwater	18 Oct 2019 09:35
	Fluoride by ISE 4500		25 Oct 2019
19. HS19101144-19	MW-58	Groundwater	18 Oct 2019 09:25
	Fluoride by ISE 4500		25 Oct 2019
20. HS19101144-20	MW-65	Groundwater	18 Oct 2019 10:35
	Fluoride by ISE 4500		25 Oct 2019
21. HS19101144-21	MW-36	Groundwater	18 Oct 2019 10:00
	Fluoride by ISE 4500		25 Oct 2019
22. HS19101144-22	MW-37	Groundwater	18 Oct 2019 08:20
	Fluoride by ISE 4500		25 Oct 2019
23. HS19101144-23	MW-38R	Groundwater	18 Oct 2019 12:00
	Fluoride by ISE 4500		25 Oct 2019
24. HS19101144-24	MW-60	Groundwater	18 Oct 2019 11:00
	Fluoride by ISE 4500		25 Oct 2019



Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 12447

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
25. HS19101144-25	MW-61	Groundwater	18 Oct 2019 09:10
Fluoride by ISE 4500			25 Oct 2019
26. HS19101144-26	DUP-01	Groundwater	18 Oct 2019 12:00
Fluoride by ISE 4500			25 Oct 2019
27. HS19101144-27	DUP-02	Groundwater	18 Oct 2019 10:00
Fluoride by ISE 4500			25 Oct 2019
28. HS19101144-28	FB-01	Groundwater	18 Oct 2019 09:25
Fluoride by ISE 4500			25 Oct 2019

Comments: Please analyze for the analysis listed above.
 Send report to the emails shown above.
 Sample maybe high in Salts and Minerals.
 MS/MSD must be performed on client sample..
 HS19101144-05 & HS19101144-19 = MS/MSD
 Report Data from Work Order HS19101137

QC Level: TRRP LRC (TRRP checklist only+Level II (normal))

Relinquished By: J. M. M...
 Received By: [Signature]
 Cooler ID(s): _____

Date/Time: 10/21/19 18:00
 Date/Time: 10/22/19 10:00
 Temperature(s): 1.8°C SRZ PH18

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**

Date/Time Received: **22-Oct-19 10:00**

Work Order: **19101678**

Received by: **MJG**

Checklist completed by Matthew Gaylord 22-Oct-19
eSignature Date

Reviewed by: Chad Whelton 23-Oct-19
eSignature Date

Matrices: Groundwater

Carrier name: FedEx

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s):

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

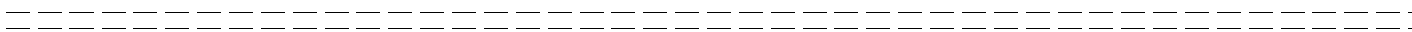
Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



Monday, November 25, 2019

RJ Modashia
ALS Environmental
10450 Stancliff Rd, Suite 210
Houston, TX 77099

Re: ALS Workorder: 1910511
Project Name:
Project Number: HS19101144

Dear Mr. Modashia:

Twenty eight water samples were received from ALS Environmental, on 10/22/2019. The samples were scheduled for the following analyses:

Radium-226

Radium-228

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Jeff R. Kujawa
Project Manager

ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
AIHA	214884
Alaska (AK)	UST-086
Alaska (AK)	CO01099
Arizona (AZ)	AZ0742
California (CA)	06251CA
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
PJ-LA (DoD ELAP/ISO 170250)	95377
Louisiana (LA)	05057
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO000782008A
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280



1910458

Radium-228:

The samples were analyzed for the presence of ^{228}Ra by low background gas flow proportional counting of ^{228}Ac , which is the ingrown progeny of ^{228}Ra , according to the current revision of SOP 724.

The LCS and LCSD for batch RA191115-1 exceeded historical Ra-228 recovery maximums with recoveries of 128% and 134%, respectively. It is speculated that the low volume and potential higher concentration of nuclide for Ra-228 working standard 966.4095.32 is the cause of these high LCS/D failures. For further information regarding this occurrence, please refer to NCR #15014 at the end of this report.

All remaining acceptance criteria were met.

Radium-226:

The samples were prepared and analyzed according to the current revision of SOP 783.

Ra-226 activity is reported in the associated method blank RE191107-1MB above the minimum detectable concentration value. The measured blank activity is below the requested MDC. Results are acceptable according to the current revision of SOP 715 and are submitted without further qualification.

All remaining acceptance criteria were met.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1910511

Client Name: ALS Environmental

Client Project Name:

Client Project Number: HS19101144

Client PO Number: 10-12446

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
MW-39	1910511-1		WATER	18-Oct-19	13:25
MW-40	1910511-2		WATER	18-Oct-19	12:40
MW-41	1910511-3		WATER	18-Oct-19	10:55
MW-62	1910511-4		WATER	18-Oct-19	8:40
MW-63	1910511-5		WATER	18-Oct-19	9:30
MW-64	1910511-6		WATER	18-Oct-19	11:50
MW-23	1910511-7		WATER	18-Oct-19	13:55
MW-28D	1910511-8		WATER	18-Oct-19	13:05
MW-42	1910511-9		WATER	18-Oct-19	13:55
MW-43	1910511-10		WATER	18-Oct-19	12:55
MW-44	1910511-11		WATER	18-Oct-19	12:15
MW-46R	1910511-12		WATER	18-Oct-19	8:25
MW-47	1910511-13		WATER	18-Oct-19	12:05
MW-48	1910511-14		WATER	18-Oct-19	11:20
MW-50	1910511-15		WATER	18-Oct-19	13:30
MW-52	1910511-16		WATER	18-Oct-19	10:50
MW-54	1910511-17		WATER	18-Oct-19	8:40
MW-55R	1910511-18		WATER	18-Oct-19	9:35
MW-58	1910511-19		WATER	18-Oct-19	9:25
MW-65	1910511-20		WATER	18-Oct-19	10:35
MW-36	1910511-21		WATER	18-Oct-19	10:00
MW-37	1910511-22		WATER	18-Oct-19	8:20
MW-38R	1910511-23		WATER	18-Oct-19	12:00
MW-60	1910511-24		WATER	18-Oct-19	11:00
MW-61	1910511-25		WATER	18-Oct-19	9:10
DUP-01	1910511-26		WATER	18-Oct-19	12:00
DUP-02	1910511-27		WATER	18-Oct-19	10:00
FB-01	1910511-28		WATER	18-Oct-19	9:25



10450 Stancliff Rd, Ste 210
 Houston, TX 77099
 T: +1 281 530 5656
 F: +1 281 530 5887
 www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 12446

SUBCONTRACT TO:

ALS Environmental, Fort Collins
 225 Commerce Drive
 Fort Collins, CO 80524

1910511

Phone: +1 970 490 1511

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: RJ Modashia
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RJ.Modashia@alsglobal.com
Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19101144
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19101144-01	MW-39	Groundwater	18 Oct 2019 13:25
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
2.	HS19101144-02	MW-40	Groundwater	18 Oct 2019 12:40
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
3.	HS19101144-03	MW-41	Groundwater	18 Oct 2019 10:55
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
4.	HS19101144-04	MW-62	Groundwater	18 Oct 2019 08:40
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
5.	HS19101144-05	MW-63	Groundwater	18 Oct 2019 09:30
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
6.	HS19101144-06	MW-64	Groundwater	18 Oct 2019 11:50
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019



Subcontract Chain of Custody

1910511

SAMPLING STATE: Texas

COC ID: 12446

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
7.	HS19101144-07	MW-23	Groundwater	18 Oct 2019 13:55
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
8.	HS19101144-08	MW-28D	Groundwater	18 Oct 2019 13:05
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
9.	HS19101144-09	MW-42	Groundwater	18 Oct 2019 13:55
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
10.	HS19101144-10	MW-43	Groundwater	18 Oct 2019 12:55
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
11.	HS19101144-11	MW-44	Groundwater	18 Oct 2019 12:15
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
12.	HS19101144-12	MW-46R	Groundwater	18 Oct 2019 08:25
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
13.	HS19101144-13	MW-47	Groundwater	18 Oct 2019 12:05
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
14.	HS19101144-14	MW-48	Groundwater	18 Oct 2019 11:20
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
15.	HS19101144-15	MW-50	Groundwater	18 Oct 2019 13:30
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
16.	HS19101144-16	MW-52	Groundwater	18 Oct 2019 10:50
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
17.	HS19101144-17	MW-54	Groundwater	18 Oct 2019 08:40



1910511

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 12446

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
18. HS19101144-18	MW-55R	Groundwater	18 Oct 2019 09:35
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
19. HS19101144-19	MW-58	Groundwater	18 Oct 2019 09:25
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
20. HS19101144-20	MW-65	Groundwater	18 Oct 2019 10:35
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
21. HS19101144-21	MW-36	Groundwater	18 Oct 2019 10:00
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
22. HS19101144-22	MW-37	Groundwater	18 Oct 2019 08:20
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
23. HS19101144-23	MW-38R	Groundwater	18 Oct 2019 12:00
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
24. HS19101144-24	MW-60	Groundwater	18 Oct 2019 11:00
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
25. HS19101144-25	MW-61	Groundwater	18 Oct 2019 09:10
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
26. HS19101144-26	DUP-01	Groundwater	18 Oct 2019 12:00
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019
27. HS19101144-27	DUP-02	Groundwater	18 Oct 2019 10:00
	Report Combined RA 226/228 Value &the 2 Individual		25 Oct 2019



1910511

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 12446

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
28. HS19101144-28	FB-01	Groundwater	18 Oct 2019 09:25
Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019
Report Combined RA 226/228 Value &the 2 Individual			25 Oct 2019

Comments: Please analyze for the analysis listed above.
 Send report to the emails shown above.
 Sample maybe high in Salts and Minerals.
 MS/MSD must be performed on client sample..
 HS19101144-05 & HS19101144-19 = MS/MSD

QC Level: TRRP LRC (TRRP checklist only+Level II (normal))

Relinquished By: J. Myerson

Date/Time: 10/21/19 18:00

Received By: Emily Lyons

Date/Time: 10.22.19 0950

Cooler ID(s): _____

Temperature(s): _____



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ALS Houston

Workorder No: 1910511

Project Manager: JRK

Initials: EE

Date: 10/23/19

1. Are airbills / shipping documents present and/or removable?		DROP OFF	<input checked="" type="radio"/> YES	NO
2. Are custody seals on shipping containers intact?		NONE	<input checked="" type="radio"/> YES	NO *
3. Are custody seals on sample containers intact?		NONE	<input checked="" type="radio"/> YES	NO *
4. Is there a COC (chain-of-custody) present?			<input checked="" type="radio"/> YES	NO *
5. Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)			YES	<input checked="" type="radio"/> NO *
6. Are short-hold samples present?			YES	<input checked="" type="radio"/> NO
7. Are all samples within holding times for the requested analyses?			<input checked="" type="radio"/> YES	NO *
8. Were all sample containers received intact? (not broken or leaking)			<input checked="" type="radio"/> YES	NO *
9. Is there sufficient sample for the requested analyses?			<input checked="" type="radio"/> YES	NO *
10. Are samples in proper containers for requested analyses? (form 250, Sample Handling Guidelines)			<input checked="" type="radio"/> YES	NO *
11. Are all aqueous samples preserved correctly, if required? (excluding volatiles)		N/A	YES	NO *
12. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)		<input checked="" type="radio"/> N/A	YES	NO
13. Were the samples shipped on ice?			YES	<input checked="" type="radio"/> NO
14. Were cooler temperatures measured at 0.1-6.0°C?		IR gun used*: #3 #5	<input checked="" type="radio"/> YES	NO
Cooler #: <u>1</u> <u>2</u> <u>3</u> <u>4</u> <u>5</u>				
Temperature (°C): <u>AMB</u> <u>AMB</u> <u>AMB</u> <u>AMB</u> <u>AMB</u>				
# of custody seals on cooler: <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u>				
External mR/hr reading: <u>10</u> <u>9</u> <u>10</u> <u>10</u> <u>10</u>				
Background mR/hr reading: <u>12</u>				
Were external mR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES <input type="radio"/> NO / NA (If no, see Form 008.)				

* Please provide details here for NO responses to gray boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.

5) no # of bottles listed for MS/MSD samples

Were unpreserved bottles pH checked? YES / NA

All client bottle ID's vs ALS lab ID's double-checked by: EE

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: [Signature] 10-23-19

Must Deliver Next Business Day
Temperature Sensitive

RT 617
ST 16
5 15:00
8821
10.22
A

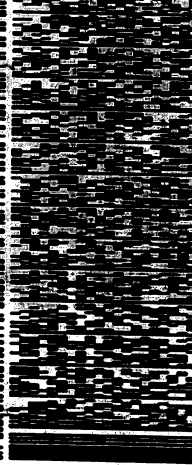


SHIP DATE: 21OCT19
ACT WT: 37.00 LB
CAD: 300130/CAFEE3211
DIRS: 14X11X10.5IN
BILL THIRD PARTY

ORIGIN ID: 5699 (281) 530-5656
CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

TO SAMPLE RECEIVING
ALS FORT COLLINS
225 COMMERCE DRIVE

FORT COLLINS CO 80524
(970) 400-1511
REF: HS19101167/1085/1144-DW/RJ

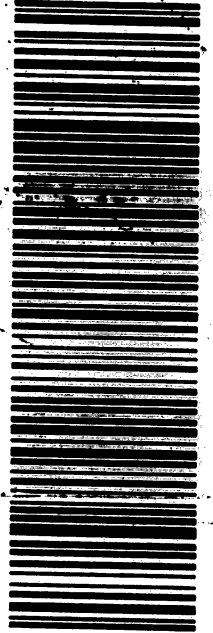


TUE - 22 OCT 3:00P
STANDARD OVERNIGHT

1 of 5
TRW 1251 0290 8821
0201
MASTER

AG FTCA

80524
CO-US DEN



Must Deliver Next Business Day
Temperature Sensitive

RT 617
ST 16
5 15:00
8843
10.22
A

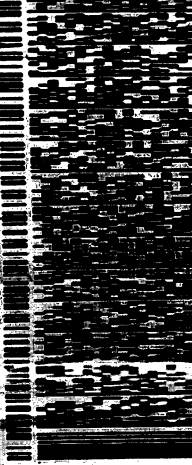


SHIP DATE: 21OCT19
ACT WT: 37.00 LB
CAD: 300130/CAFEE3211
DIRS: 14X11X10.5IN
BILL THIRD PARTY

ORIGIN ID: 5699 (281) 530-5656
CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

TO SAMPLE RECEIVING
ALS FORT COLLINS
225 COMMERCE DRIVE

FORT COLLINS CO 80524
(970) 400-1511
REF: HS19101167/1085/1144-DW/RJ

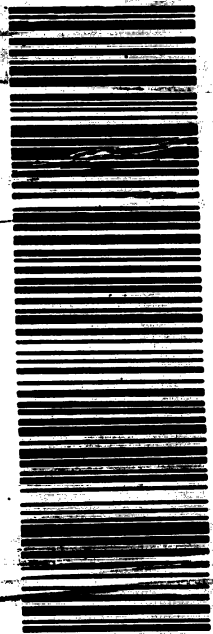


TUE - 22 OCT 3:00P
STANDARD OVERNIGHT

3 of 5
MRS 1251 0290 8843
0201
METR 1251 0290 8821

AG FTCA

80524
CO-US DEN



Must Deliver Next Business Day
Time and Temperature Sensitive!



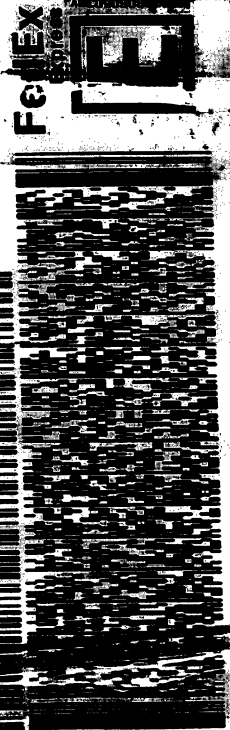
SHIP DATE: 21OCT18
ACT WT: 37.00 LB
CDS: 300130/CAP/2211
DIMS: 14x11x10 IN

SHIP DATE: 21OCT18
ACT WT: 37.00 LB
CDS: 300130/CAP/2211
DIMS: 14x11x10 IN

TO SAMPLE RECEIVING
ALS FORT COLLINS
225 COMMERCE DRIVE

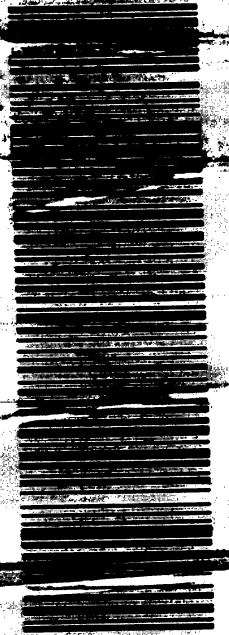
10-1
AMB

FORT COLLINS CO 80524
(970) 465-1511
REF: 1812101167/1085/1144 DW/RJ



TUE - 22 OCT 3:00P
STANDARD OVERNIGHT

AG FTCA
80524
CO-US DEN



Must Deliver Next Business Day
Time and Temperature Sensitive!



SHIP DATE: 21OCT18
ACT WT: 37.00 LB
CDS: 300130/CAP/2211
DIMS: 14x11x10 IN

SHIP DATE: 21OCT18
ACT WT: 37.00 LB
CDS: 300130/CAP/2211
DIMS: 14x11x10 IN

TO SAMPLE RECEIVING
ALS FORT COLLINS
225 COMMERCE DRIVE

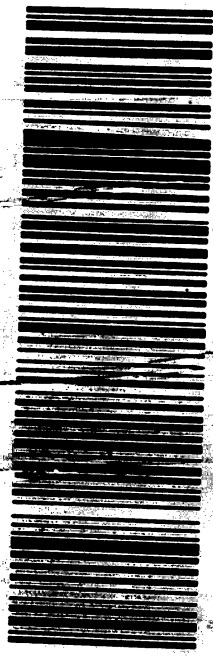
AMB

FORT COLLINS CO 80524
(970) 465-1511
REF: 1812101167/1085/1144 DW/RJ



TUE - 22 OCT 3:00P
STANDARD OVERNIGHT

AG FTCA
80524
CO-US DEN



Part # 158408-434 RIT EXP 07/20

551C/203C/104C

Must Deliver Next Business Day
Time and Temperature Sensitive!

SHIP DATE: 21OCT19
ACTWT: 37.00 LB
CRD: 300130/CAFE3211
DJNS: 14x11x10 IN
BILL THIRD PARTY

ALN 11098 (281) 530-5656
ALN 11098 (281) 530-5656
ALN 11098 (281) 530-5656
ALN 11098 (281) 530-5656

SATIN BLE RECEIVING
ALS FORT COLLINS
225 COMMERCE DRIVE

10-1
FBI COLLINS CO 80524 AMB

SHIP DATE: 21OCT19
ACTWT: 37.00 LB
CRD: 300130/CAFE3211
DJNS: 14x11x10 IN

FedEx
Express



10-22 OCT 2019
STANDARD OVERNIGHT

AGTCA
80524
80524
80524

AGTCA
80524
80524
80524

GO-US DAN



Client: ALS Environmental
Project: HS19101144
Sample ID: MW-39
Legal Location:
Collection Date: 10/18/2019 13:25

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-1
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 11/7/2019	PrepBy: TRW
Ra-226	ND (+/- 0.23)	U	0.39	pCi/l	NA	11/14/2019 12:10
<i>Carr: BARIUM</i>	99.2		40-110	%REC	DL = NA	11/14/2019 12:10
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 11/13/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.75	pCi/l	NA	11/18/2019 08:33
Ra-228	ND (+/- 0.4)	U	0.75	pCi/l	NA	11/18/2019 08:33
<i>Carr: BARIUM</i>	93.7		40-110	%REC	DL = NA	11/18/2019 08:33

Client: ALS Environmental
 Project: HS19101144
 Sample ID: MW-40
 Legal Location:
 Collection Date: 10/18/2019 12:40

Date: 25-Nov-19
 Work Order: 1910511
 Lab ID: 1910511-2
 Matrix: WATER
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783	Prep Date: 11/7/2019		PrepBy: TRW
Ra-226	0.44 (+/- 0.31)	Y1	0.36	pCi/l	NA	11/14/2019 12:10
Carr: BARIUM	100	Y1	40-110	%REC	DL = NA	11/14/2019 12:10
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 11/13/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	2.4 (+/- 0)		0.77	pCi/l	NA	11/18/2019 08:33
Ra-228	1.96 (+/- 0.63)		0.77	pCi/l	NA	11/18/2019 08:33
Carr: BARIUM	94.5		40-110	%REC	DL = NA	11/18/2019 08:33

Client: ALS Environmental
 Project: HS19101144
 Sample ID: MW-41
 Legal Location:
 Collection Date: 10/18/2019 10:55

Date: 25-Nov-19
 Work Order: 1910511
 Lab ID: 1910511-3
 Matrix: WATER
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 11/7/2019	PrepBy: TRW
Ra-226	0.4 (+/- 0.3)	Y1	0.38	pCi/l	NA	11/14/2019 12:29
Carr: BARIUM	101	Y1	40-110	%REC	DL = NA	11/14/2019 12:29
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 11/13/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	1.39 (+/- 0)		0.75	pCi/l	NA	11/18/2019 08:33
Ra-228	0.99 (+/- 0.45)		0.75	pCi/l	NA	11/18/2019 08:33
Carr: BARIUM	93.3		40-110	%REC	DL = NA	11/18/2019 08:33

Client: ALS Environmental
Project: HS19101144
Sample ID: MW-62
Legal Location:
Collection Date: 10/18/2019 08:40

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-4
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	ND (+/- 0.3)	U	0.48	pCi/l	NA	11/14/2019 12:29
<i>Carr: BARIUM</i>	99.2		40-110	%REC	DL = NA	11/14/2019 12:29
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)						
	1.39 (+/- 0)		0.77	pCi/l	NA	11/18/2019 08:33
Ra-228	1.39 (+/- 0.52)		0.77	pCi/l	NA	11/18/2019 08:33
<i>Carr: BARIUM</i>	91.4		40-110	%REC	DL = NA	11/18/2019 08:33

Client: ALS Environmental
Project: HS19101144
Sample ID: MW-63
Legal Location:
Collection Date: 10/18/2019 09:30

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-5
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 11/7/2019 PrepBy: TRW	
Ra-226	ND (+/- 0.26)	Y1,U	0.45	pCi/l	NA	11/14/2019 12:29
Carr: BARIUM	101	Y1	40-110	%REC	DL = NA	11/14/2019 12:29
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 11/13/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.76	pCi/l	NA	11/18/2019 08:33
Ra-228	ND (+/- 0.38)	U	0.76	pCi/l	NA	11/18/2019 08:33
Carr: BARIUM	98.2		40-110	%REC	DL = NA	11/18/2019 08:33

Client: ALS Environmental
 Project: HS19101144
 Sample ID: MW-64
 Legal Location:
 Collection Date: 10/18/2019 11:50

Date: 25-Nov-19
 Work Order: 1910511
 Lab ID: 1910511-6
 Matrix: WATER
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 11/7/2019	PrepBy: TRW
Ra-226	0.58 (+/- 0.34)	Y1	0.33	pCi/l	NA	11/14/2019 12:29
Carr: BARIUM	101	Y1	40-110	%REC	DL = NA	11/14/2019 12:29
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 11/13/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	1.99 (+/- 0)		0.74	pCi/l	NA	11/18/2019 08:33
Ra-228	1.41 (+/- 0.51)		0.74	pCi/l	NA	11/18/2019 08:33
Carr: BARIUM	96		40-110	%REC	DL = NA	11/18/2019 08:33

Client: ALS Environmental
 Project: HS19101144
 Sample ID: MW-23
 Legal Location:
 Collection Date: 10/18/2019 13:55

Date: 25-Nov-19
 Work Order: 1910511
 Lab ID: 1910511-7
 Matrix: WATER
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	ND (+/- 0.35)	U	0.49	pCi/l	NA	11/14/2019 12:29
Carr: BARIUM	99.3		40-110	%REC	DL = NA	11/14/2019 12:29
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)						
	1 (+/- 0)		0.78	pCi/l	NA	11/18/2019 08:33
Ra-228	1 (+/- 0.46)		0.78	pCi/l	NA	11/18/2019 08:33
Carr: BARIUM	96.4		40-110	%REC	DL = NA	11/18/2019 08:33

Client: ALS Environmental
Project: HS19101144
Sample ID: MW-28D
Legal Location:
Collection Date: 10/18/2019 13:05

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-8
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	0.45 (+/- 0.32)		SOP 783		Prep Date: 11/7/2019	PrepBy: TRW
<i>Carr: BARIUM</i>	99.8		0.34	pCi/l	NA	11/14/2019 12:29
			40-110	%REC	DL = NA	11/14/2019 12:29
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.78	pCi/l	NA	11/18/2019 08:33
Ra-228	ND (+/- 0.37)	U	0.78	pCi/l	NA	11/18/2019 08:33
<i>Carr: BARIUM</i>	93.4		40-110	%REC	DL = NA	11/18/2019 08:33

Client: ALS Environmental
Project: HS19101144
Sample ID: MW-42
Legal Location:
Collection Date: 10/18/2019 13:55

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-9
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 11/7/2019	PrepBy: TRW
Ra-226	ND (+/- 0.23)	U	0.28	pCi/l	NA	11/14/2019 12:46
Carr: BARIUM	98.7		40-110	%REC	DL = NA	11/14/2019 12:46
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 11/13/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.8	pCi/l	NA	11/18/2019 08:33
Ra-228	ND (+/- 0.4)	U	0.8	pCi/l	NA	11/18/2019 08:33
Carr: BARIUM	97.8		40-110	%REC	DL = NA	11/18/2019 08:33

Client: ALS Environmental
Project: HS19101144
Sample ID: MW-43
Legal Location:
Collection Date: 10/18/2019 12:55

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-10
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 11/7/2019	PrepBy: TRW
Ra-226	ND (+/- 0.2)	U	0.3	pCi/l	NA	11/14/2019 12:46
Carr: BARIUM	99.1		40-110	%REC	DL = NA	11/14/2019 12:46
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 11/13/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.78	pCi/l	NA	11/18/2019 08:33
Ra-228	ND (+/- 0.43)	U	0.78	pCi/l	NA	11/18/2019 08:33
Carr: BARIUM	93.5		40-110	%REC	DL = NA	11/18/2019 08:33

Client: ALS Environmental

Date: 25-Nov-19

Project: HS19101144

Work Order: 1910511

Sample ID: MW-44

Lab ID: 1910511-11

Legal Location:

Matrix: WATER

Collection Date: 10/18/2019 12:15

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 11/7/2019	PrepBy: TRW
Ra-226	ND (+/- 0.2)	U	0.27	pCi/l	NA	11/14/2019 12:46
<i>Carr: BARIUM</i>	98		40-110	%REC	DL = NA	11/14/2019 12:46
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 11/13/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.87	pCi/l	NA	11/18/2019 08:33
Ra-228	ND (+/- 0.44)	U	0.87	pCi/l	NA	11/18/2019 08:33
<i>Carr: BARIUM</i>	94.1		40-110	%REC	DL = NA	11/18/2019 08:33

Client: ALS Environmental

Date: 25-Nov-19

Project: HS19101144

Work Order: 1910511

Sample ID: MW-46R

Lab ID: 1910511-12

Legal Location:

Matrix: WATER

Collection Date: 10/18/2019 08:25

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 11/7/2019 PrepBy: TRW	
Ra-226	ND (+/- 0.22)	U	0.35	pCi/l	NA	11/14/2019 12:46
Carr: BARIUM	99		40-110	%REC	DL = NA	11/14/2019 12:46
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 11/13/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.87	pCi/l	NA	11/18/2019 08:33
Ra-228	ND (+/- 0.41)	U	0.87	pCi/l	NA	11/18/2019 08:33
Carr: BARIUM	92.1		40-110	%REC	DL = NA	11/18/2019 08:33

Client: ALS Environmental
 Project: HS19101144
 Sample ID: MW-47
 Legal Location:
 Collection Date: 10/18/2019 12:05

Date: 25-Nov-19
 Work Order: 1910511
 Lab ID: 1910511-13
 Matrix: WATER
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783	Prep Date: 11/7/2019		PrepBy: TRW
Ra-226	0.34 (+/- 0.26)		0.31	pCi/l	NA	11/14/2019 12:46
Carr: BARIUM	98.6		40-110	%REC	DL = NA	11/14/2019 12:46
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 11/13/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.71	pCi/l	NA	11/18/2019 11:11
Ra-228	ND (+/- 0.35)	U	0.71	pCi/l	NA	11/18/2019 11:11
Carr: BARIUM	94		40-110	%REC	DL = NA	11/18/2019 11:11

Client: ALS Environmental
Project: HS19101144
Sample ID: MW-48
Legal Location:
Collection Date: 10/18/2019 11:20

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-14
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	0.43 (+/- 0.29)		SOP 783		Prep Date: 11/7/2019	PrepBy: TRW
<i>Carr: BARIUM</i>	98.8		0.26	pCi/l	NA	11/14/2019 12:46
			40-110	%REC	DL = NA	11/14/2019 12:46
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)	ND (+/- 0)	U	SOP 724		Prep Date: 11/13/2019	PrepBy: RGS
Ra-228	ND (+/- 0.4)	U	0.73	pCi/l	NA	11/18/2019 11:11
<i>Carr: BARIUM</i>	94.5		40-110	%REC	DL = NA	11/18/2019 11:11

Client: ALS Environmental
 Project: HS19101144
 Sample ID: MW-50
 Legal Location:
 Collection Date: 10/18/2019 13:30

Date: 25-Nov-19
 Work Order: 1910511
 Lab ID: 1910511-15
 Matrix: WATER
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 11/7/2019	PrepBy: TRW
Ra-226	0.49 (+/- 0.32)		0.33	pCi/l	NA	11/14/2019 12:46
Carr: BARIUM	99.1		40-110	%REC	DL = NA	11/14/2019 12:46
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 11/13/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	1.74 (+/- 0)		0.7	pCi/l	NA	11/18/2019 11:11
Ra-228	1.25 (+/- 0.47)		0.7	pCi/l	NA	11/18/2019 11:11
Carr: BARIUM	95.4		40-110	%REC	DL = NA	11/18/2019 11:11

Client: ALS Environmental
 Project: HS19101144
 Sample ID: MW-52
 Legal Location:
 Collection Date: 10/18/2019 10:50

Date: 25-Nov-19
 Work Order: 1910511
 Lab ID: 1910511-16
 Matrix: WATER
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 11/7/2019	PrepBy: TRW
Ra-226	ND (+/- 0.26)	Y1,U	0.43	pCi/l	NA	11/14/2019 13:03
Carr: BARIUM	101	Y1	40-110	%REC	DL = NA	11/14/2019 13:03
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 11/13/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	1.09 (+/- 0)		0.71	pCi/l	NA	11/18/2019 11:11
Ra-228	1.09 (+/- 0.45)		0.71	pCi/l	NA	11/18/2019 11:11
Carr: BARIUM	94.1		40-110	%REC	DL = NA	11/18/2019 11:11

Client: ALS Environmental
Project: HS19101144
Sample ID: MW-54
Legal Location:
Collection Date: 10/18/2019 08:40

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-17
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	ND (+/- 0.15)	U	0.39	pCi/l	NA	11/14/2019 13:03
<i>Carr: BARIUM</i>	97.9		40-110	%REC	DL = NA	11/14/2019 13:03
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.75	pCi/l	NA	11/18/2019 11:11
Ra-228	ND (+/- 0.38)	U	0.75	pCi/l	NA	11/18/2019 11:11
<i>Carr: BARIUM</i>	95		40-110	%REC	DL = NA	11/18/2019 11:11

Client: ALS Environmental
Project: HS19101144
Sample ID: MW-55R
Legal Location:
Collection Date: 10/18/2019 09:35

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-18
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	ND (+/- 0.31)	U	0.42	pCi/l	NA	11/13/2019 12:10
<i>Carr: BARIUM</i>	91.6		40-110	%REC	DL = NA	11/13/2019 12:10
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.77	pCi/l	NA	11/18/2019 11:11
Ra-228	ND (+/- 0.35)	U	0.77	pCi/l	NA	11/18/2019 11:11
<i>Carr: BARIUM</i>	94.1		40-110	%REC	DL = NA	11/18/2019 11:11

Client: ALS Environmental
Project: HS19101144
Sample ID: MW-58
Legal Location:
Collection Date: 10/18/2019 09:25

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-19
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	ND (+/- 0.25)	U	0.42	pCi/l	NA	11/13/2019 12:10
<i>Carr: BARIUM</i>	97.9		40-110	%REC	DL = NA	11/13/2019 12:10
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)						
	1.09 (+/- 0)		0.71	pCi/l	NA	11/18/2019 11:11
Ra-228	1.09 (+/- 0.45)		0.71	pCi/l	NA	11/18/2019 11:11
<i>Carr: BARIUM</i>	95.3		40-110	%REC	DL = NA	11/18/2019 11:11

Client: ALS Environmental
 Project: HS19101144
 Sample ID: MW-65
 Legal Location:
 Collection Date: 10/18/2019 10:35

Date: 25-Nov-19
 Work Order: 1910511
 Lab ID: 1910511-20
 Matrix: WATER
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783	Prep Date: 11/6/2019		PrepBy: TRW
Ra-226	0.31 (+/- 0.24)	Y1	0.29	pCi/l	NA	11/13/2019 12:33
Carr: BARIUM	100	Y1	40-110	%REC	DL = NA	11/13/2019 12:33
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 11/13/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	1.46 (+/- 0)		0.74	pCi/l	NA	11/18/2019 11:11
Ra-228	1.15 (+/- 0.47)		0.74	pCi/l	NA	11/18/2019 11:11
Carr: BARIUM	93.9		40-110	%REC	DL = NA	11/18/2019 11:11

Client: ALS Environmental
Project: HS19101144
Sample ID: MW-36
Legal Location:
Collection Date: 10/18/2019 10:00

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-21
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783	Prep Date: 11/6/2019		PrepBy: TRW
Ra-226	ND (+/- 0.23)	U	0.33	pCi/l	NA	11/13/2019 12:33
Carr: BARIUM	97.8		40-110	%REC	DL = NA	11/13/2019 12:33
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 11/13/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.78	pCi/l	NA	11/18/2019 11:11
Ra-228	ND (+/- 0.38)	U	0.78	pCi/l	NA	11/18/2019 11:11
Carr: BARIUM	95.1		40-110	%REC	DL = NA	11/18/2019 11:11

Client: ALS Environmental
Project: HS19101144
Sample ID: MW-37
Legal Location:
Collection Date: 10/18/2019 08:20

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-22
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783	Prep Date: 11/6/2019		PrepBy: TRW
Ra-226	ND (+/- 0.17)	U	0.3	pCi/l	NA	11/13/2019 12:33
Carr: BARIUM	98.8		40-110	%REC	DL = NA	11/13/2019 12:33
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 11/13/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.74	pCi/l	NA	11/18/2019 11:11
Ra-228	ND (+/- 0.36)	U	0.74	pCi/l	NA	11/18/2019 11:11
Carr: BARIUM	94.5		40-110	%REC	DL = NA	11/18/2019 11:11

Client: ALS Environmental
Project: HS19101144
Sample ID: MW-38R
Legal Location:
Collection Date: 10/18/2019 12:00

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-23
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	ND (+/- 0.26)	U	0.41	pCi/l	NA	11/13/2019 12:33
<i>Carr: BARIUM</i>	97.2		40-110	%REC	DL = NA	11/13/2019 12:33
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.8	pCi/l	NA	11/18/2019 11:11
Ra-228	ND (+/- 0.36)	U	0.8	pCi/l	NA	11/18/2019 11:11
<i>Carr: BARIUM</i>	97.9		40-110	%REC	DL = NA	11/18/2019 11:11

Client: ALS Environmental
Project: HS19101144
Sample ID: MW-60
Legal Location:
Collection Date: 10/18/2019 11:00

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-24
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783	Prep Date: 11/6/2019		PrepBy: TRW
Ra-226	ND (+/- 0.22)	U	0.26	pCi/l	NA	11/13/2019 12:33
Carr: BARIUM	97.5		40-110	%REC	DL = NA	11/13/2019 12:33
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 11/13/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.82	pCi/l	NA	11/18/2019 11:11
Ra-228	ND (+/- 0.45)	U	0.82	pCi/l	NA	11/18/2019 11:11
Carr: BARIUM	92.8		40-110	%REC	DL = NA	11/18/2019 11:11

Client: ALS Environmental
Project: HS19101144
Sample ID: MW-61
Legal Location:
Collection Date: 10/18/2019 09:10

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-25
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783	Prep Date: 11/6/2019		PrepBy: TRW
Ra-226	ND (+/- 0.25)	U	0.5	pCi/l	NA	11/13/2019 12:33
Carr: BARIUM	98.9		40-110	%REC	DL = NA	11/13/2019 12:33
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 11/15/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.76	pCi/l	NA	11/21/2019 10:43
Ra-228	ND (+/- 0.36)	U	0.76	pCi/l	NA	11/21/2019 10:43
Carr: BARIUM	95.3		40-110	%REC	DL = NA	11/21/2019 10:43

Client: ALS Environmental
Project: HS19101144
Sample ID: DUP-01
Legal Location:
Collection Date: 10/18/2019 12:00

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-26
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783	Prep Date: 11/6/2019		PrepBy: TRW
Ra-226	ND (+/- 0.23)	U	0.5	pCi/l	NA	11/13/2019 12:49
Carr: BARIUM	96.9		40-110	%REC	DL = NA	11/13/2019 12:49
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 11/15/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.74	pCi/l	NA	11/21/2019 10:43
Ra-228	ND (+/- 0.4)	U	0.74	pCi/l	NA	11/21/2019 10:43
Carr: BARIUM	93.6		40-110	%REC	DL = NA	11/21/2019 10:43

Client: ALS Environmental
Project: HS19101144
Sample ID: DUP-02
Legal Location:
Collection Date: 10/18/2019 10:00

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-27
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	ND (+/- 0.24)	U	0.38	pCi/l	NA	11/13/2019 12:49
Carr: BARIUM	95.8		40-110	%REC	DL = NA	11/13/2019 12:49
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)						
	0.88 (+/- 0)		0.73	pCi/l	NA	11/21/2019 10:43
Ra-228	0.88 (+/- 0.42)		0.73	pCi/l	NA	11/21/2019 10:43
Carr: BARIUM	95.4		40-110	%REC	DL = NA	11/21/2019 10:43

Client: ALS Environmental
 Project: HS19101144
 Sample ID: FB-01
 Legal Location:
 Collection Date: 10/18/2019 09:25

Date: 25-Nov-19
 Work Order: 1910511
 Lab ID: 1910511-28
 Matrix: WATER
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 11/6/2019	PrepBy: TRW
Ra-226	ND (+/- 0.25)	U	0.48	pCi/l	NA	11/13/2019 12:49
Carr: BARIUM	98.3		40-110	%REC	DL = NA	11/13/2019 12:49
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 11/15/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.79	pCi/l	NA	11/21/2019 10:54
Ra-228	ND (+/- 0.36)	U	0.79	pCi/l	NA	11/21/2019 10:54
Carr: BARIUM	94.6		40-110	%REC	DL = NA	11/21/2019 10:54

Client: ALS Environmental
Project: HS19101144
Sample ID: FB-01
Legal Location:
Collection Date: 10/18/2019 09:25

Date: 25-Nov-19
Work Order: 1910511
Lab ID: 1910511-28
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
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Explanation of Qualifiers

Radiochemistry:

- "Report Limit" is the MDC
- U or ND - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 - Chemical Yield outside default limits.
- W - DER is greater than Warning Limit of 1.42
- * - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.
- # - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.
- G - Sample density differs by more than 15% of LCS density.
- D - DER is greater than Control Limit
- M - Requested MDC not met.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS, Matrix Spike Recovery within control limits.
- N - Matrix Spike Recovery outside control limits
- NC - Not Calculated for duplicate results less than 5 times MDC
- B - Analyte concentration greater than MDC.
- B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

- B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).
- U or ND - Indicates that the compound was analyzed for but not detected.
- E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
- M - Duplicate injection precision was not met.
- N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
- Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
- * - Duplicate analysis (relative percent difference) not within control limits.
- S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

- U or ND - Indicates that the compound was analyzed for but not detected.
- B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.
- E - Analyte concentration exceeds the upper level of the calibration range.
- J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).
- A - A tentatively identified compound is a suspected aldol-condensation product.
- X - The analyte was diluted below an accurate quantitation level.
- * - The spike recovery is equal to or outside the control criteria used.
- + - The relative percent difference (RPD) equals or exceeds the control criteria.
- G - A pattern resembling gasoline was detected in this sample.
- D - A pattern resembling diesel was detected in this sample.
- M - A pattern resembling motor oil was detected in this sample.
- C - A pattern resembling crude oil was detected in this sample.
- 4 - A pattern resembling JP-4 was detected in this sample.
- 5 - A pattern resembling JP-5 was detected in this sample.
- H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
- L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
- Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
 - gasoline
 - JP-8
 - diesel
 - mineral spirits
 - motor oil
 - Stoddard solvent
 - bunker C

ALS -- Fort Collins

Date: 11/25/2019 8:02

Client: ALS Environmental

QC BATCH REPORT

Work Order: 1910511

Project: HS19101144

Batch ID: RE191106-1-1

Instrument ID Alpha Scin

Method: Radium-226 by Radon Emanation

DUP Sample ID: **1910511-19** Units: **pCi/l** Analysis Date: **11/13/2019 12:33**
 Client ID: **MW-58** Run ID: **RE191106-1A** Prep Date: **11/6/2019** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	ND	0.46						0.14	0.4	2.1	U
Carr: BARIUM	16050		16250		98.8	40-110		15920			

LCS Sample ID: **RE191106-1** Units: **pCi/l** Analysis Date: **11/13/2019 12:49**
 Client ID: Run ID: **RE191106-1A** Prep Date: **11/6/2019** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	48 (+/- 12)	0	46.47		103	67-120					P
Carr: BARIUM	15540		16100		96.5	40-110					

MB Sample ID: **RE191106-1** Units: **pCi/l** Analysis Date: **11/13/2019 12:49**
 Client ID: Run ID: **RE191106-1A** Prep Date: **11/6/2019** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	ND	0.4									U
Carr: BARIUM	15810		16100		98.2	40-110					

The following samples were analyzed in this batch:

1910511-18	1910511-19	1910511-20
1910511-21	1910511-22	1910511-23
1910511-24	1910511-25	1910511-26
1910511-27	1910511-28	

Client: ALS Environmental
 Work Order: 1910511
 Project: HS19101144

QC BATCH REPORT

Batch ID: RE191107-1-1 Instrument ID Alpha Scin Method: Radium-226 by Radon Emanation

DUP Sample ID: 1910511-5 Units: pCi/l Analysis Date: 11/14/2019 12:29
 Client ID: MW-63 Run ID: RE191107-1A Prep Date: 11/7/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	ND	0.41						0.15	0.5	2.1	Y1,U
Carr: BARIUM	17150		16960		101	40-110		17180			Y1

LCS Sample ID: RE191107-1 Units: pCi/l Analysis Date: 11/14/2019 13:03
 Client ID: Run ID: RE191107-1A Prep Date: 11/7/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	47 (+/- 12)	0	46.47		101	67-120					P,Y1
Carr: BARIUM	17030		16870		101	40-110					Y1

MB Sample ID: RE191107-1 Units: pCi/l Analysis Date: 11/14/2019 13:03
 Client ID: Run ID: RE191107-1A Prep Date: 11/7/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	0.22 (+/- 0.19)	0.21									Y1,B3
Carr: BARIUM	16970		16900		100	40-110					Y1

The following samples were analyzed in this batch:

1910511-1	1910511-2	1910511-3
1910511-4	1910511-5	1910511-6
1910511-7	1910511-8	1910511-9
1910511-10	1910511-11	1910511-12
1910511-13	1910511-14	1910511-15
1910511-16	1910511-17	

Client: ALS Environmental
 Work Order: 1910511
 Project: HS19101144

QC BATCH REPORT

Batch ID: RA191113-1-1 Instrument ID GASPROP Method: Radium-228 Analysis by GFPC

DUP Sample ID: 1910511-5 Units: ug Analysis Date: 11/18/2019 08:33
 Client ID: MW-63 Run ID: RA191113-1A Prep Date: 11/13/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	31730		34040		93.2	40-110		33420			
Ra-228	ND	0.82						0.45	0.2	2.1	U

LCS Sample ID: RA191113-1 Units: ug Analysis Date: 11/18/2019 08:33
 Client ID: Run ID: RA191113-1A Prep Date: 11/13/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	33470		33970		98.5	40-110					
Ra-228	15.3 (+/- 3.6)	0.7	13.56		113	70-130					P

MB Sample ID: RA191113-1 Units: ug Analysis Date: 11/18/2019 08:33
 Client ID: Run ID: RA191113-1A Prep Date: 11/13/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	32280		33950		95.1	40-110					
Ra-228	ND	0.8									U

The following samples were analyzed in this batch:

1910511-1	1910511-2	1910511-3
1910511-4	1910511-5	1910511-6
1910511-7	1910511-8	1910511-9
1910511-10	1910511-11	1910511-12

Client: ALS Environmental
 Work Order: 1910511
 Project: HS19101144

QC BATCH REPORT

Batch ID: RA191113-2-1 Instrument ID GASPROP Method: Radium-228 Analysis by GFPC

DUP Sample ID: 1910511-19 Units: ug Analysis Date: 11/18/2019 11:11
 Client ID: MW-58 Run ID: RA191113-2A Prep Date: 11/13/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	32350		34190		94.6	40-110		32590			
Ra-228	ND	0.75						1.09	0.9	2.1	U

LCS Sample ID: RA191113-2 Units: ug Analysis Date: 11/18/2019 11:11
 Client ID: Run ID: RA191113-2A Prep Date: 11/13/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	32560		34020		95.7	40-110					
Ra-228	14.8 (+/- 3.5)	0.7	13.56		109	70-130					P

MB Sample ID: RA191113-2 Units: ug Analysis Date: 11/18/2019 11:11
 Client ID: Run ID: RA191113-2A Prep Date: 11/13/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	32640		34020		95.9	40-110					
Ra-228	ND	0.76									U

The following samples were analyzed in this batch:

1910511-13	1910511-14	1910511-15
1910511-16	1910511-17	1910511-18
1910511-19	1910511-20	1910511-21
1910511-22	1910511-23	1910511-24

Client: ALS Environmental
 Work Order: 1910511
 Project: HS19101144

QC BATCH REPORT

Batch ID: RA191115-1-2 Instrument ID GASPROP Method: Radium-228 Analysis by GFPC

LCS		Sample ID: RA191115-1		Units: ug			Analysis Date: 11/21/2019 10:43				
Client ID:		Run ID: RA191115-1A			Prep Date: 11/15/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	30900		32730		94.4	40-110					
Ra-228	17.3 (+/- 4.1)	0.8	13.55		128	70-130					P

LCSD		Sample ID: RA191115-1		Units: ug			Analysis Date: 11/21/2019 10:43				
Client ID:		Run ID: RA191115-1A			Prep Date: 11/15/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	30910		32740		94.4	40-110		30900			
Ra-228	18.1 (+/- 4.3)	0.8	13.55		134	70-130		17.3	0.1	2.1	H

MB		Sample ID: RA191115-1		Units: ug			Analysis Date: 11/21/2019 10:43				
Client ID:		Run ID: RA191115-1A			Prep Date: 11/15/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	31070		32700		95	40-110					
Ra-228	ND	0.82									U

The following samples were analyzed in this batch:

1910511-25	1910511-26	1910511-27
1910511-28		

CONTROLLED NON-CONFORMANCE REPORT

Non-Conformance

Initiated By: Nicholas M. Pratt on 11/23/2019

Event Type: Lab QC Criteria Not Met -- LCS

Event Explanation: The LCS and LCSD for each of these three batches exceeded historical maximums with recoveries ranging from 124-157%. It is speculated that the low volume and potential higher concentration of nuclide for Ra-228 working standard 966.4095.32 is the cause of these high LCS/D failures. The working standard has been changed and recoveries have been found to be within acceptable limits. (NP)

Action To

Prevent Recurrence: Not Applicable

Corrective Action

Corrective Action: Document in Narrative

Department Manager Approval:

Approval Date:

Corrective Action Comments: Ra-228 radiometric recoveries for LCS/LCSD from 05/01/19 through 10/31/2019 averaged 104.6% with a 2 sigma standard deviation of 9.9%. Radiometric recoveries for November average 121.4% +/- 10.9%. It is believed that the small volume of standard left was became more concentrated as the volume in the bottle became smaller. There have been no changes to either the prep method or instrument calibration that would explain the sudden high LCS/LCSD recoveries. It is believe that the high recoveries seen this month are related to spiking standard 966.4095.32, which has since been removed from service.

Workorders Affected

Workorder -- Procedure	No client contact information.	Approved By	Approval Date
1910458 -- SOP749	No client contact information.	PENDING	
1910436 -- SOP749	No client contact information.	Jeff R. Kujawa	11/25/2019
1910460 -- SOP749			
1910511 -- SOP749			
1910519 -- SOP749			
1910536 -- SOP749			
1910560 -- SOP749			
1910692 -- SOP749			
1911024 -- SOP749			

Associated Batches

The samples were originally associated with the following Batch(es):

All rework was completed in the following Batch(es):



Ft. Collins, Colorado

NCR #: 15014

CONTROLLED NON-CONFORMANCE REPORT

RA191115-1 created on 11/15/2019
RA191112-1 created on 11/12/2019
RA191114-2 created on 11/14/2019

Not Applicable

NCR Approval

Project Manager Approval: JRK on 11/25/2019

Department Manager Approval:

QA Manager Approval:

Appendix D

Laboratory Data Quality Review

TRC Environmental Corporation | NRG Texas Power, LLC

2020 Annual Groundwater

S:\NRG\W.A. PARISH\2019\2019 CRR ANNUAL REPORT\2. REPORTS\FINAL 2019 W A PARISH ANNUAL GW REPORT_1-29-2020.DOCX

January 31, 2020

DATA USABILITY SUMMARY

Lori Burris of TRC Environmental Corporation (TRC) reviewed one (1) data package from TestAmerica Laboratories (TestAmerica) for the analysis of groundwater samples collected April 29, 2019 at the NRG W.A. Parish Generating Station (Parish) in Thompsons, Texas. Data were reviewed for conformance to the requirements of the guidance document, *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13) (TCEQ 2010). Lori Burris verified that at the time the laboratory data were generated for the project, TestAmerica was NELAC-accredited under the Texas Laboratory Accreditation Program for the matrices, analytes, and methods of analysis requested on the chain-of-custody documentation. TestAmerica's National Environmental Laboratory Accreditation Program (NELAP) certification is included in the laboratory data package.

Intended Use of Data: To provide current data on concentrations of chemicals of concern (COCs) in the groundwater at the property. These data are used for compliance with the Environmental Protection Agency (EPA) Coal Combustion Residuals (CCR) detection monitoring program. Data are also used for statistical analysis of potential statistically significant increases (SSI).

Analyses requested included:

- ◇ EPA 300.0 – Inorganic Anions (Chloride and Sulfate) by ion chromatography;
- ◇ EPA 340.2 – Fluoride by ion selective electrode;
- ◇ SW-846 6010B – Metals (calcium and boron) by inductively coupled plasma-atomic emission spectrometry (ICP/AES);
- ◇ SM2540C – Total Dissolved Solids (TDS) by drying; and
- ◇ EPA 9040B – pH by electronic electrode.

Data were reviewed and validated as described in *Review and Reporting of COC Concentration Data*, (RG-366/TRRP-13) and the results of the review/validation are discussed in this DUS.

The following laboratory submittals and field data were examined:

- ◇ the reportable data,
- ◇ the laboratory review checklists, and
- ◇ field sampling logs.

The results of supporting quality control (QC) analyses were summarized on the Laboratory Review Checklist (LRC) and Exception Report (ER) in the analytical report which was included in this review.

The LRC, associated ER, and reportable data included in this review are attached to this Data Usability Summary (DUS).

DATA REVIEW/VALIDATION RESULTS

Introduction

Twenty-five (25) groundwater samples, two (2) duplicate groundwater samples and one (1) field blank were analyzed for chloride, sulfate, fluoride, metals, TDS and pH. Table 1 lists the field identifications cross-referenced to laboratory identifications.

Analytical Results

The data package contains a minimum of one (1) quality control batch per analytical method analyzed. The quality control batch identifies the laboratory QC samples that correspond to the designated field samples. Not-detected results are reported as less than the value of the sample detection limit (SDL) as defined by the TRRP rule. The project Sampling and Analysis Plan (SAP) states that quality control percent recoveries of 70% to 130% indicate sufficient accuracy and a relative percent difference (RPD) of 30% indicates adequate precision. Therefore, these limits were used for comparison during this review for accuracy and precision. Data qualified as part of this review are included in Table 2.

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody. The samples were received in the appropriate containers with the paperwork filled out properly. The laboratory sample receipt checklist stated the samples were received at temperatures of 0.2, 1.4, 2.5, and 3.6°C.

Most samples reported in the data package were prepared and analyzed within holding times. Except for pH which is typically a field test with a 15-minute holding time. The laboratory qualified all pH data as out of hold time with an 'H' qualifier, no other qualification was added to the pH data as part of this review. In addition, TDS sample MW-28D was analyzed out of holding time and was qualified as estimated (J).

Calibrations

According to the LRC, initial and continuing calibration data met EPA, Standard Method (SM) and SW-846 Method requirements for chloride, sulfate, fluoride, metals, TDS and pH.

Blanks

Chloride, sulfate, fluoride, and TDS were reported as not-detected in the method blanks. Metals batch 264623 had a detection of calcium (0.2350J mg/L) in the method blank. Associated samples were reported as greater than 5X the method blank concentration for calcium and were not qualified.

One field blank (FB-01) was collected and analyzed as part of this data package. Detections of chloride (0.358J mg/L) and calcium (0.322J mg/L) were identified in the field blank (FB-1). Associated samples were reported as greater than 5X the field blank concentration for chloride and calcium and were not qualified.

Laboratory Control Samples

Laboratory control samples (LCS) met the QC acceptance criteria for chloride, sulfate, fluoride, metals, pH and TDS.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples for chloride/sulfate batches 264591 and 264798, fluoride, and metals were analyzed on site samples MW-58 and MW-63 which were within QC acceptance criteria. MS/MSD analysis is not a requirement of TDS method SM2540C.

Chloride/Sulfate batch 264708 MS/MSD analyzed on site sample MW-63 had low chloride and sulfate recovery. Samples MW-39, MW-40, MW-41, MW-62, MW-63, MW-64, MW-42, MW-44, MW-46R, MW-47, MW-48, MW-58, MW-65, MW-36, MW-37, MW-38, MW-60, MW-61, DUP-01 and DUP-02 were qualified as estimated low (JL) for chloride and sulfate, due to low MS/MSD recovery.

Post Digestion Spike and Serial Dilution

According to the LRC, post digestion spikes and serial dilutions for metals were within laboratory acceptance criteria. However, the results for post digestion spikes and serial dilutions were not included in the data package for review.

Laboratory Duplicates

Laboratory duplicates for TDS and pH were within QC acceptance criteria.

Field Precision

Two (2) field duplicate samples were included in this data package (MW-36/DUP-01 and MW-44/DUP02). Both sample and duplicate, MW-36/DUP-01, were reported as detected for chloride, sulfate, boron, calcium, fluoride and TDS. The relative percent difference (RPD) between sample and duplicate was within the QC acceptance criteria of 30%.

Sample and duplicate, MW-44/DUP-02, were reported as detected for chloride, sulfate, boron, calcium, fluoride and TDS. The RPD between sample and duplicate was within the QC acceptance criteria of 30% for boron, calcium, fluoride and TDS. Sulfate and chloride were qualified as estimated in samples MW-44 and DUP-02, due to sample/duplicate precision outside acceptance criteria.

Sample/duplicate precision calculations are included in Table 3.

Summary

The groundwater analytical data are usable for the purpose of determining current concentrations of COCs in this medium at the Parish site.

The data user is advised that TDS sample MW-28D was analyzed out of holding time and was qualified as estimated (J). Samples MW-39, MW-40, MW-41, MW-62, MW-63, MW-64, MW-42, MW-44, MW-46R, MW-47, MW-48, MW-58, MW-65, MW-36, MW-37, MW-38, MW-60, MW-61, DUP-01 and DUP-02 were qualified as estimated low (JL) for chloride and sulfate, due to low MS/MSD recovery. Sulfate and chloride were qualified as estimated in samples MW-44 and DUP-02, due to sample/duplicate precision outside acceptance criteria.

References:

TCEQ. 2010. TRRP 13: Review and Reporting of COC Concentration Data. Texas Commission for Environmental Quality, Austin, Texas.

Environmental Resources Management (ERM). October 2017. Sampling and Analysis Plan. W.A. Parish Electric Generating Station, Thompsons, Texas.

NRG
W.A. Parish CCR Appendix III
Analytical Report No. J184470

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
600-184470-1	MW-39	Groundwater
600-184470-2	MW-40	Groundwater
600-184470-3	MW-41	Groundwater
600-184470-4	MW-62	Groundwater
600-184470-5	MW-63	Groundwater
600-184470-6	MW-64	Groundwater
600-184470-7	MW-23	Groundwater
600-184470-8	MW-28D	Groundwater
600-184470-9	MW-42	Groundwater
600-184470-10	MW-43	Groundwater
600-184470-11	MW-44	Groundwater
600-184470-12	MW-46R	Groundwater
600-184470-13	MW-47	Groundwater
600-184470-14	MW-48	Groundwater
600-184470-15	MW-50	Groundwater
600-184470-16	MW-52	Groundwater
600-184470-17	MW-54	Groundwater
600-184470-18	MW-55R	Groundwater
600-184470-19	MW-58	Groundwater
600-184470-20	MW-65	Groundwater
600-184470-21	MW-36	Groundwater
600-184470-22	MW-37	Groundwater
600-184470-23	MW-38	Groundwater
600-184470-24	MW-60	Groundwater
600-184470-25	MW-61	Groundwater
600-184470-26	DUP-01	Groundwater
600-184470-27	DUP-02	Groundwater

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
600-184470-28	FB-01	Water

NRG
W.A. Parish CCR Appendix III
Analytical Report No. J184470

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
MW-28D	TDS	J	Analyzed out of holding time.
MW-39 MW-40 MW-41 MW-62 MW-63 MW-64 MW-42 MW-44 MW-46R MW-47 MW-48 MW-58 MW-65 MW-36 MW-37 MW-38 MW-60 MW-61 DUP-01 DUP-02	Chloride Sulfate	JL	Low MS/MSD recovery.
MW-44 DUP-02	Chloride Sulfate	J	Sample/duplicate precision outside acceptance criteria.
<p>U – Notdetected</p> <p>J – Estimated data; the reported quantitation limit or sample concentration is approximated due to exceedance of one or more QC requirements.</p> <p>UJ – The analyte was analyzed for but was not detected above the reported sample detection limit. The associated value is an estimate and may be inaccurate or imprecise.</p> <p>L – Bias in sample, likely to be low.</p> <p>H – Bias in sample likely to be high.</p>			

NRG
W.A. Parish CCR Appendix III
Analytical Report No. J184470

Table 3 – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD ^a	Qualified
MW-36/DUP-01	Chloride	326	333	2	A
	Sulfate	404	451	11	A
	Boron	0.0715	0.0830	15	A
	Calcium	240	231	4	A
	Fluoride	0.459	0.459	0	A
	TDS	1520	1540	1	A
MW-44/DUP-02	Chloride	654	454	36	X
	Sulfate	316	198	46	X
	Boron	0.235	0.238	1	A
	Calcium	172	161	6	A
	Fluoride	0.502	0.462	8	A
	TDS	1600	1480	8	A

^a RPD = ((SR - DR)*200)/(SR + DR)

A - Acceptable Data.

A* - Acceptable Data where results were less than 5X the MQL and the difference between sample and duplicate was less than 2X the MQL.

X – Outside the TRRP-13/SAP acceptance criteria of 30% RPD.

J – Estimated detected.

U – Notdetected.

DATA USABILITY SUMMARY

Lori Burris of TRC Environmental Corporation (TRC) reviewed one (1) data package from ALS Global Laboratories (ALS) for the analysis of groundwater samples collected April 29, 2019 at the NRG W.A. Parish Generating Station (Parish) in Thompsons, Texas. Data were reviewed for conformance to the requirements of the guidance document, *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13) (TCEQ 2010). Lori Burris verified that at the time the laboratory data were generated for the project, ALS was NELAC-accredited under the Texas Laboratory Accreditation Program for the matrices, analytes, and methods of analysis requested on the chain-of-custody documentation. ALS's National Environmental Laboratory Accreditation Program (NELAP) certification is included in the laboratory data package.

Intended Use of Data: To provide current data on concentrations of chemicals of concern (COCs) in the groundwater at the property. These data are used for compliance with the Environmental Protection Agency (EPA) Coal Combustion Residuals (CCR) detection monitoring program. Data are also used for statistical analysis of potential statistically significant increases (SSI).

Analyses requested included:

- ◇ EPA 300.0 – Inorganic Anions (Chloride and Sulfate) by ion chromatography;
- ◇ A4500-F C-11 – Fluoride by ion selective electrode;
- ◇ SW-846 6020A – Metals (calcium and boron) by inductively coupled plasma-mass spectrometry (ICP/MS);
- ◇ SM2540C – Total Dissolved Solids (TDS) by drying; and
- ◇ EPA 9040B – pH by electronic electrode.

Data were reviewed and validated as described in *Review and Reporting of COC Concentration Data*, (RG-366/TRRP-13) and the results of the review/validation are discussed in this DUS.

The following laboratory submittals and field data were examined:

- ◇ the reportable data, and
- ◇ field sampling logs.

The results of supporting quality control (QC) analyses were summarized on the case narrative in the analytical report which was included in this review.

The case narrative and reportable data included in this review are attached to this Data Usability Summary (DUS). The data package reviewed was a Level II package that did not include the TRRP laboratory review checklist (LRC).

DATA REVIEW/VALIDATION RESULTS

Introduction

Three (3) groundwater samples were analyzed for chloride, sulfate, fluoride, metals, TDS and pH. Table 1 lists the field identifications cross-referenced to laboratory identifications.

Analytical Results

The data package contains a minimum of one (1) quality control batch per analytical method analyzed. The quality control batch identifies the laboratory QC samples that correspond to the designated field samples. Not-detected results are reported as less than the value of the sample detection limit (SDL) as defined by the TRRP rule. The project Sampling and Analysis Plan (SAP) states that quality control percent recoveries of 70% to 130% indicate sufficient accuracy and a relative percent difference (RPD) of 30% indicates adequate precision. Therefore, these limits were used for comparison during this review for accuracy and precision. Data qualified as part of this review are included in Table 2.

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody. The samples were received in the appropriate containers with the paperwork filled out properly. The laboratory sample receipt checklist stated the samples were received at temperatures of 3.3°C.

Samples reported in the data package were prepared and analyzed within holding times. Except for pH which is typically a field test with a 15 minute holding time. The laboratory qualified all pH data as out of hold time with an 'H' qualifier, no other qualification was added to the pH data as part of this review.

Calibrations

According to the case narrative, initial and continuing calibration data met EPA, Standard Method (SM) and SW-846 Method requirements for chloride, sulfate, fluoride, metals, TDS and pH.

Blanks

Chloride, sulfate, fluoride, metals and TDS were reported as not-detected in the method blanks. No field blanks were included in this data package.

Laboratory Control Samples

Laboratory control samples (LCS) met the QC acceptance criteria for chloride, sulfate, fluoride, metals, and TDS.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples for chloride, sulfate, and metals were analyzed on samples not associated with the project site and were not used for qualification purposes. The Fluoride MS/MSD analyzed on site sample MW-37 was within acceptance limits. MS/MSD analysis is not a requirement of TDS method SM2540C.

Post Digestion Spike and Serial Dilution

The post digestion spike (PDS) and serial dilutions for metals were within laboratory acceptance criteria.

Laboratory Duplicates

Laboratory duplicates for TDS and pH were within QC acceptance criteria.

Field Precision

Field duplicates were not included in this data package.

Summary

The groundwater analytical data are usable for the purpose of determining current concentrations of COCs in this medium at the Parish site.

References:

TCEQ. 2010. TRRP 13: Review and Reporting of COC Concentration Data. Texas Commission for Environmental Quality, Austin, Texas.

Environmental Resources Management (ERM). October 2017. Sampling and Analysis Plan. W.A. Parish Electric Generating Station, Thompsons, Texas.

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
HS19041657-01	MW-37	Groundwater
HS19041657-02	MW-42	Groundwater
HS19041657-03	MW-63	Groundwater

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
No data were qualified based on this review.			
<p>U – Notdetected</p> <p>J – Estimated data; the reported quantitation limit or sample concentration is approximated due to exceedance of one or more QC requirements.</p> <p>UJ – The analyte was analyzed for but was not detected above the reported sample detection limit. The associated value is an estimate and may be inaccurate or imprecise.</p> <p>L – Bias in sample, likely to be low.</p> <p>H – Bias in sample likely to be high.</p>			

DATA USABILITY SUMMARY

Lori Burris of TRC Environmental Corporation (TRC) reviewed one (1) data package from TestAmerica Laboratories (TestAmerica) for the analysis of groundwater samples collected April 29, 2019 at the NRG W.A. Parish Generating Station (Parish) in Thompsons, Texas. Data were reviewed for conformance to the requirements of the guidance document, *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13) (TCEQ 2010). Lori Burris verified that at the time the laboratory data were generated for the project, TestAmerica was NELAC-accredited under the Texas Laboratory Accreditation Program for the matrices, analytes, and methods of analysis requested on the chain-of-custody documentation. TestAmerica's National Environmental Laboratory Accreditation Program (NELAP) certification is included in the laboratory data package.

Intended Use of Data: To provide current data on concentrations of chemicals of concern (COCs) in the groundwater at the property. These data are used for compliance with the Environmental Protection Agency (EPA) Coal Combustion Residuals (CCR) detection monitoring program. Data are also used for statistical analysis of potential statistically significant increases (SSI).

Analyses requested included:

- ◇ EPA 340.2 – Fluoride by ion selective electrode;
- ◇ SW-846 6010B – Metals (calcium and boron) by inductively coupled plasma-atomic emission spectrometry (ICP/AES);
- ◇ SW-846 7470A – Mercury by manual cold vapor extraction;
- ◇ EPA 903.0 – Radium-226 by alpha counting detector method; and
- ◇ EPA 904.0 – Radium-228 by radiochemical/precipitation; count by gas-flow proportional beta counter.

Data were reviewed and validated as described in *Review and Reporting of COC Concentration Data*, (RG-366/TRRP-13) and the results of the review/validation are discussed in this DUS.

The following laboratory submittals and field data were examined:

- ◇ the reportable data,
- ◇ the laboratory review checklists, and
- ◇ field sampling logs.

The results of supporting quality control (QC) analyses were summarized on the Laboratory Review Checklist (LRC) and Exception Report (ER) in the analytical report which was included in this review.

The LRC, associated ER, and reportable data included in this review are attached to this Data Usability Summary (DUS).

DATA REVIEW/VALIDATION RESULTS

Introduction

Twenty-five (25) groundwater samples, two (2) duplicate groundwater samples and one (1) field blank were analyzed for metals, mercury and fluoride. Radium-226 and radium-228 analysis was requested, but the laboratory failed to complete the analysis. Table 1 lists the field identifications cross-referenced to laboratory identifications.

Analytical Results

The data package contains a minimum of one (1) quality control batch per analytical method analyzed. The quality control batch identifies the laboratory QC samples that correspond to the designated field samples. Not-detected results are reported as less than the value of the sample detection limit (SDL) as defined by the TRRP rule. The project Sampling and Analysis Plan (SAP) states that quality control percent recoveries of 70% to 130% indicate sufficient accuracy and a relative percent difference (RPD) of 30% indicates adequate precision. Therefore, these limits were used for comparison during this review for accuracy and precision. The SAP also states that radiochemistry data will be compared to laboratory supplied limits instead of the aforementioned limits. Data qualified as part of this review are included in Table 2.

It should be noted that fluoride samples were analyzed together in one batch that included 28 samples. This batch size exceeds the EPA recommended batch size of 20 samples.

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody. The samples were received in the appropriate containers with the paperwork filled out properly. The laboratory sample receipt checklist stated the samples were received at temperatures of 0.2, 1.4, 2.5, and 3.6°C.

Samples reported in the data package were prepared and analyzed within holding times. The laboratory did not analyze radium-226 and radium-228 data as requested on the chain-of-custody.

Calibrations

According to the LRC, initial and continuing calibration data met EPA and SW-846 Method requirements for metals, mercury and fluoride.

Blanks

Mercury and fluoride were reported as not-detected in the method blanks. Metals batch 264318 had a detection of lithium (0.003100J mg/L) in the method blank. Sample FB-01 was qualified as not-detected (U) for lithium, due to method blank contamination.

One field blank (FB-01) was collected and analyzed as part of this data package. Detections of barium (0.0010J mg/L) and lithium (0.00320J mg/L) were identified in the field blank (FB-1). Associated samples were reported as greater than 5X the field blank concentration for barium and were not qualified. As described above, the lithium detection in the field blank was likely due to method blank contamination and was qualified as not-detected.

Laboratory Control Samples

Laboratory control samples (LCS) met the QC acceptance criteria for metals, mercury and fluoride.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples for metals, mercury batch 264757 and fluoride, were analyzed on site samples MW-36, MW-58 and MW-63 which were within QC acceptance criteria.

Mercury batch 264642 MS/MSD on MW-63 and mercury batch 264811 MS/MSD on MW-37 had low recovery. Samples MW-63, MW-60, DUP-01 and DUP-02 were qualified as estimated low (JL), due to low MS/MSD recovery and samples MW-37, MW-38 and MW-61 were qualified as non-detect estimate low (UJL) for mercury, due to low MS/MSD recovery.

Post Digestion Spike and Serial Dilution

According to the LRC, post digestion spikes and serial dilutions for metals were within laboratory acceptance criteria. However, the results for post digestion spikes and serial dilutions were not included in the data package for review.

Laboratory Duplicates

Laboratory duplicates for mercury were within QC acceptance criteria. Metals batch 264318 analyzed on sample MW-36 was outside acceptance criteria for cadmium, molybdenum and antimony. Sample MW-36 was qualified as estimated (J) for cadmium, molybdenum and antimony, due to laboratory duplicate outside acceptance criteria.

Field Precision

Two (2) field duplicate samples were included in this data package (MW-36/DUP-01 and MW-44/DUP02). Both sample and duplicate, MW-36/DUP-01, were reported as detected for barium, cadmium, molybdenum, lithium, boron, mercury and fluoride. In addition, sample MW-36 was detected for arsenic, beryllium, cobalt and antimony. The relative percent difference (RPD) between sample and duplicate was within the QC acceptance criteria of 30% for arsenic, barium, lithium, boron and fluoride. Beryllium, cadmium, cobalt and antimony RPD were outside acceptance criteria; however, based on professional judgement and sample/duplicate results being less than five times the method quantitation limit (MQL) and the difference between sample and duplicate being less than two times the MQL; data were not qualified. MW-36 and DUP-01 were qualified as estimated (J) for molybdenum and mercury, due to sample/duplicate precision outside acceptance criteria.

Sample and duplicate, MW-44/DUP-02, were reported as detected for arsenic, barium, cadmium, molybdenum, lithium, boron and fluoride. In addition, DUP-02 was reported as detected for mercury. The RPD between sample and duplicate was within the QC acceptance criteria of 30% for barium, cadmium, molybdenum, lithium, boron and fluoride. Mercury RPD was outside acceptance criteria; however, based on professional judgement and sample/duplicate results being less than five times the method quantitation limit (MQL) and the difference between sample and duplicate being less than two times the MQL; data were not qualified. Arsenic was qualified as estimated (J) in samples MW-44 and DUP-02, due to sample/duplicate precision outside acceptance criteria.

Sample/duplicate precision calculations are included in Table 3.

Summary

The groundwater analytical data are usable for the purpose of determining current concentrations of COCs in this medium at the Parish site.

The data user is advised that sample FB-01 was qualified as not-detected (U) for lithium, due to method blank contamination. Samples MW-63, MW-60, DUP-01 and DUP-02 were qualified as estimated low (JL) for mercury, due to low MS/MSD recovery and samples MW-37, MW-38 and MW-61 were qualified as non-detect estimate low (UJL) for mercury, due to low MS/MSD recovery. Sample MW-36 was qualified as estimated (J) for cadmium, molybdenum and antimony, due to laboratory duplicate outside acceptance criteria. MW-36 and DUP-01 were qualified as estimated (J) for molybdenum and mercury, due to sample/duplicate precision outside acceptance criteria. Arsenic was qualified as estimated (J) in samples MW-44 and DUP-02, due to sample/duplicate precision outside acceptance criteria.

References:

TCEQ. 2010. TRRP 13: Review and Reporting of COC Concentration Data. Texas Commission for Environmental Quality, Austin, Texas.

Environmental Resources Management (ERM). October 2017. Sampling and Analysis Plan. W.A. Parish Electric Generating Station, Thompsons, Texas.

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W.A. Parish CCR Appendix IV
Analytical Report No. J184470-2

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
600-184470-1	MW-39	Groundwater
600-184470-2	MW-40	Groundwater
600-184470-3	MW-41	Groundwater
600-184470-4	MW-62	Groundwater
600-184470-5	MW-63	Groundwater
600-184470-6	MW-64	Groundwater
600-184470-7	MW-23	Groundwater
600-184470-8	MW-28D	Groundwater
600-184470-9	MW-42	Groundwater
600-184470-10	MW-43	Groundwater
600-184470-11	MW-44	Groundwater
600-184470-12	MW-46R	Groundwater
600-184470-13	MW-47	Groundwater
600-184470-14	MW-48	Groundwater
600-184470-15	MW-50	Groundwater
600-184470-16	MW-52	Groundwater
600-184470-17	MW-54	Groundwater
600-184470-18	MW-55R	Groundwater
600-184470-19	MW-58	Groundwater
600-184470-20	MW-65	Groundwater
600-184470-21	MW-36	Groundwater
600-184470-22	MW-37	Groundwater
600-184470-23	MW-38	Groundwater
600-184470-24	MW-60	Groundwater
600-184470-25	MW-61	Groundwater
600-184470-26	DUP-01	Groundwater
600-184470-27	DUP-02	Groundwater

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
600-184470-28	FB-01	Water

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W.A. Parish CCR Appendix IV
Analytical Report No. J184470-2

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
FB-01	Lithium	U	Method blank contamination.
MW-63 MW-60 DUP-01 DUP-02	Mercury	JL	Low MS/MSD recovery.
MW-37 MW-38 MW-61	Mercury	UJL	Low MS/MSD recovery.
MW-36	Cadmium Molybdenum Antimony	J	Laboratory duplicate outside acceptance criteria.
MW-36 DUP-01	Molybdenum Mercury	J	Sample/duplicate precision outside acceptance criteria.
MW-44 DUP-02	Arsenic	J	Sample/duplicate precision outside acceptance criteria.
<p>U – Notdetected</p> <p>J – Estimated data; the reported quantitation limit or sample concentration is approximated due to exceedance of one or more QC requirements.</p> <p>UJ – The analyte was analyzed for but was not detected above the reported sample detection limit. The associated value is an estimate and may be inaccurate or imprecise.</p> <p>L – Bias in sample, likely to be low.</p> <p>H – Bias in sample likely to be high.</p>			

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Table 3 – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD ^a	Qualified
MW-36/DUP-01	Arsenic	0.00300J	0.00285U	5	A
	Barium	0.0402	0.0359	11	A
	Beryllium	0.00120J	0.000420U	96	A*
	Cadmium	0.00100J	0.000600J	50	A*
	Cobalt	0.000600J	0.000310U	63	A*
	Molybdenum	0.00190J	0.000600J	104	X
	Antimony	0.0129J	0.00393U	107	A*
	Lithium	0.0517J	0.0492J	5	A
	Boron	0.0715J	0.0830J	15	A
	Mercury	0.00424	0.00145	180	X
	Fluoride	0.459	0.459	0	A
MW-44/DUP-02	Arsenic	0.00560J	0.0102	58	X
	Barium	0.147	0.146	1	A
	Cadmium	0.000600J	0.000600J	0	A
	Molybdenum	0.00320J	0.00270J	17	A
	Lithium	0.0447J	0.0466J	4	A
	Boron	0.235	0.238	1	A
	Mercury	0.000103U	0.000189J	59	A*
	Fluoride	0.502	0.462	8	A

^a RPD = ((SR - DR)*200)/(SR + DR)

A - Acceptable Data.

A* - Acceptable Data where results were less than 5X the MQL and the difference between sample and duplicate was less than 2X the MQL.

X - Outside the TRRP-13/SAP acceptance criteria of 30% RPD.

J - Estimated detected.

U - Notdetected.

DATA USABILITY SUMMARY

Lori Burriss of TRC Environmental Corporation (TRC) reviewed one (1) data package from ALS Global Laboratories (ALS) for the analysis of groundwater samples collected April 29, 2019 at the NRG W.A. Parish Generating Station (Parish) in Thompsons, Texas. Data were reviewed for conformance to the requirements of the guidance document, *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13) (TCEQ 2010). Lori Burriss verified that at the time the laboratory data were generated for the project, ALS was NELAC-accredited under the Texas Laboratory Accreditation Program for the matrices, analytes, and methods of analysis requested on the chain-of-custody documentation. ALS's National Environmental Laboratory Accreditation Program (NELAP) certification is included in the laboratory data package.

Intended Use of Data: To provide current data on concentrations of chemicals of concern (COCs) in the groundwater at the property. These data are used for compliance with the Environmental Protection Agency (EPA) Coal Combustion Residuals (CCR) detection monitoring program. Data are also used for statistical analysis of potential statistically significant increases (SSI).

Analyses requested included:

- ◇ A4500-F C-11 – Fluoride by ion selective electrode;
- ◇ SW-846 6020A – Metals (Appendix IV list) by inductively coupled plasma-mass spectrometry (ICP/MS);
- ◇ SW-846 7470 – Mercury by manual cold vapor technique;
- ◇ EPA 903.1 – Radium-226 by radon emanation technique; and
- ◇ EPA 904.0 – Radium-228 by radiochemical/precipitation; count by gas-flow proportional beta counter.

Data were reviewed and validated as described in *Review and Reporting of COC Concentration Data*, (RG-366/TRRP-13) and the results of the review/validation are discussed in this DUS.

The following laboratory submittals and field data were examined:

- ◇ the reportable data, and
- ◇ field sampling logs.

The results of supporting quality control (QC) analyses were summarized on the case narrative in the analytical report which was included in this review.

The case narrative and reportable data included in this review are attached to this Data Usability Summary (DUS). The data package reviewed was a Level II package that did not include the TRRP laboratory review checklist (LRC).

DATA REVIEW/VALIDATION RESULTS

Introduction

Three (3) groundwater samples were analyzed for fluoride, metals, mercury and radium-226/radium-228. Table 1 lists the field identifications cross-referenced to laboratory identifications.

Analytical Results

The data package contains a minimum of one (1) quality control batch per analytical method analyzed. The quality control batch identifies the laboratory QC samples that correspond to the designated field samples. Not-detected results are reported as less than the value of the sample detection limit (SDL) as defined by the TRRP rule. The project Sampling and Analysis Plan (SAP) states that quality control percent recoveries of 70% to 130% indicate sufficient accuracy and a relative percent difference (RPD) of 30% indicates adequate precision. Therefore, these limits were used for comparison during this review for accuracy and precision. The SAP also states that radiochemistry data will be compared to laboratory supplied limits instead of the aforementioned limits. Data qualified as part of this review are included in Table 2.

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody. The samples were received in the appropriate containers with the paperwork filled out properly. The laboratory sample receipt checklist stated the samples were received at temperatures of 3.3°C. The laboratory noted on the sample receipt checklist that sample MW-37 had elevated pH and was preserved with additional nitric acid upon receipt by the laboratory.

Samples reported in the data package were prepared and analyzed within holding times.

Calibrations

According to the case narrative, initial and continuing calibration data met EPA, Standard Method (SM) and SW-846 Method requirements for metals, mercury, fluoride and radium-226/radium-228.

Surrogate/Carrier Recoveries

Radium-226/Radium-228 carrier recoveries were within laboratory acceptance criteria.

Blanks

Metals, mercury, fluoride and radium-226/radium-228 were reported as not-detected in the method blanks. No field blanks were included in this data package.

Laboratory Control Samples

Laboratory control samples (LCS) met the QC acceptance criteria for metals, mercury, fluoride and radium-226/radium-228.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples for metals, mercury, and fluoride were analyzed on samples not associated with the project site and were not used for qualification purposes. MS/MSD analysis is not a requirement of radium methods 903.1 and 904.0.

Post Digestion Spike and Serial Dilution

The post digestion spike (PDS) and serial dilution for metals were within laboratory acceptance criteria.

Field Precision

Field duplicates were not included in this data package.

Summary

The groundwater analytical data are usable for the purpose of determining current concentrations of COCs in this medium at the Parish site.

References:

TCEQ. 2010. TRRP 13: Review and Reporting of COC Concentration Data. Texas Commission for Environmental Quality, Austin, Texas.

Environmental Resources Management (ERM). October 2017. Sampling and Analysis Plan. W.A. Parish Electric Generating Station, Thompsons, Texas.

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
HS19041659-01	MW-37	Groundwater
HS19041659-02	MW-42	Groundwater
HS19041659-03	MW-63	Groundwater

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
No data were qualified based on this review.			
U – Notdetected J – Estimated data; the reported quantitation limit or sample concentration is approximated due to exceedance of one or more QC requirements. UJ – The analyte was analyzed for but was not detected above the reported sample detection limit. The associated value is an estimate and may be inaccurate or imprecise. L – Bias in sample, likely to be low. H – Bias in sample likely to be high.			

DATA USABILITY SUMMARY

Lori Burriss of TRC Environmental Corporation (TRC) reviewed one (1) data package from ALS Global Laboratories (ALS) for the analysis of groundwater samples collected July 29, 2019 at the NRG W.A. Parish Generating Station (Parish) in Thompsons, Texas. Data were reviewed for conformance to the requirements of the guidance document, *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13) (TCEQ 2010). Lori Burriss verified that at the time the laboratory data were generated for the project, ALS was NELAC-accredited under the Texas Laboratory Accreditation Program for the matrices, analytes, and methods of analysis requested on the chain-of-custody documentation. ALS's National Environmental Laboratory Accreditation Program (NELAP) certification is included in the laboratory data package.

Intended Use of Data: To provide current data on concentrations of chemicals of concern (COCs) in the groundwater at the property. These data are used for compliance with the Environmental Protection Agency (EPA) Coal Combustion Residuals (CCR) detection monitoring program. Data are also used for statistical analysis of potential statistically significant increases (SSI).

Analyses requested included:

- ◇ EPA 300.0 – Inorganic Anions (Chloride and Sulfate) by ion chromatography;
- ◇ A4500-F C-11 – Fluoride by ion selective electrode;
- ◇ SW-846 6020A – Metals (calcium and boron) by inductively coupled plasma-mass spectrometry (ICP/MS); and
- ◇ SM2540C – Total Dissolved Solids (TDS) by drying.

Data were reviewed and validated as described in *Review and Reporting of COC Concentration Data*, (RG-366/TRRP-13) and the results of the review/validation are discussed in this DUS.

The following laboratory submittals and field data were examined:

- ◇ the reportable data,
- ◇ the laboratory review checklists, and
- ◇ field sampling logs.

The results of supporting quality control (QC) analyses were summarized on the Laboratory Review Checklist (LRC) and Exception Report (ER) in the analytical report which was included in this review.

The LRC, associated ER, and reportable data included in this review are attached to this Data Usability Summary (DUS).

DATA REVIEW/VALIDATION RESULTS

Introduction

Twenty-four (24) groundwater samples, two (2) duplicate groundwater samples and one (1) field blank were analyzed for chloride, sulfate, fluoride, metals, and TDS. Table 1 lists the field identifications cross-referenced to laboratory identifications.

Analytical Results

The data package contains a minimum of one (1) quality control batch per analytical method analyzed. The quality control batch identifies the laboratory QC samples that correspond to the designated field samples. Not-detected results are reported as less than the value of the sample detection limit (SDL) as defined by the TRRP rule. The project Sampling and Analysis Plan (SAP) states that quality control percent recoveries of 70% to 130% indicate sufficient accuracy and a relative percent difference (RPD) of 30% indicates adequate precision. Therefore, these limits were used for comparison during this review for accuracy and precision. Data qualified as part of this review are included in Table 2.

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody. The samples were received in the appropriate containers with the paperwork filled out properly. The laboratory sample receipt checklist stated the samples were received at temperatures of 0.9, 0.4, 0.3, 1.3, 4.5, 0.3, and 0.2°C. Samples were prepared and analyzed within holding times.

Calibrations

According to the LRC, initial calibration data met EPA, Standard Method (SM) and SW-846 Method requirements for chloride, sulfate, fluoride, metals, and TDS. Several continuing calibration blanks (CCB) had detections of calcium and boron. Associated samples were reported with concentrations of calcium and boron greater than 5X the CCB concentration and were not qualified.

Blanks

Chloride, sulfate, fluoride, and TDS were reported as not-detected in the method blanks. Metals batch 143611 had a detection of boron (0.01114J mg/L) in the method blank. Associated samples were reported as greater than 5X the method blank concentration for boron and were not qualified.

One field blank (FB-01) was collected and analyzed as part of this data package. Detections of calcium (0.164J mg/L) were identified in the field blank (FB-01). Associated samples were reported as greater than 5X the field blank concentration for calcium and were not qualified.

Laboratory Control Samples

Laboratory control samples (LCS) met the QC acceptance criteria for chloride, sulfate, fluoride, metals, and TDS.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples for chloride/sulfate batches R343630 and R343682, and fluoride were analyzed on site samples MW-58 and MW-63 which were within QC acceptance criteria. MS/MSD analysis is not a requirement of TDS method SM2540C. Metals

batch 143610 and chloride/sulfate batch R343646 were analyzed on samples not associated with the project site and were not used for qualification purposes.

Metals batches 143611 and 143613 MS/MSDs analyzed on site samples MW-58 and MW-63 had calcium recovery outside acceptance criteria. However, the MS/MSD spike amount for calcium was less than 4X the unspiked parent sample and may not represent the matrix effect; therefore, data were not qualified.

Post Digestion Spike and Serial Dilution

Metals batches 143611 and 143613 post digestion spikes (PDS) were outside acceptance criteria for calcium. However, the PDS spike amount for calcium was less than 4X the unspiked parent sample and was not used for qualification purposes. Metals batch 143610 PDS had low recovery for calcium. Samples MW-39, MW-40, MW-41, MW-62, MW-64 and MW-23 were qualified as estimated low (JL) for calcium, due to low PDS recovery.

Metals serial dilutions (SD) were within acceptance criteria for batches 143610 and 143613. Metals batch 143611 had calcium SD outside acceptance criteria. Sample MW-63 was qualified as estimated (J) for calcium, due to SD outside acceptance criteria.

Laboratory Duplicates

Laboratory duplicates for TDS were within QC acceptance criteria.

Field Precision

Two (2) field duplicate samples were included in this data package (MW-36/DUP-01 and MW-44/DUP-02). Both sample and duplicate, MW-36/DUP-01 and MW-44/DUP-02, were reported as detected for chloride, sulfate, boron, calcium, fluoride and TDS. The relative percent difference (RPD) between sample and duplicate was within the QC acceptance criteria of 30%.

Sample/duplicate precision calculations are included in Table 3.

Summary

The groundwater analytical data are usable for the purpose of determining current concentrations of COCs in this medium at the Parish site.

The data user is advised that samples MW-39, MW-40, MW-41, MW-62, MW-64 and MW-23 were qualified as estimated low (JL) for calcium, due to low PDS recovery. Sample MW-63 was qualified as estimated (J) for calcium, due to SD outside acceptance criteria.

References:

TCEQ. 2010. TRRP 13: Review and Reporting of COC Concentration Data. Texas Commission for Environmental Quality, Austin, Texas.

Environmental Resources Management (ERM). October 2017. Sampling and Analysis Plan. W.A. Parish Electric Generating Station, Thompsons, Texas.

NRG
W.A. Parish CCR Appendix III
Analytical Report No. HS19071444

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
HS19071444-01	MW-39	Groundwater
HS19071444-02	MW-40	Groundwater
HS19071444-03	MW-41	Groundwater
HS19071444-04	MW-62	Groundwater
HS19071444-05	MW-63	Groundwater
HS19071444-06	MW-64	Groundwater
HS19071444-07	MW-23	Groundwater
HS19071444-08	MW-28D	Groundwater
HS19071444-09	MW-42	Groundwater
HS19071444-10	MW-43	Groundwater
HS19071444-11	MW-44	Groundwater
HS19071444-12	MW-46R	Groundwater
HS19071444-13	MW-47	Groundwater
HS19071444-14	MW-48	Groundwater
HS19071444-15	MW-50	Groundwater
HS19071444-16	MW-52	Groundwater
HS19071444-17	MW-54	Groundwater
HS19071444-18	MW-55R	Groundwater
HS19071444-19	MW-58	Groundwater
HS19071444-20	MW-65	Groundwater
HS19071444-21	MW-36	Groundwater
HS19071444-22	MW-37	Groundwater
HS19071444-23	MW-60	Groundwater
HS19071444-24	MW-61	Groundwater
HS19071444-25	DUP-01	Groundwater
HS19071444-26	DUP-02	Groundwater
HS19071444-27	FB-01	Water

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Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
MW-39 MW-40 MW-41 MW-62 MW-64 MW-23	Calcium	JL	Low PDS recovery.
MW-63	Calcium	J	SD outside acceptance criteria.
<p>U – Notdetected</p> <p>J – Estimated data; the reported quantitation limit or sample concentration is approximated due to exceedance of one or more QC requirements.</p> <p>UJ – The analyte was analyzed for but was not detected above the reported sample detection limit. The associated value is an estimate and may be inaccurate or imprecise.</p> <p>L – Bias in sample, likely to be low.</p> <p>H – Bias in sample likely to be high.</p>			

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Analytical Report No. HS19071444

Table 3 – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD ^a	Qualified
MW-36/DUP-01	Boron	0.0620	0.062	0	A
	Calcium	254	253	0	A
	Chloride	307	307	0	A
	Sulfate	454	455	0	A
	TDS	1650	1590	4	A
	Fluoride	0.42	0.41	2	A
MW-44/DUP-02	Boron	0.284	0.258	10	A
	Calcium	164	166	1	A
	Chloride	406	438	8	A
	Sulfate	234	244	4	A
	TDS	1530	1590	4	A
	Fluoride	0.39	0.4	3	A

^a RPD = ((SR - DR)*200)/(SR + DR)

A - Acceptable Data.

A* - Acceptable Data where results were less than 5X the MQL and the difference between sample and duplicate was less than 2X the MQL.

X - Outside the TRRP-13/SAP acceptance criteria of 30% RPD.

J - Estimated detected.

U - Notdetected.

DATA USABILITY SUMMARY

Lori Burriss of TRC Environmental Corporation (TRC) reviewed one (1) data package from ALS Global Laboratories (ALS) for the analysis of a groundwater sample collected August 5, 2019 at the NRG W.A. Parish Generating Station (Parish) in Thompsons, Texas. Data were reviewed for conformance to the requirements of the guidance document, *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13) (TCEQ 2010). Lori Burriss verified that at the time the laboratory data were generated for the project, ALS was NELAC-accredited under the Texas Laboratory Accreditation Program for the matrices, analytes, and methods of analysis requested on the chain-of-custody documentation. ALS's National Environmental Laboratory Accreditation Program (NELAP) certification is included in the laboratory data package.

Intended Use of Data: To provide current data on concentrations of chemicals of concern (COCs) in the groundwater at the property. These data are used for compliance with the Environmental Protection Agency (EPA) Coal Combustion Residuals (CCR) detection monitoring program. Data are also used for statistical analysis of potential statistically significant increases (SSI).

Analyses requested included:

- ◇ EPA 300.0 – Inorganic Anions (Chloride and Sulfate) by ion chromatography;
- ◇ A4500-F C-11 – Fluoride by ion selective electrode;
- ◇ SW-846 6020A – Metals (calcium and boron) by inductively coupled plasma-mass spectrometry (ICP/MS); and
- ◇ SM2540C – Total Dissolved Solids (TDS) by drying.

Data were reviewed and validated as described in *Review and Reporting of COC Concentration Data*, (RG-366/TRRP-13) and the results of the review/validation are discussed in this DUS.

The following laboratory submittals and field data were examined:

- ◇ the reportable data,
- ◇ the laboratory review checklists, and
- ◇ field sampling logs.

The results of supporting quality control (QC) analyses were summarized on the Laboratory Review Checklist (LRC) and Exception Report (ER) in the analytical report which was included in this review.

The LRC, associated ER, and reportable data included in this review are attached to this Data Usability Summary (DUS).

DATA REVIEW/VALIDATION RESULTS

Introduction

One (1) groundwater sample was analyzed for chloride, sulfate, fluoride, metals, and TDS. Table 1 lists the field identifications cross-referenced to laboratory identifications.

Analytical Results

The data package contains a minimum of one (1) quality control batch per analytical method analyzed. The quality control batch identifies the laboratory QC samples that correspond to the designated field samples. Not-detected results are reported as less than the value of the sample detection limit (SDL) as defined by the TRRP rule. The project Sampling and Analysis Plan (SAP) states that quality control percent recoveries of 70% to 130% indicate sufficient accuracy and a relative percent difference (RPD) of 30% indicates adequate precision. Therefore, these limits were used for comparison during this review for accuracy and precision. Data qualified as part of this review are included in Table 2.

Preservation and Holding Times

The sample was evaluated for agreement with the chain-of-custody. The sample was received in the appropriate containers with the paperwork filled out properly. The laboratory sample receipt checklist stated the sample was received at a temperature of 1.4°C. The sample was prepared and analyzed within holding times.

Calibrations

According to the LRC, initial calibration data met EPA, Standard Method (SM) and SW-846 Method requirements for chloride, sulfate, fluoride, metals, and TDS. Several continuing calibration blanks (CCB) had detections of chloride, sulfate and calcium. The associated sample was reported with concentrations of chloride, sulfate and calcium greater than 5X the CCB concentration and were not qualified.

Blanks

Chloride, sulfate, fluoride, metals and TDS were reported as not-detected in the method blanks. Field blanks and/or equipment blanks were not included in this data package.

Laboratory Control Samples

Laboratory control samples (LCS) met the QC acceptance criteria for chloride, sulfate, fluoride, metals, and TDS.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples for metals and fluoride were analyzed on samples not associated with the project site and were not used for qualification purposes. MS/MSD analysis is not a requirement of TDS method SM2540C.

Chloride/Fluoride batch R343833 MS/MSD analyzed on site sample MW-38R had sulfate recovery outside acceptance criteria. However, the MS/MSD spike amount for sulfate was less than 4X the unspiked parent sample and may not represent the matrix effect; therefore, data were not qualified.

Post Digestion Spike and Serial Dilution

Post digestion spikes and serial dilution analyses for metals analyses were within acceptance criteria.

Laboratory Duplicates

Laboratory duplicates for TDS were within QC acceptance criteria.

Field Precision

Field duplicates were not included in this data package.

Summary

The groundwater analytical data are usable for the purpose of determining current concentrations of COCs in this medium at the Parish site.

References:

TCEQ. 2010. TRRP 13: Review and Reporting of COC Concentration Data. Texas Commission for Environmental Quality, Austin, Texas.

Environmental Resources Management (ERM). October 2017. Sampling and Analysis Plan. W.A. Parish Electric Generating Station, Thompsons, Texas.

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
HS19080198-01	MW-38R	Groundwater

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
No data were qualified based on this review.			
<p>U – Notdetected</p> <p>J – Estimated data; the reported quantitation limit or sample concentration is approximated due to exceedance of one or more QC requirements.</p> <p>UJ – The analyte was analyzed for but was not detected above the reported sample detection limit. The associated value is an estimate and may be inaccurate or imprecise.</p> <p>L – Bias in sample, likely to be low.</p> <p>H – Bias in sample likely to be high.</p>			

DATA USABILITY SUMMARY

Lori Burris of TRC Environmental Corporation (TRC) reviewed one (1) data package from ALS Global Laboratories (ALS) for the analysis of groundwater samples collected July 29, 2019 at the NRG W.A. Parish Generating Station (Parish) in Thompsons, Texas. Data were reviewed for conformance to the requirements of the guidance document, *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13) (TCEQ 2010). Lori Burris verified that at the time the laboratory data were generated for the project, ALS was NELAC-accredited under the Texas Laboratory Accreditation Program for the matrices, analytes, and methods of analysis requested on the chain-of-custody documentation. ALS's National Environmental Laboratory Accreditation Program (NELAP) certification is included in the laboratory data package.

Intended Use of Data: To provide current data on concentrations of chemicals of concern (COCs) in the groundwater at the property. These data are used for compliance with the Environmental Protection Agency (EPA) Coal Combustion Residuals (CCR) detection monitoring program. Data are also used for statistical analysis of potential statistically significant increases (SSI).

Analyses requested included:

- ◇ EPA 340.2 – Fluoride by ion selective electrode;
- ◇ SW-846 6020B – Metals by inductively coupled plasma-mass spectrometry (ICP/MS);
- ◇ SW-846 7470A – Mercury by manual cold vapor extraction;
- ◇ EPA 903.0 – Radium-226 by alpha counting detector method; and
- ◇ EPA 904.0 – Radium-228 by radiochemical/precipitation; count by gas-flow proportional beta counter.

Data were reviewed and validated as described in *Review and Reporting of COC Concentration Data*, (RG-366/TRRP-13) and the results of the review/validation are discussed in this DUS.

The following laboratory submittals and field data were examined:

- ◇ the reportable data,
- ◇ the laboratory review checklists, and
- ◇ field sampling logs.

The results of supporting quality control (QC) analyses were summarized on the Laboratory Review Checklist (LRC) and Exception Report (ER) in the analytical report which was included in this review.

The LRC, associated ER, and reportable data included in this review are attached to this Data Usability Summary (DUS).

DATA REVIEW/VALIDATION RESULTS

Introduction

Twenty-four (24) groundwater samples, two (2) duplicate groundwater samples and one (1) field blank were analyzed for metals, mercury, fluoride and Radium-226/228. Table 1 lists the field identifications cross-referenced to laboratory identifications.

Analytical Results

The data package contains a minimum of one (1) quality control batch per analytical method analyzed. The quality control batch identifies the laboratory QC samples that correspond to the designated field samples. Not-detected results are reported as less than the value of the sample detection limit (SDL) as defined by the TRRP rule. The project Sampling and Analysis Plan (SAP) states that quality control percent recoveries of 70% to 130% indicate sufficient accuracy and a relative percent difference (RPD) of 30% indicates adequate precision. Therefore, these limits were used for comparison during this review for accuracy and precision. The SAP also states that radiochemistry data will be compared to laboratory supplied limits instead of the aforementioned limits. Data qualified as part of this review are included in Table 2.

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody. The samples were received in the appropriate containers with the paperwork filled out properly. The laboratory sample receipt checklist stated the samples were received at temperatures of 0.9, 0.4, 0.3, 0.3, 1.3, 4.5, 0.3, and 0.2°C. Samples reported in the data package were prepared and analyzed within holding times.

Calibrations

According to the LRC, initial calibration data met EPA and SW-846 Method requirements for metals, mercury and fluoride. Several continuing calibration blanks (CCB) had detections of thallium. The associated samples were reported as not-detected for thallium and were not qualified for the CCB exceedance.

Surrogate/Carrier Recoveries

Radium-226/Radium-228 carrier recoveries were within laboratory acceptance criteria.

Blanks

Mercury, fluoride and Radium-226 were reported as not-detected in the method blanks. Metals batch 144172 had a detection of chromium (0.000482J mg/L) in the method blank. Associated samples were not reported for chromium from this batch and were not qualified. Radium-228 batch 190820-1-2 had a detection in the method blank (0.78 +/- 0.41 pCi/L). Associated samples were reported as not-detected for Radium-228 and were not qualified based on the method blank detection.

One field blank (FB-01) was collected and analyzed as part of this data package. FB-01 was reported with a detection of chromium (0.00127J mg/L). Associated samples MW-39, MW-40, MW-41, MW-64, MW-28D, MW-42, MW-43, MW-44, MW-46R, MW-47, MW-48, MW-50, MW-52, MW-54, MW-55R, MW-58, MW-65, MW-36, MW-37, MW-60, MW-61, DUP-01 and DUP-02 were qualified as not-detected (U) for chromium, due to field blank contamination.

Laboratory Control Samples

Laboratory control samples (LCS) met the QC acceptance criteria for metals, mercury, fluoride and Radium-226/228.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples for mercury and fluoride, were analyzed on site samples, MW-58 and MW-63 which were within QC acceptance criteria. Radium-226/228 methods do not require MS/MSD be analyzed. Metals batch 144172 was analyzed on a sample not associated with the project site and was not used for qualification purposes.

Metals batch 143613 MS/MSD on MW-58 had recovery above the laboratory limit but within the site SAP limit; no qualification was added to the data. Metals batch 143612 MS/MSD analyzed on site sample MW-39 had low recovery for barium. Samples MW-39, MW-40, MW-41, MW-62, MW-63, MW-64, MW-23, MW-28D, MW-42, MW-43, MW-44, MW-46R, MW-47, MW-48, MW-50, MW-52, MW-54, MW-55R, MW-58 and MW-65 were qualified as estimated low (JL) for barium, due to low MS/MSD recovery.

Post Digestion Spike and Serial Dilution

Post digestion spikes and serial dilutions for metals were within acceptance criteria.

Laboratory Duplicates

Laboratory duplicates for Radium-226/228 were within QC acceptance criteria.

Field Precision

Two (2) field duplicate samples were included in this data package (MW-36/DUP-01 and MW-44/DUP02). Both sample and duplicate, MW-36/DUP-01, were reported as detected for arsenic, barium, cobalt, lithium, molybdenum, mercury and fluoride. In addition, sample DUP-01 was detected for Radium-226. The relative percent difference (RPD) between sample and duplicate was within the QC acceptance criteria of 30% for barium, cobalt, lithium, molybdenum and fluoride. Arsenic RPD were outside acceptance criteria; however, based on professional judgement and sample/duplicate results being less than five times the method quantitation limit (MQL) and the difference between sample and duplicate being less than two times the MQL; data were not qualified. MW-36 and DUP-01 were qualified as estimated (UJ and J, respectively) for Radium-226, due to sample/duplicate precision outside acceptance criteria.

Sample and duplicate, MW-44/DUP-02, were reported as detected for arsenic, barium, lithium, molybdenum, and fluoride. In addition, MW-44 was reported as detected for Radium-226/228. The RPD between sample and duplicate was within the QC acceptance criteria of 30% for arsenic, barium, lithium, molybdenum, and fluoride. Based on professional judgment, samples MW-44 and DUP-02 were qualified as estimated (J and UJ, respectively) for Radium-226/228, due to detections of Radium in the sample and no detections in the duplicate.

Sample/duplicate precision calculations are included in Table 3.

Summary

The groundwater analytical data are usable for the purpose of determining current concentrations of COCs in this medium at the Parish site.

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The data user is advised that samples MW-39, MW-40, MW-41, MW-64, MW-28D, MW-42, MW-43, MW-44, MW-46R, MW-47, MW-48, MW-50, MW-52, MW-54, MW-55R, MW-58, MW-65, MW-36, MW-37, MW-60, MW-61, DUP-01 and DUP-02 were qualified as not-detected (U) for chromium, due to field blank contamination. Samples MW-39, MW-40, MW-41, MW-62, MW-63, MW-64, MW-23, MW-28D, MW-42, MW-43, MW-44, MW-46R, MW-47, MW-48, MW-50, MW-52, MW-54, MW-55R, MW-58 and MW-65 were qualified as estimated low (JL) for barium, due to low MS/MSD recovery.

MW-36 and DUP-01 were qualified as estimated (UJ and J, respectively) for Radium-226, due to sample/duplicate precision outside acceptance criteria. Based on professional judgment, samples MW-44 and DUP-02 were qualified as estimated (J and UJ, respectively) for Radium-226/228, due to detections of Radium in the sample and no detections in the duplicate.

References:

TCEQ. 2010. TRRP 13: Review and Reporting of COC Concentration Data. Texas Commission for Environmental Quality, Austin, Texas.

Environmental Resources Management (ERM). October 2017. Sampling and Analysis Plan. W.A. Parish Electric Generating Station, Thompsons, Texas.

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Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
HS19071445-01	MW-39	Groundwater
HS19071445-02	MW-40	Groundwater
HS19071445-03	MW-41	Groundwater
HS19071445-04	MW-62	Groundwater
HS19071445-05	MW-63	Groundwater
HS19071445-06	MW-64	Groundwater
HS19071445-07	MW-23	Groundwater
HS19071445-08	MW-28D	Groundwater
HS19071445-09	MW-42	Groundwater
HS19071445-10	MW-43	Groundwater
HS19071445-11	MW-44	Groundwater
HS19071445-12	MW-46R	Groundwater
HS19071445-13	MW-47	Groundwater
HS19071445-14	MW-48	Groundwater
HS19071445-15	MW-50	Groundwater
HS19071445-16	MW-52	Groundwater
HS19071445-17	MW-54	Groundwater
HS19071445-18	MW-55R	Groundwater
HS19071445-19	MW-58	Groundwater
HS19071445-20	MW-65	Groundwater
HS19071445-21	MW-36	Groundwater
HS19071445-22	MW-37	Groundwater
HS19071445-23	MW-60	Groundwater
HS19071445-24	MW-61	Groundwater
HS19071445-25	DUP-01	Groundwater
HS19071445-26	DUP-02	Groundwater
HS19071445-27	FB-01	Water

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Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
MW-39 MW-40 MW-41 MW-64 MW-28D MW-42 MW-43 MW-44 MW-46R MW-47 MW-48 MW-50 MW-52 MW-54 MW-55R MW-58 MW-65 MW-36 MW-37 MW-60 MW-61 DUP-01 DUP-02	Chromium	U	Field Blank Contamination.
MW-39 MW-40 MW-41 MW-62 MW-63 MW-64 MW-23 MW-28D MW-42 MW-43 MW-44 MW-46R MW-47 MW-48 MW-50	Barium	JL	Low MS/MSD recovery.

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Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
MW-52 MW-54 MW-55R MW-58 MW-65			
MW-36	Radium-226	UJ	Sample/duplicate precision outside acceptance criteria.
DUP-01	Radium-226	J	Sample/duplicate precision outside acceptance criteria.
MW-44	Radium-226 Radium-228	J	Sample/duplicate precision outside acceptance criteria.
DUP-02	Radium-226 Radium-228	UJ	Sample/duplicate precision outside acceptance criteria.
<p>U – Notdetected</p> <p>J – Estimated data; the reported quantitation limit or sample concentration is approximated due to exceedance of one or more QC requirements.</p> <p>UJ – The analyte was analyzed for but was not detected above the reported sample detection limit. The associated value is an estimate and may be inaccurate or imprecise.</p> <p>L – Bias in sample, likely to be low.</p> <p>H – Bias in sample likely to be high.</p>			

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W.A. Parish CCR Appendix IV
Analytical Report No. HS19071445

Table 3 – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD ^a	Qualified
MW-36/DUP-01	Arsenic	0.000663J	0.000431J	42	A*
	Barium	0.0373	0.0335	11	A
	Cobalt	0.000443J	0.000377J	16	A
	Lithium	0.0397	0.0391	2	A
	Molybdenum	0.000948J	0.00100J	5	A
	Mercury	0.000372	0.000354	5	A
	Fluoride	0.42	0.41	2	A
	Radium-226	0.35U	1.87	134	X
MW-44/DUP-02	Arsenic	0.00800	0.00712	11	A
	Barium	0.142	0.129	10	A
	Lithium	0.0396	0.0364	8	A
	Molybdenum	0.00311J	0.00289J	7	A
	Fluoride	0.39	0.40	3	A
	Radium-226	0.37	0.31U	18	X
	Radium-228	0.96	0.8U	18	X

^a RPD = ((SR - DR)*200)/(SR + DR)

A - Acceptable Data.

A* - Acceptable Data where results were less than 5X the MQL and the difference between sample and duplicate was less than 2X the MQL.

X – Outside the TRRP-13/SAP acceptance criteria of 30% RPD.

J – Estimated detected.

U – Notdetected.

DATA USABILITY SUMMARY

Lori Burris of TRC Environmental Corporation (TRC) reviewed one (1) data package from ALS Global Laboratories (ALS) for the analysis of a groundwater sample collected August 5, 2019 at the NRG W.A. Parish Generating Station (Parish) in Thompsons, Texas. Data were reviewed for conformance to the requirements of the guidance document, *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13) (TCEQ 2010). Lori Burris verified that at the time the laboratory data were generated for the project, ALS was NELAC-accredited under the Texas Laboratory Accreditation Program for the matrices, analytes, and methods of analysis requested on the chain-of-custody documentation. ALS's National Environmental Laboratory Accreditation Program (NELAP) certification is included in the laboratory data package.

Intended Use of Data: To provide current data on concentrations of chemicals of concern (COCs) in the groundwater at the property. These data are used for compliance with the Environmental Protection Agency (EPA) Coal Combustion Residuals (CCR) detection monitoring program. Data are also used for statistical analysis of potential statistically significant increases (SSI).

Analyses requested included:

- ◇ EPA 340.2 – Fluoride by ion selective electrode;
- ◇ SW-846 6020B – Metals by inductively coupled plasma-mass spectrometry (ICP/MS);
- ◇ SW-846 7470A – Mercury by manual cold vapor extraction;
- ◇ EPA 903.0 – Radium-226 by alpha counting detector method; and
- ◇ EPA 904.0 – Radium-228 by radiochemical/precipitation; count by gas-flow proportional beta counter.

Data were reviewed and validated as described in *Review and Reporting of COC Concentration Data*, (RG-366/TRRP-13) and the results of the review/validation are discussed in this DUS.

The following laboratory submittals and field data were examined:

- ◇ the reportable data,
- ◇ the laboratory review checklists, and
- ◇ field sampling logs.

The results of supporting quality control (QC) analyses were summarized on the Laboratory Review Checklist (LRC) and Exception Report (ER) in the analytical report which was included in this review.

The LRC, associated ER, and reportable data included in this review are attached to this Data Usability Summary (DUS).

DATA REVIEW/VALIDATION RESULTS

Introduction

One (1) groundwater sample was analyzed for metals, mercury, fluoride and Radium-226/228. Table 1 lists the field identifications cross-referenced to laboratory identifications.

Analytical Results

The data package contains a minimum of one (1) quality control batch per analytical method analyzed. The quality control batch identifies the laboratory QC samples that correspond to the designated field samples. Not-detected results are reported as less than the value of the sample detection limit (SDL) as defined by the TRRP rule. The project Sampling and Analysis Plan (SAP) states that quality control percent recoveries of 70% to 130% indicate sufficient accuracy and a relative percent difference (RPD) of 30% indicates adequate precision. Therefore, these limits were used for comparison during this review for accuracy and precision. The SAP also states that radiochemistry data will be compared to laboratory supplied limits instead of the aforementioned limits. Data qualified as part of this review are included in Table 2.

Preservation and Holding Times

The sample was evaluated for agreement with the chain-of-custody. The sample were received in the appropriate containers with the paperwork filled out properly. The laboratory sample receipt checklist stated the sample was received at a temperature of 1.4°C. The sample reported in the data package was prepared and analyzed within holding times.

Calibrations

According to the LRC, initial calibration data met EPA and SW-846 Method requirements for metals, mercury and fluoride. Several continuing calibration blanks (CCB) had detections of antimony, molybdenum and thallium. The associated samples were either reported as not-detected or detected greater than 5X the CCB concentration; therefore, data were not qualified..

Surrogate/Carrier Recoveries

Radium-226/Radium-228 carrier recoveries were within laboratory acceptance criteria.

Blanks

Metals, mercury, fluoride and Radium-226/228 were reported as not-detected in the method blanks. Field blanks and/or equipment blanks were not included in this data package.

Laboratory Control Samples

Laboratory control samples (LCS) met the QC acceptance criteria for metals, mercury, fluoride and Radium-226/228.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples for mercury analyzed on site sample MW-38R was within QC acceptance criteria. Radium-226/228 methods do not require MS/MSD be analyzed. Metals and fluoride MS/MSDs were analyzed on samples not associated with the project site and were not used for qualification purposes.

Post Digestion Spike and Serial Dilution

Post digestion spikes and serial dilutions for metals were within acceptance criteria.

Laboratory Duplicates

Laboratory duplicates for Radium-226/228 were not included in this data package.

Field Precision

Field duplicate samples were not included in this data package.

Summary

The groundwater analytical data are usable for the purpose of determining current concentrations of COCs in this medium at the Parish site.

References:

TCEQ. 2010. TRRP 13: Review and Reporting of COC Concentration Data. Texas Commission for Environmental Quality, Austin, Texas.

Environmental Resources Management (ERM). October 2017. Sampling and Analysis Plan. W.A. Parish Electric Generating Station, Thompsons, Texas.

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
HS19080199-01	MW-38R	Groundwater

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
No data were qualified based on this review.			
U – Notdetected J – Estimated data; the reported quantitation limit or sample concentration is approximated due to exceedance of one or more QC requirements. UJ – The analyte was analyzed for but was not detected above the reported sample detection limit. The associated value is an estimate and may be inaccurate or imprecise. L – Bias in sample, likely to be low. H – Bias in sample likely to be high.			

DATA USABILITY SUMMARY

Lori Burriss of TRC Environmental Corporation (TRC) reviewed one (1) data package from ALS Global Laboratories (ALS) for the analysis of groundwater samples collected October 18, 2019 at the NRG W.A. Parish Generating Station (Parish) in Thompsons, Texas. Data were reviewed for conformance to the requirements of the guidance document, *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13) (TCEQ 2010). Lori Burriss verified that at the time the laboratory data were generated for the project, ALS was NELAC-accredited under the Texas Laboratory Accreditation Program for the matrices, analytes, and methods of analysis requested on the chain-of-custody documentation. ALS's National Environmental Laboratory Accreditation Program (NELAP) certification is included in the laboratory data package.

Intended Use of Data: To provide current data on concentrations of chemicals of concern (COCs) in the groundwater at the property. These data are used for compliance with the Environmental Protection Agency (EPA) Coal Combustion Residuals (CCR) detection monitoring program. Data are also used for statistical analysis of potential statistically significant increases (SSI).

Analyses requested included:

- ◇ EPA 300.0 – Inorganic Anions (Chloride and Sulfate) by ion chromatography;
- ◇ A4500-F C-11 – Fluoride by ion selective electrode;
- ◇ SW-846 6020A – Metals (calcium and boron) by inductively coupled plasma-mass spectrometry (ICP/MS); and
- ◇ SM2540C – Total Dissolved Solids (TDS) by drying.

Data were reviewed and validated as described in *Review and Reporting of COC Concentration Data*, (RG-366/TRRP-13) and the results of the review/validation are discussed in this DUS.

The following laboratory submittals and field data were examined:

- ◇ the reportable data,
- ◇ the laboratory review checklists, and
- ◇ field sampling logs.

The results of supporting quality control (QC) analyses were summarized on the Laboratory Review Checklist (LRC) and Exception Report (ER) in the analytical report which was included in this review.

The LRC, associated ER, and reportable data included in this review are attached to this Data Usability Summary (DUS).

DATA REVIEW/VALIDATION RESULTS

Introduction

Twenty-five (25) groundwater samples, two (2) duplicate groundwater samples and one (1) field blank were analyzed for chloride, sulfate, fluoride, metals, and TDS. Table 1 lists the field identifications cross-referenced to laboratory identifications.

Analytical Results

The data package contains a minimum of one (1) quality control batch per analytical method analyzed. The quality control batch identifies the laboratory QC samples that correspond to the designated field samples. Not-detected results are reported as less than the value of the sample detection limit (SDL) as defined by the TRRP rule. The project Sampling and Analysis Plan (SAP) states that quality control percent recoveries of 70% to 130% indicate sufficient accuracy and a relative percent difference (RPD) of 30% indicates adequate precision. Therefore, these limits were used for comparison during this review for accuracy and precision. Data qualified as part of this review are included in Table 2.

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody. The samples were received in the appropriate containers with the paperwork filled out properly. The laboratory sample receipt checklist stated the samples were received at temperatures of 2.4, 3.8, 1.2, 1.8, 1.9, 1.6, 3.2, and 0.7°C. The sample receipt checklist noted that sample MW-65 was received at the laboratory with a pH > 2. Additional preservative was added to this sample by the laboratory.

Samples were prepared and analyzed within holding times. However, samples MW-36 and MW-65 were requested by TRC to be reanalyzed for TDS, due to original results outside the normal range for these two locations. The laboratory reanalyzed the TDS for MW-36 and MW-65 outside of holding time and qualified the data accordingly. No other qualifiers were added to the data for hold time exceedance.

Calibrations

According to the LRC, initial calibration data met EPA, Standard Method (SM) and SW-846 Method requirements for chloride, sulfate, fluoride, metals, and TDS. Several continuing calibration blanks (CCB) had detections of metals. Associated samples were reported with concentrations of calcium and boron greater than 5X the CCB concentrations and were not qualified.

Blanks

Chloride, sulfate, fluoride, metals and TDS were reported as not-detected in the method blanks. The field blank (FB-01) was also reported as not-detected for the listed compounds.

Laboratory Control Samples

Laboratory control samples (LCS) met the QC acceptance criteria for chloride, sulfate, fluoride, metals, and TDS.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples for chloride/sulfate batch R349082 and fluoride were analyzed on site samples DUP-02, MW-58 and MW-63 which were within QC

acceptance criteria. MS/MSD analysis is not a requirement of TDS method SM2540C. Fluoride batch R273735 was analyzed on a sample not associated with the project site and was not used for qualification purposes.

Metals batches 146601 and 146602 MS/MSDs analyzed on site samples MW-58 and MW-63 had calcium recovery outside acceptance criteria. However, the MS/MSD spike amount for calcium was less than 4X the unspiked parent sample and may not represent the matrix effect; therefore, data were not qualified.

Chloride/sulfate batch R349051 MS/MSD analyzed on site sample MW-63 had low recovery for both chloride and sulfate. Samples MW-39, MW-40, MW-41, MW-62, MW-63, MW-64, MW-23 and MW-42 were qualified as estimated low (JL) for chloride and sulfate, due to low MS/MSD recovery.

Post Digestion Spike and Serial Dilution

Post digestion spikes and serial dilutions for metal analysis were within acceptance criteria.

Laboratory Duplicates

Laboratory duplicates for TDS were within QC acceptance criteria for batches R349121 and R349337. Samples MW-46R and MW-60 were qualified as estimated (J) for TDS, due to laboratory duplicates outside acceptance criteria in TDS batches R349131 and R349140, respectively.

Field Precision

Two (2) field duplicate samples were included in this data package (MW-36/DUP-01 and MW-44/DUP-02). Both sample and duplicate, MW-36/DUP-01, were reported as detected for chloride, sulfate, boron, calcium, fluoride and TDS. The relative percent difference (RPD) between sample and duplicate was within the QC acceptance criteria of 30%.

Both sample and duplicate, MW-44/DUP-02, were reported as detected for chloride, sulfate, boron, calcium, fluoride and TDS. The RPD between sample and duplicate was within the QC acceptance criteria of 30% for boron, calcium, chloride, sulfate and TDS. Fluoride was qualified as estimated (J) for samples MW-44 and DUP-02, due to sample/duplicate precision outside acceptance criteria.

Sample/duplicate precision calculations are included in Table 3.

Summary

The groundwater analytical data are usable for the purpose of determining current concentrations of COCs in this medium at the Parish site.

The data user is advised that samples MW-39, MW-40, MW-41, MW-62, MW-63, MW-64, MW-23 and MW-42 were qualified as estimated low (JL) for chloride and sulfate, due to low MS/MSD recovery. Samples MW-46R and MW-60 were qualified as estimated (J) for TDS, due to laboratory duplicates outside acceptance criteria. Fluoride was qualified as estimated (J) for samples MW-44 and DUP-02, due to sample/duplicate precision outside acceptance criteria.

References:

TCEQ. 2010. TRRP 13: Review and Reporting of COC Concentration Data. Texas Commission for Environmental Quality, Austin, Texas.

Environmental Resources Management (ERM). October 2017. Sampling and Analysis Plan. W.A. Parish Electric Generating Station, Thompsons, Texas.

NRG
W.A. Parish CCR Appendix III
Analytical Report No. HS19101137

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
HS19101137-01	MW-39	Groundwater
HS19101137-02	MW-40	Groundwater
HS19101137-03	MW-41	Groundwater
HS19101137-04	MW-62	Groundwater
HS19101137-05	MW-63	Groundwater
HS19101137-06	MW-64	Groundwater
HS19101137-07	MW-23	Groundwater
HS19101137-08	MW-28D	Groundwater
HS19101137-09	MW-42	Groundwater
HS19101137-10	MW-43	Groundwater
HS19101137-11	MW-44	Groundwater
HS19101137-12	MW-46R	Groundwater
HS19101137-13	MW-47	Groundwater
HS19101137-14	MW-48	Groundwater
HS19101137-15	MW-50	Groundwater
HS19101137-16	MW-52	Groundwater
HS19101137-17	MW-54	Groundwater
HS19101137-18	MW-55R	Groundwater
HS19101137-19	MW-58	Groundwater
HS19101137-20	MW-65	Groundwater
HS19101137-21	MW-36	Groundwater
HS19101137-22	MW-37	Groundwater
HS19101137-23	MW-38R	Groundwater
HS19101137-24	MW-60	Groundwater
HS19101137-25	MW-61	Groundwater
HS19101137-26	DUP-01	Groundwater
HS19101137-27	DUP-02	Groundwater

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
HS19101137-28	FB-01	Water

NRG
W.A. Parish CCR Appendix III
Analytical Report No. HS19101137

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
MW-39 MW-40 MW-41 MW-62 MW-63 MW-64 MW-23 MW-42	Chloride Sulfate	JL	Low MS/MSD recovery.
MW-46R MW-60	TDS	J	Laboratory duplicate outside acceptance criteria.
MW-44 DUP-02	Fluoride	J	Sample/duplicate outside acceptance criteria.
<p>U – Notdetected</p> <p>J – Estimated data; the reported quantitation limit or sample concentration is approximated due to exceedance of one or more QC requirements.</p> <p>UJ – The analyte was analyzed for but was not detected above the reported sample detection limit. The associated value is an estimate and may be inaccurate or imprecise.</p> <p>L – Bias in sample, likely to be low.</p> <p>H – Bias in sample likely to be high.</p>			

NRG
W.A. Parish CCR Appendix III
Analytical Report No. HS19101137

Table 3 – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD ^a	Qualified
MW-36/DUP-01	Boron	0.0815	0.0724	12	A
	Calcium	222	250	12	A
	Chloride	292	288	1	A
	Sulfate	418	411	2	A
	TDS	1480	1380	7	A
	Fluoride	0.38	0.36	5	A
MW-44/DUP-02	Boron	0.214	0.215	0	A
	Calcium	155	159	3	A
	Chloride	427	418	2	A
	Sulfate	235	229	3	A
	TDS	1340	1510	12	A
	Fluoride	0.53	0.34	44	X

^a RPD = ((SR - DR)*200)/(SR + DR)

A - Acceptable Data.

A* - Acceptable Data where results were less than 5X the MQL and the difference between sample and duplicate was less than 2X the MQL.

X – Outside the TRRP-13/SAP acceptance criteria of 30% RPD.

J – Estimated detected.

U – Notdetected.

DATA USABILITY SUMMARY

Lori Burriss of TRC Environmental Corporation (TRC) reviewed one (1) data package from ALS Global Laboratories (ALS) for the analysis of groundwater samples collected October 18, 2019 at the NRG W.A. Parish Generating Station (Parish) in Thompsons, Texas. Data were reviewed for conformance to the requirements of the guidance document, *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13) (TCEQ 2010). Lori Burriss verified that at the time the laboratory data were generated for the project, ALS was NELAC-accredited under the Texas Laboratory Accreditation Program for the matrices, analytes, and methods of analysis requested on the chain-of-custody documentation. ALS's National Environmental Laboratory Accreditation Program (NELAP) certification is included in the laboratory data package.

Intended Use of Data: To provide current data on concentrations of chemicals of concern (COCs) in the groundwater at the property. These data are used for compliance with the Environmental Protection Agency (EPA) Coal Combustion Residuals (CCR) detection monitoring program. Data are also used for statistical analysis of potential statistically significant increases (SSI).

Analyses requested included:

- ◇ EPA 340.2 – Fluoride by ion selective electrode;
- ◇ SW-846 6020B – Metals by inductively coupled plasma-mass spectrometry (ICP/MS);
- ◇ SW-846 7470A – Mercury by manual cold vapor extraction;
- ◇ EPA 903.0 – Radium-226 by alpha counting detector method; and
- ◇ EPA 904.0 – Radium-228 by radiochemical/precipitation; count by gas-flow proportional beta counter.

Data were reviewed and validated as described in *Review and Reporting of COC Concentration Data*, (RG-366/TRRP-13) and the results of the review/validation are discussed in this DUS.

The following laboratory submittals and field data were examined:

- ◇ the reportable data,
- ◇ the laboratory review checklists, and
- ◇ field sampling logs.

The results of supporting quality control (QC) analyses were summarized on the Laboratory Review Checklist (LRC) and Exception Report (ER) in the analytical report which was included in this review.

The LRC, associated ER, and reportable data included in this review are attached to this Data Usability Summary (DUS).

DATA REVIEW/VALIDATION RESULTS

Introduction

Twenty-five (25) groundwater samples, two (2) duplicate groundwater samples and one (1) field blank were analyzed for metals, mercury, fluoride and Radium-226/228. Table 1 lists the field identifications cross-referenced to laboratory identifications.

Analytical Results

The data package contains a minimum of one (1) quality control batch per analytical method analyzed. The quality control batch identifies the laboratory QC samples that correspond to the designated field samples. Not-detected results are reported as less than the value of the sample detection limit (SDL) as defined by the TRRP rule. The project Sampling and Analysis Plan (SAP) states that quality control percent recoveries of 70% to 130% indicate sufficient accuracy and a relative percent difference (RPD) of 30% indicates adequate precision. Therefore, these limits were used for comparison during this review for accuracy and precision. The SAP also states that radiochemistry data will be compared to laboratory supplied limits instead of the aforementioned limits. Data qualified as part of this review are included in Table 2.

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody. The samples were received in the appropriate containers with the paperwork filled out properly. The laboratory sample receipt checklist stated the samples were received at temperatures of 1.2, 2.4, 1.8, 3.8, 1.9, 1.6, 3.2 and 0.7°C. Samples reported in the data package were prepared and analyzed within holding times.

Calibrations

According to the LRC, initial calibration data met EPA and SW-846 Method requirements for metals, mercury and fluoride. Several continuing calibration blanks (CCB) had detections of thallium. Samples MW-39 and MW-58 were qualified as not-detected (U) for thallium, due to CCB contamination.

Surrogate/Carrier Recoveries

Radium-226/Radium-228 carrier recoveries were within laboratory acceptance criteria.

Blanks

Metals, mercury, fluoride and Radium-228 were reported as not-detected in the method blanks. The field blank (FB-01) was reported as not-detected for metals, mercury, fluoride and radium-226/228.

Radium-226 batch 191107-1-1 had a detection in the method blank (0.22 +/- 0.19 pCi/L). Samples MW-40, MW-41, MW-64, MW-28D, MW-47, MW-48 and MW-50 were qualified as estimated (J) for radium-226, due to method blank contamination.

Laboratory Control Samples

Laboratory control samples (LCS) met the QC acceptance criteria for metals, mercury, fluoride and Radium-226. Radium-228 batch 191115-1-2 had elevated LCS recovery. Sample DUP-02 was qualified as estimated high (JH) for radium-228, due to elevated LCS recovery.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples for metals, mercury and fluoride batch 273613 were analyzed on site samples MW-58 and MW-63 which were within QC acceptance criteria. Radium-226/228 methods do not require MS/MSD be analyzed. Fluoride batch 273735 was analyzed on a sample not associated with the project site and was not used for qualification purposes.

Post Digestion Spike and Serial Dilution

Post digestion spikes and serial dilutions for metals were within acceptance criteria.

Laboratory Duplicates

Laboratory duplicates for Radium-226/228 were within QC acceptance criteria.

Field Precision

Two (2) field duplicate samples were included in this data package (MW-36/DUP-01 and MW-44/DUP02). Both sample and duplicate, MW-36/DUP-01, were reported as detected for arsenic, barium, cobalt, lithium, molybdenum, mercury and fluoride. The relative percent difference (RPD) between sample and duplicate was within the QC acceptance criteria of 30% for the listed compounds.

Sample and duplicate, MW-44/DUP-02, were reported as detected for arsenic, barium, lithium, molybdenum, and fluoride. In addition, DUP-02 was reported as detected for radium-228. The RPD between sample and duplicate was within the QC acceptance criteria of 30% for arsenic, barium, lithium, and molybdenum. Based on professional judgment, samples MW-44 and DUP-02 were qualified as estimated (UJ and J, respectively) for radium-228, due to detections of radium-228 in the duplicate and no detections in the sample. In addition, fluoride RPD did not meet the acceptance criteria and was qualified as estimated (J) in samples MW-44 and DUP-02.

Sample/duplicate precision calculations are included in Table 3.

Summary

The groundwater analytical data are usable for the purpose of determining current concentrations of COCs in this medium at the Parish site.

The data user is advised that samples MW-39 and MW-58 were qualified as not-detected (U) for thallium, due to CCB contamination. Samples MW-40, MW-41, MW-64, MW-28D, MW-47, MW-48 and MW-50 were qualified as estimated (J) for radium-226, due to method blank contamination. Sample DUP-02 was qualified as estimated high (JH) for radium-228, due to elevated LCS recovery.

Samples MW-44 and DUP-02 were qualified as estimated (UJ and J, respectively) for radium-228, and as estimated (J) for fluoride, due to sample/duplicate precision outside acceptance criteria.

References:

TCEQ. 2010. TRRP 13: Review and Reporting of COC Concentration Data. Texas Commission for Environmental Quality, Austin, Texas.

Environmental Resources Management (ERM). October 2017. Sampling and Analysis Plan. W.A. Parish Electric Generating Station, Thompsons, Texas.

NRG
W.A. Parish CCR Appendix IV
Analytical Report No. HS19101144

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
HS19101144-01	MW-39	Groundwater
HS19101144-02	MW-40	Groundwater
HS19101144-03	MW-41	Groundwater
HS19101144-04	MW-62	Groundwater
HS19101144-05	MW-63	Groundwater
HS19101144-06	MW-64	Groundwater
HS19101144-07	MW-23	Groundwater
HS19101144-08	MW-28D	Groundwater
HS19101144-09	MW-42	Groundwater
HS19101144-10	MW-43	Groundwater
HS19101144-11	MW-44	Groundwater
HS19101144-12	MW-46R	Groundwater
HS19101144-13	MW-47	Groundwater
HS19101144-14	MW-48	Groundwater
HS19101144-15	MW-50	Groundwater
HS19101144-16	MW-52	Groundwater
HS19101144-17	MW-54	Groundwater
HS19101144-18	MW-55R	Groundwater
HS19101144-19	MW-58	Groundwater
HS19101144-20	MW-65	Groundwater
HS19101144-21	MW-36	Groundwater
HS19101144-22	MW-37	Groundwater
HS19101144-23	MW-38R	Groundwater
HS19101144-24	MW-60	Groundwater
HS19101144-25	MW-61	Groundwater
HS19101144-26	DUP-01	Groundwater
HS19101144-27	DUP-02	Groundwater

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
HS19101144-28	FB-01	Water

NRG
W.A. Parish CCR Appendix IV
Analytical Report No. HS19101144

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
MW-39 MW-58	Thallium	U	CCB contamination.
MW-40 MW-41 MW-6 MW-28D MW-47 MW-48 MW-50	Radium-226	J	Method blank contamination
DUP-02	Radium-228	JH	Elevated LCS recovery
MW-44 DUP-02	Fluoride	J	Sample/duplicate precision outside acceptance criteria.
MW-44	Radium-228	UJ	Sample/duplicate precision outside acceptance criteria.
DUP-02	Radium-228	J	Sample/duplicate precision outside acceptance criteria.
<p>U – Notdetected</p> <p>J – Estimated data; the reported quantitation limit or sample concentration is approximated due to exceedance of one or more QC requirements.</p> <p>UJ – The analyte was analyzed for but was not detected above the reported sample detection limit. The associated value is an estimate and may be inaccurate or imprecise.</p> <p>L – Bias in sample, likely to be low.</p> <p>H – Bias in sample likely to be high.</p>			

NRG
W.A. Parish CCR Appendix IV
Analytical Report No. HS19101144

Table 3 – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD ^a	Qualified
MW-36/DUP-01	Arsenic	0.000547J	0.000465J	16	A
	Barium	0.0318	0.0317	0	A
	Cobalt	0.000468J	0.000537J	13	A
	Lithium	0.0339	0.0343	1	A
	Molybdenum	0.000782J	0.000809J	3	A
	Mercury	0.000227	0.000217	5	A
	Fluoride	0.38	0.36	5	A
MW-44/DUP-02	Arsenic	0.0130	0.0139	7	A
	Barium	0.144	0.144	0	A
	Lithium	0.0353	0.0354	0	A
	Molybdenum	0.00289J	0.00282J	2	A
	Fluoride	0.53	0.34	43	X
	Radium-228	U +/- 0.44	0.88 +/- 0.42	--	X

^a RPD = ((SR - DR)*200)/(SR + DR)

A - Acceptable Data.

A* - Acceptable Data where results were less than 5X the MQL and the difference between sample and duplicate was less than 2X the MQL.

X – Outside the TRRP-13/SAP acceptance criteria of 30% RPD.

J – Estimated detected.

U – Notdetected.

Appendix E

Alternative Source Demonstrations

TRC Environmental Corporation | NRG Texas Power, LLC

2020 Annual Groundwater

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January 31, 2020



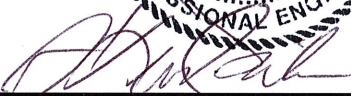
Alternative Source Demonstration

W.A. Parish Electric Generating Station FGD Emergency Pond (SWMU 020)


April 2019

Prepared For
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Alternate Source Demonstration, W.A. Parish, FGD Emergency Pond (SWMU 020)

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Executive Summary

The NRG Texas Power, LLC (NRG) W.A. Parish Electric Generating Station (Station) is located in Thompsons, Fort Bend County, Texas. Units managing coal combustion residuals (CCR) at the Station are subject to the United States Environmental Protection Agency's (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA) Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (CCR Rule). CCR generated at the Station consist of fly ash, bottom ash, and flue gas desulfurization (FGD) scrubber sludge. The Station has three active CCR units that are managed pursuant to the CCR Rule, including the FGD Emergency Pond (E Pond, SWMU 020), which is the subject of this Alternate Source Demonstration (ASD).

Eight independent background/baseline groundwater monitoring events were conducted at the E Pond between July 2016 and July 2017 per §257.94(b) and the initial post-background/baseline detection monitoring event was conducted in October 2017. A statistical evaluation of the first post-background/baseline detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed to identify statistically significant increases (SSIs) above background pursuant to §257.93(f) and (g) and in accordance with the Site's CCR *Statistical Analysis Plan* (ERM 2017a). The statistical evaluation identified apparent SSIs in monitoring wells at the E Pond. An ASD was completed in July 2018 in accordance with 257.94(e) that successfully identified alternative sources for the potential SSIs and the CCR unit at the Station continued a detection monitoring program.

The second post-background/baseline detection monitoring event was conducted in May 2018. Laboratory analytical data for the second post-background/baseline detection monitoring event were received by NRG on July 25, 2018. A statistical evaluation of the second post-background/baseline analytical results for detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed to identify SSIs pursuant to §257.93(f) and (g) on October 25, 2018. The statistical evaluation identified apparent SSIs in monitoring wells at the E Pond. This ASD was prepared in accordance with 257.94(e) that successfully identified alternative sources for the potential SSIs. Therefore, detection monitoring continued for the E Pond for the third post-background/baseline detection monitoring event performed during October 2018.

Section 1

Introduction

1.1 Background

The NRG Texas Power, LLC (NRG) W.A. Parish Electric Generating Station (Station) is located in Thompsons, Fort Bend County, Texas, adjacent to Smithers Lake. The electricity generating portion of the Station, or the main Plant Operations Area (Plant Area), is located along the southeastern shore of the lake.

Management of coal combustion residuals (CCR) at the Station is performed pursuant to the United States Environmental Protection Agency's (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA) Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (CCR Rule, effective date October 17, 2015) and the CCR Remand Rule Proposal (March 1, 2018). CCR generated at the Station consist of fly ash, bottom ash, and flue gas desulfurization (FGD) scrubber sludge, which have been classified by the Texas Commission on Environmental Quality (TCEQ) as Class II Nonhazardous waste. The Station has the following three active CCR-management units pursuant to the CCR Rule and the CCR Remand Rule Proposal:

- Solid Waste Disposal Area (SWDA) (SWMU 001), which consists of four active CCR-management cells: Cell 1C, Cell 2A-Pug Mill, Cell 2B, and Cell 3; and is now monitored as a single CCR Multiunit;
- Air Preheater Pond (APH Pond, SWMU 021); and
- FGD Emergency Pond (E Pond, SWMU 020).

The SWDA is located to the north of the Plant Area. The APH and E Pond are located at the southern portion of the Plant Area. The locations of the three CCR units are shown on Figure 1. The E Pond is the subject of this Alternative Source Demonstration (ASD).

On behalf of NRG, Environmental Resources Management, Inc. (ERM) conducted eight independent background/baseline groundwater monitoring events between April 2015 and August 2017 per §257.94(b) and the first post-background/baseline detection monitoring event in October 2017. Results of the eight background/baseline and first post-background/baseline detection monitoring events were documented in the *Annual Groundwater Monitoring Report, FGD Emergency Pond (Unit 020)* (ERM 2018a) and the March 1, 2018, *Groundwater Monitoring Report, FGD Emergency Pond (SWMU Unit 020)* (ERM 2018b) pursuant to §257.90(e). ERM identified apparent SSIs above background in groundwater for the E Pond for the first post-background/baseline detection monitoring event and TRC Environmental Corporation (TRC) completed a successful Alternative Source Demonstration (ASD) in July 2018. The ASD

was placed in the facility's operating record (FOR) and was provided with the 2018 Annual Groundwater Monitoring and Corrective Action Report (January 2019) for the Station.

The dimensions of the E Pond are approximately 200 feet by 110 feet and the aerial extent is approximately 0.5 acres. The E pond receives storm water runoff from the FGD dewatering area and blowdown from the FGD system. The E Pond may also receive the contents of an FGD process vessel when the FGD system is not in operation.

Based on the field observations and as provided in the first post-background/baseline ASD (July 2018), it appears that surficial CCR may have been inadvertently introduced into the wells and the sample containers during monitoring. Therefore, the following modifications to the groundwater monitoring network were implemented after the May 2018 semiannual detection monitoring event and before the October 2018 semiannual detection monitoring event:

- The flush-mounted monitoring wells at the E Pond were modified by installing vertical well casing extensions and protective casings to minimize the potential for CCR on the ground surface to be accidentally introduced into the wells or the sample containers during monitoring. These well modifications were intended to reduce the potential for cross-contamination of the samples during groundwater monitoring.

During the third post-background/baseline detection monitoring event in October 2018, field personnel observed the presence of silt in monitoring wells at the E Pond. Redevelopment of the wells and removal of accumulated silt from the well casings will be conducted prior to the collection of groundwater samples for the first semiannual detection monitoring event, which is anticipated to occur in April 2019.

1.2 Purpose

A statistical evaluation of the second post-background/baseline detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed pursuant to §257.93(f) and (g) and the revised statistical method for the CCR units in October 2018. The statistical evaluation identified 11 potential SSIs (boron, calcium, pH, sulfate and TDS) in the three downgradient monitoring wells (MW-37, MW-38, and MW-61), which were documented in the 2018 *Annual Groundwater Monitoring and Corrective Action Report* for the Station, dated January 31, 2019 (TRC 2019). On behalf of NRG, TRC Environmental Corporation (TRC) prepared this ASD to evaluate the potential SSIs above background for the second post-background/baseline detection monitoring event in accordance with §257.94(e).

1.3 Hydrogeology

Based on the *Geologic Atlas of Texas, Houston Sheet* (BEG 1982), the Station is underlain by alluvium and the Beaumont formation (also commonly referred to as Beaumont Clay). The alluvium is present

along the Brazos River, which is located approximately 0.9 miles from the northern boundary of the SWDA CCR units. Both the alluvium and the Beaumont formation are comprised of clay, silt, and sand; and may include stream channel, point-bar, natural levee, backswamp, coastal marsh and mud-flat deposits. The thickness of the Beaumont formation is approximately 100 feet. The alluvium is not present at the Plant Area which is consistent with this area being located outside of the Brazos River floodplain zone (FBC 2018).

The alluvium and Beaumont Formation are located within the upper unit of the Chicot aquifer system. At most locations throughout Fort Bend County, the Chicot aquifer system is under confined conditions (TWDB 1990). The Chicot aquifer system is primarily recharged by precipitation at locations where it outcrops in Austin, Harris, and Waller Counties; groundwater then flows laterally within Fort Bend County (TWDB 1990). Site investigations performed by others on behalf of NRG also indicate that the uppermost groundwater-bearing units at the Site are under confined conditions.

Site investigations conducted in May 2016 and November 2016 identified three main subsurface strata at the Station, which were designated as Stratum DA-1 through DA-3 at the SWDA and Stratum PA-1 through PA-3 at the Plant Area. The strata are fully described in the October 2017 *CCR Groundwater Monitoring Networks* report (ERM 2017b) and are summarized below.

1.3.1 Stratum DA-1 and Stratum PA-1 (Upper Confining Unit)

Stratum DA-1 and Stratum PA-1 are both predominately silty clay with some sandy clay, clay, and sandy silt. Stratum DA-1 is generally present from the ground surface to approximately 30 feet below ground surface (bgs), but this stratum ranges in thickness from 20 to 60 feet throughout the SWDA. Stratum PA-1 is present from the ground surface to depths ranging from 15 feet bgs to 32 feet bgs.

Stratum DA-1 and Stratum PA-1 both serve as confining units to underlying Stratum DA-2 and Stratum PA-2, respectively, which comprise the uppermost groundwater-bearing unit at the Site. Geotechnical laboratory testing indicates that the hydraulic conductivity of Stratum DA-1 and Stratum PA-1 is $2.85E-08$ centimeters per second (cm/sec) and $2.03E-08$ cm/sec, respectively (ERM 2017b).

1.3.2 Stratum DA-2 and Stratum PA-2 (Upper Aquifer)

Stratum DA-2 consists of interbedded sand, silty sand, clayey sand, and clayey sandy silt with some gravelly sand. The clay content within Stratum DA-2 varies across the SWDA. Stratum PA-2 is predominantly silty sand with varying sand and silt content and trace clay. Stratum DA-2 and Stratum PA-2 are generally greater than 10 feet in thickness with bottom depths ranging from 60 to 80 feet bgs.

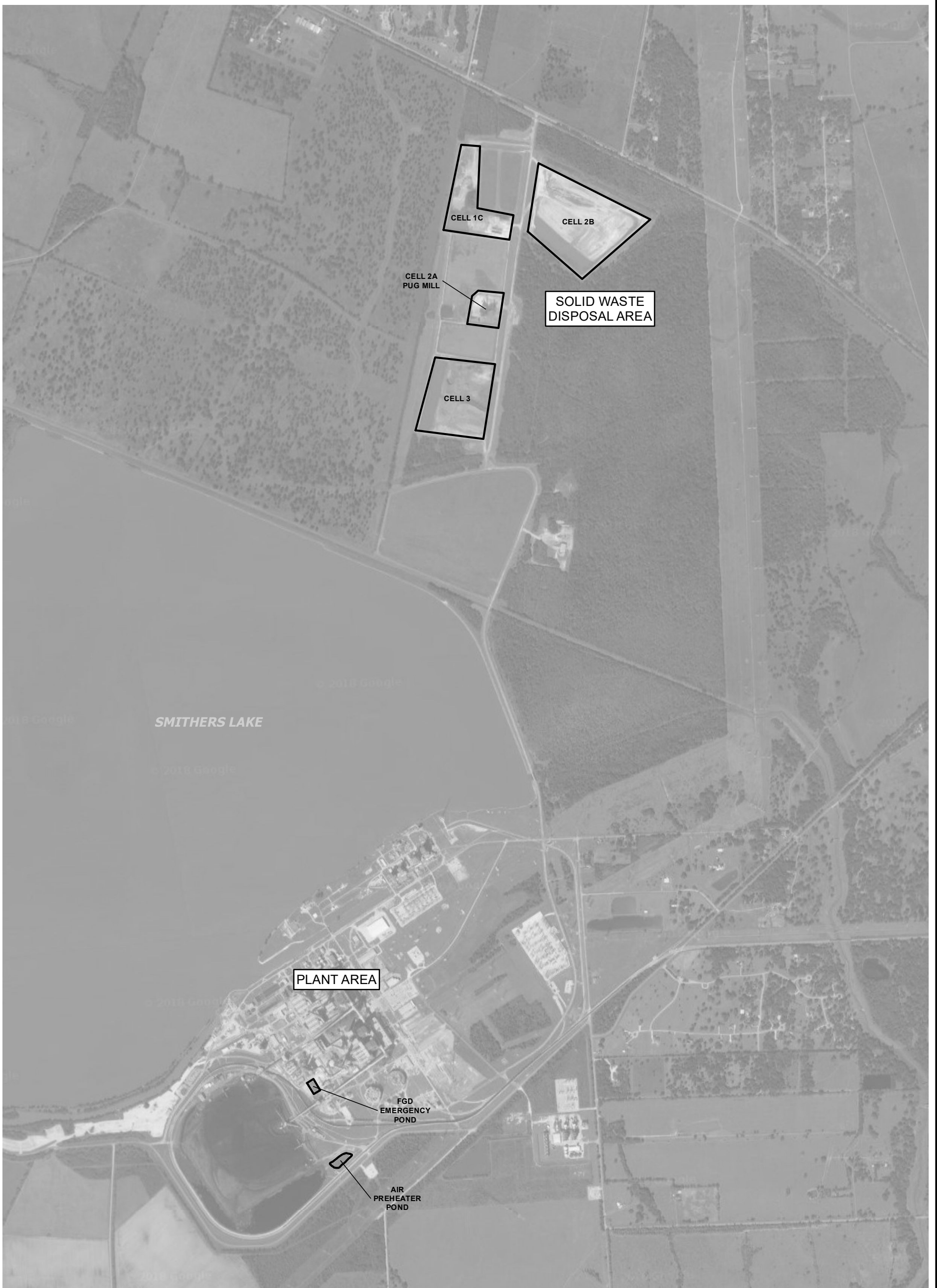
Both Stratum DA-2 and Stratum PA-2 are saturated and comprise the uppermost groundwater-bearing unit at the CCR units. CCR monitoring wells in the SWDA and Plant Area are completed within Stratum DA-2 and Stratum PA-2, respectively. Slug testing results for CCR monitoring wells indicate hydraulic conductivity ranges from 6.86E-04 cm/sec to 2.59E-02 cm/sec in Stratum DA-2; and from 6.68E-04 cm/sec to 4.26E-02 cm/sec in Stratum PA-2 (ERM 2017b). Groundwater primarily flows to the northeast towards the Brazos River beneath the SWDA; to the southwest beneath the E Pond, and to the southeast beneath the APH Pond.

1.3.3 Stratum DA-3 and Stratum PA-3 (Lower Confining Unit)

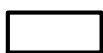
Stratum DA-3 and Stratum PA-3 are both predominantly clay to silty clay. These strata appear to be bottom confining layers to the overlying groundwater-bearing units (Stratum DA-2 and Stratum PA-2). The thicknesses of Stratum DA-3 and Stratum PA-3 have not been defined.

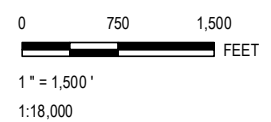
1.3.4 E Pond – Hydrogeology

The certified CCR groundwater monitoring well network for the E Pond consists of two upgradient monitoring wells (MW-36 and MW-60) and three downgradient monitoring wells (MW-37, MW-38, and MW-61). The E Pond monitoring wells were completed into Stratum PA-2, the upper aquifer system at the Station. Groundwater potentiometric surface maps for the second (May 2018) and third (October 2019) post-background/baseline detection monitoring events were provided in the *2018 Annual Groundwater Monitoring and Corrective Action Report* and are provided in this ASD as Figures 2-6 and 2-9. During both semiannual monitoring events, the direction of groundwater flow was to the southwest at a gradient ranging from 0.010 feet per foot (ft/ft) to 0.030 ft/ft.



LEGEND

 UNIT BOUNDARY



AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).

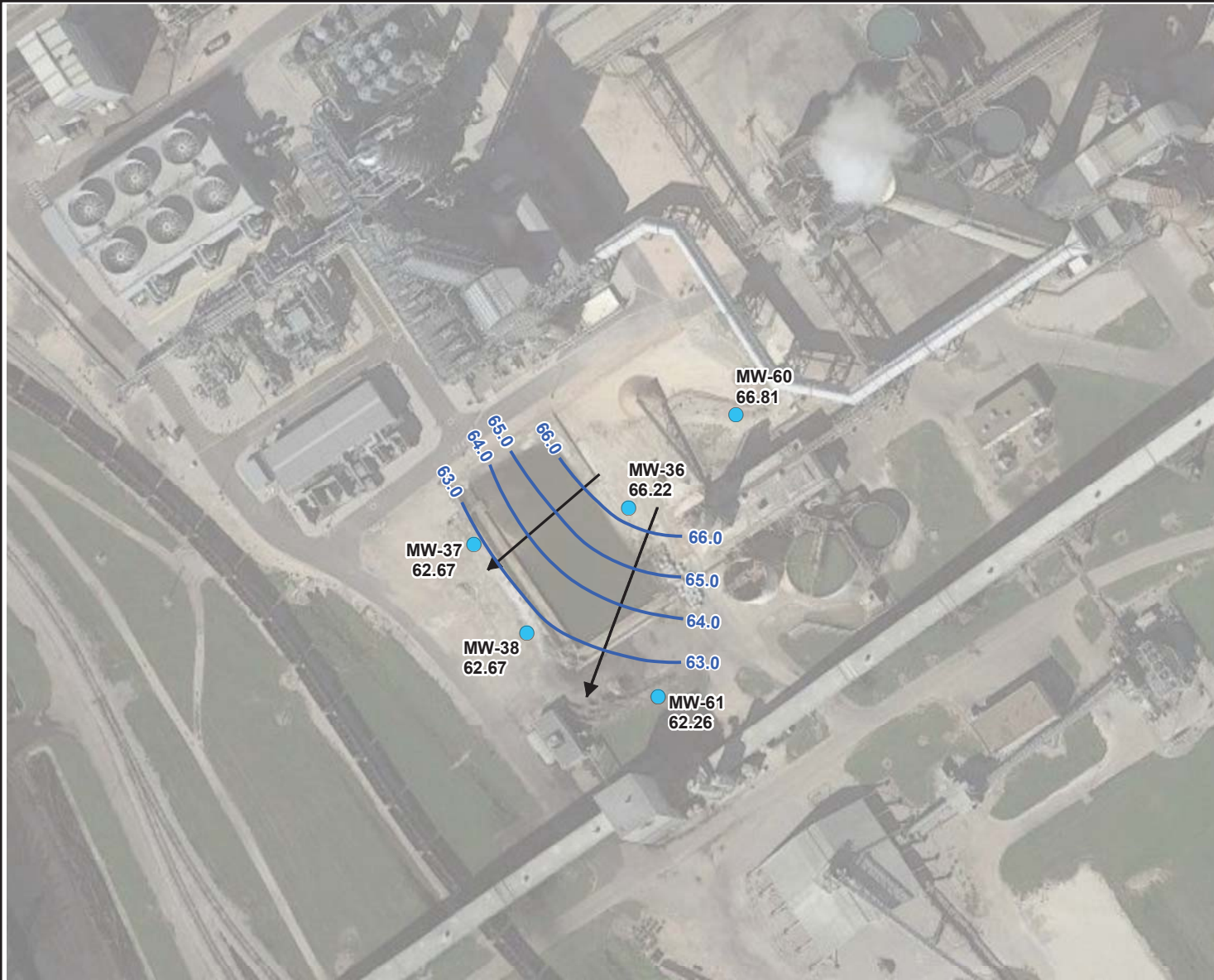


505 East Huntland Drive, Suite 250
 Austin, TX 78752
 Phone: 512.329.6080
 www.trcsolutions.com

PROJECT:	NRG TEXAS POWER, LLC W.A. PARISH STATION THOMPSONS, TEXAS
TITLE:	SITE MAP

DRAWN BY:	MHORN
CHECKED BY:	JSPEER
APPROVED BY:	
DATE:	JULY 2018
PROJ. NO.:	294645.0000.0000
FILE:	294645_1.mxd

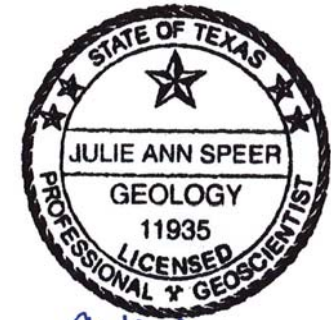
FIGURE 1



LEGEND

- MONITORING WELL
- 66.81 GROUNDWATER ELEVATION (FT MSL)
- GROUNDWATER ELEVATION CONTOUR (FT MSL)
- ← GROUNDWATER FLOW DIRECTION

NOTE:
GROUNDWATER ELEVATIONS MEASURED BY TRC ENVIRONMENTAL CORPORATION (TRC) ON MAY 11, 2018.



Julie Speer
01-28-2019

AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).



1" = 150'
1:1,800



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TRC - GIS

PROJECT:

**NRG TEXAS POWER, LLC
W.A. PARISH STATION
THOMPSONS, TEXAS**

TITLE:

**FGD EMERGENCY POND,
GROUNDWATER POTENTIOMETRIC SURFACE MAP – MAY 2018**

DRAWN BY:

S. RAY

CHECKED BY:

J. SPEER

APPROVED BY:

J. SPEER

DATE:

JANUARY 2019

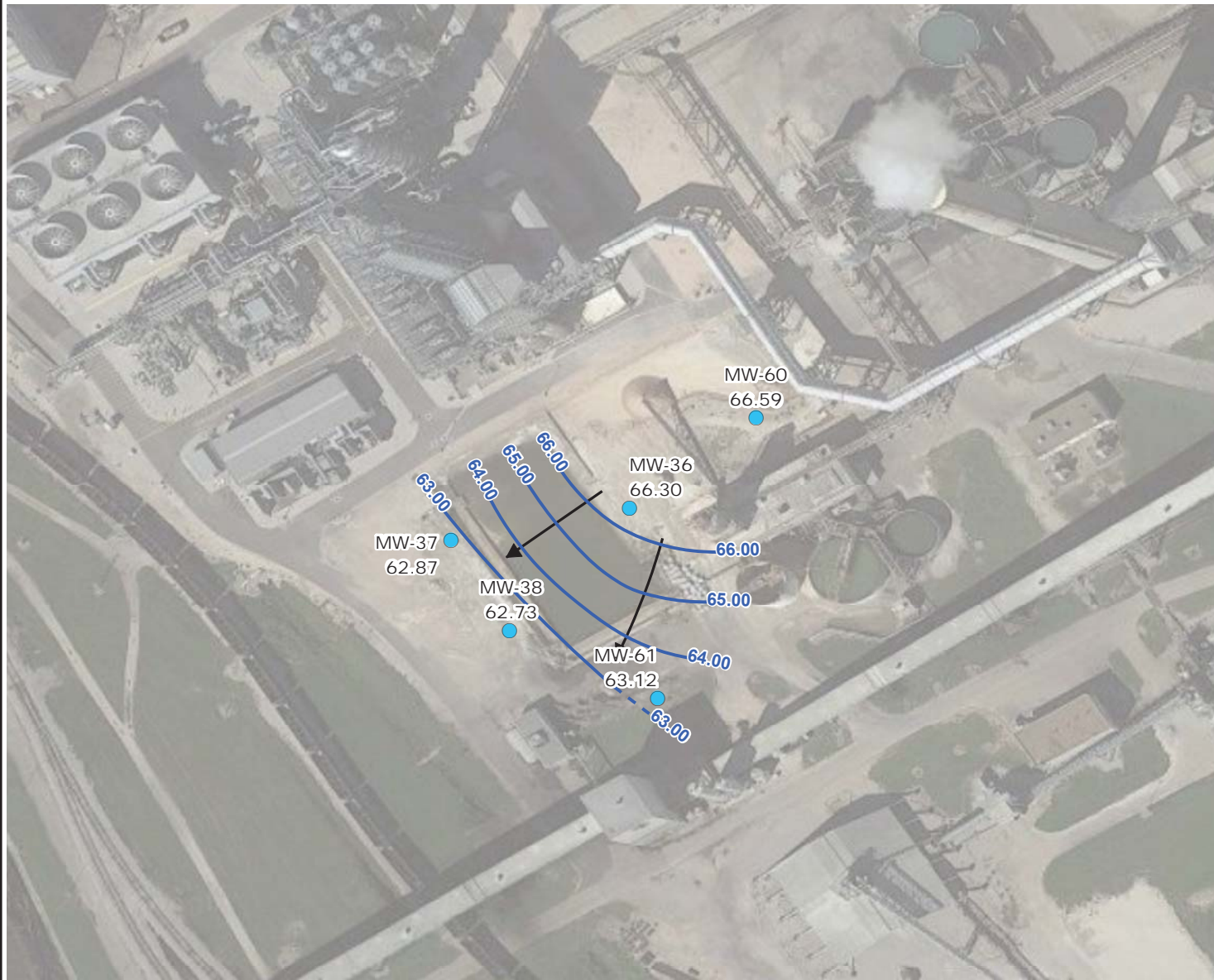
PROJ. NO.:

294645.0000.0000

FILE:

294645_2-6.mxd

FIGURE 2-6



LEGEND

- MONITORING WELL
- 66.59** GROUNDWATER ELEVATION (FT MSL)
- GROUNDWATER ELEVATION CONTOUR - DASHED WHERE INFERRED (FT MSL)
- ← GROUNDWATER FLOW DIRECTION

NOTE:
GROUNDWATER ELEVATION CONTOURS INTERPRETED BY TRC BASED ON GROUNDWATER ELEVATIONS MEASURED BY HYDROLOGIC MONITORING (HMI) ON OCTOBER 29, 2018.



Julie Speer
01-28-2019

AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).



1" = 150'
1:1,800



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Austin, TX 78752
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TRC - GIS

PROJECT:

**NRG TEXAS POWER, LLC
W.A. PARISH STATION
THOMPSONS, TEXAS**

TITLE:

**FGD EMERGENCY POND
GROUNDWATER POTENTIOMETRIC SURFACE MAP – OCTOBER 2018**

DRAWN BY: S. RAY

CHECKED BY: J. SPEER

APPROVED BY: J. SPEER

DATE: JANUARY 2019

PROJ. NO.: 294645.0000.0000

FILE: 294645_2-9.mxd

FIGURE 2-9

Section 2

Alternative Source Demonstration

As discussed in the *2018 Annual Groundwater Monitoring and Corrective Action Report (TRC 2019)*, statistical evaluation of the second post-background/baseline detection monitoring laboratory analytical results identified potential SSIs of Appendix III parameters above background concentrations. This section evaluates alternative sources for the potential SSIs as per §257.94(e)(2).

Statistical evaluation of the second post-background/baseline semiannual detection monitoring event identified 11 SSIs for the E Pond, as shown on Table 1.

Table 1
SSIs – May 2018 Detection Monitoring Event

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
Boron	MW-37	N/A	0.160	5/11/2018	0.398	mg/L
Boron	MW-38	N/A	0.160	5/11/2018	2.92	mg/L
Boron	MW-61	N/A	0.160	5/11/2018	1.43	mg/L
Calcium	MW-38	N/A	301	5/11/2018	986	mg/L
Calcium	MW-61	N/A	301	5/11/2018	324	mg/L
pH	MW-38	6.4	7.1	5/11/2018	7.26	SU
Sulfate	MW-38	N/A	1,070	5/11/2018	1,280	mg/L
Sulfate	MW-61	N/A	1,070	5/11/2018	1,300	mg/L
TDS	MW-37	N/A	1,958	5/11/2018	1,970	mg/L
TDS	MW-38	N/A	1,958	5/11/2018	2,470	mg/L
TDS	MW-61	N/A	1,958	5/11/2018	2,650	mg/L

Based on review of the hydrogeological setting for the E Pond and presence of an upper confining layer (Stratum PA-1) that is present between the bottom of the E Pond and the underlying upper aquifer system (Stratum PA-2), and the observation of surficial CCR in the area of the monitoring wells during the second post-background/baseline detection monitoring sampling event (May 2018), the following lines of reasoning appear to support the conclusion that the 11 potential SSIs observed above background are due to the inadvertent introduction of surficial CCR into the monitoring wells/groundwater samples during sample collection, and are not due to a release of CCR from the E Pond to the upper aquifer system:

- The bottom of the E Pond is separated from the upper aquifer system by a confining unit (Stratum PA-1) that hydraulically isolates the bottom of the E Pond from the upper aquifer system (Stratum PA-2). Available data indicate the upper aquifer system is under confined conditions and the confining unit (Stratum PA-1) acts as a vertical hydraulic barrier between the bottom of the E Pond and the upper aquifer system (Stratum PA-2), based on the following lines of reasoning:
 - Based on review of the boring logs for the groundwater monitoring wells installed at the E Pond, the upper clay confining unit (Stratum PA-1) was present at each monitoring well from the ground surface to depths ranging from 19 feet bgs to 32 feet bgs (i.e., thickness ranging from 19 feet to 32 feet). The bottom of the E Pond is located within Stratum PA-1; therefore, Stratum PA-1 acts as a confining layer between the bottom of the E Pond and the underlying upper aquifer system (Stratum PA-2).
 - Based on geotechnical laboratory results for a soil sample collected from Stratum PA-1 at a depth of 10 feet bgs, Stratum PA-1 is a lean clay with a hydraulic conductivity of 2.03E-08 cm/sec (ERM 2017b), which is consistent with an impervious lithologic unit that exceeds the required specifications per 40 CFR §257.71(a) for a compacted bottom clay liner for a CCR impoundment.
- The E Pond is located at an active power generating area at the Plant Area and non CCR-related and CCR-related materials are actively managed near the E Pond. For example, the FGD loadout pad immediately adjoins the E Pond. The presence of non CCR-related and CCR-related materials near the E pond may be a potential source for some or all of the SSIs identified in groundwater samples collected from wells located downgradient of the E Pond, as described further below.
- During the second post-background baseline detection monitoring event, TRC’s field personnel observed accumulations of CCR at, and in some cases, on top of the flush-mounted groundwater monitoring wells. In some cases, this material needed to be removed from around the wells prior to sample collection. Furthermore, TRC’s field personnel reported that the environment during sampling was “dusty” and field personnel were concerned that fugitive CCR dust was settling into the wells or were cross-contaminating the sample containers during sample collection. Finally,

TRC's field personnel noted that groundwater in the wells required more time to stabilize before sample collection compared to other Station wells.

Based on the observations of surficial CCR at the E Pond groundwater monitoring wells during the May 2018 semiannual detection monitoring sampling event, the following modifications were made to the groundwater monitoring system:

- The five flush-mounted monitoring wells in the E Pond area were modified by installing casing extensions and protective casings to protect the wells from the accidental introduction of CCR materials directly into groundwater samples during sample collection. The well modifications were anticipated to minimize the potential for cross-contamination of groundwater samples during future monitoring events.

Finally, during the third post-background/baseline detection monitoring event in October 2018, field personnel observed the presence of silt in the monitoring wells at the E Pond. Based on this field observation, redevelopment of the wells and removal of accumulated silt from within the wells and from around the well casings will be conducted prior to the collection of groundwater samples for the third semiannual post-background/baseline detection monitoring event, which is anticipated to occur during April 2019.

Section 3

Conclusions

The statistical evaluation for the second post-background/baseline semiannual detection monitoring event from May 2018 identified 11 SSIs. Based on the lines of reasoning presented in this ASD, alternative sources other than a release from the E Pond have been shown to likely be responsible for the potential SSIs observed. Therefore, detection monitoring continued for the E Pond and detection monitoring was performed at the E Pond during October 2018, following modifications to the flush-mounted surface completions.

Section 4 Certification

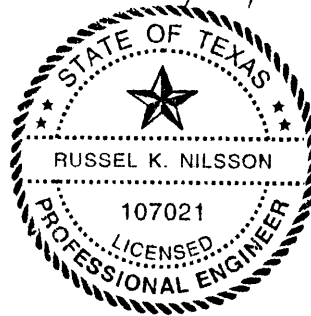
I hereby certify that the alternative source demonstration presented within this document for the WA Parish Electric Generating Station E Pond has been prepared to meet the requirements of Title 40 CFR 257.94 (e) 2 of the Federal CCR Rule. This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR 257.94 (e) 2.

Name: 

Expiration Date: 9/30/2019

Company: TRC Environmental Corporation

Date: 4/22/2019



Section 5

References

BEG 1982. Geologic Atlas of Texas, Houston Sheet. The University of Texas at Austin, Bureau of Economic Geology. Revised 1982.

TRC 2018a. *Alternative Source Demonstration – WA Parish Electric Generating Station FGD Emergency Pond (SWMU 020)*. TRC, July 2018.

TRC 2018b. *Groundwater Monitoring System Certification – WA Parish Electric Generating Station*. TRC August 2018.

TRC 2018c. *Statistical Methods Certification – WA Parish Electric Generating Station*. TRC, August 2018.

TRC 2019. *2018 Annual Groundwater Monitoring Report: WA Parish Generating Station*. TRC, January 2019.

TWDB 1990. Evaluation of Water Resources of Fort Bend County, Texas. Texas Water Development Board Report 321. David Thorkildsen. January 1990.




Alternative Source Demonstration

W.A. Parish Electric Generating Station Solid Waste Disposal Area (SWMU 001) CCR Multiunit

April 2019

*Prepared For
NRG Texas Power, LLC
Thompsons, Texas*




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Senior Engineer

4/22/19



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TRC Environmental Corporation | NRG
Alternate Source Demonstration, W.A. Parish, Solid Waste Disposal Area (SWMU 001)

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Executive Summary

The NRG Texas Power, LLC (NRG) W.A. Parish Electric Generating Station (Station) is located in Thompsons, Fort Bend County, Texas. Units managing coal combustion residuals (CCR) at the Station are subject to the United States Environmental Protection Agency's (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA) Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (CCR Rule). CCR generated at the Station consist of fly ash, bottom ash, and flue gas desulfurization (FGD) scrubber sludge. The Station has three active CCR units that are managed pursuant to the CCR Rule, including the Solid Waste Disposal Area (SWDA) multiunit, which is the subject of this Alternate Source Demonstration (ASD).

The SWDA Landfill (SWMU 001) consists of four active CCR-management cells that adjoin each other within the SWDA and meet the criteria for a CCR multiunit for groundwater monitoring purposes pursuant to §257.91(d) of the CCR Rule. The four active CCR-management cells were initially managed as individual CCR units, as reflected in the initial certifications by a Texas professional engineer (P.E.) of four individual groundwater monitoring systems (October 17, 2017). This was also reflected in the Annual Groundwater Monitoring Report (ERM, January 30, 2018) and in the Groundwater Monitoring Reports (ERM, March 1, 2018) for each of the four CCR-management cells.

Eight independent background/baseline groundwater monitoring events were conducted at the SWDA CCR-management cells between July 2016 and July 2017 per §257.94(b) and the initial post-background/baseline detection monitoring event was conducted in October 2017. A statistical evaluation of the first post-background/baseline detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed to identify statistically significant increases (SSIs) pursuant to §257.93(f) and (g) and in accordance with the Station's CCR *Statistical Analysis Plan* (ERM 2017a). The statistical evaluation identified apparent SSIs in monitoring wells at each of the four individual SWDA CCR-management units. An ASD was completed in July 2018 in accordance with 257.94(e) that successfully identified alternative sources for the potential SSIs. Based on the successful preparation of the ASD, a detection monitoring program was continued for the SWDA as a multiunit pursuant to §257.91(d) rather than for four individual CCR-management cells.

The second post-background/baseline detection monitoring was conducted in May 2018. Laboratory analytical data for the second post-background/baseline detection monitoring event were received by NRG on July 25, 2018. A statistical evaluation of the second post-background/baseline analytical for detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed to identify SSIs pursuant to §257.93(f) and (g) on October 25, 2018. The statistical evaluation identified apparent SSIs in two monitoring wells at the SWDA CCR multiunit. This ASD was prepared in accordance with 257.94(e) that successfully identified alternative sources for the potential SSIs. Therefore, detection

monitoring continued for the SWDA multiunit for the third post-background/baseline detection monitoring event performed during October 2018.

Section 1

Introduction

1.1 Background

The NRG Texas Power, LLC (NRG) W.A. Parish Electric Generating Station (Station) is located in Thompsons, Fort Bend County, Texas, adjacent to Smithers Lake. The Solid Waste Disposal Area (SWDA) extends north from the northeastern shore of the lake as shown on Figure 1. The electricity generating portion of the Station, or the main Plant Operations Area (Plant Area), is located along the southeastern shore of the lake.

Management of coal combustion residuals (CCR) at the Station is performed pursuant to the United States Environmental Protection Agency's (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA) Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (CCR Rule, effective date October 17, 2015) and the CCR Remand Rule Proposal (March 1, 2018). CCR generated at the Station consist of fly ash, bottom ash, and flue gas desulfurization (FGD) scrubber sludge, which have been classified by the Texas Commission on Environmental Quality (TCEQ) as Class II Nonhazardous waste. The Station has the following three active CCR-management units pursuant to the CCR Rule and the CCR Remand Rule Proposal:

- SWDA (SWMU 001), which consists of four active CCR-management cells Cell 1C, Cell 2A-Pug Mill, Cell 2B, and Cell 3; and is now monitored as a single CCR multiunit;
- Air Preheater Pond (APH Pond, SWMU 021); and
- FGD Emergency Pond (E Pond, SWMU 020).

The SWDA is located to the north of the Plant Area and the APH and E Ponds are located at the southern portion of the Plant Area. The locations of the three CCR units are shown on Figure 1. The SWDA is the subject of this Alternative Source Demonstration (ASD).

CCR-management activities at each of the four CCR-management cells at the SWDA are generally described as follows:

- Cell 1C – Receives nonmarketable CCR trucked from the plant;
- Cell 2B – Receives marketable CCR trucked from the plant;
- Cell 3 – Receives CCR bottom ash trucked from the plant; and
- Cell 2A-Pug Mill – Pug mill located at a small active portion of closed Cell 2A and grinds CCR for reuse.

NRG initially managed these four active CCR-management cells under the CCR Rule and the CCR Remand Rule Proposal as individual CCR units, as reflected in the initial certification by a Texas P.E. of the four individual groundwater monitoring systems (October 17, 2017) and as reflected in the Annual Groundwater Monitoring Report (ERM, January 30, 2018) and the four individual Groundwater Monitoring Reports (ERM, March 1, 2018). Following completion of the first post-background/baseline ASD in July 2018, the four active CCR management cells were combined into a single CCR multiunit for subsequent groundwater monitoring and statistical evaluation pursuant to §257.91(d). The groundwater monitoring network and statistical methods certifications were revised during July 2018 and certified by a Texas P.E.. On behalf of NRG, Environmental Resources Management, Inc. (ERM) conducted eight independent background/baseline groundwater monitoring events between April 2015 and August 2017 per §257.94(b) and the first post-background/baseline detection monitoring event in October 2017. Results of the eight background/baseline and first post-background/baseline detection monitoring events were documented in the *Annual Groundwater Monitoring Report, FGD Emergency Pond (Unit 020)* (ERM 2018a) and the March 1, 2018, *Groundwater Monitoring Report, FGD Emergency Pond (SWMU Unit 020)* (ERM 2018b) pursuant to §257.90(e). ERM identified apparent SSIs above background in groundwater for the E Pond for the first post-background/baseline detection monitoring event and TRC Environmental Corporation (TRC) completed a successful Alternative Source Demonstration (ASD) in July 2018. The ASD was placed in the facility's operating record (FOR) and was provided with the 2018 Annual Groundwater Monitoring and Corrective Action Report (January 2019) for the Station.

1.2 Purpose

A statistical evaluation of the second post-background/baseline detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed pursuant to §257.93(f) and (g) and the revised groundwater monitoring system and revised statistical method certified in October 2018. The statistical evaluation identified two potential SSIs (pH) in two wells, which were documented in the *2018 Annual Groundwater Monitoring and Corrective Action Report* for the SWDA CCR multiunit, dated January 31, 2019 (TRC 2019). On behalf of NRG, TRC Environmental Corporation (TRC) prepared this ASD to evaluate the potential SSIs above background for the second post-background/baseline detection monitoring event pursuant to §257.94(e).

1.3 Hydrogeology

Based on the *Geologic Atlas of Texas, Houston Sheet* (BEG 1982), the Station is underlain by alluvium and the Beaumont formation (also commonly referred to as Beaumont Clay). The alluvium is present along the Brazos River, which is located approximately 0.9 miles from the northern boundary of the SWDA CCR units. Both the alluvium and the Beaumont formation are comprised of clay, silt, and sand; and may include stream channel, point-bar, natural levee, backswamp, coastal marsh and mud-flat deposits. The thickness of the Beaumont formation is approximately 100 feet. The alluvium is not

present at the Plant Area which is consistent with this area being located outside of the Brazos River floodplain zone (FBC 2018).

The alluvium and Beaumont Formation are located within the upper unit of the Chicot aquifer system. At most locations throughout Fort Bend County, the Chicot aquifer system is under confined conditions (TWDB 1990). The Chicot aquifer system is primarily recharged by precipitation at locations where it outcrops in Austin, Harris, and Waller Counties; groundwater then flows laterally within Fort Bend County (TWDB 1990). Site investigations performed by others on behalf of NRG also indicate that the uppermost groundwater-bearing units at the Station are under confined conditions.

Site investigations conducted in May 2016 and November 2016 identified three main subsurface strata at the Station, which were designated as Stratum DA-1 through DA-3 at the SWDA and Stratum PA-1 through PA-3 at the Plant Area. The strata are fully described in the October 2017 *CCR Groundwater Monitoring Networks* report (ERM 2017b) and are summarized below.

1.3.1 Stratum DA-1 and Stratum PA-1 (Upper Confining Unit)

Stratum DA-1 and Stratum PA-1 are both predominately silty clay with some sandy clay, clay, and sandy silt. Stratum DA-1 is generally present from the ground surface to approximately 30 feet below ground surface (bgs), but this stratum ranges in thickness from 20 to 60 feet throughout the SWDA. Stratum PA-1 is present from the ground surface to depths ranging from 15 feet bgs to 32 feet bgs.

Stratum DA-1 and Stratum PA-1 both serve as confining units to underlying Stratum DA-2 and Stratum PA-2, respectively, which comprise the uppermost groundwater-bearing unit at the Station. Geotechnical laboratory testing indicates that the hydraulic conductivity of Stratum DA-1 and Stratum PA-1 is 2.85E-08 centimeters per second (cm/sec) and 2.03E-08 cm/sec, respectively (ERM 2017b).

1.3.2 Stratum DA-2 and Stratum PA-2 (Upper Aquifer System)

Stratum DA-2 consists of interbedded sand, silty sand, clayey sand, and clayey sandy silt with some gravelly sand. The clay content within Stratum DA-2 varies across the SWDA. Stratum PA-2 is predominantly silty sand with varying sand and silt content and trace clay. Stratum DA-2 and Stratum PA-2 are generally greater than 10 feet in thickness with bottom depths ranging from 60 to 80 feet bgs.

Both Stratum DA-2 and Stratum PA-2 are saturated and comprise the upper aquifer system at the CCR units. CCR monitoring wells in the SWDA and Plant Area are completed within Stratum DA-2 and Stratum PA-2, respectively. Slug testing results for CCR monitoring wells indicate hydraulic conductivity ranges from 6.86E-04 cm/sec to 2.59E-02 cm/sec in Stratum DA-2; and

from 6.68E-04 cm/sec to 4.26E-02 cm/sec in Stratum PA-2 (ERM 2017b). Groundwater primarily flows to the northeast towards the Brazos River beneath the SWDA; to the southwest beneath the E Pond, and to the southeast beneath the APH Pond.

1.3.3 Stratum DA-3 and Stratum PA-3 (Lower Confining Unit)

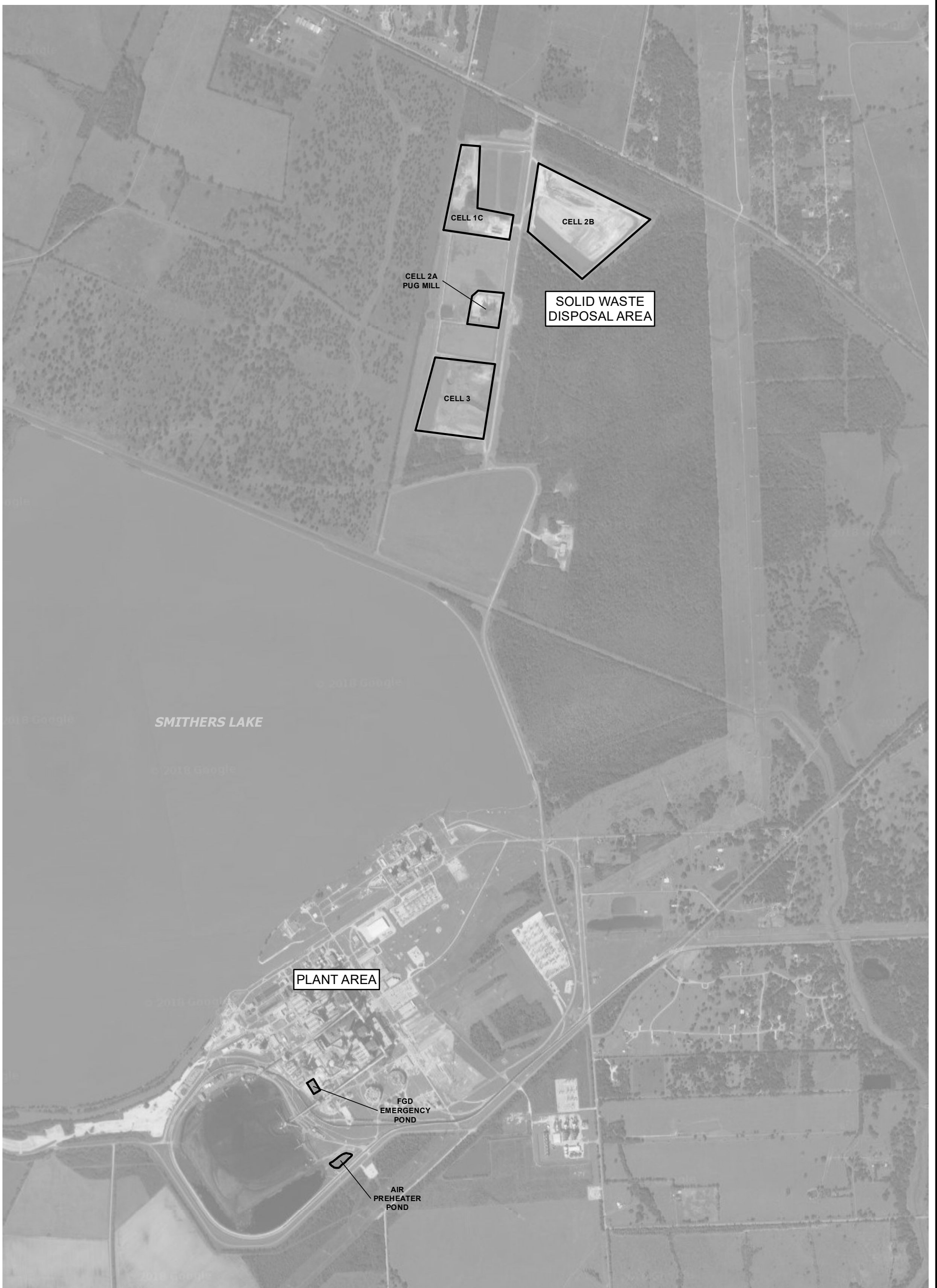
Stratum DA-3 and Stratum PA-3 are both predominantly clay to silty clay. These strata appear to be bottom confining layers to the overlying groundwater-bearing units (Stratum DA-2 and Stratum PA-2). The thicknesses of Stratum DA-3 and Stratum PA-3 have not been defined.

1.3.4 Solid Waste Disposal Area – Hydrogeology

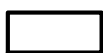
Groundwater monitoring well networks were initially established in 2016 for each of the four active CCR-management cells in the SWDA and were certified by a Texas P.E. under 257.91(f) on October 17, 2017. The SWDA monitoring wells were completed into Stratum DA-2, the upper aquifer system at the Station. Following successful completion of the ASD in July 2018 for the first post-background/baseline detection monitoring event, a revised groundwater monitoring network and revised statistical method were certified by a Texas P.E. for the SWDA as a single CCR multiunit. The revised groundwater monitoring network is summarized in Table 1. Groundwater potentiometric surface maps for the second (May 2018) and third (October 2018) post-background/baseline monitoring events were provided in the *2018 Annual Groundwater Monitoring and Corrective Action Report* for the Station and are provided in this ASD as Figures 2 and 3. During both semiannual detection monitoring events, groundwater flowed primarily to the northeast beneath the SWDA at a gradient ranging from 0.0007 feet per foot (ft/ft) to 0.003 ft/ft.

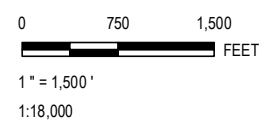
**Table 1
Groundwater Monitoring System for SWDA CCR-Multiunit**

UPGRADIENT WELLS	DOWNGRADIENT WELLS
MW-23, MW-28D, MW-42, MW-43, MW-47, and MW-48	MW-44, MW-46, MW-50, MW-52, MW-54, MW-55, MW-58, and MW-65



LEGEND

 UNIT BOUNDARY



AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).



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PROJECT:

**NRG TEXAS POWER, LLC
 W.A. PARISH STATION
 THOMPSONS, TEXAS**

TITLE:

SITE MAP

DRAWN BY:

MHORN

CHECKED BY:

JSPEER

APPROVED BY:

DATE:

JULY 2018

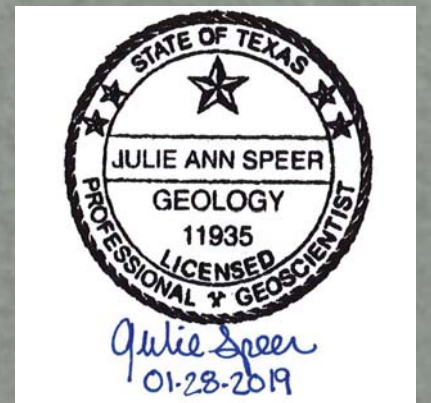
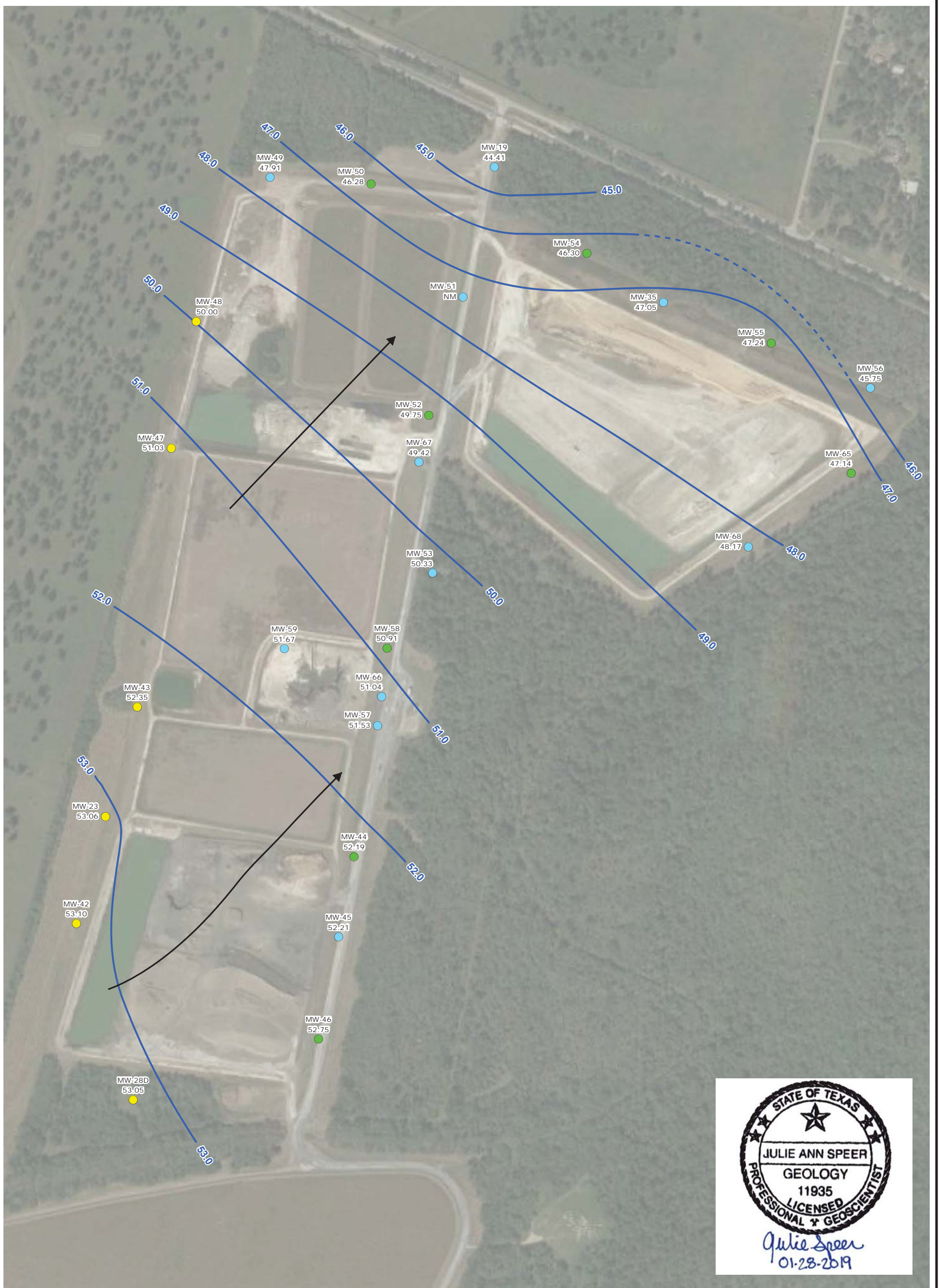
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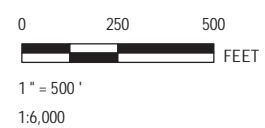
FIGURE 1



LEGEND

- MONITORING WELL
- CCR MULTIUNIT DOWNGRADIENT MONITORING WELL
- CCR MULTIUNIT UPGRADIENT MONITORING WELL
- 53.05 GROUNDWATER ELEVATION (FT MSL)
- GROUNDWATER ELEVATION CONTOUR - DASHED WHERE INFERRED (FT MSL)
- GROUNDWATER FLOW DIRECTION

NOTE:
 GROUNDWATER ELEVATIONS MEASURED BY TRC ENVIRONMENTAL CORPORATION (TRC) ON MAY 2 TO 4 AND 7 TO 8, 2018.

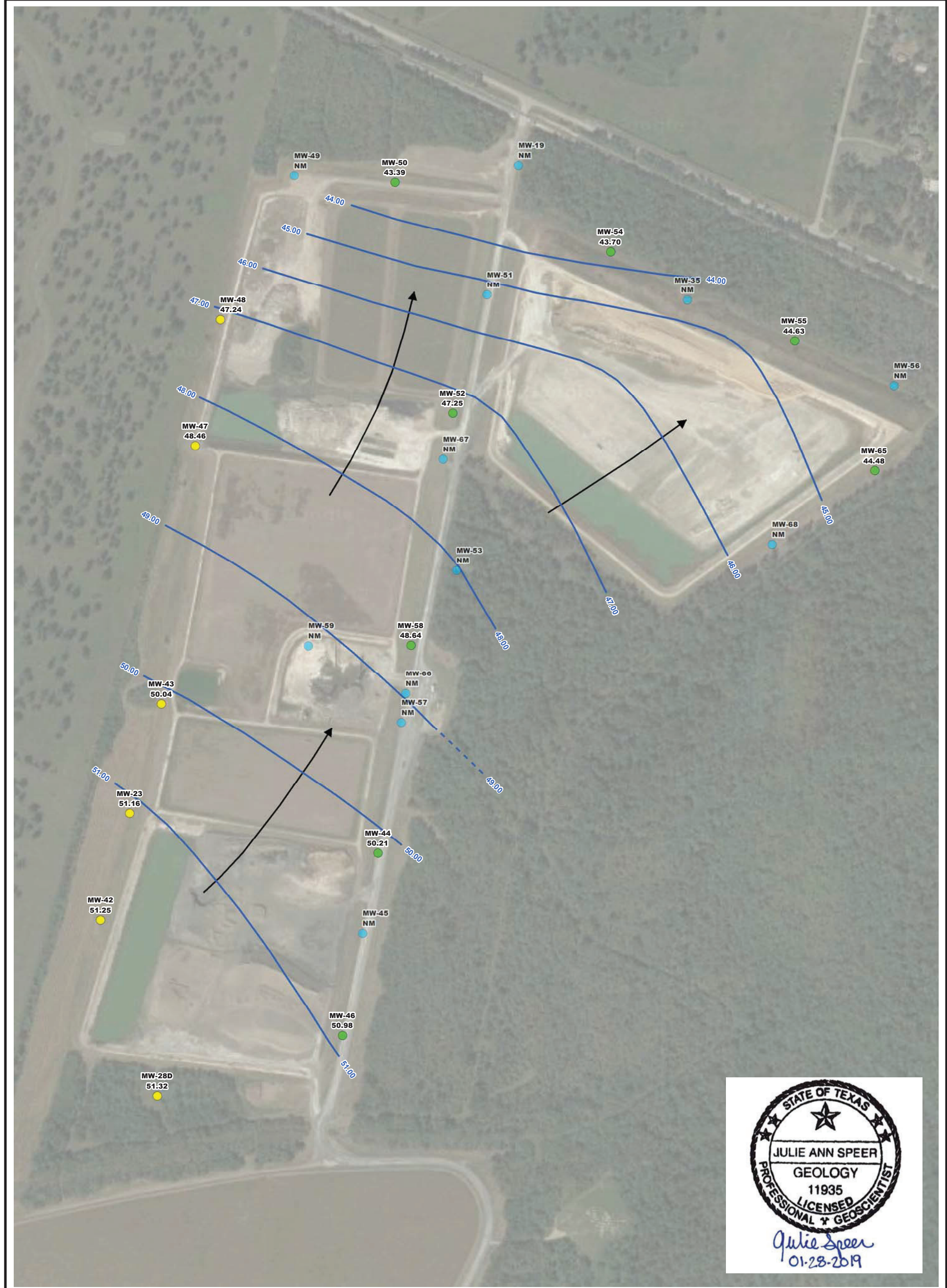


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PROJECT:	NRG TEXAS POWER, LLC W.A. PARISH STATION THOMPSONS, TEXAS
TITLE:	SOLID WASTE DISPOSAL AREA, GROUNDWATER POTENTIOMETRIC SURFACE MAP – MAY 2018

DRAWN BY:	S. RAY
CHECKED BY:	J. SPEER
APPROVED BY:	J. SPEER
DATE:	JANUARY 2019
PROJ. NO.:	294645.0000.0000
FILE:	294645_2-4.mxd

FIGURE 2

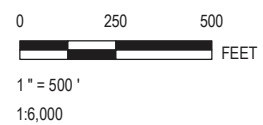


LEGEND

- MONITORING WELL
- CCR MULTIUNIT DOWNGRADIENT MONITORING WELL
- CCR MULTIUNIT UPGRADIENT MONITORING WELL

- 51.32** GROUNDWATER ELEVATION (FT MSL)
- GROUNDWATER ELEVATION CONTOUR - DASHED WHERE INFERRED (FT MSL)
- ← GROUNDWATER FLOW DIRECTION
- NM** NOT MEASURED

NOTE: GROUNDWATER ELEVATION CONTOURS INTERPRETED BY TRC BASED ON GROUNDWATER ELEVATIONS MEASURED BY HYDROLOGIC MONITORING (HMI) ON OCTOBER 29, 2018.



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PROJECT:

**NRG TEXAS POWER, LLC
 W.A. PARISH STATION
 THOMPSONS, TEXAS**

TITLE:

**SOLID WASTE DISPOSAL AREA
 GROUNDWATER POTENTIOMETRIC SURFACE MAP – OCTOBER 2018**

DRAWN BY:

S.RAY

CHECKED BY:

J. SPEER

APPROVED BY:

J. SPEER

DATE:

JANUARY 2019

PROJ. NO.:

294645.0000.0000

FILE:

294645_2-7.mxd

FIGURE 3

Section 2

Alternative Source Demonstration

As discussed in the *2018 Annual Groundwater Monitoring and Corrective Action Report (TRC 2019)*, statistical evaluation of the second post-background/baseline detection monitoring laboratory analytical results identified potential SSIs of Appendix III parameters above background concentrations. This section evaluates alternative sources for the potential SSIs as per §257.94(e)(2).

Statistical evaluation of the second post-background/baseline semiannual detection monitoring event, based on the revised groundwater monitoring system and statistical method, identified two potential SSIs for the SWDA multiunit, as shown in Table 2.

Table 2
SSIs – May 2018 Detection Monitoring Event

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
pH	MW-46	6.92	10.62	2018-05-08	11.69	SU
pH	MW-55	6.92	10.62	2018-05-04	11.42	SU

Table 4 presents the revised statistical comparison values (tolerance limits) for the upgradient groundwater monitoring well detection monitoring background/baseline laboratory analytical results. USEPA’s ProUCL software was used to calculate the UTLs. The ProUCL outputs are provided in Appendix A.

Statistical performance standards require the confidence of an SSI to be at least 95 percent (%). Based on the data collected to date at the SWDA: initial eight background/baseline and first (October 2017) and second (May 2018) post-background/baseline semiannual detection monitoring results, The short time frame for these data results in a confidence level of only 70% for the pH data set, because there was no underlying distribution and nonparametric statistics used. This means that a longer baseline period and/or additional wells to evaluate background/baseline conditions are needed to differentiate between natural variations in groundwater quality and potential release to groundwater from the SWDA CCR multiunit.

This ASD applies to pH in MW-46 and MW-55. In accordance with procedures presented in USEPA’s *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities (Unified Guidance, Mary 2009)*, background/baseline values can be updated after at least four new measurements are available, assuming other criteria for background stability are also met [UG, Section 5.3]. Therefore, two

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Alternate Source Demonstration, W.A. Parish, Solid Waste Disposal Area (SWMU 001)

additional sampling events (*i.e.*, October 2018 and April 2019) will be necessary before the pH data baseline can be updated.

In addition, based on review of the locations of MW-46 and MW-55 and the relative isolated nature of both pH SSIs, it does not appear likely that the pH SSIs reflect a release of CCR constituents from the SWDA multiunit. Based on review of both monitoring wells, which included well installation information, it is suspected that both wells may have issues associated with their construction (*e.g.*, grout intrusion into their well screens). Therefore, NRG replaced both wells in close proximity to their previous locations in March 2019 and all SWDA monitoring well were redeveloped in April 2019, prior to the fourth post-background/baseline semiannual detection monitoring event.

Section 3

Conclusions

Both SSIs for pH at the SWDA CCR multiunit do not meet requirements for statistical significance because the background/baseline pH results for both wells do not follow a defined data distribution. Two additional semiannual detection monitoring sampling events must be completed before the background statistical comparison value can be properly updated. Evaluation of the construction records for both wells with elevated pH levels leads to the line of reasoning that grout may potentially be present at the wells screens, resulting in elevated pH measurements. NRG intends to replace both MW-46 and MW-55 prior to the fourth post-background/baseline semiannual detection monitoring event, which is scheduled for April 2019. Therefore, detection monitoring will be continued for the SWDA CCR multiunit.

Section 4 Certification

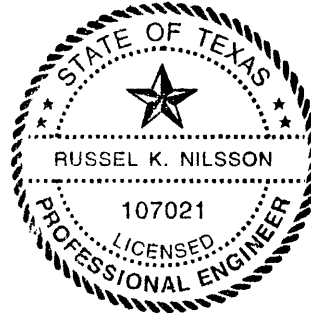
I hereby certify that the alternative source demonstration presented within this document for the WA Parish Electric Generating Station SWDA CCR multiunit has been prepared to meet the requirements of Title 40 CFR 257.94 (e) 2 of the Federal CCR Rule. This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR 257.94 (e) 2.

Name: 

Expiration Date: 9/30/2019

Company: TRC Environmental Corporation

Date: 4/22/2019



Section 5

References

BEG 1982. Geologic Atlas of Texas, Houston Sheet. The University of Texas at Austin, Bureau of Economic Geology. Revised 1982.

TWDB 1990. Evaluation of Water Resources of Fort Bend County, Texas. Texas Water Development Board Report 321. David Thorkildsen. January 1990.

TRC 2018a. *Alternative Source Demonstration – WA Parish Electric Generating Station Solid Waste Disposal Area (SWMU 001) CCR Multiunit*. TRC, July 2018.

TRC 2018b. *Groundwater Monitoring System Certification – WA Parish Electric Generating Station*. TRC August 2018.

TRC 2018c. *Statistical Methods Certification – WA Parish Electric Generating Station*. TRC, August 2018.

TRC 2019. *2018 Annual Groundwater Monitoring Report: WA Parish Generating Station*. TRC, January 2019

USGS 2017. www.waterdata.usgs.gov/usa/nwis/uv?08114000



Alternative Source Demonstration

W.A. Parish Electric Generating Station Air Preheater Pond (SWMU 021)

September 2019

*Prepared For
NRG Texas Power, LLC
Thompsons, Texas*



R. Kent Nilsson, P.E.
Senior Engineer

9/25/19

A handwritten signature in black ink, appearing to read "Tony Dworaczyk".

Tony Dworaczyk, P.G.
Geologist/Project Manager

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Alternate Source Demonstration, W.A. Parish, Air Preheater Pond

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Executive Summary

The NRG Texas Power, LLC (NRG) W.A. Parish Electric Generating Station (Station) is located in Thompsons, Fort Bend County, Texas. Units managing coal combustion residuals (CCR) at the Station are subject to the United States Environmental Protection Agency's (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA) Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (CCR Rule). CCR generated at the Site consist of fly ash, bottom ash, and flue gas desulfurization (FGD) scrubber sludge. The Site has three active CCR management units that are subject to regulation under the CCR Rule, including the Air Preheater Pond (APH) Pond, which is the subject of this Alternate Source Demonstration (ASD).

Eight independent background/baseline groundwater monitoring events were conducted for the APH Pond between July 2016 and July 2017 per §257.94(b) and the initial post-background/baseline detection monitoring event was conducted in October 2017. Laboratory analytical data for the first post-background/baseline detection monitoring event were received by NRG on October 27, 2017. A statistical evaluation of the first post-background/baseline detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed to identify statistically significant increases (SSIs) pursuant to §257.93(f) and (g) and in accordance with the Site's *CCR Statistical Analysis Plan* (ERM 2017a). The statistical evaluation identified apparent SSIs in monitoring wells at the APH Pond. An ASD was completed in July 2018 in accordance with 257.94(e) that successfully identified alternative sources for the potential SSIs and the CCR unit at the Station continued a detection monitoring program. No apparent SSIs were identified for the APH Pond during the second post-background/baseline detection monitoring event (May 2018).

The third post-background/baseline detection monitoring event was conducted in October 2018. Laboratory analytical data for the third post-background/baseline detection monitoring event were received by NRG on December 14, 2018. A statistical evaluation of the third post-baseline detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed to identify SSIs pursuant to §257.93(f) and (g) on March 14, 2019. The statistical evaluation identified apparent SSIs in monitoring wells at the APH Pond. This ASD (prepared in accordance with 257.94(e)) successfully identified alternative sources for the potential SSIs. Therefore, detection monitoring will be continued for the APH Pond. Because of persistent, unresolvable issues with data quality, a new baseline will be developed with data collected quarterly over a two-year period. The original baseline data will continue to be used for statistical evaluation of the semiannual detection monitoring results until the new baseline data are collected and ready for use.

Section 1

Introduction

1.1 Background

The NRG Texas Power, LLC (NRG) W.A. Parish Electric Generating Station (Site) is located in Thompsons, Fort Bend County, Texas, adjacent to Smithers Lake. The electricity generating portion of the Site, or the main Plant Operations Area (Plant Area), is located along the southeastern shore of the lake.

Management of coal combustion residuals (CCR) at the Station is performed pursuant to the United States Environmental Protection Agency's (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA) Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (CCR Rule, effective date October 17, 2015) and the CCR Remand Rule Proposal (March 1, 2018). CCR generated at the Station consist of fly ash, bottom ash, and flue gas desulfurization (FGD) scrubber sludge, which have been classified by the Texas Commission on Environmental Quality (TCEQ) as Class II Nonhazardous waste. The Station has the following three active CCR-management units pursuant to the CCR Rule and the CCR Remand Rule Proposal:

- Solid Waste Disposal Area (SWDA) (SWMU 001), which consists of four active CCR-management cells: Cell 1C, Cell 2A-Pug Mill, Cell 2B, and Cell 3; and is now monitored as a single CCR Multiunit;
- Air Preheater Pond (APH Pond, SWMU 021); and
- FGD Emergency Pond (E Pond, SWMU 020).

The SWDA is located to the north of the Plant Area. The APH and E Pond are located at the southern portion of the Plant Area. The locations of the three CCR units are shown on Figure 1. The APH Pond (SWMU 021) is the subject of this Alternative Source Demonstration (ASD).

According to NRG, the APH Pond comprises an area of 1.2 acres and has a total storage capacity of 3.7 acre-feet. The APH Pond receives effluent from air preheater wash and boiler cleaning wash, which consists of fly ash or economizer ash particles and water.

On behalf of NRG, Environmental Resources Management, Inc. (ERM) conducted eight independent background/baseline groundwater detection monitoring events between April 2015 and August 2017 per §257.94(b) and the first post-background/baseline detection monitoring event in October 2017. Results of the eight background/baseline and first post-background/baseline detection monitoring events were documented in the *Annual Groundwater Monitoring Report, APH Pond (Unit 021)* (ERM 2018a) and the March 1, 2018, *Groundwater Monitoring Report, APH Pond (SWMU Unit 021)* (ERM 2018b) pursuant to §257.90(e). ERM identified apparent SSIs above background in groundwater for the APH Pond for the first

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Alternate Source Demonstration, W.A. Parish, Air Preheater Pond

post-background/baseline detection monitoring event and TRC Environmental Corporation (TRC) completed a successful Alternative Source Demonstration (ASD) in July 2018. The ASD was placed in the facility's operating record (FOR) and was provided with the 2018 *Annual Groundwater Monitoring and Corrective Action Report* (January 2019) for the Station.

The second post-background/baseline detection monitoring event was conducted in May 2018. Laboratory analytical data for the second post-background/baseline detection monitoring event were received by NRG on July 27, 2018. A statistical evaluation of the second post-baseline detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed to identify SSIs pursuant to §257.93(f) and (g) on October 25, 2018, and no apparent SSIs were identified.

A statistical evaluation of the third post-background/baseline detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed pursuant to §257.93(f) and (g) and the revised statistical method for the CCR units in March 2019. The statistical evaluation identified three potential SSIs (boron and chloride in upgradient monitoring well MW-39 and sulfate in downgradient monitoring well MW-63).

1.2 Purpose

On behalf of NRG, TRC prepared this ASD to evaluate the potential SSIs above background levels for the third post-background/baseline detection monitoring event in accordance with §257.94(e).

1.3 Hydrogeology

According to the *Geologic Atlas of Texas, Houston Sheet* (BEG 1982), the Site is underlain by alluvium and the Beaumont formation (also commonly referred to as Beaumont Clay). The alluvium is present along the Brazos River, which is located approximately 0.9 miles from the northern boundary of the SWDA CCR units. Both the alluvium and the Beaumont formation are composed of clay, silt, and sand; and may include stream channel, point-bar, natural levee, backswamp, coastal marsh and mud-flat deposits. The thickness of the Beaumont formation is approximately 100 feet. The alluvium is not present at the Plant Area which is consistent with this area being located outside of the Brazos River floodplain zone (FBC 2018).

The alluvium and Beaumont Formation are located within the upper unit of the Chicot aquifer system. At most locations throughout Fort Bend County, the Chicot aquifer system is under confined conditions (TWDB 1990). The Chicot aquifer system is primarily recharged by precipitation at locations where it outcrops in Austin, Harris, and Waller Counties; groundwater then flows laterally within Fort Bend County (TWDB 1990). Site investigations performed by others on behalf of NRG also indicate that the uppermost groundwater-bearing units at the site are under confined conditions.

Site investigations conducted in May 2016 and November 2016 by ERM identified three main subsurface strata at the Site, which were designated as Stratum DA-1 through DA-3 at the SWDA and Stratum PA-1 through PA-3 at the Plant Area. The strata are fully described in the October 2017 *CCR Groundwater Monitoring Network* report (ERM 2017b) and are summarized below.

1.3.1 Stratum DA-1 and Stratum PA-1 (Upper Confining Unit)

Stratum DA-1 and Stratum PA-1 are both predominately silty clay with some sandy clay, clay, and sandy silt. Stratum DA-1 is generally present from the ground surface to approximately 30 feet below ground surface (bgs), but this stratum ranges in thickness from 20 to 60 feet throughout the SWDA. Stratum PA-1 is present from the ground surface to depths ranging from 15 feet bgs to 32 feet bgs.

Stratum DA-1 and Stratum PA-1 both serve as confining units to underlying Stratum DA-2 and Stratum PA-2, respectively, which comprise the uppermost groundwater-bearing unit at the Site. Geotechnical laboratory testing indicates that the hydraulic conductivity of Stratum DA-1 and Stratum PA-1 is $2.85E-08$ centimeters per second (cm/sec) and $2.03E-08$ cm/sec, respectively (ERM 2017b).

1.3.2 Stratum DA-2 and Stratum PA-2 (Upper Aquifer)

Stratum DA-2 consists of interbedded sand, silty sand, clayey sand, and clayey sandy silt with some gravelly sand. The clay content within Stratum DA-2 varies across the SWDA. Stratum PA-2 is predominantly silty sand with varying sand and silt content and trace clay. Stratum DA-2 and Stratum PA-2 are generally greater than 10 feet in thickness with bottom depths ranging from 60 to 80 feet bgs.

Both Stratum DA-2 and Stratum PA-2 are saturated and comprise the uppermost groundwater-bearing unit at the CCR units. CCR monitoring wells in the SWDA and Plant Area are completed within Stratum DA-2 and Stratum PA-2, respectively. Slug testing results for CCR monitoring wells indicate hydraulic conductivity ranges from $6.86E-04$ cm/sec to $2.59E-02$ cm/sec in Stratum DA-2; and from $6.68E-04$ cm/sec to $4.26E-02$ cm/sec in Stratum PA-2 (ERM 2017b). Groundwater primarily flows to the northeast towards the Brazos River beneath the SWDA; to the southwest beneath the E Pond, and to the southeast beneath the APH Pond.

1.3.3 Stratum DA-3 and Stratum PA-3 (Lower Confining Unit)

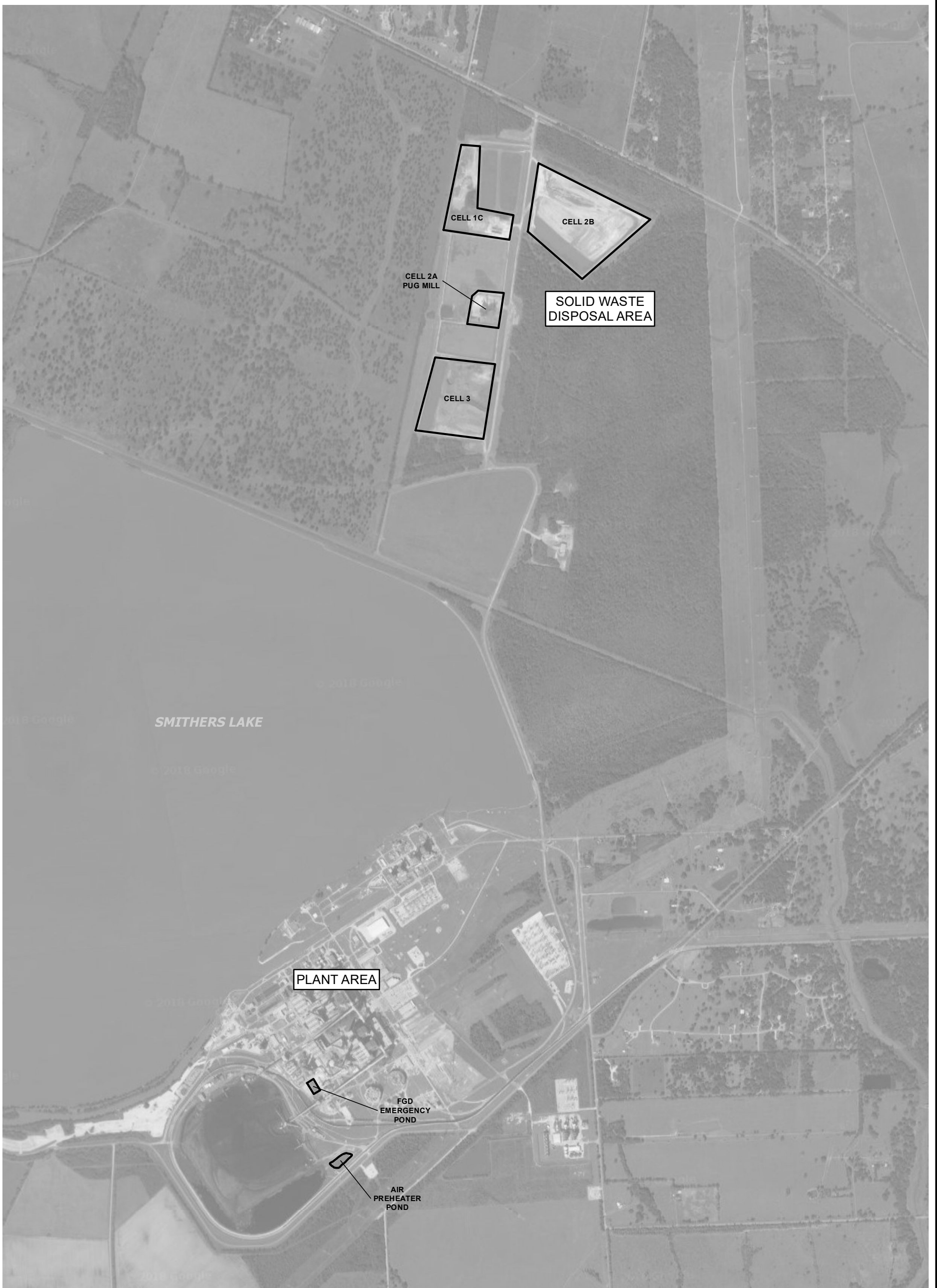
Stratum DA-3 and Stratum PA-3 are both predominantly clay to silty clay. These strata appear to be bottom confining layers to the overlying groundwater-bearing units (Stratum DA-2 and Stratum PA-2). The thicknesses of Stratum DA-3 and Stratum PA-3 have not been defined.

1.3.4 Air Preheater Pond - Hydrogeology

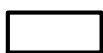
The CCR monitoring well network at the APH Pond consists of six groundwater monitoring wells (MW-39, MW-40, MW-41, MW-62, MW-63, and MW-64) completed into Stratum PA-2.

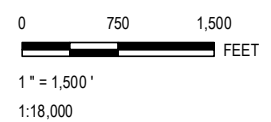
Groundwater potentiometric surface maps prepared by TRC for the three most recent sampling events conducted by ERM in May 2017, July 2017, and October 2017 are provided as Figures 2 through 4, respectively. Groundwater flows to the southeast beneath the APH Pond at a gradient ranging from 0.002 feet per foot (ft/ft) to 0.006 ft/ft.

The groundwater monitoring system for the APH Pond was certified under 257.91(f) on October 17, 2017. The original certified CCR monitoring well network for the APH Pond designated one upgradient monitoring well (MW-62) and five downgradient monitoring wells (MW-39, MW-40, MW-41, MW-63, and MW-64). However, based on TRC's review of groundwater elevations measured during detection monitoring events and development of revised potentiometric surface maps for the three most recent detection monitoring events, two of the designated downgradient wells (MW-39 and MW-40) are located upgradient of the APH Pond as shown on the revised groundwater potentiometric surface maps. Therefore, it is appropriate to update the CCR monitoring well network for the APH Pond to consist of three upgradient monitoring wells (MW-39, MW-40, and MW-62) and three downgradient monitoring wells (MW-41, MW-63, and MW-64).



LEGEND

 UNIT BOUNDARY



AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).

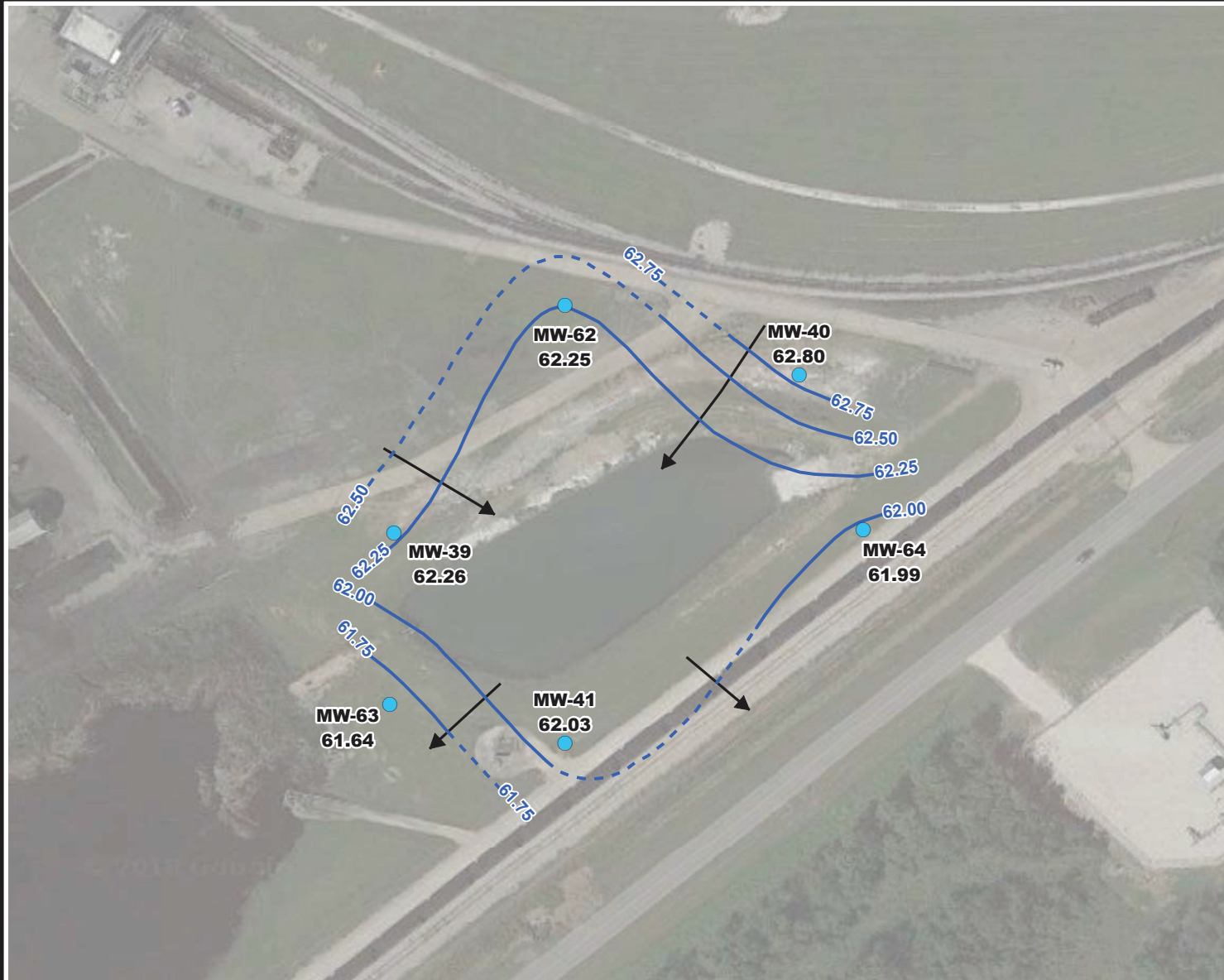


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PROJECT:	NRG TEXAS POWER, LLC W.A. PARISH STATION THOMPSONS, TEXAS
TITLE:	SITE MAP

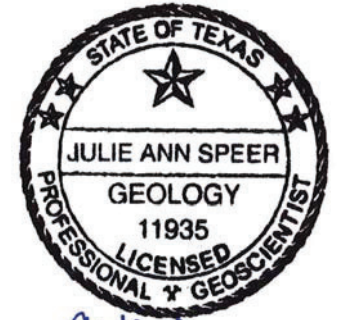
DRAWN BY:	MHORN
CHECKED BY:	JSPEER
APPROVED BY:	
DATE:	JULY 2018
PROJ. NO.:	294645.0000.0000
FILE:	294645_1.mxd

FIGURE 1



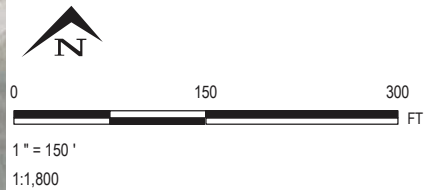
- LEGEND**
- MONITORING WELL
 - 62.80** GROUNDWATER ELEVATION (FT MSL)
 - GROUNDWATER ELEVATION CONTOUR - DASHED WHERE INFERRED (FT MSL)
 - GROUNDWATER FLOW DIRECTION

NOTE:
GROUNDWATER ELEVATION CONTOURS INTERPRETED BY TRC BASED ON GROUNDWATER ELEVATIONS MEASURED BY HYDROLOGIC MONITORING (HMI) ON OCTOBER 29, 2018.



Julie Speer
01-28-2019

AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).




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TRC - GIS

PROJECT:	NRG TEXAS POWER, LLC W.A. PARISH STATION THOMPSONS, TEXAS
TITLE:	AIR PREHEATER POND GROUNDWATER POTENTIOMETRIC SURFACE MAP – OCTOBER 2018

DRAWN BY:	S. RAY
CHECKED BY:	J. SPEER
APPROVED BY:	J. SPEER
DATE:	JANUARY 2019
PROJ. NO.:	294645.0000.0000
FILE:	294645_2-8.mxd
FIGURE 2-8	

Section 2

Alternative Source Demonstration

Statistical evaluation of the third post-background/baseline semiannual detection monitoring laboratory analytical results identified potential SSIs of Appendix III parameters above background concentrations. This section evaluates alternative sources for the potential SSIs as per §257.94(e)(2).

Statistical evaluation of the third post-background/baseline semiannual detection monitoring event (comparison of downgradient monitoring results to 95 percent confidence/95 percent coverage upper tolerance limits of the background/baseline monitoring results) identified three SSIs for the APH Pond, as shown on Table 1.

Table 1
SSIs – October 2018 Detection Monitoring Event

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
Boron	MW-39(UG)	NA	0.127	2018-10-29	0.141	mg/L
Chloride	MW-39(UG)	NA	824	2018-10-29	874	mg/L
Sulfate	MW-63	NA	449	2018-10-29	505	mg/L

Two of the potential SSIs are for upgradient monitoring well MW-39. The baseline period for the APH Pond consisted of eight samples collected in a one-year period from July 2016 through July 2017. The time between sampling events was about 1.5 to 2 months. This results in a very short baseline period that may not be fully representative of upgradient groundwater quality.

Statistical performance standards require the confidence of an SSI to be at least 95 percent. However, because there is no underlying distribution for the boron data set and nonparametric statistics were necessarily used, the actual confidence level is about 71 percent. This means that a longer baseline period and/or additional wells to evaluate background/baseline conditions are needed to differentiate between natural variations in groundwater quality and potential release to groundwater from the APH Pond.

Based on validation of post-baseline data from the analytical laboratory, unresolvable issues have arisen regarding data quality. Issues identified with the analytical laboratory have brought into question the accuracy and quality of the data being used as the background data set (see Technical Memos on Laboratory Quality Issues, dated 4-24-19 and Laboratory Change for CCR Sampling Events, dated 7-19-19).

During the May 2019 sampling event, a groundwater sample from one well per CCR unit was split between two analytical laboratories to assess the ongoing issues with the incumbent laboratory. Additionally, the analytical method for fluoride was changed from Method 300.0 (ion chromatography) to Method 340.2 (ion selective electrode), because fluoride results had a history of widely varying reporting limits potentially relating to the analytical method. Based on laboratory data quality issues and procedures, NRG has concluded that the background/baseline data set reflects persistent quality concerns, should not be relied upon for statistical analysis per the CCR Rule, and must be replaced. To develop a new background/baseline data set, eight quarterly samples will be collected over a two-year period for analysis for the Appendix III and IV CCR Rule constituents using the revised analytical method for fluoride and a different analytical laboratory as discussed above and addressed in the technical memoranda cited above. Additionally, field pH will be measured using two methods – a flow-through cell during purging and a non-flow-through meter at the initiation of sample collection. These two methods will be used to assess the effect of specific pH equipment on pH results, for which the current baseline provides a very narrow range.

During the timeframe of collecting the new background/baseline samples, the original baseline upper tolerance limits will continue to be used for statistical evaluation of the semiannual detection monitoring results. ASDs will continue to be prepared as needed for SSIs based on the original background/baseline data set until the new background/baseline has been developed.

Section 3

Conclusions

Two of the three potential SSIs were identified in an upgradient well. Based on the lines of reasoning presented in this ASD, alternative sources other than a release from the APH Pond have been shown to likely be responsible for each of the potential SSIs observed. Therefore, these two SSIs appear to be related to natural variations in background groundwater quality. In addition, data quality issues and laboratory procedures appear to have resulted in persistent, unresolvable data quality issues. Therefore, NRG has concluded that the existing background/baseline data set for the APH Pond is unreliable and a new background/baseline data set will be developed. Until the new background/baseline data set has been developed, the existing background/baseline data set will continue to be used for statistical evaluation of the semiannual detection monitoring data. Detection monitoring will continue for the APH Pond.

Section 4 Certification

I hereby certify that the alternative source demonstration presented within this document for the WA Parish Electric Generating Station E Pond has been prepared to meet the requirements of Title 40 CFR 257.94 (e) 2 of the Federal CCR Rule. This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR 257.94 (e) 2.

Name: _____

Expiration Date: _____

Company: TRC Environmental Corporation

Date: _____

Section 5

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Alternative Source Demonstration

W.A. Parish Electric Generating Station
Solid Waste Disposal Area (SWMU 001) CCR Multiunit

September 2019

Prepared For
NRG Texas Power, LLC
Thompsons, Texas



A handwritten signature in blue ink, appearing to read "R. Nilsson".

R. Kent Nilsson, P.E.
Senior Engineer

9/25/19

A handwritten signature in blue ink, appearing to read "Tony Dworaczyk".

Tony Dworaczyk, P.G.
Senior Project Manager

TRC Environmental Corporation | NRG
Alternate Source Demonstration, W.A. Parish, Solid Waste Disposal Area (SWMU 001)

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Executive Summary

The NRG Texas Power, LLC (NRG) W.A. Parish Electric Generating Station (Station) is located in Thompsons, Fort Bend County, Texas. Units managing coal combustion residuals (CCR) at the Station are subject to the United States Environmental Protection Agency's (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA) Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (CCR Rule). CCR generated at the Station consist of fly ash, bottom ash, and flue gas desulfurization (FGD) scrubber sludge. The Station has three active CCR units that are managed pursuant to the CCR Rule, including the Solid Waste Disposal Area (SWDA) multiunit, which is the subject of this Alternate Source Demonstration (ASD).

The SWDA Landfill (SWMU 001) consists of four active CCR-management cells that adjoin each other within the SWDA and meet the criteria for a CCR multiunit for groundwater monitoring purposes pursuant to §257.91(d) of the CCR Rule. The four active CCR-management cells were initially managed as individual CCR units, as reflected in the initial certifications by a Texas professional engineer (P.E.) of four individual groundwater monitoring systems (October 17, 2017). This was also reflected in the Annual Groundwater Monitoring Report (ERM, January 30, 2018) and in the Groundwater Monitoring Reports (ERM, March 1, 2018) for each of the four CCR-management cells.

Eight independent background/baseline groundwater monitoring events were conducted at the SWDA CCR-management cells between July 2016 and July 2017 per §257.94(b) and the initial post-background/baseline detection monitoring event was conducted in October 2017. A statistical evaluation of the first post-background/baseline detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed to identify statistically significant increases (SSIs) pursuant to §257.93(f) and (g) and in accordance with the Station's CCR *Statistical Analysis Plan* (ERM 2017a). The statistical evaluation identified apparent SSIs in monitoring wells at each of the four individual SWDA CCR-management units. An ASD was completed in July 2018 in accordance with 257.94(e) that successfully identified alternative sources for the potential SSIs. Based on the successful preparation of the ASD, a detection monitoring program was continued for the SWDA as a multiunit pursuant to §257.91(d) rather than for four individual CCR-management cells.

The second post-background/baseline detection monitoring was conducted in May 2018. Laboratory analytical data for the second post-background/baseline detection monitoring event were received by NRG on July 25, 2018. A statistical evaluation of the second post-background/baseline analytical for detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed to identify SSIs pursuant to §257.93(f) and (g) on October 25, 2018. The statistical evaluation identified apparent SSIs in two monitoring wells at the SWDA CCR multiunit. An ASD was prepared in accordance with 257.94(e) that successfully identified alternative sources for the potential SSIs.

The third post-background/baseline detection monitoring event was conducted in October 2018. Laboratory analytical data for the third post-background/baseline detection monitoring event were received by NRG on December 14, 2018. A statistical evaluation of the third post-baseline detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed to identify SSIs pursuant to §257.93(f) and (g) on March 14, 2019. The statistical evaluation identified apparent SSIs in monitoring wells at the SWDA. This ASD was prepared in accordance with 257.94(e) that successfully identified alternative sources for the potential SSIs. Therefore, detection monitoring will be continued for the SWDA. Because of persistent, unresolvable issues with data quality, a new baseline will be developed with data collected quarterly over a two-year period. The original baseline data will continue to be used for statistical evaluation of the semiannual detection monitoring results until the new baseline data are collected and ready for use.

Section 1

Introduction

1.1 Background

The NRG Texas Power, LLC (NRG) W.A. Parish Electric Generating Station (Station) is located in Thompsons, Fort Bend County, Texas, adjacent to Smithers Lake. The Solid Waste Disposal Area (SWDA) extends north from the northeastern shore of the lake as shown on Figure 1. The electricity generating portion of the Station, or the main Plant Operations Area (Plant Area), is located along the southeastern shore of the lake.

Management of coal combustion residuals (CCR) at the Station is performed pursuant to the United States Environmental Protection Agency's (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA) Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (CCR Rule, effective date October 17, 2015) and the CCR Remand Rule Proposal (March 1, 2018). CCR generated at the Station consist of fly ash, bottom ash, and flue gas desulfurization (FGD) scrubber sludge, which have been classified by the Texas Commission on Environmental Quality (TCEQ) as Class II Nonhazardous waste. The Station has the following three active CCR-management units pursuant to the CCR Rule and the CCR Remand Rule Proposal:

- SWDA (SWMU 001), which consists of four active CCR-management cells Cell 1C, Cell 2A-Pug Mill, Cell 2B, and Cell 3; and is now monitored as a single CCR multiunit;
- Air Preheater Pond (APH Pond, SWMU 021); and
- FGD Emergency Pond (E Pond, SWMU 020).

The SWDA is located to the north of the Plant Area and the APH and E Ponds are located at the southern portion of the Plant Area. The locations of the three CCR units are shown on Figure 1. The SWDA is the subject of this Alternative Source Demonstration (ASD).

CCR-management activities at each of the four CCR-management cells at the SWDA are generally described as follows:

- Cell 1C – Receives nonmarketable CCR trucked from the plant;
- Cell 2B – Receives marketable CCR trucked from the plant;
- Cell 3 – Receives CCR bottom ash trucked from the plant; and
- Cell 2A-Pug Mill – Pug mill located at a small active portion of closed Cell 2A and grinds CCR for reuse.

NRG initially managed these four active CCR-management cells under the CCR Rule and the CCR Remand Rule Proposal as individual CCR units, as reflected in the initial certification by a Texas P.E. of the four individual groundwater monitoring systems (October 17, 2017) and as reflected in the Annual Groundwater Monitoring Report (ERM, January 30, 2018) and the four individual Groundwater Monitoring Reports (ERM, March 1, 2018). Following completion of the first post-background/baseline ASD in July 2018, the four active CCR management cells were combined into a single CCR multiunit for subsequent groundwater monitoring and statistical evaluation pursuant to §257.91(d). The groundwater monitoring network and statistical methods certifications were revised during July 2018 and certified by a Texas P.E.

On behalf of NRG, Environmental Resources Management, Inc. (ERM) conducted eight independent background/baseline groundwater detection monitoring events between April 2015 and August 2017 per §257.94(b) and the first post-background/baseline detection monitoring event in October 2017. Results of the eight background/baseline and first post-background/baseline detection monitoring events were documented in the January 30, 2018, annual reports for the individual CCR landfill units (Cell 1C, Cell 2B, Cell 3, and the Pug Mill) and the March 1, 2018, groundwater monitoring reports for the individual CCR landfill units pursuant to §257.90(e). ERM identified apparent SSIs above background in groundwater for the individual cells of the SWDA for the first post-background/baseline detection monitoring event and TRC Environmental Corporation (TRC) completed a successful Alternative Source Demonstration (ASD) in July 2018. The ASD was placed in the facility's operating record (FOR) and was provided with the 2018 Annual Groundwater Monitoring and Corrective Action Report (January 2019) for the Station.

The second post-background/baseline detection monitoring event was conducted in May 2018. Laboratory analytical data for the second post-background/baseline detection monitoring event were received by NRG on July 27, 2018. A statistical evaluation of the second post-baseline detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed to identify SSIs pursuant to §257.93(f) and (g) on October 25, 2018. The statistical evaluation again identified apparent SSIs in monitoring wells at the SWDA and a successful Alternative Source Demonstration (ASD) was completed in April 2019.

A statistical evaluation of the third post-background/baseline detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed pursuant to §257.93(f) and (g) and the revised groundwater monitoring system and revised statistical method certified in March 2019. The statistical evaluation identified seven potential SSIs.

1.2 Purpose

On behalf of NRG, TRC prepared this ASD to evaluate the potential SSIs above background for the third post-background/baseline detection monitoring event pursuant to §257.94(e).

1.3 Hydrogeology

Based on the *Geologic Atlas of Texas, Houston Sheet* (BEG 1982), the Station is underlain by alluvium and the Beaumont formation (also commonly referred to as Beaumont Clay). The alluvium is present along the Brazos River, which is located approximately 0.9 miles from the northern boundary of the SWDA CCR units. Both the alluvium and the Beaumont formation are composed of clay, silt, and sand; and may include stream channel, point-bar, natural levee, back swamp, coastal marsh and mud-flat deposits. The thickness of the Beaumont formation is approximately 100 feet. The alluvium is not present at the Plant Area which is consistent with this area being located outside of the Brazos River floodplain zone (FBC 2018).

The alluvium and Beaumont Formation are located within the upper unit of the Chicot aquifer system. At most locations throughout Fort Bend County, the Chicot aquifer system is under confined conditions (TWDB 1990). The Chicot aquifer system is primarily recharged by precipitation at locations where it outcrops in Austin, Harris, and Waller Counties; groundwater then flows laterally within Fort Bend County (TWDB 1990). Site investigations performed by others on behalf of NRG also indicate that the uppermost groundwater-bearing units at the Station are under confined conditions.

Site investigations conducted in May 2016 and November 2016 identified three main subsurface strata at the Station, which were designated as Stratum DA-1 through DA-3 at the SWDA and Stratum PA-1 through PA-3 at the Plant Area. The strata are fully described in the October 2017 *CCR Groundwater Monitoring Networks* report (ERM 2017b) and are summarized below.

1.3.1 Stratum DA-1 and Stratum PA-1 (Upper Confining Unit)

Stratum DA-1 and Stratum PA-1 are both predominately silty clay with some sandy clay, clay, and sandy silt. Stratum DA-1 is generally present from the ground surface to approximately 30 feet below ground surface (bgs), but this stratum ranges in thickness from 20 to 60 feet throughout the SWDA. Stratum PA-1 is present from the ground surface to depths ranging from 15 feet bgs to 32 feet bgs.

Stratum DA-1 and Stratum PA-1 both serve as confining units to underlying Stratum DA-2 and Stratum PA-2, respectively, which comprise the uppermost groundwater-bearing unit at the Station. Geotechnical laboratory testing indicates that the hydraulic conductivity of Stratum DA-1 and Stratum PA-1 is 2.85E-08 centimeters per second (cm/sec) and 2.03E-08 cm/sec, respectively (ERM 2017b).

1.3.2 Stratum DA-2 and Stratum PA-2 (Upper Aquifer System)

Stratum DA-2 consists of interbedded sand, silty sand, clayey sand, and clayey sandy silt with some gravelly sand. The clay content within Stratum DA-2 varies across the SWDA. Stratum PA-2 is predominantly silty sand with varying sand and silt content and trace clay. Stratum DA-2

and Stratum PA-2 are generally greater than 10 feet in thickness with bottom depths ranging from 60 to 80 feet bgs.

Both Stratum DA-2 and Stratum PA-2 are saturated and comprise the upper aquifer system at the CCR units. CCR monitoring wells in the SWDA and Plant Area are completed within Stratum DA-2 and Stratum PA-2, respectively. Slug testing results for CCR monitoring wells indicate hydraulic conductivity ranges from 6.86E-04 cm/sec to 2.59E-02 cm/sec in Stratum DA-2; and from 6.68E-04 cm/sec to 4.26E-02 cm/sec in Stratum PA-2 (ERM 2017b). Groundwater primarily flows to the northeast towards the Brazos River beneath the SWDA; to the southwest beneath the E Pond, and to the southeast beneath the APH Pond.

1.3.3 Stratum DA-3 and Stratum PA-3 (Lower Confining Unit)

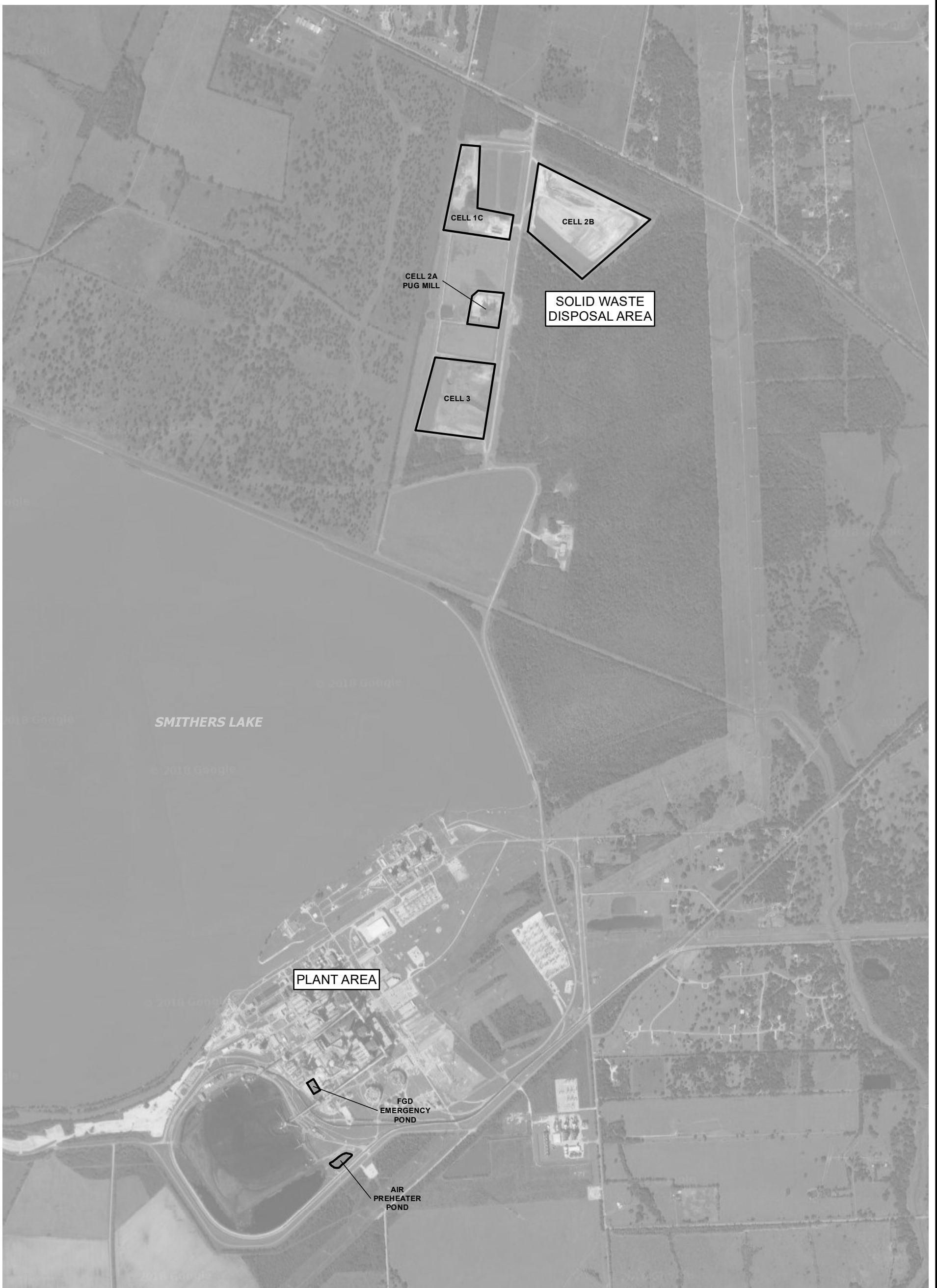
Stratum DA-3 and Stratum PA-3 are both predominantly clay to silty clay. These strata appear to be bottom confining layers to the overlying groundwater-bearing units (Stratum DA-2 and Stratum PA-2). The thicknesses of Stratum DA-3 and Stratum PA-3 have not been defined.

1.3.4 Solid Waste Disposal Area – Hydrogeology

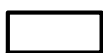
Groundwater monitoring well networks were initially established in 2016 for each of the four active CCR-management cells in the SWDA and were certified by a Texas P.E. under 257.91(f) on October 17, 2017. The SWDA monitoring wells were completed into Stratum DA-2, the upper aquifer system at the Station. Following successful completion of the ASD in July 2018 for the first post-background/baseline detection monitoring event, a revised groundwater monitoring network and revised statistical method were certified by a Texas P.E. for the SWDA as a single CCR multiunit. The revised groundwater monitoring network is summarized in Table 1. Groundwater potentiometric surface maps for the second (May 2018) and third (October 2018) post-background/baseline monitoring events were provided in the *2018 Annual Groundwater Monitoring and Corrective Action Report* for the Station and are provided in this ASD as Figures 2 and 3. During both semiannual detection monitoring events, groundwater flowed primarily to the northeast beneath the SWDA at a gradient ranging from 0.0007 feet per foot (ft/ft) to 0.003 ft/ft.

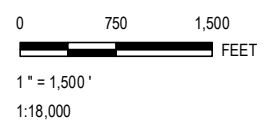
Table 1
Groundwater Monitoring System for SWDA CCR-Multiunit

UPGRADIENT WELLS	DOWNGRADIENT WELLS
MW-23, MW-28D, MW-42, MW-43, MW-47, and MW-48	MW-44, MW-46, MW-50, MW-52, MW-54, MW-55, MW-58, and MW-65



LEGEND

 UNIT BOUNDARY



AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).



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 Austin, TX 78752
 Phone: 512.329.6080
 www.trcsolutions.com

PROJECT:

**NRG TEXAS POWER, LLC
 W.A. PARISH STATION
 THOMPSONS, TEXAS**

TITLE:

SITE MAP

DRAWN BY:

MHORN

CHECKED BY:

JSPEER

APPROVED BY:

DATE:

JULY 2018

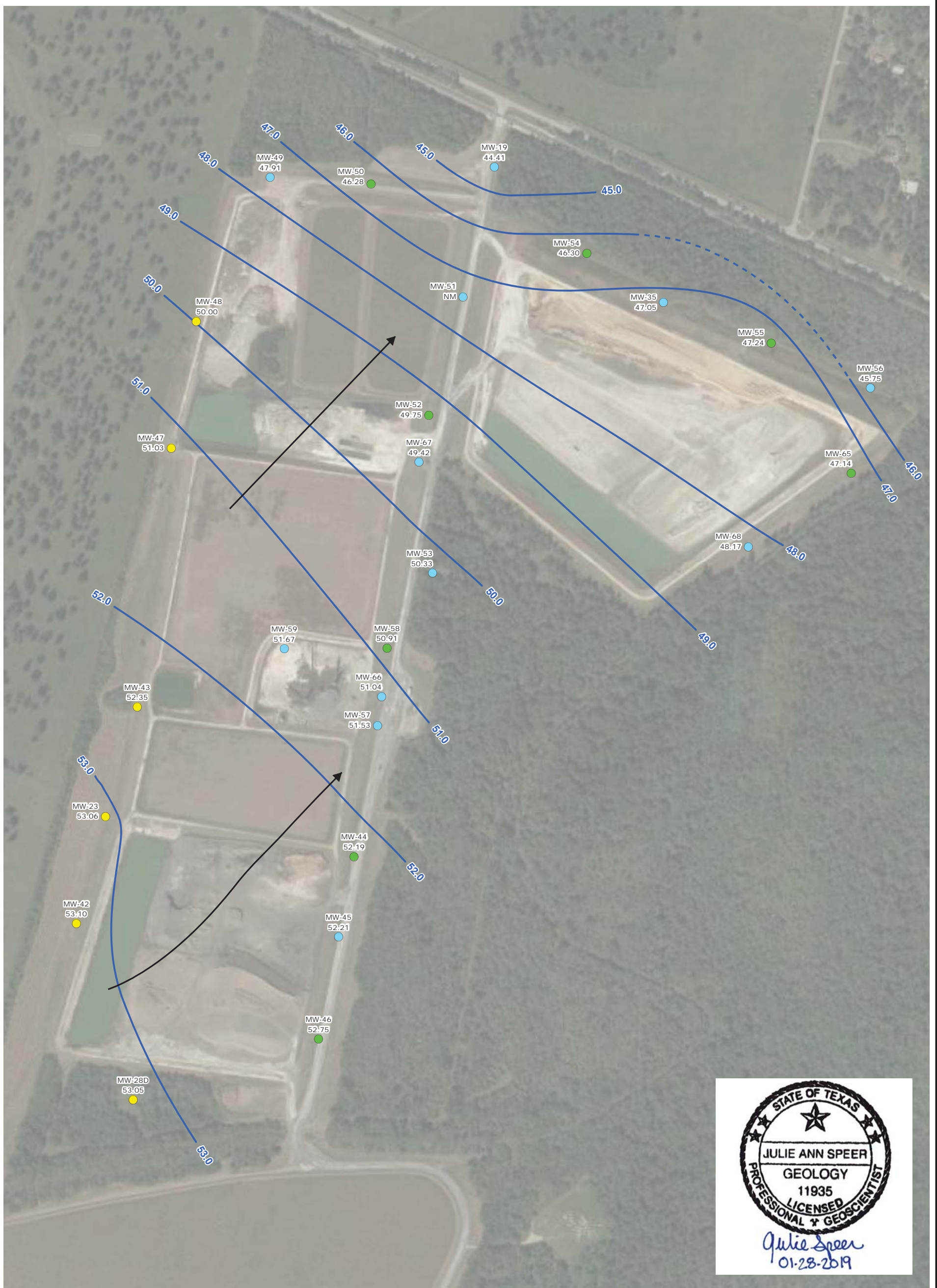
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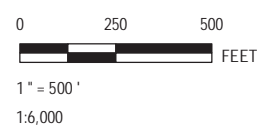
FIGURE 1



LEGEND

- MONITORING WELL
- CCR MULTIUNIT DOWNGRADIENT MONITORING WELL
- CCR MULTIUNIT UPGRADIENT MONITORING WELL
- 53.05 GROUNDWATER ELEVATION (FT MSL)
- GROUNDWATER ELEVATION CONTOUR - DASHED WHERE INFERRED (FT MSL)
- GROUNDWATER FLOW DIRECTION

NOTE:
 GROUNDWATER ELEVATIONS MEASURED BY TRC ENVIRONMENTAL CORPORATION (TRC) ON MAY 2 TO 4 AND 7 TO 8, 2018.



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 Austin, TX 78752
 Phone: 512.329.6080
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PROJECT:

**NRG TEXAS POWER, LLC
 W.A. PARISH STATION
 THOMPSONS, TEXAS**

TITLE:

**SOLID WASTE DISPOSAL AREA,
 GROUNDWATER POTENTIOMETRIC SURFACE MAP – MAY 2018**

DRAWN BY:

S. RAY

CHECKED BY:

J. SPEER

APPROVED BY:

J. SPEER

DATE:

JANUARY 2019

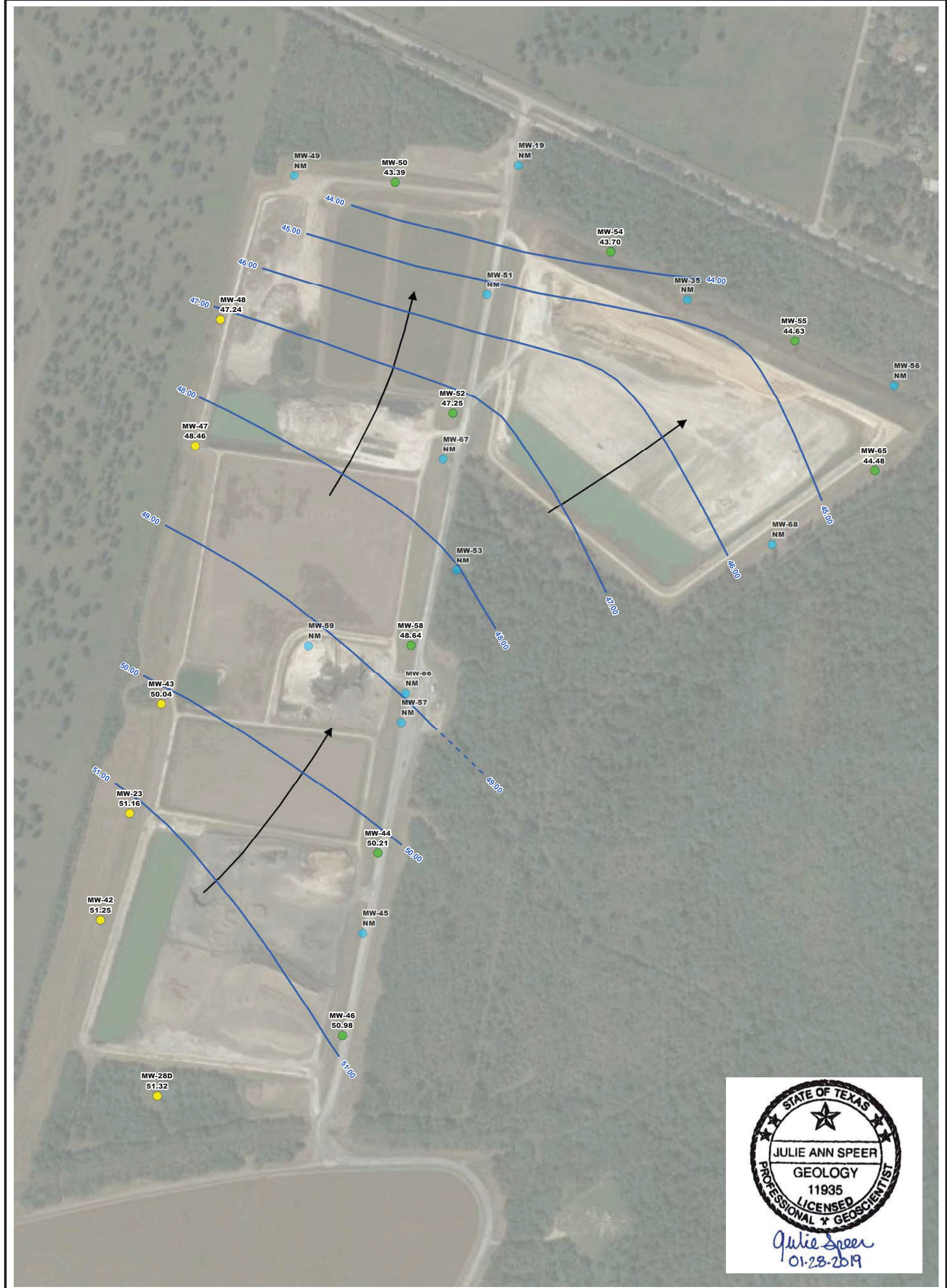
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FIGURE 2

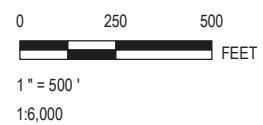


LEGEND

- MONITORING WELL
- CCR MULTIUNIT DOWNGRAIDENT MONITORING WELL
- CCR MULTIUNIT UPGRADIENT MONITORING WELL

- 51.32** GROUNDWATER ELEVATION (FT MSL)
- GROUNDWATER ELEVATION CONTOUR - DASHED WHERE INFERRED (FT MSL)
- ← GROUNDWATER FLOW DIRECTION
- NM** NOT MEASURED

NOTE: GROUNDWATER ELEVATION CONTOURS INTERPRETED BY TRC BASED ON GROUNDWATER ELEVATIONS MEASURED BY HYDROLOGIC MONITORING (HMI) ON OCTOBER 29, 2018.



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 Austin, TX 78752
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PROJECT:

**NRG TEXAS POWER, LLC
 W.A. PARISH STATION
 THOMPSONS, TEXAS**

TITLE:

**SOLID WASTE DISPOSAL AREA
 GROUNDWATER POTENTIOMETRIC SURFACE MAP – OCTOBER 2018**

DRAWN BY:

S.RAY

CHECKED BY:

J. SPEER

APPROVED BY:

J. SPEER

DATE:

JANUARY 2019

PROJ. NO.:

294645.0000.0000

FILE:

294645_2-7.mxd

FIGURE 3

Section 2

Alternative Source Demonstration

Statistical evaluation of the third post-background/baseline detection monitoring laboratory analytical results identified potential SSIs of Appendix III parameters above background concentrations. This section evaluates alternative sources for the potential SSIs as per §257.94(e)(2).

Statistical evaluation of the third post-background/baseline semiannual detection monitoring event, based on the revised groundwater monitoring system and statistical method, identified seven potential SSIs for the SWDA multiunit, as shown in Table 2.

Table 2
SSIs – October 2018 Detection Monitoring Event

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
Calcium	MW-23 (UG)	NA	313	2018-10-29	405	mg/L
Calcium	MW-52	NA	313	2018-10-29	372	mg/L
Chloride	MW-23 (UG)	NA	992	2018-10-29	1,290	mg/L
pH	MW-23 (UG)	6.92	10.62	2018-10-29	11.61	SU
pH	MW-50	6.92	10.62	2018-10-29	6.68	SU
pH	MW-55	6.92	10.62	2018-10-29	12.57	SU
pH	MW-58	6.92	10.62	2018-10-29	6.73	SU

pH values for two monitoring wells at the SWDA are suggestive of potential grout contamination at the well screen. In March 2019, replacement wells were installed in close proximity to MW-46 and MW-55. The replacement wells are designated MW-46R and MW-55R. Table 3 presents a comparison of pH results for the original and replacement wells. Direct comparison of these data supports the line of reasoning that previous high pH results for these two wells were not indicative of releases from the SWDA.

Table 3
Replacement Well pH Results

LOCATION	BASELINE RANGE	3/28/2019	4/29/2019
MW-46/MW-46R	7.28 – 12.17	7.21	7.01
MW-55/MW-55R	8.85 – 12.10	7.41	7.20

MW-46R and MW55R installed March 2019

Three of the potential SSIs are for upgradient monitoring well MW-23. The baseline period for the SWDA consisted of eight samples collected in a one-year period from July 2016 through July 2017. The time between sampling events was about 1.5 to 2 months. This results in a very short baseline period that may not be fully representative of upgradient groundwater quality.

Statistical performance standards require the confidence of an SSI to be at least 95 percent. Based on the data collected to date at the SWDA: initial eight background/baseline and first (October 2017), second (May 2018), and third (October 2018) post-background/baseline semiannual detection monitoring results, the short time frame for these data results in a confidence level of only 70% for the pH data set, because there was no underlying distribution and nonparametric statistics were necessarily used. This means that a longer baseline period and/or additional wells to evaluate background/baseline conditions are needed to differentiate between natural variations in groundwater quality and potential release to groundwater from the SWDA CCR multiunit.

This ASD applies to calcium in MW-23 and MW-52, chloride in MW-23, and low pH in MW-50 and MW-58. In accordance with procedures presented in USEPA's Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities (Unified Guidance, Mary 2009), background/baseline values can be updated after at least four new measurements are available, assuming other criteria for background stability are also met [UG, Section 5.3]. Therefore, one additional sampling event (*i.e.*, April 2019) would be necessary before the pH data baseline can be updated.

Based on validation of post-baseline data from the analytical laboratory, unresolvable issues have arisen regarding data quality. Issues identified with the analytical laboratory have brought into question the accuracy and quality of the data being used as the background data set (see Technical Memos on Laboratory Quality Issues, dated 4-24-19 and Laboratory Change for CCR Sampling Events, dated 7-19-19). During the May 2019 sampling event, a groundwater sample from one well per CCR unit was split between two analytical laboratories to assess the ongoing issues with the incumbent laboratory. Additionally, the analytical method for fluoride was changed from Method 300.0 (ion chromatography) to Method 340.2 (ion selective electrode), because fluoride results had a history of widely varying reporting limits potentially relating to the analytical method. Based on laboratory data quality issues and procedures, NRG has concluded that the background/baseline data set reflects persistent quality concerns, should not be relied upon for statistical analysis per the CCR Rule, and must be replaced. To develop a new background/baseline data set, eight quarterly samples will be collected over a two-year period for analysis for the Appendix III and IV CCR Rule constituents using the revised analytical method for fluoride and a different analytical laboratory as discussed above and addressed in the technical memoranda cited above. Additionally, field pH will be measured using two methods – a flow-through cell during purging and a non-flow-through meter at the initiation of sample collection. These two

methods will be used to assess the effect of specific pH equipment on pH results, for which the current baseline provides a very narrow range.

During the timeframe of collecting the new background/baseline samples, the original baseline upper tolerance limits will continue to be used for statistical evaluation of the semiannual detection monitoring results. ASDs will continue to be prepared as needed for SSIs based on the original background/baseline data set until the new background/baseline has been developed.

Section 3

Conclusions

Three of the seven potential SSIs were identified in an upgradient well, and all seven potential SSIs at the SWDA CCR multiunit fail to meet requirements for statistical significance because the background/baseline do not follow a defined data distribution and require nonparametric statistical methods. In addition, data quality issues and laboratory procedures have resulted in persistent, unresolvable data quality issues. Therefore, NRG has concluded that the existing background/baseline data set for the SWDA is unreliable and a new background/baseline data set will be developed. Until the new background/baseline data set has been developed, the existing background/baseline data set will continue to be used for statistical evaluation of the semiannual detection monitoring data. Detection monitoring will continue for the SWDA.

Section 4 Certification

I hereby certify that the alternative source demonstration presented within this document for the WA Parish Electric Generating Station SWDA CCR multiunit has been prepared to meet the requirements of Title 40 CFR 257.94 (e) 2 of the Federal CCR Rule. This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR 257.94 (e) 2.

Name: _____ Expiration Date: _____

Company: TRC Environmental Corporation Date: _____

Section 5

References

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Alternative Source Demonstration

W.A. Parish Electric Generating Station FGD Emergency Pond (SWMU 020)

September 2019

Prepared For
NRG Texas Power, LLC
Thompsons, Texas



A handwritten signature in black ink, appearing to read "R. Kent Nilsson".

R. Kent Nilsson, P.E.
Senior Engineer

9/26/19

A handwritten signature in black ink, appearing to read "Tony Dworaczek".

Tony Dworaczek, P.G.
Geologist/Project Manager

TRC Environmental Corporation | NRG
Alternate Source Demonstration, W.A. Parish, FGD Emergency Pond (SWMU 020)

\\GREENVILLE-FP1\WPGVL\PJT2\294645\0000\PH 1\R2946452019-007 ASD WAP E-POND.DOCX

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Executive Summary

The NRG Texas Power, LLC (NRG) W.A. Parish Electric Generating Station (Station) is located in Thompsons, Fort Bend County, Texas. Units managing coal combustion residuals (CCR) at the Station are subject to the United States Environmental Protection Agency's (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA) Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (CCR Rule). CCR generated at the Station consist of fly ash, bottom ash, and flue gas desulfurization (FGD) scrubber sludge. The Station has three active CCR units that are managed pursuant to the CCR Rule, including the FGD Emergency Pond (E Pond, SWMU 020), which is the subject of this Alternate Source Demonstration (ASD).

Eight independent background/baseline groundwater monitoring events were conducted at the E Pond between July 2016 and July 2017 per §257.94(b) and the initial post-background/baseline detection monitoring event was conducted in October 2017. A statistical evaluation of the first post-background/baseline detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed to identify statistically significant increases (SSIs) above background pursuant to §257.93(f) and (g) and in accordance with the Site's CCR *Statistical Analysis Plan* (ERM 2017a). The statistical evaluation identified apparent SSIs in monitoring wells at the E Pond. An ASD was completed in July 2018 in accordance with 257.94(e) that successfully identified alternative sources for the potential SSIs and the CCR unit at the Station continued a detection monitoring program.

The second post-background/baseline detection monitoring event was conducted in May 2018. Laboratory analytical data for the second post-background/baseline detection monitoring event were received by NRG on July 25, 2018. A statistical evaluation of the second post-background/baseline analytical results for detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed to identify SSIs pursuant to §257.93(f) and (g) on October 25, 2018. The statistical evaluation identified apparent SSIs in monitoring wells at the E Pond. An ASD, prepared in accordance with 257.94(e), successfully identified alternative sources for the potential SSIs.

The third post-background/baseline detection monitoring event was conducted in October 2018. Laboratory analytical data for the third post-background/baseline detection monitoring event were received by NRG on December 14, 2018. Pursuant to §257.93(f) and (g), a statistical evaluation of the third post-baseline detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed on March 14, 2019 to identify SSIs. The statistical evaluation identified apparent SSIs in monitoring wells at the FGD E Pond. This ASD, prepared in accordance with 257.94(e), successfully identified alternative sources for the potential SSIs. Therefore, detection monitoring will be continued for the FGD E Pond. Because of persistent, unresolvable issues with data quality, a new baseline will be

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Alternate Source Demonstration, W.A. Parish, FGD Emergency Pond*

developed with data collected quarterly over a two-year period. The original baseline data will continue to be used for statistical evaluation of the semiannual detection monitoring results until the new baseline data are collected and ready for use

Section 1

Introduction

1.1 Background

The NRG Texas Power, LLC (NRG) W.A. Parish Electric Generating Station (Station) is located in Thompsons, Fort Bend County, Texas, adjacent to Smithers Lake. The electricity-generating portion of the Station, or the main Plant Operations Area (Plant Area), is located along the southeastern shore of the lake.

Management of coal combustion residuals (CCR) at the Station is performed pursuant to the United States Environmental Protection Agency's (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA) Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (CCR Rule, effective date October 17, 2015) and the CCR Remand Rule Proposal (March 1, 2018). CCR generated at the Station consist of fly ash, bottom ash, and flue gas desulfurization (FGD) scrubber sludge, which have been classified by the Texas Commission on Environmental Quality (TCEQ) as Class II Nonhazardous waste. The Station has the following three active CCR-management units pursuant to the CCR Rule and the CCR Remand Rule Proposal:

- Solid Waste Disposal Area (SWDA) (SWMU 001), which consists of four active CCR-management cells: Cell 1C, Cell 2A-Pug Mill, Cell 2B, and Cell 3; and is now monitored as a single CCR Multiunit;
- Air Preheater Pond (APH Pond, SWMU 021); and
- FGD Emergency Pond (E Pond, SWMU 020).

The SWDA is located to the north of the Plant Area. The APH and E Pond are located at the southern portion of the Plant Area. The locations of the three CCR units are shown on Figure 1. The E Pond is the subject of this Alternative Source Demonstration (ASD).

On behalf of NRG, Environmental Resources Management, Inc. (ERM) conducted eight independent background/baseline groundwater detection monitoring events between April 2015 and August 2017 per §257.94(b) and the first post-background/baseline detection monitoring event in October 2017. Results of the eight background/baseline and first post-background/baseline detection monitoring events were documented in the *Annual Groundwater Monitoring Report, FGD Emergency Pond (Unit 020)* (ERM 2018a) and the March 1, 2018, *Groundwater Monitoring Report, FGD Emergency Pond (SWMU Unit 020)* (ERM 2018b) pursuant to §257.90(e). ERM identified apparent SSIs above background in groundwater for the E Pond for the first post-background/baseline detection monitoring event and TRC Environmental Corporation (TRC) completed a successful Alternative Source Demonstration (ASD) in July 2018. The ASD

was placed in the facility's operating record (FOR) and was provided with the 2018 *Annual Groundwater Monitoring and Corrective Action Report* (January 2019) for the Station.

The dimensions of the E Pond are approximately 200 feet by 110 feet and the aerial extent is approximately 0.5 acres. The E pond receives storm water runoff from the FGD dewatering area and blowdown from the FGD system. The E Pond may also receive the contents of an FGD process vessel when the FGD system is not in operation.

Based on the field observations and as provided in the first post-background/baseline ASD (July 2018), it was surmised that surficial CCR may have been inadvertently introduced into the wells and the sample containers during monitoring. The flush-mounted monitoring wells at the E Pond were modified by installing vertical well casing extensions and protective casings to minimize the potential for CCR on the ground surface to be accidentally introduced into the wells. Additional care was taken during sample collection to minimize the potential for CCR to be introduced into the sample containers. These well modifications were intended to reduce the potential for cross-contamination of the samples during groundwater monitoring.

Although water quality in the downgradient monitoring wells improved for the second post-background/baseline sampling event, apparent SSIs continued to be observed. During the third post-background/baseline detection monitoring event in October 2018, field personnel observed the presence of silt in monitoring wells at the E Pond. Therefore, the wells were redeveloped and accumulated silt was removed from the well casings prior to the collection of groundwater samples for the fourth semiannual detection monitoring event conducted in April 2019.

1.2 Purpose

In March 2019 ,a statistical evaluation of the third post-background/baseline detection monitoring parameters (Appendix III to §257 of the CCR Rule) was completed in conformance to §257.93(f) and (g) and the revised statistical method for the CCR units. The statistical evaluation identified nine potential SSIs (boron, calcium, pH, sulfate and TDS) in the three downgradient monitoring wells (MW-37, MW-38, and MW-61). On behalf of NRG, TRC prepared this ASD in accordance with §257.94(e) to evaluate the potential SSIs above background for the third post-background/baseline detection monitoring event.

1.3 Hydrogeology

Based on the *Geologic Atlas of Texas, Houston Sheet* (BEG 1982), the Station is underlain by alluvium and the Beaumont formation (also commonly referred to as Beaumont Clay). The alluvium is present along the Brazos River, which is located approximately 0.9 miles from the northern boundary of the SWDA CCR units. Both the alluvium and the Beaumont formation are composed of clay, silt, and sand; and may include stream channel, point-bar, natural levee, backswamp, coastal marsh and mud-flat

deposits. The thickness of the Beaumont formation is approximately 100 feet. The alluvium is not present at the Plant Area which is consistent with this area being located outside of the Brazos River floodplain zone (FBC 2018).

The alluvium and Beaumont Formation are located within the upper unit of the Chicot aquifer system. At most locations throughout Fort Bend County, the Chicot aquifer system is under confined conditions (TWDB 1990). The Chicot aquifer system is primarily recharged by precipitation at locations where it outcrops in Austin, Harris, and Waller Counties; groundwater then flows laterally within Fort Bend County (TWDB 1990). Site investigations performed by others on behalf of NRG also indicate that the uppermost groundwater-bearing units at the Site are under confined conditions (ERM, 2017).

Site investigations conducted in May 2016 and November 2016 identified three main subsurface strata at the Station, which were designated as Stratum DA-1 through DA-3 at the SWDA and Stratum PA-1 through PA-3 at the Plant Area. The strata are fully described in the October 2017 *CCR Groundwater Monitoring Networks* report (ERM 2017b) and are summarized below.

1.3.1 Stratum DA-1 and Stratum PA-1 (Upper Confining Unit)

Stratum DA-1 and Stratum PA-1 are both predominately silty clay with some sandy clay, clay, and sandy silt. Stratum DA-1 is generally present from the ground surface to approximately 30 feet below ground surface (bgs), but this stratum ranges in thickness from 20 to 60 feet throughout the SWDA. Stratum PA-1 is present from the ground surface to depths ranging from 15 feet bgs to 32 feet bgs.

Stratum DA-1 and Stratum PA-1 both serve as confining units to underlying Stratum DA-2 and Stratum PA-2, respectively, which comprise the uppermost groundwater-bearing unit at the Site. Geotechnical laboratory testing indicates that the hydraulic conductivity of Stratum DA-1 and Stratum PA-1 is $2.85E-08$ centimeters per second (cm/sec) and $2.03E-08$ cm/sec, respectively (ERM 2017b).

1.3.2 Stratum DA-2 and Stratum PA-2 (Upper Aquifer)

Stratum DA-2 consists of interbedded sand, silty sand, clayey sand, and clayey sandy silt with some gravelly sand. The clay content within Stratum DA-2 varies across the SWDA. Stratum PA-2 is predominantly silty sand with varying sand and silt content and trace clay. Stratum DA-2 and Stratum PA-2 are generally greater than 10 feet in thickness with bottom depths ranging from 60 to 80 feet bgs.

Both Stratum DA-2 and Stratum PA-2 are saturated and comprise the uppermost groundwater-bearing unit at the CCR units. CCR monitoring wells in the SWDA and Plant Area are completed within Stratum DA-2 and Stratum PA-2, respectively. Slug testing results for CCR monitoring

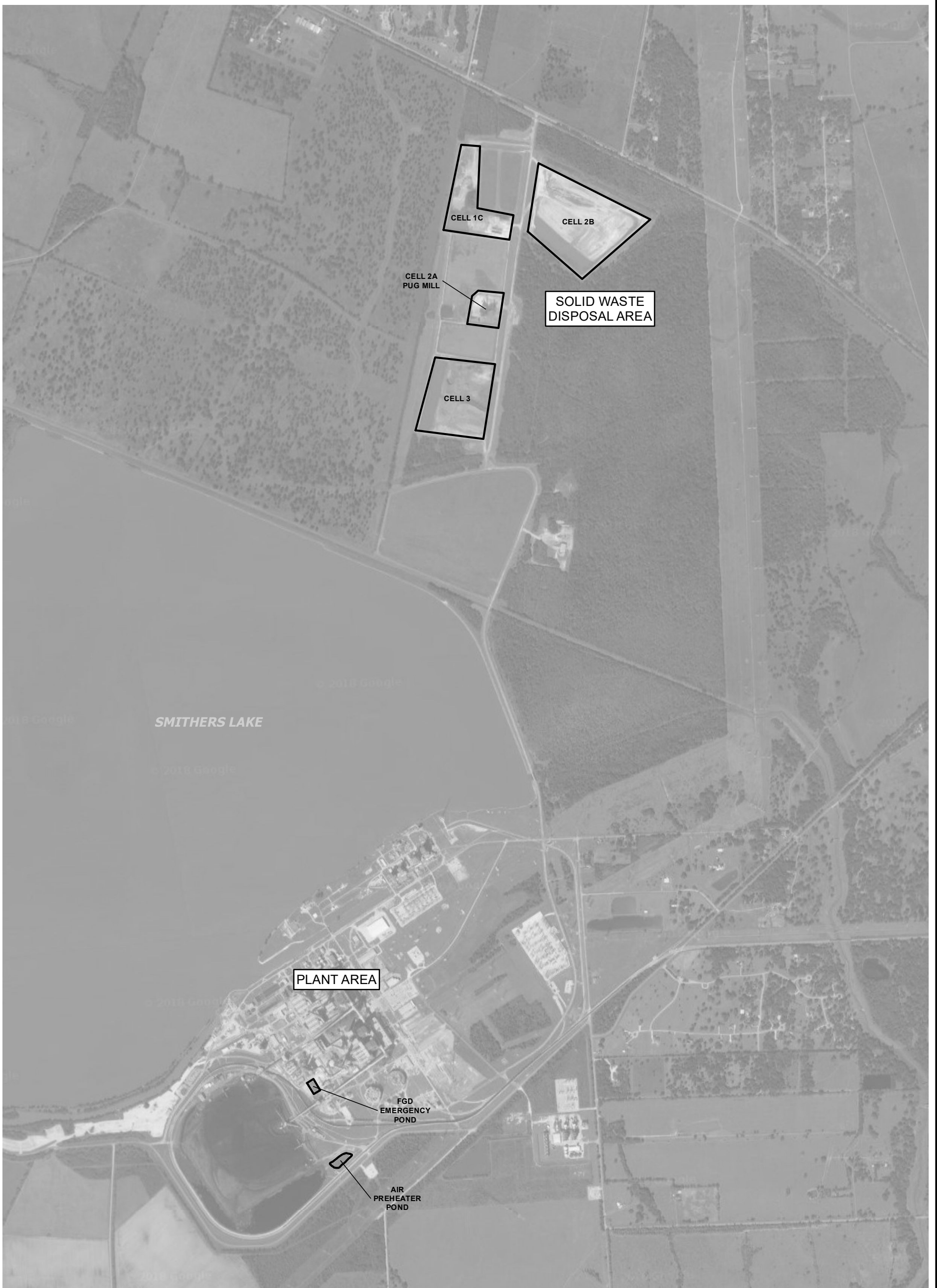
wells indicate hydraulic conductivity ranges from 6.86E-04 cm/sec to 2.59E-02 cm/sec in Stratum DA-2; and from 6.68E-04 cm/sec to 4.26E-02 cm/sec in Stratum PA-2 (ERM 2017b). Groundwater primarily flows to the northeast towards the Brazos River beneath the SWDA; to the southwest beneath the E Pond, and to the southeast beneath the APH Pond.

1.3.3 Stratum DA-3 and Stratum PA-3 (Lower Confining Unit)

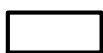
Stratum DA-3 and Stratum PA-3 are both predominantly clay to silty clay. These strata appear to be bottom confining layers to the overlying groundwater-bearing units (Stratum DA-2 and Stratum PA-2). The thicknesses of Stratum DA-3 and Stratum PA-3 have not been defined.

1.3.4 E Pond – Hydrogeology

The certified CCR groundwater monitoring well network for the E Pond consists of two upgradient monitoring wells (MW-36 and MW-60) and three downgradient monitoring wells (MW-37, MW-38, and MW-61). The E Pond monitoring wells were completed into Stratum PA-2, the upper aquifer system at the Station. Groundwater potentiometric surface maps for the second (May 2018) and third (October 2018) post-background/baseline detection monitoring events were provided in the *2018 Annual Groundwater Monitoring and Corrective Action Report* and are provided in this ASD as Figures 2 and 3. During both semiannual monitoring events, the direction of groundwater flow was to the southwest at a gradient ranging from 0.010 feet per foot (ft/ft) to 0.030 ft/ft.



LEGEND

 UNIT BOUNDARY

0 750 1,500
 FEET
 1" = 1,500'
 1:18,000



AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).



505 East Huntland Drive, Suite 250
 Austin, TX 78752
 Phone: 512.329.6080
 www.trcsolutions.com

PROJECT:

**NRG TEXAS POWER, LLC
 W.A. PARISH STATION
 THOMPSONS, TEXAS**

TITLE:

SITE MAP

DRAWN BY:

MHORN

CHECKED BY:

JSPEER

APPROVED BY:

DATE:

JULY 2018

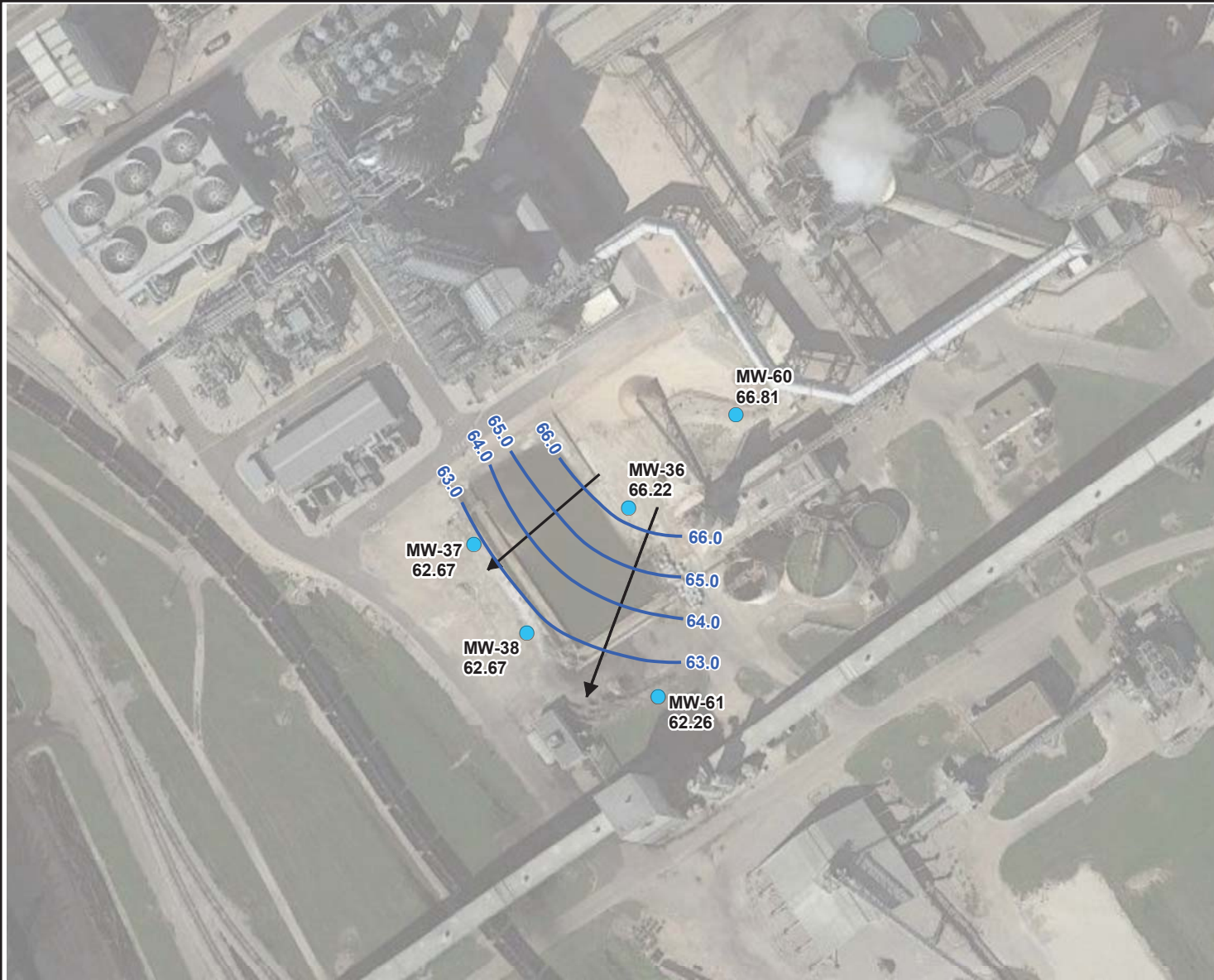
PROJ. NO.:

294645.0000.0000

FILE:

294645_1.mxd

FIGURE 1



LEGEND

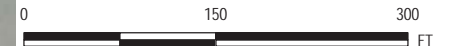
- MONITORING WELL
- 66.81 GROUNDWATER ELEVATION (FT MSL)
- GROUNDWATER ELEVATION CONTOUR (FT MSL)
- ← GROUNDWATER FLOW DIRECTION

NOTE:
GROUNDWATER ELEVATIONS MEASURED BY TRC ENVIRONMENTAL CORPORATION (TRC) ON MAY 11, 2018.



Julie Speer
01-28-2019

AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).



1" = 150'
1:1,800



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PROJECT:

**NRG TEXAS POWER, LLC
W.A. PARISH STATION
THOMPSONS, TEXAS**

TITLE:

**FGD EMERGENCY POND,
GROUNDWATER POTENTIOMETRIC SURFACE MAP – MAY 2018**

DRAWN BY:

S. RAY

CHECKED BY:

J. SPEER

APPROVED BY:

J. SPEER

DATE:

JANUARY 2019

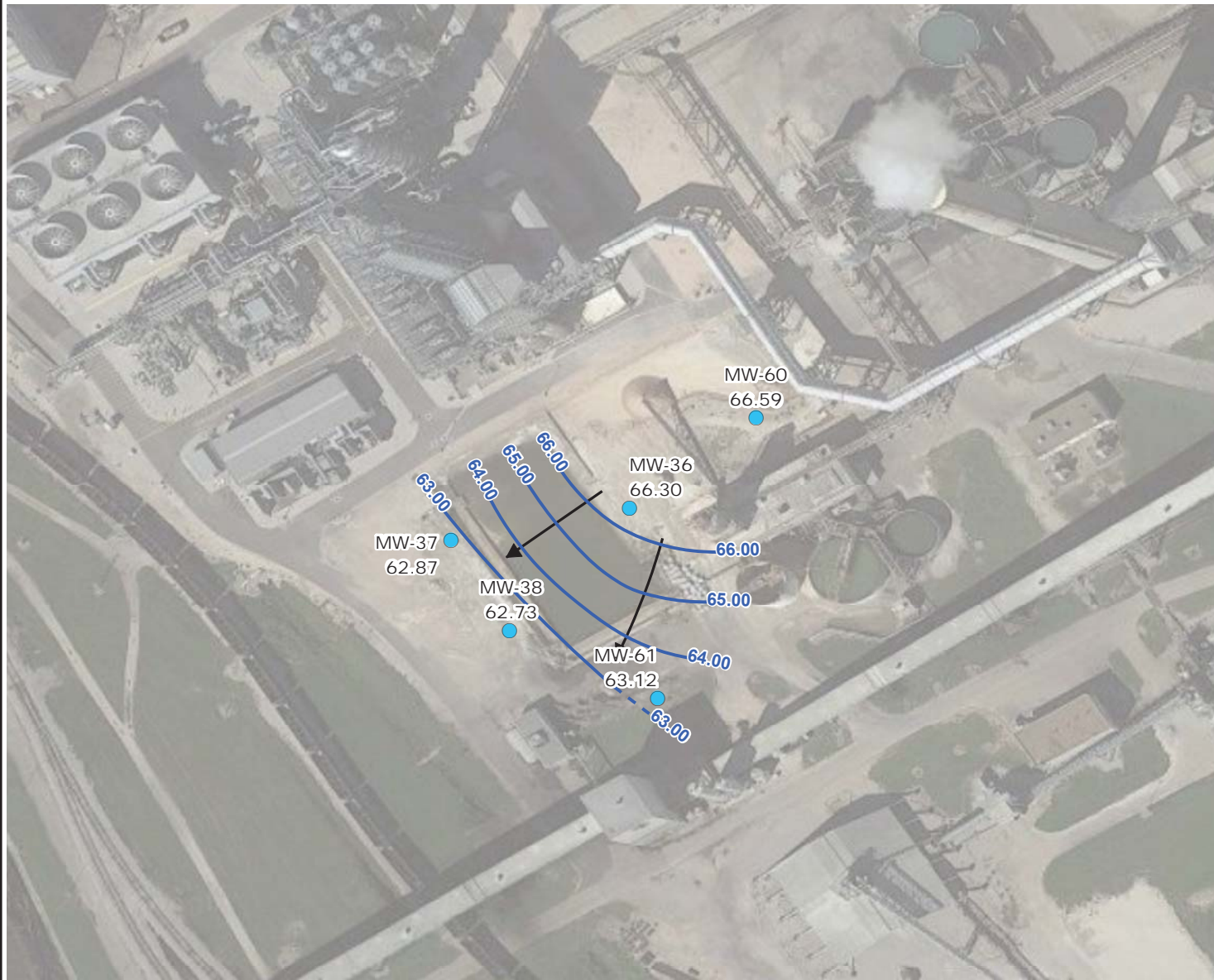
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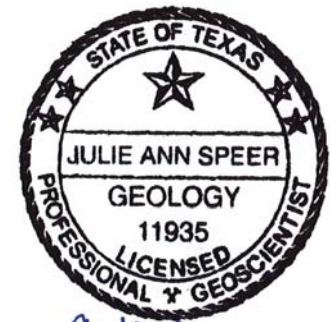
294645_2-6.mxd

FIGURE 2-6



- LEGEND**
- MONITORING WELL
 - 66.59 GROUNDWATER ELEVATION (FT MSL)
 - GROUNDWATER ELEVATION CONTOUR - DASHED WHERE INFERRED (FT MSL)
 - ← GROUNDWATER FLOW DIRECTION

NOTE:
GROUNDWATER ELEVATION CONTOURS INTERPRETED BY TRC BASED ON GROUNDWATER ELEVATIONS MEASURED BY HYDROLOGIC MONITORING (HMI) ON OCTOBER 29, 2018.



Julie Speer
01-28-2019

AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).



1" = 150'
1:1,800



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TRC - GIS

PROJECT: **NRG TEXAS POWER, LLC
W.A. PARISH STATION
THOMPSONS, TEXAS**

TITLE: **FGD EMERGENCY POND
GROUNDWATER POTENTIOMETRIC SURFACE MAP – OCTOBER 2018**

DRAWN BY:	S. RAY
CHECKED BY:	J. SPEER
APPROVED BY:	J. SPEER
DATE:	JANUARY 2019
PROJ. NO.:	294645.0000.0000
FILE:	294645_2-9.mxd

FIGURE 2-9

Section 2

Alternative Source Demonstration

As discussed in the 2018 Annual Groundwater Monitoring and Corrective Action Report (TRC 2019), statistical evaluation of the third post-background/baseline detection monitoring laboratory analytical results identified potential SSIs of Appendix III parameters above background concentrations. This section evaluates alternative sources for the potential SSIs as per §257.94(e)(2).

Statistical evaluation of the third post-background/baseline semiannual detection monitoring event identified nine SSIs for the E Pond, as shown on Table 1.

Table 1
SSIs – October 2018 Detection Monitoring Event

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
Boron	MW-37	N/A	0.160	10/29/2018	0.308	mg/L
Boron	MW-38	N/A	0.160	10/29/2018	3.2	mg/L
Boron	MW-61	N/A	0.160	10/29/2018	1.5	mg/L
Calcium	MW-61	N/A	301	10/29/2018	465	mg/L
Chloride	MW-38	N/A	359	10/29/2018	470	mg/L
Sulfate	MW-38	N/A	1,070	10/29/2018	1,500	mg/L
Sulfate	MW-61	N/A	1,070	10/29/2018	1,210	mg/L
TDS	MW-38	N/A	1,958	10/29/2018	2,430	mg/L
TDS	MW-61	N/A	1,958	10/29/2018	2,160	mg/L

Based on review of the hydrogeological setting for the E Pond and presence of an upper confining layer (Stratum PA-1) that is present between the bottom of the E Pond and the underlying upper aquifer system (Stratum PA-2), and the observation of surficial CCR in the area of the monitoring wells during the third post-background/baseline detection monitoring sampling event (October 2018), the following lines of reasoning appear to support the conclusion that the nine potential SSIs observed above background are due to the inadvertent introduction of surficial CCR into the monitoring wells/groundwater samples during sample collection, and are not due to a release of CCR from the E Pond to the upper aquifer system:

- The bottom of the E Pond is separated from the upper aquifer system by a confining unit (Stratum PA-1) that hydraulically isolates the bottom of the E Pond from the upper aquifer system (Stratum

PA-2). Available data indicate the upper aquifer system is under confined conditions and the confining unit (Stratum PA-1) acts as a vertical hydraulic barrier between the bottom of the E Pond and the upper aquifer system (Stratum PA-2), based on the following lines of reasoning:

- Based on review of the boring logs for the groundwater monitoring wells installed at the E Pond, the upper clay confining unit (Stratum PA-1) was present at each monitoring well from the ground surface to depths ranging from 19 feet bgs to 32 feet bgs (i.e., thickness ranging from 19 feet to 32 feet; corresponding to elevations of about 53 to 49 feet msl). The bottom of the E Pond is located within Stratum PA-1 with the bottom of the clay liner at an elevation of about 60 feet msl); therefore, Stratum PA-1 acts as a confining layer between the bottom of the E Pond and the underlying upper aquifer system (Stratum PA-2).
 - Based on geotechnical laboratory results for a soil sample collected from Stratum PA-1 at a depth of 10 feet bgs, Stratum PA-1 is a lean clay with a hydraulic conductivity of 2.03E-8 cm/sec (ERM 2017b), which is consistent with an impervious lithologic unit that exceeds the required specifications per 40 CFR §257.71(a) for a compacted bottom clay liner for a CCR impoundment.
- The E Pond is located at an active power generating area at the Plant Area and non CCR-related and CCR-related materials are actively managed near the E Pond. For example, the FGD loadout pad immediately adjoins the E Pond. The presence of non CCR-related and CCR-related materials near the E pond monitoring wells may be a potential source for some or all of the SSIs identified in groundwater samples collected from wells located downgradient of the E Pond, as described further below. The E Pond monitoring wells were installed as flush-mounted wells, which may have enabled surface materials to incidentally enter the groundwater monitoring wells during sampling activities.

Prior to the third post-background baseline detection monitoring event, NRG modified the monitoring wells by installing casing extensions and protective casings to protect the wells from the accidental introduction of CCR materials directly into groundwater samples during sample collection. The wells were then redeveloped prior to sampling.

Based on validation of post-baseline data from the analytical laboratory, unresolvable issues have arisen regarding data quality. Issues identified with the analytical laboratory have brought into question the accuracy and quality of the data being used as the background data set (see Technical Memos on Laboratory Quality Issues, dated 4-24-19 and Laboratory Change for CCR Sampling Events, dated 7-19-19). During the May 2019 sampling event, a groundwater sample from one well per CCR unit was split between two analytical laboratories to assess the ongoing issues with the incumbent laboratory. Additionally for the May 2019 sampling event, the analytical method for fluoride was changed from Method 300.0 (ion chromatography) to Method 340.2 (ion selective electrode), because fluoride results

had a history of widely varying reporting limits potentially relating to the analytical method. Based on laboratory data quality issues and procedures, NRG has concluded that the background/baseline data set reflects persistent quality concerns, should not be relied upon for statistical analysis per the CCR Rule, and must be replaced. To develop a new background/baseline data set, eight quarterly samples will be collected over a two-year period for analysis for the Appendix III and IV CCR Rule constituents using the revised analytical method for fluoride and a different analytical laboratory as discussed above and addressed in the technical memoranda cited above. Additionally, field pH will be measured using two methods – a flow-through cell during purging and a non-flow-through meter at the initiation of sample collection. These two methods will be used to assess the effect of specific pH equipment on pH results, for which the current baseline provides a very narrow range.

During the timeframe of collecting the new background/baseline samples, the original baseline upper tolerance limits will continue to be used for statistical evaluation of the semiannual detection monitoring results. ASDs will continue to be prepared as needed for SSIs based on the original background/baseline data set until the new background/baseline has been developed.

Section 3

Conclusions

The statistical evaluation for the third post-background/baseline semiannual detection monitoring event from October 2018 identified nine SSIs. Based on the lines of reasoning presented in this ASD, alternative sources other than a release from the E Pond have been shown to likely be responsible for the potential SSIs observed. In addition, data quality issues and laboratory procedures appear to have resulted in persistent, unresolvable data quality issues. Therefore, NRG has concluded that the existing background/baseline data set for the E Pond is unreliable and a new background/baseline data set will be developed. Until the new background/baseline data set has been developed, the existing background/baseline data set will continue to be used for statistical evaluation of the semiannual detection monitoring data. Detection monitoring will continue for the E Pond.

Section 4 Certification

I hereby certify that the alternative source demonstration presented within this document for the WA Parish Electric Generating Station E Pond has been prepared to meet the requirements of Title 40 CFR 257.94 (e) 2 of the Federal CCR Rule. This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR 257.94 (e) 2.

Name: _____ Expiration Date: _____

Company: TRC Environmental Corporation Date: _____

Section 5

References

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- TRC 2019. *2018 Annual Groundwater Monitoring Report: WA Parish Generating Station.* TRC, January 2019.
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Alternative Source Demonstration

W.A. Parish Electric Generating Station Air Preheater Pond (SWMU 021)

November 2019

*Prepared For
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Thompsons, Texas*



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Senior Engineer

11/8/2019

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Tony Dworaczyk, P.G.
Geologist/Project Manager

TRC Environmental Corporation | NRG Texas Power, LLC
Alternate Source Demonstration, W.A. Parish, Air Preheater Pond

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Executive Summary

The NRG Texas Power, LLC (NRG) W.A. Parish Electric Generating Station (Station) is located in Thompsons, Fort Bend County, Texas. Units managing coal combustion residuals (CCR) at the Station are subject to the United States Environmental Protection Agency's (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA) Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (CCR Rule). CCR generated at the Station consist of fly ash, bottom ash, and flue gas desulfurization (FGD) scrubber sludge. The Station has three active CCR management units that are subject to regulation under the CCR Rule, including the Air Preheater Pond (APH) Pond, which is the subject of this Alternate Source Demonstration (ASD).

The fourth groundwater detection monitoring event was conducted in April 2019. Laboratory analytical data were received by NRG on May 14, 2019. Statistical evaluation of the Appendix III detection monitoring parameters was completed on August 12, 2019, to identify apparent statistically significant increases (SSIs) above background pursuant to §257.93(f) and (g). The statistical evaluation identified five apparent SSIs in monitoring wells at the APH Pond, two of which are associated with upgradient monitoring wells. This ASD [prepared in accordance with 257.94(e)] successfully identified alternative sources for the potential SSIs. Therefore, detection monitoring will be continued for the APH Pond.

As presented in the ASD for the third detection monitoring event, persistent, unresolvable issues with data quality have necessitated establishment of a new background water quality data set. This new background is being developed for both Appendix III and Appendix IV CCR constituents collected quarterly over a two-year period. The first new background event was conducted during the third quarter of 2019. The original background water quality data will continue to be used for statistical evaluation of the semiannual detection monitoring results (second, fourth, sixth, and eighth new quarterly monitoring events) until collection of the eight new background monitoring events have been completed and a new background data set has been established for statistical evaluation purposes.

Section 1

Introduction

1.1 Background

The NRG Texas Power, LLC (NRG) W.A. Parish Electric Generating Station (Station) is located in Thompsons, Fort Bend County, Texas, adjacent to Smithers Lake. The electricity generating portion of the Station, or the main Plant Operations Area (Plant Area), is located along the southeastern shore of the lake.

Management of coal combustion residuals (CCR) at the Station is performed pursuant to the United States Environmental Protection Agency's (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA) Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (CCR Rule, effective date October 17, 2015) and the Phase 1, Part 1 final rule (July 30, 2018). CCR generated at the Station consist of fly ash, bottom ash, and flue gas desulfurization (FGD) scrubber sludge, which have been classified by the Texas Commission on Environmental Quality (TCEQ) as Class II Nonhazardous waste. The Station has the following three active CCR-management units:

- Solid Waste Disposal Area (SWDA) (SWMU 001), which consists of four active CCR-management cells: Cell 1C, Cell 2A-Pug Mill, Cell 2B, and Cell 3; and is now monitored as a single CCR Multiunit;
- Air Preheater Pond (APH Pond, SWMU 021); and
- FGD Emergency Pond (E Pond, SWMU 020).

The SWDA is located to the north of the Plant Area. The APH and E Ponds are located at the southern portion of the Plant Area. The locations of the three CCR units are shown on Figure 1. The APH Pond (SWMU 021) is the subject of this Alternative Source Demonstration (ASD).

According to NRG, the APH Pond comprises an area of 1.2 acres and has a total storage capacity of 3.7 acre-feet. The APH Pond receives effluent from air preheater wash and boiler cleaning wash, which consists of fly ash or economizer ash particles and water.

On behalf of NRG, Environmental Resources Management, Inc. (ERM) conducted eight independent background groundwater detection monitoring events for both the Appendix III and IV CCR constituents between April 2015 and August 2017 per §257.94(b) and the first semiannual detection monitoring event in October 2017. Results of the eight background and first semiannual detection monitoring events were documented in the *Annual Groundwater Monitoring Report, APH Pond (Unit 021)* (ERM 2018a) and the March 1, 2018, *Groundwater Monitoring Report, APH Pond (SWMU Unit 021)* (ERM 2018b) pursuant to §257.90(e). ERM identified apparent SSIs above background in groundwater for the

APH Pond for the first semiannual detection monitoring event. TRC Environmental Corporation (TRC) evaluated the apparent SSI and completed a successful *Alternative Source Demonstration (ASD)* in July 2018. The ASD was placed into the facility's operating record (FOR) and was provided with the *2018 Annual Groundwater Monitoring and Corrective Action Report* (January 2019) for the Station.

The second semiannual detection monitoring event was conducted in May 2018. Laboratory analytical data were received by NRG in July 2018. Statistical evaluation was completed to identify SSIs pursuant to §257.93(f) and (g) in October 2018, and no SSIs were identified.

The third semiannual detection monitoring event was conducted in October 2018. Laboratory analytical data were received by NRG in December 2018. Statistical evaluation was completed in March 2019 to identify SSIs pursuant to §257.93(f) and (g) and the revised statistical method for the CCR units certified in July 2018. The statistical evaluation identified three potential SSIs (boron and chloride in upgradient monitoring well MW-39 and sulfate in downgradient monitoring well MW-63). TRC completed a successful ASD in September 2019. The ASD was placed into the FOR and will be provided with the *2019 Annual Groundwater Monitoring and Corrective Action Report* (January 2020) for the Station.

1.2 Purpose

The fourth semiannual detection monitoring event was conducted in April 2019. Statistical evaluation was completed in August 2019 to identify SSIs pursuant to 257.93(f) and (g) and the revised groundwater monitoring system and revised statistical method certified in July 2018. The statistical evaluation identified five potential SSIs (chloride in upgradient monitoring wells MW-39 and MW-40, field pH in downgradient well MW-41, and chloride and sulfate in downgradient monitoring well MW-63). On behalf of NRG, TRC prepared this ASD to evaluate apparent SSIs above background levels for the fourth semiannual detection monitoring event in accordance with §257.94(e).

1.3 Hydrogeology

According to the *Geologic Atlas of Texas, Houston Sheet* (BEG 1982), the site is underlain by alluvium and the Beaumont formation (also commonly referred to as Beaumont Clay). The alluvium is present along the Brazos River, which is located approximately 0.9 miles from the northern boundary of the SWDA CCR units. Both the alluvium and the Beaumont formation are composed of clay, silt, and sand; and may include stream channel, point-bar, natural levee, back swamp, coastal marsh and mud-flat deposits. The thickness of the Beaumont formation is approximately 100 feet. The alluvium is not present at the Plant Area which is consistent with this area being located outside of the Brazos River floodplain zone (FBC 2018).

The alluvium and Beaumont Formation are located within the upper unit of the Chicot aquifer system. At most locations throughout Fort Bend County, the Chicot aquifer system is under confined conditions

(TWDB 1990). The Chicot aquifer system is primarily recharged by precipitation at locations where it outcrops in Austin, Harris, and Waller Counties; groundwater then flows laterally within Fort Bend County (TWDB 1990). Site investigations performed by others on behalf of NRG also indicate that the uppermost groundwater-bearing units at the site are under confined conditions.

Site investigations conducted in May 2016 and November 2016 by ERM identified three main subsurface strata at the Station, which were designated as Stratum DA-1 through DA-3 at the SWDA and Stratum PA-1 through PA-3 at the Plant Area. The strata are fully described in the October 2017 *CCR Groundwater Monitoring Networks* report (ERM 2017b) and are summarized below.

1.3.1 Stratum DA-1 and Stratum PA-1 (Upper Confining Unit)

Stratum DA-1 and Stratum PA-1 are both predominately silty clay with some sandy clay, clay, and sandy silt. Stratum DA-1 is generally present from the ground surface to approximately 30 feet below ground surface (bgs), but this stratum ranges in thickness from 20 to 60 feet throughout the SWDA. Stratum PA-1 is present from the ground surface to depths ranging from 15 feet bgs to 32 feet bgs.

Stratum DA-1 and Stratum PA-1 both serve as confining units to underlying Stratum DA-2 and Stratum PA-2, respectively, which comprise the uppermost groundwater-bearing unit at the site. Geotechnical laboratory testing indicates that the hydraulic conductivity of Stratum DA-1 and Stratum PA-1 is 2.85E-08 centimeters per second (cm/sec) and 2.03E-08 cm/sec, respectively (ERM 2017b).

1.3.2 Stratum DA-2 and Stratum PA-2 (Upper Aquifer)

Stratum DA-2 consists of interbedded sand, silty sand, clayey sand, and clayey sandy silt with some gravelly sand. The clay content within Stratum DA-2 varies across the SWDA. Stratum PA-2 is predominantly silty sand with varying sand and silt content and trace clay. Stratum DA-2 and Stratum PA-2 are generally greater than 10 feet in thickness with bottom depths ranging from 60 to 80 feet bgs.

Both Stratum DA-2 and Stratum PA-2 are saturated and comprise the uppermost groundwater-bearing unit at the CCR units. CCR monitoring wells in the SWDA and Plant Area are completed within Stratum DA-2 and Stratum PA-2, respectively. Slug testing results for CCR monitoring wells indicate hydraulic conductivity ranges from 6.86E-04 cm/sec to 2.59E-02 cm/sec in Stratum DA-2; and from 6.68E-04 cm/sec to 4.26E-02 cm/sec in Stratum PA-2 (ERM 2017b). Groundwater primarily flows to the northeast towards the Brazos River beneath the SWDA; to the southwest beneath the E Pond, and to the southeast beneath the APH Pond.

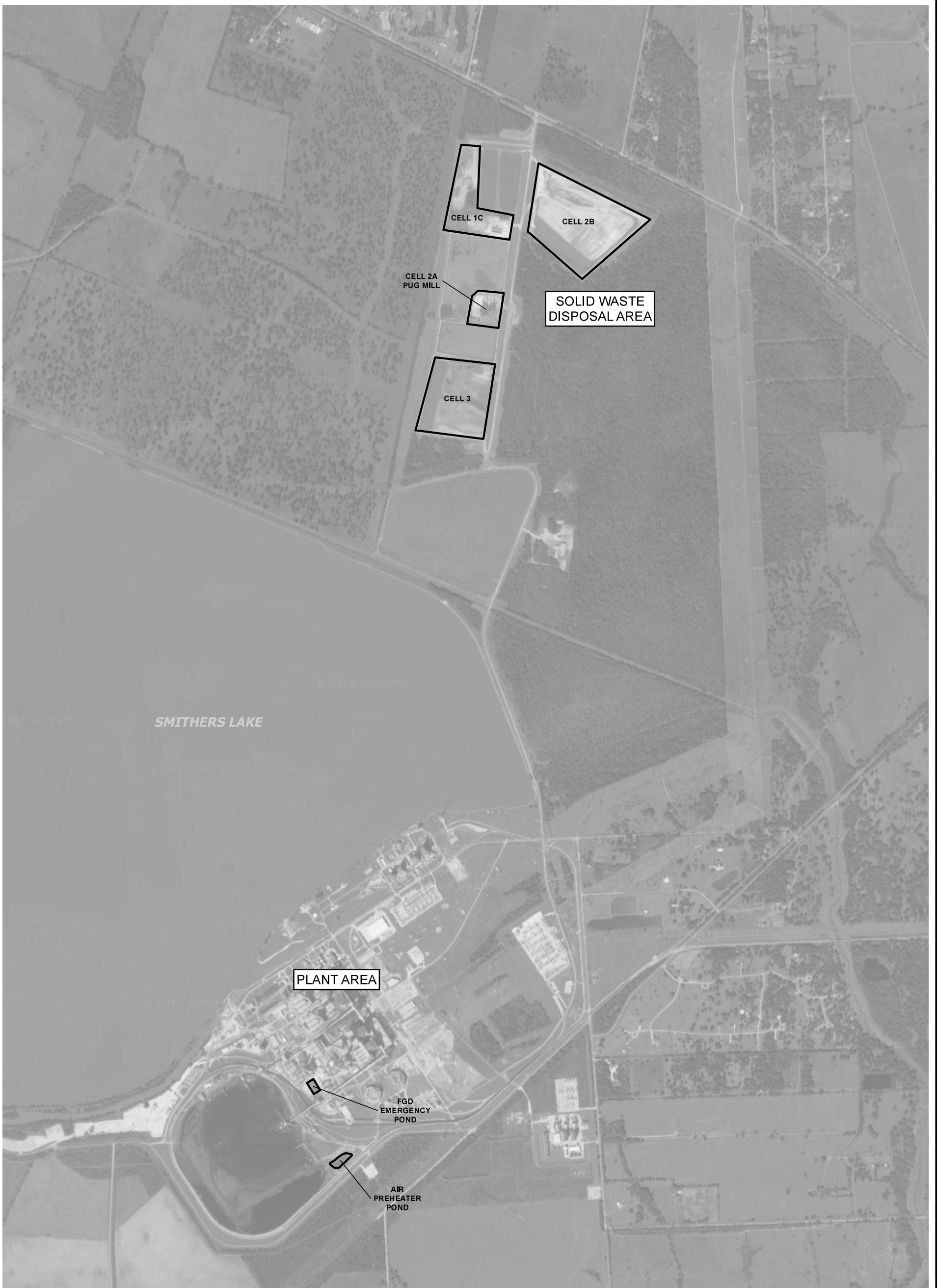
1.3.3 Stratum DA-3 and Stratum PA-3 (Lower Confining Unit)

Stratum DA-3 and Stratum PA-3 are both predominantly clay to silty clay. These strata appear to be bottom confining layers to the overlying groundwater-bearing units (Stratum DA-2 and Stratum PA-2). The thicknesses of Stratum DA-3 and Stratum PA-3 have not been defined.

1.3.4 Air Preheater Pond - Hydrogeology

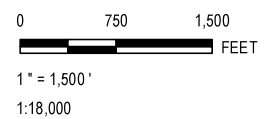
The certified CCR monitoring well network for the APH Pond consists of six groundwater monitoring wells (MW-39, MW-40, MW-41, MW-62, MW-63, and MW-64) completed into Stratum PA-2. A groundwater potentiometric surface map was prepared by TRC for the April 2019 detection monitoring event and is provided in this ASD as Figure 2. Historically, groundwater flows to the southeast beneath the APH Pond at a gradient ranging from approximately 0.002 feet per foot (ft/ft) to 0.006 ft/ft.

The groundwater monitoring system for the APH Pond was originally certified under 257.91(f) on October 17, 2017. The original certified CCR monitoring well network for the APH Pond designated one upgradient monitoring well (MW-62) and five downgradient monitoring wells (MW-39, MW-40, MW-41, MW-63, and MW-64). However, based on TRC's review of groundwater elevations measured during semiannual detection monitoring events and development of revised potentiometric surface maps for the four most recent detection monitoring events, two of the designated downgradient wells (MW-39 and MW-40) are located upgradient of the APH Pond as shown on the April 2019 groundwater potentiometric surface map. Therefore, it is appropriate to update the CCR monitoring well system for the APH Pond. The groundwater monitoring system consists of three upgradient monitoring wells (MW-39, MW-40, and MW-62) and three downgradient monitoring wells (MW-41, MW-63, and MW-64).



LEGEND

 UNIT BOUNDARY



AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).



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 Austin, TX 78752
 Phone: 512.329.6080
 www.trcsolutions.com

PROJECT:

**NRG TEXAS POWER, LLC
 W.A. PARISH STATION
 THOMPSONS, TEXAS**

TITLE:

SITE MAP

DRAWN BY:

MHORN

CHECKED BY:

JSPEER

APPROVED BY:

DATE:

JULY 2018

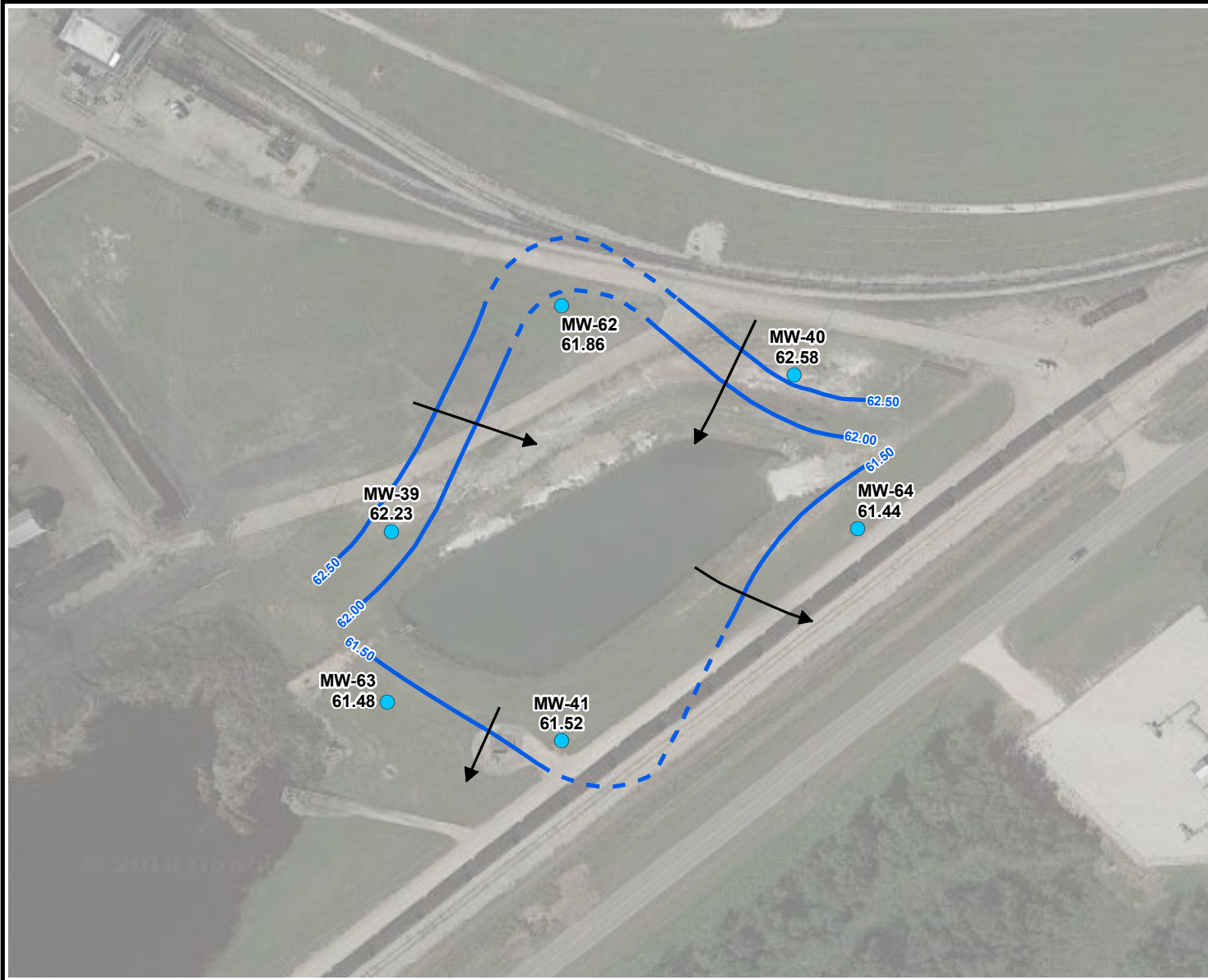
PROJ. NO.:

294645.0000.0000

FILE:

294645_1.mxd

FIGURE 1



LEGEND

- MONITORING WELL
- 62.58 GROUNDWATER ELEVATION (FT MSL)
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION -
- DASHED WHERE INFERRED (FT MSL)

NOTE:
GROUNDWATER ELEVATIONS MEASURED BY HMI ON APRIL 29TH, 2019.

AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).

0 150 300
FT

1" = 150'
1:1,800



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TRC - GIS

PROJECT:	NRG TEXAS POWER, LLC W.A. PARISH STATION THOMPSONS, TEXAS
TITLE:	AIR PREHEATER POND GROUNDWATER POTENTIOMETRIC SURFACE MAP APRIL 2019

DRAWN BY:	S. RAY
CHECKED BY:	
APPROVED BY:	
DATE:	OCTOBER 2019
PROJ. NO.:	294645.0000.0000
FILE:	294645.0001_2-5.mxd
FIGURE 2-5	

Section 2

Alternative Source Demonstration

The fourth semiannual detection monitoring event was conducted in April 2019. Laboratory analytical data were received by NRG in May 2019. Statistical evaluation to identify SSIs was completed pursuant to §257.93(f) and (g) and the revised statistical method for the CCR units in August 2019. The statistical evaluation identified five apparent SSIs, two of which are associated with upgradient monitoring wells, as provided in the table below. Section 2.0 evaluates alternative sources for the apparent SSIs as per §257.94(e)(2).

Statistical evaluation of the fourth semiannual detection monitoring event (comparison of downgradient monitoring results to 95 percent confidence/95 percent coverage upper tolerance limits of the background monitoring results) identified five apparent SSIs for the APH Pond, as shown on Table 1.

Table 1
SSIs – April 2019 Detection Monitoring Event

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
Chloride	MW-39 (UG)	NA	824	2019-04-29	1,710 JL	mg/L
Chloride	MW-40 (UG)	NA	824	2019-04-29	1,570 JL	mg/L
Chloride	MW-63 (DG)	NA	824	2019-04-29	973 JL	mg/L
Field pH	MW-41 (DG)	6.0	6.9	2019-04-29	7.36	S.U.
Sulfate	MW-63 (DG)	NA	449	2019-04-29	760 JL	mg/L

Two of the apparent SSIs (chloride) were identified for upgradient monitoring wells MW-39 and MW-40. The original eight background groundwater monitoring samples for the APH Pond were collected in a one-year period from July 2016 through July 2017. The time between sampling events was about 1.5 to 2 months. Because of the short amount of time that the original background water quality data set was collected, it appears likely that the background monitoring period was not fully representative of upgradient groundwater quality and natural variation in groundwater quality at the APH Pond.

Although the CCR rule establishes a minimum significance level for statistical tests ($\alpha = 0.01$ for individual comparisons) but no maximum significance level, the significance level (false positive error rate per test) typically used are $\alpha = 0.01$ or $\alpha = 0.05$ [Unified Guidance, Section 6.2]. However, because there is no underlying distribution for the field pH data set and nonparametric statistics were necessarily used, the actual confidence level is about 71 percent (significance of 0.29). This means that the false

positive error rate of the test is unreasonably high and a longer background sampling period and/or additional wells to evaluate background conditions are needed to differentiate between natural variations in groundwater quality and potential release to groundwater from the APH Pond.

Based on TRC's validation of the original background data provided by the analytical laboratory, TRC determined that there are unresolvable issues regarding data quality. These issues have brought into question the accuracy and quality of the data provided by the analytical laboratory to develop the original background water quality data set (see Technical Memos on Laboratory Quality Issues, dated 4-24-19 and Laboratory Change for CCR Sampling Events, dated 7-19-19). During the April 2019 sampling event, a groundwater sample from one well per CCR unit was split between two analytical laboratories to assess the ongoing issues with the analytical laboratory. For the APH Pond, MW-63 was selected for split sampling. The chloride (408 mg/L) and sulfate (352 mg/L) concentrations in the split sample were below their respective UTLs. This supports the line of reasoning and likelihood that laboratory analytical issues are an alternative source for the chloride and sulfate UTL exceedances.

As discussed in the third detection monitoring ASD (September 2019) for the APH Pond, NRG has concluded that the original background data set reflects persistent quality concerns, should not be relied upon for statistical analysis per the CCR Rule, and must be replaced. To develop a new background data set, eight quarterly samples will be collected over a two-year period for analysis for the Appendix III and IV CCR Rule constituents¹. The first new background groundwater samples were collected in July 2019.

During the timeframe of collecting the new background samples, the original background upper tolerance limits will continue to be used for statistical evaluation of the semiannual detection monitoring results. ASDs will continue to be prepared as needed for SSIs based on the original background data set until the new background has been developed.

¹ In addition to using a different analytical laboratory, the method for fluoride analysis was changed from Method 300.0 (ion chromatography) to Method 340.2 (ion selective electrode) and pH will be measured using two methods – a flow-through cell during purging and a non-flow-through meter at the initiation of sample collection.

Section 3

Conclusions

Statistical evaluation identified five apparent SSIs (chloride in upgradient monitoring wells MW-39 and MW-40, field pH in downgradient well MW-41, and chloride and sulfate in downgradient monitoring well MW-63). This ASD has identified the following lines of reasoning that support alternative sources for these five apparent SSIs:

- Two of the five apparent SSIs (chloride in MW-39 and MW-40) were identified in upgradient monitoring wells. Therefore, these two SSIs appear to be related to natural variations in background groundwater quality.
- Field pH in MW-41 did not meet the typically used minimum confidence level of 95 percent for identifying an SSI. Since there is no underlying distribution for the field pH data set and nonparametric statistics were necessarily used, the actual confidence level is about 71 percent. This means that the significance level is $\alpha = 0.29$, leading to a high level of false positive results. A longer background monitoring period and/or additional wells to evaluate background conditions are needed to differentiate between natural variations in groundwater quality and potential release to groundwater from the APH Pond.
- Chloride and sulfate were apparent SSIs for MW-63. A split groundwater sample was collected for MW-63 and analyzed by a separate, independent laboratory. Both the chloride and sulfate concentrations in the split sample were below their respective UTLs.

In addition, based on persistent, unresolvable data quality issues with the analytical laboratory, NRG has concluded that the original background water quality data set is not valid for use for statistical analysis under the CCR Rule. Therefore, NRG has concluded that the existing background data set for the APH Pond is unreliable and a new background data set will be developed. Until the new background data set has been developed, the existing background data set will continue to be used for statistical evaluation of the semiannual detection monitoring data.

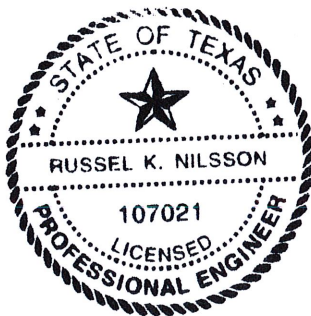
Therefore, based on the lines of reasoning presented in this ASD, alternative sources other than a release from the APH Pond have been shown to likely be responsible for each of the five apparent SSIs observed. Based on this successful ASD, NRG will continue detection monitoring for the APH Pond.

Section 4 Certification

I hereby certify that the alternative source demonstration presented within this document for the WA Parish Electric Generating Station E Pond has been prepared to meet the requirements of Title 40 CFR 257.94 (e) 2 of the Federal CCR Rule. This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR 257.94 (e) 2.

Name: 
R. KENT NILSSON
Company: TRC Environmental Corporation

Expiration Date: 9/30/2020
Date: 11/8/2019



Section 5

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Alternative Source Demonstration

W.A. Parish Electric Generating Station FGD Emergency Pond (SWMU 020)

November 2019

*Prepared For
NRG Texas Power, LLC
Thompsons, Texas*



R. Kent Nilsson, P.E.
Senior Engineer

11/8/2019

A handwritten signature in blue ink, appearing to read "Tony Dworaczyk".

Tony Dworaczyk, P. G.
Geologist/Project Manager

TRC Environmental Corporation | NRG Texas Power, LLC
Alternate Source Demonstration, W.A. Parish, FGD Emergency Pond (SWMU 020)

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Executive Summary

The NRG Texas Power, LLC (NRG) W.A. Parish Electric Generating Station (Station) is located in Thompsons, Fort Bend County, Texas. Units managing coal combustion residuals (CCR) at the Station are subject to the United States Environmental Protection Agency's (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA) Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (CCR Rule). CCR generated at the Station consist of fly ash, bottom ash, and flue gas desulfurization (FGD) scrubber sludge. The Station has three active CCR units that are managed pursuant to the CCR Rule, including the FGD Emergency Pond (E Pond, SWMU 020), which is the subject of this Alternate Source Demonstration (ASD).

The fourth groundwater detection monitoring event was conducted in April 2019. Laboratory analytical data were received by NRG on May 14, 2019. Statistical evaluation of the Appendix III detection monitoring parameters was completed on August 12, 2019 to identify apparent statistically significant increases (SSIs) above background pursuant to §257.93(f) and (g). The statistical evaluation identified apparent SSIs in monitoring wells at the E Pond. This ASD [prepared in accordance with 257.94(e)] successfully identified alternative sources for the potential SSIs. Therefore, detection monitoring will be continued for the E Pond.

As presented in the ASD for the third detection monitoring event, persistent, unresolvable issues with data quality have necessitated establishment of a new background water quality data set. This new background is being developed for both Appendix III and Appendix IV CCR constituents collected quarterly over a two-year period. The first new background event was conducted during the third quarter of 2019. The original background water quality data will continue to be used for statistical evaluation of the semiannual detection monitoring results (second, fourth, sixth, and eighth new quarterly monitoring events) until collection of the eight new background monitoring events have been completed and the new background data set has been established for statistical evaluation purposes.

Section 1

Introduction

1.1 Background

The NRG Texas Power, LLC (NRG) W.A. Parish Electric Generating Station (Station) is located in Thompsons, Fort Bend County, Texas, adjacent to Smithers Lake. The electricity-generating portion of the Station, or the main Plant Operations Area (Plant Area), is located along the southeastern shore of the lake.

Management of coal combustion residuals (CCR) at the Station is performed pursuant to the United States Environmental Protection Agency's (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA) Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (CCR Rule, effective date October 17, 2015) and the Phase 1, Part 1 final rule (July 30, 2018). CCR generated at the Station consist of fly ash, bottom ash, and flue gas desulfurization (FGD) scrubber sludge, which have been classified by the Texas Commission on Environmental Quality (TCEQ) as Class II Nonhazardous waste. The Station has the following three active CCR-management units:

- Solid Waste Disposal Area (SWDA) (SWMU 001), which consists of four active CCR-management cells: Cell 1C, Cell 2A-Pug Mill, Cell 2B, and Cell 3; and is now monitored as a single CCR Multiunit;
- Air Preheater Pond (APH Pond, SWMU 021); and
- FGD Emergency Pond (E Pond, SWMU 020).

The SWDA is located to the north of the Plant Area. The APH and E Ponds are located at the southern portion of the Plant Area. The locations of the three CCR units are shown on Figure 1. The E Pond (SWMU 020) is the subject of this Alternative Source Demonstration (ASD).

According to NRG, the E Pond comprises an area of approximately 0.5 acres and has dimensions of approximately 200 feet by 110 feet. The E pond receives storm water runoff from the FGD dewatering area and blowdown from the FGD system. The E Pond may also receive the contents of an FGD process vessel when the FGD system is not in operation.

On behalf of NRG, Environmental Resources Management, Inc. (ERM) conducted eight independent background groundwater detection monitoring events for both the Appendix III and IV CCR constituents between April 2015 and August 2017 per §257.94(b) and the first semiannual detection monitoring event in October 2017. Results of the eight background and first semiannual detection monitoring events were documented in the *Annual Groundwater Monitoring Report, FGD Emergency Pond (Unit 020)* (ERM 2018a) and the March 1, 2018, *Groundwater Monitoring Report, FGD Emergency Pond (SWMU Unit 020)* (ERM

2018b) pursuant to §257.90(e). ERM identified apparent SSIs above background in groundwater for the E Pond for the first semiannual detection monitoring event. TRC Environmental Corporation (TRC) evaluated the apparent SSIs and completed a successful *Alternative Source Demonstration (ASD)* in July 2018. The ASD was placed into the facility's operating record (FOR) and was provided with the *2018 Annual Groundwater Monitoring and Corrective Action Report* (January 2019) for the Station.

Based on field observations during the first detection monitoring that were provided in the ASD (July 2018), surficial CCR may have been inadvertently introduced into the wells and the laboratory analytical sample containers during the initial background and semiannual detection monitoring events. Therefore, the flush-mounted monitoring wells at the E Pond were modified before performing the second semiannual detection monitoring event by installing vertical well casing extensions and protective casings to minimize the potential for CCR on the ground surface to be inadvertently introduced into the wells. These well modifications were designed to reduce the potential for the inadvertent introduction of CCR into the wells during groundwater monitoring. Furthermore, additional care was taken during the second semiannual detection monitoring event to minimize the potential for CCR to be inadvertently introduced into the laboratory analytical sample containers during sample collection.

The second semiannual detection monitoring event was conducted in May 2018. Laboratory analytical data were received by NRG in July 2018. Statistical evaluation was completed in October 2018 to identify SSIs pursuant to §257.93(f) and (g) and the revised statistical method for the CCR units. The statistical evaluation identified 11 apparent SSIs in the three downgradient monitoring wells. Although, water quality in the downgradient monitoring wells improved for the second semiannual detection monitoring event, apparent SSIs continued to be observed. TRC completed a successful ASD in April 2019. The ASD was placed into the FOR and will be provided with the *2019 Annual Groundwater Monitoring and Corrective Action Report* (January 2020) for the Station.

The third semiannual detection monitoring event was conducted in October 2018. Laboratory analytical data were received by NRG in December 2018. Statistical evaluation was completed in March 2019 to identify SSIs pursuant to §257.93(f) and (g) and the revised statistical method for the CCR units. The statistical evaluation identified nine SSIs in the three downgradient monitoring wells. During the third semiannual detection monitoring event, field personnel observed the presence of silt in monitoring wells at the E Pond. TRC completed a successful ASD in September 2019. The ASD was placed into the FOR and will be provided with the *2019 Annual Groundwater Monitoring and Corrective Action Report* (January 2020) for the Station.

Based on the observation of silt in the wells during the third semiannual detection monitoring event, the wells were re-developed and accumulated silt was removed from the well casings prior to the collection

of groundwater samples during the fourth semiannual detection monitoring event that was conducted in April 2019, and which is the subject of this ASD.

1.2 Purpose

The fourth semiannual detection monitoring event was conducted in April 2019. Statistical evaluation was completed in August 2019 to identify SSIs pursuant to 257.93(f) and (g) and the revised groundwater monitoring system and revised statistical method certified in July 2018. The statistical evaluation identified 11 potential SSIs (boron in MW-37, MW-38, and MW-39; calcium in MW-38; chloride in MW-60 (upgradient), MW-37 and MW-38; sulfate in MW-61, and total dissolved solids in MW-37, MW-38, and MW-61). On behalf of NRG, TRC prepared this ASD to evaluate apparent SSIs above background levels for the fourth semiannual detection monitoring event in accordance with §257.94(e).

1.3 Hydrogeology

Based on the *Geologic Atlas of Texas, Houston Sheet* (BEG 1982), the Station is underlain by alluvium and the Beaumont formation (also commonly referred to as Beaumont Clay). The alluvium is present along the Brazos River, which is located approximately 0.9 miles from the northern boundary of the SWDA CCR units. Both the alluvium and the Beaumont formation are composed of clay, silt, and sand; and may include stream channel, point-bar, natural levee, back swamp, coastal marsh and mud-flat deposits. The thickness of the Beaumont formation is approximately 100 feet. The alluvium is not present at the Plant Area which is consistent with this area being located outside of the Brazos River floodplain zone (FBC 2018).

The alluvium and Beaumont Formation are located within the upper unit of the Chicot aquifer system. At most locations throughout Fort Bend County, the Chicot aquifer system is under confined conditions (TWDB 1990). The Chicot aquifer system is primarily recharged by precipitation at locations where it outcrops in Austin, Harris, and Waller Counties; groundwater then flows laterally within Fort Bend County (TWDB 1990). Site investigations performed by others on behalf of NRG also indicate that the uppermost groundwater-bearing units at the Site are under confined conditions (ERM, 2017).

Site investigations conducted in May 2016 and November 2016 identified three main subsurface strata at the Station, which were designated as Stratum DA-1 through DA-3 at the SWDA and Stratum PA-1 through PA-3 at the Plant Area. The strata are fully described in the October 2017 *CCR Groundwater Monitoring Networks* report (ERM 2017b) and are summarized below.

1.3.1 Stratum DA-1 and Stratum PA-1 (Upper Confining Unit)

Stratum DA-1 and Stratum PA-1 are both predominately silty clay with some sandy clay, clay, and sandy silt. Stratum DA-1 is generally present from the ground surface to approximately 30

feet below ground surface (bgs), but this stratum ranges in thickness from 20 to 60 feet throughout the SWDA. Stratum PA-1 is present from the ground surface to depths ranging from 15 feet bgs to 32 feet bgs.

Stratum DA-1 and Stratum PA-1 both serve as confining units to underlying Stratum DA-2 and Stratum PA-2, respectively, which comprise the uppermost groundwater-bearing unit at the site. Geotechnical laboratory testing indicates that the hydraulic conductivity of Stratum DA-1 and Stratum PA-1 is 2.85E-08 centimeters per second (cm/sec) and 2.03E-08 cm/sec, respectively (ERM 2017b).

1.3.2 Stratum DA-2 and Stratum PA-2 (Upper Aquifer)

Stratum DA-2 consists of interbedded sand, silty sand, clayey sand, and clayey sandy silt with some gravelly sand. The clay content within Stratum DA-2 varies across the SWDA. Stratum PA-2 is predominantly silty sand with varying sand and silt content and trace clay. Stratum DA-2 and Stratum PA-2 are generally greater than 10 feet in thickness with bottom depths ranging from 60 to 80 feet bgs.

Both Stratum DA-2 and Stratum PA-2 are saturated and comprise the uppermost groundwater-bearing unit at the CCR units. CCR monitoring wells in the SWDA and Plant Area are completed within Stratum DA-2 and Stratum PA-2, respectively. Slug testing results for CCR monitoring wells indicate hydraulic conductivity ranges from 6.86E-04 cm/sec to 2.59E-02 cm/sec in Stratum DA-2; and from 6.68E-04 cm/sec to 4.26E-02 cm/sec in Stratum PA-2 (ERM 2017b). Groundwater primarily flows to the northeast towards the Brazos River beneath the SWDA; to the southwest beneath the E Pond, and to the southeast beneath the APH Pond.

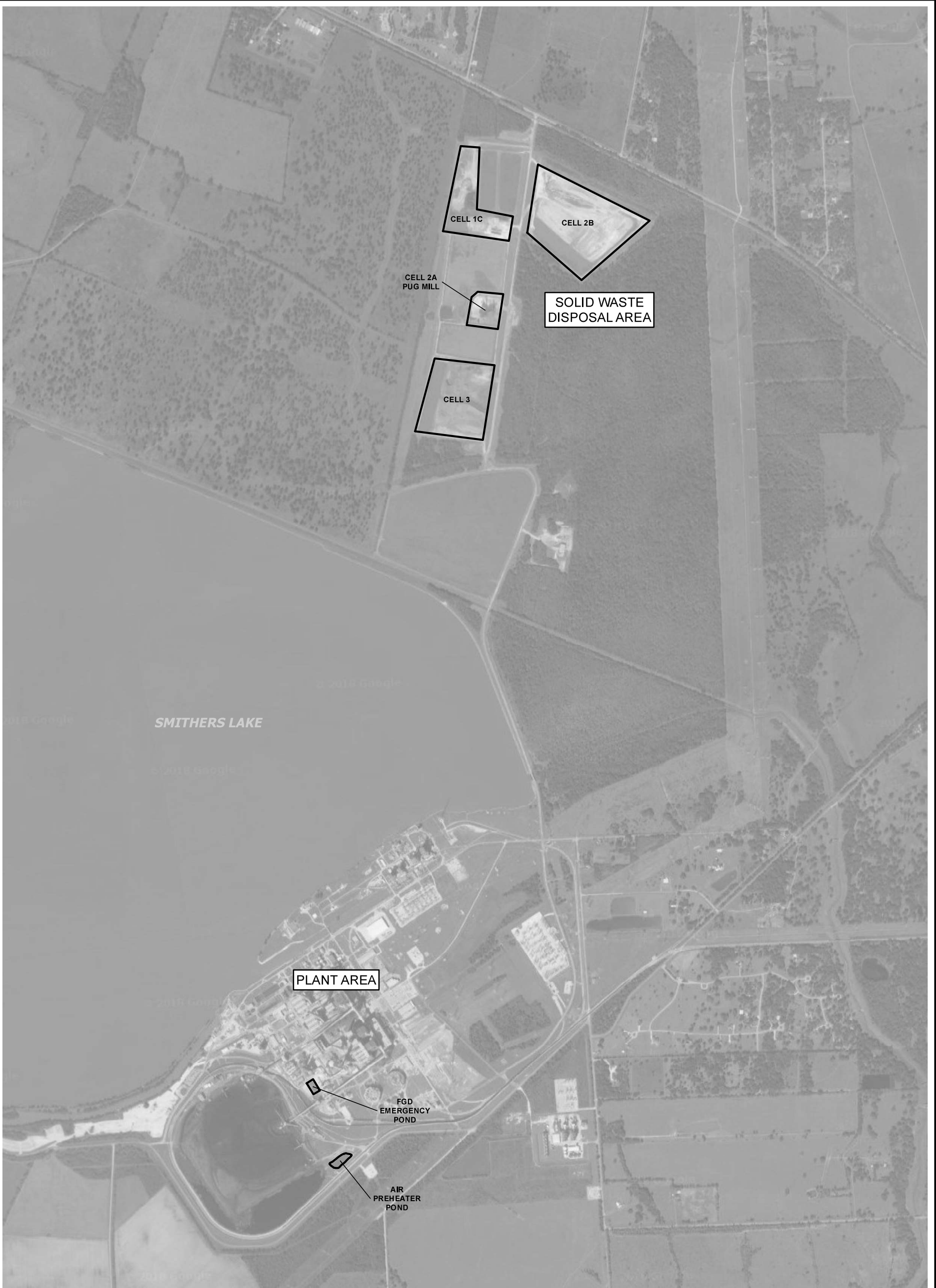
1.3.3 Stratum DA-3 and Stratum PA-3 (Lower Confining Unit)

Stratum DA-3 and Stratum PA-3 are both predominantly clay to silty clay. These strata appear to be bottom confining layers to the overlying groundwater-bearing units (Stratum DA-2 and Stratum PA-2). The thicknesses of Stratum DA-3 and Stratum PA-3 have not been defined.

1.3.4 E Pond – Hydrogeology

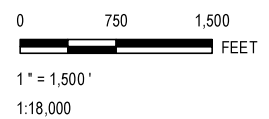
The certified CCR groundwater monitoring well network for the E Pond consists of five groundwater monitoring wells (MW-36, MW-37, MW-38, MW-60, and MW-61): two upgradient monitoring wells (MW-36 and MW-60) and three downgradient monitoring wells (MW-37, MW-38, and MW-61). The E Pond monitoring wells were completed into Stratum PA-2, the upper aquifer system at the Station. A groundwater potentiometric surface map was prepared by TRC for the April 2019 detection monitoring event and is provided in this ASD as Figure 2.

Historically, groundwater flows to the southwest beneath the E Pond at a gradient ranging from 0.010 feet per foot (ft/ft) to 0.030 ft/ft.



LEGEND

 UNIT BOUNDARY



AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).



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 Phone: 512.329.6080
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PROJECT:

**NRG TEXAS POWER, LLC
 W.A. PARISH STATION
 THOMPSONS, TEXAS**

TITLE:

SITE MAP

DRAWN BY:

MHORN

CHECKED BY:

JSPEER

APPROVED BY:

DATE:

JULY 2018

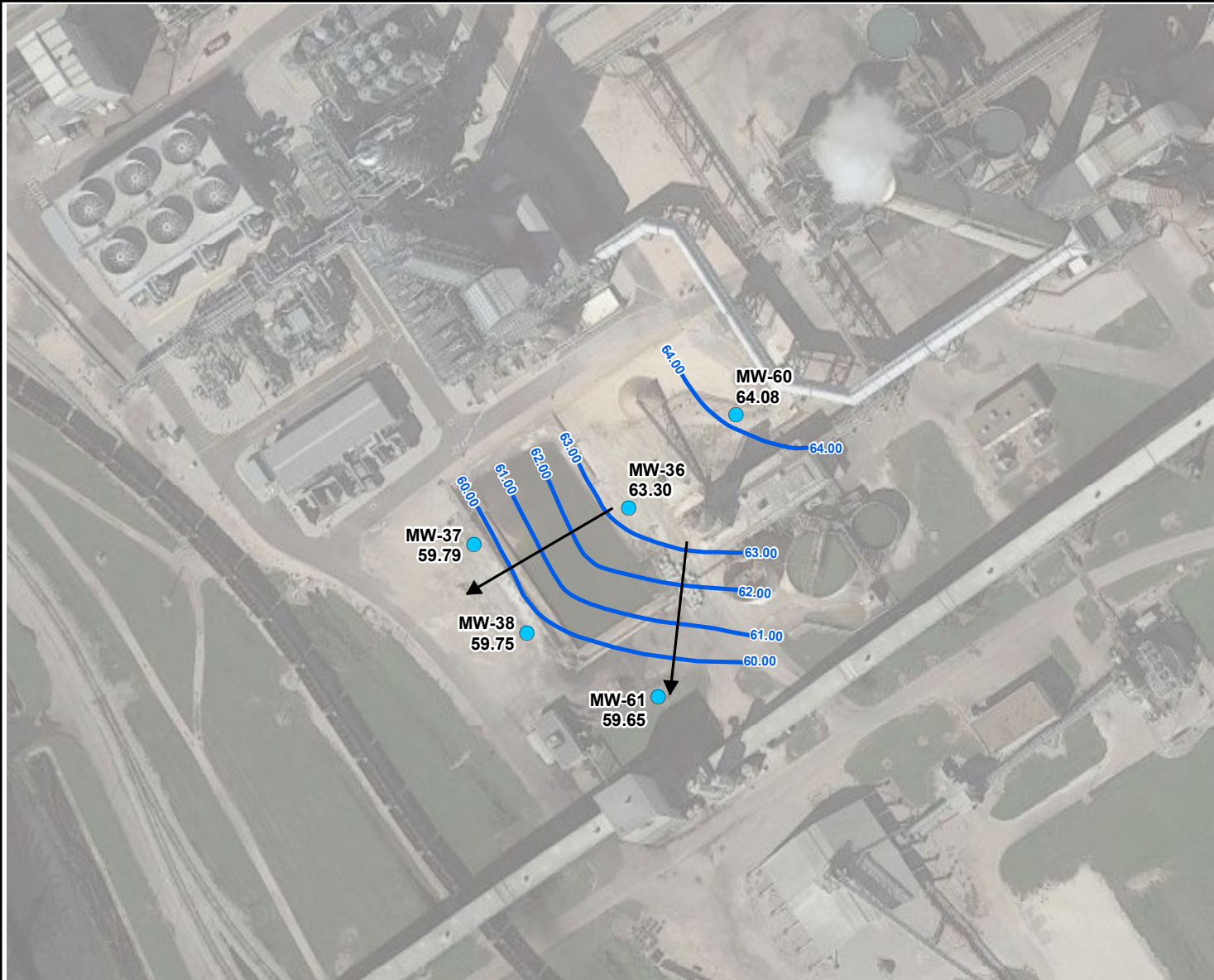
PROJ. NO.:

294645.0000.0000

FILE:

294645_1.mxd

FIGURE 1

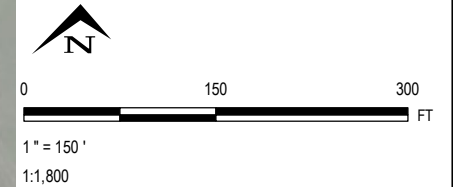


LEGEND

- MONITORING WELL
- ← GROUNDWATER FLOW DIRECTION
- 64.08 GROUNDWATER ELEVATION (FT MSL)
- GROUNDWATER ELEVATION CONTOUR - DASHED WHERE INFERRED (FT MSL)

NOTE:
GROUNDWATER ELEVATIONS MEASURED BY HMI ON APRIL 29TH, 2019.

AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).




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TRC - GIS

PROJECT: **NRG TEXAS POWER, LLC
W.A. PARISH STATION
THOMPSONS, TEXAS**

TITLE: **FGD EMERGENCY POND
GROUNDWATER POTENTIOMETRIC SURFACE MAP APRIL 2019**

DRAWN BY:	S. RAY
CHECKED BY:	
APPROVED BY:	
DATE:	OCTOBER 2019
PROJ. NO.:	294645.0000.0000
FILE:	294645.0001_2-6.mxd
FIGURE 2-6	

Section 2

Alternative Source Demonstration

The fourth semiannual detection monitoring event was conducted in April 2019. Laboratory analytical data were received by NRG in May 2019. Statistical evaluation to identify SSIs was completed pursuant to §257.93(f) and (g) and the revised statistical method for the CCR units in August 2019. The statistical evaluation identified 11 apparent SSIs as presented in the table below. Section 2.0 evaluates alternative sources for the apparent SSIs as per §257.94(e)(2).

Statistical evaluation of the fourth semiannual detection monitoring event (comparison of downgradient monitoring results to 95 percent confidence/95 percent coverage upper tolerance limits of the background monitoring results) identified 11 apparent SSIs for the E Pond, as shown on Table 1.

Table 1
SSIs – April 2019 Detection Monitoring Event

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
Boron	MW-37	N/A	0.160	4/30/2019	0.310	mg/L
Boron	MW-38	N/A	0.160	4/30/2019	2.01	mg/L
Boron	MW-61	N/A	0.160	4/30/2019	1.28	mg/L
Calcium	MW-38	N/A	301	4/30/2019	454	mg/L
Chloride	MW-60 (UG)	N/A	359	4/30/2019	781 JL	mg/L
Chloride	MW-37	N/A	359	4/30/2019	387 JL	mg/L
Chloride	MW-38	N/A	359	4/30/2019	661 JL	mg/L
Sulfate	MW-61	N/A	1,070	4/30/2019	1,690 JL	mg/L
TDS	MW-37	N/A	1,958	4/30/2019	1,990	mg/L
TDS	MW-38	N/A	1,958	4/30/2019	2,710	mg/L
TDS	MW-61	N/A	1,958	4/30/2019	2,090	mg/L

One of the apparent SSIs (chloride) was identified for upgradient monitoring well MW-60. The original eight background groundwater monitoring samples for the E Pond were collected in a one-year period from July 2016 through July 2017. The time between sampling events was about 1.5 to 2 months. Because of the short amount of time that the original background water quality data set was collected, it appears likely that the background monitoring period was not fully representative of upgradient

groundwater quality at the E Pond and is likely reflective of natural variation in upgradient groundwater quality at the E Pond.

Based on the presence of an upper confining layer (Stratum PA-1) that is present between the bottom of the E Pond and the underlying upper aquifer system (Stratum PA-2) and the observation of surficial CCR in the area of the monitoring wells, the following lines of reasoning appear to support the conclusion that the 11 potential SSIs observed above background levels are likely due to the inadvertent introduction of surficial CCR into the monitoring wells and/or groundwater samples during sample collection, and are not due to a release of CCR from the E Pond to the upper aquifer system:

- The bottom of the E Pond is separated from the upper aquifer system by a confining unit (Stratum PA-1) that hydraulically isolates the bottom of the E Pond from the upper aquifer system (Stratum PA-2). Available data indicate the upper aquifer system is under confined conditions and the confining unit (Stratum PA-1) acts as a vertical hydraulic barrier between the bottom of the E Pond and the upper aquifer system (Stratum PA-2), based on the following lines of reasoning:
 - Based on review of the boring logs for the groundwater monitoring wells installed at the E Pond, the upper clay confining unit (Stratum PA-1) was present at each monitoring well from the ground surface to depths ranging from 19 feet bgs to 32 feet bgs [i.e., thickness ranging from 19 feet to 32 feet; corresponding to elevations of about 53 to 49 feet above mean sea level (amsl)]. The bottom of the E Pond is located within Stratum PA-1 with the bottom of the clay liner at an elevation of about 60 feet amsl); therefore, Stratum PA-1 acts as a confining layer between the bottom of the E Pond and the underlying upper aquifer system (Stratum PA-2).
 - Based on geotechnical laboratory results for a soil sample collected from Stratum PA-1 at a depth of 10 feet bgs, Stratum PA-1 is a lean clay with a hydraulic conductivity of 2.03E-8 centimeters per second (ERM 2017b), which is consistent with an impervious lithologic unit that exceeds the required specifications per 40 CFR §257.71(a) for a compacted bottom clay liner for a CCR impoundment.
- The E Pond is located at an active power generating area at the Plant Area and non CCR-related and CCR-related materials are actively managed near the E Pond. For example, the FGD loadout pad immediately adjoins the E Pond. The presence of non CCR-related and CCR-related materials near the E pond monitoring wells may be a potential source for some or all of the SSIs identified in groundwater samples collected from wells located downgradient of the E Pond, as described further below. The E Pond monitoring wells were installed as flush-mounted wells, which may have enabled surface materials to incidentally enter the groundwater monitoring wells during sampling activities.

Prior to the fourth semiannual detection monitoring event, NRG modified the monitoring wells by installing casing extensions and protective casings to protect the wells from the accidental

introduction of CCR materials directly into groundwater samples during sample collection. The wells were then redeveloped prior to sampling.

In July 2019, equipment working in the vicinity of the E Pond inadvertently damaged MW-38. The well was replaced by new monitoring well MW-38R in August 2019, which was installed immediately adjacent to former MW-38. Following well development, groundwater samples were collected from the replacement monitoring well on August 5, 2019. Table 2 provides a comparison of the April 30, 2019, Appendix III analytical results for MW-38 and the August 5, 2019 analytical results for MW-38R. The August samples were analyzed by a different analytical laboratory and by the methods described below. While the results for two analytes remain higher than the UTLs, they indicate better water quality. These results indicate that technical issues with MW-38 were likely responsible for elevated concentrations of some Appendix III constituents in that well. It is likely that these monitoring well issues and other issues with materials present in the vicinity of the monitoring wells have allowed a pathway for constituents to reach the groundwater by a pathway other than migration directly from the E Pond.

**Table 2
Replacement Well Analytical Results**

ANALYTE	UTL	UNIT	MW-38 4/29/2019	MW-38R 8/5/2019
Boron	0.16	mg/L	2.01	0.359
Calcium	301	mg/L	454	323
Chloride	359	mg/L	661 JL	180
Fluoride	7	mg/L	0.817	0.52
Field pH	6.4 – 7.1	S.U.	6.79	6.83
Sulfate	1,070	mg/L	855 JL	775
Total Dissolved Solids	1,958	mg/L	2,710	1,870

Results above detection limits are bolded
 Results above the UTL are highlighted
 JL Estimated result with a low bias

Based on validation of the original background and semiannual detection monitoring events provided by the analytical laboratory, TRC determined that there are unresolvable issues regarding data quality. These issues have brought into question the accuracy and quality of the data provided by the analytical laboratory to develop the original background water quality data set (see Technical Memos on Laboratory Quality Issues, dated 4-24-19 and Laboratory Change for CCR Sampling Events, dated 7-19-19).

During the April 2019 fourth semiannual detection monitoring event, a groundwater sample from one well per CCR unit was split between two analytical laboratories to assess the ongoing issues with the analytical laboratory. For the E Pond, MW-37 was selected for split sampling. The split sample result for

chloride in MW-37 was 247 mg/L, which is not an SSI. However, the split sample result for TDS was the higher of the two values and is presented in Table 1 above. The TDS concentration at MW-37 reported by the original laboratory was 1,910 mg/L, which is not an SSI. While the TDS results between the two laboratories are relatively close and merely straddle the background UTL concentration, the chloride results are substantially different (a circumstance that was also observed for the other spilt samples). This provides support for the line of reasoning and likelihood that laboratory analytical issues are an alternative source for the chloride UTL exceedance.

As discussed in the third detection monitoring ASD (September 2019) for the E Pond, NRG has concluded that the original background water quality data set reflects persistent quality concerns, should not be relied upon for statistical analysis per the CCR Rule, and must be replaced. To develop a new background water quality data set, eight quarterly samples will be collected over a two-year period for analysis for the Appendix III and IV CCR Rule constituents¹. The first new background groundwater samples were collected in July 2019.

During the timeframe for collecting the new quarterly background groundwater samples, the original background upper tolerance limits will continue to be used for statistical evaluation of the semiannual detection monitoring results. ASDs will continue to be prepared as needed for SSIs based on the original background data set until the new background has been developed.

¹ In addition to using a different analytical laboratory, the method for fluoride analysis was changed from Method 300.0 (ion chromatography) to Method 340.2 (ion selective electrode) and pH will be measured using two methods – a flow-through cell during purging and a non-flow-through meter at the initiation of sample collection.

Section 3

Conclusions

Statistical evaluation identified 11 apparent SSIs, including one in an upgradient monitoring well. This ASD has identified the following lines of reasoning that support alternative sources for these apparent SSIs:

- The bottom of the E Pond clay liner is separated from the upper aquifer system by a confining unit that hydraulically isolates the bottom of the E Pond from the upper aquifer system. Improperly installed or damaged monitoring wells may have provided a conduit for CCR constituents to migrate into the upper aquifer system.
- The presence of CCR materials in the vicinity of the monitoring wells prior to their modification to include risers from the ground surface provided an opportunity for surface materials to inadvertently enter the wells directly from the ground surface.
- Water quality improved incrementally with each improvement to the CCR groundwater monitoring system. In July 2019, MW-38 was severely damaged by mobile plant equipment. MW-38 was abandoned and MW-38R was installed immediately adjacent to MW-38. August 2019 water quality analysis for MW-38R indicated significantly improved overall groundwater quality data.

In addition, based on persistent, unresolvable data quality issues with the analytical laboratory, NRG has concluded that the original background water quality data set is not valid for use for statistical analysis under the CCR Rule. Therefore, NRG has concluded that the existing background data set for the E Pond is unreliable and a new background data set will be developed. Until the new background data set has been developed, the existing background data set will continue to be used for statistical evaluation of the semiannual detection monitoring data.

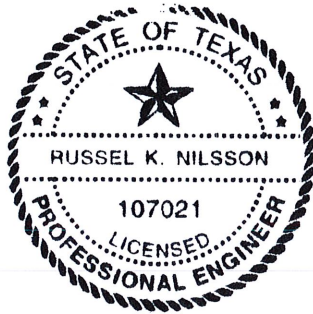
Therefore, based on the lines of reasoning presented in this ASD, alternative sources other than a release from the E Pond have been shown to likely be responsible for each of the 11 apparent SSIs observed. Based on this successful ASD, NRG will continue detection monitoring for the E Pond.

Section 4 Certification

I hereby certify that the alternative source demonstration presented within this document for the WA Parish Electric Generating Station E Pond has been prepared to meet the requirements of Title 40 CFR 257.94 (e) 2 of the Federal CCR Rule. This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR 257.94 (e) 2.

Name: 
R. KENT NILSSON
Company: TRC Environmental Corporation

Expiration Date: 9/30/2020
Date: 11/8/2019



Section 5

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Alternative Source Demonstration

W.A. Parish Electric Generating Station Solid Waste Disposal Area (SWMU 001) CCR Multiunit

November 2019


*Prepared For
NRG Texas Power, LLC
Thompsons, Texas*





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11/8/2019



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Senior Project Manager

TRC Environmental Corporation | NRG Texas Power, LLC
Alternate Source Demonstration, W.A. Parish, Solid Waste Disposal Area (SWMU 001)

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Executive Summary

The NRG Texas Power, LLC (NRG) W.A. Parish Electric Generating Station (Station) is located in Thompsons, Fort Bend County, Texas. Units managing coal combustion residuals (CCR) at the Station are subject to the United States Environmental Protection Agency's (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA) Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (CCR Rule). CCR generated at the Station consist of fly ash, bottom ash, and flue gas desulfurization (FGD) scrubber sludge. The Station has three active CCR units that are managed pursuant to the CCR Rule, including the Solid Waste Disposal Area (SWDA) multiunit, which is the subject of this Alternate Source Demonstration (ASD).

The fourth groundwater detection monitoring event was conducted in April 2019. Laboratory analytical data were received by NRG on May 14, 2019. Statistical evaluation of the Appendix III detection monitoring parameters was completed on August 12, 2019, to identify apparent statistically significant increases (SSIs) above background pursuant to §257.93(f) and (g). The statistical evaluation identified one apparent SSI in an upgradient monitoring well at the SWDA. This ASD [prepared in accordance with 257.94(e)] successfully identified alternative sources for the potential SSI. Therefore, detection monitoring will be continued for the SWDA multiunit.

As presented in the ASD for the third detection monitoring event, persistent, unresolvable issues with data quality have necessitated establishment of a new background water quality data set. This new background is being developed for both Appendix III and Appendix IV CCR constituents collected quarterly over a two-year period. The first new background event was conducted during the third quarter of 2019. The original background water quality data will continue to be used for statistical evaluation of the semiannual detection monitoring results (second, fourth, sixth, and eighth new quarterly monitoring events) until collection of the eight new background monitoring events have been completed and a new background data set has been established for statistical evaluation purposes.

Section 1

Introduction

1.1 Background

The NRG Texas Power, LLC (NRG) W.A. Parish Electric Generating Station (Station) is located in Thompsons, Fort Bend County, Texas, adjacent to Smithers Lake. The electricity generating portion of the Station, or the main Plant Operations Area (Plant Area), is located along the southeastern shore of the lake.

Management of coal combustion residuals (CCR) at the Station is performed pursuant to the United States Environmental Protection Agency's (USEPA) final rule for the regulation and management of CCR under the Resource Conservation and Recovery Act (RCRA) Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (CCR Rule, effective date October 17, 2015) and the Phase 1, Part 1 final rule (July 30, 2018). CCR generated at the Station consist of fly ash, bottom ash, and flue gas desulfurization (FGD) scrubber sludge, which have been classified by the Texas Commission on Environmental Quality (TCEQ) as Class II Nonhazardous waste. The Station has the following three active CCR-management units:

- SWDA (SWMU 001), which consists of four active CCR-management cells Cell 1C, Cell 2A-Pug Mill, Cell 2B, and Cell 3; and is now monitored as a single CCR multiunit;
- Air Preheater Pond (APH Pond, SWMU 021); and
- FGD Emergency Pond (E Pond, SWMU 020).

The SWDA is located to the north of the Plant Area and the APH and E Ponds are located at the southern portion of the Plant Area. The locations of the three CCR units are shown on Figure 1. The SWDA multiunit is the subject of this Alternative Source Demonstration (ASD).

CCR-management activities at the SWDA are generally described as follows:

- Cell 1C – Receives nonmarketable CCR trucked from the plant;
- Cell 2B – Receives marketable CCR trucked from the plant;
- Cell 3 – Receives CCR bottom ash trucked from the plant; and
- Cell 2A-Pug Mill – Pug mill located at a small active portion of closed Cell 2A.

NRG initially managed these four active CCR-management cells under the CCR Rule as four individual CCR units, as reflected in the initial certifications by a Texas professional engineer (P.E.) of the four individual groundwater monitoring systems (October 17, 2017) and as reflected in the *Annual Groundwater Monitoring Report* (ERM, January 30, 2018) and the four individual *CCR Groundwater Monitoring Reports* (ERM, March 1, 2018). Following completion of the first semiannual detection monitoring ASD in July

2018, the four active CCR management cells were combined into a single CCR multiunit for subsequent groundwater monitoring and statistical evaluation pursuant to §257.91(d). The groundwater monitoring network and statistical methods certifications were revised during July 2018 and certified by a Texas P.E.

On behalf of NRG, Environmental Resources Management, Inc. (ERM) conducted eight independent background groundwater detection monitoring events for both the Appendix III and IV CCR constituents between April 2015 and August 2017 per §257.94(b) and the first semiannual detection monitoring event in October 2017. Results of the eight background and first semiannual detection monitoring events were documented in the *Annual Groundwater Monitoring and Corrective Action Reports* (January 30, 2018) for the individual CCR landfill units (Cell 1C, Cell 2B, Cell 3, and the Pug Mill) and the *CCR Groundwater Monitoring Reports* (March 1, 2018) for the individual CCR landfill units pursuant to §257.90(e). ERM identified apparent SSIs above background in groundwater for the individual cells of the SWDA for the first semiannual detection monitoring event. TRC Environmental Corporation (TRC) evaluated the apparent SSIs and completed a successful Alternative Source Demonstration (ASD) in July 2018. The ASD was placed into the facility's operating record (FOR) and was provided with the *2018 Annual Groundwater Monitoring and Corrective Action Report* (January 2019) for the Station.

The second semiannual detection monitoring event was conducted in May 2018. Laboratory analytical data were received by NRG in July 2018. Statistical evaluation was completed in October 2018 to identify SSIs pursuant to §257.93(f) and (g) and the revised statistical method for the CCR units. The statistical evaluation again identified two apparent SSIs in two monitoring wells. TRC completed a successful ASD in April 2019. The ASD was placed into the FOR and will be provided with the *2019 Annual Groundwater monitoring and Corrective Action Report* (January 2020) for the Station.

The third semiannual detection monitoring event was conducted in October 2018. Laboratory analytical data were received by NRG in December 2018. Statistical evaluation was completed in March 2019 to identify SSIs pursuant to §257.93(f) and (g) and the revised statistical method for the CCR unit in July 2018. The statistical evaluation identified seven potential SSIs, three of which were identified in upgradient wells. TRC completed a successful ASD in September 2019. The ASD was placed into the FOR and will be provided with the *2019 Annual Groundwater Monitoring and Corrective Action Report* (January 2020) for the Station.

Two of the downgradient monitoring wells (MW-46 and MW-55) had consistent or intermittent high pH values measured during groundwater monitoring events. The measurements were consistent with grout potentially being present at the screened intervals for both monitoring wells. Therefore, both wells were replaced. Replacement wells (MW-46R and MW-55R) were installed and developed in March 2019 prior to the April 2019 fourth detection monitoring sampling event. Subsequent pH readings for both replacement wells have been consistent with background water quality.

1.2 Purpose

The fourth semiannual detection monitoring event was conducted in April 2019. Statistical evaluation was completed in August 2019 to identify SSIs pursuant to §257.93(f) and (g) and the revised groundwater monitoring system and revised statistical method certified in July 2018. The statistical evaluation identified one potential SSI in an upgradient well. On behalf of NRG, TRC prepared this ASD to evaluate the apparent SSI above background for the fourth semiannual detection monitoring event in accordance with §257.94(e).

1.3 Hydrogeology

Based on the *Geologic Atlas of Texas, Houston Sheet* (BEG 1982), the Station is underlain by alluvium and the Beaumont formation (also commonly referred to as Beaumont Clay). The alluvium is present along the Brazos River, which is located approximately 0.9 miles from the northern boundary of the SWDA CCR units. Both the alluvium and the Beaumont formation are composed of clay, silt, and sand; and may include stream channel, point-bar, natural levee, back swamp, coastal marsh and mud-flat deposits. The thickness of the Beaumont formation is approximately 100 feet. The alluvium is not present at the Plant Area which is consistent with this area being located outside of the Brazos River floodplain zone (FBC 2018).

The alluvium and Beaumont Formation are located within the upper unit of the Chicot aquifer system. At most locations throughout Fort Bend County, the Chicot aquifer system is under confined conditions (TWDB 1990). The Chicot aquifer system is primarily recharged by precipitation at locations where it outcrops in Austin, Harris, and Waller Counties; groundwater then flows laterally within Fort Bend County (TWDB 1990). Site investigations performed by others on behalf of NRG also indicate that the uppermost groundwater-bearing units at the Station are under confined conditions.

Site investigations conducted in May 2016 and November 2016 identified three main subsurface strata at the Station, which were designated as Stratum DA-1 through DA-3 at the SWDA and Stratum PA-1 through PA-3 at the Plant Area. The strata are fully described in the October 2017 *CCR Groundwater Monitoring Networks* report (ERM 2017b) and are summarized below.

1.3.1 Stratum DA-1 and Stratum PA-1 (Upper Confining Unit)

Stratum DA-1 and Stratum PA-1 are both predominately silty clay with some sandy clay, clay, and sandy silt. Stratum DA-1 is generally present from the ground surface to approximately 30 feet below ground surface (bgs), but this stratum ranges in thickness from 20 to 60 feet throughout the SWDA. Stratum PA-1 is present from the ground surface to depths ranging from 15 feet bgs to 32 feet bgs.

Stratum DA-1 and Stratum PA-1 both serve as confining units to underlying Stratum DA-2 and Stratum PA-2, respectively, which comprise the uppermost groundwater-bearing unit at the

Station. Geotechnical laboratory testing indicates that the hydraulic conductivity of Stratum DA-1 and Stratum PA-1 is 2.85E-08 centimeters per second (cm/sec) and 2.03E-08 cm/sec, respectively (ERM 2017b).

1.3.2 Stratum DA-2 and Stratum PA-2 (Upper Aquifer System)

Stratum DA-2 consists of interbedded sand, silty sand, clayey sand, and clayey sandy silt with some gravelly sand. The clay content within Stratum DA-2 varies across the SWDA. Stratum PA-2 is predominantly silty sand with varying sand and silt content and trace clay. Stratum DA-2 and Stratum PA-2 are generally greater than 10 feet in thickness with bottom depths ranging from 60 to 80 feet bgs.

Both Stratum DA-2 and Stratum PA-2 are saturated and comprise the upper aquifer system at the CCR units. CCR monitoring wells in the SWDA and Plant Area are completed within Stratum DA-2 and Stratum PA-2, respectively. Slug testing results for CCR monitoring wells indicate hydraulic conductivity ranges from 6.86E-04 cm/sec to 2.59E-02 cm/sec in Stratum DA-2; and from 6.68E-04 cm/sec to 4.26E-02 cm/sec in Stratum PA-2 (ERM 2017b). Groundwater primarily flows to the northeast towards the Brazos River beneath the SWDA; to the southwest beneath the E Pond, and to the southeast beneath the APH Pond.

1.3.3 Stratum DA-3 and Stratum PA-3 (Lower Confining Unit)

Stratum DA-3 and Stratum PA-3 are both predominantly clay to silty clay. These strata appear to be bottom confining layers to the overlying groundwater-bearing units (Stratum DA-2 and Stratum PA-2). The thicknesses of Stratum DA-3 and Stratum PA-3 have not been defined.

1.3.4 Solid Waste Disposal Area – Hydrogeology

Four separate groundwater monitoring well systems were initially developed in 2016 for each of the four active CCR-management cells, which were certified by a Texas P.E. under 257.91(f) on October 17, 2017. The monitoring wells were completed into Stratum DA-2, the upper aquifer system at the Station.

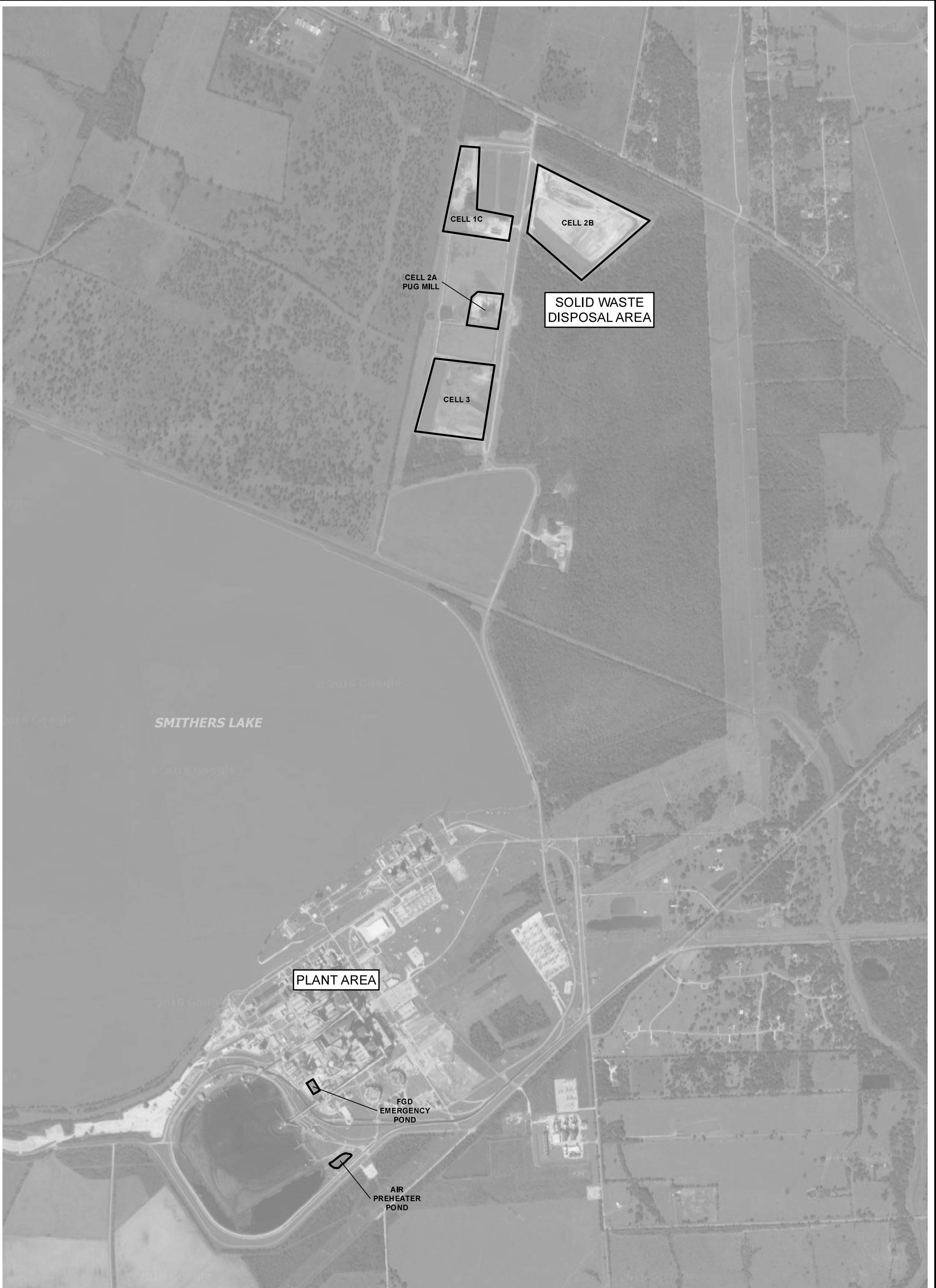
Following successful completion of the first semiannual detection monitoring ASD in July 2018, the four individual CCR-management units were combined into a single CCR multiunit. A revised groundwater monitoring system and revised statistical method were developed and certified by a Texas P.E. for the SWDA CCR multiunit. The monitoring wells comprising the revised groundwater monitoring system is summarized in Table 1.

A groundwater potentiometric surface map for was prepared by TRC for the April 2019 semiannual detection monitoring event and is provided in this ASD as Figure 2. Historically,

groundwater flows primarily to the northeast beneath the SWDA CCR multiunit at a gradient ranging from 0.0007 foot per foot (ft/ft) to 0.003 ft/ft.

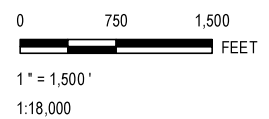
Table 1
Groundwater Monitoring System for SWDA CCR-Multiunit

UPGRADIENT WELLS	DOWNGRADIENT WELLS
MW-23, MW-28D, MW-42, MW-43, MW-47, and MW-48	MW-44, MW-46R, MW-50, MW-52, MW-54, MW-55R, MW-58, and MW-65



LEGEND

 UNIT BOUNDARY



AERIAL IMAGE SOURCE: GOOGLE EARTH AND THEIR DATA PARTNERS (10/28/2017).



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 www.trcsolutions.com

PROJECT:

**NRG TEXAS POWER, LLC
 W.A. PARISH STATION
 THOMPSONS, TEXAS**

TITLE:

SITE MAP

DRAWN BY:

MHORN

CHECKED BY:

JSPEER

APPROVED BY:

DATE:

JULY 2018

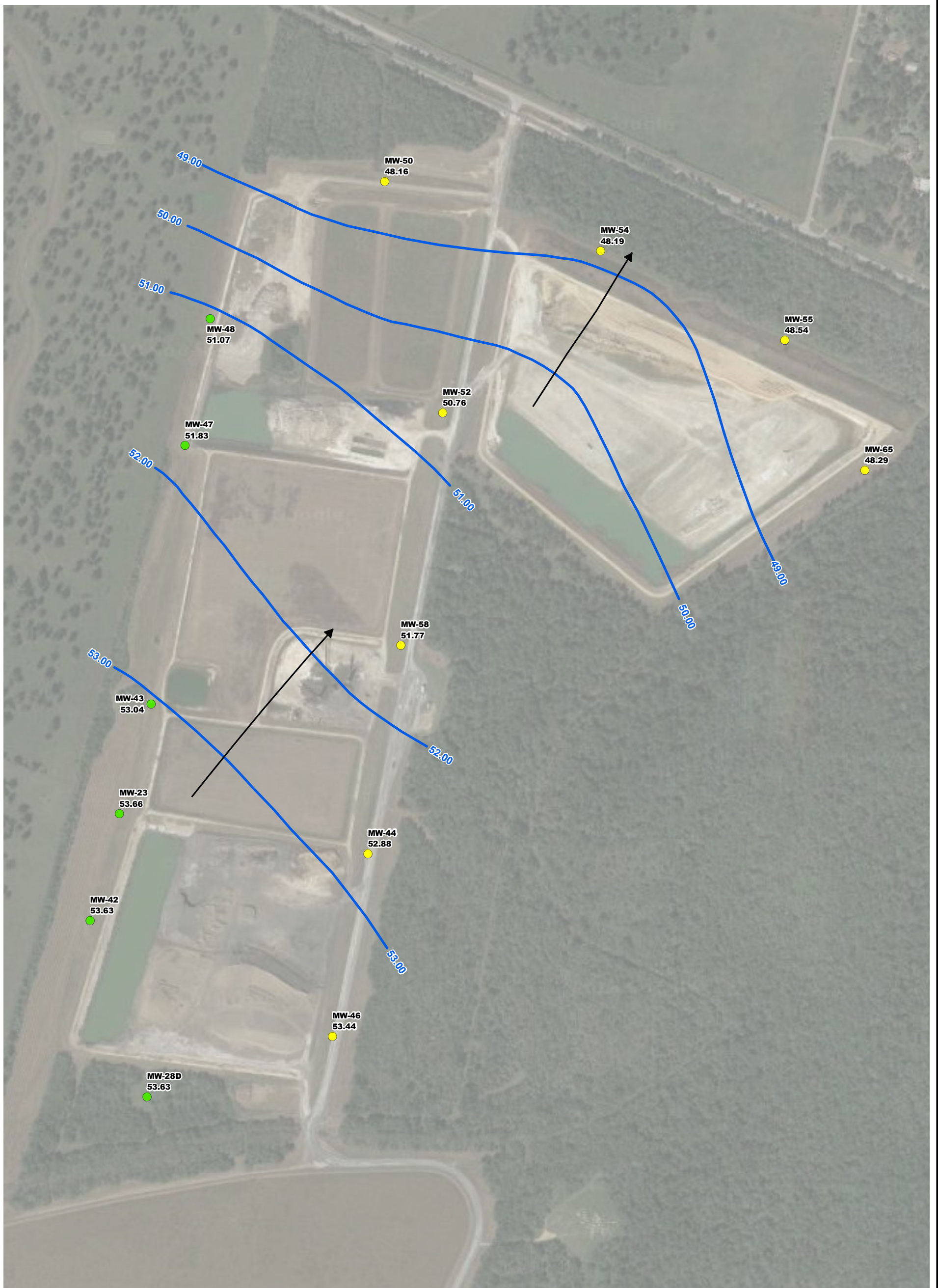
PROJ. NO.:

294645.0000.0000

FILE:

294645_1.mxd

FIGURE 1

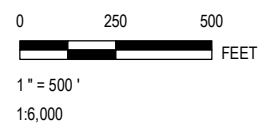


LEGEND

- MULTIUNIT DOWNGRADE MONITORING WELL
- MULTIUNIT UPGRADIENT MONITORING WELL

- GROUNDWATER ELEVATION CONTOUR - DASHED WHERE INFERRED (FT MSL)
- ← GROUNDWATER FLOW DIRECTION

NOTE: GROUNDWATER ELEVATIONS MEASURED BY HMI ON APRIL 29TH, 2019.



53.63 GROUNDWATER ELEVATION (FT MSL)

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PROJECT:	NRG TEXAS POWER, LLC W.A. PARISH STATION THOMPSONS, TEXAS
TITLE:	SOLID WASTE DISPOSAL AREA GROUNDWATER POTENTIOMETRIC SURFACE MAP APRIL 2019

DRAWN BY:	S.RAY
CHECKED BY:	
APPROVED BY:	
DATE:	OCTOBER 2019
PROJ. NO.:	294645.0001.0000
FILE:	294645.0001_2-4.mxd
FIGURE 2-4	

Section 2

Alternative Source Demonstration

The fourth semiannual detection monitoring event was conducted in April 2019. Laboratory analytical data were received by NRG in May 2019. Statistical evaluation to identify SSIs was completed pursuant to §257.93(f) and (g) and the revised statistical method for the CCR units in August 2019. The statistical evaluation identified one apparent SSI (sulfate in upgradient monitoring well MW-42). Section 2.0 evaluates alternative sources for the apparent SSI as per §257.94(e)(2).

Statistical evaluation of the fourth semiannual detection monitoring event (comparison of downgradient monitoring result to 95 percent confidence/95 percent coverage upper tolerance limits of the background monitoring results) identified one potential SSI for the SWDA multiunit. The concentration of sulfate reported by the analytical laboratory for upgradient monitoring well MW-42 was 1,320 JL milligrams per Liter (mg/L) compared to its upper tolerance limit (UTL) of 1,220 mg/L.

The apparent SSI was identified for upgradient monitoring well MW-42. The original eight background samples for the SWDA CCR cells were collected in a one-year period from July 2016 through July 2017. The time between sampling events was about 1.5 to 2 months. Because of the short amount of time that the original background water quality data set was collected, it appears likely that the background time period was not fully representative of upgradient groundwater quality at the SWDA.

Based on TRC's validation of semiannual detection monitoring water quality data provided by the analytical laboratory, TRC has determined that there are unresolvable issues regarding data quality. These issues have brought into question the accuracy and quality of the data provided by the analytical laboratory to develop the original background data set (see Technical Memos on Laboratory Quality Issues, dated 4-24-19 and Laboratory Change for CCR Sampling Events, dated 7-19-19).

During the April 2019 fourth semiannual detection monitoring sampling event, a groundwater sample from one well per CCR unit was split between two analytical laboratories to assess ongoing issues with the analytical laboratory. For the SWDA, MW-42 was selected for split sampling. The split sample result for sulfate in MW-42 was 519 mg/L, which is less than its UTL and not an SSI. This result supports the line of reasoning and likelihood that laboratory analytical issues are an alternative source for the sulfate UTL exceedance originally measured.

As discussed in the third detection monitoring ASD (September 2019) for the SWDA, NRG has concluded that the original background water quality data set reflects persistent quality concerns, should not be relied upon for statistical analysis per the CCR Rule, and must be replaced. To develop a new background water quality data set, eight quarterly samples will be collected over a two-year period for

analysis for the Appendix III and IV CCR Rule constituents¹. The first new background groundwater samples were collected in July 2019.

During the timeframe of collecting the new background samples, the original background upper tolerance limits will continue to be used for statistical evaluation of the semiannual detection monitoring results. ASDs will continue to be prepared as needed for SSIs based on the original background data set until the new background has been developed.

¹ In addition to using a different analytical laboratory, the method for fluoride analysis was changed from Method 300.0 (ion chromatography) to Method 340.2 (ion selective electrode) and pH will be measured using two methods – a flow-through cell during purging and a non-flow-through meter at the initiation of sample collection.

Section 3

Conclusions

Statistical evaluation identified one apparent SSI (sulfate in upgradient monitoring well MW-42). This ASD has identified the following lines of reasoning that support alternative sources for this apparent SSI:

- The apparent SSI was identified in an upgradient monitoring well. Therefore, this SSI appears to be related to natural variations in background groundwater quality.
- During the fourth semiannual detection monitoring sampling event, the sample from MW-42 was split and analyzed by two separate analytical laboratories. The split sample from the second laboratory was below the UTL, indicating that sulfate is not an SSI.

In addition, based on persistent, unresolvable data quality issues with the analytical laboratory, NRG has concluded that the original background water quality data set is not valid for use for statistical analysis under the CCR Rule. Therefore, NRG has concluded that the existing background data set for the SWDA is unreliable and a new background data set will be developed. Until the new background data set has been developed, the existing background data set will continue to be used for statistical evaluation of the semiannual detection monitoring data.

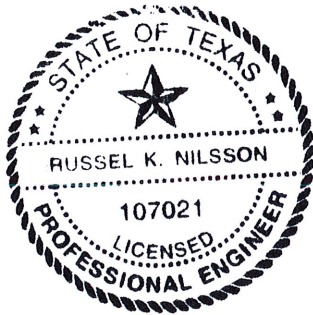
Therefore, based on the lines of reasoning presented in this ASD, alternative sources other than a release from the SWDA have been shown to likely be responsible for the apparent SSI observed. Based on this successful ASD, NRG will continue detection monitoring for the SWDA multiunit.

Section 4 Certification

I hereby certify that the alternative source demonstration presented within this document for the WA Parish Electric Generating Station SWDA CCR multiunit has been prepared to meet the requirements of Title 40 CFR 257.94 (e) 2 of the Federal CCR Rule. This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR 257.94 (e) 2.

Name: 
R. KENT NILSSON
Company: TRC Environmental Corporation

Expiration Date: 9/30/2020
Date: 11/8/2019



Section 5

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