



2019 Annual Groundwater Monitoring and Corrective Action Report

Limestone Electric Generating Station, Jewett, Texas

Secondary E Pond Unit (Unit 003)

Landfill Unit (Unit 004)

January 31, 2020

*Prepared For
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2019 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 Secondary E Pond (Unit 003) and the Landfill (Unit 004) CCR units located at the Limestone 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 apparent groundwater velocity 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 first half (May 2018) and second half (October 2018) and the first half (April 2019) semiannual detection monitoring events. Based on completion and certification by a qualified Texas professional engineer (P.E.) of the written ASDs for both CCR units, the Secondary E Pond and the Landfill 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 Secondary E Pond (Unit 003) and the Landfill (Unit 004) CCR units at the Limestone 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 the *2019 Groundwater Monitoring and Corrective Action Report (Annual Report)* for the Secondary E Pond and the Landfill 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 northwest of Jewett, near the borders of Limestone, Freestone, and Leon Counties, Texas (see Figure 1-1). The Station is bisected by Farm-to-Market Road 39 (FM39) with the electricity generating portion of the Station located to the west of FM39 in Limestone County and a solid waste disposal area (SWDA) and CCR impoundment area located to the east of FM39 in Freestone County. 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 two active CCR units per the CCR Rule:

- Secondary E Pond Unit (Unit 003), and
- Landfill Unit (Unit 004).

The Secondary E Pond is used for the stabilization of FGD residuals from the chloride purge storage tank, and wastewater from the E Pond, and can include FGD wastewater and storm water containing FGD solids, bottom ash, and fly ash. These materials are temporarily stored in the Secondary E Pond before final placement in the onsite Landfill.

The Landfill is located east of FM39 in the northern portion of the Solid Waste Disposal Area (SWDA). The landfill is located to the north of the intermittent Lynn Creek. The Landfill was constructed in 1980 and is used for the final placement of CCR. The Landfill is divided into multiple areas for organization purposes. The western half of the landfill has reached capacity and was capped prior to the effective date of the CCR Rule. CCR is currently being placed at the southern portion of the landfill.

The locations of the Secondary E Pond and the Landfill are shown on Figure 1-2.

Section 2

Groundwater Monitoring System

2.1 Groundwater Monitoring System

The groundwater monitoring systems for both CCR units consist of a total of 17 monitoring wells installed into the uppermost aquifer, which are described in the subsections below. The locations of the groundwater monitoring wells are shown on Figure 2-1.

2.1.1 Secondary E Pond (Unit 003)

Beginning in 2015, the groundwater monitoring system for the Secondary E Pond consisted of four monitoring wells (MW-05, MW-29, MW-43, and MW-44) screened into the uppermost aquifer (see Figure 2-1). Well MW-29 is located hydraulically upgradient of the Secondary E Pond and monitors background quality in the uppermost aquifer. The remaining three wells (MW-05, MW-43, and MW-44) are located hydraulically downgradient or cross-gradient of the Secondary E Pond and monitor the quality of groundwater in the uppermost aquifer passing beneath the waste boundary of the Secondary E Pond.

In September 2018, one new upgradient background monitoring well (MW-45) and one new downgradient monitoring well (MW-46) were installed into the uppermost aquifer and incorporated into the groundwater monitoring system. Finally, existing cross-gradient groundwater monitoring well (MW-26) was added to the groundwater monitoring system at that time. Therefore, as of the October 2018 semiannual detection monitoring event, the groundwater monitoring system has consisted of a total of seven monitoring wells (two upgradient and five downgradient). Collection of eight independent quarterly background groundwater monitoring samples for analysis for the Appendix III and IV CCR detection and assessment monitoring parameters for the three new wells began during the October 2018 groundwater monitoring event per §257.94(b).

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

2.1.2 Landfill (Unit 004)

The groundwater monitoring system for the Landfill consists of 10 monitoring wells (MW-1, MW-2, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-27, and MW-28) screened into the uppermost aquifer (see Figure 2-1). Monitoring wells MW-27 and

MW-28 are located hydraulically upgradient of the Landfill and monitor background quality in the uppermost aquifer. The remaining eight wells (MW-1, MW-2, MW-17, MW-18, MW-19, MW-20, MW-21, and MW-22) are located downgradient of the Landfill and monitor the quality of groundwater in the uppermost aquifer passing beneath the waste boundary of the Landfill.

No groundwater monitoring wells were installed or decommissioned as part of the CCR groundwater monitoring system for the Landfill 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 detection monitoring samples were collected for the Secondary E Pond and the Landfill monitoring well systems during the April 2019. These samples were analyzed for the Appendix III parameters only.

2.2.2 Quarterly Background Detection Monitoring

Quarterly background groundwater quality detection monitoring samples were collected for both 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 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 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 2-2.

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 sampling event. 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 both 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 both CCR units. 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 provided as Figures 2-2, 2-3, and 2-4 for both CCR units.

Groundwater elevation data collected during the three groundwater detection monitoring events show that groundwater is typically encountered at depths ranging from 26.66 (MW-07) to 66.00 (MW-46) feet below the top of casing (btoc) at the Secondary E Pond, with the overall direction of groundwater flow beneath and in the vicinity of the Secondary E Pond to the southwest. Groundwater is typically encountered at depths ranging from 1.78 (MW-17) to 31.48 (MW-28) feet btoc at the Landfill, with the overall direction of groundwater flow beneath and in the vicinity of the Landfill to the south-southeast.

Based on the 2019 detection monitoring groundwater elevation data, there does not appear to be significant seasonal changes in groundwater flow direction at either CCR unit. The calculated groundwater gradients were variable depending on lithology and ranged from 0.00054 to 0.00102 foot/foot (ft/ft) at the Secondary E Pond and from 0.00430 to 0.00459 ft/ft at the Landfill.

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 event performed during April 2019 and the quarterly background detection monitoring performed during July and October 2019 for the Secondary E Pond and the Landfill. The October 2019 event was also a semiannual event. 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 problems were encountered in 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 dataset has been developed, the existing background groundwater quality data set will continue to be used for statistical evaluation.

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 the April 2019. On behalf of NRG, TRC reviewed the historical

quarterly background and semiannual groundwater detection monitoring laboratory analytical results for the Limestone Station. TRC's review was performed during the first half 2019 and included extensive interaction with the laboratory project manager. TRC's review included the Sampling and Analysis Plans (SAPs) for the 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 Limestone 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. 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 (Annual Report)* was prepared per §257.90(e) and (f), placed into the FOR on January 31, 2019, and posted to the NRG's publicly-accessible CCR website by March 2, 2019.
- The semiannual detection monitoring groundwater samples for the Secondary E Pond and the Landfill were collected during April 2019. The samples were analyzed for the Appendix III detection monitoring parameters;

- The quarterly background detection monitoring groundwater samples for both 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 were prepared for the first half 2019 semiannual detection monitoring event and the July and October quarterly background detection monitoring events for the Secondary E Pond and the Landfill;
- Statistical analysis was completed for the October 2018 and April 2019 semiannual detection monitoring events;
- Apparent SSIs above background were identified for the Secondary E Pond for the second half 2018 semiannual detection monitoring event and for both CCR units for the first half 2019 semiannual detection monitoring event; and
- Written ASDs were completed during 2019 that successfully demonstrated that potential SSIs above background for the first half (May 2018) and second half (October 2018) and the first half 2019 (April 2019) semiannual detection monitoring events were due to alternative sources and laboratory analytical data quality issues.
- 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 both CCR units, both CCR units remained in detection monitoring during 2019. No corrective action activities were performed at the CCR units pursuant to the CCR Rule during 2019.

3.4 Monitoring Wells Installed or Decommissioned

No groundwater monitoring wells were installed or decommissioned for the CCR groundwater monitoring systems for the Secondary E Pond or the Landfill during 2019.

Section 4

Statistically Significant Increases

This *Annual Report* identifies potential 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 SSIs for the second half (October 2018) 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 Secondary E Pond

The results of the statistical analysis for the October 2018 semiannual detection monitoring event are summarized in the table below. Twenty-three SSIs were identified including four for new upgradient monitoring well MW-45. 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 - Secondary E Pond

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
UPGRADIENT MONITORING WELLS						
Calcium	MW-45	N/A	22.4	10/30/2018	406	mg/L
Chloride	MW-45	N/A	26.3	10/30/2018	1,380	mg/L
Field pH	MW-45	6.4	7.2	10/30/2018	6.2	SU
TDS	MW-45	N/A	484	10/30/2018	6,480	mg/L
DOWNGRADIENT MONITORING WELLS						
Calcium	MW-5	N/A	22.4	10/30/2018	24.5	mg/L
Calcium	MW-26	N/A	22.4	10/30/2018	45.3	mg/L
Calcium	MW- 43	N/A	22.4	10/30/2018	85.8	mg/L
Calcium	MW- 44	N/A	22.4	10/30/2018	25.0	mg/L
Calcium	MW- 46	N/A	22.4	10/30/2018	567	mg/L

SSIs - October 2018 - Secondary E Pond

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
DOWNGRADIANT MONITORING WELLS						
Chloride	MW-5	N/A	26.3	10/30/2018	28.2	mg/L
Chloride	MW-26	N/A	26.3	10/30/2018	236	mg/L
Chloride	MW- 43	N/A	26.3	10/30/2018	88.9	mg/L
Chloride	MW- 44	N/A	26.3	10/30/2018	27.3	mg/L
Chloride	MW- 46	N/A	26.3	10/30/2018	3,130	mg/L
Field pH	MW- 05	6.4	7.2	10/30/2018	6.1	SU
Field pH	MW-26	6.4	7.2	10/30/2018	5.8	SU
Field pH	MW- 43	6.4	7.2	10/30/2018	6.2	SU
Field pH	MW- 46	6.4	7.2	10/30/2018	5.7	SU
Sulfate	MW- 43	N/A	151	10/30/2018	364	mg/L
TDS	MW-26	N/A	484	10/30/2018	1,050	mg/L
TDS	MW- 43	N/A	484	10/30/2018	1,270	mg/L
TDS	MW- 44	N/A	484	10/30/2018	544	mg/L
TDS	MW- 46	N/A	484	10/30/2018	9,190	mg/L

mg/L= milligrams per liter SU = Standard Units PQL = Practical Quantitation Limit N/A = Not Applicable
 LTL – Lower Tolerance Limit UTL – Upper Tolerance Limit

4.1.2 Landfill

The results of the statistical analysis for the second half (October 2018) semiannual detection monitoring event are summarized in the following table. No potential SSIs were identified for the downgradient monitoring wells; however, two potential SSIs were identified for the upgradient monitoring wells. 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 - Landfill

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
UPGRADIANT MONITORING WELLS						
Chloride	MW-28(UG)		1,607	10/30/2018	1,640	mg/L
pH	MW-27 (UG)	5.1	7.3	10/30/2018	8.9	SU

4.2 April 2019 Semiannual Detection Monitoring Event

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

4.2.1 Secondary E Pond

The results of the statistical analysis for the April 2019 semiannual detection monitoring event are summarized in the table below. Nineteen SSIs were identified including three for new upgradient monitoring well MW-45. 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 - Secondary E Pond

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
UPGRADIENT MONITORING WELLS						
Calcium	MW-45	N/A	22.4	4/30/2019	353	mg/L
Chloride	MW-45	N/A	26.3	4/30/2019	1,120	mg/L
TDS	MW-45	N/A	484	4/30/2019	4,070	mg/L
DOWNGRADIENT MONITORING WELLS						
Boron	MW-43/dup	N/A	0.1	4/30/2019	0.336/0.335	mg/L
Boron	MW-43 (split)	N/A	0.1	4/30/2019	0.333*	mg/L
Calcium	MW-05	N/A	22.4	4/30/2019	27.5	mg/L
Calcium	MW-26	N/A	22.4	4/30/2019	65.8	mg/L
Calcium	MW- 43/dup	N/A	22.4	4/30/2019	93.3/92.9	mg/L
Calcium	MW-43 (split)	N/A	22.4	4/30/2019	88.2 JL	mg/L
Calcium	MW- 44	N/A	22.4	4/30/2019	26.6	mg/L
Calcium	MW-46	N/A	22.4	4/30/2019	559	mg/L
Chloride	MW-26	N/A	26.3	4/30/2019	287	mg/L
Chloride	MW-43/dup	N/A	26.3	4/30/2019	29.0/28.1	mg/L
Chloride	MW-43 (split)	N/A	26.3	4/30/2019	20.6*	mg/L
Chloride	MW-44	N/A	26.3	4/30/2019	27.2	mg/L
Chloride	MW-46	N/A	26.3	4/30/2019	2,460	mg/L
pH	MW- 05	6.4	7.2	4/30/2019	6.0	SU

SSIs - April 2019 - Secondary E Pond

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
DOWNGRADIANT MONITORING WELLS						
pH	MW-26	6.4	7.2	4/30/2019	6.2	SU
Sulfate	MW-43/dup	N/A	151	4/30/2019	644 JL/622 JL	mg/L
Sulfate	MW-43 (split)	N/A	151	4/30/2019	565*	mg/L
TDS	MW-26	N/A	484	4/30/2019	1,030	mg/L
TDS	MW-43/dup	N/A	484	4/30/2019	1,570/1,710	mg/L
TDS	MW-43 (split)	N/A	484	4/30/2019	1,450	mg/L
TDS	MW- 46	N/A	484	4/30/2019	8,000	mg/L

mg/L= milligrams per liter SU = Standard Units PQL = Practical Quantitation Limit N/A = Not Applicable
LTL – Lower Tolerance Limit UTL – Upper Tolerance Limit * = Split sample with alternative laboratory

4.2.1 Landfill

The results of the statistical analysis for the April 2019 semiannual detection monitoring event for the Landfill was completed in August 2019. The results are summarized in the following table. One potential SSI was identified for downgradient monitoring well MW-1 and one potential SSI was identified for upgradient monitoring well MW-27. 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 - Landfill

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
UPGRADIANT MONITORING WELLS						
pH	MW-27 (UG)	5.1	7.3	4/30/2019	11.47	SU
DOWNGRADIANT MONITORING WELLS						
pH	MW-1 (DG)	5.1	7.3	4/30/2019	4.74	SU

Section 5

Alternative Source Demonstrations

Potential SSIs above background levels were identified for the Secondary E Pond for the first half (May) and second half (October) 2018 and the first half (April 2019) semiannual detection monitoring events. Potential SSIs above background levels were also identified for the Landfill 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, an ASD was certified for potential SSIs identified for the Secondary 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 Secondary E Pond and the Landfill for the second half (October 2018) semiannual detection monitoring sampling event; and
- In November 2019, ASDs were certified for potential SSIs identified for both CCR units for the first half (April 2019) semiannual detection monitoring sampling event.

Pursuant to §257.94(e)(2), ASDs successfully demonstrated alternative sources or issues with laboratory data analytical quality for both CCR units. Therefore, both CCR units remained in detection monitoring during 2019. The ASDs for both CCR units for the three semiannual detection monitoring events are discussed in the subsections below. The completed ASDs are provided in Appendix E.

5.1 Secondary E Pond

Three ASDs were successfully completed for the Secondary 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. Six potential SSIs were identified for the three downgradient groundwater monitoring wells (MW-5, MW-43, and MW-44). Calcium, pH, and total dissolved solids

(TDS) were identified as potential SSIs. The ASD was completed on April 23, 2019. Two alternative sources were identified for the potential SSIs:

- 1) Insufficient representation of background groundwater quality, and
- 2) Presence of numerous non-CCR sources in the vicinity of the Secondary E Pond.

The Station and surrounding vicinity are densely populated with historical and current oil and natural gas activities consisting primarily of natural gas production wells. Numerous active natural gas wells and their associated well pads and surface pits are located immediately surrounding the Secondary E Pond. To evaluate these alternative sources, two additional groundwater monitoring wells (MW-45 and MW-46) were installed in September 2018. MW-45 is a second upgradient monitoring well for the CCR groundwater monitoring system and MW-46 is an additional downgradient monitoring well located adjacent to a natural gas well pad immediately downgradient of the Secondary E Pond. In addition, an existing cross-gradient groundwater monitoring well MW-26 was added to the CCR groundwater monitoring system.

- October 2018. Twenty-three potential SSIs were identified. Four of the potential SSIs were located at upgradient monitoring well MW-45 and the remaining 19 potential SSIs were identified at all five downgradient groundwater monitoring wells (MW-5, MW-26, MW-43, MW-44, and MW-46). Calcium, chloride, pH, and TDS were identified as potential SSIs in the upgradient monitoring well. Calcium, chloride, pH, sulfate, and TDS were identified in downgradient monitoring wells. Three alternative sources were identified for the potential SSIs:
 - 1) Insufficient representation of background groundwater quality;
 - 2) Presence of numerous non-CCR sources in the vicinity of the Secondary E Pond, including historical and current natural gas wells and their associated well pads and surface pits that are located immediately surrounding the Secondary E Pond; and
 - 3) Laboratory data quality issues identified for the historical laboratory analyses (see subsection 3.2.1).

In addition, the overall increase in the number of SSIs, when compared to the May 2018 semiannual detection monitoring event, was attributed to the addition of the three monitoring wells to the groundwater monitoring system. As noted previously, monitoring wells MW-45 and MW-46 were installed during September 2018 and existing cross-gradient monitoring well MW-26 was added to the CCR groundwater monitoring system in September 2018, approximately one month before the October 2018 semiannual detection monitoring sampling event was performed.

Because a minimum of eight groundwater monitoring events are specified in the CCR Rule for development of the background groundwater quality data set, collection of the eighth quarterly background groundwater samples is not anticipated to be completed until the second quarter 2021 quarterly background detection monitoring event. Therefore, the existing upper tolerance limits will continue to be used for statistical evaluation of the hydraulically downgradient groundwater data for the second half 2019, and the first and second half 2020 semiannual detection monitoring events. These Appendix III data will be collected as part of the quarterly background detection monitoring events being performed to develop a new background groundwater quality data set.

- April 2019. Nineteen potential SSIs were identified. Three of the potential SSIs were located at upgradient monitoring well MW-45 and the remaining 16 potential SSIs were identified at all five downgradient groundwater monitoring wells. Calcium, chloride, and TDS were identified as potential SSIs in the upgradient monitoring well. Boron, calcium, chloride, pH, sulfate, and TDS were identified in downgradient monitoring wells. Three alternative sources were identified for the potential SSIs:
 - 1) Insufficient representation of background groundwater quality;
 - 2) Presence of numerous non-CCR sources in the vicinity of the Secondary E Pond, including historical and current natural gas wells and their associated well pads and surface pits that are located immediately surrounding the Secondary E Pond; and
 - 3) Laboratory data quality issues identified for the historical laboratory analyses (see Section 3.0).

5.2 Landfill

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

- October 2018. Two potential SSIs were identified. Both potential SSIs were identified for upgradient monitoring wells MW-27 and MW-28. Chloride and pH were identified as potential SSIs in the upgradient monitoring wells. Three alternative sources were identified for the potential SSIs:
 - 1) Short baseline period upon which the background upper tolerance limits were calculated;
 - 2) Presence of numerous non-CCR sources in the vicinity of the Secondary E Pond, including historical and current natural gas wells and their associated well pads and surface pits that are located immediately surrounding the Landfill; and
 - 3) Laboratory data quality issues identified for the historical laboratory analyses.

As discussed previously, collection of the eighth quarterly background groundwater samples for development of a new background groundwater quality data set is not anticipated to be completed until the second quarter 2021 quarterly background detection monitoring event. Therefore, the existing upper tolerance limits will continue to be used for statistical evaluation of the hydraulically downgradient groundwater data for the second half 2019 and the first and second half 2020 semiannual detection monitoring events. These Appendix III data will be collected as part of the quarterly background detection monitoring events being performed to develop a new background groundwater quality data set.

- April 2019. Two potential SSIs were identified. One potential SSI was located at upgradient monitoring well MW-27 and the second potential SSI was located at downgradient monitoring well MW-1. pH was identified as the potential SSI in both monitoring wells. Three alternative sources were identified for the potential SSIs:
 - 1) Short baseline period upon which the background upper tolerance limits were calculated;
 - 2) Presence of numerous non-CCR sources in the vicinity of the Secondary E Pond, including historical and current natural gas wells and their associated well pads and surface pits that are located immediately surrounding the Landfill; and
 - 3) Laboratory data quality issues identified for the historical laboratory analyses.

5.3 Detection Monitoring

As per §257.94(e)(2) of the CCR Rule, written ASDs were completed and certified by a qualified Texas P.E. during 2019 for both CCR units. The ASDs successfully demonstrated that alternative sources or laboratory data quality issues were responsible for the potential SSIs identified in groundwater for the first half (May 2018), second half (October 2018), and first half (April 2019) semiannual detection monitoring events. Therefore, both CCR units remained in detection monitoring programs during 2019.

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 semiannual detection monitoring statistical analyses and to identify potential SSIs;
- Quarterly background groundwater detection monitoring samples will be collected during 2020 for both 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, 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 both 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, Limestone Electric Generating Station, Jewett, Texas.

ERM, CCR Statistical Analysis Plan, October 2017, Limestone Electric Generating Station, Jewett, Texas.

ERM, Annual Groundwater Monitoring and Corrective Action Report, January 31, 2018, Limestone Electric Generating Station, Secondary E Pond Unit (Unit 003), Jewett, Texas.

TRC, 2018 Annual Groundwater Monitoring and Corrective Action Report, January 31, 2019, Limestone Electric Generating Station, Secondary E Pond (Unit 003) and Landfill (Unit 004), Jewett, Texas.

TRC, Alternative Source Demonstration, April 2019, Limestone Electric Generating Station, Secondary E Pond (Unit 003), Jewett, Texas.

TRC, Alternative Source Demonstration, September 2019, Limestone Electric Generating Station, Landfill (Unit 004), Jewett, Texas.

TRC, Alternative Source Demonstration, September 2019, Limestone Electric Generating Station, Secondary E Pond (Unit 003), Jewett, Texas.

TRC, Alternative Source Demonstration, November 2019, Limestone Electric Generating Station, Landfill (Unit 004), Jewett, Texas.

TRC, Alternative Source Demonstration, November 2019, Limestone Electric Generating Station, Secondary E Pond (Unit 003), Jewett, Texas.

TRC, Statistical Methods Certification, August 2018, Limestone Electric Generating Station, Jewett, Texas.

Figures

TRC Environmental Corporation | NRG Texas Power, LLC

2019 Annual Groundwater Monitoring and Corrective Action Report

S:\NRG\LIMESTONE\2019\2019 ANNUAL REPORT\2. REPORTS\TEXT\FINAL 2019 LIMESTONE ANNUAL GW REPORT 2019_01-29-2020.DOCX

January 31, 2020



LEGEND
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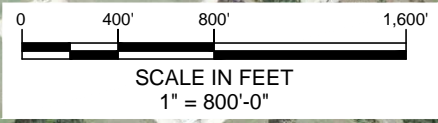
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 DONIE, TEXAS (2016)
 FARRAR, TEXAS (2016)

TEXAS
 QUADRANGLE LOCATION

SCALE IN FEET
 1" = 3,000'-0"

PROJECT:		NRG TEXAS POWER, LLC Limestone Electric Generating Station Jewett, Texas	
TITLE: SITE LOCATION MAP			
DRAWN BY:	O. Fonseca	PROJECT No.:	298367.0000.0000
CHECKED BY:	T. Dworaczyk	FIGURE 1-1	
APPROVED BY:	T. Dworaczyk		
DATE:	January 2019	 10550 Richmond Ave., Suite 210 Houston, TX 77042 Phone: 713.244.1000	
FILE:	Fig 1-1 - NRG-LimestoneStation - Site Location Map.dwg		

HOU_M:\ACAD-TRCDRAFTING\CCLIENT-Name-K-L-M-N-O\NRGLimestone Station - Jewett-TX2019 - CCR-Report - Fig 1-2 - NRG-LimestoneStation - Secondary E Pont-n-Landfill CCR Units.dwg 01/16/19



LANDFILL

SECONDARY E POND

LEGEND
--- APPROXIMATE PROPERTY BOUNDARY

PROJECT: **NRG TEXAS POWER, LLC**
Limestone Electric Generating Station
Jewett, Texas

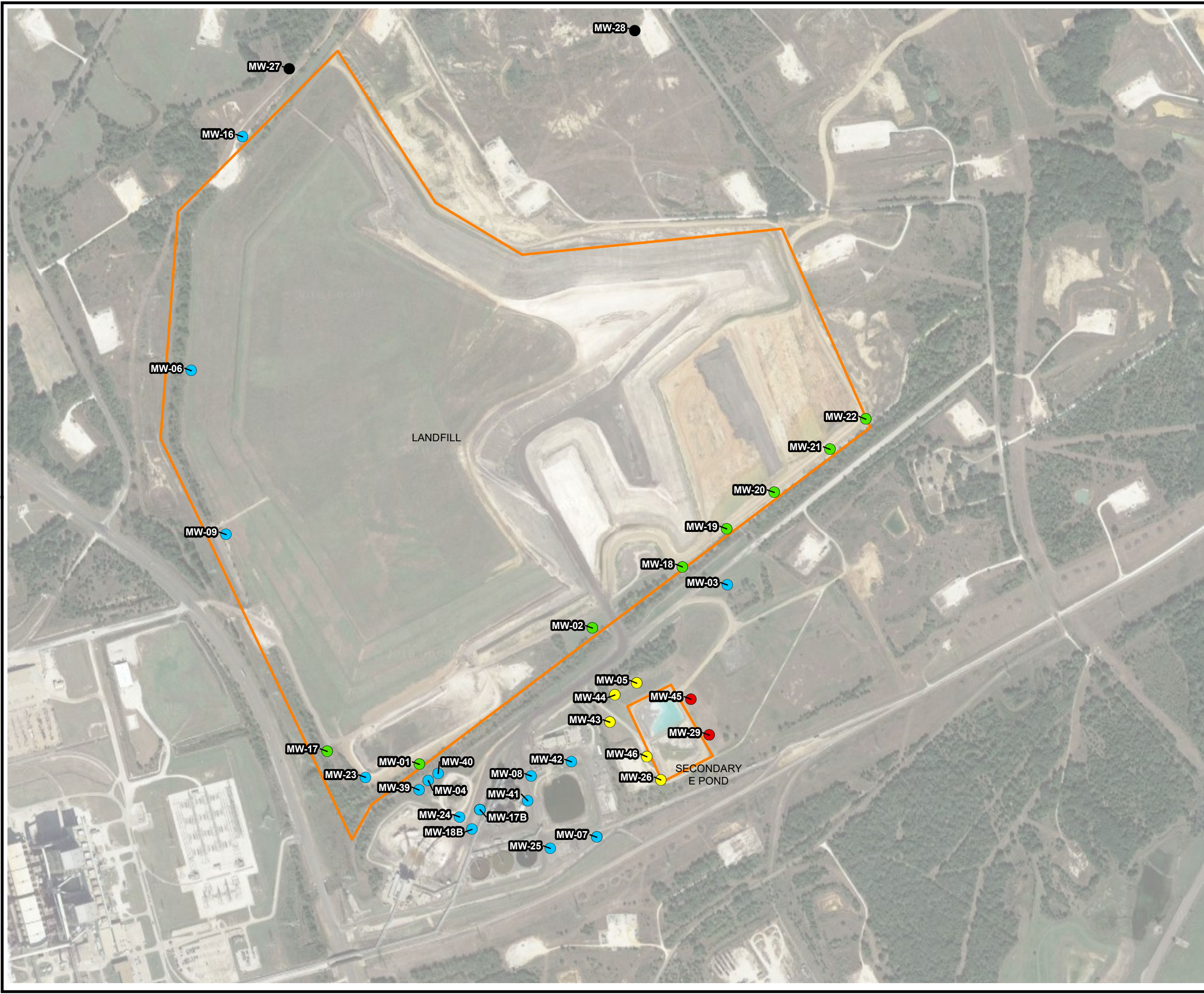
TITLE: **SECONDARY E POND AND**
LANDFILL CCR UNITS LOCATION MAP

DRAWN BY: O. Fonseka	PROJECT No.: 298367.0000.0000
CHECKED BY: T. Dworaczyk	FIGURE 1-2
APPROVED BY: T. Dworaczyk	
DATE: January 2019	

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

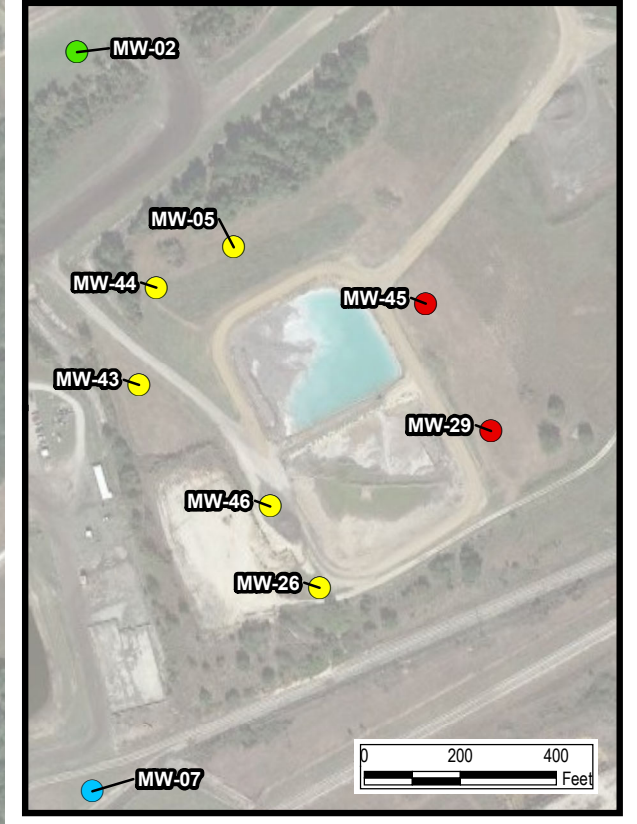
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Fig 1-2 - NRG-LimestoneStation - Secondary E Pont-n-Landfill CCR Units.dwg



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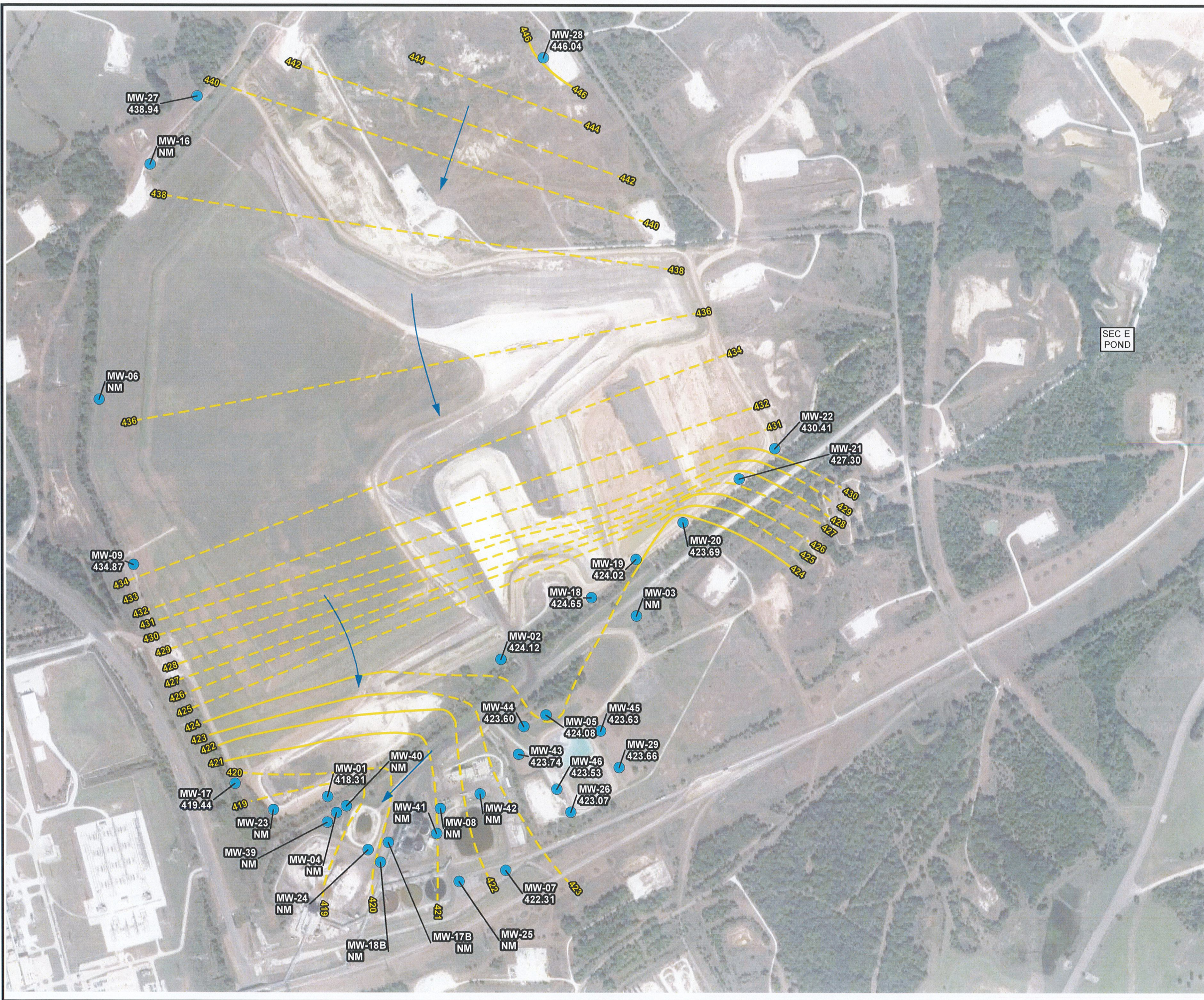
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- LANDFILL BACKGROUND CCR MONITORING WELL LOCATION
- LANDFILL CCR MONITORING WELL LOCATION
- SECONDARY E POND CCR MONITORING WELL LOCATION
- SECONDARY E POND BACKGROUND CCR MONITORING WELL LOCATION
- CCR UNIT BOUNDARY



PROJECT: NRG TEXAS POWER, LLC LIMESTONE JEWETT, TEXAS	
TITLE: CCR GROUNDWATER MONITORING NETWORKS MAP	
DRAWN BY: S.RAY	PROJ. NO.: 314092.0000
CHECKED BY: J. SPEER	FIGURE 2-1
APPROVED BY: J. SPEER	
DATE: JANUARY 2019	
505 East Huntland Drive, Suite 250 Austin, TX 78752 Phone: 512.329.6080 www.trcsolutions.com	
FILE NO.: 298367_2-1.mxd	

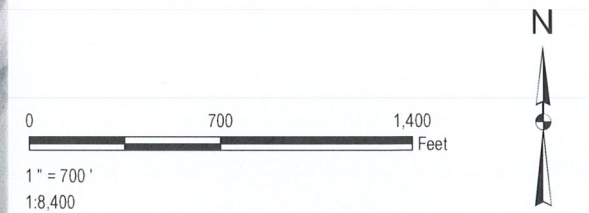
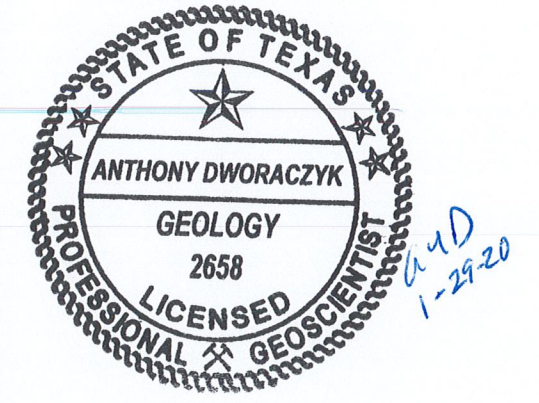
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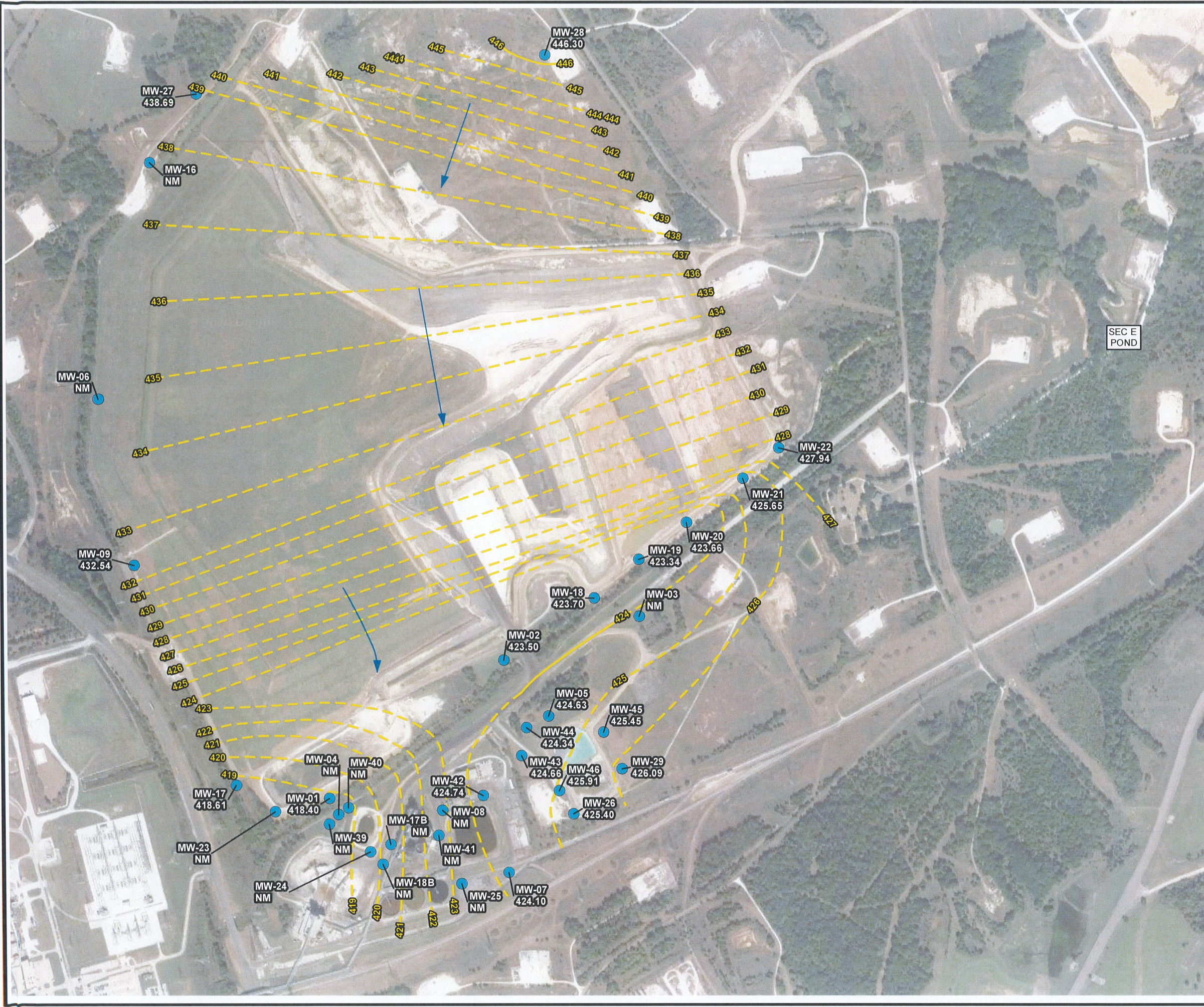


LEGEND

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- NM** NOT MEASURED
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER POTENTIOMETRIC SUFRACE CONTOUR (FEET) - DASHED WHERE INFERRED



PROJECT		NRG TEXAS POWER, LLC LIMESTONE JEWETT, TEXAS	
TITLE			
GROUNDWATER POTENTIOMETRIC SUFRACE MAP - APRIL 2019			
DRAWN BY:	PROJ. NO.:	298367.1000.0000	
CHECKED BY:	FIGURE 2-2		
APPROVED BY:			
DATE:	JANUARY 2020		
		505 East Huntland Drive, Suite 250 Austin, TX 78752 Phone: 512.329.6080 www.trcsolutions.com	
FILE NO.:	298367_2-2_April.mxd		



LEGEND

- MONITORING WELL
- 427.94** GROUNDWATER ELEVATION (FEET MSL)
- NM** NOT MEASURED
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER POTENTIOMETRIC SUFRACE CONTOUR (FEET) - DASHED WHERE INFERRED

STATE OF TEXAS
ANTHONY DWORACZYK
GEOLOGY
2658
LICENSED PROFESSIONAL GEOSCIENTIST

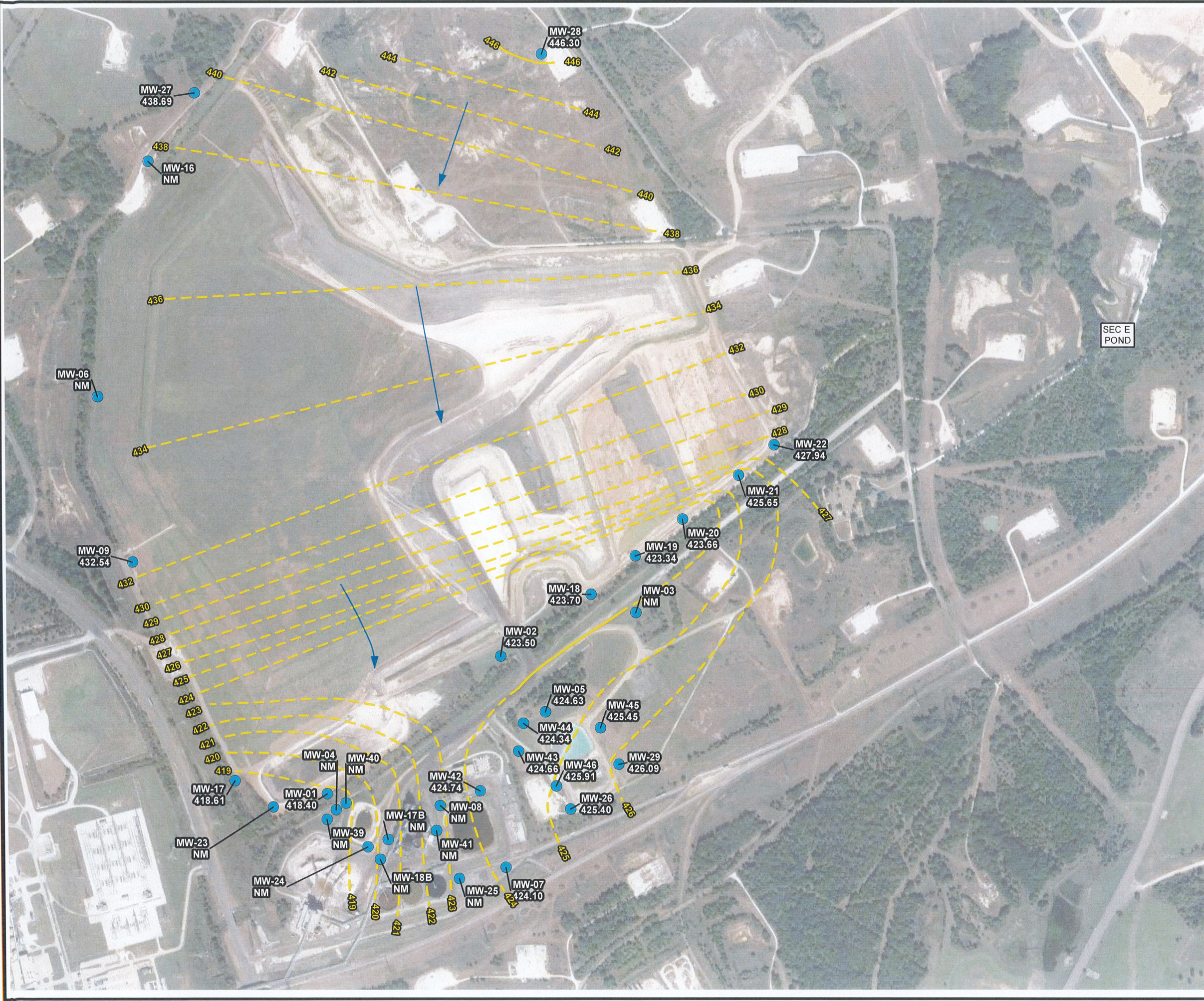
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PROJECT		NRG TEXAS POWER, LLC LIMESTONE JEWETT, TEXAS	
TITLE			
GROUNDWATER POTENTIOMETRIC SUFRACE MAP - JULY 2019			
DRAWN BY:		PROJ. NO.:	298367.1000.0000
CHECKED BY:		FIGURE 2-3	
APPROVED BY:			
DATE:	JANUARY 2020		
		505 East Huntland Drive, Suite 250 Austin, TX 78752 Phone: 512.329.6080 www.trcsolutions.com	
FILE NO.:		298367_2-3_July.mxd	

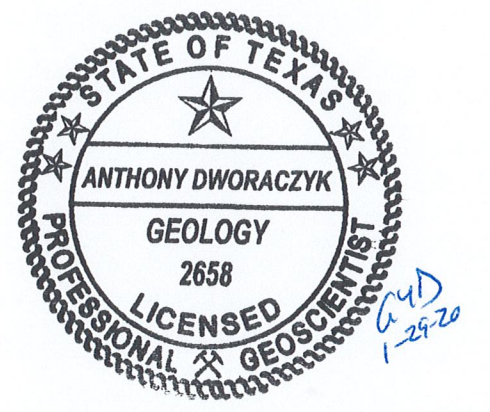
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LEGEND

- MONITORING WELL
- 427.94 GROUNDWATER ELEVATION (FEET MSL)
- NM NOT MEASURED
- GROUNDWATER FLOW DIRECTION
- - - GROUNDWATER POTENTIOMETRIC SUFRACE CONTOUR (FEET) - DASHED WHERE INFERRED



0 700 1,400 Feet

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1:8,400

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PROJECT: NRG TEXAS POWER, LLC LIMESTONE JEWETT, TEXAS	
TITLE: GROUNDWATER POTENTIOMETRIC SUFRACE MAP - OCTOBER 2019	
DRAWN BY:	PROJ. NO.: 298367.1000.0000
CHECKED BY:	FIGURE 2-4
APPROVED BY:	
DATE: JANUARY 2020	
505 East Huntland Drive, Suite 250 Austin, TX 78752 Phone: 512.329.6080 www.trcsolutions.com	
FILE NO.:	298367_2-4_October.mxd

Tables

Table 2-1
Summary of Groundwater Elevation Data
April, July and October 2019
Limestone Electric Generating Station - Jewett, Texas

Well Description	Well ID	Measurement Date	Top of Casing (ft. MSL)	Depth to Water (ft.)	Gound Water Elevation (ft. MSL)
Landfill					
Downgradient	MW-01	4/30/2019	420.84	2.53	418.31
		7/30/2019	420.84	2.15	418.69
		10/8/2019	420.84	2.44	418.40
	MW-02	4/30/2019	430.01	5.89	424.12
		7/30/2019	430.01	5.91	424.10
		10/8/2019	430.01	6.71	423.30
	MW-17	4/30/2019	421.22	1.78	419.44
		7/30/2019	421.22	2.05	419.17
		10/8/2019	421.22	2.61	418.61
	MW-18	4/30/2019	436.30	11.65	424.65
		7/30/2019	436.30	11.65	424.65
		10/8/2019	436.30	12.60	423.70
	MW-19	4/30/2019	443.79	19.77	424.02
		7/30/2019	443.79	19.62	424.17
		10/8/2019	443.79	20.45	423.34
	MW-20	4/30/2019	445.11	21.75	423.36
		7/30/2019	445.11	21.17	423.94
		10/8/2019	445.11	21.78	423.33
	MW-21	4/30/2019	446.35	19.04	427.31
		7/30/2019	446.35	18.87	427.48
		10/8/2019	446.35	20.69	425.66
MW-22	4/30/2019	447.59	17.18	430.41	
	7/30/2019	447.59	17.40	430.19	
	10/8/2019	447.59	19.65	427.94	
Gauge only	MW-09	4/30/2019	452.03	17.16	434.87
		7/30/2019	452.03	17.95	434.08
		10/8/2019	452.03	19.49	432.54
Upgradient	MW-27	4/30/2019	457.43	18.49	438.94
		7/30/2019	457.43	17.92	439.51
		10/8/2019	457.43	18.74	438.69
	MW-28	4/30/2019	477.52	31.48	446.04
		7/30/2019	477.52	31.18	446.34
10/8/2019	477.52	31.22	446.30		
Secondary E Pond					
Downgradient	MW-05	4/30/2019	464.26	40.18	424.08
		7/30/2019	464.26	38.82	425.44
		10/8/2019	464.26	39.63	424.63
	MW-26	4/30/2019	484.49	61.42	423.07
		7/30/2019	484.49	59.10	425.39
		10/8/2019	484.49	59.09	425.40
	MW-43	4/30/2019	464.51	40.77	423.74
		7/30/2019	464.51	38.70	425.81
		10/8/2019	464.51	39.85	424.66
	MW-44	4/30/2019	461.11	37.51	423.60
		7/30/2019	461.11	35.59	425.52
		10/8/2019	461.11	36.77	424.34
	MW-46	4/30/2019	489.53	66.00	423.53
		7/30/2019	489.53	63.68	425.85
		10/8/2019	489.53	63.62	425.91
Gauge only	MW-07	4/30/2019	451.10	28.79	422.31
		7/30/2019	451.10	26.66	424.44
		10/8/2019	451.10	27.00	424.10
	MW-42	4/30/2019	454.01	31.21	422.80
		7/30/2019	454.01	29.14	424.87
10/8/2019	454.01	29.29	424.72		

Table 2-1
Summary of Groundwater Elevation Data
April, July and October 2019
Limestone Electric Generating Station - Jewett, Texas

Well Description	Well ID	Measurement Date	Top of Casing (ft. MSL)	Depth to Water (ft.)	Gound Water Elevation (ft. MSL)
Upgradient	MW-29	4/30/2019	475.88	52.22	423.66
		7/30/2019	475.88	49.86	426.02
		10/8/2019	475.88	49.79	426.09
	MW-45	4/30/2019	482.52	58.89	423.63
		7/30/2019	482.52	56.87	425.65
		10/8/2019	482.52	57.07	425.45

Table 2-2
Summary of Groundwater Monitoring Data
April, July, and October 2019
Limestone Electric Generating Station - Jewett, Texas

				Appendix III Analytes						
				Boron	Calcium	Chloride	Fluoride	Sulfate	l Dissolved S	pH, Field
Analyte				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su
Well Description	Well ID	Date	Unit							
Landfill										
Downgradient	MW-01	04/30/2019	N	0.0327 J	49.9 b	247	0.139 [J]	2.88 J[JL]	962	4.74
		07/30/2019	N	0.0292 [U]	52.3	263	0.16	0.406 J	798	5.59
		10/08/2019	N	0.0327	50.6	250	0.090 J	0.612	722	5.77
	MW-02	04/30/2019	N	0.0219 J	99.2 b	437	0.0920 J[J]	17.8 [JL]	1590	5.94
		07/30/2019	N	< 0.0110	121	412	0.17	85.5	1330	5.56
		10/08/2019	N	0.0350	104	432	< 0.058 U	65.4	1280	5.56
	MW-17	04/30/2019	N	0.0261 J	2.99 b	8.69	0.230	6.77 [JL]	195	6.26
		07/30/2019	N	0.0152 J[U]	3.33	9.40	0.070 J	7.31	136	6.13
		10/08/2019	N	0.0255	2.86	9.15	0.11	7.27	124	6.30
	MW-18	04/30/2019	N	0.0415 J	47.6 b	9.50	0.235	27.5 [JL]	354	6.41
		07/30/2019	N	0.0344 [U]	59.3	3.45	0.18	29.8	300	6.14
		10/08/2019	N	0.0322	47.1	3.40	0.10	26.9	296	6.24
	MW-19	04/30/2019	N	0.0439 J	38.4 b	49.3	0.129 [J]	85.4 [JL]	394	5.88
		07/30/2019	N	0.0366	40.9	48.1	0.080 J	86.9	352	5.86
		10/08/2019	N	0.0375	33.9	46.0	< 0.058 U	83.8	312	5.71
	MW-20	04/30/2019	N	0.0477 J	39.5 b	22.4	0.305	78.1 [JL]	464	6.60
		07/30/2019	N	0.0389	37.2	26.3	0.24	47.7	378	6.51
		10/08/2019	N	0.0405	31.0	24.0	0.16	45.5	340	6.35
	MW-21	04/30/2019	N	0.250	85.8 b	51.8	0.0946 J[J]	301 [JL]	708	5.48
		07/30/2019	N	0.333	91.6	55.5	0.060 J	327	626	5.60
		10/08/2019	N	0.350	86.5	51.5	< 0.058 U	306	602	5.55
MW-22	04/30/2019	N	0.0325 J	45.3 b	30.3	0.149 [J]	53.7 [JL]	343	5.90	
	07/30/2019	N	0.0277	50.5	36.9	0.090 J	56.2	278	5.71	
	10/08/2019	N	0.0333	41.4	35.1	< 0.058 U	54.0	302	5.85	
Upgradient	MW-27	04/30/2019	N	0.225	81.0 b	7.81	0.149 [J]	132 [JL]	418	11.47
		07/30/2019	N	0.211	86.0	14.4	0.10	106	352	11.31
		10/08/2019	N	0.122	141	1070	< 0.058 U	278	3140	11.07
	MW-28	04/30/2019	N	0.196 J	420 b	1530	0.238	624 [JL]	6260	5.49
		07/30/2019	N	0.326	516	1800	0.24	646	5040	5.32
10/08/2019	N	0.207	453	179	0.15	62.1	4990	5.12		
Secondary E Pond										
Downgradient	MW-05	04/30/2019	N	0.0168 J	27.5 b	15.2	0.167	114 [JL]	387	5.95
		07/30/2019	N	< 0.0110	18.8	14.6	0.13	57.8	240	6.25
		10/08/2019	N	0.0171 J	13.2	12.2	0.060 J	40.7	204	5.59
	MW-26	04/30/2019	N	0.0217 J	65.8 b	287	0.0580 J[J]	8.79 [JL]	1030	6.24
		07/30/2019	N	< 0.0110	69.0	277	< 0.058 U	9.71	954	5.67
		10/08/2019	N	0.0192 J	45.2	229	< 0.058 U	9.89	768	5.54
	MW-43	04/30/2019	N	0.336	93.3 b	29.0	1.40	644 [JL]	1570	6.59
		04/30/2019	FD	0.335	92.9 b	28.1	1.38	622 [JL]	1710	n/a
		07/30/2019	N	0.307	84.5	30.0	1.2	458	1250	6.61
		07/30/2019	FD	0.302	84.3	27.9	1.2	447	1260	n/a
		10/08/2019	N	0.164	75.2	46.3	0.68	355	1040	6.54
		10/08/2019	FD	0.196	79.2	46.3	0.68	364	1040	n/a
	MW-44	04/30/2019	N	0.0816 J	26.6 b	27.2	0.516	97.2 [JL]	472	6.44
		07/30/2019	N	0.0378	32.5	26.4	0.53	45.5	438	6.29
		10/08/2019	N	0.0364	30.3	33.8	0.40	42.3	424	6.33
MW-46	04/30/2019	N	< 0.0116 U	559 b	2460	0.0524 J[J]	53.2 J[JL]	8000	6.77	
	07/30/2019	N	< 0.0110	487	1960	< 0.058 U	125	6060	6.61	
	10/08/2019	N	< 0.0110	363	1630	< 0.058 U	254	2590	5.59	
Upgradient	MW-29	04/30/2019	N	0.0230 J	14.4 b	10.3	0.259	26.8 [JL]	257	6.89
		07/30/2019	N	< 0.0110	13.9	5.44	0.19	28.6	200	6.79
		10/08/2019	N	0.0193 J	11.7	5.17	0.10	28.6	184	6.15
	MW-45	04/30/2019	N	0.0134 J	353 b	1120	0.139 [J]	42.1 J[JL]	4070	6.36
		07/30/2019	N	< 0.0110	362	1140	0.080 J	25.5	4110	5.51
		10/08/2019	N	0.0120 J[U]	389	1280	< 0.058 U	29.8	3970	5.04

Appendix A

Detection Monitoring Data (April 2019)

TRC Environmental Corporation | NRG Texas Power, LLC

2019 Annual Groundwater Monitoring and Corrective Action Report

S:\NRG\LIMESTONE\2019\2019 ANNUAL REPORT\2. REPORTS\TEXT\FINAL 2019 LIMESTONE ANNUAL GW REPORT 2019_01-29-2020.DOCX

January 31, 2020

ANALYTICAL REPORT

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

Laboratory Job ID: 600-184553-1

Client Project/Site: TRC-Limestone CCR App III 4-30-19
Revision: 1

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

Attn: Andrew Clayton



Authorized for release by:
8/28/2019 2:47:24 PM
Tiffany Fleming, Project Management Assistant I
(361)289-2673
tiffany.fleming@testamericainc.com

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

LINKS

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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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Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Eurofins TestAmerica, Houston job number 600-184553-1 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

5/10/2019

Date

Project Manager II

Official Title (printed)

Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	Eurofins TestAmerica, Houston	LRC Date:	5/10/2019
Project Name:	TRC-Limestone CCR App III 4-30-19	Laboratory Job Number:	600-184553-1
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				
		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:	5/10/2019
Project Name:	TRC-Limestone CCR App III 4-30-19	Laboratory Job Number:	600-184553-1
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:	5/10/2019
Project Name:	TRC-Limestone CCR App III 4-30-19	Laboratory Job Number:	600-184553-1
Reviewer Name:	Tiffany Fleming, for C. Lance Tigrett		

ER # ¹	Description
R05D	Method 6010B: The method blank for preparation batch 600-264100 and analytical batch 600-264521 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	Method 300.0: 600-184553-10 MS/MSD failed the recovery criteria for the following analyte: Sulfate. Matrix interference is suspected.
	<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: 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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Case Narrative

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Job ID: 600-184553-1

Laboratory: Eurofins TestAmerica, Houston

Narrative

**Job Narrative
600-184553-1**

Comments

The report was revised on 08/28/19 to pull in the correct merged file into the job, replacing the final report generated on 5/14/19.

Receipt

The samples were received on 5/1/2019 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 8 coolers at receipt time were 0.1° C, 0.2° C, 0.2° C, 0.6° C, 0.6° C, 1.5° C, 1.6° C and 1.9° C.

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



Method Summary

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

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-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-184553-1	MW-27	Water	04/30/19 12:55	05/01/19 09:40
600-184553-2	MW-28	Water	04/30/19 12:55	05/01/19 09:40
600-184553-3	MW-1	Water	04/30/19 15:55	05/01/19 09:40
600-184553-4	MW-2	Water	04/30/19 14:25	05/01/19 09:40
600-184553-5	MW-17	Water	04/30/19 10:50	05/01/19 09:40
600-184553-6	MW-18	Water	04/30/19 12:05	05/01/19 09:40
600-184553-7	MW-19	Water	04/30/19 13:05	05/01/19 09:40
600-184553-8	MW-20	Water	04/30/19 14:15	05/01/19 09:40
600-184553-9	MW-21	Water	04/30/19 15:10	05/01/19 09:40
600-184553-10	MW-22	Water	04/30/19 15:15	05/01/19 09:40
600-184553-11	MW-29	Water	04/30/19 11:45	05/01/19 09:40
600-184553-12	MW-45	Water	04/30/19 12:45	05/01/19 09:40
600-184553-13	MW-5	Water	04/30/19 12:45	05/01/19 09:40
600-184553-14	MW-26	Water	04/30/19 11:50	05/01/19 09:40
600-184553-15	MW-43	Water	04/30/19 13:40	05/01/19 09:40
600-184553-16	MW-44	Water	04/30/19 14:10	05/01/19 09:40
600-184553-17	MW-46	Water	04/30/19 10:40	05/01/19 09:40
600-184553-18	DUP-01	Water	04/30/19 12:00	05/01/19 09:40
600-184553-19	FB-01	Water	04/30/19 13:20	05/01/19 09:40

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Client Sample ID: MW-27

Date Collected: 04/30/19 12:55

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-1

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.81		4.00	0.534	mg/L			05/07/19 17:07	10
Sulfate	132		5.00	0.957	mg/L			05/07/19 17:07	10

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.225		0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 15:38	1
Calcium	81.0	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 15:38	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.149		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	11.4	HF	0.01	0.01	SU			05/03/19 12:04	1
Total Dissolved Solids	418		20.0	20.0	mg/L			05/02/19 13:19	1

Client Sample ID: MW-28

Date Collected: 04/30/19 12:55

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-2

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1530		40.0	5.34	mg/L			05/07/19 17:27	100
Sulfate	624		50.0	9.57	mg/L			05/07/19 17:27	100

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.196	J	0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 15:40	1
Calcium	420	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 15:40	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.238		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	5.8	HF	0.01	0.01	SU			05/03/19 11:36	1
Total Dissolved Solids	6260		100	100	mg/L			05/02/19 13:19	1

Client Sample ID: MW-1

Date Collected: 04/30/19 15:55

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-3

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	247		4.00	0.534	mg/L			05/07/19 17:47	10
Sulfate	2.88	J	5.00	0.957	mg/L			05/07/19 17:47	10

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0327	J	0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 15:42	1
Calcium	49.9	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 15:42	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.139		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	4.1	HF	0.01	0.01	SU			05/03/19 11:39	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Client Sample ID: MW-1
Date Collected: 04/30/19 15:55
Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-3
Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	962		20.0	20.0	mg/L			05/02/19 13:19	1

Client Sample ID: MW-2
Date Collected: 04/30/19 14:25
Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-4
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	437		8.00	1.07	mg/L			05/07/19 15:47	20
Sulfate	17.8		10.0	1.91	mg/L			05/07/19 15:47	20

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0219	J	0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 15:50	1
Calcium	99.2	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 15:50	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0920	J	0.100	0.0200	mg/L			05/04/19 11:00	1
pH	6.8	HF	0.01	0.01	SU			05/03/19 11:15	1
Total Dissolved Solids	1590		20.0	20.0	mg/L			05/02/19 13:19	1

Client Sample ID: MW-17
Date Collected: 04/30/19 10:50
Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-5
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.69		0.400	0.0534	mg/L			05/07/19 18:07	1
Sulfate	6.77		0.500	0.0957	mg/L			05/07/19 18:07	1

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0261	J	0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 15:55	1
Calcium	2.99	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 15:55	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	7.1	HF	0.01	0.01	SU			05/03/19 12:28	1
Total Dissolved Solids	195		10.0	10.0	mg/L			05/02/19 13:19	1

Client Sample ID: MW-18
Date Collected: 04/30/19 12:05
Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-6
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.50		0.800	0.107	mg/L			05/07/19 19:07	2
Sulfate	27.5		1.00	0.191	mg/L			05/07/19 19:07	2

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Client Sample ID: MW-18

Date Collected: 04/30/19 12:05

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-6

Matrix: Water

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0415	J	0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 15:57	1
Calcium	47.6	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 15:57	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.235		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.2	HF	0.01	0.01	SU			05/03/19 11:57	1
Total Dissolved Solids	354		10.0	10.0	mg/L			05/02/19 13:19	1

Client Sample ID: MW-19

Date Collected: 04/30/19 13:05

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-7

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	49.3		2.00	0.267	mg/L			05/07/19 19:27	5
Sulfate	85.4		2.50	0.479	mg/L			05/07/19 19:27	5

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0439	J	0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 15:59	1
Calcium	38.4	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 15:59	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.129		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	6.8	HF	0.01	0.01	SU			05/03/19 12:01	1
Total Dissolved Solids	394		10.0	10.0	mg/L			05/02/19 13:19	1

Client Sample ID: MW-20

Date Collected: 04/30/19 14:15

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-8

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22.4		0.800	0.107	mg/L			05/07/19 19:47	2
Sulfate	78.1		1.00	0.191	mg/L			05/07/19 19:47	2

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0477	J	0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 16:01	1
Calcium	39.5	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 16:01	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.305		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.5	HF	0.01	0.01	SU			05/03/19 12:32	1
Total Dissolved Solids	464		20.0	20.0	mg/L			05/02/19 13:19	1

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Client Sample ID: MW-21

Lab Sample ID: 600-184553-9

Date Collected: 04/30/19 15:10

Matrix: Water

Date Received: 05/01/19 09:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	51.8		4.00	0.534	mg/L			05/07/19 20:07	10
Sulfate	301		5.00	0.957	mg/L			05/07/19 20:07	10

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.250		0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 16:03	1
Calcium	85.8	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 16:03	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0946	J	0.100	0.0200	mg/L			05/04/19 11:00	1
pH	6.4	HF	0.01	0.01	SU			05/03/19 12:43	1
Total Dissolved Solids	708		20.0	20.0	mg/L			05/02/19 13:19	1

Client Sample ID: MW-22

Lab Sample ID: 600-184553-10

Date Collected: 04/30/19 15:15

Matrix: Water

Date Received: 05/01/19 09:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	30.3		0.800	0.107	mg/L			05/07/19 20:27	2
Sulfate	53.7		1.00	0.191	mg/L			05/07/19 20:27	2

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0325	J	0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 16:05	1
Calcium	45.3	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 16:05	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.149		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	6.8	HF	0.01	0.01	SU			05/02/19 18:58	1
Total Dissolved Solids	343		10.0	10.0	mg/L			05/02/19 13:19	1

Client Sample ID: MW-29

Lab Sample ID: 600-184553-11

Date Collected: 04/30/19 11:45

Matrix: Water

Date Received: 05/01/19 09:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10.3		0.400	0.0534	mg/L			05/07/19 21:27	1
Sulfate	26.8		0.500	0.0957	mg/L			05/07/19 21:27	1

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0230	J	0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 16:07	1
Calcium	14.4	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 16:07	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.259		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.5	HF	0.01	0.01	SU			05/03/19 12:47	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Client Sample ID: MW-29

Date Collected: 04/30/19 11:45

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-11

Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	257		10.0	10.0	mg/L			05/02/19 13:19	1

Client Sample ID: MW-45

Date Collected: 04/30/19 12:45

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-12

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1120		40.0	5.34	mg/L			05/07/19 21:47	100
Sulfate	42.1	J	50.0	9.57	mg/L			05/07/19 21:47	100

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0134	J	0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 16:15	1
Calcium	353	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 16:15	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.139		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	6.7	HF	0.01	0.01	SU			05/03/19 11:50	1
Total Dissolved Solids	4070		40.0	40.0	mg/L			05/02/19 13:19	1

Client Sample ID: MW-5

Date Collected: 04/30/19 12:45

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-13

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15.2		0.800	0.107	mg/L			05/07/19 22:07	2
Sulfate	114		5.00	0.957	mg/L			05/08/19 12:32	10

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0168	J	0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 16:17	1
Calcium	27.5	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 16:17	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.167		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	6.7	HF	0.01	0.01	SU			05/03/19 12:51	1
Total Dissolved Solids	387		10.0	10.0	mg/L			05/02/19 14:03	1

Client Sample ID: MW-26

Date Collected: 04/30/19 11:50

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-14

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	287		4.00	0.534	mg/L			05/07/19 23:07	10
Sulfate	8.79		5.00	0.957	mg/L			05/07/19 23:07	10

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Client Sample ID: MW-26

Date Collected: 04/30/19 11:50

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-14

Matrix: Water

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0217	J	0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 16:19	1
Calcium	65.8	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 16:19	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0580	J	0.100	0.0200	mg/L			05/04/19 11:00	1
pH	6.6	HF	0.01	0.01	SU			05/03/19 12:36	1
Total Dissolved Solids	1030		20.0	20.0	mg/L			05/02/19 14:03	1

Client Sample ID: MW-43

Date Collected: 04/30/19 13:40

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-15

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29.0		8.00	1.07	mg/L			05/07/19 23:27	20
Sulfate	644		10.0	1.91	mg/L			05/07/19 23:27	20

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.336		0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 16:21	1
Calcium	93.3	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 16:21	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.40		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.6	HF	0.01	0.01	SU			05/03/19 11:46	1
Total Dissolved Solids	1570		20.0	20.0	mg/L			05/02/19 14:03	1

Client Sample ID: MW-44

Date Collected: 04/30/19 14:10

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-16

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27.2		2.00	0.267	mg/L			05/07/19 23:47	5
Sulfate	97.2		2.50	0.479	mg/L			05/07/19 23:47	5

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0816	J	0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 16:23	1
Calcium	26.6	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 16:23	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.516		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.2	HF	0.01	0.01	SU			05/03/19 11:42	1
Total Dissolved Solids	472		10.0	10.0	mg/L			05/02/19 14:03	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Client Sample ID: MW-46

Date Collected: 04/30/19 10:40

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-17

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2460		80.0	10.7	mg/L			05/08/19 00:07	200
Sulfate	53.2	J	100	19.1	mg/L			05/08/19 00:07	200

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		05/01/19 16:47	05/07/19 16:25	1
Calcium	559	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 16:25	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0524	J	0.100	0.0200	mg/L			05/04/19 11:00	1
pH	6.9	HF	0.01	0.01	SU			05/03/19 12:21	1
Total Dissolved Solids	8000		100	100	mg/L			05/02/19 14:03	1

Client Sample ID: DUP-01

Date Collected: 04/30/19 12:00

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-18

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28.1		8.00	1.07	mg/L			05/08/19 00:27	20
Sulfate	622		10.0	1.91	mg/L			05/08/19 00:27	20

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.335		0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 16:28	1
Calcium	92.9	b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 16:28	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.38		0.100	0.0200	mg/L			05/04/19 11:00	1
pH	7.6	HF	0.01	0.01	SU			05/03/19 12:40	1
Total Dissolved Solids	1710		20.0	20.0	mg/L			05/02/19 14:03	1

Client Sample ID: FB-01

Date Collected: 04/30/19 13:20

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-19

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.0534	U	0.400	0.0534	mg/L			05/08/19 13:32	1
Sulfate	0.0957	U	0.500	0.0957	mg/L			05/08/19 13:32	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		05/01/19 16:47	05/07/19 16:30	1
Calcium	0.143	J b	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 16:30	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0300	J	0.100	0.0200	mg/L			05/04/19 11:00	1
pH	6.7	HF	0.01	0.01	SU			05/03/19 12:24	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Client Sample ID: FB-01

Lab Sample ID: 600-184553-19

Date Collected: 04/30/19 13:20

Matrix: Water

Date Received: 05/01/19 09:40

General Chemistry (Continued)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	188		20.0	20.0	mg/L			05/02/19 14:03	1

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Definitions/Glossary

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
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
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
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
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.

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-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-264515/4
Matrix: Water
Analysis Batch: 264515

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			05/07/19 13:23	1
Sulfate	0.0957	U	0.500	0.0957	mg/L			05/07/19 13:23	1

Lab Sample ID: LCS 600-264515/5
Matrix: Water
Analysis Batch: 264515

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	19.59		mg/L		98	90 - 110
Sulfate	20.0	19.57		mg/L		98	90 - 110

Lab Sample ID: 600-184553-4 MS
Matrix: Water
Analysis Batch: 264515

Client Sample ID: MW-2 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	437		200	616.9		mg/L		90	80 - 120
Sulfate	17.8		200	205.7		mg/L		94	80 - 120

Lab Sample ID: 600-184553-4 MSD
Matrix: Water
Analysis Batch: 264515

Client Sample ID: MW-2 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	437		200	613.9		mg/L		88	80 - 120	0	20
Sulfate	17.8		200	205.0		mg/L		94	80 - 120	0	20

Lab Sample ID: 600-184553-10 MS
Matrix: Water
Analysis Batch: 264515

Client Sample ID: MW-22
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.3		20.0	46.47		mg/L		81	80 - 120
Sulfate	53.7		20.0	66.55	N1	mg/L		64	80 - 120

Lab Sample ID: 600-184553-10 MSD
Matrix: Water
Analysis Batch: 264515

Client Sample ID: MW-22
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	30.3		20.0	47.16		mg/L		84	80 - 120	1	20
Sulfate	53.7		20.0	67.38	N1	mg/L		69	80 - 120	1	20

Lab Sample ID: MB 600-264591/4
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 11:52	1
Sulfate	0.0957	U	0.500	0.0957	mg/L			05/08/19 11:52	1

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QC Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCS 600-264591/5
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	19.17		mg/L		96	90 - 110
Sulfate	20.0	19.10		mg/L		95	90 - 110

Lab Sample ID: 600-184553-13 MS
Matrix: Water
Analysis Batch: 264591

Client Sample ID: MW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	14.4		100	108.9		mg/L		94	80 - 120
Sulfate	114		100	197.3		mg/L		83	80 - 120

Lab Sample ID: 600-184553-13 MSD
Matrix: Water
Analysis Batch: 264591

Client Sample ID: MW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	14.4		100	110.0		mg/L		96	80 - 120	1	20
Sulfate	114		100	199.0		mg/L		85	80 - 120	1	20

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

Lab Sample ID: MB 600-264100/1-A
Matrix: Water
Analysis Batch: 264521

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 264100

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0116	U	0.200	0.0116	mg/L		05/01/19 16:47	05/07/19 15:34	1
Calcium	0.05180	J	1.00	0.0240	mg/L		05/01/19 16:47	05/07/19 15:34	1

Lab Sample ID: LCS 600-264100/2-A
Matrix: Water
Analysis Batch: 264521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264100

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.025		mg/L		103	80 - 120
Calcium	25.0	24.25		mg/L		97	80 - 120

Lab Sample ID: 600-184553-4 MS
Matrix: Water
Analysis Batch: 264521

Client Sample ID: MW-2 MS
Prep Type: Total/NA
Prep Batch: 264100

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.0219	J	1.00	1.052		mg/L		103	75 - 125
Calcium	99.2	b	25.0	123.9		mg/L		99	75 - 125

QC Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

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

Lab Sample ID: 600-184553-4 MSD
Matrix: Water
Analysis Batch: 264521

Client Sample ID: MW-2 MSD
Prep Type: Total/NA
Prep Batch: 264100

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Boron	0.0219	J	1.00	1.037		mg/L		102	75 - 125	1	20
Calcium	99.2	b	25.0	123.0		mg/L		95	75 - 125	1	20

Lab Sample ID: 600-184568-E-1-B DU
Matrix: Water
Analysis Batch: 264521

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 264100

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Boron	0.748		0.7675		mg/L		3	20
Calcium	130	b	129.0		mg/L		0.6	20

Method: 340.2 - Fluoride

Lab Sample ID: MB 560-162195/59
Matrix: Water
Analysis Batch: 162195

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

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

Lab Sample ID: MB 560-162195/89
Matrix: Water
Analysis Batch: 162195

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

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

Lab Sample ID: LCS 560-162195/60
Matrix: Water
Analysis Batch: 162195

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

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				Limits
Fluoride	0.800	0.8210		mg/L		103	85 - 115

Lab Sample ID: LCS 560-162195/90
Matrix: Water
Analysis Batch: 162195

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

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				Limits
Fluoride	0.800	0.8170		mg/L		102	85 - 115

Lab Sample ID: 600-184553-4 MS
Matrix: Water
Analysis Batch: 162195

Client Sample ID: MW-2 MS
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				Limits
Fluoride	0.0920	J	0.500	0.5210		mg/L		86	75 - 125

QC Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Method: 340.2 - Fluoride (Continued)

Lab Sample ID: 600-184553-4 MSD
Matrix: Water
Analysis Batch: 162195

Client Sample ID: MW-2 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	0.0920	J	0.500	0.5050		mg/L		83	75 - 125	3	20

Lab Sample ID: 600-184553-19 MSD
Matrix: Water
Analysis Batch: 162195

Client Sample ID: FB-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.0300	J	0.500	0.5220		mg/L		98	75 - 125	1	20

Method: 9040B - pH

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-B-8 DU
Matrix: Water
Analysis Batch: 264281

Client Sample ID: Duplicate
Prep Type: Total/NA

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

Lab Sample ID: LCS 600-264328/1
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: 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-B-24 DU
Matrix: Water
Analysis Batch: 264328

Client Sample ID: Duplicate
Prep Type: Total/NA

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

QC Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Method: 9040B - pH (Continued)

Lab Sample ID: 600-184496-D-2 DU
Matrix: Water
Analysis Batch: 264328

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	9.2		9.2		SU		0.1	1

Lab Sample ID: 600-184606-B-1 DU
Matrix: Water
Analysis Batch: 264328

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.4		7.4		SU		0.1	1

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

Lab Sample ID: MB 600-264211/1
Matrix: Water
Analysis Batch: 264211

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 13:19	1

Lab Sample ID: LCS 600-264211/2
Matrix: Water
Analysis Batch: 264211

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	1892		mg/L		105	90 - 110

Lab Sample ID: 600-184553-3 DU
Matrix: Water
Analysis Batch: 264211

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	962		882.0		mg/L		9	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

QC Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

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

Lab Sample ID: 600-184553-13 DU
Matrix: Water
Analysis Batch: 264216

Client Sample ID: MW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	387		397.0		mg/L		3	10

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

Client Sample ID: DUP-01
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-B-6 DU
Matrix: Water
Analysis Batch: 264424

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	1720		1790		mg/L		4	10

Unadjusted Detection Limits

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

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-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

HPLC/IC

Analysis Batch: 264515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-1	MW-27	Total/NA	Water	300.0	
600-184553-2	MW-28	Total/NA	Water	300.0	
600-184553-3	MW-1	Total/NA	Water	300.0	
600-184553-4	MW-2	Total/NA	Water	300.0	
600-184553-5	MW-17	Total/NA	Water	300.0	
600-184553-6	MW-18	Total/NA	Water	300.0	
600-184553-7	MW-19	Total/NA	Water	300.0	
600-184553-8	MW-20	Total/NA	Water	300.0	
600-184553-9	MW-21	Total/NA	Water	300.0	
600-184553-10	MW-22	Total/NA	Water	300.0	
600-184553-11	MW-29	Total/NA	Water	300.0	
600-184553-12	MW-45	Total/NA	Water	300.0	
600-184553-13	MW-5	Total/NA	Water	300.0	
600-184553-14	MW-26	Total/NA	Water	300.0	
600-184553-15	MW-43	Total/NA	Water	300.0	
600-184553-16	MW-44	Total/NA	Water	300.0	
600-184553-17	MW-46	Total/NA	Water	300.0	
600-184553-18	DUP-01	Total/NA	Water	300.0	
MB 600-264515/4	Method Blank	Total/NA	Water	300.0	
LCS 600-264515/5	Lab Control Sample	Total/NA	Water	300.0	
600-184553-4 MS	MW-2 MS	Total/NA	Water	300.0	
600-184553-4 MSD	MW-2 MSD	Total/NA	Water	300.0	
600-184553-10 MS	MW-22	Total/NA	Water	300.0	
600-184553-10 MSD	MW-22	Total/NA	Water	300.0	

Analysis Batch: 264591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-13	MW-5	Total/NA	Water	300.0	
600-184553-19	FB-01	Total/NA	Water	300.0	
MB 600-264591/4	Method Blank	Total/NA	Water	300.0	
LCS 600-264591/5	Lab Control Sample	Total/NA	Water	300.0	
600-184553-13 MS	MW-5	Total/NA	Water	300.0	
600-184553-13 MSD	MW-5	Total/NA	Water	300.0	

Metals

Prep Batch: 264100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-1	MW-27	Total/NA	Water	3010A	
600-184553-2	MW-28	Total/NA	Water	3010A	
600-184553-3	MW-1	Total/NA	Water	3010A	
600-184553-4	MW-2	Total/NA	Water	3010A	
600-184553-5	MW-17	Total/NA	Water	3010A	
600-184553-6	MW-18	Total/NA	Water	3010A	
600-184553-7	MW-19	Total/NA	Water	3010A	
600-184553-8	MW-20	Total/NA	Water	3010A	
600-184553-9	MW-21	Total/NA	Water	3010A	
600-184553-10	MW-22	Total/NA	Water	3010A	
600-184553-11	MW-29	Total/NA	Water	3010A	
600-184553-12	MW-45	Total/NA	Water	3010A	
600-184553-13	MW-5	Total/NA	Water	3010A	

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QC Association Summary

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Metals (Continued)

Prep Batch: 264100 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-14	MW-26	Total/NA	Water	3010A	
600-184553-15	MW-43	Total/NA	Water	3010A	
600-184553-16	MW-44	Total/NA	Water	3010A	
600-184553-17	MW-46	Total/NA	Water	3010A	
600-184553-18	DUP-01	Total/NA	Water	3010A	
600-184553-19	FB-01	Total/NA	Water	3010A	
MB 600-264100/1-A	Method Blank	Total/NA	Water	3010A	
LCS 600-264100/2-A	Lab Control Sample	Total/NA	Water	3010A	
600-184553-4 MS	MW-2 MS	Total/NA	Water	3010A	
600-184553-4 MSD	MW-2 MSD	Total/NA	Water	3010A	
600-184568-E-1-B DU	Duplicate	Total/NA	Water	3010A	

Analysis Batch: 264521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-1	MW-27	Total/NA	Water	6010B	264100
600-184553-2	MW-28	Total/NA	Water	6010B	264100
600-184553-3	MW-1	Total/NA	Water	6010B	264100
600-184553-4	MW-2	Total/NA	Water	6010B	264100
600-184553-5	MW-17	Total/NA	Water	6010B	264100
600-184553-6	MW-18	Total/NA	Water	6010B	264100
600-184553-7	MW-19	Total/NA	Water	6010B	264100
600-184553-8	MW-20	Total/NA	Water	6010B	264100
600-184553-9	MW-21	Total/NA	Water	6010B	264100
600-184553-10	MW-22	Total/NA	Water	6010B	264100
600-184553-11	MW-29	Total/NA	Water	6010B	264100
600-184553-12	MW-45	Total/NA	Water	6010B	264100
600-184553-13	MW-5	Total/NA	Water	6010B	264100
600-184553-14	MW-26	Total/NA	Water	6010B	264100
600-184553-15	MW-43	Total/NA	Water	6010B	264100
600-184553-16	MW-44	Total/NA	Water	6010B	264100
600-184553-17	MW-46	Total/NA	Water	6010B	264100
600-184553-18	DUP-01	Total/NA	Water	6010B	264100
600-184553-19	FB-01	Total/NA	Water	6010B	264100
MB 600-264100/1-A	Method Blank	Total/NA	Water	6010B	264100
LCS 600-264100/2-A	Lab Control Sample	Total/NA	Water	6010B	264100
600-184553-4 MS	MW-2 MS	Total/NA	Water	6010B	264100
600-184553-4 MSD	MW-2 MSD	Total/NA	Water	6010B	264100
600-184568-E-1-B DU	Duplicate	Total/NA	Water	6010B	264100

General Chemistry

Analysis Batch: 162195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-1	MW-27	Total/NA	Water	340.2	
600-184553-2	MW-28	Total/NA	Water	340.2	
600-184553-3	MW-1	Total/NA	Water	340.2	
600-184553-4	MW-2	Total/NA	Water	340.2	
600-184553-5	MW-17	Total/NA	Water	340.2	
600-184553-6	MW-18	Total/NA	Water	340.2	
600-184553-7	MW-19	Total/NA	Water	340.2	
600-184553-8	MW-20	Total/NA	Water	340.2	

Eurofins TestAmerica, Houston

QC Association Summary

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

General Chemistry (Continued)

Analysis Batch: 162195 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-9	MW-21	Total/NA	Water	340.2	
600-184553-10	MW-22	Total/NA	Water	340.2	
600-184553-11	MW-29	Total/NA	Water	340.2	
600-184553-12	MW-45	Total/NA	Water	340.2	
600-184553-13	MW-5	Total/NA	Water	340.2	
600-184553-14	MW-26	Total/NA	Water	340.2	
600-184553-15	MW-43	Total/NA	Water	340.2	
600-184553-16	MW-44	Total/NA	Water	340.2	
600-184553-17	MW-46	Total/NA	Water	340.2	
600-184553-18	DUP-01	Total/NA	Water	340.2	
600-184553-19	FB-01	Total/NA	Water	340.2	
MB 560-162195/59	Method Blank	Total/NA	Water	340.2	
MB 560-162195/89	Method Blank	Total/NA	Water	340.2	
LCS 560-162195/60	Lab Control Sample	Total/NA	Water	340.2	
LCS 560-162195/90	Lab Control Sample	Total/NA	Water	340.2	
600-184553-4 MS	MW-2 MS	Total/NA	Water	340.2	
600-184553-4 MSD	MW-2 MSD	Total/NA	Water	340.2	
600-184553-19 MSD	FB-01	Total/NA	Water	340.2	

Analysis Batch: 264211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-1	MW-27	Total/NA	Water	SM 2540C	
600-184553-2	MW-28	Total/NA	Water	SM 2540C	
600-184553-3	MW-1	Total/NA	Water	SM 2540C	
600-184553-4	MW-2	Total/NA	Water	SM 2540C	
600-184553-5	MW-17	Total/NA	Water	SM 2540C	
600-184553-6	MW-18	Total/NA	Water	SM 2540C	
600-184553-7	MW-19	Total/NA	Water	SM 2540C	
600-184553-8	MW-20	Total/NA	Water	SM 2540C	
600-184553-9	MW-21	Total/NA	Water	SM 2540C	
600-184553-10	MW-22	Total/NA	Water	SM 2540C	
600-184553-11	MW-29	Total/NA	Water	SM 2540C	
600-184553-12	MW-45	Total/NA	Water	SM 2540C	
MB 600-264211/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 600-264211/2	Lab Control Sample	Total/NA	Water	SM 2540C	
600-184553-3 DU	MW-1	Total/NA	Water	SM 2540C	

Analysis Batch: 264216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-13	MW-5	Total/NA	Water	SM 2540C	
600-184553-14	MW-26	Total/NA	Water	SM 2540C	
600-184553-15	MW-43	Total/NA	Water	SM 2540C	
600-184553-16	MW-44	Total/NA	Water	SM 2540C	
600-184553-17	MW-46	Total/NA	Water	SM 2540C	
600-184553-18	DUP-01	Total/NA	Water	SM 2540C	
600-184553-19	FB-01	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	
600-184553-13 DU	MW-5	Total/NA	Water	SM 2540C	
600-184553-18 DU	DUP-01	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Houston

QC Association Summary

Client: TRC Solutions, Inc.
 Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

General Chemistry

Analysis Batch: 264281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-10	MW-22	Total/NA	Water	9040B	
LCS 600-264281/26	Lab Control Sample	Total/NA	Water	9040B	
600-184470-B-8 DU	Duplicate	Total/NA	Water	9040B	

Analysis Batch: 264328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-1	MW-27	Total/NA	Water	9040B	
600-184553-2	MW-28	Total/NA	Water	9040B	
600-184553-3	MW-1	Total/NA	Water	9040B	
600-184553-4	MW-2	Total/NA	Water	9040B	
600-184553-5	MW-17	Total/NA	Water	9040B	
600-184553-6	MW-18	Total/NA	Water	9040B	
600-184553-7	MW-19	Total/NA	Water	9040B	
600-184553-8	MW-20	Total/NA	Water	9040B	
600-184553-9	MW-21	Total/NA	Water	9040B	
600-184553-11	MW-29	Total/NA	Water	9040B	
600-184553-12	MW-45	Total/NA	Water	9040B	
600-184553-13	MW-5	Total/NA	Water	9040B	
600-184553-14	MW-26	Total/NA	Water	9040B	
600-184553-15	MW-43	Total/NA	Water	9040B	
600-184553-16	MW-44	Total/NA	Water	9040B	
600-184553-17	MW-46	Total/NA	Water	9040B	
600-184553-18	DUP-01	Total/NA	Water	9040B	
600-184553-19	FB-01	Total/NA	Water	9040B	
LCS 600-264328/1	Lab Control Sample	Total/NA	Water	9040B	
LCS 600-264328/26	Lab Control Sample	Total/NA	Water	9040B	
600-184470-B-24 DU	Duplicate	Total/NA	Water	9040B	
600-184496-D-2 DU	Duplicate	Total/NA	Water	9040B	
600-184606-B-1 DU	Duplicate	Total/NA	Water	9040B	

Analysis Batch: 264424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
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-B-6 DU	Duplicate	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Client Sample ID: MW-27

Date Collected: 04/30/19 12:55

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-1

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		10			264515	05/07/19 17:07	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 15:38	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			264328	05/03/19 12:04	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264211	05/02/19 13:19	DTN	TAL HOU

Client Sample ID: MW-28

Date Collected: 04/30/19 12:55

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-2

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			264515	05/07/19 17:27	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 15:40	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 11:36	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	264211	05/02/19 13:19	DTN	TAL HOU

Client Sample ID: MW-1

Date Collected: 04/30/19 15:55

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-3

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		10			264515	05/07/19 17:47	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 15:42	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			264328	05/03/19 11:39	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264211	05/02/19 13:19	DTN	TAL HOU

Client Sample ID: MW-2

Date Collected: 04/30/19 14:25

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-4

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		20			264515	05/07/19 15:47	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 15:50	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 11:15	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264211	05/02/19 13:19	DTN	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: TRC Solutions, Inc.
 Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Client Sample ID: MW-17

Lab Sample ID: 600-184553-5

Date Collected: 04/30/19 10:50

Matrix: Water

Date Received: 05/01/19 09:40

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			264515	05/07/19 18:07	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 15:55	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 12:28	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	264211	05/02/19 13:19	DTN	TAL HOU

Client Sample ID: MW-18

Lab Sample ID: 600-184553-6

Date Collected: 04/30/19 12:05

Matrix: Water

Date Received: 05/01/19 09:40

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		2			264515	05/07/19 19:07	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 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			264328	05/03/19 11:57	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	264211	05/02/19 13:19	DTN	TAL HOU

Client Sample ID: MW-19

Lab Sample ID: 600-184553-7

Date Collected: 04/30/19 13:05

Matrix: Water

Date Received: 05/01/19 09:40

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		5			264515	05/07/19 19:27	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 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			264328	05/03/19 12:01	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	264211	05/02/19 13:19	DTN	TAL HOU

Client Sample ID: MW-20

Lab Sample ID: 600-184553-8

Date Collected: 04/30/19 14:15

Matrix: Water

Date Received: 05/01/19 09:40

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		2			264515	05/07/19 19:47	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 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			264328	05/03/19 12:32	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264211	05/02/19 13:19	DTN	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Client Sample ID: MW-21

Lab Sample ID: 600-184553-9

Date Collected: 04/30/19 15:10

Matrix: Water

Date Received: 05/01/19 09:40

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			264515	05/07/19 20:07	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:03	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 12:43	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264211	05/02/19 13:19	DTN	TAL HOU

Client Sample ID: MW-22

Lab Sample ID: 600-184553-10

Date Collected: 04/30/19 15:15

Matrix: Water

Date Received: 05/01/19 09:40

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		2			264515	05/07/19 20:27	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:05	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 18:58	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	264211	05/02/19 13:19	DTN	TAL HOU

Client Sample ID: MW-29

Lab Sample ID: 600-184553-11

Date Collected: 04/30/19 11:45

Matrix: Water

Date Received: 05/01/19 09:40

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			264515	05/07/19 21:27	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 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			264328	05/03/19 12:47	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	264211	05/02/19 13:19	DTN	TAL HOU

Client Sample ID: MW-45

Lab Sample ID: 600-184553-12

Date Collected: 04/30/19 12:45

Matrix: Water

Date Received: 05/01/19 09:40

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			264515	05/07/19 21:47	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 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			264328	05/03/19 11:50	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	264211	05/02/19 13:19	DTN	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Client Sample ID: MW-5

Date Collected: 04/30/19 12:45

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-13

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		2			264515	05/07/19 22:07	SKR	TAL HOU
Total/NA	Analysis	300.0		10			264591	05/08/19 12:32	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:17	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 12:51	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	264216	05/02/19 14:03	DTN	TAL HOU

Client Sample ID: MW-26

Date Collected: 04/30/19 11:50

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-14

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		10			264515	05/07/19 23:07	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:19	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 12:36	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-43

Date Collected: 04/30/19 13:40

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-15

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		20			264515	05/07/19 23:27	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:21	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 11:46	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-44

Date Collected: 04/30/19 14:10

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-16

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		5			264515	05/07/19 23:47	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:23	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 11:42	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	264216	05/02/19 14:03	DTN	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

Client Sample ID: MW-46

Date Collected: 04/30/19 10:40

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-17

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		200			264515	05/08/19 00:07	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:25	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 12:21	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	264216	05/02/19 14:03	DTN	TAL HOU

Client Sample ID: DUP-01

Date Collected: 04/30/19 12:00

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-18

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		20			264515	05/08/19 00:27	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 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			264328	05/03/19 12:40	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: FB-01

Date Collected: 04/30/19 13:20

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-19

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		1			264591	05/08/19 13:32	SKR	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 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			264328	05/03/19 12:24	KRD	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	264216	05/02/19 14:03	DTN	TAL HOU

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-Limestone CCR App III 4-30-19

Job ID: 600-184553-1

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: Rob Jaros Company: ERM-Southwest Inc. Address: CityCentre Four 840 West Sam Houston Parkway North Suite 600 City: Houston State, Zip: TX, 77024 Phone: 713-244-1000(Tel) Email: rob.jaros@erm.com Project Name: ERM-NRG-Jewett Limestone CCR App III Site:		Lab PM: Tigretti, C. Lance E-Mail: lance.tigretti@testamericainc.com Garnier Tracking No(s):	
Sampler: Brian Hillin & HMI Team Phone: 713-653-3127		COC No: 600-68073-15854.3 Page: 1 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: WO #: Project #: SSO# #:		Analysis Requested Perform MS/MSD (Yes or No): Field Filtered Sample (Yes or No): 2540C_Calcd-TDS: N 9040B - pH (Field pH provided by TRC): N 340.2 - Fluoride: N 6010B - (Boron and Calcium): N 300_ORGF_M_28D (Chloride/Sulfate): N O = MS/MSD volume provided	
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 - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 X - EDTA Z - other (specify)	
Special Instructions/Note: Total Number of containers:		Special Instructions/Note: 600-184553 Chain of Custody	
Sample Identification MW-27 MW-28 MW-1 MW-2 MW-17 MW-18 MW-19 MW-20 MW-21 MW-22 MW-29		Sample Date 4-30-19 Sample Time 1255 1255 1555 1425 1050 1205 1305 1415 1510 1515 1145	
Sample Type (C=comp, G=grab) G G G G G G G G G G G		Matrix (W=water, S=solid, O=other) Water Water Water Water Water Water Water Water Water Water Water	
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: <i>[Signature]</i> Date/Time: 5-1-19 940		Received by: <i>[Signature]</i> Date/Time: 5/1/19 940	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
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: Rob Jaros Company: ERM-Southwest Inc. Address: CityCentre Four 840 West Sam Houston Parkway North Suite 60 City: Houston State: TX, Zip: 77024 Phone: 713-244-1000(Tel) Email: rob.jaros@erm.com Project Name: ERM-NRG-Jewett Limestone CCR App IV SSite:		Lab PMT: Tigrett, C. Lance E-Mail: lance.tigrett@testamericainc.com Carrier Tracking No(s): COC No: 600-68073-15854.3 Page: 1 of 2 Job #: 1052	
Due Date Requested: TAT Requested (days): PO #: 4501809384 WO #: Project #: 60008045 SSOW#:		Analysis Requested Perform MS/MSD (Yes or No): Field Filtered Sample (Yes or No): Total Number of Containers:	
Sample Identification MW-27 MW-28 MW-1 MW-2 MW-17 MW-18 MW-19 MW-20 MW-21 MW-22 MW-29		Matrix (Water, Solid, Other): Sample Type (C=Comp, G=grab): Sample Time: Sample Date: Preservation Code: Water Water Water Water Water Water Water Water Water Water	
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/Note:	
Empty Kit Relinquished by: Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by:		Method of Shipment: Consultant Delivery Date/Time: 5/1/19 9:40 Date/Time: 5/1/19 9:40 Date/Time:	
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:	



Chain of Custody Record

Client Information Client Contact: Rob Jaros Company: ERM-Southwest Inc. Address: ERM-Centre Four 840 West Sam Houston Parkway North Suite 60 City: Houston State, Zip: TX, 77024 Phone: 713-244-1000(Tel) Email: rob.jaros@erm.com Project Name: ERM-NRG-Jewett Limestone CCR App IV Site:		Sampler: Brian Hilliard HMI Team Lab PM: Tigrett, C. Lance Phone: 713-653-3127 E-Mail: lance.tigrett@testamericainc.com		Carrier Tracking No(s): COC No: 600-68073-15854 3 Page: 2 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: 4501809384 WO #:		Analysis Requested			
Matrix (W=water, S=solid, O=wastefoil, BT=tissue, A=air) Sample Type (C=Comp, G=grab) Sample Time Sample Date Preservation Code:		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) RZ26Ra228 GPPC - Local Method 7470A - Mercury 340.2 - Fluoride 6010B - (MOD) Custom List 903.0 - Radium-226 904.0 - Radium 228			
Sample Identification MW-45 MW-5 MW-26 MW-43 MW-44 MW-46 DUP-01 FB-01		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)					
Empty Kit Relinquished by: Relinquished by: [Signature] Relinquished by: Relinquished by:					
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:					
Method of Shipment: Consultant Deliver Date/Time: 5-1-19 940 Company: HMI Date/Time: 5-1-19 940 Company: [Signature] Date/Time: [Signature] Company: [Signature]					
Cooler Temperature(s) °C and Other Remarks:					

Chain of Custody Record

Client Information Client Contact: Rob Jaros Phone: 713-653-3127 Lab PM: Tigrati, C. Lance E-Mail: lance.tigrati@vestamericainc.com		Carrier Tracking No(s): COC No: 600-68073-15854 3 Page: 2 of 2 Job #:	
Company: ERM-Southwest Inc. Address: ERM-Centre Four 840 West Sam Houston Parkway North Suite 600 City: Houston State, Zip: TX, 77024 Phone: 713-244-1000(Tel) Email: rob.jaros@erm.com Project Name: ERM-NRG-Jewett Limestone CCR App III Site:		Analysis Requested Due Date Requested: TAT Requested (days): PO #: WO #: Project #: SSOW#:	
Sample Identification Sample ID: MW-45 MW-5 MW-26 MW-43 MW-44 MW-46 DUP-01 FB-01		Sample Date: 4-30-19 Sample Time: 1245 1245 1150 1340 1410 1040 1200 1320	
Sample Type (C=comp, G=grab): G Matrix (W=water, S=solid, O=other): Water		Field Filtered Sample (Yes or No): N Perform MS/MSD (Yes or No): N 2540C - Calcd-TDS: X 9040B - pH (Field pH provided by TRC): X 340 Z - Fluoride: X 6010B - (Boron and Calcium): X 300_ORGM_29D (Chloride/Sulfate): X	
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 - EDTA Z - other (specify) Other:		Special Instructions/Note: Total Number of containers:	
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:		Method of Shipment:	
Relinquished by: [Signature] Date/Time: 5-1-19 940 Company: HMI		Received by: [Signature] Date/Time: 5/1/19 940 Company: Consultant Delivery	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:	



Sample Receipt Checklist

Date/Time Received: 19 MAY 1 9:40

JOB NUMBER: VR 14

CLIENT: HMI

UNPACKED BY: VR 14

CARRIER/DRIVER: Client

Custody Seal Present: YES NO

Number of Coolers Received: 8

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
<u>210</u>	<u>(Y) / N</u>	<u>Y / (N)</u>	<u>0.8</u>	<u>W710</u>	<u>-0.2</u>	<u>0.6</u>
<u>510</u>	<u>(X) / N</u>	<u>Y / (N)</u>	<u>0.4</u>	<u>↓</u>	<u>↓</u>	<u>0.4</u>
<u>520</u>	<u>(Y) / N</u>	<u>Y / (N)</u>	<u>0.4</u>	<u>↓</u>	<u>↓</u>	<u>0.4</u>
<u>530</u>	<u>(Y) / N</u>	<u>Y / (N)</u>	<u>0.4</u>	<u>↓</u>	<u>↓</u>	<u>0.4</u>
<u>540</u>	<u>(X) / N</u>	<u>Y / (N)</u>	<u>0.7</u>	<u>↓</u>	<u>↓</u>	<u>0.7</u>
<u>550</u>	<u>(Y) / N</u>	<u>Y / (N)</u>	<u>0.8</u>	<u>↓</u>	<u>↓</u>	<u>0.8</u>
<u>560</u>	<u>(X) / N</u>	<u>Y / (N)</u>	<u>0.3</u>	<u>↓</u>	<u>↓</u>	<u>0.3</u>
<u>570</u>	<u>(Y) / N</u>	<u>Y / (N)</u>	<u>1.0</u>	<u>↓</u>	<u>↓</u>	<u>1.0</u>
<u>580</u>	<u>Y / N</u>	<u>Y / N</u>				

CF = correction factor

5/11/19

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 # H0869997

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

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

COMMENTS:

VR 14
5/11/19

Chain of Custody Record



Client Information (Sub Contract Lab)		Lab PM: Tigrett, C. Lance	Carrier Tracking No(s): 600-39178.1					
Client Contact: Shipping/Receiving		E-Mail: lance.tigrett@testamericainc.com	Page: 1 of 3					
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas	Job #: 600-184553-1					
Address: 1733 N. Padre Island Drive, Corpus Christi, TX, 78408		Due Date Requested: 5/8/2019	Analysis Requested					
State, Zip: TX, 78408		TAT Requested (days):						
Phone: 361-289-2673(Tel) 361-289-2471(Fax)		PO #:	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:					
Email:		WO #:						
Project Name: TRC-Limestone CCR App III 4-30-19		Project #: 60008045	Special Instructions/Note:					
Site:		SSOW#:						
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab) BT-TISSUE, A-Air	Matrix (W=water, S=soil, O=wastewater, BT-TISSUE, A-Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	3402	Total Number of Containers
MW-27 (600-184553-1)	4/30/19	12:55 Central	Water	Water	X	X		1
MW-28 (600-184553-2)	4/30/19	12:55 Central	Water	Water	X	X		1
MW-1 (600-184553-3)	4/30/19	15:55 Central	Water	Water	X	X		1
MW-2 (600-184553-4)	4/30/19	14:25 Central	Water	Water	X	X		1
MW-2 MS (600-184553-4MS)	4/30/19	14:25 Central	MS	Water	X	X		1
MW-2 MSD (600-184553-4MSD)	4/30/19	14:25 Central	MSD	Water	X	X		1
MW-17 (600-184553-5)	4/30/19	10:50 Central	Water	Water	X	X		1
MW-18 (600-184553-6)	4/30/19	12:05 Central	Water	Water	X	X		1
MW-19 (600-184553-7)	4/30/19	13:05 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 our 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

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:

Empty Kit Relinquished by: _____ Date: _____ Method of Shipment: _____

Relinquished by: *Stacy* Date: 5/11/19 1000 Company: *TH* Received by: *[Signature]* Date/Time: 5-2-19 9:55 Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: _____ Custody Seal No.: _____ Cooler Temperature(s) °C and Other Remarks: *18-10*



Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:						
Client Contact: Shipping/Receiving		Phone:	Tigrett, C. Lance	State of Origin: Texas	600-39178-1						
Company: TestAmerica Laboratories, Inc.		E-Mail: lance.tigrett@testamericainc.com	Accreditations Required (See note): NELAP - Texas	Page: 1 of 3	Job #: 600-184553-2						
Address: 1733 N. Padre Island Drive,		Due Date Requested: 5/8/2019	Preservation Codes:								
City: Corpus Christi	TAT Requested (days):	PO #:	A - HCL	M - Hexane							
State, Zip: TX, 78408		WO #:	B - NaOH	N - None							
Phone: 361-289-2673(Tel) 361-289-2471(Fax)		Project #: 60008045	C - Zn Acetate	O - AsNaO2							
Email:		SSOW#:	D - Nitric Acid	P - Na2O4S							
			E - NaHSO4	Q - Na2SO3							
			F - MeOH	R - Na2S2O3							
			G - Amchlor	S - H2SO4							
			H - Ascorbic Acid	T - TSP Dodecahydrate							
			I - Ice	U - Acetone							
			J - DI Water	V - MCAA							
			K - EDTA	W - pH 4-5							
			L - EDA	Z - other (specify)							
			Other:								
Sample Identification - Client ID (Lab ID)		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)	Perform MS/MSD (Yes or No)	7470A/7470A_Prep	Analysis Requested	Total Number of Containers	Special Instructions/Note:
MW-27 (600-184553-1)	4/30/19	12:55	Central	Water	Water	X	X		1		
MW-28 (600-184553-2)	4/30/19	12:55	Central	Water	Water	X	X		1		
MW-1 (600-184553-3)	4/30/19	15:55	Central	Water	Water	X	X		1		
MW-2 (600-184553-4)	4/30/19	14:25	Central	Water	Water	X	X		1		
MW-2 MS (600-184553-4MS)	4/30/19	14:25	MS	Water	Water	X	X		1		
MW-2 MSD (600-184553-4MSD)	4/30/19	14:25	MSD	Water	Water	X	X		1		
MW-17 (600-184553-5)	4/30/19	10:50	Central	Water	Water	X	X		1		
MW-18 (600-184553-6)	4/30/19	12:05	Central	Water	Water	X	X		1		
MW-19 (600-184553-7)	4/30/19	13:05	Central	Water	Water	X	X		1		
<p>Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our 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.</p>											
Possible Hazard Identification											
Unconfirmed											
Deliverable Requested: I, II, III, IV, Other (specify)											
Primary Deliverable Rank: 2											
Empty Kit Relinquished by:											
Relinquished by: <i>Stacy</i> Date: 5/1/19 10:00											
Relinquished by: <i>TH</i> Company: <i>TH</i>											
Relinquished by: <i>TH</i> Company: <i>TH</i>											
Relinquished by: <i>TH</i> Company: <i>TH</i>											
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Custody Seal No.: <i>1.0 18-10 1.1</i>											
Cooler Temperature(s) °C and Other Remarks:											
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)											
<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months											
Special Instructions/QC Requirements:											
Method of Shipment:											
Time:											



Chain of Custody Record

Client Information (Sub Contract Lab) Client Contact: Tigrett, C. Lance Shipping/Receiving: lance.tigrett@testamericainc.com Company: TestAmerica Laboratories, Inc. Address: 1733 N. Padre Island Drive, City: Corpus Christi State, Zip: TX, 78408 Phone: 361-289-2673 (Tel) 361-289-2471 (Fax) Email: Project #: 60008045 TRC-Limestone CCR App III 4-30-19 Site:	Lab PM: Tigrett, C. Lance E-Mail: lance.tigrett@testamericainc.com Accreditations Required (See note): NELAP - Texas	Camer Tracking No(s): 600-39178.3 State of Origin: Texas Job #: 600-184553-1	COC No: 600-39178.3 Page: Page 3 of 3	Analysis Requested Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify) Other:	
Due Date Requested: 5/8/2019 TAT Requested (days): PO #: WO #: Project #: 60008045 SSOW#:	Field Filtered Sample (Yes or No) 342	Perform MS/MSD (Yes or No) X	Total Number of Containers 1 1 1	Special Instructions/Note:	
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (w=water, s=solid, o=waste/oil, BT=Tissue, A=Air)	Preservation Code:
MW-46 (600-184553-17)	4/30/19	10:40 Central	Water	Water	X
DUP-01 (600-184553-18)	4/30/19	12:00 Central	Water	Water	X
FB-01 (600-184553-19)	4/30/19	13:20 Central	Water	Water	X

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.

Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:
--	---

Empty Kit Relinquished by:	Date: 5/1/19 10:00	Method of Shipment:
Relinquished by: [Signature]	Date/Time: 5-1-19 14:30	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: 1.0 18-10 1.1
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Chain of Custody Record

Client Information (Sub Contract Lab)		Sampler:		Lab PM:		Carrier Tracking No(s):		COC No:	
Client Contact: Shipping/Receiving		Phone:		Tigrett, C. Lance		State of Origin: Texas		600-39178.2	
Company: TestAmerica Laboratories, Inc.		E-Mail: lance.tigrett@testamerica.com		E-Mail: lance.tigrett@testamerica.com		Accreditations Required (See note): NELAP - Texas		Page: Page 2 of 3	
Address: 1733 N. Padre Island Drive, City: Corpus Christi State, Zip: TX, 78408 Phone: 361-289-2673(Tel) 361-289-2471(Fax) Email:		PO #:		WO #:		Project #: 60008045 SSOW#:		Job #: 600-184553-1	
Due Date Requested: 5/8/2019		TAT Requested (days):		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Total Number of containers	
Analysis Requested:		340.2		X		X		1	
Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)		Preservation Code:	
MW-20 (600-184553-8)		4/30/19 14:15 Central		Water		Water		1	
MW-21 (600-184553-9)		4/30/19 15:10 Central		Water		Water		1	
MW-22 (600-184553-10)		4/30/19 15:15 Central		Water		Water		1	
MW-29 (600-184553-11)		4/30/19 11:45 Central		Water		Water		1	
MW-45 (600-184553-12)		4/30/19 12:45 Central		Water		Water		1	
MW-5 (600-184553-13)		4/30/19 12:45 Central		Water		Water		1	
MW-26 (600-184553-14)		4/30/19 11:50 Central		Water		Water		1	
MW-43 (600-184553-15)		4/30/19 13:40 Central		Water		Water		1	
MW-44 (600-184553-16)		4/30/19 14:10 Central		Water		Water		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.									
Possible Hazard Identification									
Unconfirmed									
Deliverable Requested: I, II, III, IV, Other (specify)									
Primary Deliverable Rank: 2									
Date: _____ Time: _____ Method of Shipment: _____									
Relinquished by: <i>Spang</i> Date/Time: 5/1/19 1000 Company: <i>Med</i>									
Relinquished by: _____ Date/Time: _____ Company: _____									
Relinquished by: _____ Date/Time: _____ Company: _____									
Custody Seals Intact: _____ Cooler Temperature(s) °C and Other Remarks: 1.0 10-10 1.1									
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:									



Login Sample Receipt Checklist

Client: TRC Solutions, Inc.

Job Number: 600-184553-1

Login Number: 184553

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	0.6, 0.2, 1.9, 0.2, 1.5, 0.6, 0.1, 1.6
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.	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.

Login Sample Receipt Checklist

Client: TRC Solutions, Inc.

Job Number: 600-184553-1

Login Number: 184553

List Number: 2

Creator: Viveros, Ashley D

List Source: Eurofins TestAmerica, Corpus Christi

List Creation: 05/02/19 05:07 PM

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
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August 19, 2019

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

Work Order: **HS19050027**

Laboratory Results for: **NRG Limestone- CCR Program**

Dear Lori,

ALS Environmental received 2 sample(s) on May 01, 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: DAYNA.FISHER
RJ Modashia
Project Manager

Client: TRC Corporation
Project: NRG Limestone- CCR Program
Work Order: HS19050027

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19050027-01	MW-28	Water		30-Apr-2019 12:55	01-May-2019 10:10	<input type="checkbox"/>
HS19050027-02	MW-43	Water		30-Apr-2019 13:40	01-May-2019 10:10	<input type="checkbox"/>

Client: TRC Corporation
Project: NRG Limestone- CCR Program
Work Order: HS19050027

CASE NARRATIVE

Work Order Comments

- Revised to include Temperature for pH

Work Order Comments

- 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.
- The analysis for Fluoride was subcontracted to ALS Environmental in Holland, MI. Final Report attached.

Metals by Method SW6020

Batch ID: 140404

Sample ID: HS19041576-03MS

- MS/MSD and DUPs are for an unrelated sample

WetChemistry by Method E300

Batch ID: R338457

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

WetChemistry by Method M2540C

Batch ID: R338061

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

WetChemistry by Method SW9040C

Batch ID: R337748

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

Client: TRC Corporation
 Project: NRG Limestone- CCR Program
 Sample ID: MW-28
 Collection Date: 30-Apr-2019 12:55

ANALYTICAL REPORT
 WorkOrder:HS19050027
 Lab ID:HS19050027-01
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 01-May-2019		Analyst: JHD
Boron	0.178		0.0550	0.100	mg/L	5	02-May-2019 00:38
Calcium	406		0.170	2.50	mg/L	5	02-May-2019 00:38
ANIONS BY E300.0		Method:E300					Analyst: KMU
Chloride	1,510		10.0	25.0	mg/L	50	14-May-2019 19:06
Sulfate	564		10.0	25.0	mg/L	50	14-May-2019 19:06
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	4,060		5.00	10.0	mg/L	1	07-May-2019 08:30
PH BY SW9040C		Method:SW9040C					Analyst: AJA
pH	5.83	H	0.100	0.100	pH Units	1	02-May-2019 13:37
Temp Deg C @pH	21.4	H	0	0	DEG C	1	02-May-2019 13:37
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA					Analyst: SUBHO
Subcontract Analysis	See Attached		0			1	09-May-2019 08:41

Client: TRC Corporation
 Project: NRG Limestone- CCR Program
 Sample ID: MW-43
 Collection Date: 30-Apr-2019 13:40

ANALYTICAL REPORT
 WorkOrder:HS19050027
 Lab ID:HS19050027-02
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-May-2019		Analyst: JHD	
Boron	0.333		0.0550	0.100	mg/L	5	02-May-2019 00:39
Calcium	88.2		0.170	2.50	mg/L	5	02-May-2019 00:39
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	20.6		2.00	5.00	mg/L	10	14-May-2019 19:35
Sulfate	565		2.00	5.00	mg/L	10	14-May-2019 19:35
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,450		5.00	10.0	mg/L	1	07-May-2019 08:30
PH BY SW9040C		Method:SW9040C				Analyst: AJA	
pH	7.46	H	0.100	0.100	pH Units	1	02-May-2019 13:40
Temp Deg C @pH	21.4	H	0	0	DEG C	1	02-May-2019 13:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	09-May-2019 08:41

WEIGHT LOG

Client: TRC Corporation
Project: NRG Limestone- CCR Program
WorkOrder: HS19050027

Batch ID: 140404 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19050027-01	1	10	10 (mL)	1
HS19050027-02	1	10	10 (mL)	1

Client: TRC Corporation
Project: NRG Limestone- CCR Program
WorkOrder: HS19050027

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 140404 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Water	
HS19050027-01	MW-28	30 Apr 2019 12:55		01 May 2019 13:00	02 May 2019 00:38	5
HS19050027-02	MW-43	30 Apr 2019 13:40		01 May 2019 13:00	02 May 2019 00:39	5
Batch ID: R337748 (0)		Test Name : PH BY SW9040C			Matrix: Water	
HS19050027-01	MW-28	30 Apr 2019 12:55			02 May 2019 13:37	1
HS19050027-02	MW-43	30 Apr 2019 13:40			02 May 2019 13:40	1
Batch ID: R338061 (0)		Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C			Matrix: Water	
HS19050027-01	MW-28	30 Apr 2019 12:55			07 May 2019 08:30	1
HS19050027-02	MW-43	30 Apr 2019 13:40			07 May 2019 08:30	1
Batch ID: R338103 (0)		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE			Matrix: Water	
HS19050027-01	MW-28	30 Apr 2019 12:55			09 May 2019 08:41	1
HS19050027-02	MW-43	30 Apr 2019 13:40			09 May 2019 08:41	1
Batch ID: R338457 (0)		Test Name : ANIONS BY E300.0			Matrix: Water	
HS19050027-01	MW-28	30 Apr 2019 12:55			14 May 2019 19:06	50
HS19050027-02	MW-43	30 Apr 2019 13:40			14 May 2019 19:35	10

Client: TRC Corporation
Project: NRG Limestone- CCR Program
WorkOrder: HS19050027

QC BATCH REPORT

Batch ID: 140404 (0)		Instrument: ICPMS06		Method: ICP-MS METALS BY SW6020A						
MBLK	Sample ID: MBLK-140404	Units: mg/L		Analysis Date: 01-May-2019 23:49						
Client ID:	Run ID: ICPMS06_337619	SeqNo: 5059266		PrepDate: 01-May-2019		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	U	0.0200								
Calcium	U	0.500								
LCS	Sample ID: LCS-140404	Units: mg/L		Analysis Date: 01-May-2019 23:51						
Client ID:	Run ID: ICPMS06_337619	SeqNo: 5059267		PrepDate: 01-May-2019		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.4641	0.0200	0.5	0	92.8	80 - 120				
Calcium	4.932	0.500	5	0	98.6	80 - 120				
MS	Sample ID: HS19041576-03MS	Units: mg/L		Analysis Date: 01-May-2019 23:55						
Client ID:	Run ID: ICPMS06_337619	SeqNo: 5059270		PrepDate: 01-May-2019		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.6247	0.0200	0.5	0.1745	90.0	80 - 120				
Calcium	696	0.500	5	624.5	1430	80 - 120				SEO
MSD	Sample ID: HS19041576-03MSD	Units: mg/L		Analysis Date: 01-May-2019 23:58						
Client ID:	Run ID: ICPMS06_337619	SeqNo: 5059272		PrepDate: 01-May-2019		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.6043	0.0200	0.5	0.1745	86.0	80 - 120	0.6247	3.32	20	
Calcium	621.2	0.500	5	624.5	-66.9	80 - 120	696	11.4	20	SEO
PDS	Sample ID: HS19041576-03PDS	Units: mg/L		Analysis Date: 02-May-2019 00:00						
Client ID:	Run ID: ICPMS06_337619	SeqNo: 5059273		PrepDate: 01-May-2019		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.6071	0.0200	0.5	0.1745	86.5	75 - 125				

Revision: 1

Client: TRC Corporation
Project: NRG Limestone- CCR Program
WorkOrder: HS19050027

QC BATCH REPORT

Batch ID: 140404 (0) **Instrument:** ICPMS06 **Method:** ICP-MS METALS BY SW6020A

PDS		Sample ID: HS19041576-03PDS		Units: mg/L		Analysis Date: 02-May-2019 14:18			
Client ID:		Run ID: ICPMS06_337735		SeqNo: 5060157		PrepDate: 01-May-2019		DF: 20	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Calcium	738.6	10.0	200	593.3	72.6	75 - 125			S

SD		Sample ID: HS19041576-03SD		Units: mg/L		Analysis Date: 02-May-2019 14:16			
Client ID:		Run ID: ICPMS06_337735		SeqNo: 5060141		PrepDate: 01-May-2019		DF: 100	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual
Calcium	536	50.0					593.3	9.66	10

The following samples were analyzed in this batch: HS19050027-01 HS19050027-02

Client: TRC Corporation
Project: NRG Limestone- CCR Program
WorkOrder: HS19050027

QC BATCH REPORT

Batch ID: R337748 (0) **Instrument:** ManTech01 **Method:** PH BY SW9040C

DUP Sample ID: **HS19050044-01DUP** Units: **pH Units** Analysis Date: **02-May-2019 12:22**
 Client ID: Run ID: **ManTech01_337748** SeqNo: **5060255** PrepDate: DF: **1**
 Analyte Result PQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

pH	7.08	0.100						7.1	0.282	10
Temp Deg C @pH	21.15	0						21.32	0.801	10

The following samples were analyzed in this batch: HS19050027-01 HS19050027-02

Client: TRC Corporation
Project: NRG Limestone- CCR Program
WorkOrder: HS19050027

QC BATCH REPORT

Batch ID: R338061 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C

MBLK	Sample ID: WBLK-050719	Units: mg/L			Analysis Date: 07-May-2019 08:30				
Client ID:	Run ID: Balance1_338061	SeqNo: 5067101	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-050719	Units: mg/L			Analysis Date: 07-May-2019 08:30				
Client ID:	Run ID: Balance1_338061	SeqNo: 5067102	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) 1050 10.0 1000 0 105 85 - 115

DUP	Sample ID: HS19050085-07DUP	Units: mg/L			Analysis Date: 07-May-2019 08:30				
Client ID:	Run ID: Balance1_338061	SeqNo: 5067093	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) 4780 10.0 4576 4.36 5

DUP	Sample ID: HS19050027-01DUP	Units: mg/L			Analysis Date: 07-May-2019 08:30				
Client ID: MW-28	Run ID: Balance1_338061	SeqNo: 5067080	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) 4172 10.0 4060 2.72 5

The following samples were analyzed in this batch: HS19050027-01 HS19050027-02

Client: TRC Corporation
Project: NRG Limestone- CCR Program
WorkOrder: HS19050027

QC BATCH REPORT

Batch ID: R338457 (0) **Instrument:** ICS2100 **Method:** ANIONS BY E300.0

MBLK		Sample ID: WBLKW1-051419		Units: mg/L		Analysis Date: 14-May-2019 12:26			
Client ID:		Run ID: ICS2100_338457		SeqNo: 5075751		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: WLCSW1-051419		Units: mg/L		Analysis Date: 14-May-2019 12:41			
Client ID:		Run ID: ICS2100_338457		SeqNo: 5075752		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	19.5	0.500	20	0	97.5	90 - 110			
Sulfate	19.13	0.500	20	0	95.6	90 - 110			

LCSD		Sample ID: WLCSDW1-051419		Units: mg/L		Analysis Date: 14-May-2019 12:55			
Client ID:		Run ID: ICS2100_338457		SeqNo: 5075753		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	19.59	0.500	20	0	98.0	90 - 110	19.5	0.471	20
Sulfate	19.26	0.500	20	0	96.3	90 - 110	19.13	0.688	20

MS		Sample ID: HS19050544-06MS		Units: mg/L		Analysis Date: 14-May-2019 14:06			
Client ID:		Run ID: ICS2100_338457		SeqNo: 5075756		PrepDate:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	252.9	5.00	100	161.8	91.1	80 - 120			
Sulfate	388.8	5.00	100	301.5	87.3	80 - 120			

MS		Sample ID: HS19050531-01MS		Units: mg/L		Analysis Date: 14-May-2019 17:31			
Client ID:		Run ID: ICS2100_338457		SeqNo: 5075769		PrepDate:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	425.4	5.00	100	325.1	100	80 - 120			
Sulfate	238.2	5.00	100	134	104	80 - 120			

Revision: 1

Client: TRC Corporation
Project: NRG Limestone- CCR Program
WorkOrder: HS19050027

QC BATCH REPORT

Batch ID: R338457 (0) **Instrument:** ICS2100 **Method:** ANIONS BY E300.0

MSD		Sample ID: HS19050544-06MSD			Units: mg/L		Analysis Date: 14-May-2019 14:20			
Client ID:		Run ID: ICS2100_338457			SeqNo: 5075757		PrepDate:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	251.4	5.00	100	161.8	89.6	80 - 120	252.9	0.599	20	
Sulfate	388	5.00	100	301.5	86.5	80 - 120	388.8	0.217	20	

MSD		Sample ID: HS19050531-01MSD			Units: mg/L		Analysis Date: 14-May-2019 17:45			
Client ID:		Run ID: ICS2100_338457			SeqNo: 5075770		PrepDate:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	414.7	5.00	100	325.1	89.6	80 - 120	425.4	2.54	20	
Sulfate	230.6	5.00	100	134	96.6	80 - 120	238.2	3.22	20	

The following samples were analyzed in this batch: HS19050027-01 HS19050027-02

Client: TRC Corporation
Project: NRG Limestone- CCR Program
WorkOrder: HS19050027

**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: HS19050027

Date/Time Received: 01-May-2019 10:10
Received by: JRM

Checklist completed by: Nilesh D. Ranchod
eSignature
Date: 1-May-2019

Reviewed by: RJ Modashia
eSignature
Date: 1-May-2019

Matrices: 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 []

1 Page(s)
COC IDs:200186

Temperature(s)/Thermometer(s): 2.7C UC/C IR # 25
Cooler(s)/Kit(s): 44848
Date/Time sample(s) sent to storage: 05/01/2019 12:30pm
Water - VOA vials have zero headspace? Yes [checked] No [] No VOA vials submitted []
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: 200186

HS19050027

wv

TRC Corporation
NRG



Customer Information		Project Information		ALS Project Manager:	
Purchase Order	298367.1000	Project Name	NRG Limestone- 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 (Field pH provided by TRC)
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-28	4-30-19	1255	W	2,8	3	X	X	X	X	X						
2	MW-43	↓	1340	W	2,8	3	X	X	X	X	X						
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>Brian Hillin + Team</i>		Shipment Method Consult. 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			Other: _____		Results Due Date: _____	
Relinquished by: _____	Date: 5-1-19	Time: 1010	Received by: _____		Notes: NRG					
Relinquished by: _____	Date: 5/1/19	Time: 10:10	Received by (Laboratory): S. MAWANI		Cooler ID: 44848	Cooler Temp: 2.7	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

Date: _____
Name: _____
Company: _____

CUSTODY SEAL		Seal Broken By:
<u>2-1-19</u>	Time: <u>9:00</u>	<u>NR</u>
<u>B. Hillis</u>		date
<u>HME</u>		<u>5/1/19</u>



09-May-2019

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

Re: **HS19050027**

Work Order: **19050130**

Dear RJ,

ALS Environmental received 2 samples on 02-May-2019 09:00 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 8.

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 19 of 26

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Client: ALS Environmental
Project: HS19050027
Work Order: 19050130

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>
19050130-01	HS19050027-01	Water	MW-28	4/30/2019 12:55	5/2/2019 09:00	<input type="checkbox"/>
19050130-02	HS19050027-02	Water	MW-43	4/30/2019 13:40	5/2/2019 09:00	<input type="checkbox"/>

Client: ALS Environmental
Project: HS19050027
WorkOrder: 19050130

**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: HS19050027
Sample ID: HS19050027-01
Collection Date: 4/30/2019 12:55 PM

Work Order: 19050130
Lab ID: 19050130-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
FLUORIDE Fluoride	0.25		A4500-F C-11 0.10	mg/L	1	Analyst: DVD 5/8/2019 12:00 PM

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

ALS Group, USA

Date: 09-May-19

Client: ALS Environmental
Project: HS19050027
Sample ID: HS19050027-02
Collection Date: 4/30/2019 01:40 PM

Work Order: 19050130
Lab ID: 19050130-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
FLUORIDE Fluoride	1.4		A4500-F C-11 0.10	mg/L	1	Analyst: DVD 5/8/2019 12:00 PM

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

Client: ALS Environmental
Work Order: 19050130
Project: HS19050027

QC BATCH REPORT

Batch ID: **R260046** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK		Sample ID: MB-R260046-R260046				Units: mg/L		Analysis Date: 5/8/2019 12:00 PM		
Client ID:		Run ID: TITRATOR 1_190508A			SeqNo: 5647254		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-R260046-R260046				Units: mg/L		Analysis Date: 5/8/2019 12:00 PM		
Client ID:		Run ID: TITRATOR 1_190508A			SeqNo: 5647255		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	5.492	0.10	5	0	110	80-120	0			

MS		Sample ID: 19050364-04C MS				Units: mg/L		Analysis Date: 5/8/2019 12:00 PM		
Client ID:		Run ID: TITRATOR 1_190508A			SeqNo: 5647269		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.909	0.10	5	0.148	95.2	75-125	0			

MS		Sample ID: 19050390-01C MS				Units: mg/L		Analysis Date: 5/8/2019 12:00 PM		
Client ID:		Run ID: TITRATOR 1_190508A			SeqNo: 5647273		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.756	0.10	5	0.09	93.3	75-125	0			

MSD		Sample ID: 19050364-04C MSD				Units: mg/L		Analysis Date: 5/8/2019 12:00 PM		
Client ID:		Run ID: TITRATOR 1_190508A			SeqNo: 5647270		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.933	0.10	5	0.148	95.7	75-125	4.909	0.488	20	

MSD		Sample ID: 19050390-01C MSD				Units: mg/L		Analysis Date: 5/8/2019 12:00 PM		
Client ID:		Run ID: TITRATOR 1_190508A			SeqNo: 5647274		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.82	0.10	5	0.09	94.6	75-125	4.756	1.34	20	

The following samples were analyzed in this batch:

19050130-01A	19050130-02A
--------------	--------------

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



10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
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Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11227

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: 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: HS19050027
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19050027-01	MW-28	Water	30 Apr 2019 12:55
	Fluoride by ISE 4500			09 May 2019
2.	HS19050027-02	MW-43	Water	30 Apr 2019 13:40
	Fluoride by ISE 4500			09 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: J. MAKIAN
Received By: [Signature]
Cooler ID(s): _____

Date/Time: 5/21/19 18:00
Date/Time: 5/2/19 0900
Temperature(s): SR2 22c

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Sample Receipt Checklist

Client Name: **ALS - HOUSTON**

Date/Time Received: **02-May-19 09:00**

Work Order: **19050130**

Received by: **DS**

Checklist completed by Diane Shaw 02-May-19
eSignature Date

Reviewed by: Chad Whilton 02-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): 2.2/2.2 c SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 5/2/2019 10:01:32 AM

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: 600-184553-2

Client Project/Site: TRC-Limestone CCR App IV 4-30-19

For:

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

Attn: Andrew Clayton



Authorized for release by:

7/2/2019 4:08:34 PM

Tiffany Fleming, Project Management Assistant I
(361)289-2673

tiffany.fleming@testamericainc.com

Designee for

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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Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Eurofins TestAmerica, Houston job number 600-184553-2 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-Limestone CCR App IV 4-30-19	Laboratory Job Number:	600-184553-2
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				
		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:	7/2/2019
Project Name:	TRC-Limestone CCR App IV 4-30-19	Laboratory Job Number:	600-184553-2
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-Limestone CCR App IV 4-30-19	Laboratory Job Number:	600-184553-2
Reviewer Name:	Tiffany Fleming, for C. Lance Tigrett		

ER # ¹	Description
R05D	Method 6010B: The method blank for preparation batch 600-264100 and analytical batch 600-264521 contained Cadmium 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.
	<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).

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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	MQL
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

Case Narrative

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Job ID: 600-184553-2

Laboratory: Eurofins TestAmerica, Houston

Narrative

**Job Narrative
600-184553-2**

Comments

No additional comments.

Receipt

The samples were received on 5/1/2019 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 8 coolers at receipt time were 0.1° C, 0.2° C, 0.2° C, 0.6° C, 0.6° C, 1.5° C, 1.6° C and 1.9° 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-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Method	Method Description	Protocol	Laboratory
6010B	Inductively Coupled Plasma - Atomic Emission Spectrometry	SW846	TAL HOU
7470A	Mercury (CVAA)	SW846	TAL CC
340.2	Fluoride	MCAWW	TAL CC
3010A	Acid Digestion of Aqueous Samples and Extracts for Total Metals	SW846	TAL HOU
7470A	Preparation, Mercury	SW846	TAL CC

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-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
600-184553-1	MW-27	Water	04/30/19 12:55	05/01/19 09:40	
600-184553-2	MW-28	Water	04/30/19 12:55	05/01/19 09:40	
600-184553-3	MW-1	Water	04/30/19 15:55	05/01/19 09:40	
600-184553-4	MW-2	Water	04/30/19 14:25	05/01/19 09:40	
600-184553-5	MW-17	Water	04/30/19 10:50	05/01/19 09:40	
600-184553-6	MW-18	Water	04/30/19 12:05	05/01/19 09:40	
600-184553-7	MW-19	Water	04/30/19 13:05	05/01/19 09:40	
600-184553-8	MW-20	Water	04/30/19 14:15	05/01/19 09:40	
600-184553-9	MW-21	Water	04/30/19 15:10	05/01/19 09:40	
600-184553-10	MW-22	Water	04/30/19 15:15	05/01/19 09:40	
600-184553-11	MW-29	Water	04/30/19 11:45	05/01/19 09:40	
600-184553-12	MW-45	Water	04/30/19 12:45	05/01/19 09:40	
600-184553-13	MW-5	Water	04/30/19 12:45	05/01/19 09:40	
600-184553-14	MW-26	Water	04/30/19 11:50	05/01/19 09:40	
600-184553-15	MW-43	Water	04/30/19 13:40	05/01/19 09:40	
600-184553-16	MW-44	Water	04/30/19 14:10	05/01/19 09:40	
600-184553-17	MW-46	Water	04/30/19 10:40	05/01/19 09:40	
600-184553-18	DUP-01	Water	04/30/19 12:00	05/01/19 09:40	
600-184553-19	FB-01	Water	04/30/19 13:20	05/01/19 09:40	

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Client Sample ID: MW-27

Date Collected: 04/30/19 12:55

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-1

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		05/01/19 16:47	05/07/19 15:38	1
Barium	0.0122	J	0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 15:38	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 15:38	1
Cadmium	0.000500	J b	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 15:38	1
Cobalt	0.000600	J	0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 15:38	1
Chromium	0.00159	U	0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 15:38	1
Lithium	0.0142	J	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 15:38	1
Molybdenum	0.0110		0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 15:38	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 15:38	1
Antimony	0.00720	J	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 15:38	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 15:38	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 15:38	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		05/06/19 10:00	05/06/19 14:59	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.149		0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample ID: MW-28

Date Collected: 04/30/19 12:55

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-2

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		05/01/19 16:47	05/07/19 15:40	1
Barium	0.118		0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 15:40	1
Beryllium	0.00110	J	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 15:40	1
Cadmium	0.00860	b	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 15:40	1
Cobalt	0.212		0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 15:40	1
Chromium	0.0178		0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 15:40	1
Lithium	0.916		0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 15:40	1
Molybdenum	0.000540	U	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 15:40	1
Lead	0.00630	J	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 15:40	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 15:40	1
Selenium	0.00490	J	0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 15:40	1
Thallium	0.00420	J	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 15:40	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		05/06/19 10:00	05/06/19 15:01	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.238		0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Client Sample ID: MW-1

Lab Sample ID: 600-184553-3

Date Collected: 04/30/19 15:55

Matrix: Water

Date Received: 05/01/19 09:40

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00420	J	0.0100	0.00285	mg/L		05/01/19 16:47	05/07/19 15:42	1
Barium	0.690		0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 15:42	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 15:42	1
Cadmium	0.000600	J b	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 15:42	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 15:42	1
Chromium	0.00159	U	0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 15:42	1
Lithium	0.0450	J	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 15:42	1
Molybdenum	0.000540	U	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 15:42	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 15:42	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 15:42	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 15:42	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 15:42	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		05/06/19 10:00	05/06/19 15:03	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.139		0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample ID: MW-2

Lab Sample ID: 600-184553-4

Date Collected: 04/30/19 14:25

Matrix: Water

Date Received: 05/01/19 09:40

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00410	J	0.0100	0.00285	mg/L		05/01/19 16:47	05/07/19 15:50	1
Barium	0.182		0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 15:50	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 15:50	1
Cadmium	0.00110	J b	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 15:50	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 15:50	1
Chromium	0.0191		0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 15:50	1
Lithium	0.0617	J	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 15:50	1
Molybdenum	0.000540	U	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 15:50	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 15:50	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 15:50	1
Selenium	0.00690	J	0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 15:50	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 15:50	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		05/06/19 10:00	05/06/19 14:26	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0920	J	0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Client Sample ID: MW-17
Date Collected: 04/30/19 10:50
Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-5
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		05/01/19 16:47	05/07/19 15:55	1
Barium	0.0187	J	0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 15:55	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 15:55	1
Cadmium	0.000500	J b	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 15:55	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 15:55	1
Chromium	0.00159	U	0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 15:55	1
Lithium	0.0118	J	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 15:55	1
Molybdenum	0.00200	J	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 15:55	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 15:55	1
Antimony	0.00750	J	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 15:55	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 15:55	1
Thallium	0.00420	J	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 15:55	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		05/06/19 10:00	05/06/19 15:05	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-18
Date Collected: 04/30/19 12:05
Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-6
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		05/01/19 16:47	05/07/19 15:57	1
Barium	0.0624		0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 15:57	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 15:57	1
Cadmium	0.000400	J b	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 15:57	1
Cobalt	0.00210	J	0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 15:57	1
Chromium	0.00190	J	0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 15:57	1
Lithium	0.0112	J	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 15:57	1
Molybdenum	0.000900	J	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 15:57	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 15:57	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 15:57	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 15:57	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 15:57	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		05/06/19 10:00	05/06/19 15:07	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.235		0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Client Sample ID: MW-19

Date Collected: 04/30/19 13:05

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-7

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 16:47	05/07/19 15:59	1
Barium	0.114		0.0200	0.000530	mg/L	-	05/01/19 16:47	05/07/19 15:59	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 16:47	05/07/19 15:59	1
Cadmium	0.000700	J b	0.00500	0.000280	mg/L	-	05/01/19 16:47	05/07/19 15:59	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/01/19 16:47	05/07/19 15:59	1
Chromium	0.00159	U	0.0100	0.00159	mg/L	-	05/01/19 16:47	05/07/19 15:59	1
Lithium	0.0152	J	0.200	0.00162	mg/L	-	05/01/19 16:47	05/07/19 15:59	1
Molybdenum	0.000540	U	0.0100	0.000540	mg/L	-	05/01/19 16:47	05/07/19 15:59	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 16:47	05/07/19 15:59	1
Antimony	0.00393	U	0.0500	0.00393	mg/L	-	05/01/19 16:47	05/07/19 15:59	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 16:47	05/07/19 15:59	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/01/19 16:47	05/07/19 15:59	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	05/06/19 10:00	05/06/19 15:09	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.129		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Client Sample ID: MW-20

Date Collected: 04/30/19 14:15

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-8

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	-	05/01/19 16:47	05/07/19 16:01	1
Barium	0.0937		0.0200	0.000530	mg/L	-	05/01/19 16:47	05/07/19 16:01	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L	-	05/01/19 16:47	05/07/19 16:01	1
Cadmium	0.000600	J b	0.00500	0.000280	mg/L	-	05/01/19 16:47	05/07/19 16:01	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L	-	05/01/19 16:47	05/07/19 16:01	1
Chromium	0.00159	U	0.0100	0.00159	mg/L	-	05/01/19 16:47	05/07/19 16:01	1
Lithium	0.0141	J	0.200	0.00162	mg/L	-	05/01/19 16:47	05/07/19 16:01	1
Molybdenum	0.000540	U	0.0100	0.000540	mg/L	-	05/01/19 16:47	05/07/19 16:01	1
Lead	0.00219	U	0.0100	0.00219	mg/L	-	05/01/19 16:47	05/07/19 16:01	1
Antimony	0.00393	U	0.0500	0.00393	mg/L	-	05/01/19 16:47	05/07/19 16:01	1
Selenium	0.00287	U	0.0400	0.00287	mg/L	-	05/01/19 16:47	05/07/19 16:01	1
Thallium	0.00417	U	0.0300	0.00417	mg/L	-	05/01/19 16:47	05/07/19 16:01	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	05/06/19 10:00	05/06/19 15:11	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.305		0.100	0.0200	mg/L	-		05/04/19 11:00	1

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Client Sample ID: MW-21

Date Collected: 04/30/19 15:10

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-9

Matrix: Water

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L		05/01/19 16:47	05/07/19 16:03	1
Barium	0.149		0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 16:03	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 16:03	1
Cadmium	0.00120	J b	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 16:03	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 16:03	1
Chromium	0.00159	U	0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 16:03	1
Lithium	0.0257	J	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 16:03	1
Molybdenum	0.000540	U	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 16:03	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 16:03	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 16:03	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 16:03	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 16:03	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		05/06/19 10:00	05/06/19 15:13	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0946	J	0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample ID: MW-22

Date Collected: 04/30/19 15:15

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-10

Matrix: Water

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L		05/01/19 16:47	05/07/19 16:05	1
Barium	0.102		0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 16:05	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 16:05	1
Cadmium	0.000700	J b	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 16:05	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 16:05	1
Chromium	0.00159	U	0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 16:05	1
Lithium	0.0151	J	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 16:05	1
Molybdenum	0.000540	U	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 16:05	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 16:05	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 16:05	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 16:05	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 16:05	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		05/06/19 10:00	05/06/19 15:15	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.149		0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Client Sample ID: MW-29

Lab Sample ID: 600-184553-11

Date Collected: 04/30/19 11:45

Matrix: Water

Date Received: 05/01/19 09:40

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 16:47	05/07/19 16:07	1
Barium	0.0470		0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 16:07	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 16:07	1
Cadmium	0.000300	J b	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 16:07	1
Cobalt	0.000500	J	0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 16:07	1
Chromium	0.00440	J	0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 16:07	1
Lithium	0.0112	J	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 16:07	1
Molybdenum	0.000540	U	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 16:07	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 16:07	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 16:07	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 16:07	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 16:07	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		05/06/19 10:00	05/06/19 15:17	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.259		0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample ID: MW-45

Lab Sample ID: 600-184553-12

Date Collected: 04/30/19 12:45

Matrix: Water

Date Received: 05/01/19 09:40

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0221		0.0100	0.00285	mg/L		05/01/19 16:47	05/07/19 16:15	1
Barium	1.16		0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 16:15	1
Beryllium	0.00200	J	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 16:15	1
Cadmium	0.00300	J b	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 16:15	1
Cobalt	0.0348		0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 16:15	1
Chromium	0.0794		0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 16:15	1
Lithium	0.0694	J	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 16:15	1
Molybdenum	0.00100	J	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 16:15	1
Lead	0.0140		0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 16:15	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 16:15	1
Selenium	0.0928		0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 16:15	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 16:15	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		05/07/19 10:20	05/07/19 15:13	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.139		0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Client Sample ID: MW-5
Date Collected: 04/30/19 12:45
Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-13
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		05/01/19 16:47	05/07/19 16:17	1
Barium	0.0645		0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 16:17	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 16:17	1
Cadmium	0.00140	J b	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 16:17	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 16:17	1
Chromium	0.00220	J	0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 16:17	1
Lithium	0.0153	J	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 16:17	1
Molybdenum	0.000540	U	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 16:17	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 16:17	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 16:17	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 16:17	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 16:17	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		05/07/19 10:20	05/07/19 15:15	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.167		0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample ID: MW-26
Date Collected: 04/30/19 11:50
Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-14
Matrix: Water

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00320	J	0.0100	0.00285	mg/L		05/01/19 16:47	05/07/19 16:19	1
Barium	0.360		0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 16:19	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 16:19	1
Cadmium	0.000700	J b	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 16:19	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 16:19	1
Chromium	0.00860	J	0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 16:19	1
Lithium	0.0245	J	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 16:19	1
Molybdenum	0.000600	J	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 16:19	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 16:19	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 16:19	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 16:19	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 16:19	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		05/07/19 10:20	05/07/19 15:17	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0580	J	0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Client Sample ID: MW-43
Date Collected: 04/30/19 13:40
Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-15
Matrix: Water

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00360	J	0.0100	0.00285	mg/L		05/01/19 16:47	05/07/19 16:21	1
Barium	0.0884		0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 16:21	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 16:21	1
Cadmium	0.000800	J b	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 16:21	1
Cobalt	0.000600	J	0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 16:21	1
Chromium	0.0160		0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 16:21	1
Lithium	0.0242	J	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 16:21	1
Molybdenum	0.00240	J	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 16:21	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 16:21	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 16:21	1
Selenium	0.0669		0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 16:21	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 16:21	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000566	J	0.00200	0.000130	mg/L		05/07/19 10:20	05/07/19 15:19	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.40		0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample ID: MW-44
Date Collected: 04/30/19 14:10
Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-16
Matrix: Water

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00340	J	0.0100	0.00285	mg/L		05/01/19 16:47	05/07/19 16:23	1
Barium	0.0380		0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 16:23	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 16:23	1
Cadmium	0.000400	J b	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 16:23	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 16:23	1
Chromium	0.00370	J	0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 16:23	1
Lithium	0.0197	J	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 16:23	1
Molybdenum	0.00110	J	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 16:23	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 16:23	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 16:23	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 16:23	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 16:23	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000131	J	0.00200	0.000130	mg/L		05/07/19 10:20	05/07/19 15:21	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.516		0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Client Sample ID: MW-46

Date Collected: 04/30/19 10:40

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-17

Matrix: Water

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00750	J	0.0100	0.00285	mg/L		05/01/19 16:47	05/07/19 16:25	1
Barium	2.72		0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 16:25	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 16:25	1
Cadmium	0.00550	b	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 16:25	1
Cobalt	0.00510	J	0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 16:25	1
Chromium	0.127		0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 16:25	1
Lithium	0.0706	J	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 16:25	1
Molybdenum	0.00190	J	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 16:25	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 16:25	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 16:25	1
Selenium	0.00420	J	0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 16:25	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 16:25	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		05/07/19 10:20	05/07/19 15:23	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0524	J	0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample ID: DUP-01

Date Collected: 04/30/19 12:00

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-18

Matrix: Water

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00285	U	0.0100	0.00285	mg/L		05/01/19 16:47	05/07/19 16:28	1
Barium	0.0907		0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 16:28	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 16:28	1
Cadmium	0.000700	J b	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 16:28	1
Cobalt	0.00130	J	0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 16:28	1
Chromium	0.0146		0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 16:28	1
Lithium	0.0239	J	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 16:28	1
Molybdenum	0.00190	J	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 16:28	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 16:28	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 16:28	1
Selenium	0.0665		0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 16:28	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 16:28	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000141	J	0.00200	0.000130	mg/L		05/07/19 10:20	05/07/19 15:25	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.38		0.100	0.0200	mg/L			05/04/19 11:00	1

Client Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Client Sample ID: FB-01

Lab Sample ID: 600-184553-19

Date Collected: 04/30/19 13:20

Matrix: Water

Date Received: 05/01/19 09:40

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 16:47	05/07/19 16:30	1
Barium	0.00190	J	0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 16:30	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 16:30	1
Cadmium	0.000280	U	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 16:30	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 16:30	1
Chromium	0.00159	U	0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 16:30	1
Lithium	0.00162	U	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 16:30	1
Molybdenum	0.000540	U	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 16:30	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 16:30	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 16:30	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 16:30	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 16:30	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		05/07/19 10:20	05/07/19 15:27	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0300	J	0.100	0.0200	mg/L			05/04/19 11:00	1

Definitions/Glossary

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Qualifiers

Metals

Qualifier	Qualifier Description
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
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.

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-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

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

Lab Sample ID: MB 600-264100/1-A
Matrix: Water
Analysis Batch: 264521

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 264100

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 16:47	05/07/19 15:34	1
Barium	0.000530	U	0.0200	0.000530	mg/L		05/01/19 16:47	05/07/19 15:34	1
Beryllium	0.000420	U	0.00500	0.000420	mg/L		05/01/19 16:47	05/07/19 15:34	1
Cadmium	0.0003000	J	0.00500	0.000280	mg/L		05/01/19 16:47	05/07/19 15:34	1
Cobalt	0.000310	U	0.0100	0.000310	mg/L		05/01/19 16:47	05/07/19 15:34	1
Chromium	0.00159	U	0.0100	0.00159	mg/L		05/01/19 16:47	05/07/19 15:34	1
Lithium	0.00162	U	0.200	0.00162	mg/L		05/01/19 16:47	05/07/19 15:34	1
Molybdenum	0.000540	U	0.0100	0.000540	mg/L		05/01/19 16:47	05/07/19 15:34	1
Lead	0.00219	U	0.0100	0.00219	mg/L		05/01/19 16:47	05/07/19 15:34	1
Antimony	0.00393	U	0.0500	0.00393	mg/L		05/01/19 16:47	05/07/19 15:34	1
Selenium	0.00287	U	0.0400	0.00287	mg/L		05/01/19 16:47	05/07/19 15:34	1
Thallium	0.00417	U	0.0300	0.00417	mg/L		05/01/19 16:47	05/07/19 15:34	1

Lab Sample ID: LCS 600-264100/2-A
Matrix: Water
Analysis Batch: 264521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264100

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	1.00	1.015		mg/L		102	80 - 120
Barium	1.00	1.004		mg/L		100	80 - 120
Beryllium	1.00	0.9940		mg/L		99	80 - 120
Cadmium	1.00	1.036		mg/L		104	80 - 120
Cobalt	1.00	0.9954		mg/L		100	80 - 120
Chromium	1.00	1.014		mg/L		101	80 - 120
Lithium	1.00	1.003		mg/L		100	80 - 120
Molybdenum	1.00	1.029		mg/L		103	80 - 120
Lead	1.00	0.9802		mg/L		98	80 - 120
Antimony	1.00	1.019		mg/L		102	80 - 120
Selenium	1.00	1.038		mg/L		104	80 - 120
Thallium	1.00	1.010		mg/L		101	80 - 120

Lab Sample ID: 600-184553-4 MS
Matrix: Water
Analysis Batch: 264521

Client Sample ID: MW-2 MS
Prep Type: Total/NA
Prep Batch: 264100

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Arsenic	0.00410	J	1.00	1.025		mg/L		102	75 - 125
Barium	0.182		1.00	1.168		mg/L		99	75 - 125
Beryllium	0.000420	U	1.00	0.9945		mg/L		99	75 - 125
Cadmium	0.00110	J b	1.00	1.040		mg/L		104	75 - 125
Cobalt	0.000310	U	1.00	1.007		mg/L		101	75 - 125
Chromium	0.0191		1.00	0.9988		mg/L		98	75 - 125
Lithium	0.0617	J	1.00	1.075		mg/L		101	75 - 125
Molybdenum	0.000540	U	1.00	1.013		mg/L		101	75 - 125
Lead	0.00219	U	1.00	0.9855		mg/L		99	75 - 125
Antimony	0.00393	U	1.00	1.018		mg/L		102	75 - 125
Selenium	0.00690	J	1.00	1.043		mg/L		104	75 - 125
Thallium	0.00417	U	1.00	0.9879		mg/L		99	75 - 125

QC Sample Results

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

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

Lab Sample ID: 600-184553-4 MSD
Matrix: Water
Analysis Batch: 264521

Client Sample ID: MW-2 MSD
Prep Type: Total/NA
Prep Batch: 264100

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Arsenic	0.00410	J	1.00	1.018		mg/L		101		75 - 125	1	20
Barium	0.182		1.00	1.159		mg/L		98		75 - 125	1	20
Beryllium	0.000420	U	1.00	0.9856		mg/L		99		75 - 125	1	20
Cadmium	0.00110	J b	1.00	1.034		mg/L		103		75 - 125	1	20
Cobalt	0.000310	U	1.00	1.002		mg/L		100		75 - 125	0	20
Chromium	0.0191		1.00	0.9873		mg/L		97		75 - 125	1	20
Lithium	0.0617	J	1.00	1.060		mg/L		100		75 - 125	1	20
Molybdenum	0.000540	U	1.00	1.009		mg/L		101		75 - 125	0	20
Lead	0.00219	U	1.00	0.9788		mg/L		98		75 - 125	1	20
Antimony	0.00393	U	1.00	1.024		mg/L		102		75 - 125	1	20
Selenium	0.00690	J	1.00	1.043		mg/L		104		75 - 125	0	20
Thallium	0.00417	U	1.00	0.9891		mg/L		99		75 - 125	0	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 560-162223/6-A
Matrix: Water
Analysis Batch: 162252

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 162223

Analyte	MB	MB	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	0.000130	U	0.00200	0.000130	mg/L		05/06/19 10:00	05/06/19 14:21	1

Lab Sample ID: LCS 560-162223/7-A
Matrix: Water
Analysis Batch: 162252

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 162223

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
		Result	Qualifier					
Mercury	0.00500	0.005380		mg/L		108		80 - 120

Lab Sample ID: 600-184553-4 MS
Matrix: Water
Analysis Batch: 162252

Client Sample ID: MW-2 MS
Prep Type: Total/NA
Prep Batch: 162223

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Mercury	0.000130	U	0.00500	0.004750		mg/L		95		80 - 120

Lab Sample ID: 600-184553-4 MSD
Matrix: Water
Analysis Batch: 162252

Client Sample ID: MW-2 MSD
Prep Type: Total/NA
Prep Batch: 162223

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Mercury	0.000130	U	0.00500	0.005010		mg/L		100		80 - 120	5	20

Lab Sample ID: MB 560-162305/6-A
Matrix: Water
Analysis Batch: 162317

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 162305

Analyte	MB	MB	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	0.000130	U	0.00200	0.000130	mg/L		05/07/19 10:20	05/07/19 14:22	1

Eurofins TestAmerica, Houston

QC Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 560-162305/7-A
Matrix: Water
Analysis Batch: 162317

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 162305
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00500	0.004920		mg/L		98	80 - 120

Method: 340.2 - Fluoride

Lab Sample ID: MB 560-162195/59
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 560-162195/89
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 560-162195/60
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	Limits
Fluoride	0.800	0.8210		mg/L		103	85 - 115

Lab Sample ID: LCS 560-162195/90
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	Limits
Fluoride	0.800	0.8170		mg/L		102	85 - 115

Lab Sample ID: 600-184553-4 MS
Matrix: Water
Analysis Batch: 162195

Client Sample ID: MW-2 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Fluoride	0.0920	J	0.500	0.5210		mg/L		86	75 - 125

Lab Sample ID: 600-184553-4 MSD
Matrix: Water
Analysis Batch: 162195

Client Sample ID: MW-2 MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Fluoride	0.0920	J	0.500	0.5050		mg/L		83	75 - 125	3	20

QC Sample Results

Client: TRC Solutions, Inc.
 Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Method: 340.2 - Fluoride (Continued)

Lab Sample ID: 600-184553-19 MS
Matrix: Water
Analysis Batch: 162195

Client Sample ID: FB-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.0300	J	0.500	0.5170		mg/L		97	75 - 125

Lab Sample ID: 600-184553-19 MSD
Matrix: Water
Analysis Batch: 162195

Client Sample ID: FB-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.0300	J	0.500	0.5220		mg/L		98	75 - 125	1	20



Unadjusted Detection Limits

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

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
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 (CVAA) Prep: 7470A

Analyte	MQL	MDL	Units
Mercury	0.00200	0.000130	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-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Metals

Prep Batch: 162223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-1	MW-27	Total/NA	Water	7470A	
600-184553-2	MW-28	Total/NA	Water	7470A	
600-184553-3	MW-1	Total/NA	Water	7470A	
600-184553-4	MW-2	Total/NA	Water	7470A	
600-184553-5	MW-17	Total/NA	Water	7470A	
600-184553-6	MW-18	Total/NA	Water	7470A	
600-184553-7	MW-19	Total/NA	Water	7470A	
600-184553-8	MW-20	Total/NA	Water	7470A	
600-184553-9	MW-21	Total/NA	Water	7470A	
600-184553-10	MW-22	Total/NA	Water	7470A	
600-184553-11	MW-29	Total/NA	Water	7470A	
MB 560-162223/6-A	Method Blank	Total/NA	Water	7470A	
LCS 560-162223/7-A	Lab Control Sample	Total/NA	Water	7470A	
600-184553-4 MS	MW-2 MS	Total/NA	Water	7470A	
600-184553-4 MSD	MW-2 MSD	Total/NA	Water	7470A	

Analysis Batch: 162252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-1	MW-27	Total/NA	Water	7470A	162223
600-184553-2	MW-28	Total/NA	Water	7470A	162223
600-184553-3	MW-1	Total/NA	Water	7470A	162223
600-184553-4	MW-2	Total/NA	Water	7470A	162223
600-184553-5	MW-17	Total/NA	Water	7470A	162223
600-184553-6	MW-18	Total/NA	Water	7470A	162223
600-184553-7	MW-19	Total/NA	Water	7470A	162223
600-184553-8	MW-20	Total/NA	Water	7470A	162223
600-184553-9	MW-21	Total/NA	Water	7470A	162223
600-184553-10	MW-22	Total/NA	Water	7470A	162223
600-184553-11	MW-29	Total/NA	Water	7470A	162223
MB 560-162223/6-A	Method Blank	Total/NA	Water	7470A	162223
LCS 560-162223/7-A	Lab Control Sample	Total/NA	Water	7470A	162223
600-184553-4 MS	MW-2 MS	Total/NA	Water	7470A	162223
600-184553-4 MSD	MW-2 MSD	Total/NA	Water	7470A	162223

Prep Batch: 162305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-12	MW-45	Total/NA	Water	7470A	
600-184553-13	MW-5	Total/NA	Water	7470A	
600-184553-14	MW-26	Total/NA	Water	7470A	
600-184553-15	MW-43	Total/NA	Water	7470A	
600-184553-16	MW-44	Total/NA	Water	7470A	
600-184553-17	MW-46	Total/NA	Water	7470A	
600-184553-18	DUP-01	Total/NA	Water	7470A	
600-184553-19	FB-01	Total/NA	Water	7470A	
MB 560-162305/6-A	Method Blank	Total/NA	Water	7470A	
LCS 560-162305/7-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 162317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-12	MW-45	Total/NA	Water	7470A	162305
600-184553-13	MW-5	Total/NA	Water	7470A	162305

Eurofins TestAmerica, Houston

QC Association Summary

Client: TRC Solutions, Inc.
 Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Metals (Continued)

Analysis Batch: 162317 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-14	MW-26	Total/NA	Water	7470A	162305
600-184553-15	MW-43	Total/NA	Water	7470A	162305
600-184553-16	MW-44	Total/NA	Water	7470A	162305
600-184553-17	MW-46	Total/NA	Water	7470A	162305
600-184553-18	DUP-01	Total/NA	Water	7470A	162305
600-184553-19	FB-01	Total/NA	Water	7470A	162305
MB 560-162305/6-A	Method Blank	Total/NA	Water	7470A	162305
LCS 560-162305/7-A	Lab Control Sample	Total/NA	Water	7470A	162305

Prep Batch: 264100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-1	MW-27	Total/NA	Water	3010A	
600-184553-2	MW-28	Total/NA	Water	3010A	
600-184553-3	MW-1	Total/NA	Water	3010A	
600-184553-4	MW-2	Total/NA	Water	3010A	
600-184553-5	MW-17	Total/NA	Water	3010A	
600-184553-6	MW-18	Total/NA	Water	3010A	
600-184553-7	MW-19	Total/NA	Water	3010A	
600-184553-8	MW-20	Total/NA	Water	3010A	
600-184553-9	MW-21	Total/NA	Water	3010A	
600-184553-10	MW-22	Total/NA	Water	3010A	
600-184553-11	MW-29	Total/NA	Water	3010A	
600-184553-12	MW-45	Total/NA	Water	3010A	
600-184553-13	MW-5	Total/NA	Water	3010A	
600-184553-14	MW-26	Total/NA	Water	3010A	
600-184553-15	MW-43	Total/NA	Water	3010A	
600-184553-16	MW-44	Total/NA	Water	3010A	
600-184553-17	MW-46	Total/NA	Water	3010A	
600-184553-18	DUP-01	Total/NA	Water	3010A	
600-184553-19	FB-01	Total/NA	Water	3010A	
MB 600-264100/1-A	Method Blank	Total/NA	Water	3010A	
LCS 600-264100/2-A	Lab Control Sample	Total/NA	Water	3010A	
600-184553-4 MS	MW-2 MS	Total/NA	Water	3010A	
600-184553-4 MSD	MW-2 MSD	Total/NA	Water	3010A	

Analysis Batch: 264521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-1	MW-27	Total/NA	Water	6010B	264100
600-184553-2	MW-28	Total/NA	Water	6010B	264100
600-184553-3	MW-1	Total/NA	Water	6010B	264100
600-184553-4	MW-2	Total/NA	Water	6010B	264100
600-184553-5	MW-17	Total/NA	Water	6010B	264100
600-184553-6	MW-18	Total/NA	Water	6010B	264100
600-184553-7	MW-19	Total/NA	Water	6010B	264100
600-184553-8	MW-20	Total/NA	Water	6010B	264100
600-184553-9	MW-21	Total/NA	Water	6010B	264100
600-184553-10	MW-22	Total/NA	Water	6010B	264100
600-184553-11	MW-29	Total/NA	Water	6010B	264100
600-184553-12	MW-45	Total/NA	Water	6010B	264100
600-184553-13	MW-5	Total/NA	Water	6010B	264100
600-184553-14	MW-26	Total/NA	Water	6010B	264100

Eurofins TestAmerica, Houston

QC Association Summary

Client: TRC Solutions, Inc.
 Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Metals (Continued)

Analysis Batch: 264521 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-15	MW-43	Total/NA	Water	6010B	264100
600-184553-16	MW-44	Total/NA	Water	6010B	264100
600-184553-17	MW-46	Total/NA	Water	6010B	264100
600-184553-18	DUP-01	Total/NA	Water	6010B	264100
600-184553-19	FB-01	Total/NA	Water	6010B	264100
MB 600-264100/1-A	Method Blank	Total/NA	Water	6010B	264100
LCS 600-264100/2-A	Lab Control Sample	Total/NA	Water	6010B	264100
600-184553-4 MS	MW-2 MS	Total/NA	Water	6010B	264100
600-184553-4 MSD	MW-2 MSD	Total/NA	Water	6010B	264100

General Chemistry

Analysis Batch: 162195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-184553-1	MW-27	Total/NA	Water	340.2	
600-184553-2	MW-28	Total/NA	Water	340.2	
600-184553-3	MW-1	Total/NA	Water	340.2	
600-184553-4	MW-2	Total/NA	Water	340.2	
600-184553-5	MW-17	Total/NA	Water	340.2	
600-184553-6	MW-18	Total/NA	Water	340.2	
600-184553-7	MW-19	Total/NA	Water	340.2	
600-184553-8	MW-20	Total/NA	Water	340.2	
600-184553-9	MW-21	Total/NA	Water	340.2	
600-184553-10	MW-22	Total/NA	Water	340.2	
600-184553-11	MW-29	Total/NA	Water	340.2	
600-184553-12	MW-45	Total/NA	Water	340.2	
600-184553-13	MW-5	Total/NA	Water	340.2	
600-184553-14	MW-26	Total/NA	Water	340.2	
600-184553-15	MW-43	Total/NA	Water	340.2	
600-184553-16	MW-44	Total/NA	Water	340.2	
600-184553-17	MW-46	Total/NA	Water	340.2	
600-184553-18	DUP-01	Total/NA	Water	340.2	
600-184553-19	FB-01	Total/NA	Water	340.2	
MB 560-162195/59	Method Blank	Total/NA	Water	340.2	
MB 560-162195/89	Method Blank	Total/NA	Water	340.2	
LCS 560-162195/60	Lab Control Sample	Total/NA	Water	340.2	
LCS 560-162195/90	Lab Control Sample	Total/NA	Water	340.2	
600-184553-4 MS	MW-2 MS	Total/NA	Water	340.2	
600-184553-4 MSD	MW-2 MSD	Total/NA	Water	340.2	
600-184553-19 MS	FB-01	Total/NA	Water	340.2	
600-184553-19 MSD	FB-01	Total/NA	Water	340.2	

Lab Chronicle

Client: TRC Solutions, Inc.
Project/Site: TRC-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Client Sample ID: MW-27

Date Collected: 04/30/19 12:55

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-1

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 15:38	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162223	05/06/19 10:00	AKM	TAL CC
Total/NA	Analysis	7470A		1			162252	05/06/19 14:59	AKM	TAL CC
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-28

Date Collected: 04/30/19 12:55

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-2

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 15:40	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162223	05/06/19 10:00	AKM	TAL CC
Total/NA	Analysis	7470A		1			162252	05/06/19 15:01	AKM	TAL CC
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-1

Date Collected: 04/30/19 15:55

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-3

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 15:42	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162223	05/06/19 10:00	AKM	TAL CC
Total/NA	Analysis	7470A		1			162252	05/06/19 15:03	AKM	TAL CC
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-2

Date Collected: 04/30/19 14:25

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-4

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 15:50	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162223	05/06/19 10:00	AKM	TAL CC
Total/NA	Analysis	7470A		1			162252	05/06/19 14:26	AKM	TAL CC
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-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Client Sample ID: MW-17

Date Collected: 04/30/19 10:50

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-5

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 15:55	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162223	05/06/19 10:00	AKM	TAL CC
Total/NA	Analysis	7470A		1			162252	05/06/19 15:05	AKM	TAL CC
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-18

Date Collected: 04/30/19 12:05

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-6

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 15:57	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162223	05/06/19 10:00	AKM	TAL CC
Total/NA	Analysis	7470A		1			162252	05/06/19 15:07	AKM	TAL CC
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-19

Date Collected: 04/30/19 13:05

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-7

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 15:59	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162223	05/06/19 10:00	AKM	TAL CC
Total/NA	Analysis	7470A		1			162252	05/06/19 15:09	AKM	TAL CC
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-20

Date Collected: 04/30/19 14:15

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-8

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:01	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162223	05/06/19 10:00	AKM	TAL CC
Total/NA	Analysis	7470A		1			162252	05/06/19 15:11	AKM	TAL CC
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-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Client Sample ID: MW-21

Date Collected: 04/30/19 15:10

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-9

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:03	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162223	05/06/19 10:00	AKM	TAL CC
Total/NA	Analysis	7470A		1			162252	05/06/19 15:13	AKM	TAL CC
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-22

Date Collected: 04/30/19 15:15

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-10

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:05	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162223	05/06/19 10:00	AKM	TAL CC
Total/NA	Analysis	7470A		1			162252	05/06/19 15:15	AKM	TAL CC
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-29

Date Collected: 04/30/19 11:45

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-11

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:07	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162223	05/06/19 10:00	AKM	TAL CC
Total/NA	Analysis	7470A		1			162252	05/06/19 15:17	AKM	TAL CC
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-45

Date Collected: 04/30/19 12:45

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-12

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:15	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162305	05/07/19 10:20	AKM	TAL CC
Total/NA	Analysis	7470A		1			162317	05/07/19 15:13	AKM	TAL CC
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-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Client Sample ID: MW-5

Date Collected: 04/30/19 12:45

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-13

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:17	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162305	05/07/19 10:20	AKM	TAL CC
Total/NA	Analysis	7470A		1			162317	05/07/19 15:15	AKM	TAL CC
Total/NA	Analysis	340.2		1	50 mL	50 mL	162195	05/04/19 11:00	RJD	TAL CC

Client Sample ID: MW-26

Date Collected: 04/30/19 11:50

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-14

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:19	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162305	05/07/19 10:20	AKM	TAL CC
Total/NA	Analysis	7470A		1			162317	05/07/19 15:17	AKM	TAL CC
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: 04/30/19 13:40

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-15

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:21	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162305	05/07/19 10:20	AKM	TAL CC
Total/NA	Analysis	7470A		1			162317	05/07/19 15:19	AKM	TAL CC
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: 04/30/19 14:10

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-16

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:23	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162305	05/07/19 10:20	AKM	TAL CC
Total/NA	Analysis	7470A		1			162317	05/07/19 15:21	AKM	TAL CC
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-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

Client Sample ID: MW-46

Date Collected: 04/30/19 10:40

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-17

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:25	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162305	05/07/19 10:20	AKM	TAL CC
Total/NA	Analysis	7470A		1			162317	05/07/19 15:23	AKM	TAL CC
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: 04/30/19 12:00

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-18

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:28	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162305	05/07/19 10:20	AKM	TAL CC
Total/NA	Analysis	7470A		1			162317	05/07/19 15:25	AKM	TAL CC
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: 04/30/19 13:20

Date Received: 05/01/19 09:40

Lab Sample ID: 600-184553-19

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	264100	05/01/19 16:47	DCL	TAL HOU
Total/NA	Analysis	6010B		1			264521	05/07/19 16:30	KP1	TAL HOU
Total/NA	Prep	7470A			50 mL	50 mL	162305	05/07/19 10:20	AKM	TAL CC
Total/NA	Analysis	7470A		1			162317	05/07/19 15:27	AKM	TAL CC
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-Limestone CCR App IV 4-30-19

Job ID: 600-184553-2

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 Client Contact: Rob Jaros 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: 600-68073-15854 3 Page: 1 of 2 Job #:	
Company: ERM-Southwest Inc. Address: CityCentre Four 840 West Sam Houston Parkway North Suite 600 City: Houston State, Zip: TX, 77024 Phone: 713-244-1000(Tel) Email: rob.jaros@erm.com Project #: 60008045 ERM-NRG--Jewett Limestone CCR App III Site:		Due Date Requested: TAT Requested (days): PO #: WO #: Project #: SSO# #:		Analysis Requested Perform MS/MSD (Yes or No) Field Filtered Sample (Yes or No) 2540C_Calcd-TDS 9040B - pH (Field pH provided by TRC) 340.2 - Fluoride 6010B - (Boron and Calcium) 300_ORGF_M_28D (Chloride/Sulfate) O = MS/MSD volume provided	
Sample Identification Sample Date Sample Time Sample Type (C=Comp, G=grab) Matrix (W=water, S=solid, O=other) (BT*TESUB, A*AL) Preservation Code: MW-27 MW-28 MW-1 MW-2 MW-17 MW-18 MW-19 MW-20 MW-21 MW-22 MW-29		Sample Date Sample Time Sample Type (C=Comp, G=grab) Matrix (W=water, S=solid, O=other) (BT*TESUB, A*AL) Preservation Code: 4-30-19 1255 1255 1555 1425 1050 1205 1305 1415 1510 1515 1145		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 2540C_Calcd-TDS 9040B - pH (Field pH provided by TRC) 340.2 - Fluoride 6010B - (Boron and Calcium) 300_ORGF_M_28D (Chloride/Sulfate) O = MS/MSD volume provided	
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		Total Number of Containers Special Instructions/Note: 600-184553 Chain of Custody	
Empty Kit Relinquished by: Relinquished by: [Signature] Date/Time: 5-1-19 940 Company: HME		Relinquished by: [Signature] Date/Time: 5-1-19 940 Company: HME		Relinquished by: [Signature] Date/Time: 5-1-19 940 Company: HME	
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: Rob Jaros Company: ERM-Southwest Inc. Address: CityCentre Four 840 West Sam Houston Parkway North Suite 60 City: Houston State: TX Zip: 77024 Phone: 713-244-1000(Tel) Email: rob.jaros@erm.com Project Name: ERM-NRG-Jewett Limestone CCR App IV SSite:			Lab PM: Tigrett, C. Lance E-Mail: lance.tigrett@testamericainc.com Carrier Tracking No(s): COC No: 600-68073-15854.3 Page: 1 of 2 Job #:		
Due Date Requested: TAT Requested (days): PO #: 4501809384 W/O #:			Analysis Requested		
Matrix: (Water, Solid, Other) Preservation Code:			Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Arniclor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		
Sample Identification MW-27 MW-28 MW-1 MW-2 MW-17 MW-18 MW-19 MW-20 MW-21 MW-22 MW-29			Total Number of Containers:		
Sample Date: 4-30-19 Sample Time: 1255 Sample Type (C=Comp, G=grab): G Matrix: Water Preservation Code:			Perform MS/MSD (Yes or No): Field Filtered Sample (Yes or No): 7470A - Mercury 340Z - Fluoride 6010B - (MOD) Custom List 903.0 - Radium-226 904.0 - Radium-228		
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			Special Instructions/Note:		
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		
Empty Kit Relinquished by:			Method of Shipment: Consultant Delivery		
Relinquished by: [Signature] Date/Time: 5-1-19 9:40 Company: HMI			Date/Time: 5/1/19 9:40 Company: [Signature]		
Relinquished by:			Date/Time:		
Relinquished 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: Rob Jaros Company: ERM-Southwest Inc. Address: CityCentre Four 840 West Sam Houston Parkway North Suite 60 City: Houston State, Zip: TX, 77024 Phone: 713-244-1000(Tel) Email: rob.jaros@erm.com Project Name: ERM-NRG-Jewett Limestone CCR App IV Site:		Lab PM: Tigrett, C. Lance E-Mail: lance.tigrett@testamericainc.com Carrier Tracking Nb(s): COC No: 600-68073-15854 3 Page: 2 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: 4501809384 WO #:		Analysis Requested 7470A - Mercury 340.2 - Fluoride 6010B - (MOD) Custom List 903.0 - Radium-226 904.0 - Radium 228	
Sample Identification MW-45 MW-5 MW-26 MW-43 MW-44 MW-46 DUP-01 FB-01		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:	
Sample Date: 4-30-19 Sample Time: 1245 Sample Type (C=Comp, G=grab): G Matrix (W=water, S=solid, O=wastefoil, BT=tissue, A=air): Water		Field Filtered Sample (Yes or No): N Perform MS/MSD (Yes or No): N RZ26Ra228 GPPC - Local Method 7470A - Mercury 340.2 - Fluoride 6010B - (MOD) Custom List 903.0 - Radium-226 904.0 - Radium 228	
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		Special Instructions/Note: Total Number of containers:	
Deliverable Requested: I, II, III, IV, Other (specify)			
Empty Kit Relinquished by:			
Relinquished by: [Signature] Date/Time: 5-1-19 940 Company: HMI		Received by: [Signature] Date/Time: 5-1-19 940 Company: Consultant Deliver	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	
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:			



Chain of Custody Record



Client Information Client Contact: Rob Jaros Company: ERM-Southwest Inc. Address: CityCentre Four 640 West Sam Houston Parkway North Suite 600 City: Houston State, Zip: TX, 77024 Phone: 713-244-1000(Tel) Email: rob.jaros@erm.com Project Name: ERM-NRG-Jewett Limestone CCR App III Site:	Sampler: Brian Hillis & HMI Team Phone: 713-653-3127 Lab PM: Tigrett, C. Lance E-Mail: lance.tigrett@vestamericainc.com	Carrier Tracking No(s):	COC No: 600-68073-15854 3 Page: 2 of 2 Job #:	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 - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)							
Due Date Requested:		Analysis Requested									
TAT Requested (days):		Total Number of containers									
PO #:		Perform MS/MSD (Yes or No)									
WO #:		Field Filtered Sample (Yes or No)									
Project #: 60008045		2540C - Calcd-TDS									
SSOW#:		340 Z - Fluoride									
		6010B - (Boron and Calcium)									
		300 ORGM_29D (Chloride/Sulfate)									
		Special Instructions/Note:									
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=oil)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540C - Calcd-TDS	340 Z - Fluoride	6010B - (Boron and Calcium)	300 ORGM_29D (Chloride/Sulfate)
MW-45	4-30-19	1245	G	Water		N	N	X	X	X	X
MW-5		1245		Water				X	X	X	X
MW-26		1150		Water				X	X	X	X
MW-43		1340		Water				X	X	X	X
MW-44		1410		Water				X	X	X	X
MW-46		1040		Water				X	X	X	X
DUP-01		1200		Water				X	X	X	X
FB-01		1320		Water				X	X	X	X
				Water				X	X	X	X
				Water				X	X	X	X
				Water				X	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 Deliverable Requested: I, II, III, IV, Other (specify)											
Empty Kit Relinquished by:											
Relinquished by: [Signature] Date/Time: 5-1-19 940 Company: HMI											
Relinquished by: [Signature] Date/Time: 5-1-19 940 Company: HMI											
Relinquished by: [Signature] Date/Time: 5-1-19 940 Company: HMI											
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Custody Seal No.											
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:											
Method of Shipment: Consultant Delivery											
Received by: [Signature] Date/Time: 5-1-19 940 Company: HMI											
Received by: [Signature] Date/Time: 5-1-19 940 Company: HMI											
Received by: [Signature] Date/Time: 5-1-19 940 Company: HMI											
Cooler Temperature(s) °C and Other Remarks:											

Sample Receipt Checklist

Date/Time Received: 19 MAY 1 9:40

JOB NUMBER: VR14

CLIENT: HMI

UNPACKED BY: VR14

CARRIER/DRIVER: Client

Custody Seal Present: YES NO

Number of Coolers Received: 8

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
210	(Y) / N	Y / (N)	0.8	W710	-0.2	0.6
510	(X) / N	Y / (N)	0.4	↓	↓	0.2
510	(Y) / N	Y / (N)	0.4	↓	↓	0.2
510	(Y) / N	Y / (N)	0.4	↓	↓	0.2
510	(X) / N	Y / (N)	0.4	↓	↓	0.2
510	(Y) / N	Y / (N)	0.8	↓	↓	0.6
510	(X) / N	Y / (N)	0.3	↓	↓	0.1
510	(Y) / N	Y / (N)	1.0	↓	↓	0.8
	Y / N	Y / N				

CF = correction factor

5/1/19

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 # H0869997

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

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

COMMENTS:

VR14
5/1/19

Sample Receipt Checklist

19 MAY 1 9:40

JOB NUMBER: _____

Date/Time Received: _____

CLIENT: UNIVAR

UNPACKED BY: JA

CARRIER/DRIVER: CLIENT

Custody Seal Present: YES NO

Number of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
<u>BW</u>	Y / <u>N</u>	Y / <u>N</u>	<u>0.1</u>	<u>1076</u>	<u>-0.2</u>	<u>5.9</u>
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	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 # _____

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:

Chill in progress

JA
4/5/19

Chain of Custody Record



Environment Testing
 TestAmerica



Client Information (Sub Contract Lab)		Sampler: Lab PM: Tigrett, C. Lance		Carrier Tracking No(s): 600-39184-1	
Client Contact: Earth City		Phone: MO, 63045		Page: Page 1 of 3	
Shipping/Receiving		E-Mail: lance.tigrett@testamericainc.com		Job #: 600-184553-2	
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NE LAP - Texas		Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2OAS E - NaHSO4 R - Na2SO3 F - MeOH S - H2SO4 G - Amchlor T - TSP Dodecahydrate H - Ascorbic Acid U - Acetone I - Ice J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (Specify) Other:	
Address: 13715 Rider Trail North,		Due Date Requested: 5/8/2019		Analysis Requested:	
City: Earth City		TAT Requested (days):		Total Number of Containers	
State, Zip: MO, 63045		PO #:		Perform MS/MSD (Yes or No)	
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		WO #:		Field Filtered Sample (Yes or No)	
Email:		Project #:		903.0/PreSep, 21 Radium-226	
Project Name: TRC-Limestone CCR App IV 4-30-19		SSOW#:		904.0/PreSep, 0 Radium-228	
Site:		Sample Date		Sample Time	
Sample Identification - Client ID (Lab ID)		Sample Type (C=comp, G=grab)		Matrix (Water, Seawater, On-Site/Off-Site)	
MW-27 (600-184553-1)	4/30/19	12:55 Central	Water	Water	X
MW-28 (600-184553-2)	4/30/19	12:55 Central	Water	Water	X
MW-1 (600-184553-3)	4/30/19	15:55 Central	Water	Water	X
MW-2 (600-184553-4)	4/30/19	14:25 Central	Water	Water	X
MW-2 MS (600-184553-4MS)	4/30/19	14:25 Central	MS	Water	X
MW-2 MSD (600-184553-4MSD)	4/30/19	14:25 Central	MSD	Water	X
MW-17 (600-184553-5)	4/30/19	10:50 Central	Water	Water	X
MW-18 (600-184553-6)	4/30/19	12:05 Central	Water	Water	X
MW-19 (600-184553-7)	4/30/19	13:05 Central	Water	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/leis/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**

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:

Empty Kit Relinquished by: **Date: 5/1/19 11:00** Time: **Company: TA**

Relinquished by: **Date/Time: 5-2-19 09:15** Received by: **Date/Time:** Company: **Company**

Relinquished by: **Date/Time:** Received by: **Date/Time:** Company: **Company**

Custody Seals Intact: **Custody Seal No.:**
 Δ Yes Δ No

Cooler Temperature(s) °C and Other Remarks:

Client Information (Sub Contract Lab)

Client Contact: **Shipping/Receiving**
Company: **TestAmerica Laboratories, Inc.**
Address: **13715 Rider Trail North, Earth City, MO, 63045**
Phone: **314-298-8566(Tel) 314-298-8757(Fax)**
Email:

Project Name: **TRC-Limestone CCR App IV 4-30-19**
Site:

Sampler: **Lab PM: Tigrett, C. Lance**
Phone: **E-Mail: lance.tigrett@testamericainc.com**

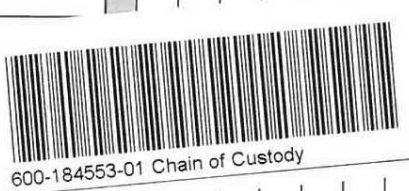
Due Date Requested: **5/8/2019**
TAT Requested (days):

PO #:
WO #:

Accreditations Required (See note): **NELAP - Texas**

Carrier Tracking No(s): **600-39184.2**
State of Origin: **Texas**
Page: **Page 2 of 3**
Job #: **600-184553-2**

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)	Preservation Code:	Field Filtered Sample (Yes or No)		Form MS/MSD (Yes or No)		Total Number of Containers	Special Instructions/Note:
						903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium 228	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium 228		
MW-20 (600-184553-8)	4/30/19	14:15 Central	Water	Water		X	X	X	X	2	
MW-21 (600-184553-9)	4/30/19	15:10 Central	Water	Water		X	X	X	X	2	
MW-22 (600-184553-10)	4/30/19	15:15 Central	Water	Water		X	X	X	X	2	
MW-29 (600-184553-11)	4/30/19	11:45 Central	Water	Water		X	X	X	X	2	
MW-45 (600-184553-12)	4/30/19	12:45 Central	Water	Water		X	X	X	X	2	
MW-5 (600-184553-13)	4/30/19	12:45 Central	Water	Water		X	X	X	X	2	
MW-26 (600-184553-14)	4/30/19	11:50 Central	Water	Water		X	X	X	X	2	
MW-43 (600-184553-15)	4/30/19	13:40 Central	Water	Water		X	X	X	X	2	
MW-44 (600-184553-16)	4/30/19	14:10 Central	Water	Water		X	X	X	X	2	



Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) **Primary Deliverable Rank: 2**

Special Instructions/QC Requirements: **Return To Client** **Disposal By Lab** **Archive For** **Months**

Empty Kit Relinquished by: **[Signature]** Date: **5/1/19 1000** Company: **FA**

Relinquished by: **[Signature]** Date/Time: **5/2-19 09:15** Company: **PA 512**

Relinquished by: **[Signature]** Date/Time: Company:

Custody Seals Intact: **Δ Yes Δ No** Cooler Temperature(s) °C and Other Remarks:

Client Information (Sub Contract Lab) Client Contact: Earth City Shipping/Receiving: MO, 63045 Company: TestAmerica Laboratories, Inc. Address: 13715 Rider Trail North, City: Earth City State, Zip: MO, 63045 Phone: 314-298-8566(Tel) 314-298-8757(Fax) Email:		Sampler: Tigrett, C. Lance Lab PM: Tigrett, C. Lance E-Mail: lance.tigrett@testamericainc.com Accreditations Required (See note): NELAP - Texas		Carrier Tracking No(s): 600-39184.3 Page: Page 3 of 3 Job #: 600-184553-2	
Due Date Requested: 5/8/2019 TAT Requested (days):		Analysis Requested			
PO #: WO #: Project #: 60008045 SSOW#:		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:			
Sample Identification - Client ID (Lab ID)		Total Number of Containers:			
MW-46 (600-184553-17)		Sample Date: 4/30/19		Sample Time: 10:40 Central	
DUP-01 (600-184553-18)		Sample Date: 4/30/19		Sample Time: 12:00 Central	
FB-01 (600-184553-19)		Sample Date: 4/30/19		Sample Time: 13:20 Central	
Matrix (Water, Solid, Other): Preservation Code:		Sample Type (C=Comp, G=grab): Preservation Code:		Field Filtered Sample (Yes or No)	
Water		Water		X	
Water		Water		X	
Water		Water		X	
Form MS/MSD (Yes or No)		903.0/PreSep_21 Radium-226		X	
Form MS/MSD (Yes or No)		904.0/PreSep_0 Radium 228		X	
600-184553-02 Chain of Custody					
Special Instructions/Note:					
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody.					
Possible Hazard Identification Unconfirmed 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 type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months					
Empty Kit Relinquished by:					
Relinquished by:		Date/Time:		Method of Shipment:	
Relinquished by:		Date/Time:		Date/Time:	
Relinquished by:		Date/Time:		Date/Time:	
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	
Δ Yes Δ No		Date/Time:		Date/Time:	



Chain of Custody Record



Client Information (Sub Contract Lab)		Lab PM: Tigrett, C. Lance	Carrier Tracking No(s): 600-39178.1					
Client Contact: Shipping/Receiving		E-Mail: lance.tigrett@testamericainc.com	Page: Page 1 of 3					
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas	Job #: 600-184553-1					
Address: 1733 N. Padre Island Drive,		Due Date Requested: 5/8/2019	Analysis Requested					
City: Corpus Christi		TAT Requested (days):						
State, Zip: TX, 78408		PO #:	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 - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)					
Phone: 361-289-2673(Tel) 361-289-2471(Fax)		WO #:						
Email:		Project #: 60008045	Special Instructions/Note:					
Site: TRC-Limestone CCR App III 4-30-19		SSOW#:						
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab) BT-TISSUE, A-Air	Matrix (W=water, S=solid, O=wastewater, BT-TISSUE, A-Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	3402	Total Number of Containers
MW-27 (600-184553-1)	4/30/19	12:55 Central	Water	Water	X	X		1
MW-28 (600-184553-2)	4/30/19	12:55 Central	Water	Water	X	X		1
MW-1 (600-184553-3)	4/30/19	15:55 Central	Water	Water	X	X		1
MW-2 (600-184553-4)	4/30/19	14:25 Central	Water	Water	X	X		1
MW-2 MS (600-184553-4MS)	4/30/19	14:25 Central	MS	Water	X	X		1
MW-2 MSD (600-184553-4MSD)	4/30/19	14:25 Central	MSD	Water	X	X		1
MW-17 (600-184553-5)	4/30/19	10:50 Central	Water	Water	X	X		1
MW-18 (600-184553-6)	4/30/19	12:05 Central	Water	Water	X	X		1
MW-19 (600-184553-7)	4/30/19	13:05 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 our 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		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Unconfirmed		<input type="checkbox"/> Return To Client	<input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Primary Deliverable Rank: 2		Method of Shipment:	
Empty Kit Relinquished by:		Date:	
Relinquished by: <i>Stacy</i>	Date: 5/11/19 1000	Received by: <i>[Signature]</i>	Date/Time: 5-2-19 955
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	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 18-10	



Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact: Shipping/Receiving		Phone:	Tigrett, C. Lance	State of Origin:	600-39178-1
Company: TestAmerica Laboratories, Inc.		E-Mail:	lance.tigrett@testamericainc.com	Page:	Page 1 of 3
Address: 1733 N. Padre Island Drive,		Accreditations Required (See note):	NELAP - Texas	Job #:	600-184553-2
City: Corpus Christi	State: TX	Due Date Requested: 5/8/2019	Analysis Requested		
Zip: 78408	PO #:	TAT Requested (days):			
Phone: 361-289-2673(Tel) 361-289-2471(Fax)	WO #:	Field Filtered Sample (Yes or No)	7470A/7470A_Prep	Perform MS/MSD (Yes or No)	Total Number of Containers
Email:	Project #: 60008045	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oli, BT=Tissue, A=Air)
Site: TRC-Limestone CR App IV 4-30-19	SSOW#:	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oli, BT=Tissue, A=Air)
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oli, BT=Tissue, A=Air)
MW-27 (600-184553-1)	4/30/19	12:55 Central	Water	X	1
MW-28 (600-184553-2)	4/30/19	12:55 Central	Water	X	1
MW-1 (600-184553-3)	4/30/19	15:55 Central	Water	X	1
MW-2 (600-184553-4)	4/30/19	14:25 Central	Water	X	1
MW-2 MS (600-184553-4MS)	4/30/19	14:25 Central	Water	X	1
MW-2 MSD (600-184553-4MSD)	4/30/19	14:25 Central	Water	X	1
MW-17 (600-184553-5)	4/30/19	10:50 Central	Water	X	1
MW-18 (600-184553-6)	4/30/19	12:05 Central	Water	X	1
MW-19 (600-184553-7)	4/30/19	13:05 Central	Water	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/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:					
Relinquished by: <i>Stacy</i>					
Relinquished by: <i>TH</i>					
Relinquished by: <i>TH</i>					
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Custody Seal No.: <i>1.0 18-10 1.1</i>					
Cooler Temperature(s) °C and Other Remarks:					



Eurofins TestAmerica, Houston
 6310 Rothway Street
 Houston, TX 77040
 Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record



Client Information (Sub Contract Lab)
 Client Contact: Tiggrett, C. Lance
 Shipping/Receiving: lance.tiggrett@testamericainc.com
 Company: TestAmerica Laboratories, Inc.
 Address: 1733 N. Padre Island Drive, ,
 City: Corpus Christi
 State, Zip: TX, 78408
 Phone: 361-289-2673 (Tel) 361-289-2471 (Fax)
 Email:
 Project #: 60008045
 Site: TRC-Limestone CCR App III 4-30-19

Due Date Requested: 5/8/2019
TAT Requested (days):
PO #:
WO #:
Project #: 60008045
SSOW#:

Sample Identification - Client ID (Lab ID)	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)	Perform MS/MSD (Yes or No)	342	Total Number of Containers	Special Instructions/Note:
MW-46 (600-184553-17)	4/30/19	10:40 Central	Water	Water	X	X	1		
DUP-01 (600-184553-18)	4/30/19	12:00 Central	Water	Water	X	X	1		
FB-01 (600-184553-19)	4/30/19	13:20 Central	Water	Water	X	X	1		

Lab PM: Tiggrett, C. Lance
 Camer Tracking No(s): 600-39178.3
 State of Origin: Texas
 Job #: 600-184553-1
Analysis Requested
 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 - Na2O4S
 Q - Na2SO3
 R - Na2SO3
 S - H2SO4
 T - TSP Dodecahydrate
 U - Acetone
 V - MCAA
 W - pH 4.5
 Z - other (specify)
 Accreditations Required (See note): NELAP - Texas
 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. I
Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify)
 Primary Deliverable Rank: 2
 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:
 Empty Kit Relinquished by:
 Relinquished by: [Signature] Date: 5/1/19 10:00
 Relinquished by: [Signature] Date/Time: 5-2-19 14:30
 Relinquished by: [Signature] Date/Time:
 Relinquished by: [Signature] Date/Time:
 Custody Seals Intact:
 Δ Yes Δ No
 Custody Seal No.: 1.0 18-10 (1.1)
 Cooler Temperature(s) °C and Other Remarks:
 Ver: 01/16/2019

Chain of Custody Record

Client Information (Sub Contract Lab)		Sampler:		Lab PM:		Carrier Tracking No(s):		COC No:	
Client Contact: Shipping/Receiving		Phone:		Tigrett, C. Lance		State of Origin: Texas		600-39178.2	
Company: TestAmerica Laboratories, Inc.		E-Mail: lance.tigrett@testamericainc.com		E-Mail: lance.tigrett@testamericainc.com		Accreditations Required (See note): NELAP - Texas		Page: Page 2 of 3	
Address: 1733 N. Padre Island Drive, City: Corpus Christi State, Zip: TX, 78408 Phone: 361-289-2673(Tel) 361-289-2471(Fax) Email:		PO #:		WO #:		Project #: 60008045 SSOW#:		Job #: 600-184553-1	
Due Date Requested: 5/8/2019		TAT Requested (days):		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Total Number of containers	
Analysis Requested		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=oil, BT=Tissue, A=Air)	
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:		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=oil, BT=Tissue, A=Air)	
Special Instructions/Note:		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=oil, BT=Tissue, A=Air)	
		4/30/19		14:15 Central		Water		X	
		4/30/19		15:10 Central		Water		X	
		4/30/19		15:15 Central		Water		X	
		4/30/19		11:45 Central		Water		X	
		4/30/19		12:45 Central		Water		X	
		4/30/19		12:45 Central		Water		X	
		4/30/19		11:50 Central		Water		X	
		4/30/19		13:40 Central		Water		X	
		4/30/19		14:10 Central		Water		X	

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. |

Possible Hazard Identification		Special Instructions/QC Requirements:	
Unconfirmed		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Primary Deliverable Rank: 2	
Empty Kit Relinquished by:		Date: _____ Time: _____ Method of Shipment:	
Relinquished by: <i>Spayle</i>		Date/Time: 5/1/19 1000	
Relinquished by:		Date/Time:	
Relinquished by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:	
Cooler Temperature(s) °C and Other Remarks:		1.0 18-16 1.1	



Login Sample Receipt Checklist

Client: TRC Solutions, Inc.

Job Number: 600-184553-2

Login Number: 184553

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	0.6, 0.2, 1.9, 0.2, 1.5, 0.6, 0.1, 1.6
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.	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.



Login Sample Receipt Checklist

Client: TRC Solutions, Inc.

Job Number: 600-184553-2

Login Number: 184553

List Number: 2

Creator: Viveros, Ashley D

List Source: Eurofins TestAmerica, Corpus Christi

List Creation: 05/02/19 05:07 PM

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

May 28, 2019

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

Work Order: **HS19050033**

Laboratory Results for: **NRG Limestone- CCR Program**

Dear Lori,

ALS Environmental received 2 sample(s) on May 01, 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 Limestone- CCR Program
Work Order: HS19050033

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19050033-01	MW-28	Water		30-Apr-2019 12:55	01-May-2019 10:10	<input type="checkbox"/>
HS19050033-02	MW-43	Water		30-Apr-2019 13:40	01-May-2019 10:10	<input type="checkbox"/>

Client: TRC Corporation
Project: NRG Limestone- CCR Program
Work Order: HS19050033

CASE NARRATIVE

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: 140458

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

Metals by Method SW6020

Batch ID: 140404

Sample ID: HS19041576-03MS

- MS and MSD are for an unrelated sample
-

Client: TRC Corporation
 Project: NRG Limestone- CCR Program
 Sample ID: MW-28
 Collection Date: 30-Apr-2019 12:55

ANALYTICAL REPORT
 WorkOrder:HS19050033
 Lab ID:HS19050033-01
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-May-2019		Analyst: JHD	
Antimony		U	0.000400	0.00200	mg/L	1	02-May-2019 00:41
Arsenic	0.00393		0.000400	0.00200	mg/L	1	02-May-2019 00:41
Barium	0.0949		0.00190	0.00400	mg/L	1	02-May-2019 00:41
Beryllium	0.000621	J	0.000200	0.00200	mg/L	1	02-May-2019 00:41
Cadmium	0.00662		0.000200	0.00200	mg/L	1	02-May-2019 00:41
Chromium	0.00813		0.000400	0.00400	mg/L	1	02-May-2019 00:41
Cobalt	0.216		0.000200	0.00500	mg/L	1	02-May-2019 00:41
Lead	0.00880		0.000600	0.00200	mg/L	1	02-May-2019 00:41
Lithium	0.962		0.0100	0.0500	mg/L	10	02-May-2019 14:25
Molybdenum		U	0.000600	0.00500	mg/L	1	02-May-2019 00:41
Selenium	0.00231		0.00110	0.00200	mg/L	1	02-May-2019 00:41
Thallium	0.000552	J	0.000200	0.00200	mg/L	1	02-May-2019 00:41
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-May-2019		Analyst: FO	
Mercury		U	0.0000300	0.000200	mg/L	1	02-May-2019 14:28
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	09-May-2019 08:41
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

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

Client: TRC Corporation
 Project: NRG Limestone- CCR Program
 Sample ID: MW-43
 Collection Date: 30-Apr-2019 13:40

ANALYTICAL REPORT
 WorkOrder:HS19050033
 Lab ID:HS19050033-02
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-May-2019		Analyst: JHD	
Antimony	U		0.000400	0.00200	mg/L	1	02-May-2019 00:43
Arsenic	0.00156	J	0.000400	0.00200	mg/L	1	02-May-2019 00:43
Barium	0.0813		0.00190	0.00400	mg/L	1	02-May-2019 00:43
Beryllium	U		0.000200	0.00200	mg/L	1	02-May-2019 00:43
Cadmium	U		0.000200	0.00200	mg/L	1	02-May-2019 00:43
Chromium	0.00933		0.000400	0.00400	mg/L	1	02-May-2019 00:43
Cobalt	0.00138	J	0.000200	0.00500	mg/L	1	02-May-2019 00:43
Lead	0.000851	J	0.000600	0.00200	mg/L	1	02-May-2019 00:43
Lithium	0.0239		0.00100	0.00500	mg/L	1	02-May-2019 00:43
Molybdenum	0.00154	J	0.000600	0.00500	mg/L	1	02-May-2019 00:43
Selenium	0.0713		0.00110	0.00200	mg/L	1	02-May-2019 00:43
Thallium	U		0.000200	0.00200	mg/L	1	02-May-2019 00:43
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 02-May-2019		Analyst: FO	
Mercury	U		0.0000300	0.000200	mg/L	1	02-May-2019 14:29
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	09-May-2019 08:41
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

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

WEIGHT LOG

Client: TRC Corporation
Project: NRG Limestone- CCR Program
WorkOrder: HS19050033

Batch ID: 140404 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SamplID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19050033-01	1	10	10 (mL)	1
HS19050033-02	1	10	10 (mL)	1

Batch ID: 140458 **Method:** MERCURY BY SW7470A **Prep:** HG_WPR

SamplID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19050033-01	1	10 (mL)	10 (mL)	1
HS19050033-02	1	10 (mL)	10 (mL)	1

Client: TRC Corporation
Project: NRG Limestone- CCR Program
WorkOrder: HS19050033

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 140404		Test Name : ICP-MS METALS BY SW6020A		Matrix: Water		
HS19050033-01	MW-28	30 Apr 2019 12:55		01 May 2019 13:00	02 May 2019 14:25	10
HS19050033-01	MW-28	30 Apr 2019 12:55		01 May 2019 13:00	02 May 2019 00:41	1
HS19050033-02	MW-43	30 Apr 2019 13:40		01 May 2019 13:00	02 May 2019 00:43	1
Batch ID 140458		Test Name : MERCURY BY SW7470A		Matrix: Water		
HS19050033-01	MW-28	30 Apr 2019 12:55		02 May 2019 09:30	02 May 2019 14:28	1
HS19050033-02	MW-43	30 Apr 2019 13:40		02 May 2019 09:30	02 May 2019 14:29	1
Batch ID R338103		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE		Matrix: Water		
HS19050033-01	MW-28	30 Apr 2019 12:55			09 May 2019 08:41	1
HS19050033-02	MW-43	30 Apr 2019 13:40			09 May 2019 08:41	1
Batch ID R339288		Test Name : SUBCONTRACT ANALYSIS - RADIUM 228		Matrix: Water		
HS19050033-01	MW-28	30 Apr 2019 12:55			28 May 2019 18:07	1
HS19050033-01	MW-28	30 Apr 2019 12:55			28 May 2019 18:07	1
HS19050033-02	MW-43	30 Apr 2019 13:40			28 May 2019 18:07	1
HS19050033-02	MW-43	30 Apr 2019 13:40			28 May 2019 18:07	1

Client: TRC Corporation
Project: NRG Limestone- CCR Program
WorkOrder: HS19050033

QC BATCH REPORT

Batch ID: 140404 (0) **Instrument:** ICPMS06 **Method:** ICP-MS METALS BY SW6020A

MBLK Sample ID: **MBLK-140404** Units: **mg/L** Analysis Date: **01-May-2019 23:49**
 Client ID: Run ID: **ICPMS06_337619** SeqNo: **5059266** PrepDate: **01-May-2019** DF: **1**
 Analyte Result PQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

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	U	0.00400							
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-140404** Units: **mg/L** Analysis Date: **01-May-2019 23:51**
 Client ID: Run ID: **ICPMS06_337619** SeqNo: **5059267** PrepDate: **01-May-2019** DF: **1**
 Analyte Result PQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	0.0494	0.00200	0.05	0	98.8	80 - 120			
Arsenic	0.05181	0.00200	0.05	0	104	80 - 120			
Barium	0.05354	0.00400	0.05	0	107	80 - 120			
Beryllium	0.05214	0.00200	0.05	0	104	80 - 120			
Cadmium	0.05387	0.00200	0.05	0	108	80 - 120			
Chromium	0.04873	0.00400	0.05	0	97.5	80 - 120			
Cobalt	0.05109	0.00500	0.05	0	102	80 - 120			
Lead	0.05102	0.00200	0.05	0	102	80 - 120			
Lithium	0.1021	0.00500	0.1	0	102	80 - 120			
Molybdenum	0.0496	0.00500	0.05	0	99.2	80 - 120			
Selenium	0.0538	0.00200	0.05	0	108	80 - 120			
Thallium	0.05193	0.00200	0.05	0	104	80 - 120			

Client: TRC Corporation
Project: NRG Limestone- CCR Program
WorkOrder: HS19050033

QC BATCH REPORT

Batch ID: 140404 (0)	Instrument: ICPMS06	Method: ICP-MS METALS BY SW6020A								
MS	Sample ID: HS19041576-03MS	Units: mg/L	Analysis Date: 01-May-2019 23:55							
Client ID:	Run ID: ICPMS06_337619	SeqNo: 5059270	PrepDate: 01-May-2019 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	0.04987	0.00200	0.05	0	99.7	80 - 120				
Arsenic	0.06626	0.00200	0.05	0.009434	114	80 - 120				
Barium	0.1067	0.00400	0.05	0.05229	109	80 - 120				
Beryllium	0.04674	0.00200	0.05	0	93.5	80 - 120				
Cadmium	0.04775	0.00200	0.05	0	95.5	80 - 120				
Chromium	0.05267	0.00400	0.05	0	105	80 - 120				
Cobalt	0.07907	0.00500	0.05	0.02516	108	80 - 120				
Lead	0.05294	0.00200	0.05	0	106	80 - 120				
Lithium	0.1962	0.00500	0.1	0.1023	93.9	80 - 120				
Molybdenum	0.05149	0.00500	0.05	0.000949	101	80 - 120				
Selenium	0.05479	0.00200	0.05	0	110	80 - 120				
Thallium	0.05335	0.00200	0.05	0	107	80 - 120				

MSD	Sample ID: HS19041576-03MSD	Units: mg/L	Analysis Date: 01-May-2019 23:58							
Client ID:	Run ID: ICPMS06_337619	SeqNo: 5059272	PrepDate: 01-May-2019 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	0.04521	0.00200	0.05	0	90.4	80 - 120	0.04987	9.79	20	
Arsenic	0.05979	0.00200	0.05	0.009434	101	80 - 120	0.06626	10.3	20	
Barium	0.09781	0.00400	0.05	0.05229	91.0	80 - 120	0.1067	8.69	20	
Beryllium	0.0435	0.00200	0.05	0	87.0	80 - 120	0.04674	7.19	20	
Cadmium	0.04475	0.00200	0.05	0	89.5	80 - 120	0.04775	6.49	20	
Chromium	0.04718	0.00400	0.05	0	94.4	80 - 120	0.05267	11	20	
Cobalt	0.07085	0.00500	0.05	0.02516	91.4	80 - 120	0.07907	11	20	
Lead	0.0487	0.00200	0.05	0	97.4	80 - 120	0.05294	8.35	20	
Lithium	0.1862	0.00500	0.1	0.1023	83.9	80 - 120	0.1962	5.25	20	
Molybdenum	0.04839	0.00500	0.05	0.000949	94.9	80 - 120	0.05149	6.2	20	
Selenium	0.0506	0.00200	0.05	0	101	80 - 120	0.05479	7.96	20	
Thallium	0.04989	0.00200	0.05	0	99.8	80 - 120	0.05335	6.69	20	

Client: TRC Corporation
Project: NRG Limestone- CCR Program
WorkOrder: HS19050033

QC BATCH REPORT

Batch ID: 140404 (0)	Instrument: ICPMS06	Method: ICP-MS METALS BY SW6020A								
PDS	Sample ID: HS19041576-03PDS	Units: mg/L	Analysis Date: 02-May-2019 00:00							
Client ID:	Run ID: ICPMS06_337619	SeqNo: 5059273	PrepDate: 01-May-2019 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	0.08899	0.00200	0.1	0.000035	89.0	75 - 125				
Arsenic	0.1081	0.00200	0.1	0.009434	98.7	75 - 125				
Barium	0.1439	0.00400	0.1	0.05229	91.6	75 - 125				
Beryllium	0.08615	0.00200	0.1	0.000114	86.0	75 - 125				
Cadmium	0.08845	0.00200	0.1	0.000042	88.4	75 - 125				
Chromium	0.09238	0.00400	0.1	0.000246	92.1	75 - 125				
Cobalt	0.1199	0.00500	0.1	0.02516	94.7	75 - 125				
Lead	0.09828	0.00200	0.1	0.000143	98.1	75 - 125				
Lithium	0.1797	0.00500	0.1	0.1023	77.4	70 - 125				
Molybdenum	0.09175	0.00500	0.1	0.000949	90.8	75 - 125				
Selenium	0.09774	0.00200	0.1	0.000806	96.9	75 - 125				
Thallium	0.1091	0.00200	0.1	0.000041	109	75 - 125				

SD	Sample ID: HS19041576-03SD	Units: mg/L	Analysis Date: 01-May-2019 23:54							
Client ID:	Run ID: ICPMS06_337619	SeqNo: 5059269	PrepDate: 01-May-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					0.000035	0	10	
Arsenic	0.008132	0.0100					0.009434	0	10	J
Barium	0.0471	0.0200					0.05229	9.93	10	
Beryllium	U	0.0100					0.000114	0	10	
Cadmium	U	0.0100					0.000042	0	10	
Chromium	U	0.0200					0.000246	0	10	
Cobalt	0.02338	0.0250					0.02516	7.07	10	J
Lead	U	0.0100					0.000143	0	10	
Lithium	0.09953	0.0250					0.1023	2.72	10	
Molybdenum	U	0.0250					0.000949	0	10	
Selenium	U	0.0100					0.000806	0	10	
Thallium	U	0.0100					0.000041	0	10	

The following samples were analyzed in this batch: HS19050033-01 HS19050033-02

Client: TRC Corporation
Project: NRG Limestone- CCR Program
WorkOrder: HS19050033

QC BATCH REPORT

Batch ID: 140458 (0)	Instrument: HG03	Method: MERCURY BY SW7470A
-------------------------------	-------------------------	-----------------------------------

MBLK	Sample ID: MBLK-140458	Units: mg/L	Analysis Date: 02-May-2019 14:02							
Client ID:	Run ID: HG03_337755	SeqNo: 5060421	PrepDate: 02-May-2019 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury U 0.000200

LCS	Sample ID: LCS-140458	Units: mg/L	Analysis Date: 02-May-2019 14:04							
Client ID:	Run ID: HG03_337755	SeqNo: 5060422	PrepDate: 02-May-2019 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 0.00522 0.000200 0.005 0 104 80 - 120

MS	Sample ID: HS19041716-03MS	Units: mg/L	Analysis Date: 02-May-2019 14:07							
Client ID:	Run ID: HG03_337755	SeqNo: 5060424	PrepDate: 02-May-2019 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 0.00522 0.000200 0.005 -0.000017 105 75 - 125

MSD	Sample ID: HS19041716-03MSD	Units: mg/L	Analysis Date: 02-May-2019 14:09							
Client ID:	Run ID: HG03_337755	SeqNo: 5060425	PrepDate: 02-May-2019 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 0.00523 0.000200 0.005 -0.000017 105 75 - 125 0.00522 0.191 20

The following samples were analyzed in this batch: HS19050033-01 HS19050033-02

Client: TRC Corporation
Project: NRG Limestone- CCR Program
WorkOrder: HS19050033

**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: HS19050033

Date/Time Received: 01-May-2019 10:10
Received by: JRM

Checklist completed by: Nilesh D. Ranchod
eSignature
Date: 1-May-2019

Reviewed by: RJ Modashia
eSignature
Date: 1-May-2019

Matrices: Water

Carrier name: Client

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [] No [] Not Present [checked]
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 []

1 Page(s)
COC IDs:200185

Temperature(s)/Thermometer(s): 2.7C UC/C IR # 25
Cooler(s)/Kit(s): 44848
Date/Time sample(s) sent to storage: 05/01/2019 12:45pm
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: Nilesh D. Ranchod

Login Notes: SX # MW-43
Metal pH>2(7).Preserved with 0.50mil HNO3
on 05/01/2019 @11:45am
Lot #309117005 By Nilesh
After preserved pH (1)

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: 200185

HS19050033

TRC Corporation
NRG



ALS Project Manager:

Customer Information		Project Information		
Purchase Order	298367.1000	Project Name	NRG Limestone- CCR Program	A
Work Order		Project Number		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-28	4-30-19	1255	W	2,8	4	X	X	X	X	X						
2	MW-43	↓	1340	W	2,8	4	X	X	X	X	X						
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign *HMT Team*
 Brian Hillin + *HMT Team*

Shipment Method: Consult. Delivery

Required Turnaround Time: (Check Box) STD 10 Wk Days 5 Wk Days 2 Wk Days 24 Hour

Results Due Date: _____

Relinquished by: *[Signature]* Date: 5-1-19 Time: 10:10

Received by: _____ Notes: NRG

Relinquished by: _____ Date: 5/1/19 Time: 10:10

Received by (Laboratory): J. M. M...

Logged by (Laboratory): _____ Date: _____ Time: _____

Checked by (Laboratory): _____

QC Package: (Check One Box Below)

Level II Std QC TRRP Checklist

Level III Std QC/Raw Data TRRP Level IV

Level IV SW846/GLP

Other

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035

Cooler ID: 44848 Cooler Temp.: 2-7

1225

CFOO

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

Date: _____
Name: _____
Company: _____

CUSTODY SEAL		Seal Broken By:
7-1-14	Time: 9:00	NR
B. Hillin		Date: 5/1/19
HME		



09-May-2019

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

Re: **HS19050033**

Work Order: **19050129**

Dear RJ,

ALS Environmental received 2 samples on 02-May-2019 09:00 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 8.

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

Client: ALS Environmental
Project: HS19050033
Work Order: 19050129

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>
19050129-01	HS19050033-01	Water	MW-28	4/30/2019 12:55	5/2/2019 09:00	<input type="checkbox"/>
19050129-02	HS19050033-02	Water	MW-43	4/30/2019 13:40	5/2/2019 09:00	<input type="checkbox"/>

Client: ALS Environmental
Project: HS19050033
WorkOrder: 19050129

**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: HS19050033
Sample ID: HS19050033-01
Collection Date: 4/30/2019 12:55 PM

Work Order: 19050129
Lab ID: 19050129-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
FLUORIDE Fluoride	0.26		A4500-F C-11 0.10	mg/L	1	Analyst: DVD 5/8/2019 12:00 PM

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

ALS Group, USA

Date: 09-May-19

Client: ALS Environmental
Project: HS19050033
Sample ID: HS19050033-02
Collection Date: 4/30/2019 01:40 PM

Work Order: 19050129
Lab ID: 19050129-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
FLUORIDE Fluoride	1.3		A4500-F C-11 0.10	mg/L	1	Analyst: DVD 5/8/2019 12:00 PM

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

Client: ALS Environmental
 Work Order: 19050129
 Project: HS19050033

QC BATCH REPORT

Batch ID: **R260046** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK		Sample ID: MB-R260046-R260046				Units: mg/L		Analysis Date: 5/8/2019 12:00 PM		
Client ID:		Run ID: TITRATOR 1_190508A		SeqNo: 5647254		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-R260046-R260046				Units: mg/L		Analysis Date: 5/8/2019 12:00 PM		
Client ID:		Run ID: TITRATOR 1_190508A		SeqNo: 5647255		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	5.492	0.10	5	0	110	80-120	0			

MS		Sample ID: 19050364-04C MS				Units: mg/L		Analysis Date: 5/8/2019 12:00 PM		
Client ID:		Run ID: TITRATOR 1_190508A		SeqNo: 5647269		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.909	0.10	5	0.148	95.2	75-125	0			

MS		Sample ID: 19050390-01C MS				Units: mg/L		Analysis Date: 5/8/2019 12:00 PM		
Client ID:		Run ID: TITRATOR 1_190508A		SeqNo: 5647273		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.756	0.10	5	0.09	93.3	75-125	0			

MSD		Sample ID: 19050364-04C MSD				Units: mg/L		Analysis Date: 5/8/2019 12:00 PM		
Client ID:		Run ID: TITRATOR 1_190508A		SeqNo: 5647270		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.933	0.10	5	0.148	95.7	75-125	4.909	0.488	20	

MSD		Sample ID: 19050390-01C MSD				Units: mg/L		Analysis Date: 5/8/2019 12:00 PM		
Client ID:		Run ID: TITRATOR 1_190508A		SeqNo: 5647274		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.82	0.10	5	0.09	94.6	75-125	4.756	1.34	20	

The following samples were analyzed in this batch:

19050129-01A	19050129-02A
--------------	--------------

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

19050129



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: 11228

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: 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: HS19050033
TSR: Sonia West

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
1. HS19050033-01	MW-28	Water	30 Apr 2019 12:55
	Fluoride by ISE 4500		09 May 2019
2. HS19050033-02	MW-43	Water	30 Apr 2019 13:40
	Fluoride by ISE 4500		09 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: J. Wainwright
Received By: [Signature]
Cooler ID(s): _____

Date/Time: 5/01/19 18:00
Date/Time: 5/2/19 0900
Temperature(s): 82 2.2c

RIGHT SOLUTIONS | RIGHT PARTNER

[Signature]

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**

Date/Time Received: **02-May-19 09:00**

Work Order: **19050129**

Received by: **DS**

Checklist completed by Diane Shaw 02-May-19
eSignature Date

Reviewed by: Chad Whilton 02-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:

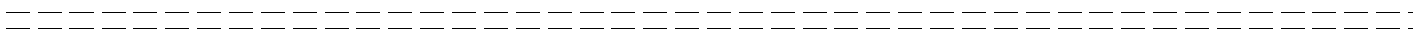
Water - VOA vials have zero headspace? Yes No No VOA vials submitted

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:



Friday, May 24, 2019

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

Re: ALS Workorder: 1905031
Project Name:
Project Number: HS19050033

Dear Mr. Modashia:

Two water samples were received from ALS Environmental, on 5/2/2019. 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



1905031

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: 1905031

Client Name: ALS Environmental

Client Project Name:

Client Project Number: HS19050033

Client PO Number: 10-11229

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
MW-28	1905031-1		WATER	30-Apr-19	12:55
MW-43	1905031-2		WATER	30-Apr-19	13:40



1905031

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: 11229

SUBCONTRACT TO:

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: 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: HS19050033
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19050033-01	MW-28	Water	30 Apr 2019 12:55
	SUB_RA 226			09 May 2019
	SUB_RA 228			09 May 2019
2.	HS19050033-02	MW-43	Water	30 Apr 2019 13:40
	SUB_RA 226			09 May 2019
	SUB_RA 228			09 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: J. LAWAL
Received By: Emily Lyons
Cooler ID(s): _____

Date/Time: 05/01/19 18:00
Date/Time: 05/02/19 09:50
Temperature(s): _____



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ALS-TX

Workorder No: 1905031

Project Manager: JRK

Initials: Em

Date: 05-02-19

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	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.)			<input checked="" type="radio"/> YES	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 all samples in the proper containers for the requested analyses?			<input checked="" type="radio"/> YES	NO *	
11. Are all aqueous samples preserved correctly, if required? (excluding volatiles)		N/A	<input checked="" type="radio"/> YES	NO *	
12. Are all aqueous non-preserved samples pH 4-9?		<input checked="" type="radio"/> N/A	YES	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	YES	NO	
14. Were the samples shipped on ice?			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	YES	NO
Cooler #: <u>1</u>					
Temperature (°C): <u>Amb.</u>					
No. of custody seals on cooler: <u>2</u>					
External µR/hr reading: <u>10</u>					
Background µR/hr reading: <u>10</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

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: [Signature] 5-2-19

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: 01MAY19
ACTWT: 14.55 LB
CAD: 300130/CAFE3211
DIMS: 19x16x13 IN
BILL THIRD PARTY

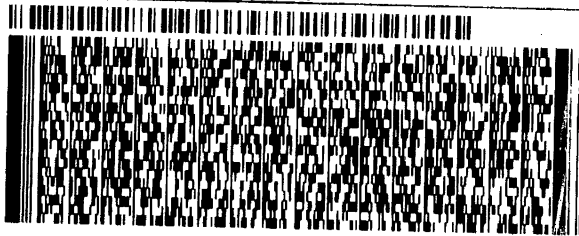
TO **SAMPLE RECEIVING**
ALS ENVIRONMENTAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524

(970) 490-1511

REF: HS19050033/34 RJ CG

551CL/AGFC/104C



FedEx
Express



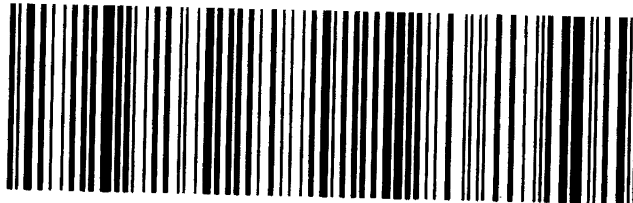
J181118060501 UN

TRK# 4809 7833 4143
0201

THU - 02 MAY 3:00P
STANDARD OVERNIGHT

AG FTCA

80524
CO-US DEN



Seal Broken By:	Date:
JUSTODY SEAL	
Time: 18:00	
ALS	
Hand	

SI 20
677
4
15:00
A

Client: ALS Environmental

Date: 24-May-19

Project: HS19050033

Work Order: 1905031

Sample ID: MW-28

Lab ID: 1905031-1

Legal Location:

Matrix: WATER

Collection Date: 4/30/2019 12:55

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	1.09 (+/- 0.36)		SOP 783		Prep Date: 5/15/2019	PrepBy: JXH
<i>Carr: BARIUM</i>	92.7		0.13	pCi/l	NA	5/23/2019 13:03
			40-110	%REC	DL = NA	5/23/2019 13:03
Radium-228 Analysis by GFPC						
Ra-228	4.8 (+/- 1.2)		SOP 724		Prep Date: 5/7/2019	PrepBy: MLB
<i>Carr: BARIUM</i>	88		0.8	pCi/l	NA	5/14/2019 10:54
			40-110	%REC	DL = NA	5/14/2019 10:54

Client: ALS Environmental

Date: 24-May-19

Project: HS19050033

Work Order: 1905031

Sample ID: MW-43

Lab ID: 1905031-2

Legal Location:

Matrix: WATER

Collection Date: 4/30/2019 13:40

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	0.24	pCi/l	NA	5/23/2019 12:18
Carr: BARIUM	94.8		40-110	%REC	DL = NA	5/23/2019 12:18
Radium-228 Analysis by GFPC						
Ra-228	ND (+/- 0.4)	U	0.8	pCi/l	NA	5/14/2019 10:54
Carr: BARIUM	88.9		40-110	%REC	DL = NA	5/14/2019 10:54

Client: ALS Environmental

Date: 24-May-19

Project: HS19050033

Work Order: 1905031

Sample ID: MW-43

Lab ID: 1905031-2

Legal Location:

Matrix: WATER

Collection Date: 4/30/2019 13:40

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 11:07

Client: ALS Environmental

QC BATCH REPORT

Work Order: 1905031

Project: HS19050033

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:

1905031-1	1905031-2	1904501-6
-----------	-----------	-----------

Client: ALS Environmental
 Work Order: 1905031
 Project: HS19050033

QC BATCH REPORT

Batch ID: RA190507-3-1 Instrument ID LB4100-C Method: Radium-228 Analysis by GFPC

LCS		Sample ID: RA190507-3		Units: pCi/l			Analysis Date: 5/14/2019 11:00				
Client ID:		Run ID: RA190507-3A			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 (+/- 3.9)	1.1	14.43		111	70-130					P,M3
Carr: BARIUM	31860		32500		98	40-110					

LCSD		Sample ID: RA190507-3		Units: pCi/l			Analysis Date: 5/14/2019 11:00				
Client ID:		Run ID: RA190507-3A			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	16.4 (+/- 4)	1.1	14.43		113	70-130		16	0.07	2.1	P,M3
Carr: BARIUM	29830		32500		91.8	40-110		31860			

MB		Sample ID: RA190507-3		Units: pCi/l			Analysis Date: 5/14/2019 10:54				
Client ID:		Run ID: RA190507-3A			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	0.75									U
Carr: BARIUM	30160		32500		92.8	40-110					

The following samples were analyzed in this batch: 1905031-1 1905031-2

Appendix B

Detection Monitoring Data (July 2019)

TRC Environmental Corporation | NRG Texas Power, LLC

2019 Annual Groundwater Monitoring and Corrective Action Report

S:\NRG\LIMESTONE\2019\2019 ANNUAL REPORT\2. REPORTS\TEXT\FINAL 2019 LIMESTONE ANNUAL GW REPORT 2019_01-29-2020.DOCX

January 31, 2020



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

August 08, 2019

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

Work Order: **HS19071538**

Laboratory Results for: **NRG Limestone- Appendix III**

Dear Lori,

ALS Environmental received 19 sample(s) on Jul 31, 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 scribble.

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

Client: TRC Corporation
Project: NRG Limestone- Appendix III
WorkOrder: HS19071538

**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 Limestone- Appendix III
WorkOrder: HS19071538

**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: 08/07/2019				
Project Name: NRG Limestone- Appendix III			Laboratory Job Number: HS19071538				
Reviewer Name: RJ Modashia			Prep Batch Number(s): 143677,R343645,R343646,R343682,R343742,R343828,R343833				
# 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: 08/07/2019			
Project Name: NRG Limestone- Appendix III				Laboratory Job Number: HS19071538			
Reviewer Name: RJ Modashia				Prep Batch Number(s): 143677,R343645,R343646,R343682,R343742,R343828,R343833			
# 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: 08/07/2019
Project Name: NRG Limestone- Appendix III	Laboratory Job Number: HS19071538
Reviewer Name: RJ Modashia	Prep Batch Number(s): 143677,R343645,R343646,R343682,R343742,R343828,R343833

ER# ⁵	Description
1	<p>Batch 143677, Calcium Method SW6020, sample MW-02, 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 R343645, Metals Method SW6020, sample HS19071394-02, MS was performed on unrelated sample.</p> <p>Batch R343833, Anions Method E300, sample HS19080198-01, MS and MSD were performed on unrelated sample.</p>
2	Analysis of Fluoride was performed by ALS Holland, Michigan. Report and Laboratory Review Checklist are attached to the final report
3	See Run Log and CCB Exceptions Report
4	Batch 143677, Calcium Method SW6020, sample MW-02, PDS recovered outside the control limit, however, the result I the parent sample is greater than 4x the spike amount.

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 Limestone- Appendix III
WorkOrder: HS19071538
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
MW-46	50	06-Aug-2019 15:01		CL SO4
DUP-01	2	06-Aug-2019 15:16		CL
MW-26	1	06-Aug-2019 15:45		SO4
MW-26	10	06-Aug-2019 16:00		CL
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
ZZZZZMS	10	06-Aug-2019 22:55		CL SO4
ZZZZZMSD	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
DUP-01	20	07-Aug-2019 14:37		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 Limestone- Appendix III
WorkOrder: HS19071538

Run ID: ICS2100_343833
 Instrument: ICS2100
 Method: E300

CCB ID	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 Limestone- Appendix III
 WorkOrder: HS19071538
 Start Date: 07-Aug-2019

End Date: 07-Aug-2019

Run ID: ICPMS05_343798
 Instrument: ICPMS05
 Method: SW6020

Sample No.	D/F	Time	FileID	Analyses
ICV	1	07-Aug-2019 11:28	017_ICV.d	B CA
LLICV2	1	07-Aug-2019 11:31	018LCV2.d	B CA
LLICV5	1	07-Aug-2019 11:33	019LCV5.d	B CA
ICB	1	07-Aug-2019 11:35	020_ICB.d	B CA
ICSA	1	07-Aug-2019 11:48	022ICSA.d	B CA
ICSAB	1	07-Aug-2019 11:50	023ICSB.d	B CA
CCB 1	1	07-Aug-2019 12:21	033_CCB.d	B CA
CCV 1	1	07-Aug-2019 12:24	034_CCV.d	B CA
CCV 2	1	07-Aug-2019 12:54	046_CCV.d	B CA
CCB 2	1	07-Aug-2019 12:56	047_CCB.d	B CA
MW-01	1	07-Aug-2019 13:11	053SMPL.d	B
MW-17	1	07-Aug-2019 13:19	054SMPL.d	B CA
MW-02MSD	1	07-Aug-2019 13:22	055SMPL.d	
MW-18	1	07-Aug-2019 13:24	056SMPL.d	B
CCB 3	1	07-Aug-2019 13:31	059_CCB.d	B CA
CCV 3	1	07-Aug-2019 13:33	060_CCV.d	B CA
MW-19	1	07-Aug-2019 13:36	061SMPL.d	B
MW-20	1	07-Aug-2019 13:38	062SMPL.d	B
MW-21	1	07-Aug-2019 13:40	063SMPL.d	B
MW-22	1	07-Aug-2019 13:43	064SMPL.d	B
MW-27	1	07-Aug-2019 13:45	065SMPL.d	B
MW-28	1	07-Aug-2019 13:47	066SMPL.d	B
MW-05	1	07-Aug-2019 13:49	067SMPL.d	B
MW-26	1	07-Aug-2019 13:52	068SMPL.d	B
MW-29	1	07-Aug-2019 13:54	069SMPL.d	B
CCB 4	1	07-Aug-2019 14:01	072_CCB.d	B CA
CCV 4	1	07-Aug-2019 14:06	073_CCV.d	B CA
MW-43	1	07-Aug-2019 14:13	074SMPL.d	B
MW-44	1	07-Aug-2019 14:16	075SMPL.d	B
MW-45	1	07-Aug-2019 14:18	076SMPL.d	B
MW-46	1	07-Aug-2019 14:20	077SMPL.d	B
DUP-01	1	07-Aug-2019 14:22	078SMPL.d	B
FB-01	1	07-Aug-2019 14:25	079SMPL.d	B CA
CCV 5	1	07-Aug-2019 14:43	084_CCV.d	B CA
CCB 5	1	07-Aug-2019 14:45	085_CCB.d	B CA
CCV 6	1	07-Aug-2019 15:16	096_CCV.d	B CA
CCB 6	1	07-Aug-2019 15:18	097_CCB.d	B CA
CCV 7	1	07-Aug-2019 15:53	108_CCV.d	B CA
CCB 7	1	07-Aug-2019 15:55	109_CCB.d	B CA
CCV 8	1	07-Aug-2019 16:22	120_CCV.d	B CA
CCB 8	1	07-Aug-2019 16:24	121_CCB.d	B CA

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG Limestone- Appendix III
WorkOrder: HS19071538

Run ID:ICPMS05_343798
Instrument:ICPMS05
Method:SW6020

CCB 2	Date: 07-Aug-2019 12:56	Seq: 5200147	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
Boron		14.5	11	20

Client: TRC Corporation
Project: NRG Limestone- Appendix III
Work Order: HS19071538

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19071538-01	MW-01	Groundwater		30-Jul-2019 13:35	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-02	MW-02	Groundwater		30-Jul-2019 09:35	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-03	MW-17	Groundwater		30-Jul-2019 10:15	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-04	MW-18	Groundwater		30-Jul-2019 11:50	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-05	MW-19	Groundwater		30-Jul-2019 11:35	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-06	MW-20	Groundwater		30-Jul-2019 10:40	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-07	MW-21	Groundwater		30-Jul-2019 12:45	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-08	MW-22	Groundwater		30-Jul-2019 11:05	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-09	MW-27	Groundwater		30-Jul-2019 12:55	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-10	MW-28	Groundwater		30-Jul-2019 14:05	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-11	MW-05	Groundwater		30-Jul-2019 11:30	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-12	MW-26	Groundwater		30-Jul-2019 09:25	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-13	MW-29	Groundwater		30-Jul-2019 10:35	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-14	MW-43	Groundwater		30-Jul-2019 14:10	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-15	MW-44	Groundwater		30-Jul-2019 12:35	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-16	MW-45	Groundwater		30-Jul-2019 11:55	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-17	MW-46	Groundwater		30-Jul-2019 09:40	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-18	DUP-01	Groundwater		30-Jul-2019 11:00	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071538-19	FB-01	Water		30-Jul-2019 11:55	31-Jul-2019 09:50	<input type="checkbox"/>

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-01
 Collection Date: 30-Jul-2019 13:35

ANALYTICAL REPORT

WorkOrder:HS19071538
 Lab ID:HS19071538-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	0.0292		0.0110	0.0200	mg/L	1	07-Aug-2019 13:11
Calcium	52.3		0.170	2.50	mg/L	5	06-Aug-2019 14:35
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	263		2.00	5.00	mg/L	10	03-Aug-2019 00:53
Sulfate	0.406	J	0.200	0.500	mg/L	1	05-Aug-2019 17:46
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	798		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-02
 Collection Date: 30-Jul-2019 09:35

ANALYTICAL REPORT
 WorkOrder:HS19071538
 Lab ID:HS19071538-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	< 0.0110		0.0110	0.0200	mg/L	1	06-Aug-2019 14:44
Calcium	121		0.0340	0.500	mg/L	1	06-Aug-2019 14:44
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	412		4.00	10.0	mg/L	20	03-Aug-2019 01:11
Sulfate	85.5		4.00	10.0	mg/L	20	03-Aug-2019 01:11
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,330		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-17
 Collection Date: 30-Jul-2019 10:15

ANALYTICAL REPORT

WorkOrder:HS19071538
 Lab ID:HS19071538-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	0.0152	J	0.0110	0.0200	mg/L	1	07-Aug-2019 13:19
Calcium	3.33		0.0340	0.500	mg/L	1	07-Aug-2019 13:19
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	9.40		0.200	0.500	mg/L	1	03-Aug-2019 02:04
Sulfate	7.31		0.200	0.500	mg/L	1	03-Aug-2019 02:04
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	136		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-18
 Collection Date: 30-Jul-2019 11:50

ANALYTICAL REPORT
 WorkOrder:HS19071538
 Lab ID:HS19071538-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 01-Aug-2019		Analyst: JHD
Boron	0.0344		0.0110	0.0200	mg/L	1	07-Aug-2019 13:24
Calcium	59.3		0.170	2.50	mg/L	5	06-Aug-2019 15:02
ANIONS BY E300.0		Method:E300					Analyst: KMU
Chloride	3.45		0.200	0.500	mg/L	1	03-Aug-2019 02:22
Sulfate	29.8		0.200	0.500	mg/L	1	03-Aug-2019 02:22
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	300		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA					Analyst: SUBHO
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-19
 Collection Date: 30-Jul-2019 11:35

ANALYTICAL REPORT
 WorkOrder:HS19071538
 Lab ID:HS19071538-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	0.0366		0.0110	0.0200	mg/L	1	07-Aug-2019 13:36
Calcium	40.9		0.170	2.50	mg/L	5	06-Aug-2019 15:04
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	48.1		2.00	5.00	mg/L	10	03-Aug-2019 02:39
Sulfate	86.9		2.00	5.00	mg/L	10	03-Aug-2019 02:39
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	352		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-20
 Collection Date: 30-Jul-2019 10:40

ANALYTICAL REPORT
 WorkOrder:HS19071538
 Lab ID:HS19071538-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	0.0389		0.0110	0.0200	mg/L	1	07-Aug-2019 13:38
Calcium	37.2		0.170	2.50	mg/L	5	06-Aug-2019 15:06
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	26.3		1.00	2.50	mg/L	5	03-Aug-2019 05:53
Sulfate	47.7		1.00	2.50	mg/L	5	03-Aug-2019 05:53
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	378		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-21
 Collection Date: 30-Jul-2019 12:45

ANALYTICAL REPORT
 WorkOrder:HS19071538
 Lab ID:HS19071538-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	0.333		0.0110	0.0200	mg/L	1	07-Aug-2019 13:40
Calcium	91.6		0.170	2.50	mg/L	5	06-Aug-2019 15:08
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	55.5		2.00	5.00	mg/L	10	03-Aug-2019 06:10
Sulfate	327		2.00	5.00	mg/L	10	03-Aug-2019 06:10
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	626		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-22
 Collection Date: 30-Jul-2019 11:05

ANALYTICAL REPORT
 WorkOrder:HS19071538
 Lab ID:HS19071538-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	0.0277		0.0110	0.0200	mg/L	1	07-Aug-2019 13:43
Calcium	50.5		0.170	2.50	mg/L	5	06-Aug-2019 15:18
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	36.9		1.00	2.50	mg/L	5	03-Aug-2019 07:03
Sulfate	56.2		1.00	2.50	mg/L	5	03-Aug-2019 07:03
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	278		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-27
 Collection Date: 30-Jul-2019 12:55

ANALYTICAL REPORT
 WorkOrder:HS19071538
 Lab ID:HS19071538-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	0.211		0.0110	0.0200	mg/L	1	07-Aug-2019 13:45
Calcium	86.0		0.170	2.50	mg/L	5	06-Aug-2019 15:20
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	14.4		0.200	0.500	mg/L	1	03-Aug-2019 07:21
Sulfate	106		2.00	5.00	mg/L	10	05-Aug-2019 18:03
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	352		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-28
 Collection Date: 30-Jul-2019 14:05

ANALYTICAL REPORT

WorkOrder:HS19071538
 Lab ID:HS19071538-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	0.326		0.0110	0.0200	mg/L	1	07-Aug-2019 13:47
Calcium	516		0.170	2.50	mg/L	5	06-Aug-2019 15:22
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	1,800		10.0	25.0	mg/L	50	03-Aug-2019 07:38
Sulfate	646		10.0	25.0	mg/L	50	03-Aug-2019 07:38
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	5,040		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-05
 Collection Date: 30-Jul-2019 11:30

ANALYTICAL REPORT
 WorkOrder:HS19071538
 Lab ID:HS19071538-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	< 0.0110		0.0110	0.0200	mg/L	1	07-Aug-2019 13:49
Calcium	18.8		0.170	2.50	mg/L	5	06-Aug-2019 15:24
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	14.6		0.200	0.500	mg/L	1	03-Aug-2019 07:56
Sulfate	57.8		0.200	0.500	mg/L	1	03-Aug-2019 07:56
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	240		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-26
 Collection Date: 30-Jul-2019 09:25

ANALYTICAL REPORT
 WorkOrder:HS19071538
 Lab ID:HS19071538-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	< 0.0110		0.0110	0.0200	mg/L	1	07-Aug-2019 13:52
Calcium	69.0		0.170	2.50	mg/L	5	06-Aug-2019 15:27
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	277		2.00	5.00	mg/L	10	06-Aug-2019 16:00
Sulfate	9.71		0.200	0.500	mg/L	1	06-Aug-2019 15:45
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	954		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-29
 Collection Date: 30-Jul-2019 10:35

ANALYTICAL REPORT
 WorkOrder:HS19071538
 Lab ID:HS19071538-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	< 0.0110		0.0110	0.0200	mg/L	1	07-Aug-2019 13:54
Calcium	13.9		0.170	2.50	mg/L	5	06-Aug-2019 15:29
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	5.44		0.200	0.500	mg/L	1	05-Aug-2019 19:35
Sulfate	28.6		0.200	0.500	mg/L	1	05-Aug-2019 19:35
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	200		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-43
 Collection Date: 30-Jul-2019 14:10

ANALYTICAL REPORT
 WorkOrder:HS19071538
 Lab ID:HS19071538-14
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	0.307		0.0110	0.0200	mg/L	1	07-Aug-2019 14:13
Calcium	84.5		0.170	2.50	mg/L	5	06-Aug-2019 15:31
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	30.0		0.200	0.500	mg/L	1	05-Aug-2019 19:53
Sulfate	458		2.00	5.00	mg/L	10	05-Aug-2019 21:21
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,250		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-44
 Collection Date: 30-Jul-2019 12:35

ANALYTICAL REPORT
 WorkOrder:HS19071538
 Lab ID:HS19071538-15
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	0.0378		0.0110	0.0200	mg/L	1	07-Aug-2019 14:16
Calcium	32.5		0.170	2.50	mg/L	5	06-Aug-2019 15:33
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	26.4		1.00	2.50	mg/L	5	05-Aug-2019 20:10
Sulfate	45.5		1.00	2.50	mg/L	5	05-Aug-2019 20:10
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	438		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-45
 Collection Date: 30-Jul-2019 11:55

ANALYTICAL REPORT
 WorkOrder:HS19071538
 Lab ID:HS19071538-16
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	< 0.0110		0.0110	0.0200	mg/L	1	07-Aug-2019 14:18
Calcium	362		0.170	2.50	mg/L	5	06-Aug-2019 15:36
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	1,140		10.0	25.0	mg/L	50	05-Aug-2019 20:28
Sulfate	25.5		10.0	25.0	mg/L	50	05-Aug-2019 20:28
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	4,110		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: MW-46
 Collection Date: 30-Jul-2019 09:40

ANALYTICAL REPORT
 WorkOrder:HS19071538
 Lab ID:HS19071538-17
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	< 0.0110		0.0110	0.0200	mg/L	1	07-Aug-2019 14:20
Calcium	487		0.170	2.50	mg/L	5	06-Aug-2019 15:38
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	1,960		10.0	25.0	mg/L	50	06-Aug-2019 15:01
Sulfate	125		10.0	25.0	mg/L	50	06-Aug-2019 15:01
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	6,060		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: DUP-01
 Collection Date: 30-Jul-2019 11:00

ANALYTICAL REPORT
 WorkOrder:HS19071538
 Lab ID:HS19071538-18
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	0.302		0.0110	0.0200	mg/L	1	07-Aug-2019 14:22
Calcium	84.3		0.170	2.50	mg/L	5	06-Aug-2019 16:04
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	27.9		0.400	1.00	mg/L	2	06-Aug-2019 15:16
Sulfate	447		4.00	10.0	mg/L	20	07-Aug-2019 14:37
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,260		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix III
 Sample ID: FB-01
 Collection Date: 30-Jul-2019 11:55

ANALYTICAL REPORT
 WorkOrder:HS19071538
 Lab ID:HS19071538-19
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Aug-2019		Analyst: JHD	
Boron	< 0.0110		0.0110	0.0200	mg/L	1	07-Aug-2019 14:25
Calcium	0.552		0.0340	0.500	mg/L	1	07-Aug-2019 14:25
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	< 0.200		0.200	0.500	mg/L	1	05-Aug-2019 19:00
Sulfate	< 0.200		0.200	0.500	mg/L	1	05-Aug-2019 19:00
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	< 5.00		5.00	10.0	mg/L	1	06-Aug-2019 16:40
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57

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

WEIGHT LOG

Client: TRC Corporation
Project: NRG Limestone- Appendix III
WorkOrder: HS19071538

Batch ID: 143677 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19071538-01	1	10	10 (mL)	1
HS19071538-02	1	10	10 (mL)	1
HS19071538-03	1	10	10 (mL)	1
HS19071538-04	1	10	10 (mL)	1
HS19071538-05	1	10	10 (mL)	1
HS19071538-06	1	10	10 (mL)	1
HS19071538-07	1	10	10 (mL)	1
HS19071538-08	1	10	10 (mL)	1
HS19071538-09	1	10	10 (mL)	1
HS19071538-10	1	10	10 (mL)	1
HS19071538-11	1	10	10 (mL)	1
HS19071538-12	1	10	10 (mL)	1
HS19071538-13	1	10	10 (mL)	1
HS19071538-14	1	10	10 (mL)	1
HS19071538-15	1	10	10 (mL)	1
HS19071538-16	1	10	10 (mL)	1
HS19071538-17	1	10	10 (mL)	1
HS19071538-18	1	10	10 (mL)	1
HS19071538-19	1	10	10 (mL)	1

Client: TRC Corporation
Project: NRG Limestone- Appendix III
WorkOrder: HS19071538

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143677 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Water	
HS19071538-19	FB-01	30 Jul 2019 11:55		01 Aug 2019 11:30	07 Aug 2019 14:25	1
Batch ID: 143677 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS19071538-01	MW-01	30 Jul 2019 13:35		01 Aug 2019 11:30	07 Aug 2019 13:11	1
HS19071538-01	MW-01	30 Jul 2019 13:35		01 Aug 2019 11:30	06 Aug 2019 14:35	5
HS19071538-02	MW-02	30 Jul 2019 09:35		01 Aug 2019 11:30	06 Aug 2019 14:44	1
HS19071538-03	MW-17	30 Jul 2019 10:15		01 Aug 2019 11:30	07 Aug 2019 13:19	1
HS19071538-04	MW-18	30 Jul 2019 11:50		01 Aug 2019 11:30	07 Aug 2019 13:24	1
HS19071538-04	MW-18	30 Jul 2019 11:50		01 Aug 2019 11:30	06 Aug 2019 15:02	5
HS19071538-05	MW-19	30 Jul 2019 11:35		01 Aug 2019 11:30	07 Aug 2019 13:36	1
HS19071538-05	MW-19	30 Jul 2019 11:35		01 Aug 2019 11:30	06 Aug 2019 15:04	5
HS19071538-06	MW-20	30 Jul 2019 10:40		01 Aug 2019 11:30	07 Aug 2019 13:38	1
HS19071538-06	MW-20	30 Jul 2019 10:40		01 Aug 2019 11:30	06 Aug 2019 15:06	5
HS19071538-07	MW-21	30 Jul 2019 12:45		01 Aug 2019 11:30	07 Aug 2019 13:40	1
HS19071538-07	MW-21	30 Jul 2019 12:45		01 Aug 2019 11:30	06 Aug 2019 15:08	5
HS19071538-08	MW-22	30 Jul 2019 11:05		01 Aug 2019 11:30	07 Aug 2019 13:43	1
HS19071538-08	MW-22	30 Jul 2019 11:05		01 Aug 2019 11:30	06 Aug 2019 15:18	5
HS19071538-09	MW-27	30 Jul 2019 12:55		01 Aug 2019 11:30	07 Aug 2019 13:45	1
HS19071538-09	MW-27	30 Jul 2019 12:55		01 Aug 2019 11:30	06 Aug 2019 15:20	5
HS19071538-10	MW-28	30 Jul 2019 14:05		01 Aug 2019 11:30	07 Aug 2019 13:47	1
HS19071538-10	MW-28	30 Jul 2019 14:05		01 Aug 2019 11:30	06 Aug 2019 15:22	5
HS19071538-11	MW-05	30 Jul 2019 11:30		01 Aug 2019 11:30	07 Aug 2019 13:49	1
HS19071538-11	MW-05	30 Jul 2019 11:30		01 Aug 2019 11:30	06 Aug 2019 15:24	5
HS19071538-12	MW-26	30 Jul 2019 09:25		01 Aug 2019 11:30	07 Aug 2019 13:52	1
HS19071538-12	MW-26	30 Jul 2019 09:25		01 Aug 2019 11:30	06 Aug 2019 15:27	5
HS19071538-13	MW-29	30 Jul 2019 10:35		01 Aug 2019 11:30	07 Aug 2019 13:54	1
HS19071538-13	MW-29	30 Jul 2019 10:35		01 Aug 2019 11:30	06 Aug 2019 15:29	5
HS19071538-14	MW-43	30 Jul 2019 14:10		01 Aug 2019 11:30	07 Aug 2019 14:13	1
HS19071538-14	MW-43	30 Jul 2019 14:10		01 Aug 2019 11:30	06 Aug 2019 15:31	5
HS19071538-15	MW-44	30 Jul 2019 12:35		01 Aug 2019 11:30	07 Aug 2019 14:16	1
HS19071538-15	MW-44	30 Jul 2019 12:35		01 Aug 2019 11:30	06 Aug 2019 15:33	5
HS19071538-16	MW-45	30 Jul 2019 11:55		01 Aug 2019 11:30	07 Aug 2019 14:18	1
HS19071538-16	MW-45	30 Jul 2019 11:55		01 Aug 2019 11:30	06 Aug 2019 15:36	5
HS19071538-17	MW-46	30 Jul 2019 09:40		01 Aug 2019 11:30	07 Aug 2019 14:20	1
HS19071538-17	MW-46	30 Jul 2019 09:40		01 Aug 2019 11:30	06 Aug 2019 15:38	5
HS19071538-18	DUP-01	30 Jul 2019 11:00		01 Aug 2019 11:30	07 Aug 2019 14:22	1
HS19071538-18	DUP-01	30 Jul 2019 11:00		01 Aug 2019 11:30	06 Aug 2019 16:04	5

Client: TRC Corporation
Project: NRG Limestone- Appendix III
WorkOrder: HS19071538

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R343645 (0)		Test Name : ANIONS BY E300.0			Matrix: Groundwater	
HS19071538-01	MW-01	30 Jul 2019 13:35			03 Aug 2019 00:53	10
HS19071538-02	MW-02	30 Jul 2019 09:35			03 Aug 2019 01:11	20
HS19071538-03	MW-17	30 Jul 2019 10:15			03 Aug 2019 02:04	1
HS19071538-04	MW-18	30 Jul 2019 11:50			03 Aug 2019 02:22	1
HS19071538-05	MW-19	30 Jul 2019 11:35			03 Aug 2019 02:39	10
Batch ID: R343646 (0)		Test Name : ANIONS BY E300.0			Matrix: Groundwater	
HS19071538-06	MW-20	30 Jul 2019 10:40			03 Aug 2019 05:53	5
HS19071538-07	MW-21	30 Jul 2019 12:45			03 Aug 2019 06:10	10
HS19071538-08	MW-22	30 Jul 2019 11:05			03 Aug 2019 07:03	5
HS19071538-09	MW-27	30 Jul 2019 12:55			03 Aug 2019 07:21	1
HS19071538-10	MW-28	30 Jul 2019 14:05			03 Aug 2019 07:38	50
HS19071538-11	MW-05	30 Jul 2019 11:30			03 Aug 2019 07:56	1
Batch ID: R343682 (0)		Test Name : ANIONS BY E300.0			Matrix: Water	
HS19071538-19	FB-01	30 Jul 2019 11:55			05 Aug 2019 19:00	1
Batch ID: R343682 (0)		Test Name : ANIONS BY E300.0			Matrix: Groundwater	
HS19071538-01	MW-01	30 Jul 2019 13:35			05 Aug 2019 17:46	1
HS19071538-09	MW-27	30 Jul 2019 12:55			05 Aug 2019 18:03	10
HS19071538-13	MW-29	30 Jul 2019 10:35			05 Aug 2019 19:35	1
HS19071538-14	MW-43	30 Jul 2019 14:10			05 Aug 2019 21:21	10
HS19071538-14	MW-43	30 Jul 2019 14:10			05 Aug 2019 19:53	1
HS19071538-15	MW-44	30 Jul 2019 12:35			05 Aug 2019 20:10	5
HS19071538-16	MW-45	30 Jul 2019 11:55			05 Aug 2019 20:28	50
Batch ID: R343742 (0)		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE			Matrix: Water	
HS19071538-19	FB-01	30 Jul 2019 11:55			06 Aug 2019 13:57	1

Client: TRC Corporation
Project: NRG Limestone- Appendix III
WorkOrder: HS19071538

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R343742 (0)		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE			Matrix: Groundwater	
HS19071538-01	MW-01	30 Jul 2019 13:35			06 Aug 2019 13:57	1
HS19071538-02	MW-02	30 Jul 2019 09:35			06 Aug 2019 13:57	1
HS19071538-03	MW-17	30 Jul 2019 10:15			06 Aug 2019 13:57	1
HS19071538-04	MW-18	30 Jul 2019 11:50			06 Aug 2019 13:57	1
HS19071538-05	MW-19	30 Jul 2019 11:35			06 Aug 2019 13:57	1
HS19071538-06	MW-20	30 Jul 2019 10:40			06 Aug 2019 13:57	1
HS19071538-07	MW-21	30 Jul 2019 12:45			06 Aug 2019 13:57	1
HS19071538-08	MW-22	30 Jul 2019 11:05			06 Aug 2019 13:57	1
HS19071538-09	MW-27	30 Jul 2019 12:55			06 Aug 2019 13:57	1
HS19071538-10	MW-28	30 Jul 2019 14:05			06 Aug 2019 13:57	1
HS19071538-11	MW-05	30 Jul 2019 11:30			06 Aug 2019 13:57	1
HS19071538-12	MW-26	30 Jul 2019 09:25			06 Aug 2019 13:57	1
HS19071538-13	MW-29	30 Jul 2019 10:35			06 Aug 2019 13:57	1
HS19071538-14	MW-43	30 Jul 2019 14:10			06 Aug 2019 13:57	1
HS19071538-15	MW-44	30 Jul 2019 12:35			06 Aug 2019 13:57	1
HS19071538-16	MW-45	30 Jul 2019 11:55			06 Aug 2019 13:57	1
HS19071538-17	MW-46	30 Jul 2019 09:40			06 Aug 2019 13:57	1
HS19071538-18	DUP-01	30 Jul 2019 11:00			06 Aug 2019 13:57	1
Batch ID: R343828 (0)		Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C			Matrix: Water	
HS19071538-19	FB-01	30 Jul 2019 11:55			06 Aug 2019 16:40	1

Client: TRC Corporation
Project: NRG Limestone- Appendix III
WorkOrder: HS19071538

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R343828 (0)		Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C			Matrix: Groundwater	
HS19071538-01	MW-01	30 Jul 2019 13:35			06 Aug 2019 16:40	1
HS19071538-02	MW-02	30 Jul 2019 09:35			06 Aug 2019 16:40	1
HS19071538-03	MW-17	30 Jul 2019 10:15			06 Aug 2019 16:40	1
HS19071538-04	MW-18	30 Jul 2019 11:50			06 Aug 2019 16:40	1
HS19071538-05	MW-19	30 Jul 2019 11:35			06 Aug 2019 16:40	1
HS19071538-06	MW-20	30 Jul 2019 10:40			06 Aug 2019 16:40	1
HS19071538-07	MW-21	30 Jul 2019 12:45			06 Aug 2019 16:40	1
HS19071538-08	MW-22	30 Jul 2019 11:05			06 Aug 2019 16:40	1
HS19071538-09	MW-27	30 Jul 2019 12:55			06 Aug 2019 16:40	1
HS19071538-10	MW-28	30 Jul 2019 14:05			06 Aug 2019 16:40	1
HS19071538-11	MW-05	30 Jul 2019 11:30			06 Aug 2019 16:40	1
HS19071538-12	MW-26	30 Jul 2019 09:25			06 Aug 2019 16:40	1
HS19071538-13	MW-29	30 Jul 2019 10:35			06 Aug 2019 16:40	1
HS19071538-14	MW-43	30 Jul 2019 14:10			06 Aug 2019 16:40	1
HS19071538-15	MW-44	30 Jul 2019 12:35			06 Aug 2019 16:40	1
HS19071538-16	MW-45	30 Jul 2019 11:55			06 Aug 2019 16:40	1
HS19071538-17	MW-46	30 Jul 2019 09:40			06 Aug 2019 16:40	1
HS19071538-18	DUP-01	30 Jul 2019 11:00			06 Aug 2019 16:40	1
Batch ID: R343833 (0)		Test Name : ANIONS BY E300.0			Matrix: Groundwater	
HS19071538-12	MW-26	30 Jul 2019 09:25			06 Aug 2019 16:00	10
HS19071538-12	MW-26	30 Jul 2019 09:25			06 Aug 2019 15:45	1
HS19071538-17	MW-46	30 Jul 2019 09:40			06 Aug 2019 15:01	50
HS19071538-18	DUP-01	30 Jul 2019 11:00			07 Aug 2019 14:37	20
HS19071538-18	DUP-01	30 Jul 2019 11:00			06 Aug 2019 15:16	2

WorkOrder: HS19071538
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: HS19071538
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: HS19071538
 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: HS19071538
 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: HS19071538
 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 Limestone- Appendix III
WorkOrder: HS19071538

QC BATCH REPORT

Batch ID: 143677 (0)		Instrument: ICPMS05		Method: ICP-MS METALS BY SW6020A						
MBLK	Sample ID: MBLK-143677	Units: mg/L		Analysis Date: 06-Aug-2019 14:28						
Client ID:		Run ID: ICPMS05_343725	SeqNo: 5198295	PrepDate: 01-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-143677	Units: mg/L		Analysis Date: 06-Aug-2019 14:30						
Client ID:		Run ID: ICPMS05_343725	SeqNo: 5198296	PrepDate: 01-Aug-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.435	0.0200	0.5	0	87.0	80 - 120				
Calcium	5.182	0.500	5	0	104	80 - 120				
MS	Sample ID: HS19071538-02MS	Units: mg/L		Analysis Date: 06-Aug-2019 14:49						
Client ID: MW-02		Run ID: ICPMS05_343725	SeqNo: 5198639	PrepDate: 01-Aug-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.514	0.0200	0.5	0	103	80 - 120				
Calcium	119	0.500	5	120.5	-29.9	80 - 120				SO
MSD	Sample ID: HS19071538-02MSD	Units: mg/L		Analysis Date: 06-Aug-2019 14:51						
Client ID: MW-02		Run ID: ICPMS05_343725	SeqNo: 5198640	PrepDate: 01-Aug-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.5383	0.0200	0.5	0	108	80 - 120	0.514	4.62	20	
Calcium	119.2	0.500	5	120.5	-27.3	80 - 120	119	0.111	20	SO
PDS	Sample ID: HS19071538-02PDS	Units: mg/L		Analysis Date: 06-Aug-2019 14:53						
Client ID: MW-02		Run ID: ICPMS05_343725	SeqNo: 5198641	PrepDate: 01-Aug-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	10	120.5	-48.4	75 - 125				SO

Client: TRC Corporation
Project: NRG Limestone- Appendix III
WorkOrder: HS19071538

QC BATCH REPORT

Batch ID: 143677 (0) **Instrument:** ICPMS05 **Method:** ICP-MS METALS BY SW6020A

SD Sample ID: **HS19071538-02SD** Units: **mg/L** Analysis Date: **06-Aug-2019 14:46**
Client ID: **MW-02** Run ID: **ICPMS05_343725** SeqNo: **5198638** PrepDate: **01-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					0.005107	0	10
Calcium	109.8	2.50					120.5	8.89	10

The following samples were analyzed in this batch:

HS19071538-01	HS19071538-02	HS19071538-03	HS19071538-04
HS19071538-05	HS19071538-06	HS19071538-07	HS19071538-08
HS19071538-09	HS19071538-10	HS19071538-11	HS19071538-12
HS19071538-13	HS19071538-14	HS19071538-15	HS19071538-16
HS19071538-17	HS19071538-18	HS19071538-19	

Client: TRC Corporation
Project: NRG Limestone- Appendix III
WorkOrder: HS19071538

QC BATCH REPORT

Batch ID: R343645 (0)		Instrument: ICS-Integrion		Method: ANIONS BY E300.0						
MBLK	Sample ID: WBLKW1-080219	Units: mg/L			Analysis Date: 02-Aug-2019 16:56					
Client ID:	Run ID: ICS-Integrion_343645	SeqNo: 5195740		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 17:13					
Client ID:	Run ID: ICS-Integrion_343645	SeqNo: 5195741		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	19.7	0.500	20	0	98.5	90 - 110				
Sulfate	19.92	0.500	20	0	99.6	90 - 110				
LCSD	Sample ID: WLCSDW1-080219	Units: mg/L			Analysis Date: 02-Aug-2019 17:31					
Client ID:	Run ID: ICS-Integrion_343645	SeqNo: 5195742		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	20.17	0.500	20	0	101	90 - 110	19.7	2.34	20	
Sulfate	20.38	0.500	20	0	102	90 - 110	19.92	2.27	20	
MS	Sample ID: HS19071538-02MS	Units: mg/L			Analysis Date: 03-Aug-2019 01:29					
Client ID: MW-02	Run ID: ICS-Integrion_343645	SeqNo: 5195768		PrepDate:			DF: 20			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	629	10.0	200	411.5	109	80 - 120				
Sulfate	308.5	10.0	200	85.54	111	80 - 120				
MS	Sample ID: HS19071394-02MS	Units: mg/L			Analysis Date: 02-Aug-2019 21:57					
Client ID:	Run ID: ICS-Integrion_343645	SeqNo: 5195756		PrepDate:			DF: 10			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	490.9	5.00	100	398.5	92.5	80 - 120				
Sulfate	1146	5.00	100	1072	74.3	80 - 120			SEO	

Client: TRC Corporation
Project: NRG Limestone- Appendix III
WorkOrder: HS19071538

QC BATCH REPORT

Batch ID: R343645 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY E300.0

MSD		Sample ID: HS19071538-02MSD			Units: mg/L		Analysis Date: 03-Aug-2019 01:46			
Client ID: MW-02		Run ID: ICS-Integrion_343645			SeqNo: 5195769		PrepDate:		DF: 20	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	628.5	10.0	200	411.5	108	80 - 120	629	0.07	20	
Sulfate	308.7	10.0	200	85.54	112	80 - 120	308.5	0.07	20	

MSD		Sample ID: HS19071394-02MSD			Units: mg/L		Analysis Date: 02-Aug-2019 22:15			
Client ID:		Run ID: ICS-Integrion_343645			SeqNo: 5195757		PrepDate:		DF: 10	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	493.3	5.00	100	398.5	94.8	80 - 120	490.9	0.482	20	
Sulfate	1154	5.00	100	1072	82.1	80 - 120	1146	0.681	20	EO

The following samples were analyzed in this batch:

HS19071538-01	HS19071538-02	HS19071538-03	HS19071538-04	HS19071538-05
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Client: TRC Corporation
Project: NRG Limestone- Appendix III
WorkOrder: HS19071538

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: MW-05	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: NRG Limestone- Appendix III
WorkOrder: HS19071538

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: MW-05		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:

HS19071538-06	HS19071538-07	HS19071538-08	HS19071538-09
HS19071538-10	HS19071538-11		

Client: TRC Corporation
Project: NRG Limestone- Appendix III
WorkOrder: HS19071538

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	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	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	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:		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	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:		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	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:

HS19071538-01	HS19071538-09	HS19071538-13	HS19071538-14
HS19071538-15	HS19071538-16	HS19071538-19	

Client: TRC Corporation
Project: NRG Limestone- Appendix III
WorkOrder: HS19071538

QC BATCH REPORT

Batch ID: R343828 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C

MBLK	Sample ID: WBLK-080619	Units: mg/L			Analysis Date: 06-Aug-2019 16:40				
Client ID:	Run ID: Balance1_343828	SeqNo: 5200281	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-080619	Units: mg/L			Analysis Date: 06-Aug-2019 16:40				
Client ID:	Run ID: Balance1_343828	SeqNo: 5200282	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) 1026 10.0 1000 0 103 85 - 115

DUP	Sample ID: HS19071538-18DUP	Units: mg/L			Analysis Date: 06-Aug-2019 16:40				
Client ID: DUP-01	Run ID: Balance1_343828	SeqNo: 5200279	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) 1270 10.0 1258 0.949 5

DUP	Sample ID: HS19071538-02DUP	Units: mg/L			Analysis Date: 06-Aug-2019 16:40				
Client ID: MW-02	Run ID: Balance1_343828	SeqNo: 5200260	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) 1292 10.0 1328 2.75 5

The following samples were analyzed in this batch:

HS19071538-01	HS19071538-02	HS19071538-03	HS19071538-04
HS19071538-05	HS19071538-06	HS19071538-07	HS19071538-08
HS19071538-09	HS19071538-10	HS19071538-11	HS19071538-12
HS19071538-13	HS19071538-14	HS19071538-15	HS19071538-16
HS19071538-17	HS19071538-18	HS19071538-19	

Client: TRC Corporation
Project: NRG Limestone- Appendix III
WorkOrder: HS19071538

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:	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 Limestone- Appendix III
WorkOrder: HS19071538

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:		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: HS19071538-12 HS19071538-17 HS19071538-18

Client: TRC Corporation
Project: NRG Limestone- Appendix III
WorkOrder: HS19071538

**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 Limestone- Appendix III
Work Order: HS19071538

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19071538-01	MW-01	Login	31/07/2019 13:39:47	PMG	WET066
HS19071538-01	MW-01	Login	31/07/2019 13:39:47	PMG	Sub
HS19071538-01	MW-01	Login	31/07/2019 13:39:47	PMG	MET008

Sample Receipt Checklist

Client Name: TRC-HOU
Work Order: HS19071538

Date/Time Received: 31-Jul-2019 09:50
Received by: PMG

Checklist completed by: Paresh M. Giga 31-Jul-2019
Reviewed by: RJ Modashia 31-Jul-2019

Matrices: Groundwater/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 [] No [checked]
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): 0.4c/0.5c/0.2c/0.4c/0.1c U/C IR25
Cooler(s)/Kit(s): 44381/43634/43562/44189/44982
Date/Time sample(s) sent to storage: 7/31/19 14:40

- 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: Times Differ : MW-5
COC - 11:30 Labels - 11:20
Logged in per chain

Client Contacted: Date Contacted: Person Contacted:
Contacted By: Regarding:
Comments:
Corrective Action:



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Holland, MI
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Chain of Custody For

Page 2 of 2

COC ID: 195796

HS19071538

TRC Corporation

NRG WA Parish - State Program Appendix III

ton, WV
68

80

ALS Project Manager:



Customer Information		Project Information		
Purchase Order	293367.1000	Project Name	NRG Limestone- Appendix III	A ICP_TW (B and Ca (App III))
Work Order		Project Number		B 300_W (Cl, SO4)
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	L.Burris@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-05	7/30/19	1130	GW	2.8	6	X	X	X	X											
2	MW-26	↓	925	↓	↓	↓	X	X	X	X											
3	MW-29		1035				X	X	X	X											
4	MW-43		1410				X	X	X	X											
5	MW-44		1235				X	X	X	X											
6	MW-45		1155				X	X	X	X											
7	MW-46		940				X	X	X	X											
8	DVP-01		1100				X	X	X	X											
9	FB-01		1155				FB	X	X	X	X										
10																					

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>[Signature]</i>	Date: 7-31-19	Time: 950	Received by: <i>[Signature]</i>	Notes: NRG Limestone- L PRIVILEGED & CONFIDENTIAL								
Relinquished by:	Date:	Time:	Received by (Laboratory): 7/31/19 09:50	Cooler ID 44189	Cooler Temp. 0.4°	QC Package: (Check One Box Below)						
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	44982	0.1°	<input type="checkbox"/> Level II Std OC	<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 OC/RW 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.



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Chain of Custody Form

Page 1 of 2

COC ID: 195794

HS19071538

TRC Corporation

NRG WA Parish - State Program Appendix III



ALS Project Manager:

Customer Information		Project Information		
Purchase Order	293367.1000	Project Name	NRG Limestone- Appendix III	A
Work Order		Project Number		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

O = ms/msd volume provided


No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	MW-01	7/30/19	1335	GW	2.8	6	X	X	X	X									
2	MW-02 (935)	↓	935	↓	↓	18	X	X	X	X									
3	MW-17		1015			6	X	X	X	X									
4	MW-18		1150				X	X	X	X									
5	MW-19		1135				X	X	X	X									
6	MW-20		1040				X	X	X	X									
7	MW-21		1245				X	X	X	X									
8	MW-22		1105				X	X	X	X									
9	MW-27		1255				X	X	X	X									
10	MW-28		1405				X	X	X	X									

Sampler(s) Please Print & Sign Brian Hillin/HMF Team <i>Brian Hillin</i>		Shipment Method Consult-Delivery		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>Brian Hillin</i>	Date: 7-31-19	Time: 9:50	Received by:	Notes: NRG Limestone LPRIVILEGED & CONFIDENTIAL				
Relinquished by:	Date:	Time:	Received by (Laboratory): 7/31/19 09:50	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	44381	0.40	<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				43634	0.50	<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV	
				43562	0.20	<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.

2A 25 C1P0-0


Copyright 2011 by ALS Environmental.

 ALS 10450 Stancilff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: SM
	Date: 7-31-19	Time: 9:00	Date:
	Name: B. Hillia		07/31/19
	Company: HMF		


44381 JUL 31 2019

 ALS 10450 Stancilff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: SM
	Date: 7-31-19	Time: 9:00	Date:
	Name: B. Hillia		07/31/19
	Company: HMF		


43634 JUL 31 2019

 ALS 10450 Stancilff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: SM
	Date: 7-31-19	Time: 9:00	Date:
	Name: B. Hillia		07/31/19
	Company: HMF		

43562 JUL 31 2019

 ALS 10450 Stancilff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: SM
	Date: 7-31-19	Time: 9:00	Date:
	Name: B. Hillia		07/31/19
	Company: HMF		

44189 JUL 31 2019

 ALS 10450 Stancilff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: SM
	Date: 7/31/19	Time: 9:00	Date:
	Name: B. Hillia		07/31/19
	Company: HMF		

44982 JUL 31 2019



06-Aug-2019

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

Re: **HS19071538**

Work Order: **19080092**

Dear RJ,

ALS Environmental received 19 samples on 01-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 30.

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 faint, larger version of the same signature.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

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Page 58 of 87

Client: ALS Environmental
Project: HS19071538
Work Order: 19080092

**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: HS19071538
 Work Order: 19080092

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>
19080092-01	HS19071538-01	Groundwater	MW-01	7/30/2019 13:35	8/1/2019 09:30	<input type="checkbox"/>
19080092-02	HS19071538-02	Groundwater	MW-02	7/30/2019 09:35	8/1/2019 09:30	<input type="checkbox"/>
19080092-03	HS19071538-03	Groundwater	MW-17	7/30/2019 10:15	8/1/2019 09:30	<input type="checkbox"/>
19080092-04	HS19071538-04	Groundwater	MW-18	7/30/2019 11:50	8/1/2019 09:30	<input type="checkbox"/>
19080092-05	HS19071538-05	Groundwater	MW-19	7/30/2019 11:35	8/1/2019 09:30	<input type="checkbox"/>
19080092-06	HS19071538-06	Groundwater	MW-20	7/30/2019 10:40	8/1/2019 09:30	<input type="checkbox"/>
19080092-07	HS19071538-07	Groundwater	MW-21	7/30/2019 12:45	8/1/2019 09:30	<input type="checkbox"/>
19080092-08	HS19071538-08	Groundwater	MW-22	7/30/2019 11:05	8/1/2019 09:30	<input type="checkbox"/>
19080092-09	HS19071538-09	Groundwater	MW-27	7/30/2019 12:55	8/1/2019 09:30	<input type="checkbox"/>
19080092-10	HS19071538-10	Groundwater	MW-28	7/30/2019 14:05	8/1/2019 09:30	<input type="checkbox"/>
19080092-11	HS19071538-11	Groundwater	MW-05	7/30/2019 11:30	8/1/2019 09:30	<input type="checkbox"/>
19080092-12	HS19071538-12	Groundwater	MW-26	7/30/2019 09:25	8/1/2019 09:30	<input type="checkbox"/>
19080092-13	HS19071538-13	Groundwater	MW-29	7/30/2019 10:35	8/1/2019 09:30	<input type="checkbox"/>
19080092-14	HS19071538-14	Groundwater	MW-43	7/30/2019 14:10	8/1/2019 09:30	<input type="checkbox"/>
19080092-15	HS19071538-15	Groundwater	MW-44	7/30/2019 12:35	8/1/2019 09:30	<input type="checkbox"/>
19080092-16	HS19071538-16	Groundwater	MW-45	7/30/2019 11:55	8/1/2019 09:30	<input type="checkbox"/>
19080092-17	HS19071538-17	Groundwater	MW-46	7/30/2019 09:40	8/1/2019 09:30	<input type="checkbox"/>
19080092-18	HS19071538-18	Groundwater	DUP-01	7/30/2019 11:00	8/1/2019 09:30	<input type="checkbox"/>
19080092-19	HS19071538-19	Water	FB-01	7/30/2019 11:55	8/1/2019 09:30	<input type="checkbox"/>

Client: ALS Environmental
Project: HS19071538
WorkOrder: 19080092

**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: 19080092
 Client: ALS Environmental
 Project: HS19071538

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
Batch ID R267437	Test Name: Fluoride					
19080092-01	HS19071538-01	Groundwater	7/30/2019 1:35:00 PM			8/2/2019 09:40 AM
19080092-02	HS19071538-02		7/30/2019 9:35:00 AM			8/2/2019 09:40 AM
19080092-03	HS19071538-03		7/30/2019 10:15:00 AM			8/2/2019 09:40 AM
19080092-04	HS19071538-04		7/30/2019 11:50:00 AM			8/2/2019 09:40 AM
19080092-05	HS19071538-05		7/30/2019 11:35:00 AM			8/2/2019 09:40 AM
19080092-06	HS19071538-06		7/30/2019 10:40:00 AM			8/2/2019 09:40 AM
19080092-07	HS19071538-07		7/30/2019 12:45:00 PM			8/2/2019 09:40 AM
19080092-08	HS19071538-08		7/30/2019 11:05:00 AM			8/2/2019 09:40 AM
19080092-09	HS19071538-09		7/30/2019 12:55:00 PM			8/2/2019 09:40 AM
19080092-10	HS19071538-10		7/30/2019 2:05:00 PM			8/2/2019 09:40 AM
19080092-11	HS19071538-11		7/30/2019 11:30:00 AM			8/2/2019 09:40 AM
19080092-12	HS19071538-12		7/30/2019 9:25:00 AM			8/2/2019 09:40 AM
19080092-13	HS19071538-13		7/30/2019 10:35:00 AM			8/2/2019 09:40 AM
19080092-14	HS19071538-14		7/30/2019 2:10:00 PM			8/2/2019 09:40 AM
19080092-15	HS19071538-15		7/30/2019 12:35:00 PM			8/2/2019 09:40 AM
19080092-16	HS19071538-16		7/30/2019 11:55:00 AM			8/2/2019 09:40 AM
19080092-17	HS19071538-17		7/30/2019 9:40:00 AM			8/2/2019 09:40 AM
19080092-18	HS19071538-18		7/30/2019 11:00:00 AM			8/2/2019 09:40 AM
19080092-19	HS19071538-19	Water	7/30/2019 11:55:00 AM			8/2/2019 09:40 AM

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-01
Collection Date: 7/30/2019 01:35 PM

Work Order: 19080092
Lab ID: 19080092-01
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	8/2/2019 09:40

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-02
Collection Date: 7/30/2019 09:35 AM

Work Order: 19080092
Lab ID: 19080092-02
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	8/2/2019 09:40

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-03
Collection Date: 7/30/2019 10:15 AM

Work Order: 19080092
Lab ID: 19080092-03
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.070	J	0.058	0.10	mg/L	1	8/2/2019 09:40

Method: A4500-F C-11

Analyst: DVD

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-04
Collection Date: 7/30/2019 11:50 AM

Work Order: 19080092
Lab ID: 19080092-04
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.18		0.058	0.10	mg/L	1	8/2/2019 09:40

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-05
Collection Date: 7/30/2019 11:35 AM

Work Order: 19080092
Lab ID: 19080092-05
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.080	J	0.058	0.10	mg/L	1	8/2/2019 09:40

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-06
Collection Date: 7/30/2019 10:40 AM

Work Order: 19080092
Lab ID: 19080092-06
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.24		0.058	0.10	mg/L	1	8/2/2019 09:40

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-07
Collection Date: 7/30/2019 12:45 PM

Work Order: 19080092
Lab ID: 19080092-07
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.060	J	0.058	0.10	mg/L	1	8/2/2019 09:40

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-08
Collection Date: 7/30/2019 11:05 AM

Work Order: 19080092
Lab ID: 19080092-08
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.090	J	0.058	0.10	mg/L	1	8/2/2019 09:40

Method: A4500-F C-11

Analyst: DVD

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-09
Collection Date: 7/30/2019 12:55 PM

Work Order: 19080092
Lab ID: 19080092-09
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.10		0.058	0.10	mg/L	1	8/2/2019 09:40

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-10
Collection Date: 7/30/2019 02:05 PM

Work Order: 19080092
Lab ID: 19080092-10
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.24		0.058	0.10	mg/L	1	8/2/2019 09:40

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-11
Collection Date: 7/30/2019 11:30 AM

Work Order: 19080092
Lab ID: 19080092-11
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	8/2/2019 09:40

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-12
Collection Date: 7/30/2019 09:25 AM

Work Order: 19080092
Lab ID: 19080092-12
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	8/2/2019 09:40

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-13
Collection Date: 7/30/2019 10:35 AM

Work Order: 19080092
Lab ID: 19080092-13
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	8/2/2019 09:40

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-14
Collection Date: 7/30/2019 02:10 PM

Work Order: 19080092
Lab ID: 19080092-14
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	1.2		0.058	0.10	mg/L	1	8/2/2019 09:40

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-15
Collection Date: 7/30/2019 12:35 PM

Work Order: 19080092
Lab ID: 19080092-15
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.53		0.058	0.10	mg/L	1	8/2/2019 09:40

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-16
Collection Date: 7/30/2019 11:55 AM

Work Order: 19080092
Lab ID: 19080092-16
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.080	J	0.058	0.10	mg/L	1	8/2/2019 09:40

Method: A4500-F C-11 Analyst: DVD

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-17
Collection Date: 7/30/2019 09:40 AM

Work Order: 19080092
Lab ID: 19080092-17
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	8/2/2019 09:40

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-18
Collection Date: 7/30/2019 11:00 AM

Work Order: 19080092
Lab ID: 19080092-18
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	1.2		0.058	0.10	mg/L	1	8/2/2019 09:40

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

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071538
Sample ID: HS19071538-19
Collection Date: 7/30/2019 11:55 AM

Work Order: 19080092
Lab ID: 19080092-19
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	8/2/2019 09:40

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

WorkOrder: 19080092
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: 19080092
Project: HS19071538

QC BATCH REPORT

Batch ID: **R267437** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK		Sample ID: MB-R267437-R267437				Units: mg/L		Analysis Date: 8/2/2019 09:40 AM		
Client ID:		Run ID: TITRATOR 1_190802A		SeqNo: 5821343		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-R267437-R267437				Units: mg/L		Analysis Date: 8/2/2019 09:40 AM		
Client ID:		Run ID: TITRATOR 1_190802A		SeqNo: 5821344		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	104	80-120	0			

MS		Sample ID: 19080089-02AMS				Units: mg/L		Analysis Date: 8/2/2019 09:40 AM		
Client ID:		Run ID: TITRATOR 1_190802A		SeqNo: 5821347		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	0.17	100	75-125	0			

MS		Sample ID: 19080092-02AMS				Units: mg/L		Analysis Date: 8/2/2019 09:40 AM		
Client ID: HS19071538-02		Run ID: TITRATOR 1_190802A		SeqNo: 5821368		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	0.17	100	75-125	0			

MSD		Sample ID: 19080089-02AMSD				Units: mg/L		Analysis Date: 8/2/2019 09:40 AM		
Client ID:		Run ID: TITRATOR 1_190802A		SeqNo: 5821348		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	0.17	101	75-125	5.19	0.959	20	

MSD		Sample ID: 19080092-02AMSD				Units: mg/L		Analysis Date: 8/2/2019 09:40 AM		
Client ID: HS19071538-02		Run ID: TITRATOR 1_190802A		SeqNo: 5821369		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	0.17	101	75-125	5.19	0.959	20	

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

Client: ALS Environmental

Work Order: 19080092

Project: HS19071538

QC BATCH REPORT

Batch ID: **R267437**

Instrument ID **Titration 1**

Method: **A4500-F C-11**

The following samples were analyzed in this batch:

19080092-01A	19080092-02A	19080092-03A
19080092-04A	19080092-05A	19080092-06A
19080092-07A	19080092-08A	19080092-09A
19080092-10A	19080092-11A	19080092-12A
19080092-13A	19080092-14A	19080092-15A
19080092-16A	19080092-17A	19080092-18A
19080092-19A		

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



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 Houston, TX 77099
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 F: +1 281 530 5887
 www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11877

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: HS19071538
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19071538-01	MW-01	Groundwater	30 Jul 2019 13:35
	Fluoride by ISE 4500			07 Aug 2019
2.	HS19071538-02	MW-02	Groundwater	30 Jul 2019 09:35
	Fluoride by ISE 4500			07 Aug 2019
3.	HS19071538-03	MW-17	Groundwater	30 Jul 2019 10:15
	Fluoride by ISE 4500			07 Aug 2019
4.	HS19071538-04	MW-18	Groundwater	30 Jul 2019 11:50
	Fluoride by ISE 4500			07 Aug 2019
5.	HS19071538-05	MW-19	Groundwater	30 Jul 2019 11:35
	Fluoride by ISE 4500			07 Aug 2019
6.	HS19071538-06	MW-20	Groundwater	30 Jul 2019 10:40
	Fluoride by ISE 4500			07 Aug 2019
7.	HS19071538-07	MW-21	Groundwater	30 Jul 2019 12:45
	Fluoride by ISE 4500			07 Aug 2019
8.	HS19071538-08	MW-22	Groundwater	30 Jul 2019 11:05
	Fluoride by ISE 4500			07 Aug 2019
9.	HS19071538-09	MW-27	Groundwater	30 Jul 2019 12:55



Subcontract Chain of Custody



SAMPLING STATE: Texas

COC ID: 11877

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
	Fluoride by ISE 4500		07 Aug 2019
10. HS19071538-10	MW-28	Groundwater	30 Jul 2019 14:05
	Fluoride by ISE 4500		07 Aug 2019
11. HS19071538-11	MW-05	Groundwater	30 Jul 2019 11:30
	Fluoride by ISE 4500		07 Aug 2019
12. HS19071538-12	MW-26	Groundwater	30 Jul 2019 09:25
	Fluoride by ISE 4500		07 Aug 2019
13. HS19071538-13	MW-29	Groundwater	30 Jul 2019 10:35
	Fluoride by ISE 4500		07 Aug 2019
14. HS19071538-14	MW-43	Groundwater	30 Jul 2019 14:10
	Fluoride by ISE 4500		07 Aug 2019
15. HS19071538-15	MW-44	Groundwater	30 Jul 2019 12:35
	Fluoride by ISE 4500		07 Aug 2019
16. HS19071538-16	MW-45	Groundwater	30 Jul 2019 11:55
	Fluoride by ISE 4500		07 Aug 2019
17. HS19071538-17	MW-46	Groundwater	30 Jul 2019 09:40
	Fluoride by ISE 4500		07 Aug 2019
18. HS19071538-18	DUP-01	Groundwater	30 Jul 2019 11:00
	Fluoride by ISE 4500		07 Aug 2019
19. HS19071538-19	FB-01	Water	30 Jul 2019 11:55
	Fluoride by ISE 4500		07 Aug 2019

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
Sample HS19071538-02 is MS/MSD

QC Level: TRRP LRC (TRRP checklist only+Level II (normal))

Relinquished By: 
 Received By: 
 Cooler ID(s): _____

Date/Time: 7/31/19 1800
 Date/Time: 8/1/19 0930
 Temperature(s): _____

36°C SR2
PH17

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**

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

Work Order: **19080092**

Received by: **KRW**

Checklist completed by Keith Wierenga 01-Aug-19
eSignature Date

Reviewed by: Alex J. Csaszar 01-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:

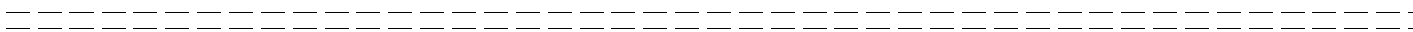
Water - VOA vials have zero headspace? Yes No No VOA vials submitted

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
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F: +1 281 530 5887

August 30, 2019

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

Work Order: **HS19071541**

Laboratory Results for: **NRG Limestone- Appendix IV**

Dear Lori,

ALS Environmental received 19 sample(s) on Jul 31, 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: DAYNA.FISHER
RJ Modashia
Project Manager

Client: TRC Corporation
Project: NRG Limestone- Appendix IV
WorkOrder: HS19071541

**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 Limestone- Appendix IV
WorkOrder: HS19071541

**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 Limestone- Appendix IV				Laboratory Job Number: HS19071541			
Reviewer Name: Corey Grandits				Prep Batch Number(s): 143678, 143828, R343742, R345323			
# 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 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: 08/30/2019			
Project Name: NRG Limestone- Appendix IV				Laboratory Job Number: HS19071541			
Reviewer Name: Corey Grandits				Prep Batch Number(s): 143678, 143828, R343742, R345323			
# 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: 08/30/2019
Project Name: NRG Limestone- Appendix IV	Laboratory Job Number: HS19071541
Reviewer Name: Corey Grandits	Prep Batch Number(s): 143678, 143828, R343742, R345323

ER#⁵	Description
1	Analyses of Fluoride were performed by ALS Environmental in Holland, MI. Report is appended. Analyses of Radium-226 and Radium-228 were performed by ALS Environmental in Fort Collins, CO. Report is appended.
2	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).

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FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: NRG Limestone- Appendix IV
WorkOrder: HS19071541
Start Date: 06-Aug-2019

End Date: 06-Aug-2019

Run ID: ICPMS05_343725
Instrument: ICPMS05
Method: SW6020

Sample No.	D/F	Time	FileID	Analytes
ICV	1	06-Aug-2019 11:21	016_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	06-Aug-2019 11:24	017LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV5	1	06-Aug-2019 11:26	018LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICB	1	06-Aug-2019 11:28	019_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	06-Aug-2019 11:50	021ICSA.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSAB	1	06-Aug-2019 11:52	022ICSB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 1	1	06-Aug-2019 12:45	034_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 1	1	06-Aug-2019 12:47	035_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 2	1	06-Aug-2019 13:15	047_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 2	1	06-Aug-2019 13:37	049_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 3	1	06-Aug-2019 14:01	059_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 3	1	06-Aug-2019 14:03	060_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 4	1	06-Aug-2019 14:40	071_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 4	1	06-Aug-2019 14:42	072_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 5	1	06-Aug-2019 15:11	083_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 5	1	06-Aug-2019 15:13	084_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 6	1	06-Aug-2019 15:40	095_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 6	1	06-Aug-2019 15:42	096_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 7	1	06-Aug-2019 16:30	108_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 7	1	06-Aug-2019 16:33	109_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 8	1	06-Aug-2019 16:58	120_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 8	1	06-Aug-2019 17:01	121_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV2	1	06-Aug-2019 18:08	140LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV5	1	06-Aug-2019 18:10	141LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCB 9	1	06-Aug-2019 18:13	142_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCV 9	1	06-Aug-2019 18:22	144_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 10	1	06-Aug-2019 18:27	146_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 10	1	06-Aug-2019 18:29	147_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 11	1	06-Aug-2019 18:50	156_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 11	1	06-Aug-2019 18:52	157_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 12	1	06-Aug-2019 19:10	165_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 12	1	06-Aug-2019 19:13	166_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 13	1	06-Aug-2019 19:38	177_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 13	1	06-Aug-2019 19:40	178_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 14	1	06-Aug-2019 19:53	184_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 14	1	06-Aug-2019 19:56	185_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 15	1	06-Aug-2019 20:12	192_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 15	1	06-Aug-2019 20:14	193_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 16	1	06-Aug-2019 20:27	199_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 16	1	06-Aug-2019 20:30	200_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 17	1	06-Aug-2019 20:54	211_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 17	1	06-Aug-2019 20:57	212_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 18	1	06-Aug-2019 21:10	218_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 18	1	06-Aug-2019 21:12	219_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 19	1	06-Aug-2019 21:37	230_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 19	1	06-Aug-2019 21:40	231_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 20	1	06-Aug-2019 21:53	237_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 20	1	06-Aug-2019 21:55	238_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 21	1	06-Aug-2019 22:20	249_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 21	1	06-Aug-2019 22:23	250_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MBLK-143678	1	06-Aug-2019 22:25	251SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL

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FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 WorkOrder: HS19071541
 Start Date: 06-Aug-2019

End Date: 06-Aug-2019

Run ID: ICPMS05_343725
 Instrument: ICPMS05
 Method: SW6020

Sample No.	D/F	Time	FileID	Analyses
LCS-143678	1	06-Aug-2019 22:27	252SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-02	1	06-Aug-2019 22:29	253SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-02SD	5	06-Aug-2019 22:32	254SMPL.d	AS BA BE CD CO CR MO PB SB SE TL
MW-02MS	1	06-Aug-2019 22:34	255SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-02MSD	1	06-Aug-2019 22:36	256SMPL.d	AS BA BE CD CO CR MO PB SB SE TL
MW-02PDS	1	06-Aug-2019 22:38	257SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 22	1	06-Aug-2019 22:41	258_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 22	1	06-Aug-2019 22:43	259_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-01	1	06-Aug-2019 22:45	260SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-17	1	06-Aug-2019 22:47	261SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-18	1	06-Aug-2019 22:50	262SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-19	1	06-Aug-2019 22:52	263SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-20	1	06-Aug-2019 22:54	264SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-21	1	06-Aug-2019 22:57	265SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-22	1	06-Aug-2019 22:59	266SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-27	1	06-Aug-2019 23:01	267SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-28	1	06-Aug-2019 23:03	268SMPL.d	AS BA BE CD CO CR MO PB SB SE TL
MW-05	1	06-Aug-2019 23:06	269SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 23	1	06-Aug-2019 23:08	270_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 23	1	06-Aug-2019 23:10	271_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-26	1	06-Aug-2019 23:12	272SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-29	1	06-Aug-2019 23:15	273SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-43	1	06-Aug-2019 23:17	274SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-44	1	06-Aug-2019 23:19	275SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-45	1	06-Aug-2019 23:22	276SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-46	1	06-Aug-2019 23:24	277SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
DUP-01	1	06-Aug-2019 23:26	278SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
FB-01	1	06-Aug-2019 23:28	279SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 24	1	06-Aug-2019 23:35	282_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 24	1	06-Aug-2019 23:38	283_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 25	1	06-Aug-2019 23:42	285_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	06-Aug-2019 23:44	286LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV5	1	06-Aug-2019 23:47	287LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	06-Aug-2019 23:49	288ICSA.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSAB	1	06-Aug-2019 23:51	289ICSB.d	AS BA BE CD CO CR LI MO PB SB SE TL

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CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG Limestone- Appendix IV
WorkOrder: HS19071541

Run ID:ICPMS05_343725
Instrument:ICPMS05
Method:SW6020

CCB	Date	Seq	D/F	Units
CCB 1	06-Aug-2019 12:47	5197823	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.225	0.2	2
CCB 2	06-Aug-2019 13:15	5197792	1	ug/L
	Analyte	Result	MDL	Report Limit
	Lithium	1.41	1	5
	Thallium	0.212	0.2	2
CCB 3	06-Aug-2019 14:03	5198290	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.263	0.2	2
CCB 5	06-Aug-2019 15:13	5198648	1	ug/L
	Analyte	Result	MDL	Report Limit
	Lithium	-1.116	1	5
	Thallium	0.22	0.2	2
CCB 6	06-Aug-2019 15:42	5198660	1	ug/L
	Analyte	Result	MDL	Report Limit
	Lithium	-1.056	1	5
	Thallium	0.212	0.2	2
CCB 7	06-Aug-2019 16:30	5198683	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.397	0.2	2
CCB 8	06-Aug-2019 17:01	5198696	1	ug/L
	Analyte	Result	MDL	Report Limit
	Lithium	-1.206	1	5
CCB 10	06-Aug-2019 18:27	5199132	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	1.532	0.4	2
CCB 11	06-Aug-2019 18:52	5199143	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	1.374	0.4	2
CCB 12	06-Aug-2019 19:13	5199152	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	1.411	0.4	2
CCB 13	06-Aug-2019 19:40	5199164	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	1.257	0.4	2
CCB 14	06-Aug-2019 19:56	5199171	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	1.3	0.4	2
CCB 15	06-Aug-2019 20:14	5199221	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	1.163	0.4	2

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CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG Limestone- Appendix IV
WorkOrder: HS19071541

Run ID:ICPMS05_343725
Instrument:ICPMS05
Method:SW6020

CCB 16	Date: 06-Aug-2019 20:30	Seq: 5199228	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	1.438	0.4	2
CCB 17	Date: 06-Aug-2019 20:57	Seq: 5199240	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	1.196	0.4	2
CCB 18	Date: 06-Aug-2019 21:12	Seq: 5199247	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	1.258	0.4	2
CCB 19	Date: 06-Aug-2019 21:40	Seq: 5199259	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.975	0.4	2
CCB 20	Date: 06-Aug-2019 21:55	Seq: 5199266	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	1.029	0.4	2
CCB 21	Date: 06-Aug-2019 22:23	Seq: 5199213	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.961	0.4	2
CCB 22	Date: 06-Aug-2019 22:43	Seq: 5199276	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	1.385	0.4	2
CCB 23	Date: 06-Aug-2019 23:10	Seq: 5199288	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.892	0.4	2
CCB 24	Date: 06-Aug-2019 23:38	Seq: 5199300	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.437	0.4	2
CCB 25	Date: 06-Aug-2019 23:42	Seq: 5199302	D/F: 1	Units: ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.475	0.4	2

Client: TRC Corporation
Project: NRG Limestone- Appendix IV
Work Order: HS19071541

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19071541-01	MW-01	Groundwater		30-Jul-2019 13:35	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-02	MW-02	Groundwater		30-Jul-2019 09:35	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-03	MW-17	Groundwater		30-Jul-2019 10:15	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-04	MW-18	Groundwater		30-Jul-2019 11:50	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-05	MW-19	Groundwater		30-Jul-2019 11:35	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-06	MW-20	Groundwater		30-Jul-2019 10:40	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-07	MW-21	Groundwater		30-Jul-2019 12:45	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-08	MW-22	Groundwater		30-Jul-2019 11:05	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-09	MW-27	Groundwater		30-Jul-2019 12:55	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-10	MW-28	Groundwater		30-Jul-2019 14:05	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-11	MW-05	Groundwater		30-Jul-2019 11:30	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-12	MW-26	Groundwater		30-Jul-2019 09:25	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-13	MW-29	Groundwater		30-Jul-2019 10:35	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-14	MW-43	Groundwater		30-Jul-2019 14:10	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-15	MW-44	Groundwater		30-Jul-2019 12:35	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-16	MW-45	Groundwater		30-Jul-2019 11:55	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-17	MW-46	Groundwater		30-Jul-2019 09:40	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-18	DUP-01	Groundwater		30-Jul-2019 11:00	31-Jul-2019 09:50	<input type="checkbox"/>
HS19071541-19	FB-01	Water		30-Jul-2019 11:55	31-Jul-2019 09:50	<input type="checkbox"/>

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-01
 Collection Date: 30-Jul-2019 13:35

ANALYTICAL REPORT
 WorkOrder:HS19071541
 Lab ID:HS19071541-01
 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	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 22:45
Arsenic	0.000752	J	0.000400	0.00200	mg/L	1	06-Aug-2019 22:45
Barium	0.772		0.00190	0.00400	mg/L	1	06-Aug-2019 22:45
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:45
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:45
Chromium	0.00172	J	0.000400	0.00400	mg/L	1	06-Aug-2019 22:45
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	06-Aug-2019 22:45
Lead	< 0.000600		0.000600	0.00200	mg/L	1	06-Aug-2019 22:45
Lithium	0.0506		0.00100	0.00500	mg/L	1	06-Aug-2019 22:45
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	06-Aug-2019 22:45
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	06-Aug-2019 22:45
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:45
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	0.0000320	J	0.0000300	0.000200	mg/L	1	06-Aug-2019 14:51
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-02
 Collection Date: 30-Jul-2019 09:35

ANALYTICAL REPORT
 WorkOrder:HS19071541
 Lab ID:HS19071541-02
 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	06-Aug-2019 22:29
Arsenic	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 22:29
Barium	0.210		0.00190	0.00400	mg/L	1	06-Aug-2019 22:29
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:29
Cadmium	0.000366	J	0.000200	0.00200	mg/L	1	06-Aug-2019 22:29
Chromium	0.00506		0.000400	0.00400	mg/L	1	06-Aug-2019 22:29
Cobalt	0.00174	J	0.000200	0.00500	mg/L	1	06-Aug-2019 22:29
Lead	< 0.000600		0.000600	0.00200	mg/L	1	06-Aug-2019 22:29
Lithium	0.0775		0.00100	0.00500	mg/L	1	06-Aug-2019 22:29
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	06-Aug-2019 22:29
Selenium	0.00199	J	0.00110	0.00200	mg/L	1	06-Aug-2019 22:29
Thallium	0.000210	J	0.000200	0.00200	mg/L	1	06-Aug-2019 22:29
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Aug-2019 14:46
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-17
 Collection Date: 30-Jul-2019 10:15

ANALYTICAL REPORT
 WorkOrder:HS19071541
 Lab ID:HS19071541-03
 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	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 22:47
Arsenic	0.000697	J	0.000400	0.00200	mg/L	1	06-Aug-2019 22:47
Barium	0.0234		0.00190	0.00400	mg/L	1	06-Aug-2019 22:47
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:47
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:47
Chromium	0.00144	J	0.000400	0.00400	mg/L	1	06-Aug-2019 22:47
Cobalt	0.000372	J	0.000200	0.00500	mg/L	1	06-Aug-2019 22:47
Lead	< 0.000600		0.000600	0.00200	mg/L	1	06-Aug-2019 22:47
Lithium	0.0126		0.00100	0.00500	mg/L	1	06-Aug-2019 22:47
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	06-Aug-2019 22:47
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	06-Aug-2019 22:47
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:47
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Aug-2019 14:56
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-18
 Collection Date: 30-Jul-2019 11:50

ANALYTICAL REPORT
 WorkOrder:HS19071541
 Lab ID:HS19071541-04
 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	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 22:50
Arsenic	0.000523	J	0.000400	0.00200	mg/L	1	06-Aug-2019 22:50
Barium	0.0709		0.00190	0.00400	mg/L	1	06-Aug-2019 22:50
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:50
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:50
Chromium	0.00337	J	0.000400	0.00400	mg/L	1	06-Aug-2019 22:50
Cobalt	0.00278	J	0.000200	0.00500	mg/L	1	06-Aug-2019 22:50
Lead	0.000678	J	0.000600	0.00200	mg/L	1	06-Aug-2019 22:50
Lithium	0.0111		0.00100	0.00500	mg/L	1	06-Aug-2019 22:50
Molybdenum	0.00102	J	0.000600	0.00500	mg/L	1	06-Aug-2019 22:50
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	06-Aug-2019 22:50
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:50
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Aug-2019 14:58
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-19
 Collection Date: 30-Jul-2019 11:35

ANALYTICAL REPORT
 WorkOrder:HS19071541
 Lab ID:HS19071541-05
 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	06-Aug-2019 22:52
Arsenic	0.000969	J	0.000400	0.00200	mg/L	1	06-Aug-2019 22:52
Barium	0.107		0.00190	0.00400	mg/L	1	06-Aug-2019 22:52
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:52
Cadmium	0.000274	J	0.000200	0.00200	mg/L	1	06-Aug-2019 22:52
Chromium	0.00167	J	0.000400	0.00400	mg/L	1	06-Aug-2019 22:52
Cobalt	0.000659	J	0.000200	0.00500	mg/L	1	06-Aug-2019 22:52
Lead	< 0.000600		0.000600	0.00200	mg/L	1	06-Aug-2019 22:52
Lithium	0.0140		0.00100	0.00500	mg/L	1	06-Aug-2019 22:52
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	06-Aug-2019 22:52
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	06-Aug-2019 22:52
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:52
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	0.0000350	J	0.0000300	0.000200	mg/L	1	06-Aug-2019 14:59
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-20
 Collection Date: 30-Jul-2019 10:40

ANALYTICAL REPORT

WorkOrder:HS19071541
 Lab ID:HS19071541-06
 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	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 22:54
Arsenic	0.000652	J	0.000400	0.00200	mg/L	1	06-Aug-2019 22:54
Barium	0.0853		0.00190	0.00400	mg/L	1	06-Aug-2019 22:54
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:54
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:54
Chromium	0.00259	J	0.000400	0.00400	mg/L	1	06-Aug-2019 22:54
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	06-Aug-2019 22:54
Lead	< 0.000600		0.000600	0.00200	mg/L	1	06-Aug-2019 22:54
Lithium	0.0111		0.00100	0.00500	mg/L	1	06-Aug-2019 22:54
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	06-Aug-2019 22:54
Selenium	0.00448		0.00110	0.00200	mg/L	1	06-Aug-2019 22:54
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:54
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Aug-2019 15:01
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-21
 Collection Date: 30-Jul-2019 12:45

ANALYTICAL REPORT
 WorkOrder:HS19071541
 Lab ID:HS19071541-07
 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	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 22:57
Arsenic	0.000524	J	0.000400	0.00200	mg/L	1	06-Aug-2019 22:57
Barium	0.137		0.00190	0.00400	mg/L	1	06-Aug-2019 22:57
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:57
Cadmium	0.000697	J	0.000200	0.00200	mg/L	1	06-Aug-2019 22:57
Chromium	0.00212	J	0.000400	0.00400	mg/L	1	06-Aug-2019 22:57
Cobalt	0.000807	J	0.000200	0.00500	mg/L	1	06-Aug-2019 22:57
Lead	< 0.000600		0.000600	0.00200	mg/L	1	06-Aug-2019 22:57
Lithium	0.0253		0.00100	0.00500	mg/L	1	06-Aug-2019 22:57
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	06-Aug-2019 22:57
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	06-Aug-2019 22:57
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:57
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Aug-2019 15:03
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-22
 Collection Date: 30-Jul-2019 11:05

ANALYTICAL REPORT

WorkOrder:HS19071541
 Lab ID:HS19071541-08
 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	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 22:59
Arsenic	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 22:59
Barium	0.102		0.00190	0.00400	mg/L	1	06-Aug-2019 22:59
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:59
Cadmium	0.000272	J	0.000200	0.00200	mg/L	1	06-Aug-2019 22:59
Chromium	0.00173	J	0.000400	0.00400	mg/L	1	06-Aug-2019 22:59
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	06-Aug-2019 22:59
Lead	< 0.000600		0.000600	0.00200	mg/L	1	06-Aug-2019 22:59
Lithium	0.0150		0.00100	0.00500	mg/L	1	06-Aug-2019 22:59
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	06-Aug-2019 22:59
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	06-Aug-2019 22:59
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 22:59
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Aug-2019 15:04
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-27
 Collection Date: 30-Jul-2019 12:55

ANALYTICAL REPORT

WorkOrder:HS19071541
 Lab ID:HS19071541-09
 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	
Antimony	0.00120	J	0.000400	0.00200	mg/L	1	06-Aug-2019 23:01
Arsenic	0.000469	J	0.000400	0.00200	mg/L	1	06-Aug-2019 23:01
Barium	0.0102		0.00190	0.00400	mg/L	1	06-Aug-2019 23:01
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:01
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:01
Chromium	0.00166	J	0.000400	0.00400	mg/L	1	06-Aug-2019 23:01
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	06-Aug-2019 23:01
Lead	< 0.000600		0.000600	0.00200	mg/L	1	06-Aug-2019 23:01
Lithium	0.0131		0.00100	0.00500	mg/L	1	06-Aug-2019 23:01
Molybdenum	0.00981		0.000600	0.00500	mg/L	1	06-Aug-2019 23:01
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	06-Aug-2019 23:01
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:01
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Aug-2019 15:06
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-28
 Collection Date: 30-Jul-2019 14:05

ANALYTICAL REPORT
 WorkOrder:HS19071541
 Lab ID:HS19071541-10
 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	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 23:03
Arsenic	0.00312		0.000400	0.00200	mg/L	1	06-Aug-2019 23:03
Barium	0.0960		0.00190	0.00400	mg/L	1	06-Aug-2019 23:03
Beryllium	0.00142	J	0.000200	0.00200	mg/L	1	06-Aug-2019 23:03
Cadmium	0.00545		0.000200	0.00200	mg/L	1	06-Aug-2019 23:03
Chromium	0.00927		0.000400	0.00400	mg/L	1	06-Aug-2019 23:03
Cobalt	0.227		0.000200	0.00500	mg/L	1	06-Aug-2019 23:03
Lead	0.00590		0.000600	0.00200	mg/L	1	06-Aug-2019 23:03
Lithium	0.733		0.0200	0.100	mg/L	20	07-Aug-2019 12:17
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	06-Aug-2019 23:03
Selenium	0.00491		0.00110	0.00200	mg/L	1	06-Aug-2019 23:03
Thallium	0.000490	J	0.000200	0.00200	mg/L	1	06-Aug-2019 23:03
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Aug-2019 15:08
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-05
 Collection Date: 30-Jul-2019 11:30

ANALYTICAL REPORT

WorkOrder:HS19071541
 Lab ID:HS19071541-11
 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	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 23:06
Arsenic	0.000711	J	0.000400	0.00200	mg/L	1	06-Aug-2019 23:06
Barium	0.0411		0.00190	0.00400	mg/L	1	06-Aug-2019 23:06
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:06
Cadmium	0.000280	J	0.000200	0.00200	mg/L	1	06-Aug-2019 23:06
Chromium	0.00215	J	0.000400	0.00400	mg/L	1	06-Aug-2019 23:06
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	06-Aug-2019 23:06
Lead	< 0.000600		0.000600	0.00200	mg/L	1	06-Aug-2019 23:06
Lithium	0.0129		0.00100	0.00500	mg/L	1	06-Aug-2019 23:06
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	06-Aug-2019 23:06
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	06-Aug-2019 23:06
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:06
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Aug-2019 15:10
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-26
 Collection Date: 30-Jul-2019 09:25

ANALYTICAL REPORT

WorkOrder:HS19071541
 Lab ID:HS19071541-12
 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	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 23:12
Arsenic	0.000455	J	0.000400	0.00200	mg/L	1	06-Aug-2019 23:12
Barium	0.335		0.00190	0.00400	mg/L	1	06-Aug-2019 23:12
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:12
Cadmium	0.000240	J	0.000200	0.00200	mg/L	1	06-Aug-2019 23:12
Chromium	0.0186		0.000400	0.00400	mg/L	1	06-Aug-2019 23:12
Cobalt	0.000242	J	0.000200	0.00500	mg/L	1	06-Aug-2019 23:12
Lead	0.00110	J	0.000600	0.00200	mg/L	1	06-Aug-2019 23:12
Lithium	0.0226		0.00100	0.00500	mg/L	1	06-Aug-2019 23:12
Molybdenum	0.00193	J	0.000600	0.00500	mg/L	1	06-Aug-2019 23:12
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	06-Aug-2019 23:12
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:12
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Aug-2019 15:11
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-29
 Collection Date: 30-Jul-2019 10:35

ANALYTICAL REPORT

WorkOrder:HS19071541
 Lab ID:HS19071541-13
 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	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 23:15
Arsenic	0.000844	J	0.000400	0.00200	mg/L	1	06-Aug-2019 23:15
Barium	0.0370		0.00190	0.00400	mg/L	1	06-Aug-2019 23:15
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:15
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:15
Chromium	0.00383	J	0.000400	0.00400	mg/L	1	06-Aug-2019 23:15
Cobalt	0.000716	J	0.000200	0.00500	mg/L	1	06-Aug-2019 23:15
Lead	0.000681	J	0.000600	0.00200	mg/L	1	06-Aug-2019 23:15
Lithium	0.0109		0.00100	0.00500	mg/L	1	06-Aug-2019 23:15
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	06-Aug-2019 23:15
Selenium	0.00148	J	0.00110	0.00200	mg/L	1	06-Aug-2019 23:15
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:15
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Aug-2019 15:16
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-43
 Collection Date: 30-Jul-2019 14:10

ANALYTICAL REPORT
 WorkOrder:HS19071541
 Lab ID:HS19071541-14
 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	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 23:17
Arsenic	0.00132	J	0.000400	0.00200	mg/L	1	06-Aug-2019 23:17
Barium	0.0784		0.00190	0.00400	mg/L	1	06-Aug-2019 23:17
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:17
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:17
Chromium	0.00304	J	0.000400	0.00400	mg/L	1	06-Aug-2019 23:17
Cobalt	0.000817	J	0.000200	0.00500	mg/L	1	06-Aug-2019 23:17
Lead	0.000607	J	0.000600	0.00200	mg/L	1	06-Aug-2019 23:17
Lithium	0.0216		0.00100	0.00500	mg/L	1	06-Aug-2019 23:17
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	06-Aug-2019 23:17
Selenium	0.0364		0.00110	0.00200	mg/L	1	06-Aug-2019 23:17
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:17
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Aug-2019 15:18
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-44
 Collection Date: 30-Jul-2019 12:35

ANALYTICAL REPORT
 WorkOrder:HS19071541
 Lab ID:HS19071541-15
 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	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 23:19
Arsenic	0.000801	J	0.000400	0.00200	mg/L	1	06-Aug-2019 23:19
Barium	0.0378		0.00190	0.00400	mg/L	1	06-Aug-2019 23:19
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:19
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:19
Chromium	0.00261	J	0.000400	0.00400	mg/L	1	06-Aug-2019 23:19
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	06-Aug-2019 23:19
Lead	< 0.000600		0.000600	0.00200	mg/L	1	06-Aug-2019 23:19
Lithium	0.0144		0.00100	0.00500	mg/L	1	06-Aug-2019 23:19
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	06-Aug-2019 23:19
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	06-Aug-2019 23:19
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:19
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Aug-2019 15:20
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-45
 Collection Date: 30-Jul-2019 11:55

ANALYTICAL REPORT

WorkOrder:HS19071541
 Lab ID:HS19071541-16
 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	06-Aug-2019 23:22
Arsenic	0.0203		0.000400	0.00200	mg/L	1	06-Aug-2019 23:22
Barium	1.41		0.00190	0.00400	mg/L	1	06-Aug-2019 23:22
Beryllium	0.00284		0.000200	0.00200	mg/L	1	06-Aug-2019 23:22
Cadmium	0.00150	J	0.000200	0.00200	mg/L	1	06-Aug-2019 23:22
Chromium	0.465		0.000400	0.00400	mg/L	1	06-Aug-2019 23:22
Cobalt	0.0443		0.000200	0.00500	mg/L	1	06-Aug-2019 23:22
Lead	0.0601		0.000600	0.00200	mg/L	1	06-Aug-2019 23:22
Lithium	0.0716		0.00100	0.00500	mg/L	1	06-Aug-2019 23:22
Molybdenum	0.0181		0.000600	0.00500	mg/L	1	06-Aug-2019 23:22
Selenium	0.0819		0.00110	0.00200	mg/L	1	06-Aug-2019 23:22
Thallium	0.000420	J	0.000200	0.00200	mg/L	1	06-Aug-2019 23:22
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	0.0000390	J	0.0000300	0.000200	mg/L	1	06-Aug-2019 15:21
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: MW-46
 Collection Date: 30-Jul-2019 09:40

ANALYTICAL REPORT
 WorkOrder:HS19071541
 Lab ID:HS19071541-17
 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	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 23:24
Arsenic	0.00126	J	0.000400	0.00200	mg/L	1	06-Aug-2019 23:24
Barium	1.14		0.00190	0.00400	mg/L	1	06-Aug-2019 23:24
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:24
Cadmium	0.00383		0.000200	0.00200	mg/L	1	06-Aug-2019 23:24
Chromium	0.0352		0.000400	0.00400	mg/L	1	06-Aug-2019 23:24
Cobalt	0.00425	J	0.000200	0.00500	mg/L	1	06-Aug-2019 23:24
Lead	0.00160	J	0.000600	0.00200	mg/L	1	06-Aug-2019 23:24
Lithium	0.0423		0.00100	0.00500	mg/L	1	06-Aug-2019 23:24
Molybdenum	0.00201	J	0.000600	0.00500	mg/L	1	06-Aug-2019 23:24
Selenium	0.00438		0.00110	0.00200	mg/L	1	06-Aug-2019 23:24
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:24
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Aug-2019 15:23
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: DUP-01
 Collection Date: 30-Jul-2019 11:00

ANALYTICAL REPORT

WorkOrder:HS19071541
 Lab ID:HS19071541-18
 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	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 23:26
Arsenic	0.00142	J	0.000400	0.00200	mg/L	1	06-Aug-2019 23:26
Barium	0.0844		0.00190	0.00400	mg/L	1	06-Aug-2019 23:26
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:26
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:26
Chromium	0.00358	J	0.000400	0.00400	mg/L	1	06-Aug-2019 23:26
Cobalt	0.000891	J	0.000200	0.00500	mg/L	1	06-Aug-2019 23:26
Lead	0.000607	J	0.000600	0.00200	mg/L	1	06-Aug-2019 23:26
Lithium	0.0223		0.00100	0.00500	mg/L	1	06-Aug-2019 23:26
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	06-Aug-2019 23:26
Selenium	0.0397		0.00110	0.00200	mg/L	1	06-Aug-2019 23:26
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:26
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Aug-2019 15:25
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

Client: TRC Corporation
 Project: NRG Limestone- Appendix IV
 Sample ID: FB-01
 Collection Date: 30-Jul-2019 11:55

ANALYTICAL REPORT
 WorkOrder:HS19071541
 Lab ID:HS19071541-19
 Matrix:Water

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	06-Aug-2019 23:28
Arsenic	< 0.000400		0.000400	0.00200	mg/L	1	06-Aug-2019 23:28
Barium	< 0.00190		0.00190	0.00400	mg/L	1	06-Aug-2019 23:28
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:28
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:28
Chromium	0.00147	J	0.000400	0.00400	mg/L	1	06-Aug-2019 23:28
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	06-Aug-2019 23:28
Lead	< 0.000600		0.000600	0.00200	mg/L	1	06-Aug-2019 23:28
Lithium	< 0.00100		0.00100	0.00500	mg/L	1	06-Aug-2019 23:28
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	06-Aug-2019 23:28
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	06-Aug-2019 23:28
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	06-Aug-2019 23:28
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 06-Aug-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Aug-2019 15:27
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	06-Aug-2019 13:57
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	30-Aug-2019 16:07

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

DRAFT

WEIGHT LOG

Client: TRC Corporation
Project: NRG Limestone- Appendix IV
WorkOrder: HS19071541

Batch ID: 143678 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19071541-01	1	10	10 (mL)	1
HS19071541-02	1	10	10 (mL)	1
HS19071541-03	1	10	10 (mL)	1
HS19071541-04	1	10	10 (mL)	1
HS19071541-05	1	10	10 (mL)	1
HS19071541-06	1	10	10 (mL)	1
HS19071541-07	1	10	10 (mL)	1
HS19071541-08	1	10	10 (mL)	1
HS19071541-09	1	10	10 (mL)	1
HS19071541-10	1	10	10 (mL)	1
HS19071541-11	1	10	10 (mL)	1
HS19071541-12	1	10	10 (mL)	1
HS19071541-13	1	10	10 (mL)	1
HS19071541-14	1	10	10 (mL)	1
HS19071541-15	1	10	10 (mL)	1
HS19071541-16	1	10	10 (mL)	1
HS19071541-17	1	10	10 (mL)	1
HS19071541-18	1	10	10 (mL)	1
HS19071541-19	1	10	10 (mL)	1

Batch ID: 143828 **Method:** MERCURY BY SW7470A **Prep:** HG_WPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19071541-01	1	10 (mL)	10 (mL)	1
HS19071541-02	1	10 (mL)	10 (mL)	1
HS19071541-03	1	10 (mL)	10 (mL)	1
HS19071541-04	1	10 (mL)	10 (mL)	1
HS19071541-05	1	10 (mL)	10 (mL)	1
HS19071541-06	1	10 (mL)	10 (mL)	1
HS19071541-07	1	10 (mL)	10 (mL)	1
HS19071541-08	1	10 (mL)	10 (mL)	1
HS19071541-09	1	10 (mL)	10 (mL)	1
HS19071541-10	1	10 (mL)	10 (mL)	1
HS19071541-11	1	10 (mL)	10 (mL)	1
HS19071541-12	1	10 (mL)	10 (mL)	1
HS19071541-13	1	10 (mL)	10 (mL)	1
HS19071541-14	1	10 (mL)	10 (mL)	1
HS19071541-15	1	10 (mL)	10 (mL)	1
HS19071541-16	1	10 (mL)	10 (mL)	1
HS19071541-17	1	10 (mL)	10 (mL)	1
HS19071541-18	1	10 (mL)	10 (mL)	1
HS19071541-19	1	10 (mL)	10 (mL)	1

Client: TRC Corporation
Project: NRG Limestone- Appendix IV
WorkOrder: HS19071541

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143678 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Water	
HS19071541-19	FB-01	30 Jul 2019 11:55		06 Aug 2019 13:00	06 Aug 2019 23:28	1
Batch ID: 143678 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS19071541-01	MW-01	30 Jul 2019 13:35		06 Aug 2019 13:00	06 Aug 2019 22:45	1
HS19071541-02	MW-02	30 Jul 2019 09:35		06 Aug 2019 13:00	06 Aug 2019 22:29	1
HS19071541-03	MW-17	30 Jul 2019 10:15		06 Aug 2019 13:00	06 Aug 2019 22:47	1
HS19071541-04	MW-18	30 Jul 2019 11:50		06 Aug 2019 13:00	06 Aug 2019 22:50	1
HS19071541-05	MW-19	30 Jul 2019 11:35		06 Aug 2019 13:00	06 Aug 2019 22:52	1
HS19071541-06	MW-20	30 Jul 2019 10:40		06 Aug 2019 13:00	06 Aug 2019 22:54	1
HS19071541-07	MW-21	30 Jul 2019 12:45		06 Aug 2019 13:00	06 Aug 2019 22:57	1
HS19071541-08	MW-22	30 Jul 2019 11:05		06 Aug 2019 13:00	06 Aug 2019 22:59	1
HS19071541-09	MW-27	30 Jul 2019 12:55		06 Aug 2019 13:00	06 Aug 2019 23:01	1
HS19071541-10	MW-28	30 Jul 2019 14:05		06 Aug 2019 13:00	07 Aug 2019 12:17	20
HS19071541-10	MW-28	30 Jul 2019 14:05		06 Aug 2019 13:00	06 Aug 2019 23:03	1
HS19071541-11	MW-05	30 Jul 2019 11:30		06 Aug 2019 13:00	06 Aug 2019 23:06	1
HS19071541-12	MW-26	30 Jul 2019 09:25		06 Aug 2019 13:00	06 Aug 2019 23:12	1
HS19071541-13	MW-29	30 Jul 2019 10:35		06 Aug 2019 13:00	06 Aug 2019 23:15	1
HS19071541-14	MW-43	30 Jul 2019 14:10		06 Aug 2019 13:00	06 Aug 2019 23:17	1
HS19071541-15	MW-44	30 Jul 2019 12:35		06 Aug 2019 13:00	06 Aug 2019 23:19	1
HS19071541-16	MW-45	30 Jul 2019 11:55		06 Aug 2019 13:00	06 Aug 2019 23:22	1
HS19071541-17	MW-46	30 Jul 2019 09:40		06 Aug 2019 13:00	06 Aug 2019 23:24	1
HS19071541-18	DUP-01	30 Jul 2019 11:00		06 Aug 2019 13:00	06 Aug 2019 23:26	1
Batch ID: 143828 (0)		Test Name : MERCURY BY SW7470A			Matrix: Water	
HS19071541-19	FB-01	30 Jul 2019 11:55		06 Aug 2019 10:00	06 Aug 2019 15:27	1

Client: TRC Corporation
Project: NRG Limestone- Appendix IV
WorkOrder: HS19071541

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143828 (0)		Test Name : MERCURY BY SW7470A			Matrix: Groundwater	
HS19071541-01	MW-01	30 Jul 2019 13:35		06 Aug 2019 10:00	06 Aug 2019 14:51	1
HS19071541-02	MW-02	30 Jul 2019 09:35		06 Aug 2019 10:00	06 Aug 2019 14:46	1
HS19071541-03	MW-17	30 Jul 2019 10:15		06 Aug 2019 10:00	06 Aug 2019 14:56	1
HS19071541-04	MW-18	30 Jul 2019 11:50		06 Aug 2019 10:00	06 Aug 2019 14:58	1
HS19071541-05	MW-19	30 Jul 2019 11:35		06 Aug 2019 10:00	06 Aug 2019 14:59	1
HS19071541-06	MW-20	30 Jul 2019 10:40		06 Aug 2019 10:00	06 Aug 2019 15:01	1
HS19071541-07	MW-21	30 Jul 2019 12:45		06 Aug 2019 10:00	06 Aug 2019 15:03	1
HS19071541-08	MW-22	30 Jul 2019 11:05		06 Aug 2019 10:00	06 Aug 2019 15:04	1
HS19071541-09	MW-27	30 Jul 2019 12:55		06 Aug 2019 10:00	06 Aug 2019 15:06	1
HS19071541-10	MW-28	30 Jul 2019 14:05		06 Aug 2019 10:00	06 Aug 2019 15:08	1
HS19071541-11	MW-05	30 Jul 2019 11:30		06 Aug 2019 10:00	06 Aug 2019 15:10	1
HS19071541-12	MW-26	30 Jul 2019 09:25		06 Aug 2019 10:00	06 Aug 2019 15:11	1
HS19071541-13	MW-29	30 Jul 2019 10:35		06 Aug 2019 10:00	06 Aug 2019 15:16	1
HS19071541-14	MW-43	30 Jul 2019 14:10		06 Aug 2019 10:00	06 Aug 2019 15:18	1
HS19071541-15	MW-44	30 Jul 2019 12:35		06 Aug 2019 10:00	06 Aug 2019 15:20	1
HS19071541-16	MW-45	30 Jul 2019 11:55		06 Aug 2019 10:00	06 Aug 2019 15:21	1
HS19071541-17	MW-46	30 Jul 2019 09:40		06 Aug 2019 10:00	06 Aug 2019 15:23	1
HS19071541-18	DUP-01	30 Jul 2019 11:00		06 Aug 2019 10:00	06 Aug 2019 15:25	1
Batch ID: R343742 (0)		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE			Matrix: Water	
HS19071541-19	FB-01	30 Jul 2019 11:55			06 Aug 2019 13:57	1

Client: TRC Corporation
Project: NRG Limestone- Appendix IV
WorkOrder: HS19071541

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R343742 (0)		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE			Matrix: Groundwater	
HS19071541-01	MW-01	30 Jul 2019 13:35			06 Aug 2019 13:57	1
HS19071541-02	MW-02	30 Jul 2019 09:35			06 Aug 2019 13:57	1
HS19071541-03	MW-17	30 Jul 2019 10:15			06 Aug 2019 13:57	1
HS19071541-04	MW-18	30 Jul 2019 11:50			06 Aug 2019 13:57	1
HS19071541-05	MW-19	30 Jul 2019 11:35			06 Aug 2019 13:57	1
HS19071541-06	MW-20	30 Jul 2019 10:40			06 Aug 2019 13:57	1
HS19071541-07	MW-21	30 Jul 2019 12:45			06 Aug 2019 13:57	1
HS19071541-08	MW-22	30 Jul 2019 11:05			06 Aug 2019 13:57	1
HS19071541-09	MW-27	30 Jul 2019 12:55			06 Aug 2019 13:57	1
HS19071541-10	MW-28	30 Jul 2019 14:05			06 Aug 2019 13:57	1
HS19071541-11	MW-05	30 Jul 2019 11:30			06 Aug 2019 13:57	1
HS19071541-12	MW-26	30 Jul 2019 09:25			06 Aug 2019 13:57	1
HS19071541-13	MW-29	30 Jul 2019 10:35			06 Aug 2019 13:57	1
HS19071541-14	MW-43	30 Jul 2019 14:10			06 Aug 2019 13:57	1
HS19071541-15	MW-44	30 Jul 2019 12:35			06 Aug 2019 13:57	1
HS19071541-16	MW-45	30 Jul 2019 11:55			06 Aug 2019 13:57	1
HS19071541-17	MW-46	30 Jul 2019 09:40			06 Aug 2019 13:57	1
HS19071541-18	DUP-01	30 Jul 2019 11:00			06 Aug 2019 13:57	1
Batch ID: R345323 (0)		Test Name : SUBCONTRACT ANALYSIS - RADIUM 228			Matrix: Water	
HS19071541-19	FB-01	30 Jul 2019 11:55			30 Aug 2019 16:07	1
HS19071541-19	FB-01	30 Jul 2019 11:55			30 Aug 2019 16:07	1

Client: TRC Corporation
Project: NRG Limestone- Appendix IV
WorkOrder: HS19071541

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R345323 (0)		Test Name : SUBCONTRACT ANALYSIS - RADIUM 228			Matrix: Groundwater	
HS19071541-01	MW-01	30 Jul 2019 13:35			30 Aug 2019 16:07	1
HS19071541-01	MW-01	30 Jul 2019 13:35			30 Aug 2019 16:07	1
HS19071541-02	MW-02	30 Jul 2019 09:35			30 Aug 2019 16:07	1
HS19071541-02	MW-02	30 Jul 2019 09:35			30 Aug 2019 16:07	1
HS19071541-03	MW-17	30 Jul 2019 10:15			30 Aug 2019 16:07	1
HS19071541-03	MW-17	30 Jul 2019 10:15			30 Aug 2019 16:07	1
HS19071541-04	MW-18	30 Jul 2019 11:50			30 Aug 2019 16:07	1
HS19071541-04	MW-18	30 Jul 2019 11:50			30 Aug 2019 16:07	1
HS19071541-05	MW-19	30 Jul 2019 11:35			30 Aug 2019 16:07	1
HS19071541-05	MW-19	30 Jul 2019 11:35			30 Aug 2019 16:07	1
HS19071541-06	MW-20	30 Jul 2019 10:40			30 Aug 2019 16:07	1
HS19071541-06	MW-20	30 Jul 2019 10:40			30 Aug 2019 16:07	1
HS19071541-07	MW-21	30 Jul 2019 12:45			30 Aug 2019 16:07	1
HS19071541-07	MW-21	30 Jul 2019 12:45			30 Aug 2019 16:07	1
HS19071541-08	MW-22	30 Jul 2019 11:05			30 Aug 2019 16:07	1
HS19071541-08	MW-22	30 Jul 2019 11:05			30 Aug 2019 16:07	1
HS19071541-09	MW-27	30 Jul 2019 12:55			30 Aug 2019 16:07	1
HS19071541-09	MW-27	30 Jul 2019 12:55			30 Aug 2019 16:07	1
HS19071541-10	MW-28	30 Jul 2019 14:05			30 Aug 2019 16:07	1
HS19071541-10	MW-28	30 Jul 2019 14:05			30 Aug 2019 16:07	1
HS19071541-11	MW-05	30 Jul 2019 11:30			30 Aug 2019 16:07	1
HS19071541-11	MW-05	30 Jul 2019 11:30			30 Aug 2019 16:07	1
HS19071541-12	MW-26	30 Jul 2019 09:25			30 Aug 2019 16:07	1
HS19071541-12	MW-26	30 Jul 2019 09:25			30 Aug 2019 16:07	1
HS19071541-13	MW-29	30 Jul 2019 10:35			30 Aug 2019 16:07	1
HS19071541-13	MW-29	30 Jul 2019 10:35			30 Aug 2019 16:07	1
HS19071541-14	MW-43	30 Jul 2019 14:10			30 Aug 2019 16:07	1
HS19071541-14	MW-43	30 Jul 2019 14:10			30 Aug 2019 16:07	1
HS19071541-15	MW-44	30 Jul 2019 12:35			30 Aug 2019 16:07	1
HS19071541-15	MW-44	30 Jul 2019 12:35			30 Aug 2019 16:07	1
HS19071541-16	MW-45	30 Jul 2019 11:55			30 Aug 2019 16:07	1
HS19071541-16	MW-45	30 Jul 2019 11:55			30 Aug 2019 16:07	1
HS19071541-17	MW-46	30 Jul 2019 09:40			30 Aug 2019 16:07	1
HS19071541-17	MW-46	30 Jul 2019 09:40			30 Aug 2019 16:07	1
HS19071541-18	DUP-01	30 Jul 2019 11:00			30 Aug 2019 16:07	1
HS19071541-18	DUP-01	30 Jul 2019 11:00			30 Aug 2019 16:07	1

WorkOrder: HS19071541
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: HS19071541
 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

WorkOrder: HS19071541
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: HS19071541
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: HS19071541
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 Limestone- Appendix IV
WorkOrder: HS19071541

QC BATCH REPORT

Batch ID: 143678 (0) **Instrument:** ICPMS05 **Method:** ICP-MS METALS BY SW6020A

MBLK Sample ID: **MBLK-143678** Units: **mg/L** Analysis Date: **06-Aug-2019 22:25**
 Client ID: Run ID: **ICPMS05_343725** SeqNo: **5199268** 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-143678** Units: **mg/L** Analysis Date: **06-Aug-2019 22:27**
 Client ID: Run ID: **ICPMS05_343725** SeqNo: **5199269** 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	0.05284	0.00200	0.05	0	106	80 - 120			
Arsenic	0.05451	0.00200	0.05	0	109	80 - 120			
Barium	0.04952	0.00400	0.05	0	99.0	80 - 120			
Beryllium	0.05646	0.00200	0.05	0	113	80 - 120			
Cadmium	0.05159	0.00200	0.05	0	103	80 - 120			
Chromium	0.05357	0.00400	0.05	0	107	80 - 120			
Cobalt	0.05406	0.00500	0.05	0	108	80 - 120			
Lead	0.05146	0.00200	0.05	0	103	80 - 120			
Lithium	0.1119	0.00500	0.1	0	112	80 - 120			
Molybdenum	0.04969	0.00500	0.05	0	99.4	80 - 120			
Selenium	0.05636	0.00200	0.05	0	113	80 - 120			
Thallium	0.05059	0.00200	0.05	0	101	80 - 120			

Client: TRC Corporation
Project: NRG Limestone- Appendix IV
WorkOrder: HS19071541

QC BATCH REPORT

Batch ID: 143678 (0)		Instrument: ICPMS05			Method: ICP-MS METALS BY SW6020A					
MS		Sample ID: HS19071541-02MS			Units: mg/L		Analysis Date: 06-Aug-2019 22:34			
Client ID: MW-02		Run ID: ICPMS05_343725			SeqNo: 5199272		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	0.05471	0.00200	0.05	0	109	80 - 120				
Arsenic	0.05366	0.00200	0.05	0	107	80 - 120				
Barium	0.2556	0.00400	0.05	0.2099	91.5	80 - 120				O
Beryllium	0.05953	0.00200	0.05	0	119	80 - 120				
Cadmium	0.05209	0.00200	0.05	0.000366	103	80 - 120				
Chromium	0.05806	0.00400	0.05	0.005058	106	80 - 120				
Cobalt	0.0533	0.00500	0.05	0.001744	103	80 - 120				
Lead	0.05184	0.00200	0.05	0	104	80 - 120				
Lithium	0.1916	0.00500	0.1	0.07748	114	80 - 120				
Molybdenum	0.04965	0.00500	0.05	0	99.3	80 - 120				
Selenium	0.05501	0.00200	0.05	0.001993	106	80 - 120				
Thallium	0.04961	0.00200	0.05	0.00021	98.8	80 - 120				
MSD		Sample ID: HS19071541-02MSD			Units: mg/L		Analysis Date: 06-Aug-2019 22:36			
Client ID: MW-02		Run ID: ICPMS05_343725			SeqNo: 5199273		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	0.05499	0.00200	0.05	0	110	80 - 120	0.05471	0.494	20	
Arsenic	0.05413	0.00200	0.05	0	108	80 - 120	0.05366	0.872	20	
Barium	0.2621	0.00400	0.05	0.2099	105	80 - 120	0.2556	2.51	20	O
Beryllium	0.05933	0.00200	0.05	0	119	80 - 120	0.05953	0.342	20	
Cadmium	0.05008	0.00200	0.05	0.000366	99.4	80 - 120	0.05209	3.94	20	
Chromium	0.05719	0.00400	0.05	0.005058	104	80 - 120	0.05806	1.5	20	
Cobalt	0.05405	0.00500	0.05	0.001744	105	80 - 120	0.0533	1.4	20	
Lead	0.04967	0.00200	0.05	0	99.3	80 - 120	0.05184	4.26	20	
Molybdenum	0.04908	0.00500	0.05	0	98.2	80 - 120	0.04965	1.15	20	
Selenium	0.05705	0.00200	0.05	0.001993	110	80 - 120	0.05501	3.63	20	
Thallium	0.04847	0.00200	0.05	0.00021	96.5	80 - 120	0.04961	2.31	20	
MSD		Sample ID: HS19071541-02MSD			Units: mg/L		Analysis Date: 07-Aug-2019 12:14			
Client ID: MW-02		Run ID: ICPMS05_343798			SeqNo: 5200101		PrepDate: 06-Aug-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lithium	0.1712	0.00500	0.1	0.07748	93.8	80 - 120	0.1916	11.2	20	

Client: TRC Corporation
Project: NRG Limestone- Appendix IV
WorkOrder: HS19071541

QC BATCH REPORT

Batch ID: 143678 (0)	Instrument: ICPMS05	Method: ICP-MS METALS BY SW6020A								
PDS	Sample ID: HS19071541-02PDS	Units: mg/L	Analysis Date: 06-Aug-2019 22:38							
Client ID: MW-02	Run ID: ICPMS05_343725	SeqNo: 5199274	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	0.09208	0.00200	0.1	0.000213	91.9	75 - 125				
Arsenic	0.1037	0.00200	0.1	0.000122	104	75 - 125				
Barium	0.2869	0.00400	0.1	0.2099	77.1	75 - 125				
Beryllium	0.115	0.00200	0.1	0.000065	115	75 - 125				
Cadmium	0.09728	0.00200	0.1	0.000366	96.9	75 - 125				
Chromium	0.1034	0.00400	0.1	0.005058	98.3	75 - 125				
Cobalt	0.09874	0.00500	0.1	0.001744	97.0	75 - 125				
Lead	0.0973	0.00200	0.1	0.000159	97.1	75 - 125				
Lithium	0.1842	0.00500	0.1	0.07748	107	70 - 125				
Molybdenum	0.09642	0.00500	0.1	0.0004	96.0	75 - 125				
Selenium	0.106	0.00200	0.1	0.001993	104	75 - 125				
Thallium	0.09726	0.00200	0.1	0.00021	97.1	75 - 125				

SD	Sample ID: HS19071541-02SD	Units: mg/L	Analysis Date: 06-Aug-2019 22:32							
Client ID: MW-02	Run ID: ICPMS05_343725	SeqNo: 5199271	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					0.000213	0	10	
Arsenic	< 0.00200	0.0100					0.000122	0	10	
Barium	0.1948	0.0200					0.2099	7.17	10	
Beryllium	< 0.00100	0.0100					0.000065	0	10	
Cadmium	< 0.00100	0.0100					0.000366	0	10	
Chromium	0.004154	0.0200					0.005058	0	10	J
Cobalt	0.001525	0.0250					0.001744	0	10	J
Lead	< 0.00300	0.0100					0.000159	0	10	
Molybdenum	< 0.00300	0.0250					0.0004	0	10	
Selenium	< 0.00550	0.0100					0.001993	0	10	
Thallium	< 0.00100	0.0100					0.00021	0	10	

The following samples were analyzed in this batch:

HS19071541-01	HS19071541-02	HS19071541-03	HS19071541-04
HS19071541-05	HS19071541-06	HS19071541-07	HS19071541-08
HS19071541-09	HS19071541-10	HS19071541-11	HS19071541-12
HS19071541-13	HS19071541-14	HS19071541-15	HS19071541-16
HS19071541-17	HS19071541-18	HS19071541-19	

Client: TRC Corporation
Project: NRG Limestone- Appendix IV
WorkOrder: HS19071541

QC BATCH REPORT

Batch ID: 143828 (0)	Instrument: HG03	Method: MERCURY BY SW7470A
-------------------------------	-------------------------	-----------------------------------

MBLK	Sample ID: MBLK-143828	Units: mg/L	Analysis Date: 06-Aug-2019 14:42							
Client ID:	Run ID: HG03_343773	SeqNo: 5198785	PrepDate: 06-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-143828	Units: mg/L	Analysis Date: 06-Aug-2019 14:44							
Client ID:	Run ID: HG03_343773	SeqNo: 5198786	PrepDate: 06-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Mercury 0.00521 0.000200 0.005 0 104 80 - 120

MS	Sample ID: HS19071541-02MS	Units: mg/L	Analysis Date: 06-Aug-2019 14:47							
Client ID: MW-02	Run ID: HG03_343773	SeqNo: 5198788	PrepDate: 06-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Mercury 0.00512 0.000200 0.005 0.000016 102 75 - 125

MSD	Sample ID: HS19071541-02MSD	Units: mg/L	Analysis Date: 06-Aug-2019 14:49							
Client ID: MW-02	Run ID: HG03_343773	SeqNo: 5198789	PrepDate: 06-Aug-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Mercury 0.00517 0.000200 0.005 0.000016 103 75 - 125 0.00512 0.972 20

The following samples were analyzed in this batch:

HS19071541-01	HS19071541-02	HS19071541-03	HS19071541-04
HS19071541-05	HS19071541-06	HS19071541-07	HS19071541-08
HS19071541-09	HS19071541-10	HS19071541-11	HS19071541-12
HS19071541-13	HS19071541-14	HS19071541-15	HS19071541-16
HS19071541-17	HS19071541-18	HS19071541-19	

Client: TRC Corporation
Project: NRG Limestone- Appendix IV
WorkOrder: HS19071541

**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

Client: TRC Corporation
Project: NRG Limestone- Appendix IV
Work Order: HS19071541

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19071541-01	MW-01	Login	7/31/2019 2:03:19 PM	PMG	WET130
HS19071541-01	MW-01	Login	7/31/2019 2:03:19 PM	PMG	Sub
HS19071541-01	MW-01	Login	7/31/2019 2:03:19 PM	PMG	MET019

Sample Receipt Checklist

Client Name: TRC-HOU
Work Order: HS19071541

Date/Time Received: 31-Jul-2019 09:50
Received by: PMG

Checklist completed by: Paresh M. Giga 31-Jul-2019
Reviewed by: RJ Modashia 31-Jul-2019

Matrices: Groundwater/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 [] No [checked]
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): 0.4c/0.5c/0.2c/0.4c/0.1c U/C IR25
Cooler(s)/Kit(s): 44381/43634/43562/44189/44982
Date/Time sample(s) sent to storage: 7/31/19 16:30

- 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: Times Differ : MW-5
COC - 11:30 Labels - 11:20
Logged in per chain

Client Contacted: Date Contacted: Person Contacted:
Contacted By: Regarding:

Comments:

Corrective Action:



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Chain of Custody Form

Page 1 of 2

COC ID: 195799

HS19071541

TRC Corporation
NRG WA Parish - State Program Appendix IV



1, WV

ALS Project Manager:

Customer Information		Project Information		
Purchase Order	298367.1000	Project Name	NRG Limestone- Appendix IV	A ICP_TW (Sb,As,Ba,Be,Cd,Cr,Co,Pb,Li,Mo,Se,Tl)
Work Order		Project Number		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 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-01	7/30/19	1335	GW	2.8	6	X	X	X	X	X									
2	MW-02	↓	935	↓		18 6	X	X	X	X	X									
3	MW-17		1015				X	X	X	X	X									
4	MW-18		1150				X	X	X	X	X									
5	MW-19		1135				X	X	X	X	X									
6	MW-20		1040				X	X	X	X	X									
7	MW-21		1245				X	X	X	X	X									
8	MW-22		1105				X	X	X	X	X									
9	MW-27		1255				X	X	X	X	X									
10	MW-28		1405				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>[Signature]</i>	Date: 7-31-19	Time: 950	Received by: <i>[Signature]</i>		Notes: NRG Limestone PRIVILEGED & CONFIDENTIAL			
Relinquished by:	Date:	Time:	Received by (Laboratory): 7/31/19 09:50		Cooler ID 44189	Cooler Temp. 0.4°	QC Package: (Check One Box Below)	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):		44982	0.1°	<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					Level III Std QC/Row Date		<input type="checkbox"/> TRRP Level IV	
					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.

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Chain of Custody Form

Page 2 of 2

COC ID: 195797

HS19071541

i, vv

TRC Corporation

NRG WA Parish - State Program Appendix IV



ALS Project Manager:


Customer Information		Project Information		
Purchase Order	298367.1000	Project Name	NRG Limestone- Appendix IV	A
Work Order		Project Number		B
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C
Send Report To	Lori Burris	Invoice Attn	AVP	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-05	7/30/19	1130	GW	2.8	6	X	X	X	X	X									
2	MW-26	↓	925	↓	↓	↓	X	X	X	X	X									
3	MW-29		1035				X	X	X	X										
4	MW-43		1410				X	X	X	X										
5	MW-44		1235				X	X	X	X										
6	MW-45		1155				X	X	X	X										
7	MW-46		940				X	X	X	X										
8	DUP-01		1100				X	X	X	X										
9	FB-01		1155				FB	↓	↓	↓	X	X	X	X						
10																				

Sampler(s) Please Print & Sign <i>Brian Hillin/AME 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: <i>7-31-19</i>	Time: <i>9:50</i>	Received by: <i>[Signature]</i>	Notes: NRG Limestone L PRIVILEGED & CONFIDENTIAL				
Relinquished by:	Date:	Time:	Received by (Laboratory): <i>7/31/19 09:50</i>	Cooler ID <i>44381</i>	Cooler Temp. <i>0.4°</i>	QC Package: (Check One Box Below)		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	<i>43634</i>	<i>0.5°</i>	<input type="checkbox"/> Level II Std OC	<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				<i>43562</i>	<i>0.2°</i>	<input type="checkbox"/> Level III Std OC/Raw Data	<input type="checkbox"/> TRRP Level IV	
						<input type="checkbox"/> Level IV SW846/CLP		


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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: 7-31-19	Time: 900	Date: 07/31/19
	Name: B. Hillia	Company: HMF	

44381


JUL 31 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: 7-31-19	Time: 900	Date: 07/31/19
	Name: B. Hillia	Company: HMF	

43634

43634


JUL 31 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: 7-31-19	Time: 900	Date: 07/31/19
	Name: B. Hillia	Company: HMF	

43562

43562


JUL 31 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: 7-31-19	Time: 900	Date: 07/31/19
	Name: B. Hillia	Company: HMF	

44189

44189

JUL 31 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: 7/31/19	Time: 900	Date: 07/31/19
	Name: B. Hillia	Company: HMF	

44982

44982

JUL 31 2019



DRAFT

Ft. Collins, Colorado

LIMS Version: 6.907

Page 1 of 1

Friday, August 30, 2019

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

Re: ALS Workorder: 1908033
Project Name:
Project Number: HS19071541

Dear Mr. Modashia:

Nineteen water samples were received from ALS Environmental, on 8/1/2019. 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

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



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1908033

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. Samples 1908033-10, and -12 through -18 were filtered prior to analysis.

All acceptance criteria were met.

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ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1908033

Client Name: ALS Environmental

Client Project Name:

Client Project Number: HS19071541

Client PO Number: 10-11880

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
MW-01	1908033-1		WATER	30-Jul-19	13:35
MW-02	1908033-2		WATER	30-Jul-19	9:35
MW-17	1908033-3		WATER	30-Jul-19	10:15
MW-18	1908033-4		WATER	30-Jul-19	11:50
MW-19	1908033-5		WATER	30-Jul-19	11:35
MW-20	1908033-6		WATER	30-Jul-19	10:40
MW-21	1908033-7		WATER	30-Jul-19	12:45
MW-22	1908033-8		WATER	30-Jul-19	11:05
MW-27	1908033-9		WATER	30-Jul-19	12:55
MW-28	1908033-10		WATER	30-Jul-19	14:05
MW-05	1908033-11		WATER	30-Jul-19	11:30
MW-26	1908033-12		WATER	30-Jul-19	9:25
MW-29	1908033-13		WATER	30-Jul-19	10:35
MW-43	1908033-14		WATER	30-Jul-19	14:10
MW-44	1908033-15		WATER	30-Jul-19	12:35
MW-45	1908033-16		WATER	30-Jul-19	11:55
MW-46	1908033-17		WATER	30-Jul-19	9:40
DUP-01	1908033-18		WATER	30-Jul-19	11:00
FB-01	1908033-19		WATER	30-Jul-19	11:55



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www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11880^{RA}

SUBCONTRACT TO:

190803~~0~~3

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: HS19071541
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19071541-01	MW-01	Groundwater	30 Jul 2019 13:35
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
2.	HS19071541-02	MW-02	Groundwater	30 Jul 2019 09:35
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
3.	HS19071541-03	MW-17	Groundwater	30 Jul 2019 10:15
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
4.	HS19071541-04	MW-18	Groundwater	30 Jul 2019 11:50
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
5.	HS19071541-05	MW-19	Groundwater	30 Jul 2019 11:35
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
6.	HS19071541-06	MW-20	Groundwater	30 Jul 2019 10:40
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019

ALS GLOBAL IS AN EQUAL OPPORTUNITY EMPLOYER



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Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11880

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
7	HS19071541-07	MW-21	Groundwater	30 Jul 2019 12:45
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
8	HS19071541-08	MW-22	Groundwater	30 Jul 2019 11:05
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
9	HS19071541-09	MW-27	Groundwater	30 Jul 2019 12:55
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
10	HS19071541-10	MW-28	Groundwater	30 Jul 2019 14:05
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
11	HS19071541-11	MW-05	Groundwater	30 Jul 2019 11:30
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
12	HS19071541-12	MW-26	Groundwater	30 Jul 2019 09:25
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
13	HS19071541-13	MW-29	Groundwater	30 Jul 2019 10:35
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
14	HS19071541-14	MW-43	Groundwater	30 Jul 2019 14:10
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
15	HS19071541-15	MW-44	Groundwater	30 Jul 2019 12:35
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
16	HS19071541-16	MW-45	Groundwater	30 Jul 2019 11:55
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual			07 Aug 2019
17	HS19071541-17	MW-46	Groundwater	30 Jul 2019 09:40



DRAFT

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 11880

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
	Report Combined RA 226/228 Value &the 2 Individual		07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual		07 Aug 2019
18.	HS19071541-18 DUP-01	Groundwater	30 Jul 2019 11:00
	Report Combined RA 226/228 Value &the 2 Individual		07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual		07 Aug 2019
19.	HS19071541-19 FB-01	Water	30 Jul 2019 11:55
	Report Combined RA 226/228 Value &the 2 Individual		07 Aug 2019
	Report Combined RA 226/228 Value &the 2 Individual		07 Aug 2019

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
Sample HS19071541-02 MS/MSD

QC Level: TRRP LRC (TRRP checklist only+Level II (normal))

Relinquished By:

Emily Lyons

Date/Time:

7/31/19 1800

Received By:

Date/Time:

08-01-19 0940

Cooler ID(s):

Temperature(s):



DRAFT
ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ALS-TX

Workorder No: 19080323 ^{Call 08-01-19}

Project Manager: JRK

Initials: Em Date: 08-01-19

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 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>							
Temperature (°C): <u>Amb.</u> <u>Amb.</u> <u>Amb.</u>							
No. of custody seals on cooler: <u>2</u> <u>2</u> <u>2</u>							
External µR/hr reading: <u>10</u> <u>10</u> <u>10</u>							
Background µR/hr reading: <u>11</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: EE MM

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: [Signature] 8-2-19

1908033

DRAFT

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 77089
UNITED STATES US

SHIP DATE: 31 JUL 19
ACTWGT: 44.45 LB
CAD: 300130/CAFE3211
DIMS: 26x14x14 IN
BILL THIRD PARTY

TO **SAMPLE RECEIVING**
ALS ENVIRONMENTAL
225 COMMERCE DRIVE

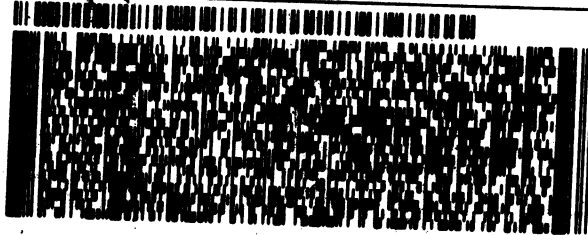
10-2

FORT COLLINS CO 80524

AMB

(970) 490-1511

REF: HS19071541 - RJ



FedEx
Express

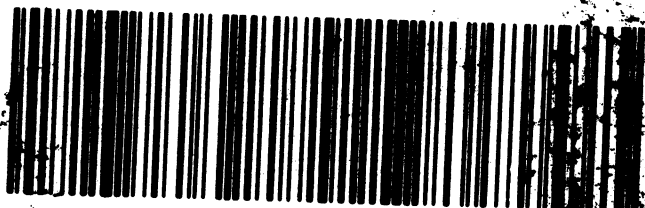


1 of 3
TRK# 4809 7836 3780
0201
MASTER

THU - 01 AUG 3:00P
STANDARD OVERNIGHT

AG FTCA

80524
CO-US DEN



DRAFT

1908033

Must Deliver Next Business Day
Time and Temperature Sensitive!



ORIGIN ID: 0688 (281) 530-5656
CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON, TX 77098
UNITED STATES US

SHIP DATE: 31JUL19
ACTWGT: 44.45 LB
CAD: 300130/CAFE3211
DIMS: 26x14x14 IN
BILL THIRD PARTY

TO **SAMPLE RECEIVING**
ALS ENVIRONMENTAL
225 COMMERCE DRIVE

10-2

FORT COLLINS CO 80524

AMB

(970) 490-1511
REF: HS19071541 - RJ



FedEx
Express



3 of 3

MPS# 4809 7836 3805
0263

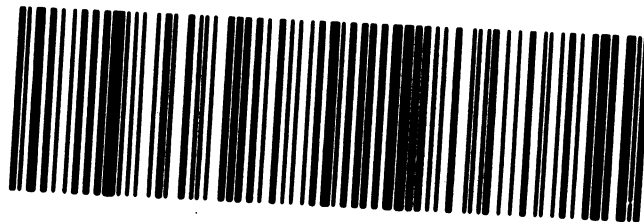
Mstr# 4809 7836 3780

0201

THU - 01 AUG 3:00P
STANDARD OVERNIGHT

AG FTCA

80524
CO-US DEN



Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-01		Lab ID: 1908033-1
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 13:35		Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	1.49 (+/- 0.58)		SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
<i>Carr: BARIUM</i>	96.7		0.24	pCi/l	NA	8/20/2019 11:42
			40-110	%REC	DL = NA	8/20/2019 11:42
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)	3.81 (+/- 0)		SOP 724		Prep Date: 8/20/2019	PrepBy: RGS
Ra-228	2.32 (+/- 0.71)		0.79	pCi/l	NA	8/28/2019 08:05
<i>Carr: BARIUM</i>	90.9		40-110	%REC	DL = NA	8/28/2019 08:05

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-02		Lab ID: 1908033-2
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 09:35		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	0.41	pCi/l	NA	8/21/2019 13:02
Carr: BARIUM	92.1		40-110	%REC	DL = NA	8/21/2019 13:02
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/20/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	1.49 (+/- 0)		0.77	pCi/l	NA	8/28/2019 08:05
Ra-228	1.49 (+/- 0.54)		0.77	pCi/l	NA	8/28/2019 08:05
Carr: BARIUM	87.2		40-110	%REC	DL = NA	8/28/2019 08:05

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-17		Lab ID: 1908033-3
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 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 (+/- 0.15)	Y1,U	0.27	pCi/l	NA	8/21/2019 13:02
Carr: BARIUM	100	Y1	40-110	%REC	DL = NA	8/21/2019 13:02
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/20/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.78	pCi/l	NA	8/28/2019 08:05
Ra-228	ND (+/- 0.38)	U	0.78	pCi/l	NA	8/28/2019 08:05
Carr: BARIUM	90.2		40-110	%REC	DL = NA	8/28/2019 08:05

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-18		Lab ID: 1908033-4
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 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: 8/8/2019 PrepBy: JXH	
Ra-226	ND (+/- 0.15)	U	0.23	pCi/l	NA	8/21/2019 13:02
Carr: BARIUM	96.2		40-110	%REC	DL = NA	8/21/2019 13:02
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/20/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.81	pCi/l	NA	8/28/2019 08:05
Ra-228	ND (+/- 0.41)	U	0.81	pCi/l	NA	8/28/2019 08:05
Carr: BARIUM	85.2		40-110	%REC	DL = NA	8/28/2019 08:05

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-19		Lab ID: 1908033-5
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 11:35		Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	0.33 (+/- 0.22)		SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
<i>Carr: BARIUM</i>	99		0.19	pCi/l	NA	8/21/2019 13:02
			40-110	%REC	DL = NA	8/21/2019 13:02
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)	1.44 (+/- 0)		SOP 724		Prep Date: 8/20/2019	PrepBy: RGS
Ra-228	1.11 (+/- 0.48)		0.78	pCi/l	NA	8/28/2019 08:05
<i>Carr: BARIUM</i>	88.7		40-110	%REC	DL = NA	8/28/2019 08:05

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-20		Lab ID: 1908033-6
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 10:40		Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	0.64 (+/- 0.35)		SOP 783		Prep Date: 8/8/2019	PrepBy: JXH
<i>Carr: BARIUM</i>	97.4		0.33	pCi/l	NA	8/21/2019 13:02
			40-110	%REC	DL = NA	8/21/2019 13:02
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)	ND (+/- 0)	U	SOP 724		Prep Date: 8/20/2019	PrepBy: RGS
Ra-228	ND (+/- 0.4)	U	0.82	pCi/l	NA	8/28/2019 08:05
<i>Carr: BARIUM</i>	88.5		40-110	%REC	DL = NA	8/28/2019 08:05

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-21		Lab ID: 1908033-7
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 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: 8/19/2019 PrepBy: MIG	
Ra-226	ND (+/- 0.26)	U	0.38	pCi/l	NA	8/27/2019 10:32
Carr: BARIUM	97		40-110	%REC	DL = NA	8/27/2019 10:32
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 (+/- 0.37)	U	0.79	pCi/l	NA	8/28/2019 08:05
Carr: BARIUM	90.1		40-110	%REC	DL = NA	8/28/2019 08:05

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-22		Lab ID: 1908033-8
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 11:05		Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/19/2019 PrepBy: MIG	
Ra-226	ND (+/- 0.25)	U	0.38	pCi/l	NA	8/27/2019 10:32
Carr: BARIUM	98.9		40-110	%REC	DL = NA	8/27/2019 10:32
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/20/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.82	pCi/l	NA	8/28/2019 08:05
Ra-228	ND (+/- 0.42)	U	0.82	pCi/l	NA	8/28/2019 08:05
Carr: BARIUM	89.6		40-110	%REC	DL = NA	8/28/2019 08:05

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-27		Lab ID: 1908033-9
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 12:55		Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/19/2019 PrepBy: MIG	
Ra-226	ND (+/- 0.24)	U	0.36	pCi/l	NA	8/27/2019 10:32
Carr: BARIUM	95.5		40-110	%REC	DL = NA	8/27/2019 10:32
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/22/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.8	pCi/l	NA	8/29/2019 09:01
Ra-228	ND (+/- 0.4)	U	0.8	pCi/l	NA	8/29/2019 09:01
Carr: BARIUM	94		40-110	%REC	DL = NA	8/29/2019 09:01

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-28		Lab ID: 1908033-10
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 14:05		Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	0.65 (+/- 0.37)		SOP 783		Prep Date: 8/19/2019	PrepBy: MIG
<i>Carr: BARIUM</i>	97.6		0.37	pCi/l	NA	8/27/2019 11:18
			40-110	%REC	DL = NA	8/27/2019 11:18
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)	5.65 (+/- 0)		SOP 724		Prep Date: 8/22/2019	PrepBy: RGS
Ra-228	5 (+/- 1.3)		0.9	pCi/l	NA	8/29/2019 09:01
<i>Carr: BARIUM</i>	79.5		40-110	%REC	DL = NA	8/29/2019 09:01

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-05		Lab ID: 1908033-11
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 11:30		Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783			Prep Date: 8/19/2019
Ra-226	ND (+/- 0.22)	U	0.44	pCi/l	NA	8/27/2019 11:18
Carr: BARIUM	99.2		40-110	%REC	DL = NA	8/27/2019 11:18
Radium-228 Analysis by GFPC						
			SOP 724			Prep Date: 8/22/2019
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.81	pCi/l	NA	8/29/2019 09:01
Ra-228	ND (+/- 0.4)	U	0.81	pCi/l	NA	8/29/2019 09:01
Carr: BARIUM	90.6		40-110	%REC	DL = NA	8/29/2019 09:01

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-26		Lab ID: 1908033-12
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 09:25		Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	ND (+/- 0.29)	U	0.49	pCi/l	NA	8/27/2019 11:18
Carr: BARIUM	98.8		40-110	%REC	DL = NA	8/27/2019 11:18
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)						
	1.96 (+/- 0)		0.84	pCi/l	NA	8/29/2019 09:01
Ra-228	1.96 (+/- 0.65)		0.84	pCi/l	NA	8/29/2019 09:01
Carr: BARIUM	90		40-110	%REC	DL = NA	8/29/2019 09:01

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-29		Lab ID: 1908033-13
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 10:35		Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783			Prep Date: 8/19/2019
Ra-226	ND (+/- 0.25)	U	0.5	pCi/l	NA	8/27/2019 11:18
Carr: BARIUM	98.4		40-110	%REC	DL = NA	8/27/2019 11:18
Radium-228 Analysis by GFPC						
			SOP 724			Prep Date: 8/22/2019
COMBINED RADIUM (226+228)	1.12 (+/- 0)		1.05	pCi/l	NA	8/29/2019 09:01
Ra-228	1.12 (+/- 0.59)	M3	1.05	pCi/l	NA	8/29/2019 09:01
Carr: BARIUM	73.4		40-110	%REC	DL = NA	8/29/2019 09:01

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-43		Lab ID: 1908033-14
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 14:10		Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/19/2019 PrepBy: MIG	
Ra-226	ND (+/- 0.23)	U	0.42	pCi/l	NA	8/27/2019 11:18
Carr: BARIUM	98.7		40-110	%REC	DL = NA	8/27/2019 11:18
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/22/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.99	pCi/l	NA	8/29/2019 09:01
Ra-228	ND (+/- 0.5)	U	0.99	pCi/l	NA	8/29/2019 09:01
Carr: BARIUM	72.8		40-110	%REC	DL = NA	8/29/2019 09:01

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-44		Lab ID: 1908033-15
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 12:35		Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783			Prep Date: 8/19/2019
Ra-226	ND (+/- 0.16)	U	0.21	pCi/l	NA	8/27/2019 11:18
Carr: BARIUM	98.8		40-110	%REC	DL = NA	8/27/2019 11:18
Radium-228 Analysis by GFPC						
			SOP 724			Prep Date: 8/22/2019
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.94	pCi/l	NA	8/29/2019 09:01
Ra-228	ND (+/- 0.51)	U	0.94	pCi/l	NA	8/29/2019 09:01
Carr: BARIUM	80.5		40-110	%REC	DL = NA	8/29/2019 09:01

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-45		Lab ID: 1908033-16
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 11:55		Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	5 (+/- 1.4)		SOP 783		Prep Date: 8/19/2019	PrepBy: MIG
<i>Carr: BARIUM</i>	99.2		0.2	pCi/l	NA	8/27/2019 11:18
			40-110	%REC	DL = NA	8/27/2019 11:18
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)	10.7 (+/- 0)		SOP 724		Prep Date: 8/22/2019	PrepBy: RGS
Ra-228	5.7 (+/- 1.5)		0.9	pCi/l	NA	8/29/2019 09:01
<i>Carr: BARIUM</i>	81.5		40-110	%REC	DL = NA	8/29/2019 09:01

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: MW-46		Lab ID: 1908033-17
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 09:40		Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	0.72 (+/- 0.42)		SOP 783		Prep Date: 8/19/2019	PrepBy: MIG
<i>Carr: BARIUM</i>	89.3		0.37	pCi/l	NA	8/27/2019 11:18
			40-110	%REC	DL = NA	8/27/2019 11:18
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)	2.77 (+/- 0)		SOP 724		Prep Date: 8/22/2019	PrepBy: RGS
Ra-228	2.05 (+/- 0.68)		0.88	pCi/l	NA	8/29/2019 09:01
<i>Carr: BARIUM</i>	89.2		40-110	%REC	DL = NA	8/29/2019 09:01

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: DUP-01		Lab ID: 1908033-18
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 11:00		Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 8/19/2019 PrepBy: MIG	
Ra-226	ND (+/- 0.24)	Y1,U	0.38	pCi/l	NA	8/27/2019 11:18
Carr: BARIUM	101	Y1	40-110	%REC	DL = NA	8/27/2019 11:18
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/22/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	1.03	pCi/l	NA	8/29/2019 09:01
Ra-228	ND (+/- 0.52)	U,M	1.03	pCi/l	NA	8/29/2019 09:01
Carr: BARIUM	74.3		40-110	%REC	DL = NA	8/29/2019 09:01

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: FB-01		Lab ID: 1908033-19
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 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: 8/19/2019 PrepBy: MIG	
Ra-226	ND (+/- 0.16)	Y1,U	0.24	pCi/l	NA	8/27/2019 11:38
Carr: BARIUM	101	Y1	40-110	%REC	DL = NA	8/27/2019 11:38
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 8/22/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.86	pCi/l	NA	8/29/2019 09:01
Ra-228	ND (+/- 0.39)	U	0.86	pCi/l	NA	8/29/2019 09:01
Carr: BARIUM	92.2		40-110	%REC	DL = NA	8/29/2019 09:01

Client: ALS Environmental	DRAFT	Date: 30-Aug-19
Project: HS19071541		Work Order: 1908033
Sample ID: FB-01		Lab ID: 1908033-19
Legal Location:		Matrix: WATER
Collection Date: 7/30/2019 11:55		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

Client: ALS Environmental

QC BATCH REPORT

Work Order: 1908033

Project: HS19071541

Batch ID: RE190808-3-1

Instrument ID Alpha Scin

Method: Radium-226 by Radon Emanation

DUP Sample ID: 1908033-2 Units: pCi/l Analysis Date: 8/21/2019 13:02

Client ID: MW-02 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	0.43 (+/- 0.31)	0.33						0.27	0.4	2.1	
Carr: BARIUM	14720		15700		93.7	40-110		14480			

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:

1908033-1	1908033-2	1908033-3
1908033-4	1908033-5	1908033-6

Client: ALS Environmental
 Work Order: 1908033
 Project: HS19071541

DRAFT

QC BATCH REPORT

Batch ID: RE190819-3-1 Instrument ID Alpha Scin Method: Radium-226 by Radon Emanation

LCS		Sample ID: RE190819-3		Units: pCi/l			Analysis Date: 8/27/2019 11:38				
Client ID:		Run ID: RE190819-3A			Prep Date: 8/19/2019			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)	1	46.48		92.3	67-120					P,Y1
Carr: BARIUM	17280		17080		101	40-110					Y1

LCSD		Sample ID: RE190819-3		Units: pCi/l			Analysis Date: 8/27/2019 11:38				
Client ID:		Run ID: RE190819-3A			Prep Date: 8/19/2019			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		95.1	67-120		43	0.08	2.1	P,Y1
Carr: BARIUM	17670		17070		104	40-110		17280			Y1

MB		Sample ID: RE190819-3		Units: pCi/l			Analysis Date: 8/27/2019 11:38				
Client ID:		Run ID: RE190819-3A			Prep Date: 8/19/2019			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	17380		17060		102	40-110					Y1

The following samples were analyzed in this batch:

1908033-7	1908033-8	1908033-9
1908033-11	1908033-19	

Client: ALS Environmental
 Work Order: 1908033
 Project: HS19071541

QC BATCH REPORT

Batch ID: RE190819-3-2 Instrument ID Alpha Scin Method: Radium-226 by Radon Emanation

LCS		Sample ID: RE190819-3			Units: pCi/l		Analysis Date: 8/27/2019 11:38				
Client ID:		Run ID: RE190819-3A			Prep Date: 8/19/2019		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)	1	46.48		92.3	67-120					P,Y1
Carr: BARIUM	17280		17080		101	40-110					Y1

LCSD		Sample ID: RE190819-3			Units: pCi/l		Analysis Date: 8/27/2019 11:38				
Client ID:		Run ID: RE190819-3A			Prep Date: 8/19/2019		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		95.1	67-120		43	0.08	2.1	P,Y1
Carr: BARIUM	17670		17070		104	40-110		17280			Y1

MB		Sample ID: RE190819-3			Units: pCi/l		Analysis Date: 8/27/2019 11:38				
Client ID:		Run ID: RE190819-3A			Prep Date: 8/19/2019		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	17380		17060		102	40-110					Y1

The following samples were analyzed in this batch:

1908033-10	1908033-12	1908033-13
1908033-14	1908033-15	1908033-16
1908033-17	1908033-18	

Client: ALS Environmental
 Work Order: 1908033
 Project: HS19071541

DRAFT

QC BATCH REPORT

Batch ID: RA190820-1-2 Instrument ID: GASPROP Method: Radium-228 Analysis by GFPC

DUP Sample ID: 1908033-2 Units: ug Analysis Date: 8/28/2019 08:05
 Client ID: MW-02 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	29620		34830		85	40-110		30370			
Ra-228	1.96 (+/- 0.65)	0.84						1.49	0.5	2.1	

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:

1908033-1	1908033-2	1908033-3
1908033-4	1908033-5	1908033-6
1908033-7	1908033-8	

Client: ALS Environmental
 Work Order: 1908033
 Project: HS19071541

DRAFT

QC BATCH REPORT

Batch ID: RA190822-1-1 Instrument ID GASPROP Method: Radium-228 Analysis by GFPC

LCS		Sample ID: RA190822-1		Units: ug		Analysis Date: 8/29/2019 08:24					
Client ID:		Run ID: RA190822-1A			Prep Date: 8/22/2019		DF: NA				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	32570		35150		92.7	40-110					
Ra-228	17 (+/- 4.3)	1.5	13.93		122	70-130					P,M3

LCSD		Sample ID: RA190822-1		Units: ug		Analysis Date: 8/29/2019 08:24					
Client ID:		Run ID: RA190822-1A			Prep Date: 8/22/2019		DF: NA				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	32790		35150		93.3	40-110		32570			
Ra-228	16.2 (+/- 4.1)	1.6	13.93		116	70-130		17	0.1	2.1	P,M3

MB		Sample ID: RA190822-1		Units: ug		Analysis Date: 8/29/2019 09:01					
Client ID:		Run ID: RA190822-1A			Prep Date: 8/22/2019		DF: NA				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	32850		35180		93.4	40-110					
Ra-228	ND	0.81									U

The following samples were analyzed in this batch:

1908033-9	1908033-10	1908033-11
1908033-12	1908033-13	1908033-14
1908033-15	1908033-16	1908033-17
1908033-18	1908033-19	

DRAFT



06-Aug-2019

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

Re: **HS19071541**

Work Order: **19080089**

Dear RJ,

ALS Environmental received 19 samples on 01-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 30.

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 white background.

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 87 of 116

Client: ALS Environmental
Project: HS19071541
Work Order: 19080089

**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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Work Order: 19080089

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>
19080089-01	HS19071541-01	Groundwater	MW-01	7/30/2019 13:35	8/1/2019 09:30	<input type="checkbox"/>
19080089-02	HS19071541-02	Groundwater	MW-02	7/30/2019 09:35	8/1/2019 09:30	<input type="checkbox"/>
19080089-03	HS19071541-03	Groundwater	MW-17	7/30/2019 10:15	8/1/2019 09:30	<input type="checkbox"/>
19080089-04	HS19071541-04	Groundwater	MW-18	7/30/2019 11:50	8/1/2019 09:30	<input type="checkbox"/>
19080089-05	HS19071541-05	Groundwater	MW-19	7/30/2019 11:35	8/1/2019 09:30	<input type="checkbox"/>
19080089-06	HS19071541-06	Groundwater	MW-20	7/30/2019 10:40	8/1/2019 09:30	<input type="checkbox"/>
19080089-07	HS19071541-07	Groundwater	MW-21	7/30/2019 12:45	8/1/2019 09:30	<input type="checkbox"/>
19080089-08	HS19071541-08	Groundwater	MW-22	7/30/2019 11:05	8/1/2019 09:30	<input type="checkbox"/>
19080089-09	HS19071541-09	Groundwater	MW-27	7/30/2019 12:55	8/1/2019 09:30	<input type="checkbox"/>
19080089-10	HS19071541-10	Groundwater	MW-28	7/30/2019 14:05	8/1/2019 09:30	<input type="checkbox"/>
19080089-11	HS19071541-11	Groundwater	MW-05	7/30/2019 11:30	8/1/2019 09:30	<input type="checkbox"/>
19080089-12	HS19071541-12	Groundwater	MW-26	7/30/2019 09:25	8/1/2019 09:30	<input type="checkbox"/>
19080089-13	HS19071541-13	Groundwater	MW-29	7/30/2019 10:35	8/1/2019 09:30	<input type="checkbox"/>
19080089-14	HS19071541-14	Groundwater	MW-43	7/30/2019 14:10	8/1/2019 09:30	<input type="checkbox"/>
19080089-15	HS19071541-15	Groundwater	MW-44	7/30/2019 12:35	8/1/2019 09:30	<input type="checkbox"/>
19080089-16	HS19071541-16	Groundwater	MW-45	7/30/2019 11:55	8/1/2019 09:30	<input type="checkbox"/>
19080089-17	HS19071541-17	Groundwater	MW-46	7/30/2019 09:40	8/1/2019 09:30	<input type="checkbox"/>
19080089-18	HS19071541-18	Groundwater	DUP-01	7/30/2019 11:00	8/1/2019 09:30	<input type="checkbox"/>
19080089-19	HS19071541-19	Water	FB-01	7/30/2019 11:55	8/1/2019 09:30	<input type="checkbox"/>

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
WorkOrder: 19080089

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: 19080089
 Client: ALS Environmental
 Project: HS19071541

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date	
Batch ID R267437	Test Name: Fluoride						
19080089-01	HS19071541-01	Groundwater	7/30/2019 1:35:00 PM			8/2/2019 09:40 AM	
^							
19080089-02	HS19071541-02		7/30/2019 9:35:00 AM			8/2/2019 09:40 AM	
^							
19080089-03	HS19071541-03		7/30/2019 10:15:00 AM			8/2/2019 09:40 AM	
^							
19080089-04	HS19071541-04		7/30/2019 11:50:00 AM			8/2/2019 09:40 AM	
^							
19080089-05	HS19071541-05		7/30/2019 11:35:00 AM			8/2/2019 09:40 AM	
^							
19080089-06	HS19071541-06		7/30/2019 10:40:00 AM			8/2/2019 09:40 AM	
^							
19080089-07	HS19071541-07		7/30/2019 12:45:00 PM			8/2/2019 09:40 AM	
^							
19080089-08	HS19071541-08		7/30/2019 11:05:00 AM			8/2/2019 09:40 AM	
^							
19080089-09	HS19071541-09		7/30/2019 12:55:00 PM			8/2/2019 09:40 AM	
^							
19080089-10	HS19071541-10	7/30/2019 2:05:00 PM			8/2/2019 09:40 AM		
^							
19080089-11	HS19071541-11	7/30/2019 11:30:00 AM			8/2/2019 09:40 AM		
^							
19080089-12	HS19071541-12	7/30/2019 9:25:00 AM			8/2/2019 09:40 AM		
^							
19080089-13	HS19071541-13	7/30/2019 10:35:00 AM			8/2/2019 09:40 AM		
^							
19080089-14	HS19071541-14	7/30/2019 2:10:00 PM			8/2/2019 09:40 AM		
^							
19080089-15	HS19071541-15	7/30/2019 12:35:00 PM			8/2/2019 09:40 AM		
^							
19080089-16	HS19071541-16	7/30/2019 11:55:00 AM			8/2/2019 09:40 AM		
^							
19080089-17	HS19071541-17	7/30/2019 9:40:00 AM			8/2/2019 09:40 AM		
^							
19080089-18	HS19071541-18	7/30/2019 11:00:00 AM			8/2/2019 09:40 AM		
^							
19080089-19	HS19071541-19	Water	7/30/2019 11:55:00 AM			8/2/2019 09:40 AM	
^							

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-01
Collection Date: 7/30/2019 01:35 PM

Work Order: 19080089
Lab ID: 19080089-01
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	8/2/2019 09:40

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-02
Collection Date: 7/30/2019 09:35 AM

Work Order: 19080089
Lab ID: 19080089-02
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	8/2/2019 09:40

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-03
Collection Date: 7/30/2019 10:15 AM

Work Order: 19080089
Lab ID: 19080089-03
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.070	J	0.058	0.10	mg/L	1	8/2/2019 09:40

Method: A4500-F C-11

Analyst: DVD

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-04
Collection Date: 7/30/2019 11:50 AM

Work Order: 19080089
Lab ID: 19080089-04
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.18		0.058	0.10	mg/L	1	8/2/2019 09:40

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-05
Collection Date: 7/30/2019 11:35 AM

Work Order: 19080089
Lab ID: 19080089-05
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.080	J	0.058	0.10	mg/L	1	8/2/2019 09:40

Method: A4500-F C-11

Analyst: DVD

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-06
Collection Date: 7/30/2019 10:40 AM

Work Order: 19080089
Lab ID: 19080089-06
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.24		0.058	0.10	mg/L	1	8/2/2019 09:40

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-07
Collection Date: 7/30/2019 12:45 PM

Work Order: 19080089
Lab ID: 19080089-07
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.060	J	0.058	0.10	mg/L	1	8/2/2019 09:40

Method: A4500-F C-11

Analyst: DVD

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-08
Collection Date: 7/30/2019 11:05 AM

Work Order: 19080089
Lab ID: 19080089-08
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.090	J	0.058	0.10	mg/L	1	8/2/2019 09:40

Method: A4500-F C-11

Analyst: DVD

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-09
Collection Date: 7/30/2019 12:55 PM

Work Order: 19080089
Lab ID: 19080089-09
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.10		0.058	0.10	mg/L	1	8/2/2019 09:40

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-10
Collection Date: 7/30/2019 02:05 PM

Work Order: 19080089
Lab ID: 19080089-10
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.24		0.058	0.10	mg/L	1	8/2/2019 09:40

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-11
Collection Date: 7/30/2019 11:30 AM

Work Order: 19080089
Lab ID: 19080089-11
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.13		0.058	0.10	mg/L	1	8/2/2019 09:40

Method: A4500-F C-11 Analyst: DVD

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-12
Collection Date: 7/30/2019 09:25 AM

Work Order: 19080089
Lab ID: 19080089-12
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	8/2/2019 09:40

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-13
Collection Date: 7/30/2019 10:35 AM

Work Order: 19080089
Lab ID: 19080089-13
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.19		0.058	0.10	mg/L	1	8/2/2019 09:40

Method: A4500-F C-11 Analyst: DVD

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-14
Collection Date: 7/30/2019 02:10 PM

Work Order: 19080089
Lab ID: 19080089-14
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	1.2		0.058	0.10	mg/L	1	8/2/2019 09:40

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-15
Collection Date: 7/30/2019 12:35 PM

Work Order: 19080089
Lab ID: 19080089-15
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.53		0.058	0.10	mg/L	1	8/2/2019 09:40

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-16
Collection Date: 7/30/2019 11:55 AM

Work Order: 19080089
Lab ID: 19080089-16
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.080	J	0.058	0.10	mg/L	1	8/2/2019 09:40

Method: A4500-F C-11

Analyst: DVD

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-17
Collection Date: 7/30/2019 09:40 AM

Work Order: 19080089
Lab ID: 19080089-17
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	8/2/2019 09:40

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-18
Collection Date: 7/30/2019 11:00 AM

Work Order: 19080089
Lab ID: 19080089-18
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	1.2		0.058	0.10	mg/L	1	8/2/2019 09:40

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

Client: ALS Environmental
Project: HS19071541
Sample ID: HS19071541-19
Collection Date: 7/30/2019 11:55 AM

Work Order: 19080089
Lab ID: 19080089-19
Matrix: WATER

Analyses	Result	Qual	SDL	MLL	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	U		0.058	0.10	mg/L	1	8/2/2019 09:40

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

DRAFT

ALS Group, USA

Date: 06-Aug-19

WorkOrder: 19080089
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: 19080089
 Project: HS19071541

QC BATCH REPORT

Batch ID: **R267437** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK		Sample ID: MB-R267437-R267437				Units: mg/L		Analysis Date: 8/2/2019 09:40 AM		
Client ID:		Run ID: TITRATOR 1_190802A		SeqNo: 5821343		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-R267437-R267437				Units: mg/L		Analysis Date: 8/2/2019 09:40 AM		
Client ID:		Run ID: TITRATOR 1_190802A		SeqNo: 5821344		Prep Date:		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.19 0.10 5 0 104 80-120 0

MS		Sample ID: 19080089-02AMS				Units: mg/L		Analysis Date: 8/2/2019 09:40 AM		
Client ID: HS19071541-02		Run ID: TITRATOR 1_190802A		SeqNo: 5821347		Prep Date:		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.19 0.10 5 0.17 100 75-125 0

MS		Sample ID: 19080092-02AMS				Units: mg/L		Analysis Date: 8/2/2019 09:40 AM		
Client ID:		Run ID: TITRATOR 1_190802A		SeqNo: 5821368		Prep Date:		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.19 0.10 5 0.17 100 75-125 0

MSD		Sample ID: 19080089-02AMSD				Units: mg/L		Analysis Date: 8/2/2019 09:40 AM		
Client ID: HS19071541-02		Run ID: TITRATOR 1_190802A		SeqNo: 5821348		Prep Date:		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.24 0.10 5 0.17 101 75-125 5.19 0.959 20

MSD		Sample ID: 19080092-02AMSD				Units: mg/L		Analysis Date: 8/2/2019 09:40 AM		
Client ID:		Run ID: TITRATOR 1_190802A		SeqNo: 5821369		Prep Date:		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Fluoride 5.24 0.10 5 0.17 101 75-125 5.19 0.959 20

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

Client: ALS Environmental
Work Order: 19080089
Project: HS19071541

DRAFT

QC BATCH REPORT

Batch ID: **R267437** Instrument ID **Titration 1** Method: **A4500-F C-11**

The following samples were analyzed in this batch:

19080089-01A	19080089-02A	19080089-03A
19080089-04A	19080089-05A	19080089-06A
19080089-07A	19080089-08A	19080089-09A
19080089-10A	19080089-11A	19080089-12A
19080089-13A	19080089-14A	19080089-15A
19080089-16A	19080089-17A	19080089-18A
19080089-19A		

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



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: 11881

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: HS19071541
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19071541-01	MW-01	Groundwater	30 Jul 2019 13:35
	Fluoride by ISE 4500			07 Aug 2019
2.	HS19071541-02	MW-02	Groundwater	30 Jul 2019 09:35
	Fluoride by ISE 4500			07 Aug 2019
3.	HS19071541-03	MW-17	Groundwater	30 Jul 2019 10:15
	Fluoride by ISE 4500			07 Aug 2019
4.	HS19071541-04	MW-18	Groundwater	30 Jul 2019 11:50
	Fluoride by ISE 4500			07 Aug 2019
5.	HS19071541-05	MW-19	Groundwater	30 Jul 2019 11:35
	Fluoride by ISE 4500			07 Aug 2019
6.	HS19071541-06	MW-20	Groundwater	30 Jul 2019 10:40
	Fluoride by ISE 4500			07 Aug 2019
7.	HS19071541-07	MW-21	Groundwater	30 Jul 2019 12:45
	Fluoride by ISE 4500			07 Aug 2019
8.	HS19071541-08	MW-22	Groundwater	30 Jul 2019 11:05
	Fluoride by ISE 4500			07 Aug 2019
9.	HS19071541-09	MW-27	Groundwater	30 Jul 2019 12:55

Import Data from work order HS19071538



DRAFT

Subcontract Chain of Custody

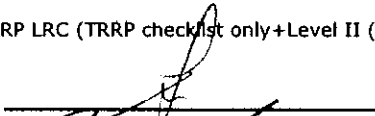
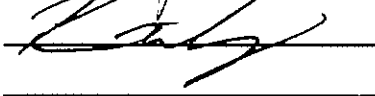
SAMPLING STATE: Texas

COC ID: 11881

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
	Fluoride by ISE 4500		07 Aug 2019
10. HS19071541-10	MW-28	Groundwater	30 Jul 2019 14:05
	Fluoride by ISE 4500		07 Aug 2019
11. HS19071541-11	MW-05	Groundwater	30 Jul 2019 11:30
	Fluoride by ISE 4500		07 Aug 2019
12. HS19071541-12	MW-26	Groundwater	30 Jul 2019 09:25
	Fluoride by ISE 4500		07 Aug 2019
13. HS19071541-13	MW-29	Groundwater	30 Jul 2019 10:35
	Fluoride by ISE 4500		07 Aug 2019
14. HS19071541-14	MW-43	Groundwater	30 Jul 2019 14:10
	Fluoride by ISE 4500		07 Aug 2019
15. HS19071541-15	MW-44	Groundwater	30 Jul 2019 12:35
	Fluoride by ISE 4500		07 Aug 2019
16. HS19071541-16	MW-45	Groundwater	30 Jul 2019 11:55
	Fluoride by ISE 4500		07 Aug 2019
17. HS19071541-17	MW-46	Groundwater	30 Jul 2019 09:40
	Fluoride by ISE 4500		07 Aug 2019
18. HS19071541-18	DUP-01	Groundwater	30 Jul 2019 11:00
	Fluoride by ISE 4500		07 Aug 2019
19. HS19071541-19	FB-01	Water	30 Jul 2019 11:55
	Fluoride by ISE 4500		07 Aug 2019

Comments: Please analyze for the analysis listed above.
 Send report to the emails shown above.
 Import Data from work order HS19071538
 Sample HS19071541-02 MS/MSDB

QC Level: TRRP LRC (TRRP checklist only+Level II (normal))

Relinquished By: 
 Received By: 
 Cooler ID(s): _____

Date/Time: 7/31/19 1800
 Date/Time: 8/1/19 0930
 Temperature(s): _____

3.60 L SR2
 PUI7

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**

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

Work Order: **19080089**

Received by: **KRW**

Checklist completed by Keith Wierenga 01-Aug-19
eSignature Date

Reviewed by: Alex J. Csaszar 01-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): 3.6/3.6 C SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 8/1/2019 3:43:02 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:

Appendix C

Detection Monitoring Data (October 2019)

TRC Environmental Corporation | NRG Texas Power, LLC

2019 Annual Groundwater Monitoring and Corrective Action Report

S:\NRG\LIMESTONE\2019\2019 ANNUAL REPORT\2. REPORTS\TEXT\FINAL 2019 LIMESTONE ANNUAL GW REPORT 2019_01-29-2020.DOCX

January 31, 2020



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

October 16, 2019

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

Work Order: **HS19100555**

Laboratory Results for: **NRG Limestone-Appendix III**

Dear Lori,

ALS Environmental received 19 sample(s) on Oct 09, 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 Limestone-Appendix III
WorkOrder: HS19100555

**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 Limestone-Appendix III
WorkOrder: HS19100555

**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: 10/16/2019				
Project Name: NRG Limestone-Appendix III			Laboratory Job Number: HS19100555				
Reviewer Name: RJ Modashia			Prep Batch Number(s): 146333, R348195, R348352, R348369, R348423, R348444				
# 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			2
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				3
		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: 10/16/2019					
Project Name: NRG Limestone-Appendix III		Laboratory Job Number: HS19100555					
Reviewer Name: RJ Modashia		Prep Batch Number(s): 146333, R348195, R348352, R348369, R348423, R348444					
# 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			4
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			5
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: 10/16/2019
Project Name: NRG Limestone-Appendix III	Laboratory Job Number: HS19100555
Reviewer Name: RJ Modashia	Prep Batch Number(s): 146333, R348195, R348352, R348369, R348423, R348444

ER# ⁵	Description
1	Batch 146333, Metals by Method SW6020, Sample MW-02, MS/MSD recovered outside control limits for Calcium; however, the results in the parent sample is greater than 4x the spike amount.
2	Batch R348423, Total Dissolved Solids (Residue, Filterable), Sample HS19100576-03, Duplicate RPD was performed on an unrelated sample
3	Analysis of Fluoride was performed by ALS Environmental in Holland, MI. Report and Laboratory Review Checklist are appended.
4	See Run Log and CCB Exception Reports
5	Batch 146333, Metals by Method SW6020, Sample MW-02, PDS recovered outside control limits for Calcium; however, the results in the parent sample is greater than 4x the spike amount.

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 Limestone-Appendix III
 WorkOrder: HS19100555
 Start Date: 14-Oct-2019

End Date: 15-Oct-2019

Run ID:ICPMS04_348222
 Instrument:ICPMS04
 Method:SW6020

Sample No.	D/F	Time	FileID	Analyses
ICV	1	14-Oct-2019 12:15	025_ICV.d	B CA
LLICV2	1	14-Oct-2019 12:18	026LCV2.d	B CA
LLICV5	1	14-Oct-2019 12:20	027LCV5.d	B CA
ICB	1	14-Oct-2019 12:22	028_ICB.d	B CA
ICSA	1	14-Oct-2019 12:28	029ICSA.d	B CA
ICSAB	1	14-Oct-2019 12:30	030ICSB.d	B CA
CCV 1	1	14-Oct-2019 12:58	041_CCV.d	B CA
CCB 1	1	14-Oct-2019 13:00	042_CCB.d	B CA
CCV 2	1	14-Oct-2019 13:26	053_CCV.d	B CA
CCB 2	1	14-Oct-2019 13:28	054_CCB.d	B CA
CCV 3	1	14-Oct-2019 14:01	065_CCV.d	B CA
CCB 3	1	14-Oct-2019 14:04	066_CCB.d	B CA
CCV 4	1	14-Oct-2019 14:27	075_CCV.d	B CA
CCB 4	1	14-Oct-2019 14:29	076_CCB.d	B CA
CCB 5	1	14-Oct-2019 15:01	088_CCB.d	B CA
CCV 5	1	14-Oct-2019 15:03	089_CCV.d	B CA
CCV 6	1	14-Oct-2019 15:28	100_CCV.d	B CA
CCB 6	1	14-Oct-2019 15:30	101_CCB.d	B CA
CCB 7	1	14-Oct-2019 16:08	113_CCB.d	B CA
CCV 7	1	14-Oct-2019 16:12	114_CCV.d	B CA
ICCV 8	1	14-Oct-2019 16:50	130_ICV.d	B CA
LLICCV2	1	14-Oct-2019 16:52	131LCV2.d	B CA
LLICCV5	1	14-Oct-2019 16:54	132LCV5.d	B CA
ICCB 8	1	14-Oct-2019 16:56	133_ICB.d	B CA
CCV 9	1	14-Oct-2019 17:24	144_CCV.d	B CA
CCB 9	1	14-Oct-2019 17:26	145_CCB.d	B CA
CCV 10	1	14-Oct-2019 17:53	156_CCV.d	B CA
CCB 10	1	14-Oct-2019 17:55	157_CCB.d	B CA
CCV 11	1	14-Oct-2019 18:19	168_CCV.d	B CA
CCB 11	1	14-Oct-2019 18:21	169_CCB.d	B CA
CCV 12	1	14-Oct-2019 20:44	175_CCV.d	B CA
CCB 12	1	14-Oct-2019 20:47	176_CCB.d	B CA
CCV 13	1	14-Oct-2019 21:11	187_CCV.d	B CA
CCB 13	1	14-Oct-2019 21:14	188_CCB.d	B CA
CCV 14	1	14-Oct-2019 21:39	199_CCV.d	B CA
CCB 14	1	14-Oct-2019 21:41	200_CCB.d	B CA
MBLK-146333	1	14-Oct-2019 21:43	201SMPL.d	B CA
LCS-146333	1	14-Oct-2019 21:45	202SMPL.d	B CA
MW-02	1	14-Oct-2019 21:48	203SMPL.d	B CA
MW-02SD	5	14-Oct-2019 21:50	204SMPL.d	B CA
MW-02MS	1	14-Oct-2019 21:52	205SMPL.d	B CA
MW-02MSD	1	14-Oct-2019 21:54	206SMPL.d	B CA
MW-02PDS	1	14-Oct-2019 21:59	208SMPL.d	B CA
CCV 15	1	14-Oct-2019 22:01	209_CCV.d	B CA
CCB 15	1	14-Oct-2019 22:03	210_CCB.d	B CA
MW-01	1	14-Oct-2019 22:05	211SMPL.d	B CA
MW-17	1	14-Oct-2019 22:08	212SMPL.d	B CA
MW-18	1	14-Oct-2019 22:10	213SMPL.d	B CA
MW-19	1	14-Oct-2019 22:12	214SMPL.d	B CA
MW-20	1	14-Oct-2019 22:14	215SMPL.d	B CA
MW-21	1	14-Oct-2019 22:17	216SMPL.d	B CA

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555
Start Date: 14-Oct-2019 **End Date:** 15-Oct-2019

Run ID: ICPMS04_348222
Instrument: ICPMS04
Method: SW6020

Sample No.	D/F	Time	FileID	Analytes
MW-22	1	14-Oct-2019 22:19	217SMPL.d	B CA
MW-27	1	14-Oct-2019 22:21	218SMPL.d	B CA
MW-05	1	14-Oct-2019 22:26	220SMPL.d	B CA
CCV 16	1	14-Oct-2019 22:28	221_CCV.d	B CA
CCB 16	1	14-Oct-2019 22:30	222_CCB.d	B CA
MW-26	1	14-Oct-2019 22:32	223SMPL.d	B CA
MW-29	1	14-Oct-2019 22:35	224SMPL.d	B CA
MW-43	1	14-Oct-2019 22:37	225SMPL.d	B CA
MW-44	1	14-Oct-2019 22:39	226SMPL.d	B CA
MW-45	1	14-Oct-2019 22:41	227SMPL.d	B
MW-46	1	14-Oct-2019 22:43	228SMPL.d	B
DUP-01	1	14-Oct-2019 22:46	229SMPL.d	B CA
FB-01	1	14-Oct-2019 22:48	230SMPL.d	B CA
CCV 17	1	14-Oct-2019 22:52	232_CCV.d	B CA
CCB 17	1	14-Oct-2019 22:55	233_CCB.d	B CA
ICCV 18	1	14-Oct-2019 23:30	247_ICV.d	B CA
LLICCV2	1	14-Oct-2019 23:32	248LCV2.d	B CA
LLICCV5	1	14-Oct-2019 23:34	249LCV5.d	B CA
ICCB 18	1	14-Oct-2019 23:36	250_ICB.d	B CA
CCV 19	1	14-Oct-2019 23:54	258_CCV.d	B CA
CCB 19	1	14-Oct-2019 23:56	259_CCB.d	B CA
CCV 20	1	15-Oct-2019 00:21	270_CCV.d	B CA
CCB 20	1	15-Oct-2019 00:23	271_CCB.d	B CA
CCV 21	1	15-Oct-2019 00:47	282_CCV.d	B CA
CCB 21	1	15-Oct-2019 00:50	283_CCB.d	B CA
CCV 22	1	15-Oct-2019 00:56	286_CCV.d	B CA
CCB 22	1	15-Oct-2019 00:59	287_CCB.d	B CA
LLICV2	1	15-Oct-2019 01:03	289LCV2.d	B CA
LLICV5	1	15-Oct-2019 01:05	290LCV5.d	B CA
ICSA	1	15-Oct-2019 01:08	291ICSA.d	B CA
ICSAB	1	15-Oct-2019 01:10	292ICSB.d	B CA

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

Run ID:ICPMS04_348315
Instrument:ICPMS04
Method:SW6020

Start Date: 15-Oct-2019

End Date: 16-Oct-2019

Sample No.	D/F	Time	FileID	Analyses
LLICV2	1	15-Oct-2019 12:08	034LCV2.d	B CA
ICB	1	15-Oct-2019 12:13	036_ICB.d	B CA
LLICV5	1	15-Oct-2019 12:15	037LCV5.d	B CA
ICV	1	15-Oct-2019 12:17	038_ICV.d	B CA
ICSA	1	15-Oct-2019 12:20	039ICSA.d	B CA
ICSAB	1	15-Oct-2019 12:26	041ICSB.d	B CA
MW-28	5	15-Oct-2019 12:34	043SMPL.d	B CA
CCV 1	1	15-Oct-2019 12:48	049_CCV.d	B CA
CCB 1	1	15-Oct-2019 12:51	050_CCB.d	B CA
MW-45	10	15-Oct-2019 13:10	058SMPL.d	CA
MW-46	10	15-Oct-2019 13:12	059SMPL.d	CA
CCB 2	1	15-Oct-2019 13:19	062_CCB.d	B CA
CCV 2	1	15-Oct-2019 13:25	063_CCV.d	B CA
CCB 3	1	15-Oct-2019 13:53	075_CCB.d	B CA
CCV 3	1	15-Oct-2019 13:55	076_CCV.d	B CA
CCV 4	1	15-Oct-2019 14:22	087_CCV.d	B CA
CCB 4	1	15-Oct-2019 14:25	088_CCB.d	B CA
CCB 5	1	15-Oct-2019 14:52	100_CCB.d	B CA
CCV 5	1	15-Oct-2019 14:57	101_CCV.d	B CA
CCV 6	1	15-Oct-2019 15:33	112_CCV.d	B CA
CCB 6	1	15-Oct-2019 15:35	113_CCB.d	B CA
CCV 7	1	15-Oct-2019 15:59	122_CCV.d	B CA
CCB 7	1	15-Oct-2019 16:01	123_CCB.d	B CA
CCB 8	1	15-Oct-2019 16:29	135_CCB.d	B CA
CCV 8	1	15-Oct-2019 16:32	136_CCV.d	B CA
CCB 9	1	15-Oct-2019 17:01	148_CCB.d	B CA
CCV 9	1	15-Oct-2019 17:03	149_CCV.d	B CA
CCB 10	1	15-Oct-2019 17:33	162_CCB.d	B CA
CCV 10	1	15-Oct-2019 17:44	164_CCV.d	B CA
CCV 11	1	15-Oct-2019 18:06	172_CCV.d	B CA
CCB 11	1	15-Oct-2019 18:09	173_CCB.d	B CA
CCV 12	1	15-Oct-2019 18:34	184_CCV.d	B CA
CCB 12	1	15-Oct-2019 18:37	185_CCB.d	B CA
CCV 13	1	15-Oct-2019 18:50	191_CCV.d	B CA
CCB 13	1	15-Oct-2019 18:52	192_CCB.d	B CA
LLICCV2	1	15-Oct-2019 21:32	210LCV2.d	B CA
LLICCV5	1	15-Oct-2019 21:34	211LCV5.d	B CA
ICCB 14	1	15-Oct-2019 21:37	212_ICB.d	B CA
ICCV 14	1	15-Oct-2019 21:41	214_ICV.d	B CA
CCV 15	1	15-Oct-2019 21:55	220_CCV.d	B CA
CCB 15	1	15-Oct-2019 21:57	221_CCB.d	B CA
CCV 16	1	15-Oct-2019 22:22	232_CCV.d	B CA
CCB 16	1	15-Oct-2019 22:24	233_CCB.d	B CA
CCV 17	1	15-Oct-2019 22:44	242_CCV.d	B CA
CCB 17	1	15-Oct-2019 22:46	243_CCB.d	B CA
CCV 18	1	15-Oct-2019 23:02	250_CCV.d	B CA
CCB 18	1	15-Oct-2019 23:04	251_CCB.d	B CA
CCV 19	1	15-Oct-2019 23:25	260_CCV.d	B CA
CCB 19	1	15-Oct-2019 23:27	261_CCB.d	B CA
CCV 20	1	15-Oct-2019 23:47	270_CCV.d	B CA
CCB 20	1	15-Oct-2019 23:49	271_CCB.d	B CA

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555
Start Date: 15-Oct-2019 **End Date:** 16-Oct-2019

Run ID: ICPMS04_348315
Instrument: ICPMS04
Method: SW6020

Sample No.	D/F	Time	FileID	Analytes
CCV 21	1	16-Oct-2019 00:14	282_CCV.d	B CA
CCB 21	1	16-Oct-2019 00:16	283_CCB.d	B CA
CCV 22	1	16-Oct-2019 00:41	294_CCV.d	B CA
CCB 22	1	16-Oct-2019 00:43	295_CCB.d	B CA
CCV 23	1	16-Oct-2019 01:01	303_CCV.d	B CA
CCB 23	1	16-Oct-2019 01:03	304_CCB.d	B CA
CCV 24	1	16-Oct-2019 01:27	315_CCV.d	B CA
CCB 24	1	16-Oct-2019 01:30	316_CCB.d	B CA
CCV 25	1	16-Oct-2019 01:54	327_CCV.d	B CA
CCB 25	1	16-Oct-2019 01:56	328_CCB.d	B CA
CCV 26	1	16-Oct-2019 02:08	333_CCV.d	B CA
CCB 26	1	16-Oct-2019 02:10	334_CCB.d	B CA
LLICV2	1	16-Oct-2019 02:14	336LCV2.d	B CA
LLICV5	1	16-Oct-2019 02:17	337LCV5.d	B CA
ICSA	1	16-Oct-2019 02:19	338ICSA.d	B CA
ICSAB	1	16-Oct-2019 02:21	339ICSB.d	B CA

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

Run ID:ICPMS04_348222
 Instrument:ICPMS04
 Method:SW6020

CCB	Date	Seq	D/F	Units
CCB 1	14-Oct-2019 13:00	5295092	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	15.84	11	20
CCB 2	14-Oct-2019 13:28	5295143	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	12.26	11	20
CCB 3	14-Oct-2019 14:04	5295181	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	14.19	11	20
CCB 4	14-Oct-2019 14:29	5295297	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	11.02	11	20
CCB 5	14-Oct-2019 15:01	5295348	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	11.15	11	20
CCB 11	14-Oct-2019 18:21	5295996	1	ug/L
	Analyte	Result	MDL	Report Limit
	Calcium	37.15	34	500
CCB 16	14-Oct-2019 22:30	5296038	1	ug/L
	Analyte	Result	MDL	Report Limit
	Calcium	45.81	34	500

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

Run ID:ICPMS04_348315
Instrument:ICPMS04
Method:SW6020

CCB	Date	Seq	D/F	Units
CCB 1	15-Oct-2019 12:51	5297096	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	13.47	11	20
CCB 2	15-Oct-2019 13:19	5297123	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	12.21	11	20
CCB 3	15-Oct-2019 13:53	5297159	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	11.75	11	20
CCB 4	15-Oct-2019 14:25	5297168	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	13.34	11	20
CCB 5	15-Oct-2019 14:52	5297268	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	13.39	11	20
CCB 6	15-Oct-2019 15:35	5297343	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	12.58	11	20
CCB 9	15-Oct-2019 17:01	5297469	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	11.64	11	20
CCB 10	15-Oct-2019 17:33	5297596	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	12.03	11	20
CCB 11	15-Oct-2019 18:09	5297607	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	11.77	11	20
CCB 15	15-Oct-2019 21:57	5297799	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	22.18	11	20
CCB 16	15-Oct-2019 22:24	5297764	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	13.21	11	20
CCB 17	15-Oct-2019 22:46	5297836	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	15.4	11	20
CCB 18	15-Oct-2019 23:04	5297843	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	13.24	11	20
CCB 19	15-Oct-2019 23:27	5297853	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	38.49	11	20

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

Run ID:ICPMS04_348315
Instrument:ICPMS04
Method:SW6020

CCB	Date	Seq	D/F	Units
CCB 20	15-Oct-2019 23:49	5297856	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	27.92	11	20
CCB 21	16-Oct-2019 00:16	5297858	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	27.31	11	20
CCB 22	16-Oct-2019 00:43	5297861	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	30.65	11	20
CCB 23	16-Oct-2019 01:03	5297899	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	20.54	11	20
CCB 24	16-Oct-2019 01:30	5297911	1	ug/L
	Analyte	Result	MDL	Report Limit
	Boron	14.58	11	20
	Calcium	82.13	34	500
CCB 25	16-Oct-2019 01:56	5297923	1	ug/L
	Analyte	Result	MDL	Report Limit
	Calcium	122.7	34	500
CCB 26	16-Oct-2019 02:10	5297933	1	ug/L
	Analyte	Result	MDL	Report Limit
	Calcium	48.74	34	500

Client: TRC Corporation
Project: NRG Limestone-Appendix III
Work Order: HS19100555

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19100555-01	MW-01	Groundwater		08-Oct-2019 12:20	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-02	MW-02	Groundwater		08-Oct-2019 10:55	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-03	MW-17	Groundwater		08-Oct-2019 10:30	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-04	MW-18	Groundwater		08-Oct-2019 10:50	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-05	MW-19	Groundwater		08-Oct-2019 11:45	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-06	MW-20	Groundwater		08-Oct-2019 11:35	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-07	MW-21	Groundwater		08-Oct-2019 10:30	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-08	MW-22	Groundwater		08-Oct-2019 11:40	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-09	MW-27	Groundwater		08-Oct-2019 12:00	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-10	MW-28	Groundwater		08-Oct-2019 10:55	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-11	MW-05	Groundwater		08-Oct-2019 10:25	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-12	MW-26	Groundwater		08-Oct-2019 11:20	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-13	MW-29	Groundwater		08-Oct-2019 11:40	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-14	MW-43	Groundwater		08-Oct-2019 12:00	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-15	MW-44	Groundwater		08-Oct-2019 11:45	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-16	MW-45	Groundwater		08-Oct-2019 10:40	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-17	MW-46	Groundwater		08-Oct-2019 10:35	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-18	DUP-01	Groundwater		08-Oct-2019 11:00	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100555-19	FB-01	Groundwater		08-Oct-2019 10:50	09-Oct-2019 08:40	<input type="checkbox"/>

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-01
 Collection Date: 08-Oct-2019 12:20

ANALYTICAL REPORT
 WorkOrder:HS19100555
 Lab ID:HS19100555-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.0327		0.0110	0.0200	mg/L	1	14-Oct-2019 22:05
Calcium	50.6		0.0340	0.500	mg/L	1	14-Oct-2019 22:05
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	250		2.00	5.00	mg/L	10	11-Oct-2019 22:01
Sulfate	0.612		0.200	0.500	mg/L	1	11-Oct-2019 21:44
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	722		5.00	10.0	mg/L	1	15-Oct-2019 17:30
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-02
 Collection Date: 08-Oct-2019 10:55

ANALYTICAL REPORT

WorkOrder:HS19100555
 Lab ID:HS19100555-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.0350		0.0110	0.0200	mg/L	1	14-Oct-2019 21:48
Calcium	104		0.0340	0.500	mg/L	1	14-Oct-2019 21:48
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	432		4.00	10.0	mg/L	20	11-Oct-2019 22:18
Sulfate	65.4		4.00	10.0	mg/L	20	11-Oct-2019 22:18
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,280		5.00	10.0	mg/L	1	15-Oct-2019 17:30
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-17
 Collection Date: 08-Oct-2019 10:30

ANALYTICAL REPORT
 WorkOrder:HS19100555
 Lab ID:HS19100555-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.0255		0.0110	0.0200	mg/L	1	14-Oct-2019 22:08
Calcium	2.86		0.0340	0.500	mg/L	1	14-Oct-2019 22:08
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	9.15		0.200	0.500	mg/L	1	12-Oct-2019 06:35
Sulfate	7.27		0.200	0.500	mg/L	1	12-Oct-2019 06:35
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	124		5.00	10.0	mg/L	1	15-Oct-2019 17:30
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-18
 Collection Date: 08-Oct-2019 10:50

ANALYTICAL REPORT
 WorkOrder:HS19100555
 Lab ID:HS19100555-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.0322		0.0110	0.0200	mg/L	1	14-Oct-2019 22:10
Calcium	47.1		0.0340	0.500	mg/L	1	14-Oct-2019 22:10
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	3.40		0.200	0.500	mg/L	1	12-Oct-2019 06:52
Sulfate	26.9		0.200	0.500	mg/L	1	12-Oct-2019 06:52
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	296		5.00	10.0	mg/L	1	15-Oct-2019 17:30
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-19
 Collection Date: 08-Oct-2019 11:45

ANALYTICAL REPORT

WorkOrder:HS19100555
 Lab ID:HS19100555-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.0375		0.0110	0.0200	mg/L	1	14-Oct-2019 22:12
Calcium	33.9		0.0340	0.500	mg/L	1	14-Oct-2019 22:12
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	46.0		2.00	5.00	mg/L	10	11-Oct-2019 23:41
Sulfate	83.8		2.00	5.00	mg/L	10	11-Oct-2019 23:41
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	312		5.00	10.0	mg/L	1	15-Oct-2019 17:30
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-20
 Collection Date: 08-Oct-2019 11:35

ANALYTICAL REPORT

WorkOrder:HS19100555
 Lab ID:HS19100555-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.0405		0.0110	0.0200	mg/L	1	14-Oct-2019 22:14
Calcium	31.0		0.0340	0.500	mg/L	1	14-Oct-2019 22:14
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	24.0		1.00	2.50	mg/L	5	11-Oct-2019 23:57
Sulfate	45.5		1.00	2.50	mg/L	5	11-Oct-2019 23:57
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	340		5.00	10.0	mg/L	1	15-Oct-2019 17:30
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-21
 Collection Date: 08-Oct-2019 10:30

ANALYTICAL REPORT

WorkOrder:HS19100555
 Lab ID:HS19100555-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.350		0.0110	0.0200	mg/L	1	14-Oct-2019 22:17
Calcium	86.5		0.0340	0.500	mg/L	1	14-Oct-2019 22:17
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	51.5		2.00	5.00	mg/L	10	12-Oct-2019 00:14
Sulfate	306		2.00	5.00	mg/L	10	12-Oct-2019 00:14
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	602		5.00	10.0	mg/L	1	15-Oct-2019 17:30
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-22
 Collection Date: 08-Oct-2019 11:40

ANALYTICAL REPORT

WorkOrder:HS19100555
 Lab ID:HS19100555-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.0333		0.0110	0.0200	mg/L	1	14-Oct-2019 22:19
Calcium	41.4		0.0340	0.500	mg/L	1	14-Oct-2019 22:19
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	35.1		1.00	2.50	mg/L	5	12-Oct-2019 00:30
Sulfate	54.0		1.00	2.50	mg/L	5	12-Oct-2019 00:30
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	302		5.00	10.0	mg/L	1	15-Oct-2019 17:30
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-27
 Collection Date: 08-Oct-2019 12:00

ANALYTICAL REPORT
 WorkOrder:HS19100555
 Lab ID:HS19100555-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.122		0.0110	0.0200	mg/L	1	14-Oct-2019 22:21
Calcium	141		0.0340	0.500	mg/L	1	14-Oct-2019 22:21
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	1,070		4.00	10.0	mg/L	20	15-Oct-2019 13:56
Sulfate	278		2.00	5.00	mg/L	10	12-Oct-2019 00:47
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	3,140		5.00	10.0	mg/L	1	15-Oct-2019 17:30
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-28
 Collection Date: 08-Oct-2019 10:55

ANALYTICAL REPORT

WorkOrder:HS19100555
 Lab ID:HS19100555-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.207		0.0550	0.100	mg/L	5	15-Oct-2019 12:34
Calcium	453		0.170	2.50	mg/L	5	15-Oct-2019 12:34
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	179		1.00	2.50	mg/L	5	12-Oct-2019 01:20
Sulfate	62.1		1.00	2.50	mg/L	5	12-Oct-2019 01:20
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	4,990		5.00	10.0	mg/L	1	15-Oct-2019 17:30
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-05
 Collection Date: 08-Oct-2019 10:25

ANALYTICAL REPORT

WorkOrder:HS19100555
 Lab ID:HS19100555-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.0171	J	0.0110	0.0200	mg/L	1	14-Oct-2019 22:26
Calcium	13.2		0.0340	0.500	mg/L	1	14-Oct-2019 22:26
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	12.2		0.200	0.500	mg/L	1	12-Oct-2019 01:37
Sulfate	40.7		0.200	0.500	mg/L	1	12-Oct-2019 01:37
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	204		5.00	10.0	mg/L	1	15-Oct-2019 17:30
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-26
 Collection Date: 08-Oct-2019 11:20

ANALYTICAL REPORT

WorkOrder:HS19100555
 Lab ID:HS19100555-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.0192	J	0.0110	0.0200	mg/L	1	14-Oct-2019 22:32
Calcium	45.2		0.0340	0.500	mg/L	1	14-Oct-2019 22:32
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	229		2.00	5.00	mg/L	10	12-Oct-2019 03:16
Sulfate	9.89		0.200	0.500	mg/L	1	12-Oct-2019 03:00
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	768		5.00	10.0	mg/L	1	15-Oct-2019 17:15
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-29
 Collection Date: 08-Oct-2019 11:40

ANALYTICAL REPORT

WorkOrder:HS19100555
 Lab ID:HS19100555-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.0193	J	0.0110	0.0200	mg/L	1	14-Oct-2019 22:35
Calcium	11.7		0.0340	0.500	mg/L	1	14-Oct-2019 22:35
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	5.17		0.200	0.500	mg/L	1	12-Oct-2019 03:33
Sulfate	28.6		0.200	0.500	mg/L	1	12-Oct-2019 03:33
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	184		5.00	10.0	mg/L	1	15-Oct-2019 17:15
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-43
 Collection Date: 08-Oct-2019 12:00

ANALYTICAL REPORT
 WorkOrder:HS19100555
 Lab ID:HS19100555-14
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.164		0.0110	0.0200	mg/L	1	14-Oct-2019 22:37
Calcium	75.2		0.0340	0.500	mg/L	1	14-Oct-2019 22:37
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	46.3		0.200	0.500	mg/L	1	12-Oct-2019 03:49
Sulfate	355		2.00	5.00	mg/L	10	12-Oct-2019 04:06
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,040		5.00	10.0	mg/L	1	15-Oct-2019 17:15
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-44
 Collection Date: 08-Oct-2019 11:45

ANALYTICAL REPORT
 WorkOrder:HS19100555
 Lab ID:HS19100555-15
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.0364		0.0110	0.0200	mg/L	1	14-Oct-2019 22:39
Calcium	30.3		0.0340	0.500	mg/L	1	14-Oct-2019 22:39
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	33.8		1.00	2.50	mg/L	5	12-Oct-2019 04:23
Sulfate	42.3		1.00	2.50	mg/L	5	12-Oct-2019 04:23
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	424		5.00	10.0	mg/L	1	15-Oct-2019 17:15
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-45
 Collection Date: 08-Oct-2019 10:40

ANALYTICAL REPORT

WorkOrder:HS19100555
 Lab ID:HS19100555-16
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.0120	J	0.0110	0.0200	mg/L	1	14-Oct-2019 22:41
Calcium	389		0.340	5.00	mg/L	10	15-Oct-2019 13:10
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	1,280		10.0	25.0	mg/L	50	12-Oct-2019 04:39
Sulfate	29.8		10.0	25.0	mg/L	50	12-Oct-2019 04:39
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	3,970		5.00	10.0	mg/L	1	15-Oct-2019 17:15
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: MW-46
 Collection Date: 08-Oct-2019 10:35

ANALYTICAL REPORT

WorkOrder:HS19100555
 Lab ID:HS19100555-17
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	< 0.0110		0.0110	0.0200	mg/L	1	14-Oct-2019 22:43
Calcium	363		0.340	5.00	mg/L	10	15-Oct-2019 13:12
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	1,630		10.0	25.0	mg/L	50	12-Oct-2019 04:56
Sulfate	254		10.0	25.0	mg/L	50	12-Oct-2019 04:56
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	2,590		5.00	10.0	mg/L	1	15-Oct-2019 17:15
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: DUP-01
 Collection Date: 08-Oct-2019 11:00

ANALYTICAL REPORT

WorkOrder:HS19100555
 Lab ID:HS19100555-18
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	0.196		0.0110	0.0200	mg/L	1	14-Oct-2019 22:46
Calcium	79.2		0.0340	0.500	mg/L	1	14-Oct-2019 22:46
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	46.3		0.400	1.00	mg/L	2	12-Oct-2019 05:12
Sulfate	364		4.00	10.0	mg/L	20	12-Oct-2019 05:29
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	1,040		5.00	10.0	mg/L	1	15-Oct-2019 17:15
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix III
 Sample ID: FB-01
 Collection Date: 08-Oct-2019 10:50

ANALYTICAL REPORT
 WorkOrder:HS19100555
 Lab ID:HS19100555-19
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Oct-2019		Analyst: JC	
Boron	< 0.0110		0.0110	0.0200	mg/L	1	14-Oct-2019 22:48
Calcium	0.139	J	0.0340	0.500	mg/L	1	14-Oct-2019 22:48
ANIONS BY E300.0		Method:E300				Analyst: KMU	
Chloride	< 0.200		0.200	0.500	mg/L	1	12-Oct-2019 06:19
Sulfate	< 0.200		0.200	0.500	mg/L	1	12-Oct-2019 06:19
TOTAL DISSOLVED SOLIDS BY SM2540C		Method:M2540C				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	< 5.00		5.00	10.0	mg/L	1	15-Oct-2019 17:15
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58

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

WEIGHT LOG

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

Batch ID: 146333 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SamplID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19100555-01	1	10	10 (mL)	1
HS19100555-02	1	10	10 (mL)	1
HS19100555-03	1	10	10 (mL)	1
HS19100555-04	1	10	10 (mL)	1
HS19100555-05	1	10	10 (mL)	1
HS19100555-06	1	10	10 (mL)	1
HS19100555-07	1	10	10 (mL)	1
HS19100555-08	1	10	10 (mL)	1
HS19100555-09	1	10	10 (mL)	1
HS19100555-10	1	10	10 (mL)	1
HS19100555-11	1	10	10 (mL)	1
HS19100555-12	1	10	10 (mL)	1
HS19100555-13	1	10	10 (mL)	1
HS19100555-14	1	10	10 (mL)	1
HS19100555-15	1	10	10 (mL)	1
HS19100555-16	1	10	10 (mL)	1
HS19100555-17	1	10	10 (mL)	1
HS19100555-18	1	10	10 (mL)	1
HS19100555-19	1	10	10 (mL)	1

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 146333 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS19100555-01	MW-01	08 Oct 2019 12:20		14 Oct 2019 09:00	14 Oct 2019 22:05	1
HS19100555-02	MW-02	08 Oct 2019 10:55		14 Oct 2019 09:00	14 Oct 2019 21:48	1
HS19100555-03	MW-17	08 Oct 2019 10:30		14 Oct 2019 09:00	14 Oct 2019 22:08	1
HS19100555-04	MW-18	08 Oct 2019 10:50		14 Oct 2019 09:00	14 Oct 2019 22:10	1
HS19100555-05	MW-19	08 Oct 2019 11:45		14 Oct 2019 09:00	14 Oct 2019 22:12	1
HS19100555-06	MW-20	08 Oct 2019 11:35		14 Oct 2019 09:00	14 Oct 2019 22:14	1
HS19100555-07	MW-21	08 Oct 2019 10:30		14 Oct 2019 09:00	14 Oct 2019 22:17	1
HS19100555-08	MW-22	08 Oct 2019 11:40		14 Oct 2019 09:00	14 Oct 2019 22:19	1
HS19100555-09	MW-27	08 Oct 2019 12:00		14 Oct 2019 09:00	14 Oct 2019 22:21	1
HS19100555-10	MW-28	08 Oct 2019 10:55		14 Oct 2019 09:00	15 Oct 2019 12:34	5
HS19100555-11	MW-05	08 Oct 2019 10:25		14 Oct 2019 09:00	14 Oct 2019 22:26	1
HS19100555-12	MW-26	08 Oct 2019 11:20		14 Oct 2019 09:00	14 Oct 2019 22:32	1
HS19100555-13	MW-29	08 Oct 2019 11:40		14 Oct 2019 09:00	14 Oct 2019 22:35	1
HS19100555-14	MW-43	08 Oct 2019 12:00		14 Oct 2019 09:00	14 Oct 2019 22:37	1
HS19100555-15	MW-44	08 Oct 2019 11:45		14 Oct 2019 09:00	14 Oct 2019 22:39	1
HS19100555-16	MW-45	08 Oct 2019 10:40		14 Oct 2019 09:00	15 Oct 2019 13:10	10
HS19100555-16	MW-45	08 Oct 2019 10:40		14 Oct 2019 09:00	14 Oct 2019 22:41	1
HS19100555-17	MW-46	08 Oct 2019 10:35		14 Oct 2019 09:00	15 Oct 2019 13:12	10
HS19100555-17	MW-46	08 Oct 2019 10:35		14 Oct 2019 09:00	14 Oct 2019 22:43	1
HS19100555-18	DUP-01	08 Oct 2019 11:00		14 Oct 2019 09:00	14 Oct 2019 22:46	1
HS19100555-19	FB-01	08 Oct 2019 10:50		14 Oct 2019 09:00	14 Oct 2019 22:48	1

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R348195 (0)		Test Name : ANIONS BY E300.0			Matrix: Groundwater	
HS19100555-01	MW-01	08 Oct 2019 12:20			11 Oct 2019 22:01	10
HS19100555-01	MW-01	08 Oct 2019 12:20			11 Oct 2019 21:44	1
HS19100555-02	MW-02	08 Oct 2019 10:55			11 Oct 2019 22:18	20
HS19100555-03	MW-17	08 Oct 2019 10:30			12 Oct 2019 06:35	1
HS19100555-04	MW-18	08 Oct 2019 10:50			12 Oct 2019 06:52	1
HS19100555-05	MW-19	08 Oct 2019 11:45			11 Oct 2019 23:41	10
HS19100555-06	MW-20	08 Oct 2019 11:35			11 Oct 2019 23:57	5
HS19100555-07	MW-21	08 Oct 2019 10:30			12 Oct 2019 00:14	10
HS19100555-08	MW-22	08 Oct 2019 11:40			12 Oct 2019 00:30	5
HS19100555-09	MW-27	08 Oct 2019 12:00			12 Oct 2019 00:47	10
HS19100555-10	MW-28	08 Oct 2019 10:55			12 Oct 2019 01:20	5
HS19100555-11	MW-05	08 Oct 2019 10:25			12 Oct 2019 01:37	1
HS19100555-12	MW-26	08 Oct 2019 11:20			12 Oct 2019 03:16	10
HS19100555-12	MW-26	08 Oct 2019 11:20			12 Oct 2019 03:00	1
HS19100555-13	MW-29	08 Oct 2019 11:40			12 Oct 2019 03:33	1
HS19100555-14	MW-43	08 Oct 2019 12:00			12 Oct 2019 04:06	10
HS19100555-14	MW-43	08 Oct 2019 12:00			12 Oct 2019 03:49	1
HS19100555-15	MW-44	08 Oct 2019 11:45			12 Oct 2019 04:23	5
HS19100555-16	MW-45	08 Oct 2019 10:40			12 Oct 2019 04:39	50
HS19100555-17	MW-46	08 Oct 2019 10:35			12 Oct 2019 04:56	50
HS19100555-18	DUP-01	08 Oct 2019 11:00			12 Oct 2019 05:29	20
HS19100555-18	DUP-01	08 Oct 2019 11:00			12 Oct 2019 05:12	2
HS19100555-19	FB-01	08 Oct 2019 10:50			12 Oct 2019 06:19	1
Batch ID: R348352 (0)		Test Name : ANIONS BY E300.0			Matrix: Groundwater	
HS19100555-09	MW-27	08 Oct 2019 12:00			15 Oct 2019 13:56	20

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R348369 (0)		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE			Matrix: Groundwater	
HS19100555-01	MW-01	08 Oct 2019 12:20			16 Oct 2019 10:58	1
HS19100555-02	MW-02	08 Oct 2019 10:55			16 Oct 2019 10:58	1
HS19100555-03	MW-17	08 Oct 2019 10:30			16 Oct 2019 10:58	1
HS19100555-04	MW-18	08 Oct 2019 10:50			16 Oct 2019 10:58	1
HS19100555-05	MW-19	08 Oct 2019 11:45			16 Oct 2019 10:58	1
HS19100555-06	MW-20	08 Oct 2019 11:35			16 Oct 2019 10:58	1
HS19100555-07	MW-21	08 Oct 2019 10:30			16 Oct 2019 10:58	1
HS19100555-08	MW-22	08 Oct 2019 11:40			16 Oct 2019 10:58	1
HS19100555-09	MW-27	08 Oct 2019 12:00			16 Oct 2019 10:58	1
HS19100555-10	MW-28	08 Oct 2019 10:55			16 Oct 2019 10:58	1
HS19100555-11	MW-05	08 Oct 2019 10:25			16 Oct 2019 10:58	1
HS19100555-12	MW-26	08 Oct 2019 11:20			16 Oct 2019 10:58	1
HS19100555-13	MW-29	08 Oct 2019 11:40			16 Oct 2019 10:58	1
HS19100555-14	MW-43	08 Oct 2019 12:00			16 Oct 2019 10:58	1
HS19100555-15	MW-44	08 Oct 2019 11:45			16 Oct 2019 10:58	1
HS19100555-16	MW-45	08 Oct 2019 10:40			16 Oct 2019 10:58	1
HS19100555-17	MW-46	08 Oct 2019 10:35			16 Oct 2019 10:58	1
HS19100555-18	DUP-01	08 Oct 2019 11:00			16 Oct 2019 10:58	1
HS19100555-19	FB-01	08 Oct 2019 10:50			16 Oct 2019 10:58	1
Batch ID: R348423 (0)		Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C			Matrix: Groundwater	
HS19100555-12	MW-26	08 Oct 2019 11:20			15 Oct 2019 17:15	1
HS19100555-13	MW-29	08 Oct 2019 11:40			15 Oct 2019 17:15	1
HS19100555-14	MW-43	08 Oct 2019 12:00			15 Oct 2019 17:15	1
HS19100555-15	MW-44	08 Oct 2019 11:45			15 Oct 2019 17:15	1
HS19100555-16	MW-45	08 Oct 2019 10:40			15 Oct 2019 17:15	1
HS19100555-17	MW-46	08 Oct 2019 10:35			15 Oct 2019 17:15	1
HS19100555-18	DUP-01	08 Oct 2019 11:00			15 Oct 2019 17:15	1
HS19100555-19	FB-01	08 Oct 2019 10:50			15 Oct 2019 17:15	1

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R348444 (0)		Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C			Matrix: Groundwater	
HS19100555-01	MW-01	08 Oct 2019 12:20			15 Oct 2019 17:30	1
HS19100555-02	MW-02	08 Oct 2019 10:55			15 Oct 2019 17:30	1
HS19100555-03	MW-17	08 Oct 2019 10:30			15 Oct 2019 17:30	1
HS19100555-04	MW-18	08 Oct 2019 10:50			15 Oct 2019 17:30	1
HS19100555-05	MW-19	08 Oct 2019 11:45			15 Oct 2019 17:30	1
HS19100555-06	MW-20	08 Oct 2019 11:35			15 Oct 2019 17:30	1
HS19100555-07	MW-21	08 Oct 2019 10:30			15 Oct 2019 17:30	1
HS19100555-08	MW-22	08 Oct 2019 11:40			15 Oct 2019 17:30	1
HS19100555-09	MW-27	08 Oct 2019 12:00			15 Oct 2019 17:30	1
HS19100555-10	MW-28	08 Oct 2019 10:55			15 Oct 2019 17:30	1
HS19100555-11	MW-05	08 Oct 2019 10:25			15 Oct 2019 17:30	1

WorkOrder: HS19100555
 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: HS19100555 **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: HS19100555
 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	0.520	0.200	0.500
A	Sulfate	14808-79-8	0.500	0.793	0.200	0.500

WorkOrder: HS19100555
 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 Limestone-Appendix III
WorkOrder: HS19100555

QC BATCH REPORT

Batch ID: 146333 (0)		Instrument: ICPMS04		Method: ICP-MS METALS BY SW6020A						
MBLK	Sample ID: MBLK-146333	Units: mg/L		Analysis Date: 14-Oct-2019 21:43						
Client ID:		Run ID: ICPMS04_348222	SeqNo: 5296050	PrepDate: 14-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-146333	Units: mg/L		Analysis Date: 14-Oct-2019 21:45						
Client ID:		Run ID: ICPMS04_348222	SeqNo: 5296051	PrepDate: 14-Oct-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.4575	0.0200	0.5	0	91.5	80 - 120				
Calcium	4.761	0.500	5	0	95.2	80 - 120				
MS	Sample ID: HS19100555-02MS	Units: mg/L		Analysis Date: 14-Oct-2019 21:52						
Client ID: MW-02		Run ID: ICPMS04_348222	SeqNo: 5296054	PrepDate: 14-Oct-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.5238	0.0200	0.5	0.03501	97.8	80 - 120				
Calcium	102.2	0.500	5	103.7	-29.0	80 - 120				SO
MSD	Sample ID: HS19100555-02MSD	Units: mg/L		Analysis Date: 14-Oct-2019 21:54						
Client ID: MW-02		Run ID: ICPMS04_348222	SeqNo: 5296055	PrepDate: 14-Oct-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.5192	0.0200	0.5	0.03501	96.8	80 - 120	0.5238	0.883	20	
Calcium	102.1	0.500	5	103.7	-31.9	80 - 120	102.2	0.139	20	SO
PDS	Sample ID: HS19100555-02PDS	Units: mg/L		Analysis Date: 14-Oct-2019 21:59						
Client ID: MW-02		Run ID: ICPMS04_348222	SeqNo: 5296057	PrepDate: 14-Oct-2019	DF: 1					
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.2506	0.0200	0.25	0.03501	86.2	75 - 125				
Calcium	106.9	0.500	10	103.7	32.6	75 - 125				SO

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

QC BATCH REPORT

Batch ID: 146333 (0) Instrument: ICPMS04 Method: ICP-MS METALS BY SW6020A

SD Sample ID: HS19100555-02SD Units: mg/L Analysis Date: 14-Oct-2019 21:50
Client ID: MW-02 Run ID: ICPMS04_348222 SeqNo: 5296053 PrepDate: 14-Oct-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						0.03501	0	10
Calcium	105.8	2.50						103.7	2.02	10

The following samples were analyzed in this batch:

HS19100555-01	HS19100555-02	HS19100555-03	HS19100555-04
HS19100555-05	HS19100555-06	HS19100555-07	HS19100555-08
HS19100555-09	HS19100555-10	HS19100555-11	HS19100555-12
HS19100555-13	HS19100555-14	HS19100555-15	HS19100555-16
HS19100555-17	HS19100555-18	HS19100555-19	

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

QC BATCH REPORT

Batch ID: R348195 (0)		Instrument: ICS-Integrion		Method: ANIONS BY E300.0						
MBLK	Sample ID: WBLKW1-101119	Units: mg/L			Analysis Date: 11-Oct-2019 20:21					
Client ID:		Run ID: ICS-Integrion_348195		SeqNo: 5294167		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: WLCSW1-101119	Units: mg/L			Analysis Date: 11-Oct-2019 20:38					
Client ID:		Run ID: ICS-Integrion_348195		SeqNo: 5294168		PrepDate:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	19.32	0.500	20	0	96.6	90 - 110				
Sulfate	19.18	0.500	20	0	95.9	90 - 110				
LCSD	Sample ID: WLCSDW1-101119	Units: mg/L			Analysis Date: 11-Oct-2019 20:55					
Client ID:		Run ID: ICS-Integrion_348195		SeqNo: 5294169		PrepDate:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	19.2	0.500	20	0	96.0	90 - 110	19.32	0.654	20	
Sulfate	19.03	0.500	20	0	95.2	90 - 110	19.18	0.767	20	
MS	Sample ID: HS19100555-11MS	Units: mg/L			Analysis Date: 12-Oct-2019 01:53					
Client ID: MW-05		Run ID: ICS-Integrion_348195		SeqNo: 5294187		PrepDate:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	21.6	0.500	10	12.2	94.0	80 - 120				
Sulfate	49.16	0.500	10	40.69	84.7	80 - 120			O	
MS	Sample ID: HS19100555-02MS	Units: mg/L			Analysis Date: 11-Oct-2019 22:34					
Client ID: MW-02		Run ID: ICS-Integrion_348195		SeqNo: 5294175		PrepDate:		DF: 20		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	600.2	10.0	200	432.3	84.0	80 - 120				
Sulfate	255.3	10.0	200	65.37	95.0	80 - 120				

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

QC BATCH REPORT

Batch ID: R348195 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY E300.0

MSD		Sample ID: HS19100555-11MSD		Units: mg/L		Analysis Date: 12-Oct-2019 02:10				
Client ID: MW-05		Run ID: ICS-Integrion_348195		SeqNo: 5294188		PrepDate:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.66	0.500	10	12.2	94.6	80 - 120	21.6	0.296	20	
Sulfate	49.56	0.500	10	40.69	88.7	80 - 120	49.16	0.821	20	O

MSD		Sample ID: HS19100555-02MSD		Units: mg/L		Analysis Date: 11-Oct-2019 22:51				
Client ID: MW-02		Run ID: ICS-Integrion_348195		SeqNo: 5294176		PrepDate:		DF: 20		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	602.1	10.0	200	432.3	84.9	80 - 120	600.2	0.323	20	
Sulfate	256.8	10.0	200	65.37	95.7	80 - 120	255.3	0.593	20	

The following samples were analyzed in this batch:

HS19100555-01	HS19100555-02	HS19100555-03	HS19100555-04
HS19100555-05	HS19100555-06	HS19100555-07	HS19100555-08
HS19100555-09	HS19100555-10	HS19100555-11	HS19100555-12
HS19100555-13	HS19100555-14	HS19100555-15	HS19100555-16
HS19100555-17	HS19100555-18	HS19100555-19	

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

QC BATCH REPORT

Batch ID: R348352 (0)		Instrument: ICS-Integrion		Method: ANIONS BY E300.0						
MBLK	Sample ID: WBLKW1-101519	Units: mg/L			Analysis Date: 15-Oct-2019 11:27					
Client ID:	Run ID: ICS-Integrion_348352	SeqNo: 5297619		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								
LCS	Sample ID: WLCSW1-101519	Units: mg/L			Analysis Date: 15-Oct-2019 11:43					
Client ID:	Run ID: ICS-Integrion_348352	SeqNo: 5297620		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	20.09	0.500	20	0	100	90 - 110				
LCSD	Sample ID: WLCSDW1-101519	Units: mg/L			Analysis Date: 15-Oct-2019 12:00					
Client ID:	Run ID: ICS-Integrion_348352	SeqNo: 5297621		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	19.76	0.500	20	0	98.8	90 - 110	20.09	1.67	20	
MS	Sample ID: HS19100835-01MS	Units: mg/L			Analysis Date: 15-Oct-2019 12:33					
Client ID:	Run ID: ICS-Integrion_348352	SeqNo: 5297623		PrepDate:			DF: 2			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	37.78	1.00	20	18.4	96.9	80 - 120				
MS	Sample ID: HS19100708-08MS	Units: mg/L			Analysis Date: 15-Oct-2019 16:59					
Client ID:	Run ID: ICS-Integrion_348352	SeqNo: 5297644		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	30.75	0.500	10	21.38	93.8	80 - 120				
MSD	Sample ID: HS19100835-01MSD	Units: mg/L			Analysis Date: 15-Oct-2019 12:50					
Client ID:	Run ID: ICS-Integrion_348352	SeqNo: 5297624		PrepDate:			DF: 2			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Chloride	37.83	1.00	20	18.4	97.1	80 - 120	37.78	0.138	20	

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

QC BATCH REPORT

Batch ID: R348352 (0) Instrument: ICS-Integrion Method: ANIONS BY E300.0

MSD	Sample ID: HS19100708-08MSD	Units: mg/L	Analysis Date: 15-Oct-2019 17:15							
Client ID:	Run ID: ICS-Integrion_348352	SeqNo: 5297645	PrepDate: DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Chloride	30.98	0.500	10	21.38	96.1	80 - 120	30.75	0.752	20
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The following samples were analyzed in this batch: HS19100555-09

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

QC BATCH REPORT

Batch ID: R348423 (0)		Instrument: Balance1		Method: TOTAL DISSOLVED SOLIDS BY SM2540C						
MBLK	Sample ID: WBLK-101519	Units: mg/L		Analysis Date: 15-Oct-2019 17:15						
Client ID:	Run ID: Balance1_348423	SeqNo: 5299048		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-101519	Units: mg/L		Analysis Date: 15-Oct-2019 17:15						
Client ID:	Run ID: Balance1_348423	SeqNo: 5299049		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)		1042	10.0	1000	0	104	85 - 115			
DUP	Sample ID: HS19100576-03DUP	Units: mg/L		Analysis Date: 15-Oct-2019 17:15						
Client ID:	Run ID: Balance1_348423	SeqNo: 5299039		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)		386	10.0				354	8.65	5	R
DUP	Sample ID: HS19100555-12DUP	Units: mg/L		Analysis Date: 15-Oct-2019 17:15						
Client ID: MW-26	Run ID: Balance1_348423	SeqNo: 5299028		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)		798	10.0				768	3.83	5	

The following samples were analyzed in this batch:

HS19100555-12	HS19100555-13	HS19100555-14	HS19100555-15
HS19100555-16	HS19100555-17	HS19100555-18	HS19100555-19

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

QC BATCH REPORT

Batch ID: R348444 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C

MBLK	Sample ID: WBLK-101519	Units: mg/L			Analysis Date: 15-Oct-2019 17:30					
Client ID:	Run ID: Balance1_348444	SeqNo: 5299440	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-101519	Units: mg/L			Analysis Date: 15-Oct-2019 17:30					
Client ID:	Run ID: Balance1_348444	SeqNo: 5299441	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) 1010 10.0 1000 0 101 85 - 115

DUP	Sample ID: HS19100555-02DUP	Units: mg/L			Analysis Date: 15-Oct-2019 17:30					
Client ID: MW-02	Run ID: Balance1_348444	SeqNo: 5299430	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) 1300 10.0 1280 1.55 5

DUP	Sample ID: HS19100448-02DUP	Units: mg/L			Analysis Date: 15-Oct-2019 17:30					
Client ID:	Run ID: Balance1_348444	SeqNo: 5299420	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) 2060 10.0 2092 1.54 5

The following samples were analyzed in this batch:

HS19100555-01	HS19100555-02	HS19100555-03	HS19100555-04
HS19100555-05	HS19100555-06	HS19100555-07	HS19100555-08
HS19100555-09	HS19100555-10	HS19100555-11	

Client: TRC Corporation
Project: NRG Limestone-Appendix III
WorkOrder: HS19100555

**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	2019-141	31-Aug-2020
Texas	TX104704231-19-23	30-Apr-2020

Client: TRC Corporation
Project: NRG Limestone-Appendix III
Work Order: HS19100555

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19100555-01	MW-01	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-01	MW-01	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-01	MW-01	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-02	MW-02	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-02	MW-02	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-02	MW-02	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-03	MW-17	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-03	MW-17	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-03	MW-17	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-04	MW-18	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-04	MW-18	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-04	MW-18	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-05	MW-19	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-05	MW-19	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-05	MW-19	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-06	MW-20	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-06	MW-20	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-06	MW-20	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-07	MW-21	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-07	MW-21	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-07	MW-21	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-08	MW-22	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-08	MW-22	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-08	MW-22	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-09	MW-27	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-09	MW-27	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-09	MW-27	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-10	MW-28	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-10	MW-28	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-10	MW-28	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-11	MW-05	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-11	MW-05	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-11	MW-05	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-12	MW-26	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-12	MW-26	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-12	MW-26	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-13	MW-29	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-13	MW-29	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-13	MW-29	Login	10/10/2019 8:03:18 AM	JRM	MET005

Client: TRC Corporation
Project: NRG Limestone-Appendix III
Work Order: HS19100555

SAMPLE TRACKING

HS19100555-14	MW-43	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-14	MW-43	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-14	MW-43	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-15	MW-44	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-15	MW-44	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-15	MW-44	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-16	MW-45	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-16	MW-45	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-16	MW-45	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-17	MW-46	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-17	MW-46	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-17	MW-46	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-18	DUP-01	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-18	DUP-01	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-18	DUP-01	Login	10/10/2019 8:03:18 AM	JRM	MET005
HS19100555-19	FB-01	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-19	FB-01	Login	10/10/2019 8:03:18 AM	JRM	Sub
HS19100555-19	FB-01	Login	10/10/2019 8:03:18 AM	JRM	MET005

Sample Receipt Checklist

Client Name: TRC-HOU
Work Order: HS19100555

Date/Time Received: 09-Oct-2019 08:40
Received by: JRM

Checklist completed by: Jared R. Makan
eSignature
Date: 10-Oct-2019

Reviewed by: RJ Modashia
eSignature
Date: 10-Oct-2019

Matrices: Water

Carrier name: FedEx Priority Overnight

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [] No [] Not Present [checked]
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 []

2 Page(s)
COC IDs:210219, 210220

Temperature(s)/Thermometer(s): 1.4°C/0.9°C, 1.2°C/0.7°C, 0.8°C/0.3°C, 1.0°C/0.5°C, IR11
1.5°C/1.0°C UC/C

Cooler(s)/Kit(s): 45158, 44316, 44081, 45139, 45159

Date/Time sample(s) sent to storage: 10/10/2019 07:55

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: Samples refrigerated prior to login.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



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Holland, MI
+1 616 399 6070

Chain of Custody Form

Page 1 of 2

COC ID: 210219

HS19100555

TRC Corporation
NRG Limestone-Appendix III



ALS Project Manager:

Customer Information		Project Information		ALS Project Manager:	
Purchase Order	298367.1000	Project Name	NRG Limestone- Appendix III	A	ICP_TW (B and Ca (App III))
Work Order		Project Number		B	300_W (Cl, SO4)
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-01	10-8-19	1220	Gw	2,8		X	X	X	X									
2	Mw-02	↓	1055	↓	↓		(X)	(X)	(X)	(X)				MS/MSD volume provided					
3	Mw-17		1030			X	X	X	X										
4	Mw-18		1050			X	X	X	X										
5	Mw-19		1145			X	X	X	X										
6	Mw-20		1135			X	X	X	X										
7	Mw-21		1030			X	X	X	X										
8	Mw-22		1140			X	X	X	X										
9	Mw-27		1200			X	X	X	X										
10	Mw-28		1055			X	X	X	X										

Sampler(s) Please Print & Sign
 Brian Hilliard & H&I Team
 Relinquished by: [Signature] Date: 10-8-19 Time: 1600
 Relinquished by: _____ Date: 10/9/19 Time: 08:40
 Logged by (Laboratory): _____ Date: _____ Time: _____
 Shipment Method FedEx Required Turnaround Time: (Check Box) Other _____ STD 10 Wk Days 5 Wk Days 2 Wk Days 24 Hour
 Received by: _____ Received by (Laboratory): J. M...
 Checked by (Laboratory): _____
 Notes: **NRG Limestone-PRIVILEGED & CONFIDENTIAL**
 Cooler ID _____ Cooler Temp. 40
 QC Package: (Check One Box Below)
 Level II Std OC TRRP Checklist
 Level III Std OC/Raw Data TRRP Level IV
 Level IV SWBA/CLP
 Other _____

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035

- Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
- Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
- The Chain of Custody is a legal document. All information must be completed accurately.

1111 CF-0.5

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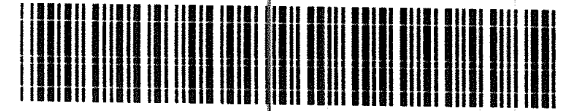
Chain of Custody Form

Page 2 of 2

COC ID: 210220

HS19100555

TRC Corporation
NRG Limestone-Appendix III



ALS Project Manager:

Customer Information		Project Information			
Purchase Order	298367.1000	Project Name	NRG Limestone- Appendix III	A	ICP_TW (B and Ca (App III))
Work Order		Project Number		B	300_W (Cl, SC4)
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-05	10-8-19	1025	GW	2.8		X	X	X	X							
2	MW-26		1120				X	X	X	X							
3	MW-29		1140				X	X	X	X							
4	MW-43		1200				X	X	X	X							
5	MW-44		1145				X	X	X	X							
6	MW-45		1040				X	X	X	X							
7	MW-46		1035				X	X	X	X							
8	DUP-01		1100				X	X	X	X							
9	FB-01		1050				X	X	X	X							
10																	

Sampler(s) Please Print & Sign Brian Hillin + HMT Team		Shipment Method FedEx (GRH) Consolid. 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:	Date: 10-8-19	Time: 1600	Received by:	Notes: NRG Limestone PRIVILEGED & CONFIDENTIAL			
Relinquished by:	Date: 10/9/19	Time: 08:40	Received by (Laboratory): J. Munnery	Cooler ID	Cooler Temp.	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 SW/BB/CLP			
				<input type="checkbox"/> Other			

- Note:
- Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 - Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 - The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2011 by ALS Environmental.


5 of 5
MPS# 7766 0387 0096
0681
Mstr# 8042 4829 3456 0215

WED - 09 OCT 10:30A
PRIORITY OVERNIGHT

43 SGRA

77099
TX-US IAH



	ALS	CUSTOMER
	10450 Stancliff Rd., Suite 210	Date: 10-8-19
	Houston, Texas 77099	Name: B. Hillia
	Tel. +1 281 530 5856 Fax. +1 281 530 5817	Company: HM

45159

ODY SEAL	Seal Broken By:
Time: 1600	JM
	Date:
	10/9/19

3 of 5
MPS# 7766 0387 0074
0681
Mstr# 8042 4829 3456

WED - 09 OCT 10:30A
PRIORITY OVERNIGHT

43 SGRA

77099
TX-US IAH



 **ALS**
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
44081

CUSTODY SEAL		Seal Broken By:
Date: 10-8-19	Time: 1600	JM
Name: B. Hillin		Date: 10/9/19
Company: HME		

4 of 5
MPS# 7766 0387 0085
0681
Mstr# 8042 4829 3456

WED - 09 OCT 10:30A
PRIORITY OVERNIGHT

43 SGRA

77099
TX-US IAH

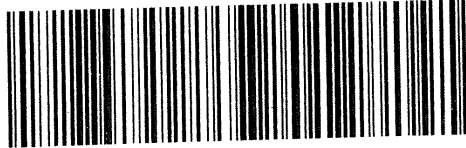


 **ALS**
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
45139

CUSTODY SEAL		Seal Broken By:
Date: 10-8-19	Time:	JM
Name: B. Hillin		Date: 10/9/19
Company: HME		

EAL	Seal Broken By:
1600	JM
	Date: 10/9/19

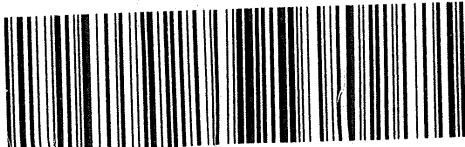
1 of 5
 TRK# 8042 4829 3456
 0215
 ## MASTER ##
43 SGRA
 WED - 09 OCT 10:30A
 PRIORITY OVERNIGHT
 77099
 TX-US IAH



ALS
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 Fax. +1 281 530 5887
 45158

CUSTODY SEAL		Seal Broken By: <i>Jm</i>
Date: 10-8-19	Time: 1600	Date:
Name: B Hillen		10/9/19
Company: HMI		

2 of 5
 MPS# 7766 0387 0063
 0681
 Mstr# 8042 4829 3456
 0215
43 SGRA
 WED - 09 OCT 10:30A
 PRIORITY OVERNIGHT
 77099
 TX-US IAH



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 Fax. +1 281 530 5887
 44316

Date: 10-8	Time: 1600
Name: Hillen	
Company: HMI	

STODY SEAL		Seal Broken By: <i>Jm</i>
Date: 10-8	Time: 1600	Date:
Name: Hillen		10/9/19
Company: HMI		



16-Oct-2019

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

Re: **HS19100555**

Work Order: **19101011**

Dear RJ,

ALS Environmental received 19 samples on 11-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 34.

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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Privileged and Confidential
Page 61 of 94

Client: ALS Environmental
Project: HS19100555
Work Order: 19101011

**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: HS19100555
 Work Order: 19101011

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>
19101011-01	HS19100555-01	Groundwater	MW-01	10/8/2019 12:20	10/11/2019 10:00	<input type="checkbox"/>
19101011-02	HS19100555-02	Groundwater	MW-02	10/8/2019 10:55	10/11/2019 10:00	<input type="checkbox"/>
19101011-03	HS19100555-03	Groundwater	MW-17	10/8/2019 10:30	10/11/2019 10:00	<input type="checkbox"/>
19101011-04	HS19100555-04	Groundwater	MW-18	10/8/2019 10:50	10/11/2019 10:00	<input type="checkbox"/>
19101011-05	HS19100555-05	Groundwater	MW-19	10/8/2019 11:45	10/11/2019 10:00	<input type="checkbox"/>
19101011-06	HS19100555-06	Groundwater	MW-20	10/8/2019 11:35	10/11/2019 10:00	<input type="checkbox"/>
19101011-07	HS19100555-07	Groundwater	MW-21	10/8/2019 10:30	10/11/2019 10:00	<input type="checkbox"/>
19101011-08	HS19100555-08	Groundwater	MW-22	10/8/2019 11:40	10/11/2019 10:00	<input type="checkbox"/>
19101011-09	HS19100555-09	Groundwater	MW-27	10/8/2019 12:00	10/11/2019 10:00	<input type="checkbox"/>
19101011-10	HS19100555-10	Groundwater	MW-28	10/8/2019 10:55	10/11/2019 10:00	<input type="checkbox"/>
19101011-11	HS19100555-11	Groundwater	MW-05	10/8/2019 10:25	10/11/2019 10:00	<input type="checkbox"/>
19101011-12	HS19100555-12	Groundwater	MW-26	10/8/2019 11:20	10/11/2019 10:00	<input type="checkbox"/>
19101011-13	HS19100555-13	Groundwater	MW-29	10/8/2019 11:40	10/11/2019 10:00	<input type="checkbox"/>
19101011-14	HS19100555-14	Groundwater	MW-43	10/8/2019 12:00	10/11/2019 10:00	<input type="checkbox"/>
19101011-15	HS19100555-15	Groundwater	MW-44	10/8/2019 11:45	10/11/2019 10:00	<input type="checkbox"/>
19101011-16	HS19100555-16	Groundwater	MW-45	10/8/2019 10:40	10/11/2019 10:00	<input type="checkbox"/>
19101011-17	HS19100555-17	Groundwater	MW-46	10/8/2019 10:35	10/11/2019 10:00	<input type="checkbox"/>
19101011-18	HS19100555-18	Groundwater	DUP-01	10/8/2019 11:00	10/11/2019 10:00	<input type="checkbox"/>
19101011-19	HS19100555-19	Groundwater	FB-01	10/8/2019 10:50	10/11/2019 10:00	<input type="checkbox"/>

Client: ALS Environmental
Project: HS19100555
Work Order: 19101011

Case Narrative

Samples for the above noted Work Order were received on 10/11/2019. 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: HS19100555
WorkOrder: 19101011

**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: 19101011
 Client: ALS Environmental
 Project: HS19100555

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
Batch ID R272700	Test Name: Fluoride					
19101011-01	HS19100555-01	Groundwater	10/8/2019 12:20:00 PM			10/12/2019 02:16 PM
^						
19101011-02	HS19100555-02		10/8/2019 10:55:00 AM			10/12/2019 02:16 PM
^						
19101011-03	HS19100555-03		10/8/2019 10:30:00 AM			10/12/2019 02:16 PM
^						
19101011-04	HS19100555-04		10/8/2019 10:50:00 AM			10/12/2019 02:16 PM
^						
19101011-05	HS19100555-05		10/8/2019 11:45:00 AM			10/12/2019 02:16 PM
^						
19101011-06	HS19100555-06		10/8/2019 11:35:00 AM			10/12/2019 02:16 PM
^						
19101011-07	HS19100555-07		10/8/2019 10:30:00 AM			10/12/2019 02:16 PM
^						
19101011-08	HS19100555-08		10/8/2019 11:40:00 AM			10/12/2019 02:16 PM
^						
19101011-09	HS19100555-09		10/8/2019 12:00:00 PM			10/12/2019 02:16 PM
^						
19101011-10	HS19100555-10		10/8/2019 10:55:00 AM			10/12/2019 02:16 PM
^						
19101011-11	HS19100555-11		10/8/2019 10:25:00 AM			10/12/2019 02:16 PM
^						
19101011-12	HS19100555-12		10/8/2019 11:20:00 AM			10/12/2019 02:16 PM
^						
19101011-13	HS19100555-13		10/8/2019 11:40:00 AM			10/12/2019 02:16 PM
^						
19101011-14	HS19100555-14		10/8/2019 12:00:00 PM			10/12/2019 02:16 PM
^						
19101011-15	HS19100555-15		10/8/2019 11:45:00 AM			10/12/2019 02:16 PM
^						
19101011-16	HS19100555-16		10/8/2019 10:40:00 AM			10/12/2019 02:16 PM
^						
19101011-17	HS19100555-17		10/8/2019 10:35:00 AM			10/12/2019 02:16 PM
^						
19101011-18	HS19100555-18		10/8/2019 11:00:00 AM			10/12/2019 02:16 PM
^						
19101011-19	HS19100555-19		10/8/2019 10:50:00 AM			10/12/2019 02:16 PM
^						

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-01
Collection Date: 10/8/2019 12:20 PM

Work Order: 19101011
Lab ID: 19101011-01
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.090	J	0.058	0.10	mg/L	1	10/12/2019 14:16

Method: A4500-F C-11 Analyst: DVD

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-02
Collection Date: 10/8/2019 10:55 AM

Work Order: 19101011
Lab ID: 19101011-02
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-03
Collection Date: 10/8/2019 10:30 AM

Work Order: 19101011
Lab ID: 19101011-03
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.11		0.058	0.10	mg/L	1	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-04
Collection Date: 10/8/2019 10:50 AM

Work Order: 19101011
Lab ID: 19101011-04
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.10		0.058	0.10	mg/L	1	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-05
Collection Date: 10/8/2019 11:45 AM

Work Order: 19101011
Lab ID: 19101011-05
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-06
Collection Date: 10/8/2019 11:35 AM

Work Order: 19101011
Lab ID: 19101011-06
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-07
Collection Date: 10/8/2019 10:30 AM

Work Order: 19101011
Lab ID: 19101011-07
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-08
Collection Date: 10/8/2019 11:40 AM

Work Order: 19101011
Lab ID: 19101011-08
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-09
Collection Date: 10/8/2019 12:00 PM

Work Order: 19101011
Lab ID: 19101011-09
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	U		0.058	0.10	mg/L	1	10/12/2019 14:16

Method: A4500-F C-11 Analyst: DVD

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-10
Collection Date: 10/8/2019 10:55 AM

Work Order: 19101011
Lab ID: 19101011-10
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.15		0.058	0.10	mg/L	1	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-11
Collection Date: 10/8/2019 10:25 AM

Work Order: 19101011
Lab ID: 19101011-11
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.060	J	0.058	0.10	mg/L	1	10/12/2019 14:16

Method: A4500-F C-11 Analyst: DVD

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-12
Collection Date: 10/8/2019 11:20 AM

Work Order: 19101011
Lab ID: 19101011-12
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-13
Collection Date: 10/8/2019 11:40 AM

Work Order: 19101011
Lab ID: 19101011-13
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.10		0.058	0.10	mg/L	1	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-14
Collection Date: 10/8/2019 12:00 PM

Work Order: 19101011
Lab ID: 19101011-14
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.68		0.058	0.10	mg/L	1	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-15
Collection Date: 10/8/2019 11:45 AM

Work Order: 19101011
Lab ID: 19101011-15
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-16
Collection Date: 10/8/2019 10:40 AM

Work Order: 19101011
Lab ID: 19101011-16
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-17
Collection Date: 10/8/2019 10:35 AM

Work Order: 19101011
Lab ID: 19101011-17
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-18
Collection Date: 10/8/2019 11:00 AM

Work Order: 19101011
Lab ID: 19101011-18
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.68		0.058	0.10	mg/L	1	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100555
Sample ID: HS19100555-19
Collection Date: 10/8/2019 10:50 AM

Work Order: 19101011
Lab ID: 19101011-19
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	10/12/2019 14:16

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

WorkOrder: 19101011
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: 19101011
Project: HS19100555

QC BATCH REPORT

Batch ID: **R272700** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK		Sample ID: MB-R272700-R272700				Units: mg/L		Analysis Date: 10/12/2019 02:16 P		
Client ID:		Run ID: TITRATOR 1_191012A		SeqNo: 5984600		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-R272700-R272700				Units: mg/L		Analysis Date: 10/12/2019 02:16 P		
Client ID:		Run ID: TITRATOR 1_191012A		SeqNo: 5984601		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.81	0.10	5	0	96.2	80-120	0			

MS		Sample ID: 19101006-02AMS				Units: mg/L		Analysis Date: 10/12/2019 02:16 P		
Client ID:		Run ID: TITRATOR 1_191012A		SeqNo: 5984604		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.9	0.10	5	0.02	97.6	75-125	0			

MS		Sample ID: 19101011-02AMS				Units: mg/L		Analysis Date: 10/12/2019 02:16 P		
Client ID: HS19100555-02		Run ID: TITRATOR 1_191012A		SeqNo: 5984625		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.9	0.10	5	0.02	97.6	75-125	0			

MSD		Sample ID: 19101006-02AMSD				Units: mg/L		Analysis Date: 10/12/2019 02:16 P		
Client ID:		Run ID: TITRATOR 1_191012A		SeqNo: 5984605		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.9	0.10	5	0.02	97.6	75-125	4.9	0	20	

MSD		Sample ID: 19101011-02AMSD				Units: mg/L		Analysis Date: 10/12/2019 02:16 P		
Client ID: HS19100555-02		Run ID: TITRATOR 1_191012A		SeqNo: 5984626		Prep Date:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.9	0.10	5	0.02	97.6	75-125	4.9	0	20	

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

Client: ALS Environmental
Work Order: 19101011
Project: HS19100555

QC BATCH REPORT

Batch ID: **R272700** Instrument ID **Titration 1** Method: **A4500-F C-11**

The following samples were analyzed in this batch:

19101011-01A	19101011-02A	19101011-03A
19101011-04A	19101011-05A	19101011-06A
19101011-07A	19101011-08A	19101011-09A
19101011-10A	19101011-11A	19101011-12A
19101011-13A	19101011-14A	19101011-15A
19101011-16A	19101011-17A	19101011-18A
19101011-19A		

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

WET CHEMISTRY DATA ASSESSMENT CHECKLIST

Wet Chemistry		Batch Number: TITRATOR1_191012A	Instrument ID: Titrator 1				
Method: Fluoride		Work order Number (s): 19101011					
Analyst Name: DMD		Date 10/12/19	Reviewer Name: JLB			Date: 10/14/19	
	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)



19101011

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: 12375

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 Standliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19100555
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19100555-01	MW-01	Groundwater	08 Oct 2019 12:20
	Fluoride by ISE 4500			16 Oct 2019
2.	HS19100555-02	MW-02	Groundwater	08 Oct 2019 10:55
	Fluoride by ISE 4500			16 Oct 2019
3.	HS19100555-03	MW-17	Groundwater	08 Oct 2019 10:30
	Fluoride by ISE 4500			16 Oct 2019
4.	HS19100555-04	MW-18	Groundwater	08 Oct 2019 10:50
	Fluoride by ISE 4500			16 Oct 2019
5.	HS19100555-05	MW-19	Groundwater	08 Oct 2019 11:45
	Fluoride by ISE 4500			16 Oct 2019
6.	HS19100555-06	MW-20	Groundwater	08 Oct 2019 11:35
	Fluoride by ISE 4500			16 Oct 2019
7.	HS19100555-07	MW-21	Groundwater	08 Oct 2019 10:30
	Fluoride by ISE 4500			16 Oct 2019
8.	HS19100555-08	MW-22	Groundwater	08 Oct 2019 11:40
	Fluoride by ISE 4500			16 Oct 2019
9.	HS19100555-09	MW-27	Groundwater	08 Oct 2019 12:00





Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 12375

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
	Fluoride by ISE 4500		16 Oct 2019
10. HS19100555-10	MW-28	Groundwater	08 Oct 2019 10:55
	Fluoride by ISE 4500		16 Oct 2019
11. HS19100555-11	MW-05	Groundwater	08 Oct 2019 10:25
	Fluoride by ISE 4500		16 Oct 2019
12. HS19100555-12	MW-26	Groundwater	08 Oct 2019 11:20
	Fluoride by ISE 4500		16 Oct 2019
13. HS19100555-13	MW-29	Groundwater	08 Oct 2019 11:40
	Fluoride by ISE 4500		16 Oct 2019
14. HS19100555-14	MW-43	Groundwater	08 Oct 2019 12:00
	Fluoride by ISE 4500		16 Oct 2019
15. HS19100555-15	MW-44	Groundwater	08 Oct 2019 11:45
	Fluoride by ISE 4500		16 Oct 2019
16. HS19100555-16	MW-45	Groundwater	08 Oct 2019 10:40
	Fluoride by ISE 4500		16 Oct 2019
17. HS19100555-17	MW-46	Groundwater	08 Oct 2019 10:35
	Fluoride by ISE 4500		16 Oct 2019
18. HS19100555-18	DUP-01	Groundwater	08 Oct 2019 11:00
	Fluoride by ISE 4500		16 Oct 2019
19. HS19100555-19	FB-01	Groundwater	08 Oct 2019 10:50
	Fluoride by ISE 4500		16 Oct 2019

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

HS19100555-02 MS/MSD

QC Level: TRRP LRC (TRRP checklist only+Level II (normal))

Relinquished By: J. MURPHY

Received By: [Signature]

Cooler ID(s): _____

Date/Time: 10/10/19 18:00

Date/Time: 10/11/19 10:00

Temperature(s): 4.00C SR2 PH18



Sample Receipt Checklist

Client Name: **ALS - HOUSTON**

Date/Time Received: **11-Oct-19 10:00**

Work Order: **19101011**

Received by: **MJG**

Checklist completed by Matthew Gaylord 11-Oct-19
eSignature Date

Reviewed by: Chad Whelton 14-Oct-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): 4.0/4.0C SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 10/11/2019 4:03:43 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

November 12, 2019

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

Work Order: **HS19100550**

Laboratory Results for: **NRG Limestone-Appendix IV**

Dear Lori,

ALS Environmental received 19 sample(s) on Oct 09, 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 Limestone-Appendix IV
WorkOrder: HS19100550

**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 Limestone-Appendix IV
WorkOrder: HS19100550

**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: 11/12/2019			
Project Name: NRG Limestone-Appendix IV				Laboratory Job Number: HS19100550			
Reviewer Name: RJ Modashia				Prep Batch Number(s): 146293,146311,R348369,R350305			
# 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 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: 11/12/2019				
Project Name: NRG Limestone-Appendix IV			Laboratory Job Number: HS19100550				
Reviewer Name: RJ Modashia			Prep Batch Number(s): 146293,146311,R348369,R350305				
# 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: 11/12/2019
Project Name: NRG Limestone-Appendix IV		Laboratory Job Number: HS19100550
Reviewer Name: RJ Modashia		Prep Batch Number(s): 146293,146311,R348369,R350305
ER# ⁵	Description	
1	<p>The analyses for Radium-226 and Radium-228 were subcontracted to ALS Environmental in Kelso WA. Final report attached.</p> <p>The analysis for Fluoride was subcontracted to ALS Environmental in Holland, MI. Final report attached.</p>	
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);</p> <p>NA = Not Applicable;</p> <p>NR = Not Reviewed;</p> <p>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 Limestone-Appendix IV
 WorkOrder: HS19100550
 Start Date: 14-Oct-2019

End Date: 15-Oct-2019

Run ID:ICPMS04_348222
 Instrument:ICPMS04
 Method:SW6020

Sample No.	D/F	Time	FileID	Analytes
ICV	1	14-Oct-2019 12:15	025_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	14-Oct-2019 12:18	026LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV5	1	14-Oct-2019 12:20	027LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICB	1	14-Oct-2019 12:22	028_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	14-Oct-2019 12:28	029ICSA.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSAB	1	14-Oct-2019 12:30	030ICSB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 1	1	14-Oct-2019 12:58	041_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 1	1	14-Oct-2019 13:00	042_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 2	1	14-Oct-2019 13:26	053_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 2	1	14-Oct-2019 13:28	054_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 3	1	14-Oct-2019 14:01	065_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 3	1	14-Oct-2019 14:04	066_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 4	1	14-Oct-2019 14:27	075_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 4	1	14-Oct-2019 14:29	076_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MBLK-146293	1	14-Oct-2019 14:33	077SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
LCS-146293	1	14-Oct-2019 14:36	078SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-02	1	14-Oct-2019 14:38	079SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-02SD	5	14-Oct-2019 14:40	080SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-02MS	1	14-Oct-2019 14:42	081SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-02MSD	1	14-Oct-2019 14:44	082SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-02PDS	1	14-Oct-2019 14:47	083SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-01	1	14-Oct-2019 14:49	084SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-17	1	14-Oct-2019 14:51	085SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 5	1	14-Oct-2019 15:01	088_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 5	1	14-Oct-2019 15:03	089_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-18	1	14-Oct-2019 15:06	090SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-19	1	14-Oct-2019 15:08	091SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-20	1	14-Oct-2019 15:10	092SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-21	1	14-Oct-2019 15:12	093SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-22	1	14-Oct-2019 15:15	094SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-27	1	14-Oct-2019 15:17	095SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-28	1	14-Oct-2019 15:19	096SMPL.d	AS BA BE CD CO CR MO PB SB SE TL
MW-05	1	14-Oct-2019 15:21	097SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-26	1	14-Oct-2019 15:23	098SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-28	5	14-Oct-2019 15:26	099SMPL.d	LI
CCV 6	1	14-Oct-2019 15:28	100_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 6	1	14-Oct-2019 15:30	101_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 7	1	14-Oct-2019 16:08	113_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 7	1	14-Oct-2019 16:12	114_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCV 8	1	14-Oct-2019 16:50	130_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV2	1	14-Oct-2019 16:52	131LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV5	1	14-Oct-2019 16:54	132LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCB 8	1	14-Oct-2019 16:56	133_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 9	1	14-Oct-2019 17:24	144_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 9	1	14-Oct-2019 17:26	145_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 10	1	14-Oct-2019 17:53	156_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 10	1	14-Oct-2019 17:55	157_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 11	1	14-Oct-2019 18:19	168_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 11	1	14-Oct-2019 18:21	169_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 12	1	14-Oct-2019 20:44	175_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 12	1	14-Oct-2019 20:47	176_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
WorkOrder: HS19100550
Start Date: 14-Oct-2019 **End Date:** 15-Oct-2019

Run ID: ICPMS04_348222
Instrument: ICPMS04
Method: SW6020

Sample No.	D/F	Time	FileID	Analytes
CCV 13	1	14-Oct-2019 21:11	187_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 13	1	14-Oct-2019 21:14	188_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 14	1	14-Oct-2019 21:39	199_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 14	1	14-Oct-2019 21:41	200_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 15	1	14-Oct-2019 22:01	209_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 15	1	14-Oct-2019 22:03	210_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 16	1	14-Oct-2019 22:28	221_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 16	1	14-Oct-2019 22:30	222_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 17	1	14-Oct-2019 22:52	232_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 17	1	14-Oct-2019 22:55	233_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCV 18	1	14-Oct-2019 23:30	247_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV2	1	14-Oct-2019 23:32	248LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV5	1	14-Oct-2019 23:34	249LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCB 18	1	14-Oct-2019 23:36	250_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 19	1	14-Oct-2019 23:54	258_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 19	1	14-Oct-2019 23:56	259_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 20	1	15-Oct-2019 00:21	270_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 20	1	15-Oct-2019 00:23	271_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 21	1	15-Oct-2019 00:47	282_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 21	1	15-Oct-2019 00:50	283_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 22	1	15-Oct-2019 00:56	286_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 22	1	15-Oct-2019 00:59	287_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	15-Oct-2019 01:03	289LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV5	1	15-Oct-2019 01:05	290LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	15-Oct-2019 01:08	291ICSA.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSAB	1	15-Oct-2019 01:10	292ICSB.d	AS BA BE CD CO CR LI MO PB SB SE TL

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 WorkOrder: HS19100550
 Start Date: 11-Oct-2019

End Date: 12-Oct-2019

Run ID:ICPMS05_348115
 Instrument:ICPMS05
 Method:SW6020

Sample No.	D/F	Time	FileID	Analytes
ICV	1	11-Oct-2019 11:13	020_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	11-Oct-2019 11:15	021LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV5	1	11-Oct-2019 11:18	022LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICB	1	11-Oct-2019 11:20	023_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	11-Oct-2019 11:40	025ICSA.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSAB	1	11-Oct-2019 11:42	026ICSB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 1	1	11-Oct-2019 12:03	033_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 1	1	11-Oct-2019 12:05	034_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 2	1	11-Oct-2019 12:31	045_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 2	1	11-Oct-2019 12:34	046_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 3	1	11-Oct-2019 12:59	057_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 3	1	11-Oct-2019 13:01	058_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 4	1	11-Oct-2019 13:24	068_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 4	1	11-Oct-2019 13:26	069_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 5	1	11-Oct-2019 13:35	071_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 5	1	11-Oct-2019 14:01	082_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 6	1	11-Oct-2019 14:04	083_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 7	1	11-Oct-2019 14:41	095_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 6	1	11-Oct-2019 15:06	097_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 7	1	11-Oct-2019 15:35	107_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 8	1	11-Oct-2019 15:38	108_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 8	1	11-Oct-2019 16:52	116_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 9	1	11-Oct-2019 16:54	117_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 9	1	11-Oct-2019 17:08	121_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 10	1	11-Oct-2019 17:10	122_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 10	1	11-Oct-2019 17:36	133_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 11	1	11-Oct-2019 17:39	134_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 11	1	11-Oct-2019 17:59	143_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 12	1	11-Oct-2019 18:01	144_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCV 12	1	11-Oct-2019 22:26	172_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV2	1	11-Oct-2019 22:29	173LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV5	1	11-Oct-2019 22:31	174LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCB 13	1	11-Oct-2019 22:38	177_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 13	1	11-Oct-2019 22:55	185_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 14	1	11-Oct-2019 22:58	186_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 14	1	11-Oct-2019 23:22	197_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 15	1	11-Oct-2019 23:24	198_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 15	1	11-Oct-2019 23:33	202_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 16	1	11-Oct-2019 23:35	203_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCV 16	1	12-Oct-2019 00:30	226_ICV.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV2	1	12-Oct-2019 00:32	227LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICCV5	1	12-Oct-2019 00:34	228LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICCB 17	1	12-Oct-2019 00:37	229_ICB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 17	1	12-Oct-2019 00:57	238_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 18	1	12-Oct-2019 00:59	239_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 18	1	12-Oct-2019 01:17	247_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 19	1	12-Oct-2019 01:19	248_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	12-Oct-2019 01:21	249ICSA.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSAB	1	12-Oct-2019 01:24	250ICSB.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 19	1	12-Oct-2019 01:41	258_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 20	1	12-Oct-2019 01:44	259_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL

FORM 13 - ANALYSIS RUN LOG

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
WorkOrder: HS19100550
Start Date: 11-Oct-2019 **End Date:** 12-Oct-2019

Run ID: ICPMS05_348115
Instrument: ICPMS05
Method: SW6020

Sample No.	D/F	Time	FileID	Analytes
CCV 20	1	12-Oct-2019 01:59	266_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 21	1	12-Oct-2019 02:01	267_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-29	1	12-Oct-2019 02:04	268SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-43	1	12-Oct-2019 02:06	269SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-44	1	12-Oct-2019 02:08	270SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-45	1	12-Oct-2019 02:10	271SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
MW-46	1	12-Oct-2019 02:13	272SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
DUP-01	1	12-Oct-2019 02:15	273SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
FB-01	1	12-Oct-2019 02:17	274SMPL.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCV 21	1	12-Oct-2019 02:24	277_CCV.d	AS BA BE CD CO CR LI MO PB SB SE TL
CCB 22	1	12-Oct-2019 02:26	278_CCB.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV2	1	12-Oct-2019 02:28	279LCV2.d	AS BA BE CD CO CR LI MO PB SB SE TL
LLICV5	1	12-Oct-2019 02:31	280LCV5.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSA	1	12-Oct-2019 02:33	281ICSA.d	AS BA BE CD CO CR LI MO PB SB SE TL
ICSAB	1	12-Oct-2019 02:35	282ICSB.d	AS BA BE CD CO CR LI MO PB SB SE TL

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
WorkOrder: HS19100550

Run ID:ICPMS04_348222
Instrument:ICPMS04
Method:SW6020

CCB	Date	Seq	D/F	Units
CCB 1	14-Oct-2019 13:00	5295092	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	1.001	0.4	2
	Thallium	0.405	0.2	2
CCB 2	14-Oct-2019 13:28	5295143	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.601	0.4	2
	Thallium	0.373	0.2	2
CCB 3	14-Oct-2019 14:04	5295181	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.485	0.4	2
	Thallium	0.251	0.2	2
CCB 4	14-Oct-2019 14:29	5295297	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.442	0.4	2
	Thallium	0.282	0.2	2
CCB 5	14-Oct-2019 15:01	5295348	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.621	0.4	2
	Thallium	0.267	0.2	2
CCB 6	14-Oct-2019 15:30	5295459	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.266	0.2	2
CCB 7	14-Oct-2019 16:08	5295577	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.497	0.4	2
	Thallium	0.259	0.2	2
CCB 9	14-Oct-2019 17:26	5295972	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.456	0.4	2
	Thallium	0.311	0.2	2
CCB 10	14-Oct-2019 17:55	5295984	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.297	0.2	2
CCB 11	14-Oct-2019 18:21	5295996	1	ug/L
	Analyte	Result	MDL	Report Limit
	Barium	5.743	1.9	4
	Thallium	0.346	0.2	2
CCB 12	14-Oct-2019 20:47	5295999	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.344	0.2	2
CCB 13	14-Oct-2019 21:14	5296011	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	1.313	0.4	2

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
WorkOrder: HS19100550

Run ID:ICPMS04_348222
Instrument:ICPMS04
Method:SW6020

CCB 14		Date: 14-Oct-2019 21:41	Seq: 5296023	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit	
Thallium		0.375	0.2	2	
Antimony		0.666	0.4	2	
Thallium		0.344	0.2	2	
CCB 15		Date: 14-Oct-2019 22:03	Seq: 5296026	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit	
Antimony		1.28	0.4	2	
Thallium		0.399	0.2	2	
CCB 16		Date: 14-Oct-2019 22:30	Seq: 5296038	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit	
Antimony		0.433	0.4	2	
Thallium		0.373	0.2	2	
CCB 17		Date: 14-Oct-2019 22:55	Seq: 5296049	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit	
Thallium		0.342	0.2	2	
CCB 19		Date: 14-Oct-2019 23:56	Seq: 5296081	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit	
Antimony		0.899	0.4	2	
Thallium		0.384	0.2	2	
CCB 20		Date: 15-Oct-2019 00:23	Seq: 5296099	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit	
Antimony		0.578	0.4	2	
Thallium		0.38	0.2	2	
CCB 21		Date: 15-Oct-2019 00:50	Seq: 5296111	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit	
Antimony		0.52	0.4	2	
Thallium		0.379	0.2	2	
CCB 22		Date: 15-Oct-2019 00:59	Seq: 5296115	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit	
Antimony		0.582	0.4	2	
Thallium		0.362	0.2	2	

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
WorkOrder: HS19100550

Run ID:ICPMS05_348115
Instrument:ICPMS05
Method:SW6020

CCB	Date	Seq	D/F	Units
CCB 1	11-Oct-2019 12:05	5292758	1	ug/L
	Analyte	Result	MDL	Report Limit
	Lithium	1.529	1	5
	Thallium	0.337	0.2	2
CCB 2	11-Oct-2019 12:34	5293083	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.281	0.2	2
CCB 3	11-Oct-2019 13:01	5293071	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.288	0.2	2
CCB 4	11-Oct-2019 13:26	5293661	1	ug/L
	Analyte	Result	MDL	Report Limit
	Lead	1.237	0.6	2
	Thallium	0.332	0.2	2
CCB 6	11-Oct-2019 14:04	5293677	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.334	0.2	2
CCB 7	11-Oct-2019 14:41	5293689	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.382	0.2	2
CCB 8	11-Oct-2019 15:38	5293702	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.396	0.2	2
CCB 9	11-Oct-2019 16:54	5293711	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.38	0.2	2
CCB 10	11-Oct-2019 17:10	5293716	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.363	0.2	2
CCB 11	11-Oct-2019 17:39	5293925	1	ug/L
	Analyte	Result	MDL	Report Limit
	Lithium	4.121	1	5
	Thallium	0.349	0.2	2
CCB 12	11-Oct-2019 18:01	5293935	1	ug/L
	Analyte	Result	MDL	Report Limit
	Lithium	1.874	1	5
	Thallium	0.363	0.2	2
CCB 14	11-Oct-2019 22:58	5294031	1	ug/L
	Analyte	Result	MDL	Report Limit
	Beryllium	0.259	0.2	2
	Cadmium	0.205	0.2	2
	Thallium	0.641	0.2	2

CCB EXCEPTIONS REPORT

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
WorkOrder: HS19100550

Run ID:ICPMS05_348115
 Instrument:ICPMS05
 Method:SW6020

CCB ID	Date	Seq	D/F	Units
CCB 15	11-Oct-2019 23:24	5294043	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.34	0.2	2
CCB 16	11-Oct-2019 23:35	5294048	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.336	0.2	2
CCB 18	12-Oct-2019 00:59	5294116	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.451	0.2	2
CCB 19	12-Oct-2019 01:19	5294077	1	ug/L
	Analyte	Result	MDL	Report Limit
	Antimony	0.614	0.4	2
	Thallium	0.466	0.2	2
CCB 20	12-Oct-2019 01:44	5294088	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.52	0.2	2
CCB 21	12-Oct-2019 02:01	5294117	1	ug/L
	Analyte	Result	MDL	Report Limit
	Thallium	0.488	0.2	2
CCB 22	12-Oct-2019 02:26	5294128	1	ug/L
	Analyte	Result	MDL	Report Limit
	Beryllium	0.319	0.2	2
	Cadmium	0.223	0.2	2
	Molybdenum	0.633	0.6	5
	Thallium	0.705	0.2	2

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
Work Order: HS19100550

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19100550-01	MW-01	Groundwater		08-Oct-2019 12:20	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-02	MW-02	Groundwater		08-Oct-2019 10:55	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-03	MW-17	Groundwater		08-Oct-2019 10:30	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-04	MW-18	Groundwater		08-Oct-2019 10:50	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-05	MW-19	Groundwater		08-Oct-2019 11:45	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-06	MW-20	Groundwater		08-Oct-2019 11:35	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-07	MW-21	Groundwater		08-Oct-2019 10:30	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-08	MW-22	Groundwater		08-Oct-2019 11:40	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-09	MW-27	Groundwater		08-Oct-2019 12:00	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-10	MW-28	Groundwater		08-Oct-2019 10:55	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-11	MW-05	Groundwater		08-Oct-2019 10:25	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-12	MW-26	Groundwater		08-Oct-2019 11:20	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-13	MW-29	Groundwater		08-Oct-2019 11:40	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-14	MW-43	Groundwater		08-Oct-2019 12:00	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-15	MW-44	Groundwater		08-Oct-2019 11:45	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-16	MW-45	Groundwater		08-Oct-2019 10:40	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-17	MW-46	Groundwater		08-Oct-2019 10:35	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-18	DUP-01	Groundwater		08-Oct-2019 11:00	09-Oct-2019 08:40	<input type="checkbox"/>
HS19100550-19	FB-01	Groundwater		08-Oct-2019 10:50	09-Oct-2019 08:40	<input type="checkbox"/>

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-01
 Collection Date: 08-Oct-2019 12:20

ANALYTICAL REPORT

WorkOrder:HS19100550
 Lab ID:HS19100550-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JC	
Antimony	0.00193	J	0.000400	0.00200	mg/L	1	14-Oct-2019 14:49
Arsenic	0.000580	J	0.000400	0.00200	mg/L	1	14-Oct-2019 14:49
Barium	0.630		0.00190	0.00400	mg/L	1	14-Oct-2019 14:49
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 14:49
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 14:49
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	14-Oct-2019 14:49
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	14-Oct-2019 14:49
Lead	< 0.000600		0.000600	0.00200	mg/L	1	14-Oct-2019 14:49
Lithium	0.0355		0.00100	0.00500	mg/L	1	14-Oct-2019 14:49
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	14-Oct-2019 14:49
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	14-Oct-2019 14:49
Thallium	0.000793	J	0.000200	0.00200	mg/L	1	14-Oct-2019 14:49
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 15:58
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-02
 Collection Date: 08-Oct-2019 10:55

ANALYTICAL REPORT
 WorkOrder:HS19100550
 Lab ID:HS19100550-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JC	
Antimony	0.000760	J	0.000400	0.00200	mg/L	1	14-Oct-2019 14:38
Arsenic	< 0.000400		0.000400	0.00200	mg/L	1	14-Oct-2019 14:38
Barium	0.186		0.00190	0.00400	mg/L	1	14-Oct-2019 14:38
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 14:38
Cadmium	0.000335	J	0.000200	0.00200	mg/L	1	14-Oct-2019 14:38
Chromium	0.00167	J	0.000400	0.00400	mg/L	1	14-Oct-2019 14:38
Cobalt	0.00708		0.000200	0.00500	mg/L	1	14-Oct-2019 14:38
Lead	< 0.000600		0.000600	0.00200	mg/L	1	14-Oct-2019 14:38
Lithium	0.0598		0.00100	0.00500	mg/L	1	14-Oct-2019 14:38
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	14-Oct-2019 14:38
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	14-Oct-2019 14:38
Thallium	0.000423	J	0.000200	0.00200	mg/L	1	14-Oct-2019 14:38
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 15:53
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-17
 Collection Date: 08-Oct-2019 10:30

ANALYTICAL REPORT
 WorkOrder:HS19100550
 Lab ID:HS19100550-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JC	
Antimony	0.000701	J	0.000400	0.00200	mg/L	1	14-Oct-2019 14:51
Arsenic	0.000678	J	0.000400	0.00200	mg/L	1	14-Oct-2019 14:51
Barium	0.0228		0.00190	0.00400	mg/L	1	14-Oct-2019 14:51
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 14:51
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 14:51
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	14-Oct-2019 14:51
Cobalt	0.000303	J	0.000200	0.00500	mg/L	1	14-Oct-2019 14:51
Lead	< 0.000600		0.000600	0.00200	mg/L	1	14-Oct-2019 14:51
Lithium	0.00994		0.00100	0.00500	mg/L	1	14-Oct-2019 14:51
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	14-Oct-2019 14:51
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	14-Oct-2019 14:51
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 14:51
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 16:00
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-18
 Collection Date: 08-Oct-2019 10:50

ANALYTICAL REPORT
 WorkOrder:HS19100550
 Lab ID:HS19100550-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JC	
Antimony	0.000608	J	0.000400	0.00200	mg/L	1	14-Oct-2019 15:06
Arsenic	0.000468	J	0.000400	0.00200	mg/L	1	14-Oct-2019 15:06
Barium	0.0749		0.00190	0.00400	mg/L	1	14-Oct-2019 15:06
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:06
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:06
Chromium	0.00208	J	0.000400	0.00400	mg/L	1	14-Oct-2019 15:06
Cobalt	0.00371	J	0.000200	0.00500	mg/L	1	14-Oct-2019 15:06
Lead	< 0.000600		0.000600	0.00200	mg/L	1	14-Oct-2019 15:06
Lithium	0.00915		0.00100	0.00500	mg/L	1	14-Oct-2019 15:06
Molybdenum	0.00175	J	0.000600	0.00500	mg/L	1	14-Oct-2019 15:06
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	14-Oct-2019 15:06
Thallium	0.000366	J	0.000200	0.00200	mg/L	1	14-Oct-2019 15:06
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 16:02
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-19
 Collection Date: 08-Oct-2019 11:45

ANALYTICAL REPORT
 WorkOrder:HS19100550
 Lab ID:HS19100550-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JC	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	14-Oct-2019 15:08
Arsenic	0.000873	J	0.000400	0.00200	mg/L	1	14-Oct-2019 15:08
Barium	0.0987		0.00190	0.00400	mg/L	1	14-Oct-2019 15:08
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:08
Cadmium	0.000260	J	0.000200	0.00200	mg/L	1	14-Oct-2019 15:08
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	14-Oct-2019 15:08
Cobalt	0.000647	J	0.000200	0.00500	mg/L	1	14-Oct-2019 15:08
Lead	< 0.000600		0.000600	0.00200	mg/L	1	14-Oct-2019 15:08
Lithium	0.0111		0.00100	0.00500	mg/L	1	14-Oct-2019 15:08
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	14-Oct-2019 15:08
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	14-Oct-2019 15:08
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:08
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 16:03
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-20
 Collection Date: 08-Oct-2019 11:35

ANALYTICAL REPORT

WorkOrder:HS19100550
 Lab ID:HS19100550-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JC	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	14-Oct-2019 15:10
Arsenic	0.000552	J	0.000400	0.00200	mg/L	1	14-Oct-2019 15:10
Barium	0.0717		0.00190	0.00400	mg/L	1	14-Oct-2019 15:10
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:10
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:10
Chromium	0.00124	J	0.000400	0.00400	mg/L	1	14-Oct-2019 15:10
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	14-Oct-2019 15:10
Lead	< 0.000600		0.000600	0.00200	mg/L	1	14-Oct-2019 15:10
Lithium	0.00908		0.00100	0.00500	mg/L	1	14-Oct-2019 15:10
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	14-Oct-2019 15:10
Selenium	0.00279		0.00110	0.00200	mg/L	1	14-Oct-2019 15:10
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:10
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 16:05
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-21
 Collection Date: 08-Oct-2019 10:30

ANALYTICAL REPORT
 WorkOrder:HS19100550
 Lab ID:HS19100550-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JC	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	14-Oct-2019 15:12
Arsenic	0.000508	J	0.000400	0.00200	mg/L	1	14-Oct-2019 15:12
Barium	0.0899		0.00190	0.00400	mg/L	1	14-Oct-2019 15:12
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:12
Cadmium	0.000566	J	0.000200	0.00200	mg/L	1	14-Oct-2019 15:12
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	14-Oct-2019 15:12
Cobalt	0.000716	J	0.000200	0.00500	mg/L	1	14-Oct-2019 15:12
Lead	< 0.000600		0.000600	0.00200	mg/L	1	14-Oct-2019 15:12
Lithium	0.0198		0.00100	0.00500	mg/L	1	14-Oct-2019 15:12
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	14-Oct-2019 15:12
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	14-Oct-2019 15:12
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:12
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 16:10
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-22
 Collection Date: 08-Oct-2019 11:40

ANALYTICAL REPORT

WorkOrder:HS19100550
 Lab ID:HS19100550-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JC	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	14-Oct-2019 15:15
Arsenic	< 0.000400		0.000400	0.00200	mg/L	1	14-Oct-2019 15:15
Barium	0.0875		0.00190	0.00400	mg/L	1	14-Oct-2019 15:15
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:15
Cadmium	0.000248	J	0.000200	0.00200	mg/L	1	14-Oct-2019 15:15
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	14-Oct-2019 15:15
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	14-Oct-2019 15:15
Lead	< 0.000600		0.000600	0.00200	mg/L	1	14-Oct-2019 15:15
Lithium	0.0120		0.00100	0.00500	mg/L	1	14-Oct-2019 15:15
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	14-Oct-2019 15:15
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	14-Oct-2019 15:15
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:15
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 16:12
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-27
 Collection Date: 08-Oct-2019 12:00

ANALYTICAL REPORT

WorkOrder:HS19100550
 Lab ID:HS19100550-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JC	
Antimony	0.000417	J	0.000400	0.00200	mg/L	1	14-Oct-2019 15:17
Arsenic	< 0.000400		0.000400	0.00200	mg/L	1	14-Oct-2019 15:17
Barium	0.0195		0.00190	0.00400	mg/L	1	14-Oct-2019 15:17
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:17
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:17
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	14-Oct-2019 15:17
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	14-Oct-2019 15:17
Lead	< 0.000600		0.000600	0.00200	mg/L	1	14-Oct-2019 15:17
Lithium	0.0512		0.00100	0.00500	mg/L	1	14-Oct-2019 15:17
Molybdenum	0.00928		0.000600	0.00500	mg/L	1	14-Oct-2019 15:17
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	14-Oct-2019 15:17
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:17
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 16:13
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-28
 Collection Date: 08-Oct-2019 10:55

ANALYTICAL REPORT
 WorkOrder:HS19100550
 Lab ID:HS19100550-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JC	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	14-Oct-2019 15:19
Arsenic	0.00210		0.000400	0.00200	mg/L	1	14-Oct-2019 15:19
Barium	0.0540		0.00190	0.00400	mg/L	1	14-Oct-2019 15:19
Beryllium	0.000426	J	0.000200	0.00200	mg/L	1	14-Oct-2019 15:19
Cadmium	0.00455		0.000200	0.00200	mg/L	1	14-Oct-2019 15:19
Chromium	0.00599		0.000400	0.00400	mg/L	1	14-Oct-2019 15:19
Cobalt	0.220		0.000200	0.00500	mg/L	1	14-Oct-2019 15:19
Lead	0.00177	J	0.000600	0.00200	mg/L	1	14-Oct-2019 15:19
Lithium	0.853		0.00500	0.0250	mg/L	5	14-Oct-2019 15:26
Molybdenum	0.000653	J	0.000600	0.00500	mg/L	1	14-Oct-2019 15:19
Selenium	0.00458		0.00110	0.00200	mg/L	1	14-Oct-2019 15:19
Thallium	0.000341	J	0.000200	0.00200	mg/L	1	14-Oct-2019 15:19
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 16:15
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-05
 Collection Date: 08-Oct-2019 10:25

ANALYTICAL REPORT
 WorkOrder:HS19100550
 Lab ID:HS19100550-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JC	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	14-Oct-2019 15:21
Arsenic	0.000660	J	0.000400	0.00200	mg/L	1	14-Oct-2019 15:21
Barium	0.0316		0.00190	0.00400	mg/L	1	14-Oct-2019 15:21
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:21
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:21
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	14-Oct-2019 15:21
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	14-Oct-2019 15:21
Lead	< 0.000600		0.000600	0.00200	mg/L	1	14-Oct-2019 15:21
Lithium	0.00948		0.00100	0.00500	mg/L	1	14-Oct-2019 15:21
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	14-Oct-2019 15:21
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	14-Oct-2019 15:21
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:21
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 16:17
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-26
 Collection Date: 08-Oct-2019 11:20

ANALYTICAL REPORT

WorkOrder:HS19100550
 Lab ID:HS19100550-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JC	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	14-Oct-2019 15:23
Arsenic	< 0.000400		0.000400	0.00200	mg/L	1	14-Oct-2019 15:23
Barium	0.276		0.00190	0.00400	mg/L	1	14-Oct-2019 15:23
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:23
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:23
Chromium	0.00608		0.000400	0.00400	mg/L	1	14-Oct-2019 15:23
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	14-Oct-2019 15:23
Lead	< 0.000600		0.000600	0.00200	mg/L	1	14-Oct-2019 15:23
Lithium	0.0163		0.00100	0.00500	mg/L	1	14-Oct-2019 15:23
Molybdenum	0.000849	J	0.000600	0.00500	mg/L	1	14-Oct-2019 15:23
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	14-Oct-2019 15:23
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	14-Oct-2019 15:23
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 16:19
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-29
 Collection Date: 08-Oct-2019 11:40

ANALYTICAL REPORT
 WorkOrder:HS19100550
 Lab ID:HS19100550-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	12-Oct-2019 02:04
Arsenic	0.000605	J	0.000400	0.00200	mg/L	1	12-Oct-2019 02:04
Barium	0.0323		0.00190	0.00400	mg/L	1	12-Oct-2019 02:04
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:04
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:04
Chromium	0.00156	J	0.000400	0.00400	mg/L	1	12-Oct-2019 02:04
Cobalt	0.000307	J	0.000200	0.00500	mg/L	1	12-Oct-2019 02:04
Lead	< 0.000600		0.000600	0.00200	mg/L	1	12-Oct-2019 02:04
Lithium	0.00970		0.00100	0.00500	mg/L	1	12-Oct-2019 02:04
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	12-Oct-2019 02:04
Selenium	0.00243		0.00110	0.00200	mg/L	1	12-Oct-2019 02:04
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:04
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 16:20
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-43
 Collection Date: 08-Oct-2019 12:00

ANALYTICAL REPORT
 WorkOrder:HS19100550
 Lab ID:HS19100550-14
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	12-Oct-2019 02:06
Arsenic	0.000777	J	0.000400	0.00200	mg/L	1	12-Oct-2019 02:06
Barium	0.0693		0.00190	0.00400	mg/L	1	12-Oct-2019 02:06
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:06
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:06
Chromium	0.000626	J	0.000400	0.00400	mg/L	1	12-Oct-2019 02:06
Cobalt	0.000449	J	0.000200	0.00500	mg/L	1	12-Oct-2019 02:06
Lead	< 0.000600		0.000600	0.00200	mg/L	1	12-Oct-2019 02:06
Lithium	0.0181		0.00100	0.00500	mg/L	1	12-Oct-2019 02:06
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	12-Oct-2019 02:06
Selenium	0.0217		0.00110	0.00200	mg/L	1	12-Oct-2019 02:06
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:06
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 16:22
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-44
 Collection Date: 08-Oct-2019 11:45

ANALYTICAL REPORT
 WorkOrder:HS19100550
 Lab ID:HS19100550-15
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	12-Oct-2019 02:08
Arsenic	0.000544	J	0.000400	0.00200	mg/L	1	12-Oct-2019 02:08
Barium	0.0394		0.00190	0.00400	mg/L	1	12-Oct-2019 02:08
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:08
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:08
Chromium	0.000584	J	0.000400	0.00400	mg/L	1	12-Oct-2019 02:08
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	12-Oct-2019 02:08
Lead	< 0.000600		0.000600	0.00200	mg/L	1	12-Oct-2019 02:08
Lithium	0.0121		0.00100	0.00500	mg/L	1	12-Oct-2019 02:08
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	12-Oct-2019 02:08
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	12-Oct-2019 02:08
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:08
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 16:24
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-45
 Collection Date: 08-Oct-2019 10:40

ANALYTICAL REPORT
 WorkOrder:HS19100550
 Lab ID:HS19100550-16
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	12-Oct-2019 02:10
Arsenic	0.00241		0.000400	0.00200	mg/L	1	12-Oct-2019 02:10
Barium	1.01		0.00190	0.00400	mg/L	1	12-Oct-2019 02:10
Beryllium	0.000348	J	0.000200	0.00200	mg/L	1	12-Oct-2019 02:10
Cadmium	0.00126	J	0.000200	0.00200	mg/L	1	12-Oct-2019 02:10
Chromium	0.0787		0.000400	0.00400	mg/L	1	12-Oct-2019 02:10
Cobalt	0.00368	J	0.000200	0.00500	mg/L	1	12-Oct-2019 02:10
Lead	0.00576		0.000600	0.00200	mg/L	1	12-Oct-2019 02:10
Lithium	0.0320		0.00100	0.00500	mg/L	1	12-Oct-2019 02:10
Molybdenum	0.00994		0.000600	0.00500	mg/L	1	12-Oct-2019 02:10
Selenium	0.0890		0.00110	0.00200	mg/L	1	12-Oct-2019 02:10
Thallium	0.000213	J	0.000200	0.00200	mg/L	1	12-Oct-2019 02:10
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 16:25
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: MW-46
 Collection Date: 08-Oct-2019 10:35

ANALYTICAL REPORT

WorkOrder:HS19100550
 Lab ID:HS19100550-17
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	12-Oct-2019 02:13
Arsenic	0.000892	J	0.000400	0.00200	mg/L	1	12-Oct-2019 02:13
Barium	0.692		0.00190	0.00400	mg/L	1	12-Oct-2019 02:13
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:13
Cadmium	0.00277		0.000200	0.00200	mg/L	1	12-Oct-2019 02:13
Chromium	0.0679		0.000400	0.00400	mg/L	1	12-Oct-2019 02:13
Cobalt	0.00199	J	0.000200	0.00500	mg/L	1	12-Oct-2019 02:13
Lead	0.00102	J	0.000600	0.00200	mg/L	1	12-Oct-2019 02:13
Lithium	0.0310		0.00100	0.00500	mg/L	1	12-Oct-2019 02:13
Molybdenum	0.00260	J	0.000600	0.00500	mg/L	1	12-Oct-2019 02:13
Selenium	0.00393		0.00110	0.00200	mg/L	1	12-Oct-2019 02:13
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:13
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	0.0000330	J	0.0000300	0.000200	mg/L	1	11-Oct-2019 16:31
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: DUP-01
 Collection Date: 08-Oct-2019 11:00

ANALYTICAL REPORT

WorkOrder:HS19100550
 Lab ID:HS19100550-18
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 11-Oct-2019		Analyst: JHD	
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	12-Oct-2019 02:15
Arsenic	0.000968	J	0.000400	0.00200	mg/L	1	12-Oct-2019 02:15
Barium	0.0696		0.00190	0.00400	mg/L	1	12-Oct-2019 02:15
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:15
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:15
Chromium	0.00124	J	0.000400	0.00400	mg/L	1	12-Oct-2019 02:15
Cobalt	0.000648	J	0.000200	0.00500	mg/L	1	12-Oct-2019 02:15
Lead	< 0.000600		0.000600	0.00200	mg/L	1	12-Oct-2019 02:15
Lithium	0.0168		0.00100	0.00500	mg/L	1	12-Oct-2019 02:15
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	12-Oct-2019 02:15
Selenium	0.0205		0.00110	0.00200	mg/L	1	12-Oct-2019 02:15
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:15
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 11-Oct-2019		Analyst: FO	
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 16:32
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA				Analyst: SUBHO	
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA				Analyst: SUBFC	
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Client: TRC Corporation
 Project: NRG Limestone-Appendix IV
 Sample ID: FB-01
 Collection Date: 08-Oct-2019 10:50

ANALYTICAL REPORT
 WorkOrder:HS19100550
 Lab ID:HS19100550-19
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 11-Oct-2019		Analyst: JHD
Antimony	< 0.000400		0.000400	0.00200	mg/L	1	12-Oct-2019 02:17
Arsenic	< 0.000400		0.000400	0.00200	mg/L	1	12-Oct-2019 02:17
Barium	< 0.00190		0.00190	0.00400	mg/L	1	12-Oct-2019 02:17
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:17
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:17
Chromium	< 0.000400		0.000400	0.00400	mg/L	1	12-Oct-2019 02:17
Cobalt	< 0.000200		0.000200	0.00500	mg/L	1	12-Oct-2019 02:17
Lead	< 0.000600		0.000600	0.00200	mg/L	1	12-Oct-2019 02:17
Lithium	< 0.00100		0.00100	0.00500	mg/L	1	12-Oct-2019 02:17
Molybdenum	< 0.000600		0.000600	0.00500	mg/L	1	12-Oct-2019 02:17
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	12-Oct-2019 02:17
Thallium	< 0.000200		0.000200	0.00200	mg/L	1	12-Oct-2019 02:17
MERCURY BY SW7470A		Method:SW7470			Prep:SW7470 / 11-Oct-2019		Analyst: FO
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	11-Oct-2019 16:34
SUBCONTRACT ANALYSIS - FLOURIDE		Method:NA					Analyst: SUBHO
Subcontract Analysis	See Attached		0			1	16-Oct-2019 10:58
SUBCONTRACT ANALYSIS - RADIUM 226		Method:NA					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18
SUBCONTRACT ANALYSIS - RADIUM 228		Method:NA					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	12-Nov-2019 17:18

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

Weight / Prep Log

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
WorkOrder: HS19100550

Batch ID: 146293 **Start Date:** 11 Oct 2019 13:30 **End Date:** 11 Oct 2019 17:30
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19100550-01		10 (mL)	10 (mL)	1
HS19100550-02		10 (mL)	10 (mL)	1
HS19100550-03		10 (mL)	10 (mL)	1
HS19100550-04		10 (mL)	10 (mL)	1
HS19100550-05		10 (mL)	10 (mL)	1
HS19100550-06		10 (mL)	10 (mL)	1
HS19100550-07		10 (mL)	10 (mL)	1
HS19100550-08		10 (mL)	10 (mL)	1
HS19100550-09		10 (mL)	10 (mL)	1
HS19100550-10		10 (mL)	10 (mL)	1
HS19100550-11		10 (mL)	10 (mL)	1
HS19100550-12		10 (mL)	10 (mL)	1
HS19100550-13		10 (mL)	10 (mL)	1
HS19100550-14		10 (mL)	10 (mL)	1
HS19100550-15		10 (mL)	10 (mL)	1
HS19100550-16		10 (mL)	10 (mL)	1
HS19100550-17		10 (mL)	10 (mL)	1
HS19100550-18		10 (mL)	10 (mL)	1
HS19100550-19		10 (mL)	10 (mL)	1

Batch ID: 146311 **Start Date:** 11 Oct 2019 11:00 **End Date:** 11 Oct 2019 13:00
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19100550-01		10 (mL)	10 (mL)	1
HS19100550-02		10 (mL)	10 (mL)	1
HS19100550-03		10 (mL)	10 (mL)	1
HS19100550-04		10 (mL)	10 (mL)	1
HS19100550-05		10 (mL)	10 (mL)	1
HS19100550-06		10 (mL)	10 (mL)	1
HS19100550-07		10 (mL)	10 (mL)	1
HS19100550-08		10 (mL)	10 (mL)	1
HS19100550-09		10 (mL)	10 (mL)	1
HS19100550-10		10 (mL)	10 (mL)	1
HS19100550-11		10 (mL)	10 (mL)	1
HS19100550-12		10 (mL)	10 (mL)	1
HS19100550-13		10 (mL)	10 (mL)	1
HS19100550-14		10 (mL)	10 (mL)	1
HS19100550-15		10 (mL)	10 (mL)	1
HS19100550-16		10 (mL)	10 (mL)	1
HS19100550-17		10 (mL)	10 (mL)	1
HS19100550-18		10 (mL)	10 (mL)	1
HS19100550-19		10 (mL)	10 (mL)	1

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
WorkOrder: HS19100550

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 146293 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater	
HS19100550-01	MW-01	08 Oct 2019 12:20		11 Oct 2019 13:30	14 Oct 2019 14:49	1
HS19100550-02	MW-02	08 Oct 2019 10:55		11 Oct 2019 13:30	14 Oct 2019 14:38	1
HS19100550-03	MW-17	08 Oct 2019 10:30		11 Oct 2019 13:30	14 Oct 2019 14:51	1
HS19100550-04	MW-18	08 Oct 2019 10:50		11 Oct 2019 13:30	14 Oct 2019 15:06	1
HS19100550-05	MW-19	08 Oct 2019 11:45		11 Oct 2019 13:30	14 Oct 2019 15:08	1
HS19100550-06	MW-20	08 Oct 2019 11:35		11 Oct 2019 13:30	14 Oct 2019 15:10	1
HS19100550-07	MW-21	08 Oct 2019 10:30		11 Oct 2019 13:30	14 Oct 2019 15:12	1
HS19100550-08	MW-22	08 Oct 2019 11:40		11 Oct 2019 13:30	14 Oct 2019 15:15	1
HS19100550-09	MW-27	08 Oct 2019 12:00		11 Oct 2019 13:30	14 Oct 2019 15:17	1
HS19100550-10	MW-28	08 Oct 2019 10:55		11 Oct 2019 13:30	14 Oct 2019 15:26	5
HS19100550-10	MW-28	08 Oct 2019 10:55		11 Oct 2019 13:30	14 Oct 2019 15:19	1
HS19100550-11	MW-05	08 Oct 2019 10:25		11 Oct 2019 13:30	14 Oct 2019 15:21	1
HS19100550-12	MW-26	08 Oct 2019 11:20		11 Oct 2019 13:30	14 Oct 2019 15:23	1
HS19100550-13	MW-29	08 Oct 2019 11:40		11 Oct 2019 13:30	12 Oct 2019 02:04	1
HS19100550-14	MW-43	08 Oct 2019 12:00		11 Oct 2019 13:30	12 Oct 2019 02:06	1
HS19100550-15	MW-44	08 Oct 2019 11:45		11 Oct 2019 13:30	12 Oct 2019 02:08	1
HS19100550-16	MW-45	08 Oct 2019 10:40		11 Oct 2019 13:30	12 Oct 2019 02:10	1
HS19100550-17	MW-46	08 Oct 2019 10:35		11 Oct 2019 13:30	12 Oct 2019 02:13	1
HS19100550-18	DUP-01	08 Oct 2019 11:00		11 Oct 2019 13:30	12 Oct 2019 02:15	1
HS19100550-19	FB-01	08 Oct 2019 10:50		11 Oct 2019 13:30	12 Oct 2019 02:17	1

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
WorkOrder: HS19100550

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 146311 (0)		Test Name : MERCURY BY SW7470A			Matrix: Groundwater	
HS19100550-01	MW-01	08 Oct 2019 12:20		11 Oct 2019 11:00	11 Oct 2019 15:58	1
HS19100550-02	MW-02	08 Oct 2019 10:55		11 Oct 2019 11:00	11 Oct 2019 15:53	1
HS19100550-03	MW-17	08 Oct 2019 10:30		11 Oct 2019 11:00	11 Oct 2019 16:00	1
HS19100550-04	MW-18	08 Oct 2019 10:50		11 Oct 2019 11:00	11 Oct 2019 16:02	1
HS19100550-05	MW-19	08 Oct 2019 11:45		11 Oct 2019 11:00	11 Oct 2019 16:03	1
HS19100550-06	MW-20	08 Oct 2019 11:35		11 Oct 2019 11:00	11 Oct 2019 16:05	1
HS19100550-07	MW-21	08 Oct 2019 10:30		11 Oct 2019 11:00	11 Oct 2019 16:10	1
HS19100550-08	MW-22	08 Oct 2019 11:40		11 Oct 2019 11:00	11 Oct 2019 16:12	1
HS19100550-09	MW-27	08 Oct 2019 12:00		11 Oct 2019 11:00	11 Oct 2019 16:13	1
HS19100550-10	MW-28	08 Oct 2019 10:55		11 Oct 2019 11:00	11 Oct 2019 16:15	1
HS19100550-11	MW-05	08 Oct 2019 10:25		11 Oct 2019 11:00	11 Oct 2019 16:17	1
HS19100550-12	MW-26	08 Oct 2019 11:20		11 Oct 2019 11:00	11 Oct 2019 16:19	1
HS19100550-13	MW-29	08 Oct 2019 11:40		11 Oct 2019 11:00	11 Oct 2019 16:20	1
HS19100550-14	MW-43	08 Oct 2019 12:00		11 Oct 2019 11:00	11 Oct 2019 16:22	1
HS19100550-15	MW-44	08 Oct 2019 11:45		11 Oct 2019 11:00	11 Oct 2019 16:24	1
HS19100550-16	MW-45	08 Oct 2019 10:40		11 Oct 2019 11:00	11 Oct 2019 16:25	1
HS19100550-17	MW-46	08 Oct 2019 10:35		11 Oct 2019 11:00	11 Oct 2019 16:31	1
HS19100550-18	DUP-01	08 Oct 2019 11:00		11 Oct 2019 11:00	11 Oct 2019 16:32	1
HS19100550-19	FB-01	08 Oct 2019 10:50		11 Oct 2019 11:00	11 Oct 2019 16:34	1

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
WorkOrder: HS19100550

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R348369 (0)		Test Name : SUBCONTRACT ANALYSIS - FLOURIDE			Matrix: Groundwater	
HS19100550-01	MW-01	08 Oct 2019 12:20			16 Oct 2019 10:58	1
HS19100550-02	MW-02	08 Oct 2019 10:55			16 Oct 2019 10:58	1
HS19100550-03	MW-17	08 Oct 2019 10:30			16 Oct 2019 10:58	1
HS19100550-04	MW-18	08 Oct 2019 10:50			16 Oct 2019 10:58	1
HS19100550-05	MW-19	08 Oct 2019 11:45			16 Oct 2019 10:58	1
HS19100550-06	MW-20	08 Oct 2019 11:35			16 Oct 2019 10:58	1
HS19100550-07	MW-21	08 Oct 2019 10:30			16 Oct 2019 10:58	1
HS19100550-08	MW-22	08 Oct 2019 11:40			16 Oct 2019 10:58	1
HS19100550-09	MW-27	08 Oct 2019 12:00			16 Oct 2019 10:58	1
HS19100550-10	MW-28	08 Oct 2019 10:55			16 Oct 2019 10:58	1
HS19100550-11	MW-05	08 Oct 2019 10:25			16 Oct 2019 10:58	1
HS19100550-12	MW-26	08 Oct 2019 11:20			16 Oct 2019 10:58	1
HS19100550-13	MW-29	08 Oct 2019 11:40			16 Oct 2019 10:58	1
HS19100550-14	MW-43	08 Oct 2019 12:00			16 Oct 2019 10:58	1
HS19100550-15	MW-44	08 Oct 2019 11:45			16 Oct 2019 10:58	1
HS19100550-16	MW-45	08 Oct 2019 10:40			16 Oct 2019 10:58	1
HS19100550-17	MW-46	08 Oct 2019 10:35			16 Oct 2019 10:58	1
HS19100550-18	DUP-01	08 Oct 2019 11:00			16 Oct 2019 10:58	1
HS19100550-19	FB-01	08 Oct 2019 10:50			16 Oct 2019 10:58	1

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
WorkOrder: HS19100550

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R350305 (0)		Test Name : SUBCONTRACT ANALYSIS - RADIUM 228			Matrix: Groundwater	
HS19100550-01	MW-01	08 Oct 2019 12:20			12 Nov 2019 17:18	1
HS19100550-01	MW-01	08 Oct 2019 12:20			12 Nov 2019 17:18	1
HS19100550-02	MW-02	08 Oct 2019 10:55			12 Nov 2019 17:18	1
HS19100550-02	MW-02	08 Oct 2019 10:55			12 Nov 2019 17:18	1
HS19100550-03	MW-17	08 Oct 2019 10:30			12 Nov 2019 17:18	1
HS19100550-03	MW-17	08 Oct 2019 10:30			12 Nov 2019 17:18	1
HS19100550-04	MW-18	08 Oct 2019 10:50			12 Nov 2019 17:18	1
HS19100550-04	MW-18	08 Oct 2019 10:50			12 Nov 2019 17:18	1
HS19100550-05	MW-19	08 Oct 2019 11:45			12 Nov 2019 17:18	1
HS19100550-05	MW-19	08 Oct 2019 11:45			12 Nov 2019 17:18	1
HS19100550-06	MW-20	08 Oct 2019 11:35			12 Nov 2019 17:18	1
HS19100550-06	MW-20	08 Oct 2019 11:35			12 Nov 2019 17:18	1
HS19100550-07	MW-21	08 Oct 2019 10:30			12 Nov 2019 17:18	1
HS19100550-07	MW-21	08 Oct 2019 10:30			12 Nov 2019 17:18	1
HS19100550-08	MW-22	08 Oct 2019 11:40			12 Nov 2019 17:18	1
HS19100550-08	MW-22	08 Oct 2019 11:40			12 Nov 2019 17:18	1
HS19100550-09	MW-27	08 Oct 2019 12:00			12 Nov 2019 17:18	1
HS19100550-09	MW-27	08 Oct 2019 12:00			12 Nov 2019 17:18	1
HS19100550-10	MW-28	08 Oct 2019 10:55			12 Nov 2019 17:18	1
HS19100550-10	MW-28	08 Oct 2019 10:55			12 Nov 2019 17:18	1
HS19100550-11	MW-05	08 Oct 2019 10:25			12 Nov 2019 17:18	1
HS19100550-11	MW-05	08 Oct 2019 10:25			12 Nov 2019 17:18	1
HS19100550-12	MW-26	08 Oct 2019 11:20			12 Nov 2019 17:18	1
HS19100550-12	MW-26	08 Oct 2019 11:20			12 Nov 2019 17:18	1
HS19100550-13	MW-29	08 Oct 2019 11:40			12 Nov 2019 17:18	1
HS19100550-13	MW-29	08 Oct 2019 11:40			12 Nov 2019 17:18	1
HS19100550-14	MW-43	08 Oct 2019 12:00			12 Nov 2019 17:18	1
HS19100550-14	MW-43	08 Oct 2019 12:00			12 Nov 2019 17:18	1
HS19100550-15	MW-44	08 Oct 2019 11:45			12 Nov 2019 17:18	1
HS19100550-15	MW-44	08 Oct 2019 11:45			12 Nov 2019 17:18	1
HS19100550-16	MW-45	08 Oct 2019 10:40			12 Nov 2019 17:18	1
HS19100550-16	MW-45	08 Oct 2019 10:40			12 Nov 2019 17:18	1
HS19100550-17	MW-46	08 Oct 2019 10:35			12 Nov 2019 17:18	1
HS19100550-17	MW-46	08 Oct 2019 10:35			12 Nov 2019 17:18	1
HS19100550-18	DUP-01	08 Oct 2019 11:00			12 Nov 2019 17:18	1
HS19100550-18	DUP-01	08 Oct 2019 11:00			12 Nov 2019 17:18	1
HS19100550-19	FB-01	08 Oct 2019 10:50			12 Nov 2019 17:18	1
HS19100550-19	FB-01	08 Oct 2019 10:50			12 Nov 2019 17:18	1

WorkOrder: HS19100550
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: HS19100550
 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	Antimony	7440-36-0	0.000500	0.000532	0.000400	0.00200
A	Arsenic	7440-38-2	0.000500	0.000487	0.000400	0.00200
A	Barium	7440-39-3	0.00250	0.00246	0.00190	0.00400
A	Beryllium	7440-41-7	0.000500	0.000419	0.000200	0.00200
A	Cadmium	7440-43-9	0.000500	0.000487	0.000200	0.00200
A	Chromium	7440-47-3	0.000500	0.000388	0.000400	0.00400
A	Cobalt	7440-48-4	0.000500	0.000460	0.000200	0.00500
A	Lead	7439-92-1	0.00100	0.000924	0.000600	0.00200
A	Lithium	7439-93-2	0.00100	0.00137	0.00100	0.00500
A	Molybdenum	7439-98-7	0.00100	0.00113	0.000600	0.00500
A	Selenium	7782-49-2	0.00250	0.00214	0.00110	0.00200
A	Thallium	7440-28-0	0.000500	0.000433	0.000200	0.00200

WorkOrder: HS19100550
 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

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
WorkOrder: HS19100550

QC BATCH REPORT

Batch ID: 146293 (0) **Instrument:** ICPMS04 **Method:** ICP-MS METALS BY SW6020A

MBLK		Sample ID: MBLK-146293		Units: mg/L		Analysis Date: 14-Oct-2019 14:33				
Client ID:		Run ID: ICPMS04_348222		SeqNo: 5295337		PrepDate: 11-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-146293		Units: mg/L		Analysis Date: 14-Oct-2019 14:36				
Client ID:		Run ID: ICPMS04_348222		SeqNo: 5295338		PrepDate: 11-Oct-2019		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04519	0.00200	0.05	0	90.4	80 - 120				
Arsenic	0.04671	0.00200	0.05	0	93.4	80 - 120				
Barium	0.04606	0.00400	0.05	0	92.1	80 - 120				
Beryllium	0.04408	0.00200	0.05	0	88.2	80 - 120				
Cadmium	0.04744	0.00200	0.05	0	94.9	80 - 120				
Chromium	0.04666	0.00400	0.05	0	93.3	80 - 120				
Cobalt	0.04853	0.00500	0.05	0	97.1	80 - 120				
Lead	0.04187	0.00200	0.05	0	83.7	80 - 120				
Lithium	0.08958	0.00500	0.1	0	89.6	80 - 120				
Molybdenum	0.04508	0.00500	0.05	0	90.2	80 - 120				
Selenium	0.0461	0.00200	0.05	0	92.2	80 - 120				
Thallium	0.04191	0.00200	0.05	0	83.8	80 - 120				

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
WorkOrder: HS19100550

QC BATCH REPORT

Batch ID: 146293 (0)	Instrument: ICPMS04	Method: ICP-MS METALS BY SW6020A								
MS	Sample ID: HS19100550-02MS	Units: mg/L	Analysis Date: 14-Oct-2019 14:42							
Client ID: MW-02	Run ID: ICPMS04_348222	SeqNo: 5295341	PrepDate: 11-Oct-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	0.04498	0.00200	0.05	0.00076	88.4	80 - 120				
Arsenic	0.04841	0.00200	0.05	0	96.8	80 - 120				
Barium	0.2344	0.00400	0.05	0.1864	96.1	80 - 120				
Beryllium	0.04734	0.00200	0.05	0	94.7	80 - 120				
Cadmium	0.04778	0.00200	0.05	0.000335	94.9	80 - 120				
Chromium	0.04841	0.00400	0.05	0.001669	93.5	80 - 120				
Cobalt	0.05405	0.00500	0.05	0.00708	93.9	80 - 120				
Lead	0.04446	0.00200	0.05	0	88.9	80 - 120				
Lithium	0.1604	0.00500	0.1	0.05982	101	80 - 120				
Molybdenum	0.04672	0.00500	0.05	0	93.4	80 - 120				
Selenium	0.04474	0.00200	0.05	0	89.5	80 - 120				
Thallium	0.04389	0.00200	0.05	0.000423	86.9	80 - 120				

MSD	Sample ID: HS19100550-02MSD	Units: mg/L	Analysis Date: 14-Oct-2019 14:44							
Client ID: MW-02	Run ID: ICPMS04_348222	SeqNo: 5295342	PrepDate: 11-Oct-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	0.04654	0.00200	0.05	0.00076	91.6	80 - 120	0.04498	3.4	20	
Arsenic	0.0481	0.00200	0.05	0	96.2	80 - 120	0.04841	0.644	20	
Barium	0.2363	0.00400	0.05	0.1864	99.9	80 - 120	0.2344	0.789	20	
Beryllium	0.04713	0.00200	0.05	0	94.3	80 - 120	0.04734	0.438	20	
Cadmium	0.04878	0.00200	0.05	0.000335	96.9	80 - 120	0.04778	2.08	20	
Chromium	0.04925	0.00400	0.05	0.001669	95.2	80 - 120	0.04841	1.73	20	
Cobalt	0.05413	0.00500	0.05	0.00708	94.1	80 - 120	0.05405	0.142	20	
Lead	0.04485	0.00200	0.05	0	89.7	80 - 120	0.04446	0.869	20	
Lithium	0.1584	0.00500	0.1	0.05982	98.6	80 - 120	0.1604	1.28	20	
Molybdenum	0.0477	0.00500	0.05	0	95.4	80 - 120	0.04672	2.07	20	
Selenium	0.04611	0.00200	0.05	0	92.2	80 - 120	0.04474	3	20	
Thallium	0.04504	0.00200	0.05	0.000423	89.2	80 - 120	0.04389	2.6	20	

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
WorkOrder: HS19100550

QC BATCH REPORT

Batch ID: 146293 (0)	Instrument: ICPMS04	Method: ICP-MS METALS BY SW6020A								
PDS	Sample ID: HS19100550-02PDS	Units: mg/L	Analysis Date: 14-Oct-2019 14:47							
Client ID: MW-02	Run ID: ICPMS04_348222	SeqNo: 5295343	PrepDate: 11-Oct-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	0.09107	0.00200	0.1	0.00076	90.3	75 - 125				
Arsenic	0.09867	0.00200	0.1	0.00013	98.5	75 - 125				
Barium	0.3024	0.00400	0.1	0.1864	116	75 - 125				
Beryllium	0.09816	0.00200	0.1	0.000026	98.1	75 - 125				
Cadmium	0.1035	0.00200	0.1	0.000335	103	75 - 125				
Chromium	0.09835	0.00400	0.1	0.001669	96.7	75 - 125				
Cobalt	0.1038	0.00500	0.1	0.00708	96.7	75 - 125				
Lead	0.09671	0.00200	0.1	0.000138	96.6	75 - 125				
Lithium	0.1615	0.00500	0.1	0.05982	102	70 - 125				
Molybdenum	0.1026	0.00500	0.1	0.000331	102	75 - 125				
Selenium	0.0952	0.00200	0.1	0.000842	94.4	75 - 125				
Thallium	0.09964	0.00200	0.1	0.000423	99.2	75 - 125				

SD	Sample ID: HS19100550-02SD	Units: mg/L	Analysis Date: 14-Oct-2019 14:40							
Client ID: MW-02	Run ID: ICPMS04_348222	SeqNo: 5295340	PrepDate: 11-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					0.00076	0	10	
Arsenic	< 0.00200	0.0100					0.00013	0	10	
Barium	0.1801	0.0200					0.1864	3.34	10	
Beryllium	< 0.00100	0.0100					0.000026	0	10	
Cadmium	< 0.00100	0.0100					0.000335	0	10	
Chromium	0.002099	0.0200					0.001669	0	10	J
Cobalt	0.006983	0.0250					0.00708	0	10	J
Lead	< 0.00300	0.0100					0.000138	0	10	
Lithium	0.06085	0.0250					0.05982	1.73	10	
Molybdenum	< 0.00300	0.0250					0.000331	0	10	
Selenium	< 0.00550	0.0100					0.000842	0	10	
Thallium	< 0.00100	0.0100					0.000423	0	10	

The following samples were analyzed in this batch:

HS19100550-01	HS19100550-02	HS19100550-03	HS19100550-04
HS19100550-05	HS19100550-06	HS19100550-07	HS19100550-08
HS19100550-09	HS19100550-10	HS19100550-11	HS19100550-12
HS19100550-13	HS19100550-14	HS19100550-15	HS19100550-16
HS19100550-17	HS19100550-18	HS19100550-19	

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
WorkOrder: HS19100550

QC BATCH REPORT

Batch ID: 146311 (0) **Instrument:** HG03 **Method:** MERCURY BY SW7470A

MBLK	Sample ID: MBLK-146311	Units: mg/L			Analysis Date: 11-Oct-2019 15:50					
Client ID:		Run ID: HG03_348151		SeqNo: 5294354	PrepDate: 11-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-146311	Units: mg/L			Analysis Date: 11-Oct-2019 15:51					
Client ID:		Run ID: HG03_348151		SeqNo: 5294355	PrepDate: 11-Oct-2019	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Mercury 0.00495 0.000200 0.005 0 99.0 80 - 120

MS	Sample ID: HS19100550-02MS	Units: mg/L			Analysis Date: 11-Oct-2019 15:55					
Client ID: MW-02		Run ID: HG03_348151		SeqNo: 5294357	PrepDate: 11-Oct-2019	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Mercury 0.00498 0.000200 0.005 -0.000024 100 75 - 125

MSD	Sample ID: HS19100550-02MSD	Units: mg/L			Analysis Date: 11-Oct-2019 15:57					
Client ID: MW-02		Run ID: HG03_348151		SeqNo: 5294358	PrepDate: 11-Oct-2019	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Mercury 0.00457 0.000200 0.005 -0.000024 91.9 75 - 125 0.00498 8.59 20

The following samples were analyzed in this batch:

HS19100550-01	HS19100550-02	HS19100550-03	HS19100550-04
HS19100550-05	HS19100550-06	HS19100550-07	HS19100550-08
HS19100550-09	HS19100550-10	HS19100550-11	HS19100550-12
HS19100550-13	HS19100550-14	HS19100550-15	HS19100550-16
HS19100550-17	HS19100550-18	HS19100550-19	

Client: TRC Corporation
Project: NRG Limestone-Appendix IV
WorkOrder: HS19100550

**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: HS19100550

Date/Time Received: 09-Oct-2019 08:40
Received by: JRM

Checklist completed by: Jared R. Makan
eSignature
Date: 10-Oct-2019

Reviewed by: RJ Modashia
eSignature
Date: 10-Oct-2019

Matrices: Water

Carrier name: FedEx Priority Overnight

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [] No [] Not Present [checked]
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 []

2 Page(s)
COC IDs:210215, 210216

Temperature(s)/Thermometer(s): 1.4°C/0.9°C, 1.2°C/0.7°C, 0.8°C/0.3°C, 1.0°C/0.5°C, IR11
1.5°C/1.0°C UC/C

Cooler(s)/Kit(s): 45158, 44316, 44081, 45139, 45159

Date/Time sample(s) sent to storage: 10/10/2019 07:55

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: Samples refrigerated prior to login.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



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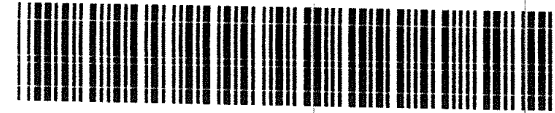
Chain of Custody Form

Page 1 of 2

COC ID: 210215

HS19100550

TRC Corporation
NRG Limestone-Appendix IV



ALS Project Manager:

Customer Information		Project Information		
Purchase Order	298367.1000	Project Name	NRG Limestone- Appendix IV	A
Work Order		Project Number		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-01	10-8-19	1220	GW	2,3		X	X	X	X	X						
2	MW-02	↓	1055	↓	↓	↓	⊗	⊗	⊗	⊗	⊗	MS/MSD volume provided					
3	MW-17		1030				X	X	X	X							
4	MW-18		1050				X	X	X	X							
5	MW-19		1145				X	X	X	X							
6	MW-20		1135				X	X	X	X							
7	MW-21		1030				X	X	X	X							
8	MW-22		1140				X	X	X	X							
9	MW-27		1200				X	X	X	X							
10	MW-28		1055				X	X	X	X							

Sampler(s) Please Print & Sign
 Brian Hillin & HMT Team
 Relinquished by: *[Signature]* Date: 10-8-19 Time: 1600
 Relinquished by: _____ Date: 10/9/19 Time: 08:40
 Logged by (Laboratory): _____ Date: _____ Time: _____

Shipment Method FedEx (BRH) Consolidated Delivery
 Required Turnaround Time: (Check Box)
 STD 10 Wk Days 5 Wk Days 2 Wk Days 24 Hour
 Results Due Date: _____

Notes: NRG Limestone L PRIVILEGED & CONFIDENTIAL
 Cooler ID: _____ Cooler Temp. UC
 QC Package: (Check One Box Below)
 Level II Std QC TRRP Checklist
 Level III Std QC/Raw Data TRRP Level IV
 Level IV S/WB/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

Page 2 of 2

COC ID: 210216

HS19100550

TRC Corporation
NRG Limestone-Appendix IV



Customer Information		Project Information		ALS Project Manager:	
Purchase Order	298367.1000	Project Name	NRG Limestone- Appendix IV	A	ICP_TW (Sb,As,Ba,Be,Cd,Cr,Co,Pb, Li,Mo,Se,Tl)
Work Order		Project Number		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-05	10-8-19	1025	GW	2, 8		X	X	X	X	X						
2	MW-26		1120				X	X	X	X	X						
3	MW-29		1140				X	X	X	X	X						
4	MW-43		1200				X	X	X	X	X						
5	MW-44		1145				X	X	X	X	X						
6	MW-45		1040				X	X	X	X	X						
7	MW-46		1035				X	X	X	X	X						
8	DUP-01		1100				X	X	X	X	X						
9	FB-01		1050				X	X	X	X	X						
10																	

Sampler(s) Please Print & Sign Brian Hillin + HMI team		Shipment Method <u>FedEx</u> <u>Consult Delivery</u>		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:	Date: 10-8-19	Time: 1600	Received by:	Notes: NRG Limestone L PRIVILEGED & CONFIDENTIAL				
Relinquished by:	Date: 10/9/19	Time: 08:40	Received by (Laboratory): J. Wynn	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"/> TRRP Checklist	
						<input type="checkbox"/> Level III Std OC/Row Date	<input type="checkbox"/> TRRP Level IV	
						<input type="checkbox"/> Level IV SW/CLP		
						<input type="checkbox"/> 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.

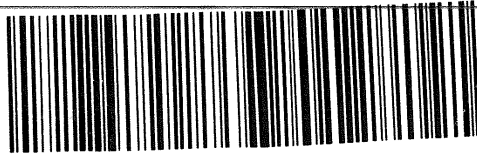
Copyright 2011 by ALS Environmental.

1 of 5
TRK# 8042 4829 3456
0215
MASTER

WED - 09 OCT 10:30A
PRIORITY OVERNIGHT

43 SGRA

77099
TX-US IAH



 **ALS**
10450 Stancliff Rd. Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
45158

CUSTODY SEAL		Seal Broken By:
Date: 10-8-19	Time: 1600	Jm
Name: B. Hillin		Date: 10/9/19
Company: HMI		


2 of 5
MPS# 7766 0387 0063
0681
Mstr# 8042 4829 3456
0215

WED - 09 OCT 10:30A
PRIORITY OVERNIGHT

43 SGRA

77099
TX-US IAH



 **ALS**
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
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44316

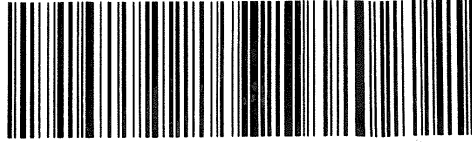
STUDY SEAL		Seal Broken By:
Date: 10-8	Time: 16:00	Jm
Name: Hillin		Date: 10/9/19
Company: HMI		

3 of 5
MPS# 7766 0387 0074
0681
Metr# 8042 4829 3456

WED - 09 OCT 10:30A
PRIORITY OVERNIGHT

43 SGRA

77099
TX-US IAH



ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
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44081

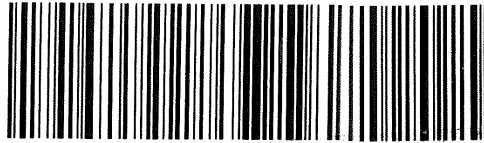
CUSTODY SEAL		Seal Broken By:
Date: 10-8-19	Time: 1600	Jm
Name: B. Hillier		Date:
Company: HME		10/9/19

4 of 5
MPS# 7766 0387 0085
0681
Metr# 8042 4829 3456

WED - 09 OCT 10:30A
PRIORITY OVERNIGHT

43 SGRA

77099
TX-US IAH

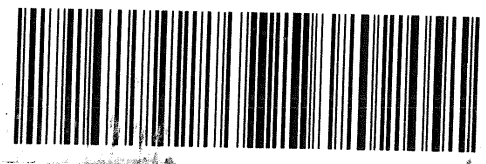



ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
45139

CUSTODY SEAL		Seal Broken By:
Date: 10-8-19	Time:	Jm
Name: B. Hillier		Date:
Company: HME		10/9/19

EAL
1600

5 of 5
MPS# 7766 0387 0096
0681
Mstr# 8042 4829 3456 0215
43 SGRA
WED - 09 OCT 10:30A
PRIORITY OVERNIGHT
77099
TX-US IAH



 ALS	ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 1556 Fax. +1 281 530 1887	CUST Date: 10-8-19 Name: B. Hill Company: H.M.
	45159	

ODY SEAL	Seal Broken By:
Time: 1600	Jm.
	Date:
	10/9/19



Tuesday, November 12, 2019

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

Re: ALS Workorder: 1910334
Project Name:
Project Number: HS19100550

Dear Mr. Modashia:

Nineteen water samples were received from ALS Environmental, on 10/11/2019. 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



1910334

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.

Please refer to QASS 452938 at the end of this report for information regarding to a detector daily check failure.

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.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1910334

Client Name: ALS Environmental

Client Project Name:

Client Project Number: HS19100550

Client PO Number: 10-12374

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
MW-01	1910334-1		WATER	08-Oct-19	12:20
MW-02	1910334-2		WATER	08-Oct-19	10:55
MW-17	1910334-3		WATER	08-Oct-19	10:30
MW-18	1910334-4		WATER	08-Oct-19	10:50
MW-19	1910334-5		WATER	08-Oct-19	11:45
MW-20	1910334-6		WATER	08-Oct-19	11:35
MW-21	1910334-7		WATER	08-Oct-19	10:30
MW-22	1910334-8		WATER	08-Oct-19	11:40
MW-27	1910334-9		WATER	08-Oct-19	12:00
MW-28	1910334-10		WATER	08-Oct-19	10:55
MW-05	1910334-11		WATER	08-Oct-19	10:25
MW-26	1910334-12		WATER	08-Oct-19	11:20
MW-29	1910334-13		WATER	08-Oct-19	11:40
MW-43	1910334-14		WATER	08-Oct-19	12:00
MW-44	1910334-15		WATER	08-Oct-19	11:45
MW-45	1910334-16		WATER	08-Oct-19	10:40
MW-46	1910334-17		WATER	08-Oct-19	10:35
DUP-01	1910334-18		WATER	08-Oct-19	11:00
FB-01	1910334-19		WATER	08-Oct-19	10:50



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: 12374

SUBCONTRACT TO:

1910334

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: 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: HS19100550
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19100550-01	MW-01	Groundwater	08 Oct 2019 12:20
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
2.	HS19100550-02	MW-02	Groundwater	08 Oct 2019 10:55
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
3.	HS19100550-03	MW-17	Groundwater	08 Oct 2019 10:30
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
4.	HS19100550-04	MW-18	Groundwater	08 Oct 2019 10:50
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
5.	HS19100550-05	MW-19	Groundwater	08 Oct 2019 11:45
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
6.	HS19100550-06	MW-20	Groundwater	08 Oct 2019 11:35
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019

RIGHT RESERVED BY ALS GLOBAL

10/16/2019



1910334

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 12374

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
7.	HS19100550-07	MW-21	Groundwater	08 Oct 2019 10:30
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
8.	HS19100550-08	MW-22	Groundwater	08 Oct 2019 11:40
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
9.	HS19100550-09	MW-27	Groundwater	08 Oct 2019 12:00
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
10.	HS19100550-10	MW-28	Groundwater	08 Oct 2019 10:55
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
11.	HS19100550-11	MW-05	Groundwater	08 Oct 2019 10:25
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
12.	HS19100550-12	MW-26	Groundwater	08 Oct 2019 11:20
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
13.	HS19100550-13	MW-29	Groundwater	08 Oct 2019 11:40
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
14.	HS19100550-14	MW-43	Groundwater	08 Oct 2019 12:00
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
15.	HS19100550-15	MW-44	Groundwater	08 Oct 2019 11:45
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
16.	HS19100550-16	MW-45	Groundwater	08 Oct 2019 10:40
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual			16 Oct 2019
17.	HS19100550-17	MW-46	Groundwater	08 Oct 2019 10:35



1910334

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 12374

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
	Report Combined RA 226/228 Value &the 2 Individual		16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual		16 Oct 2019
18. HS19100550-18	DUP-01	Groundwater	08 Oct 2019 11:00
	Report Combined RA 226/228 Value &the 2 Individual		16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual		16 Oct 2019
19. HS19100550-19	FB-01	Groundwater	08 Oct 2019 10:50
	Report Combined RA 226/228 Value &the 2 Individual		16 Oct 2019
	Report Combined RA 226/228 Value &the 2 Individual		16 Oct 2019

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

HS19100550-02 MS/MSD

QC Level: TRRP LRC (TRRP checklist only+Level II (normal))

Relinquished By: J. MURKIN
 Received By: Emily Lyons
 Cooler ID(s): _____

Date/Time: 10/10/19 13:00
 Date/Time: 10.11.19 0920
 Temperature(s): _____



**Must Deliver Next Business Day
Time and Tempature Sensittive!**

ORIGIN ID:SGRA (281) 530-5656
CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

SHIP DATE: 10OCT19
ACTWGT: 44.05 LB
CAD: 300130/CAFE3211
DIMS: 26x14x14 IN
BILL THIRD PARTY

TO **SAMPLE RECEIVING
ALS FORT COLLINS
225 COMMERCE DRIVE**

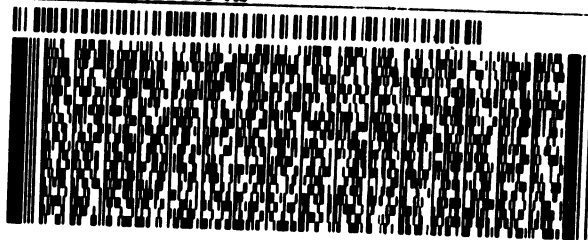
FORT COLLINS CO 80524

(970) 490-1511

REF: HS19100550 RJ

*11-1
2-27*

551C3/283C/104C



**FedEx
Express**



J181118006001

1 of 3

TRK# 0201 **1251 0290 4458**

MASTER

**FRI - 11 OCT 3:00P
STANDARD OVERNIGHT**

AG FTCA

**80524
CO-US DEN**





**Must Deliver Next Business Day
Time and Tempature 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: 10OCT19
ACTNGT: 44.05 LB
CAD: 300130/CAFE3211
DIMS: 26x14x14 IN

BILL THIRD PARTY

TO **SAMPLE RECEIVING
ALS FORT COLLINS
225 COMMERCE DRIVE**

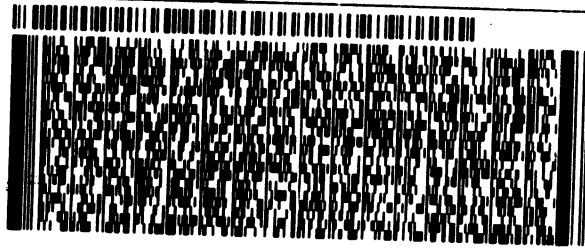
9-2

FORT COLLINS CO 80524

am

(970) 490-1511
REF: HS19100550 RJ

551C3/283C/104C



**FedEx
Express**



J1811180605014V

2 of 3

MPS# 1251 0290 4469
0263

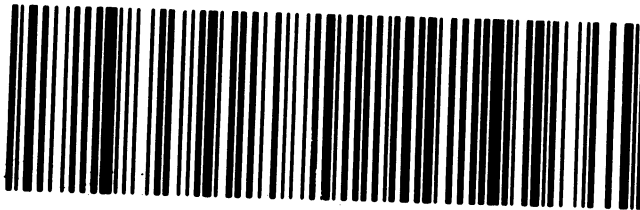
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0201

AG FTCA

**FRI - 11 OCT 3:00P
STANDARD OVERNIGHT**

**80524
CO-US DEN**



Must Deliver Next Business Day
Time and Temperature Sensitive!



11-1
amb

ORIGIN ID:SGRA (281) 530-5656
CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

SHIP DATE: 10OCT19
ACTWGT: 44.05 LB
CAD: 300130/CAFE3211
DIMS: 26x14x14 IN
BILL THIRD PARTY

TO **SAMPLE RECEIVING**
ALS FORT COLLINS
225 COMMERCE DRIVE

FORT COLLINS CO 80524

(970) 490-1511

REF: HS19100550 RJ



FedEx
Express



551C3/263C/104C

3 of 3

MPS# 1251 0290 4470
0263

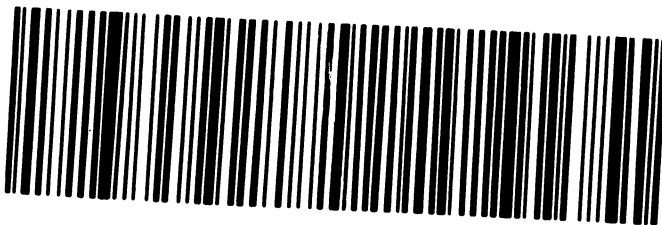
Mstr# 1251 0290 4458

[0201]

FRI - 11 OCT 3:00P
STANDARD OVERNIGHT

AG FTCA

80524
CO-US DEN



Seal Broken By:	Date:

Client: ALS Environmental

Date: 12-Nov-19

Project: HS19100550

Work Order: 1910334

Sample ID: MW-01

Lab ID: 1910334-1

Legal Location:

Matrix: WATER

Collection Date: 10/8/2019 12:20

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 10/29/2019 PrepBy: TRW	
Ra-226	0.71 (+/- 0.39)	Y1	0.4	pCi/l	NA	11/6/2019 12:15
Carr: BARIUM	105	Y1	40-110	%REC	DL = NA	11/6/2019 12:15
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 10/28/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	2.93 (+/- 0)		0.77	pCi/l	NA	11/6/2019 10:43
Ra-228	2.22 (+/- 0.68)		0.77	pCi/l	NA	11/6/2019 10:43
Carr: BARIUM	97.9		40-110	%REC	DL = NA	11/6/2019 10:43

Client: ALS Environmental
Project: HS19100550
Sample ID: MW-02
Legal Location:
Collection Date: 10/8/2019 10:55

Date: 12-Nov-19
Work Order: 1910334
Lab ID: 1910334-2
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: 10/29/2019		PrepBy: TRW
Ra-226	ND (+/- 0.35)	U	0.48	pCi/l	NA	11/6/2019 12:15
Carr: BARIUM	99.7		40-110	%REC	DL = NA	11/6/2019 12:15
Radium-228 Analysis by GFPC						
			SOP 724	Prep Date: 10/28/2019		PrepBy: RGS
COMBINED RADIUM (226+228)	1.83 (+/- 0)		0.77	pCi/l	NA	11/6/2019 10:43
Ra-228	1.83 (+/- 0.6)		0.77	pCi/l	NA	11/6/2019 10:43
Carr: BARIUM	95.8		40-110	%REC	DL = NA	11/6/2019 10:43

Client: ALS Environmental
Project: HS19100550
Sample ID: MW-17
Legal Location:
Collection Date: 10/8/2019 10:30

Date: 12-Nov-19
Work Order: 1910334
Lab ID: 1910334-3
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: 10/29/2019 PrepBy: TRW	
Ra-226	ND (+/- 0.29)	Y1,U	0.47	pCi/l	NA	11/6/2019 12:31
Carr: BARIUM	102	Y1	40-110	%REC	DL = NA	11/6/2019 12:31
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 10/30/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.74	pCi/l	NA	11/7/2019 08:33
Ra-228	ND (+/- 0.39)	U	0.74	pCi/l	NA	11/7/2019 08:33
Carr: BARIUM	95.5		40-110	%REC	DL = NA	11/7/2019 08:33

Client: ALS Environmental

Date: 12-Nov-19

Project: HS19100550

Work Order: 1910334

Sample ID: MW-18

Lab ID: 1910334-4

Legal Location:

Matrix: WATER

Collection Date: 10/8/2019 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: 10/29/2019 PrepBy: TRW	
Ra-226	ND (+/- 0.21)	Y1,U	0.39	pCi/l	NA	11/6/2019 12:31
Carr: BARIUM	101	Y1	40-110	%REC	DL = NA	11/6/2019 12:31
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 10/30/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.77	pCi/l	NA	11/7/2019 08:33
Ra-228	ND (+/- 0.37)	U	0.77	pCi/l	NA	11/7/2019 08:33
Carr: BARIUM	88.5		40-110	%REC	DL = NA	11/7/2019 08:33

Client: ALS Environmental

Date: 12-Nov-19

Project: HS19100550

Work Order: 1910334

Sample ID: MW-19

Lab ID: 1910334-5

Legal Location:

Matrix: WATER

Collection Date: 10/8/2019 11:45

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 10/29/2019 PrepBy: TRW	
Ra-226	ND (+/- 0.23)	U	0.49	pCi/l	NA	11/6/2019 12:31
Carr: BARIUM	99.9		40-110	%REC	DL = NA	11/6/2019 12:31
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 10/30/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.74	pCi/l	NA	11/7/2019 08:33
Ra-228	ND (+/- 0.38)	U	0.74	pCi/l	NA	11/7/2019 08:33
Carr: BARIUM	94.9		40-110	%REC	DL = NA	11/7/2019 08:33

Client: ALS Environmental
Project: HS19100550
Sample ID: MW-20
Legal Location:
Collection Date: 10/8/2019 11:35

Date: 12-Nov-19
Work Order: 1910334
Lab ID: 1910334-6
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: 10/29/2019	PrepBy: TRW
Ra-226	0.43 (+/- 0.25)		0.2	pCi/l	NA	11/6/2019 12:31
<i>Carr: BARIUM</i>	99.2		40-110	%REC	DL = NA	11/6/2019 12:31
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 10/30/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.75	pCi/l	NA	11/7/2019 08:33
Ra-228	ND (+/- 0.38)	U	0.75	pCi/l	NA	11/7/2019 08:33
<i>Carr: BARIUM</i>	96.6		40-110	%REC	DL = NA	11/7/2019 08:33

Client: ALS Environmental

Date: 12-Nov-19

Project: HS19100550

Work Order: 1910334

Sample ID: MW-21

Lab ID: 1910334-7

Legal Location:

Matrix: WATER

Collection Date: 10/8/2019 10:30

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 10/29/2019 PrepBy: TRW	
Ra-226	ND (+/- 0.21)	Y1,U	0.31	pCi/l	NA	11/6/2019 12:31
Carr: BARIUM	101	Y1	40-110	%REC	DL = NA	11/6/2019 12:31
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 10/30/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.75	pCi/l	NA	11/7/2019 08:33
Ra-228	ND (+/- 0.37)	U	0.75	pCi/l	NA	11/7/2019 08:33
Carr: BARIUM	97.4		40-110	%REC	DL = NA	11/7/2019 08:33

Client: ALS Environmental

Date: 12-Nov-19

Project: HS19100550

Work Order: 1910334

Sample ID: MW-22

Lab ID: 1910334-8

Legal Location:

Matrix: WATER

Collection Date: 10/8/2019 11:40

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 10/29/2019 PrepBy: TRW	
Ra-226	ND (+/- 0.24)	Y1,U	0.34	pCi/l	NA	11/6/2019 12:31
Carr: BARIUM	101	Y1	40-110	%REC	DL = NA	11/6/2019 12:31
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 10/30/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.74	pCi/l	NA	11/7/2019 08:33
Ra-228	ND (+/- 0.38)	U	0.74	pCi/l	NA	11/7/2019 08:33
Carr: BARIUM	95.2		40-110	%REC	DL = NA	11/7/2019 08:33

Client: ALS Environmental

Date: 12-Nov-19

Project: HS19100550

Work Order: 1910334

Sample ID: MW-27

Lab ID: 1910334-9

Legal Location:

Matrix: WATER

Collection Date: 10/8/2019 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: 10/29/2019 PrepBy: TRW	
Ra-226	ND (+/- 0.3)	U	0.43	pCi/l	NA	11/6/2019 12:52
Carr: BARIUM	96.7		40-110	%REC	DL = NA	11/6/2019 12:52
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 10/30/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.76	pCi/l	NA	11/7/2019 08:33
Ra-228	ND (+/- 0.41)	U	0.76	pCi/l	NA	11/7/2019 08:33
Carr: BARIUM	94.7		40-110	%REC	DL = NA	11/7/2019 08:33

Client: ALS Environmental
Project: HS19100550
Sample ID: MW-28
Legal Location:
Collection Date: 10/8/2019 10:55

Date: 12-Nov-19
Work Order: 1910334
Lab ID: 1910334-10
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: 10/30/2019	PrepBy: JXH
Ra-226	0.94 (+/- 0.41)		0.21	pCi/l	NA	11/7/2019 11:30
<i>Carr: BARIUM</i>	96.4		40-110	%REC	DL = NA	11/7/2019 11:30
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 10/30/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	6.04 (+/- 0)		0.8	pCi/l	NA	11/7/2019 08:33
Ra-228	5.1 (+/- 1.3)		0.8	pCi/l	NA	11/7/2019 08:33
<i>Carr: BARIUM</i>	88.2		40-110	%REC	DL = NA	11/7/2019 08:33

Client: ALS Environmental

Date: 12-Nov-19

Project: HS19100550

Work Order: 1910334

Sample ID: MW-05

Lab ID: 1910334-11

Legal Location:

Matrix: WATER

Collection Date: 10/8/2019 10:25

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 10/30/2019 PrepBy: JXH	
Ra-226	ND (+/- 0.14)	U	0.31	pCi/l	NA	11/7/2019 11:30
Carr: BARIUM	92.8		40-110	%REC	DL = NA	11/7/2019 11:30
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 10/30/2019 PrepBy: RGS	
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.79	pCi/l	NA	11/7/2019 08:33
Ra-228	ND (+/- 0.4)	U	0.79	pCi/l	NA	11/7/2019 08:33
Carr: BARIUM	97.6		40-110	%REC	DL = NA	11/7/2019 08:33

Client: ALS Environmental

Date: 12-Nov-19

Project: HS19100550

Work Order: 1910334

Sample ID: MW-26

Lab ID: 1910334-12

Legal Location:

Matrix: WATER

Collection Date: 10/8/2019 11:20

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	0.43	pCi/l	NA	11/7/2019 11:30
Carr: BARIUM	96.9		40-110	%REC	DL = NA	11/7/2019 11:30
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)						
	0.94 (+/- 0)		0.75	pCi/l	NA	11/7/2019 08:33
Ra-228	0.94 (+/- 0.44)		0.75	pCi/l	NA	11/7/2019 08:33
Carr: BARIUM	94.6		40-110	%REC	DL = NA	11/7/2019 08:33

Client: ALS Environmental
Project: HS19100550
Sample ID: MW-29
Legal Location:
Collection Date: 10/8/2019 11:40

Date: 12-Nov-19
Work Order: 1910334
Lab ID: 1910334-13
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: 10/30/2019	PrepBy: JXH
Ra-226	ND (+/- 0.16)	U	0.34	pCi/l	NA	11/7/2019 11:30
Carr: BARIUM	97.1		40-110	%REC	DL = NA	11/7/2019 11:30
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 10/30/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	1.07	pCi/l	NA	11/7/2019 08:33
Ra-228	ND (+/- 0.51)	U,M	1.07	pCi/l	NA	11/7/2019 08:33
Carr: BARIUM	73.1		40-110	%REC	DL = NA	11/7/2019 08:33

Client: ALS Environmental

Date: 12-Nov-19

Project: HS19100550

Work Order: 1910334

Sample ID: MW-43

Lab ID: 1910334-14

Legal Location:

Matrix: WATER

Collection Date: 10/8/2019 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: 10/30/2019	PrepBy: JXH
Ra-226	ND (+/- 0.18)	U	0.3	pCi/l	NA	11/7/2019 11:30
Carr: BARIUM	96.1		40-110	%REC	DL = NA	11/7/2019 11:30
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 10/30/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	1.17	pCi/l	NA	11/7/2019 08:33
Ra-228	ND (+/- 0.55)	U,M	1.17	pCi/l	NA	11/7/2019 08:33
Carr: BARIUM	65.4		40-110	%REC	DL = NA	11/7/2019 08:33

Client: ALS Environmental

Date: 12-Nov-19

Project: HS19100550

Work Order: 1910334

Sample ID: MW-44

Lab ID: 1910334-15

Legal Location:

Matrix: WATER

Collection Date: 10/8/2019 11:45

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
			SOP 783		Prep Date: 10/30/2019	PrepBy: JXH
Ra-226	0.4 (+/- 0.29)		0.35	pCi/l	NA	11/7/2019 12:16
<i>Carr: BARIUM</i>	<i>97.1</i>		<i>40-110</i>	<i>%REC</i>	DL = NA	11/7/2019 12:16
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 11/4/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.72	pCi/l	NA	11/8/2019 08:16
Ra-228	ND (+/- 0.35)	U	0.72	pCi/l	NA	11/8/2019 08:16
<i>Carr: BARIUM</i>	<i>97.8</i>		<i>40-110</i>	<i>%REC</i>	DL = NA	11/8/2019 08:16

Client: ALS Environmental
Project: HS19100550
Sample ID: MW-45
Legal Location:
Collection Date: 10/8/2019 10:40

Date: 12-Nov-19
Work Order: 1910334
Lab ID: 1910334-16
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	1.64 (+/- 0.64)		0.49	pCi/l	NA	11/7/2019 12:16
<i>Carr: BARIUM</i>	94.5		40-110	%REC	DL = NA	11/7/2019 12:16
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)	5.27 (+/- 0)		0.73	pCi/l	NA	11/8/2019 08:16
Ra-228	3.63 (+/- 0.97)		0.73	pCi/l	NA	11/8/2019 08:16
<i>Carr: BARIUM</i>	96.7		40-110	%REC	DL = NA	11/8/2019 08:16

Client: ALS Environmental
Project: HS19100550
Sample ID: MW-46
Legal Location:
Collection Date: 10/8/2019 10:35

Date: 12-Nov-19
Work Order: 1910334
Lab ID: 1910334-17
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	0.58 (+/- 0.3)		SOP 783		Prep Date: 10/30/2019	PrepBy: JXH
<i>Carr: BARIUM</i>	95		0.2	pCi/l	NA	11/7/2019 12:16
			40-110	%REC	DL = NA	11/7/2019 12:16
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)	1.75 (+/- 0)		SOP 724		Prep Date: 11/4/2019	PrepBy: RGS
Ra-228	1.17 (+/- 0.46)		0.71	pCi/l	NA	11/8/2019 08:16
<i>Carr: BARIUM</i>	95.6		40-110	%REC	DL = NA	11/8/2019 08:16

Client: ALS Environmental
Project: HS19100550
Sample ID: DUP-01
Legal Location:
Collection Date: 10/8/2019 11:00

Date: 12-Nov-19
Work Order: 1910334
Lab ID: 1910334-18
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 (+/- 0.22)	U	0.37	pCi/l	NA	11/7/2019 12:16
Carr: BARIUM	93.4		40-110	%REC	DL = NA	11/7/2019 12:16
Radium-228 Analysis by GFPC						
COMBINED RADIUM (226+228)						
	0.74 (+/- 0)		0.72	pCi/l	NA	11/8/2019 08:16
Ra-228	0.74 (+/- 0.4)		0.72	pCi/l	NA	11/8/2019 08:16
Carr: BARIUM	96.3		40-110	%REC	DL = NA	11/8/2019 08:16

Client: ALS Environmental
Project: HS19100550
Sample ID: FB-01
Legal Location:
Collection Date: 10/8/2019 10:50

Date: 12-Nov-19
Work Order: 1910334
Lab ID: 1910334-19
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: 10/30/2019	PrepBy: JXH
Ra-226	ND (+/- 0.14)	U	0.29	pCi/l	NA	11/7/2019 12:16
Carr: BARIUM	98.3		40-110	%REC	DL = NA	11/7/2019 12:16
Radium-228 Analysis by GFPC						
			SOP 724		Prep Date: 11/4/2019	PrepBy: RGS
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.7	pCi/l	NA	11/8/2019 08:05
Ra-228	ND (+/- 0.35)	U	0.7	pCi/l	NA	11/8/2019 08:05
Carr: BARIUM	96.7		40-110	%REC	DL = NA	11/8/2019 08:05

Client: ALS Environmental
Project: HS19100550
Sample ID: FB-01
Legal Location:
Collection Date: 10/8/2019 10:50

Date: 12-Nov-19
Work Order: 1910334
Lab ID: 1910334-19
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: 11/12/2019 1:30

Client: ALS Environmental

QC BATCH REPORT

Work Order: 1910334

Project: HS19100550

Batch ID: RE191029-2-1

Instrument ID Alpha Scin

Method: Radium-226 by Radon Emanation

DUP Sample ID: 1910334-2 Units: pCi/l Analysis Date: 11/6/2019 12:15

Client ID: MW-02 Run ID: RE191029-2A Prep Date: 10/29/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	0.63 (+/- 0.43)	0.55						0.44	0.3	2.1	
Carr: BARIUM	18390		18650		98.6	40-110		18610			

LCS Sample ID: RE191029-2 Units: pCi/l Analysis Date: 11/6/2019 12:52

Client ID: Run ID: RE191029-2A Prep Date: 10/29/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	45 (+/- 11)	0	46.47		96.9	67-120					P,Y1
Carr: BARIUM	18530		18420		101	40-110					Y1

MB Sample ID: RE191029-2 Units: pCi/l Analysis Date: 11/6/2019 12:52

Client ID: Run ID: RE191029-2A Prep Date: 10/29/2019 DF: NA

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	ND	0.27									Y1,U
Carr: BARIUM	19060		18420		103	40-110					Y1

The following samples were analyzed in this batch:

1910334-1	1910334-2	1910334-3
1910334-4	1910334-5	1910334-6
1910334-7	1910334-8	1910334-9

Client: ALS Environmental
 Work Order: 1910334
 Project: HS19100550

QC BATCH REPORT

Batch ID: **RE191030-1-1** Instrument ID **Alpha Scin** Method: **Radium-226 by Radon Emanation**

LCS		Sample ID: RE191030-1		Units: pCi/l			Analysis Date: 11/7/2019 12:32				
Client ID:		Run ID: RE191030-1A			Prep Date: 10/30/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	50 (+/- 13)	0	46.47		108	67-120					P
Carr: BARIUM	18510		18790		98.5	40-110					

LCSD		Sample ID: RE191030-1		Units: pCi/l			Analysis Date: 11/7/2019 12:48				
Client ID:		Run ID: RE191030-1A			Prep Date: 10/30/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	45 (+/- 11)	0	46.47		97	67-120		50	0.3	2.1	P
Carr: BARIUM	18650		18790		99.3	40-110		18510			

MB		Sample ID: RE191030-1		Units: pCi/l			Analysis Date: 11/7/2019 12:32				
Client ID:		Run ID: RE191030-1A			Prep Date: 10/30/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	ND	0.35									U
Carr: BARIUM	18430		18790		98.1	40-110					

The following samples were analyzed in this batch:

1910334-10	1910334-11	1910334-12
1910334-13	1910334-14	1910334-15
1910334-16	1910334-17	1910334-18
1910334-19		

Client: ALS Environmental
 Work Order: 1910334
 Project: HS19100550

QC BATCH REPORT

Batch ID: RA191028-1-1 Instrument ID GASPROP Method: Radium-228 Analysis by GFPC

DUP		Sample ID: 1910334-2		Units: ug			Analysis Date: 11/6/2019 10:43				
Client ID: MW-02		Run ID: RA191028-1A			Prep Date: 10/28/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	35850		38340		93.5	40-110		36570			
Ra-228	2.62 (+/- 0.77)	0.79						1.83	0.8	2.1	

LCS		Sample ID: RA191028-1		Units: ug			Analysis Date: 11/6/2019 10:43				
Client ID:		Run ID: RA191028-1A			Prep Date: 10/28/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	37490		37940		98.8	40-110					
Ra-228	16 (+/- 3.8)	0.7	13.62		117	70-130					P

MB		Sample ID: RA191028-1		Units: ug			Analysis Date: 11/6/2019 10:43				
Client ID:		Run ID: RA191028-1A			Prep Date: 10/28/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	37340		37940		98.4	40-110					
Ra-228	ND	0.69									U

The following samples were analyzed in this batch:

Client: ALS Environmental
 Work Order: 1910334
 Project: HS19100550

QC BATCH REPORT

Batch ID: RA191030-1-1 Instrument ID GASPROP Method: Radium-228 Analysis by GFPC

LCS		Sample ID: RA191030-1		Units: ug		Analysis Date: 11/7/2019 08:33					
Client ID:		Run ID: RA191030-1A			Prep Date: 10/30/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	33160		35120		94.4	40-110					
Ra-228	15.6 (+/- 3.7)	0.7	13.61		115	70-130					P

LCSD		Sample ID: RA191030-1		Units: ug		Analysis Date: 11/7/2019 08:33					
Client ID:		Run ID: RA191030-1A			Prep Date: 10/30/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	33160		35120		94.4	40-110		33160			
Ra-228	15.3 (+/- 3.6)	0.8	13.61		113	70-130		15.6	0.05	2.1	P

MB		Sample ID: RA191030-1		Units: ug		Analysis Date: 11/7/2019 08:33					
Client ID:		Run ID: RA191030-1A			Prep Date: 10/30/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	34240		35120		97.5	40-110					
Ra-228	ND	0.77									U

The following samples were analyzed in this batch:

1910334-3	1910334-4	1910334-5
1910334-6	1910334-7	1910334-8
1910334-9	1910334-10	1910334-11
1910334-12	1910334-13	1910334-14

Client: ALS Environmental
 Work Order: 1910334
 Project: HS19100550

QC BATCH REPORT

Batch ID: RA191104-1-2 Instrument ID: GASPROP Method: Radium-228 Analysis by GFPC

LCS		Sample ID: RA191104-1		Units: ug		Analysis Date: 11/8/2019 08:05					
Client ID:		Run ID: RA191104-1A			Prep Date: 11/4/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	32520		32670		99.6	40-110					
Ra-228	15.7 (+/- 3.7)	0.7	13.61		115	70-130					P

LCSD		Sample ID: RA191104-1		Units: ug		Analysis Date: 11/8/2019 08:05					
Client ID:		Run ID: RA191104-1A			Prep Date: 11/4/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	31600		32670		96.7	40-110		32520			
Ra-228	17 (+/- 4)	0.7	13.61		125	70-130		15.7	0.3	2.1	P

MB		Sample ID: RA191104-1		Units: ug		Analysis Date: 11/8/2019 08:05					
Client ID:		Run ID: RA191104-1A			Prep Date: 11/4/2019			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	32250		32670		98.7	40-110					
Ra-228	ND	0.72									U

The following samples were analyzed in this batch:

1910334-15	1910334-16	1910334-17
1910334-18	1910334-19	

QUALITY ASSURANCE SUMMARY SHEET

ALS W.O. # / BATCH 1910334 / RA191030-1
TEST R278
METHOD GFPC
SOP/REV (PREP) 749
SOP/REV (ANAL) 724

Briefly document any QA or other problems or deviations associated with the analysis of samples. Problems could result from: log-in, color, odor, dilution, consistency, scheduling, equipment, or instrumentation, or may include documentation of minor deviations necessary due to unique DQO's or sample characteristics.

ALS Environmental Fort Collins SOP 724 states that each sample that is counted needs to be bracketed by a daily efficiency and background check. Sample 1910334-13 was counted on 11/07/19 on detector C4 (12) on Instrument C. This detector failed high for beta for the daily background check and recount check on 11/08/19. The high beta failure for the background check may result in a high bias to the sample results, however the activity for this sample is below both the achieved and requested MDC's. Data quality is not believed to be significantly affected by this excursion. The results are submitted without further qualification.

[A large handwritten signature is written across the lined area.]

TECHNICIAN/ANALYST *[Signature]* DATE 11/12/19
DEPARTMENT MANAGER *[Signature]* DATE 11/12/19



16-Oct-2019

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

Re: **HS19100550**

Work Order: **19101006**

Dear RJ,

ALS Environmental received 19 samples on 11-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 34.

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 92 of 125

Client: ALS Environmental
Project: HS19100550
Work Order: 19101006

**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: HS19100550
 Work Order: 19101006

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>
19101006-01	HS19100550-01	Groundwater	MW-01	10/8/2019 12:20	10/11/2019 10:00	<input type="checkbox"/>
19101006-02	HS19100550-02	Groundwater	MW-02	10/8/2019 10:55	10/11/2019 10:00	<input type="checkbox"/>
19101006-03	HS19100550-03	Groundwater	MW-17	10/8/2019 10:30	10/11/2019 10:00	<input type="checkbox"/>
19101006-04	HS19100550-04	Groundwater	MW-18	10/8/2019 10:50	10/11/2019 10:00	<input type="checkbox"/>
19101006-05	HS19100550-05	Groundwater	MW-19	10/8/2019 11:45	10/11/2019 10:00	<input type="checkbox"/>
19101006-06	HS19100550-06	Groundwater	MW-20	10/8/2019 11:35	10/11/2019 10:00	<input type="checkbox"/>
19101006-07	HS19100550-07	Groundwater	MW-21	10/8/2019 10:30	10/11/2019 10:00	<input type="checkbox"/>
19101006-08	HS19100550-08	Groundwater	MW-22	10/8/2019 11:40	10/11/2019 10:00	<input type="checkbox"/>
19101006-09	HS19100550-09	Groundwater	MW-27	10/8/2019 12:00	10/11/2019 10:00	<input type="checkbox"/>
19101006-10	HS19100550-10	Groundwater	MW-28	10/8/2019 10:55	10/11/2019 10:00	<input type="checkbox"/>
19101006-11	HS19100550-11	Groundwater	MW-05	10/8/2019 10:25	10/11/2019 10:00	<input type="checkbox"/>
19101006-12	HS19100550-12	Groundwater	MW-26	10/8/2019 11:20	10/11/2019 10:00	<input type="checkbox"/>
19101006-13	HS19100550-13	Groundwater	MW-29	10/8/2019 11:40	10/11/2019 10:00	<input type="checkbox"/>
19101006-14	HS19100550-14	Groundwater	MW-43	10/8/2019 12:00	10/11/2019 10:00	<input type="checkbox"/>
19101006-15	HS19100550-15	Groundwater	MW-44	10/8/2019 11:45	10/11/2019 10:00	<input type="checkbox"/>
19101006-16	HS19100550-16	Groundwater	MW-45	10/8/2019 10:40	10/11/2019 10:00	<input type="checkbox"/>
19101006-17	HS19100550-17	Groundwater	MW-46	10/8/2019 10:35	10/11/2019 10:00	<input type="checkbox"/>
19101006-18	HS19100550-18	Groundwater	DUP-01	10/8/2019 11:00	10/11/2019 10:00	<input type="checkbox"/>
19101006-19	HS19100550-19	Groundwater	FB-01	10/8/2019 10:50	10/11/2019 10:00	<input type="checkbox"/>

Client: ALS Environmental
Project: HS19100550
Work Order: 19101006

Case Narrative

Samples for the above noted Work Order were received on 10/11/2019. 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: HS19100550
WorkOrder: 19101006

**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: 19101006
 Client: ALS Environmental
 Project: HS19100550

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
Batch ID R272700						
	Test Name: Fluoride					
19101006-01	HS19100550-01	Groundwater	10/8/2019 12:20:00 PM			10/12/2019 02:16 PM
^						
19101006-02	HS19100550-02		10/8/2019 10:55:00 AM			10/12/2019 02:16 PM
^						
19101006-03	HS19100550-03		10/8/2019 10:30:00 AM			10/12/2019 02:16 PM
^						
19101006-04	HS19100550-04		10/8/2019 10:50:00 AM			10/12/2019 02:16 PM
^						
19101006-05	HS19100550-05		10/8/2019 11:45:00 AM			10/12/2019 02:16 PM
^						
19101006-06	HS19100550-06		10/8/2019 11:35:00 AM			10/12/2019 02:16 PM
^						
19101006-07	HS19100550-07		10/8/2019 10:30:00 AM			10/12/2019 02:16 PM
^						
19101006-08	HS19100550-08		10/8/2019 11:40:00 AM			10/12/2019 02:16 PM
^						
19101006-09	HS19100550-09		10/8/2019 12:00:00 PM			10/12/2019 02:16 PM
^						
19101006-10	HS19100550-10		10/8/2019 10:55:00 AM			10/12/2019 02:16 PM
^						
19101006-11	HS19100550-11		10/8/2019 10:25:00 AM			10/12/2019 02:16 PM
^						
19101006-12	HS19100550-12		10/8/2019 11:20:00 AM			10/12/2019 02:16 PM
^						
19101006-13	HS19100550-13		10/8/2019 11:40:00 AM			10/12/2019 02:16 PM
^						
19101006-14	HS19100550-14		10/8/2019 12:00:00 PM			10/12/2019 02:16 PM
^						
19101006-15	HS19100550-15		10/8/2019 11:45:00 AM			10/12/2019 02:16 PM
^						
19101006-16	HS19100550-16		10/8/2019 10:40:00 AM			10/12/2019 02:16 PM
^						
19101006-17	HS19100550-17		10/8/2019 10:35:00 AM			10/12/2019 02:16 PM
^						
19101006-18	HS19100550-18		10/8/2019 11:00:00 AM			10/12/2019 02:16 PM
^						
19101006-19	HS19100550-19		10/8/2019 10:50:00 AM			10/12/2019 02:16 PM
^						

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-01
Collection Date: 10/8/2019 12:20 PM

Work Order: 19101006
Lab ID: 19101006-01
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.090	J	0.058	0.10	mg/L	1	10/12/2019 14:16

Method: A4500-F C-11 Analyst: DVD

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-02
Collection Date: 10/8/2019 10:55 AM

Work Order: 19101006
Lab ID: 19101006-02
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-03
Collection Date: 10/8/2019 10:30 AM

Work Order: 19101006
Lab ID: 19101006-03
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.11		0.058	0.10	mg/L	1	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-04
Collection Date: 10/8/2019 10:50 AM

Work Order: 19101006
Lab ID: 19101006-04
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.10		0.058	0.10	mg/L	1	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-05
Collection Date: 10/8/2019 11:45 AM

Work Order: 19101006
Lab ID: 19101006-05
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-06
Collection Date: 10/8/2019 11:35 AM

Work Order: 19101006
Lab ID: 19101006-06
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-07
Collection Date: 10/8/2019 10:30 AM

Work Order: 19101006
Lab ID: 19101006-07
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-08
Collection Date: 10/8/2019 11:40 AM

Work Order: 19101006
Lab ID: 19101006-08
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-09
Collection Date: 10/8/2019 12:00 PM

Work Order: 19101006
Lab ID: 19101006-09
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-10
Collection Date: 10/8/2019 10:55 AM

Work Order: 19101006
Lab ID: 19101006-10
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.15		0.058	0.10	mg/L	1	10/12/2019 14:16

Method: A4500-F C-11 Analyst: DVD

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-11
Collection Date: 10/8/2019 10:25 AM

Work Order: 19101006
Lab ID: 19101006-11
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.060	J	0.058	0.10	mg/L	1	10/12/2019 14:16

Method: A4500-F C-11

Analyst: DVD

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-12
Collection Date: 10/8/2019 11:20 AM

Work Order: 19101006
Lab ID: 19101006-12
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-13
Collection Date: 10/8/2019 11:40 AM

Work Order: 19101006
Lab ID: 19101006-13
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE							
Fluoride	0.10		0.058	0.10	mg/L	1	10/12/2019 14:16

Method: A4500-F C-11 Analyst: DVD

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-14
Collection Date: 10/8/2019 12:00 PM

Work Order: 19101006
Lab ID: 19101006-14
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.68		0.058	0.10	mg/L	1	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-15
Collection Date: 10/8/2019 11:45 AM

Work Order: 19101006
Lab ID: 19101006-15
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-16
Collection Date: 10/8/2019 10:40 AM

Work Order: 19101006
Lab ID: 19101006-16
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-17
Collection Date: 10/8/2019 10:35 AM

Work Order: 19101006
Lab ID: 19101006-17
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	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-18
Collection Date: 10/8/2019 11:00 AM

Work Order: 19101006
Lab ID: 19101006-18
Matrix: GROUNDWATER

Analyses	Result	Qual	SDL	ML	Units	Dilution Factor	Date Analyzed
FLUORIDE			Method: A4500-F C-11				Analyst: DVD
Fluoride	0.68		0.058	0.10	mg/L	1	10/12/2019 14:16

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

ALS Group, USA

Date: 16-Oct-19

Client: ALS Environmental
Project: HS19100550
Sample ID: HS19100550-19
Collection Date: 10/8/2019 10:50 AM

Work Order: 19101006
Lab ID: 19101006-19
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	10/12/2019 14:16

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

WorkOrder: 19101006
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: 19101006
Project: HS19100550

QC BATCH REPORT

Batch ID: **R272700** Instrument ID **Titrator 1** Method: **A4500-F C-11**

MBLK		Sample ID: MB-R272700-R272700				Units: mg/L		Analysis Date: 10/12/2019 02:16 P		
Client ID:		Run ID: TITRATOR 1_191012A		SeqNo: 5984600		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-R272700-R272700				Units: mg/L		Analysis Date: 10/12/2019 02:16 P		
Client ID:		Run ID: TITRATOR 1_191012A		SeqNo: 5984601		Prep Date:		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.81	0.10	5	0	96.2	80-120	0			

MS		Sample ID: 19101006-02AMS				Units: mg/L		Analysis Date: 10/12/2019 02:16 P		
Client ID: HS19100550-02		Run ID: TITRATOR 1_191012A		SeqNo: 5984604		Prep Date:		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.9	0.10	5	0.02	97.6	75-125	0			

MS		Sample ID: 19101011-02AMS				Units: mg/L		Analysis Date: 10/12/2019 02:16 P		
Client ID:		Run ID: TITRATOR 1_191012A		SeqNo: 5984625		Prep Date:		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.9	0.10	5	0.02	97.6	75-125	0			

MSD		Sample ID: 19101006-02AMSD				Units: mg/L		Analysis Date: 10/12/2019 02:16 P		
Client ID: HS19100550-02		Run ID: TITRATOR 1_191012A		SeqNo: 5984605		Prep Date:		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.9	0.10	5	0.02	97.6	75-125	4.9	0	20	

MSD		Sample ID: 19101011-02AMSD				Units: mg/L		Analysis Date: 10/12/2019 02:16 P		
Client ID:		Run ID: TITRATOR 1_191012A		SeqNo: 5984626		Prep Date:		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.9	0.10	5	0.02	97.6	75-125	4.9	0	20	

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

Client: ALS Environmental
Work Order: 19101006
Project: HS19100550

QC BATCH REPORT

Batch ID: **R272700** Instrument ID **Titration 1** Method: **A4500-F C-11**

The following samples were analyzed in this batch:

19101006-01A	19101006-02A	19101006-03A
19101006-04A	19101006-05A	19101006-06A
19101006-07A	19101006-08A	19101006-09A
19101006-10A	19101006-11A	19101006-12A
19101006-13A	19101006-14A	19101006-15A
19101006-16A	19101006-17A	19101006-18A
19101006-19A		

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

WET CHEMISTRY DATA ASSESSMENT CHECKLIST

Wet Chemistry		Batch Number: TITRATOR1_191012A	Instrument ID: Titrator 1				
Method: Fluoride		Work order Number (s): 19101006					
Analyst Name: DMD		Date 10/12/19	Reviewer Name: JLB			Date: 10/14/19	
	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)



19100006

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F: +1 281 530 5887
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Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 12379

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: HS19100550
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19100550-01	MW-01	Groundwater	08 Oct 2019 12:20
	Fluoride by ISE 4500			16 Oct 2019
2.	HS19100550-02	MW-02	Groundwater	08 Oct 2019 10:55
	Fluoride by ISE 4500			16 Oct 2019
3.	HS19100550-03	MW-17	Groundwater	08 Oct 2019 10:30
	Fluoride by ISE 4500			16 Oct 2019
4.	HS19100550-04	MW-18	Groundwater	08 Oct 2019 10:50
	Fluoride by ISE 4500			16 Oct 2019
5.	HS19100550-05	MW-19	Groundwater	08 Oct 2019 11:45
	Fluoride by ISE 4500			16 Oct 2019
6.	HS19100550-06	MW-20	Groundwater	08 Oct 2019 11:35
	Fluoride by ISE 4500			16 Oct 2019
7.	HS19100550-07	MW-21	Groundwater	08 Oct 2019 10:30
	Fluoride by ISE 4500			16 Oct 2019
8.	HS19100550-08	MW-22	Groundwater	08 Oct 2019 11:40
	Fluoride by ISE 4500			16 Oct 2019
9.	HS19100550-09	MW-27	Groundwater	08 Oct 2019 12:00



Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 12379

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
	Fluoride by ISE 4500		16 Oct 2019
10. HS19100550-10	MW-28	Groundwater	08 Oct 2019 10:55
	Fluoride by ISE 4500		16 Oct 2019
11. HS19100550-11	MW-05	Groundwater	08 Oct 2019 10:25
	Fluoride by ISE 4500		16 Oct 2019
12. HS19100550-12	MW-26	Groundwater	08 Oct 2019 11:20
	Fluoride by ISE 4500		16 Oct 2019
13. HS19100550-13	MW-29	Groundwater	08 Oct 2019 11:40
	Fluoride by ISE 4500		16 Oct 2019
14. HS19100550-14	MW-43	Groundwater	08 Oct 2019 12:00
	Fluoride by ISE 4500		16 Oct 2019
15. HS19100550-15	MW-44	Groundwater	08 Oct 2019 11:45
	Fluoride by ISE 4500		16 Oct 2019
16. HS19100550-16	MW-45	Groundwater	08 Oct 2019 10:40
	Fluoride by ISE 4500		16 Oct 2019
17. HS19100550-17	MW-46	Groundwater	08 Oct 2019 10:35
	Fluoride by ISE 4500		16 Oct 2019
18. HS19100550-18	DUP-01	Groundwater	08 Oct 2019 11:00
	Fluoride by ISE 4500		16 Oct 2019
19. HS19100550-19	FB-01	Groundwater	08 Oct 2019 10:50
	Fluoride by ISE 4500		16 Oct 2019

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

Import Data from work order HS19100555
HS19100550-02 MS/MSD

QC Level: TRRP LRC (TRRP checklist only+Level II (normal))

Relinquished By:

Date/Time:

10/10/19 1800.

Received By:

Date/Time:

10/11/19 10:00

Cooler ID(s):

Temperature(s):

4.0°C SRZ PH18



Sample Receipt Checklist

Client Name: **ALS - HOUSTON**

Date/Time Received: **11-Oct-19 10:00**

Work Order: **19101006**

Received by: **MJG**

Checklist completed by Matthew Gaylord 11-Oct-19
eSignature Date

Reviewed by: Chad Whelton 14-Oct-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:

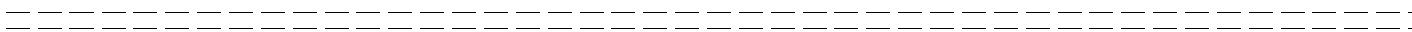
Water - VOA vials have zero headspace? Yes No No VOA vials submitted

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 D

Laboratory Data Quality Review

TRC Environmental Corporation | NRG Texas Power, LLC

2019 Annual Groundwater Monitoring and Corrective Action Report

S:\NRG\LIMESTONE\2019\2019 ANNUAL REPORT\2. REPORTS\TEXT\FINAL 2019 LIMESTONE ANNUAL GW REPORT 2019_01-29-2020.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 30, 2019 at the NRG Limestone Electric Generating Station (Limestone) in Jewett, 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

Seventeen (17) groundwater samples, one (1) duplicate groundwater sample 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 0.6, 0.2, 1.9, 0.2, 1.5, 0.6, 0.1 and 1.6°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 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 264521 had a detection of calcium (0.05180J mg/L) in the method blank. The field blank (FB-01) was qualified as not-detected (U) for calcium, due to method blank contamination.

One field blank (FB-01) was collected and analyzed as part of this data package. Detections of fluoride (0.03J mg/L) and calcium (0.143J mg/L) were identified in the field blank (FB-1). The detection of calcium in the field blank was addressed above in the method blank section resulting in a non-detect for calcium in the field blank. Based on professional judgement, the following samples were qualified as estimated (J) for fluoride, due to the field blank detection: MW-14, MW-26, MW-45, MW-22, MW-21, MW-19, MW-2, MW-1, and MW-27. No trip blanks were included in the data package.

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 batch 264591, fluoride, and metals were analyzed on site samples MW-5, MW-2, and FB-01, and were within QC acceptance criteria. However, the laboratory should not have used a field blank as a matrix spike; therefore, the MS/MSD on FB-01 was not used for validation purposes. MS/MSD analysis is not a requirement of TDS method SM2540C.

Chloride/Sulfate batch 264515 MS/MSD analyzed on site sample MW-22 had low sulfate recovery. Samples MW-27, MW-28, MW-1, MW-2, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-29, MW-45, MW-5, MW-26, MW-43, MW-44, MW-46, and DUP-01 were qualified as estimated low (JL) for 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

One (1) field duplicate sample were included in this data package (MW-43/DUP-01). Both sample and duplicate, MW-43/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/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 Limestone site.

The data user is advised that the field blank (FB-01) was qualified as not-detected (U) for calcium, due to method blank contamination. Samples MW-14, MW-26, MW-45, MW-22, MW-21, MW-19, MW-2, MW-1, and MW-27. were qualified as estimated (J) for fluoride, due to a detection in the field blank. Samples MW-27, MW-28, MW-1, MW-2, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-29, MW-45, MW-5, MW-26, MW-43, MW-44, MW-46, and DUP-01 were qualified as estimated low (JL) for sulfate, due to low MS/MSD recovery.

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
Limestone CCR Appendix III
Analytical Report No. J184553-1

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
600-184553-1	MW-27	Groundwater
600-184553-2	MW-28	Groundwater
600-184553-3	MW-1	Groundwater
600-184553-4	MW-2	Groundwater
600-184553-5	MW-17	Groundwater
600-184553-6	MW-18	Groundwater
600-184553-7	MW-19	Groundwater
600-184553-8	MW-20	Groundwater
600-184553-9	MW-21	Groundwater
600-184553-10	MW-22	Groundwater
600-184553-11	MW-29	Groundwater
600-184553-12	MW-45	Groundwater
600-184553-13	MW-5	Groundwater
600-184553-14	MW-26	Groundwater
600-184553-15	MW-43	Groundwater
600-184553-16	MW-44	Groundwater
600-184553-17	MW-46	Groundwater
600-184553-18	DUP-01	Groundwater
600-184553-19	FB-01	Water

NRG
Limestone CCR Appendix III
Analytical Report No. J184553-1

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
FB-01	Calcium	U	Method blank contamination.
MW-46 MW-26 MW-45 MW-22 MW-21 MW-19 MW-2 MW-1 MW-27	Fluoride	J	Detection in field blank.
MW-27 MW-28 MW-1 MW-2 MW-17 MW-18 MW-19 MW-20 MW-21 MW-22 MW-29 MW-45 MW-5 MW-26 MW-43 MW-44 MW-46 DUP-01	Sulfate	JL	Low MS/MSD recovery.
<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
Limestone CCR Appendix III
Analytical Report No. J184553-1

Table 3 – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD ^a	Qualified
MW-43/DUP-01	Chloride	29	28.1	3	A
	Sulfate	644	622	3	A
	Boron	0.336	0.335	0	A
	Calcium	93.3	92.9	0	A
	Fluoride	1.4	1.38	1	A
	TDS	1570	1710	9	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 30, 2019 at the NRG Limestone Electric Generating Station (Limestone) in Jewett, 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

Two (2) 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 2.7°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, fluoride and metals 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.

Post Digestion Spike and Serial Dilution

The post digestion spike (PDS) for calcium had low recovery. Samples MW-28 and MW-43 were qualified as estimated low (JL) for calcium, due to low PDS recovery. 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 Limestone site.

The data user is advised that samples MW-28 and MW-43 were qualified as estimated low (JL) for calcium, due to low PDS recovery.

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
Limestone CCR Appendix III
Analytical Report No. HS19050027

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
HS19050027-01	MW-28	Groundwater
HS19050027-02	MW-43	Groundwater

NRG
Limestone CCR Appendix III
Analytical Report No. HS19050027

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
MW-28 MW-43	Calcium	JL	Low PDS recovery.
<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 30, 2019 at the NRG Limestone Electric Generating Station (Limestone) in Jewett, 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 by inductively coupled plasma-atomic emission spectrometry (ICP/AES);
- ◇ SW-846 7470A – Mercury by manual cold vapor technique;
- ◇ 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

Seventeen (17) groundwater samples, one (1) duplicate groundwater sample 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.

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 0.6, 0.2, 1.9, 0.2, 1.5, 0.6, 0.1 and 1.6°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 264521 had a detection of cadmium (0.00300J mg/L) in the method blank. Samples MW-27, MW-1, MW-2, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-29, MW-5, MW26, MW-43, MW-44 and DUP-01 were qualified as not-detected (U) for cadmium, due to method blank contamination.

One field blank (FB-01) was collected and analyzed as part of this data package. Detections of fluoride (0.03J mg/L) and barium (0.00190J mg/L) were identified in the field blank (FB-01). The associated samples were reported as detected for barium greater than 5X field blank concentration and were not qualified. Based on professional judgement, the following samples were qualified as estimated (J) for fluoride, due to the field blank detection: MW-27, MW-28, MW-1, MW-2, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-29, MW-45, MW-5, MW-26, MW-43, MW-44, MW-46 and DUP-01. No trip blanks were included in the data package.

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 and fluoride were analyzed on site samples MW-2, and FB-01, and were within QC acceptance criteria. However, the laboratory should not have used a field blank as a matrix spike; therefore, the MS/MSD on FB-01 was not used for validation purposes.

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.

Field Precision

One (1) field duplicate sample were included in this data package (MW-43/DUP-01). Both sample and duplicate, MW-43/DUP-01, were reported as detected for mercury, barium, cobalt, chromium, lithium, molybdenum, selenium, and fluoride. In addition, sample MW-43 was reported as detected for arsenic. The relative percent difference (RPD) between sample and duplicate was within the QC acceptance criteria of 30% for arsenic, barium, chromium, lithium molybdenum, selenium 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. MW-43 and DUP-01 were qualified as estimated (J) for cobalt, 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 Limestone site.

The data user is advised that samples MW-27, MW-1, MW-2, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-29, MW-5, MW26, MW-43, MW-44 and DUP-01 were qualified as not-detected (U) for cadmium, due to method blank contamination. The following samples were qualified as estimated (J) for fluoride, due to field blank detection: MW-27, MW-28, MW-1, MW-2, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-29, MW-45, MW-5, MW-26, MW-43, MW-44, MW-46 and DUP-01. MW-43 and DUP-01 were qualified as estimated (J) for cobalt, 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
Limestone CCR Appendix IV
Analytical Report No. J184553-2

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
600-184553-1	MW-27	Groundwater
600-184553-2	MW-28	Groundwater
600-184553-3	MW-1	Groundwater
600-184553-4	MW-2	Groundwater
600-184553-5	MW-17	Groundwater
600-184553-6	MW-18	Groundwater
600-184553-7	MW-19	Groundwater
600-184553-8	MW-20	Groundwater
600-184553-9	MW-21	Groundwater
600-184553-10	MW-22	Groundwater
600-184553-11	MW-29	Groundwater
600-184553-12	MW-45	Groundwater
600-184553-13	MW-5	Groundwater
600-184553-14	MW-26	Groundwater
600-184553-15	MW-43	Groundwater
600-184553-16	MW-44	Groundwater
600-184553-17	MW-46	Groundwater
600-184553-18	DUP-01	Groundwater
600-184553-19	FB-01	Water

NRG
Limestone CCR Appendix IV
Analytical Report No. J184553-2

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
MW-27 MW-1 MW-2 MW-17 MW-18 MW-19 MW-20 MW-21 MW-22 MW-29 MW-5 MW26 MW-43 MW-44 DUP-01	Cadmium	U	Method blank contamination.
MW-27 MW-28 MW-1 MW-2 MW-17 MW-18 MW-19 MW-20 MW-21 MW-22 MW-29 MW-45 MW-5 MW-26 MW-43 MW-44 MW-46 DUP-01	Fluoride	J	Detection in field blank.
MW-43 DUP-01	Cobalt	J	Sample/duplicate precision outside acceptance criteria.

NRG
Limestone CCR Appendix IV
Analytical Report No. J184553-2

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
<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
Limestone CCR Appendix IV
Analytical Report No. J184553-2

Table 3 – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD ^a	Qualified
MW-43/DUP-01	Arsenic	0.00360J	0.00285U	23	A
	Barium	0.0884	0.0907	3	A
	Cobalt	0.000600J	0.00130J	74	X
	Chromium	0.0160	0.0146	9	A
	Lithium	0.0242J	0.0239J	1	A
	Molybdenum	0.00240J	0.00190J	23	A
	Selenium	0.0669	0.0665	1	A
	Mercury	0.000556J	0.000141J	120	A*
	Fluoride	1.40	1.38	1	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 30, 2019 at the NRG Limestone Electric Generating Station (Limestone) in Jewett, 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:

- ◇ 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

Two (2) 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 2.7°C. The laboratory noted on the sample receipt checklist that sample MW-43 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 Limestone 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.

NRG
Limestone CCR Appendix IV
Analytical Report No. HS19050033

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
HS19050027-01	MW-28	Groundwater
HS19050027-02	MW-43	Groundwater

NRG
Limestone CCR Appendix IV
Analytical Report No. HS19050033

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 Burris of TRC Environmental Corporation (TRC) reviewed one (1) data package from ALS Global Laboratories (ALS) for the analysis of groundwater samples collected July 30, 2019 at the NRG Limestone Electric Generating Station (Limestone) in Jewett, 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); 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

Seventeen (17) groundwater samples, one (1) duplicate groundwater sample 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 0.4, 0.5, 0.2, 0.4 and 0.1°C. Samples reported in the data package 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) were reported as detected for chloride. Associated samples were reported for chloride with concentrations greater than 5X the CCB concentration and were not qualified. One CCB was reported as detected for boron. Samples MW-1, MW-17 and MW-18 were qualified as not-detected (U) for boron, due to CCB contamination.

Blanks

Chloride, sulfate, metals, fluoride, and TDS were reported as not-detected in the method blanks.

One field blank (FB-01) was collected and analyzed as part of this data package. A detection of calcium (0.552 mg/L) was identified in the field blank (FB-1). Associated samples were reported for calcium higher than 5X the field blank detection; therefore, no data were 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 R343646 and R343646, and fluoride were analyzed on site samples MW-5, MW-2, and FB-01, and were within QC acceptance criteria. Chloride/sulfate batches R343682 and R343833 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.

Metals batch 143677 MS/MSD analyzed on site sample MW-02 had calcium recovery outside acceptance criteria. However, the amount of calcium spiked was less than 4X the unspiked parent sample and may not represent the matrix effect; therefore, this MS/MSD was not used for qualification purposes.

Post Digestion Spike and Serial Dilution

The metals post digestion spike (PDS) analyzed on site sample MW-02 was outside laboratory acceptance criteria. However, the amount of calcium spiked was less than 4X the unspiked parent sample and was not used for qualification purposes. The serial dilution for metals was within laboratory acceptance criteria.

Laboratory Duplicates

Laboratory duplicates for TDS were within QC acceptance criteria.

Field Precision

One (1) field duplicate sample were included in this data package (MW-43/DUP-01). Both sample and duplicate, MW-43/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/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 Limestone site.

The data user is advised that samples MW-1, MW-17 and MW-18 were qualified as not-detected (U) for boron, due to CCB contamination.

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
Limestone CCR Appendix III
Analytical Report No. HS19071538

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
HS19071538-01	MW-01	Groundwater
HS19071538-02	MW-02	Groundwater
HS19071538-03	MW-17	Groundwater
HS19071538-04	MW-18	Groundwater
HS19071538-05	MW-19	Groundwater
HS19071538-06	MW-20	Groundwater
HS19071538-07	MW-21	Groundwater
HS19071538-08	MW-22	Groundwater
HS19071538-09	MW-27	Groundwater
HS19071538-10	MW-28	Groundwater
HS19071538-11	MW-05	Groundwater
HS19071538-12	MW-26	Groundwater
HS19071538-13	MW-29	Groundwater
HS19071538-14	MW-43	Groundwater
HS19071538-15	MW-44	Groundwater
HS19071538-16	MW-45	Groundwater
HS19071538-17	MW-46	Groundwater
HS19071538-18	DUP-01	Groundwater
HS19071538-19	FB-01	Water

NRG
Limestone CCR Appendix III
Analytical Report No. HS19071538

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
MW-1 MW-17 MW-18	Boron	U	CCB contamination.
<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
Limestone CCR Appendix III
Analytical Report No. HS19071538

Table 3 – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD ^a	Qualified
MW-43/DUP-01	Chloride	30	27.9	2	A
	Sulfate	458	447	0	A
	Boron	0.307	0.302	7	A
	Calcium	84.5	84.3	2	A
	Fluoride	1.2	1.2	1	A
	TDS	1250	1260	0	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 July 30, 2019 at the NRG Limestone Electric Generating Station (Limestone) in Jewett, 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:

- ◇ A4500-F C-11 – Fluoride by ion selective electrode;
- ◇ SW-846 6020A – Metals by inductively coupled plasma-mass spectrometry (ICP/MS);
- ◇ SW-846 7470A – Mercury by manual cold vapor technique;
- ◇ 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

Seventeen (17) groundwater samples, one (1) duplicate groundwater sample 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 majority of the paperwork filled out properly. Sample MW-05 had a time on the label of 11:20 and a time listed on the chain-of-custody of 11:30. The laboratory logged in the sample per the chain-of-custody.

The laboratory sample receipt checklist stated the samples were received at temperatures of 0.4, 0.5, 0.2, 0.4 and 0.1°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, fluoride and radium-226/228. Continuing calibration blanks (CCB) were reported as detected for antimony. Sample MW-27 was qualified as not-detected (U) for antimony, due to CCB contamination.

Surrogate/Carrier Recoveries

Radium-226/Radium-228 carrier recoveries were within laboratory acceptance criteria.

Blanks

Metals, mercury, fluoride and radium-226 were reported as not-detected in the method blanks. Radium-228 batch 190820-1-2 had a detection (0.78 +/- 0.41 pCi/L) in the method blank. Samples MW-01, MW-02 and MW-19 were qualified as estimated (J) for Radium-228, due to method blank contamination.

One field blank (FB-01) was collected and analyzed as part of this data package. A detection of chromium (0.00147J mg/L) was identified in the field blank (FB-01). Associated samples reported with concentrations of chromium less than 5X the field blank concentration, were qualified as not-detected (U) and include the following: MW-01, MW-02, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-27, MW-05, MW-29, MW-43, MW-44 and DUP-01.

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 metals, mercury and fluoride were analyzed on site samples MW-2, and FB-01, and were within QC acceptance criteria. MS/MSDs are not a requirement of the radium methods.

Post Digestion Spike and Serial Dilution

The post digestion spike and serial dilution for metals were within acceptance criteria.

Field Precision

One (1) field duplicate sample were included in this data package (MW-43/DUP-01). Both sample and duplicate, MW-43/DUP-01, were reported as detected for arsenic, barium, cobalt, lead, lithium, selenium, and fluoride. The relative percent difference (RPD) between sample and duplicate was within the QC acceptance criteria of 30% for the listed compounds.

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 Limestone site.

The data user is advised that sample MW-27 was qualified as not-detected (U) for antimony, due to CCB contamination. Samples MW-01, MW-02 and MW-19 were qualified as estimated (J) for Radium-228, due to method blank contamination. Samples MW-01, MW-02, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-27, MW-05, MW-29, MW-43, MW-44 and DUP-01 were qualified as not-detected (U) for chromium, due to field blank contamination.

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
Limestone CCR Appendix IV
Analytical Report No. HS19071541

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
HS19071541-01	MW-01	Groundwater
HS19071541-02	MW-02	Groundwater
HS19071541-03	MW-17	Groundwater
HS19071541-04	MW-18	Groundwater
HS19071541-05	MW-19	Groundwater
HS19071541-06	MW-20	Groundwater
HS19071541-07	MW-21	Groundwater
HS19071541-08	MW-22	Groundwater
HS19071541-09	MW-27	Groundwater
HS19071541-10	MW-28	Groundwater
HS19071541-11	MW-05	Groundwater
HS19071541-12	MW-26	Groundwater
HS19071541-13	MW-29	Groundwater
HS19071541-14	MW-43	Groundwater
HS19071541-15	MW-44	Groundwater
HS19071541-16	MW-45	Groundwater
HS19071541-17	MW-46	Groundwater
HS19071541-18	DUP-01	Groundwater
HS19071541-19	FB-01	Water

NRG
Limestone CCR Appendix IV
Analytical Report No. HS19071541

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
MW-27	Antimony	U	CCB contamination.
MW-01 MW-02 MW-19	Radium-228	J	Method blank contamination.
MW-01 MW-02 MW-17 MW-18 MW-19 MW-20 MW-21 MW-22 MW-27 MW-05 MW-29 MW-43 MW-44 DUP-01	Chromium	U	Field blank contamination.
<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
Limestone CCR Appendix IV
Analytical Report No. HS19071541

Table 3 – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD ^a	Qualified
MW-43/DUP-01	Arsenic	0.00132J	0.00142J	7	A
	Barium	0.0784	0.0844	7	A
	Cobalt	0.000817J	0.000891J	9	A
	Lead	0.000607J	0.000607J	0	A
	Lithium	0.0216	0.0223	3	A
	Selenium	0.0364	0.0397	9	A
	Fluoride	1.2	1.2	0	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 October 8, 2019 at the NRG Limestone Electric Generating Station (Limestone) in Jewett, 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); 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

Seventeen (17) groundwater samples, one (1) duplicate groundwater sample 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 1.4, 1.2, 0.8, 1.0 and 1.5°C. Samples reported in the data package 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) were reported as detected for calcium and boron. Associated samples were reported for calcium with concentrations greater than 5X the CCB concentration and were not qualified. Sample MW-45 was qualified as not-detected (U) for boron, due to CCB contamination.

Blanks

Chloride, sulfate, metals, fluoride, and TDS were reported as not-detected in the method blanks.

One field blank (FB-01) was collected and analyzed as part of this data package. A detection of calcium (0.139J mg/L) was identified in the field blank (FB-1). Associated samples were reported for calcium higher than 5X the field blank detection; therefore, no data were 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 batch R348195 and fluoride, analyzed on site samples MW-5 and MW-2, were within QC acceptance criteria. Chloride/sulfate batch R348352 was analyzed on a sample not associated with the project site

and was not used for qualification purposes. MS/MSD analysis is not a requirement of TDS method SM2540C.

Metals batch 146333 MS/MSD analyzed on site sample MW-02 had calcium recovery outside acceptance criteria. However, the amount of calcium spiked was less than 4X the unspiked parent sample and may not represent the matrix effect; therefore, this MS/MSD was not used for qualification purposes.

Post Digestion Spike and Serial Dilution

The metals post digestion spike (PDS) analyzed on site sample MW-02 was outside laboratory acceptance criteria. However, the amount of calcium spiked was less than 4X the unspiked parent sample and was not used for qualification purposes. The serial dilution for metals was within laboratory acceptance criteria.

Laboratory Duplicates

Laboratory duplicates for TDS were within QC acceptance criteria.

Field Precision

One (1) field duplicate sample were included in this data package (MW-43/DUP-01). Both sample and duplicate, MW-43/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/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 Limestone site.

The data user is advised that sample MW-45 was qualified as not-detected (U) for boron, due to CCB contamination.

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
Limestone CCR Appendix III
Analytical Report No. HS19100555

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
HS19100555-01	MW-01	Groundwater
HS19100555-02	MW-02	Groundwater
HS19100555-03	MW-17	Groundwater
HS19100555-04	MW-18	Groundwater
HS19100555-05	MW-19	Groundwater
HS19100555-06	MW-20	Groundwater
HS19100555-07	MW-21	Groundwater
HS19100555-08	MW-22	Groundwater
HS19100555-09	MW-27	Groundwater
HS19100555-10	MW-28	Groundwater
HS19100555-11	MW-05	Groundwater
HS19100555-12	MW-26	Groundwater
HS19100555-13	MW-29	Groundwater
HS19100555-14	MW-43	Groundwater
HS19100555-15	MW-44	Groundwater
HS19100555-16	MW-45	Groundwater
HS19100555-17	MW-46	Groundwater
HS19100555-18	DUP-01	Groundwater
HS19100555-19	FB-01	Water

NRG
Limestone CCR Appendix III
Analytical Report No. HS19100555

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
MW-45	Boron	U	CCB contamination.

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.

NRG
Limestone CCR Appendix III
Analytical Report No. HS19100555

Table 3 – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD ^a	Qualified
MW-43/DUP-01	Boron	0.164	0.196	18	A
	Calcium	75.2	79.2	5	A
	Chloride	46.3	46.3	0	A
	Sulfate	355	364	3	A
	TDS	1040	1040	0	A
	Fluoride	0.68	0.68	0	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 October 8, 2019 at the NRG Limestone Electric Generating Station (Limestone) in Jewett, 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:

- ◇ A4500-F C-11 – Fluoride by ion selective electrode;
- ◇ SW-846 6020A – Metals by inductively coupled plasma-mass spectrometry (ICP/MS);
- ◇ SW-846 7470A – Mercury by manual cold vapor technique;
- ◇ 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

Seventeen (17) groundwater samples, one (1) duplicate groundwater sample 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 of the paperwork filled out properly. The laboratory sample receipt checklist stated the samples were received at temperatures of 0.9, 0.7, 0.3, 0.5 and 1.0°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, fluoride and radium-226/228. Continuing calibration blanks (CCB) were reported as detected for antimony, beryllium, molybdenum and thallium. The following samples were qualified as not-detected (U), due to CCB contamination:

- ◇ Antimony – MW-01, MW-02, MW-17, MW-18 and MW-27;
- ◇ Beryllium – MW-45;
- ◇ Molybdenum – MW-46; and
- ◇ Thallium – MW-01, MW-02, MW-18, MW-28 and MW-45.

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. The field blank (FB-01) was also reported as not-detected for the listed analytes.

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 metals, mercury and fluoride were analyzed on site sample MW-2 and were within QC acceptance criteria. MS/MSDs are not a requirement of the radium methods.

Post Digestion Spike and Serial Dilution

The post digestion spike and serial dilution for metals were within acceptance criteria.

Field Precision

One (1) field duplicate sample were included in this data package (MW-43/DUP-01). Both sample and duplicate, MW-43/DUP-01, were reported as detected for arsenic, barium, chromium, cobalt, lithium, selenium, and fluoride. In addition, DUP-01 was reported as detected for radium-228. The relative percent difference (RPD) between sample and duplicate was within the QC acceptance criteria of 30% for arsenic, barium, lithium, selenium and fluoride. Chromium and cobalt 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. Radium-228 was qualified as estimated (UJ/J) in samples MW-43 and DUP-01, 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 Limestone site.

The data user is advised that samples MW-01, MW-02, MW-17, MW-18 and MW-27 were qualified as not-detected (U) for antimony, due to CCB contamination. Sample MW-45 was qualified as not-detected (U) for beryllium, due to CCB contamination. Sample MW-46 was qualified as not-detected (U) for molybdenum, due to CCB contamination. Samples MW-01, MW-02, MW-18, MW-28 and MW-45 were qualified as not-detected (U) for thallium, due to CCB contamination. Radium-228 was qualified as estimated (UJ/J) in samples MW-43 and DUP-01, 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
Limestone CCR Appendix IV
Analytical Report No. HS19100550

Table 1 – Cross-Reference between Laboratory and Field Identifications

Laboratory Identification	Field Identification	Matrix Type
HS19100550-01	MW-01	Groundwater
HS19100550-02	MW-02	Groundwater
HS19100550-03	MW-17	Groundwater
HS19100550-04	MW-18	Groundwater
HS19100550-05	MW-19	Groundwater
HS19100550-06	MW-20	Groundwater
HS19100550-07	MW-21	Groundwater
HS19100550-08	MW-22	Groundwater
HS19100550-09	MW-27	Groundwater
HS19100550-10	MW-28	Groundwater
HS19100550-11	MW-05	Groundwater
HS19100550-12	MW-26	Groundwater
HS19100550-13	MW-29	Groundwater
HS19100550-14	MW-43	Groundwater
HS19100550-15	MW-44	Groundwater
HS19100550-16	MW-45	Groundwater
HS19100550-17	MW-46	Groundwater
HS19100550-18	DUP-01	Groundwater
HS19100550-19	FB-01	Water

NRG
Limestone CCR Appendix IV
Analytical Report No. HS19100550

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
MW-01 MW-02 MW-17 MW-18 MW-27	Antimony	U	CCB contamination.
MW-45	Beryllium	U	CCB contamination.
MW-46	Molybdenum	U	CCB contamination.
MW-01 MW-02 MW-18 MW-28 MW-45	Thallium	U	CCB contamination.
DUP-01	Radium-228	J	Sample/duplicate precision outside acceptance criteria
MW-43	Radium-228	UJ	Sample/duplicate precision outside acceptance criteria
<p>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.</p>			

NRG
Limestone CCR Appendix IV
Analytical Report No. HS19100550

Table 3 – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (0.0168mg/L)	RPD ^a	Qualified
MW-43/DUP-01	Arsenic	0.000777J	0.000968J	21	A
	Barium	0.0693	0.0696	4	A
	Chromium	0.000626J	0.00124J	65	A*
	Cobalt	0.000449J	0.000648J	36	A*
	Lithium	0.0181	0.0168	7	A
	Selenium	0.0217	0.0205	6	A
	Fluoride	0.68	0.68	0	A
	Radium-228	U +/- 0.55	0.74 +/- 0.4	--	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

2019 Annual Groundwater Monitoring and Corrective Action Report

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January 31, 2020



Alternative Source Demonstration


Limestone Electric Generating Station Secondary E Pond (Unit 003)

April 2019

*Prepared For
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Executive Summary

The NRG Texas Power, LLC (NRG) Limestone Electric Generating Station (Station) is located approximately seven miles northwest of Jewett, Texas and approximately 0.5 miles north of the intersection of Limestone, Freestone, and Leon Counties. 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 two active CCR units that are managed pursuant to the CCR Rule, including the Secondary E Pond (Unit 003), which is the subject of this Alternate Source Demonstration (ASD).

Eight independent background/baseline groundwater monitoring events were conducted at the Secondary E Pond between April 2015 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 26, 2017. A statistical evaluation of the first post-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 Secondary 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 both CCR units 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-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 identified apparent SSIs in monitoring wells at the Secondary E Pond. 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 Secondary E Pond.

Section 1

Introduction

1.1 Background

The NRG Texas Power, LLC (NRG) Limestone Electric Generating Station (Station) is located approximately seven miles northwest of Jewett, Texas and approximately 0.5 miles north of the intersection of Limestone, Freestone, and Leon Counties. The Station is bisected by Farm-to-Market Road 39 (FM 39), which runs north-south through the middle of the Station. The western portion of the Station is located in Limestone County and includes the electricity generating portion of the Station. The eastern portion of the Station is located in Freestone County and includes the solid waste disposal area.

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 two active CCR-management units, the Landfill (Unit 004) and the Secondary E Pond (Unit 003), and CCR is managed pursuant to the CCR Rule and the CCR Remand Rule Proposal. Both active CCR units are located within the western portion of the Station as shown on Figure 1.

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 for the Secondary E Pond were documented in the January 30, 2018, *Annual Groundwater Monitoring Report, Secondary E Pond (Unit 003)* (ERM 2018a) and the February 28, 2018, *Groundwater Monitoring Report, Secondary E Pond (Unit 003)* (ERM 2018b) pursuant to §257.90(e). Apparent Statistically Significant Increases (SSIs) above background were identified in groundwater for the Secondary E Pond for the first post-background/baseline detection monitoring event and a successful Alternative Source Demonstration (ASD) was completed in July 2018. The ASD was placed in the facility's operating record (FOR) and was provided with the 2019 Annual Groundwater Monitoring and Corrective Action Report for the Station.

The Secondary E Pond receives wastewater from the E Pond and FGD residuals from the chloride purge storage tank for stabilization. These materials are temporarily stored in the Secondary E Pond before final disposal in the Site Landfill.

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 August 2018. The statistical evaluation identified six potential SSIs (calcium, pH, and TDS for six wells), 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).

During September 2018, two groundwater monitoring wells were installed at the Secondary E Pond to further enhance the CCR groundwater monitoring system. MW-45 was installed to the northeast of the Secondary E Pond to provide a more representative monitoring of background upgradient groundwater quality. MW-46 was installed to the southwest of the Secondary E Pond, between the pond and a downgradient natural gas well pad, to provide additional monitoring of downgradient groundwater quality.

1.3 Hydrogeology

Based on the *Geologic Atlas of Texas, Waco Sheet* (BEG 1972), the Station is primarily located within the outcrop of the Calvert Bluff Formation of the Wilcox Group. Minor portions of the southeast corner of the Station are located within the outcrop of the Carrizo Sand and minor portions of the southwest corner of the Station are immediately underlain by alluvium. The Calvert Bluff Formation underlies both the Carrizo Sand and alluvium where present.

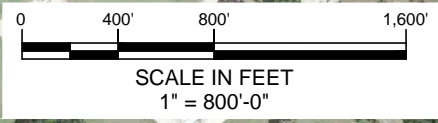
The Secondary E Pond is located solely within the outcrop of the Calvert Bluff Formation (BEG 1972); however, site investigation data indicate the Secondary E Pond may also be located within the outcrop of the Carrizo Sand. The Calvert Bluff Formation consists mostly of mudstone interbedded with fine sandstone, lignite, and ironstone concretions. The mudstone contains silt and very fine sand laminae. The Carrizo Sand consists of very fine sand with partings of silty clay, carbonaceous clay, and ironstone. The Carrizo Sand and the Wilcox Group comprise the Carrizo-Wilcox aquifer, which is recognized by the Texas Water Development Board (TWDB) as a major aquifer system in Texas. The Station is located within the outcrop, or the recharge zone, of the Carrizo-Wilcox aquifer (TWDB 2011).

Site investigations were conducted at the Station by Espey, Huston & Associated in 1986; Radian International in 1996 and 1997; EPRI in 2007, and Environmental Resources Management, Inc. (ERM) in 2016. The results of these investigations were summarized in the October 2017 *Ground Water Monitoring Networks for Coal Combustion Residual (CCR) Rule Compliance* report (ERM 2017b). Boring logs indicate the lithology at the Secondary E Pond consists primarily of silty sand with clayey sand and sandy clay to approximately 60 feet below ground surface (bgs), which appears to be consistent with the

Carrizo Sand. Interbedded mud, silt, and sand consistent with the Calvert Bluff Formation were present at approximately 60 feet bgs in the vicinity of the Secondary E Pond.

The certified CCR monitoring well network for the Secondary E Pond consists of one upgradient, background monitoring well (MW-29) and three downgradient monitoring wells (MW-5, MW-43, and MW-44). Groundwater potentiometric surface maps prepared by TRC 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. The direction of groundwater flow beneath the Secondary E Pond was to the southwest in May and was more radial in October 2018, with flow to the northwest, southwest, and south.

HOU_M:\ACAD-TRCDRAFTING\CCLIENT-Name-K-L-M-N\N-ONIRG\Limestone Station - Jewett-TX2019 - CCR-Report - Fig 1-2 - NRG-LimestoneStation - Secondary E Pont-n-Landfill CCR Units.dwg 01/16/19



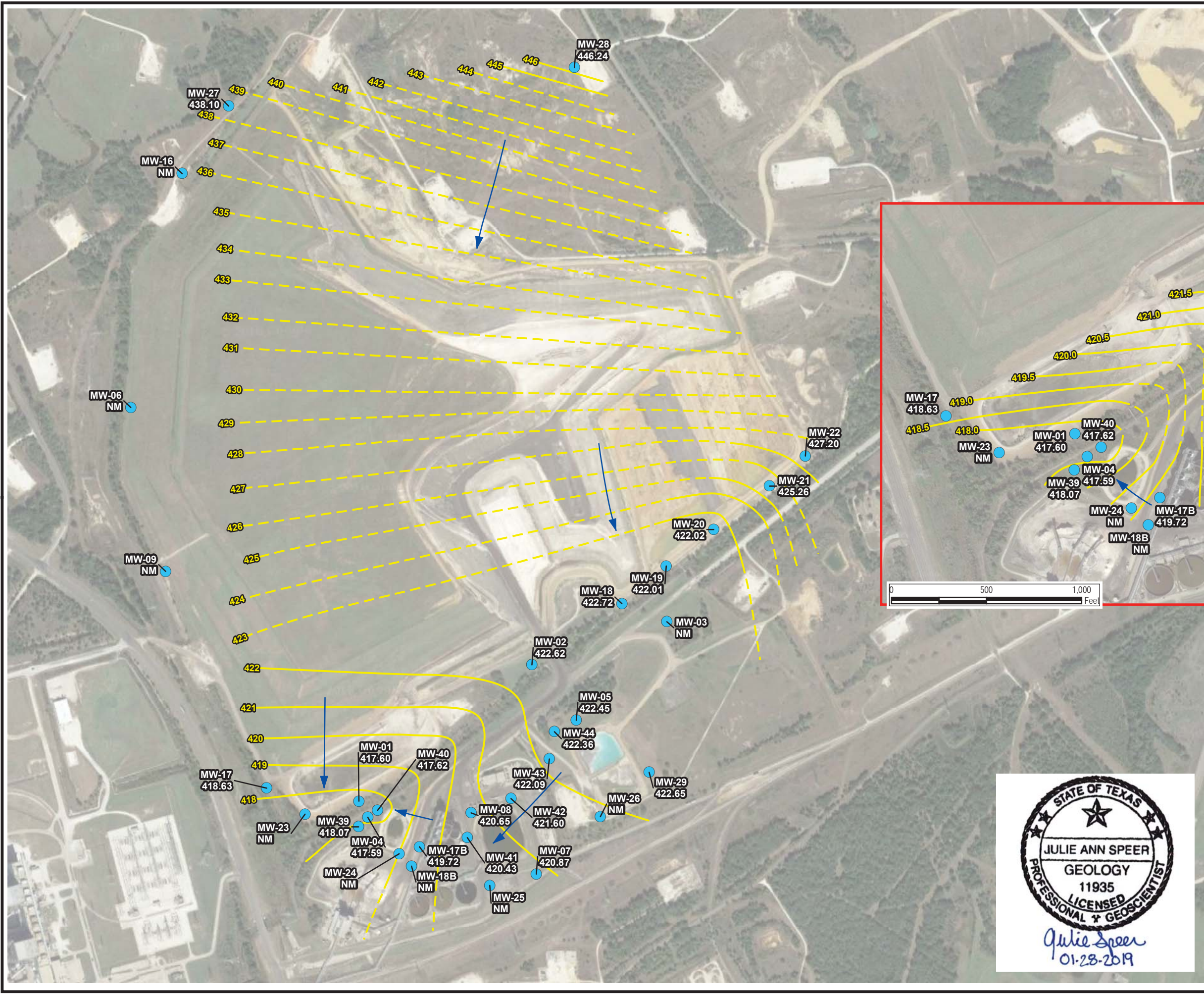
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TITLE:	SECONDARY E POND AND SITE LOCATION MAP	
DRAWN BY:	O. Fonseka	PROJECT No.: 298367.0000.0000
CHECKED BY:	T. Dworaczyk	FIGURE 1
APPROVED BY:	T. Dworaczyk	
DATE:	January 2019	

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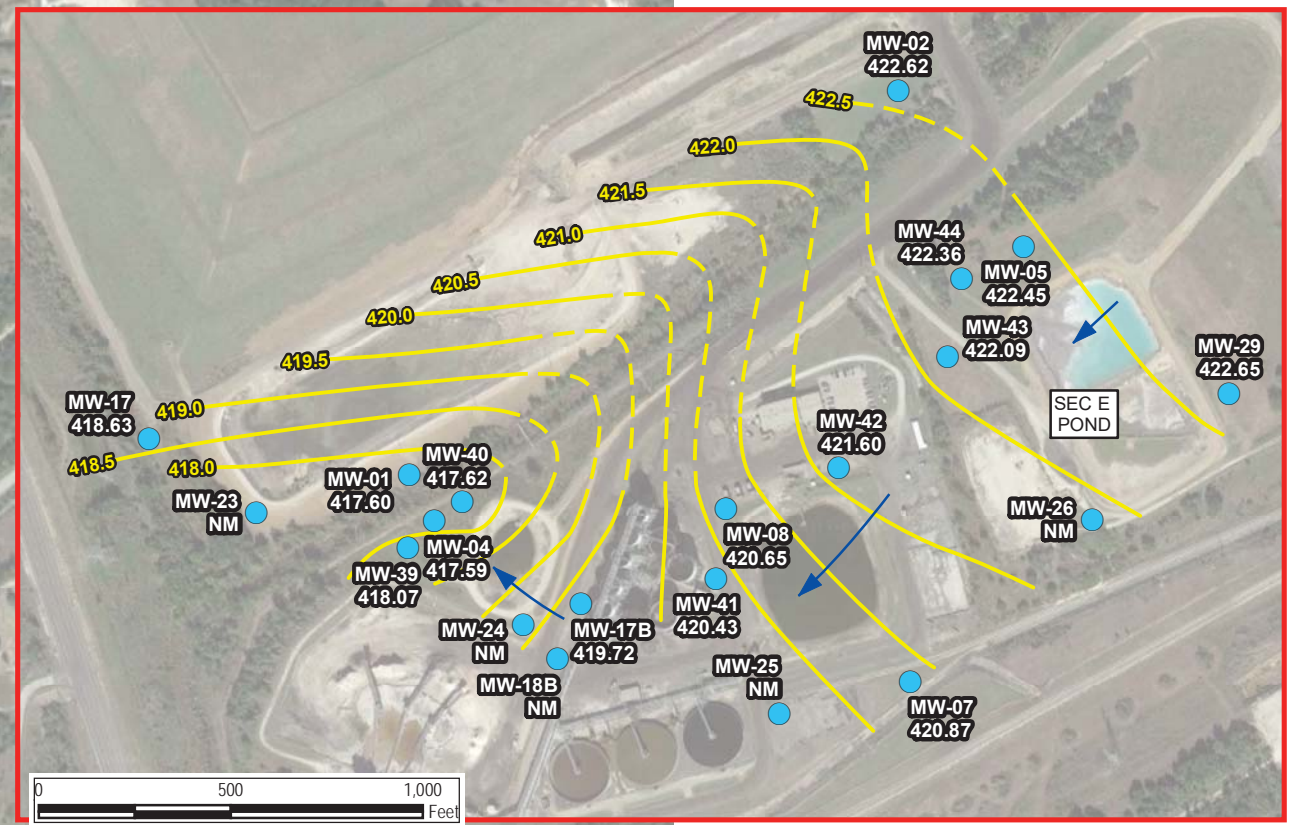
TRC
10550 Richmond Ave.
Suite 210
Houston, TX 77042
Phone: 713.244.1000

Fig 1-2 - NRG-LimestoneStation - Secondary E Pont-n-Landfill CCR Units.dwg



LEGEND

- MONITORING WELL
- 446.24** GROUNDWATER ELEVATION (FEET MSL)
- NM** NOT MEASURED
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER POTENTIOMETRIC SUFRACE CONTOUR (FEET) - DASHED WHERE INFERRED

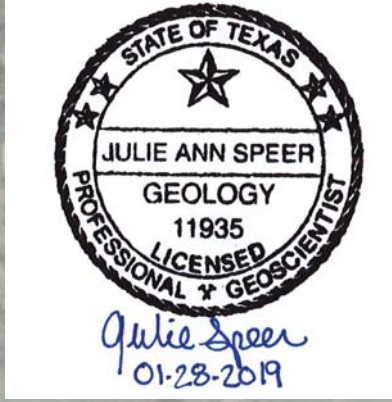


NOTE:
MONITORING WELLS MW -45 AND MW -46 NOT SHOWN (INSTALLED IN SEPTEMBER 2018).

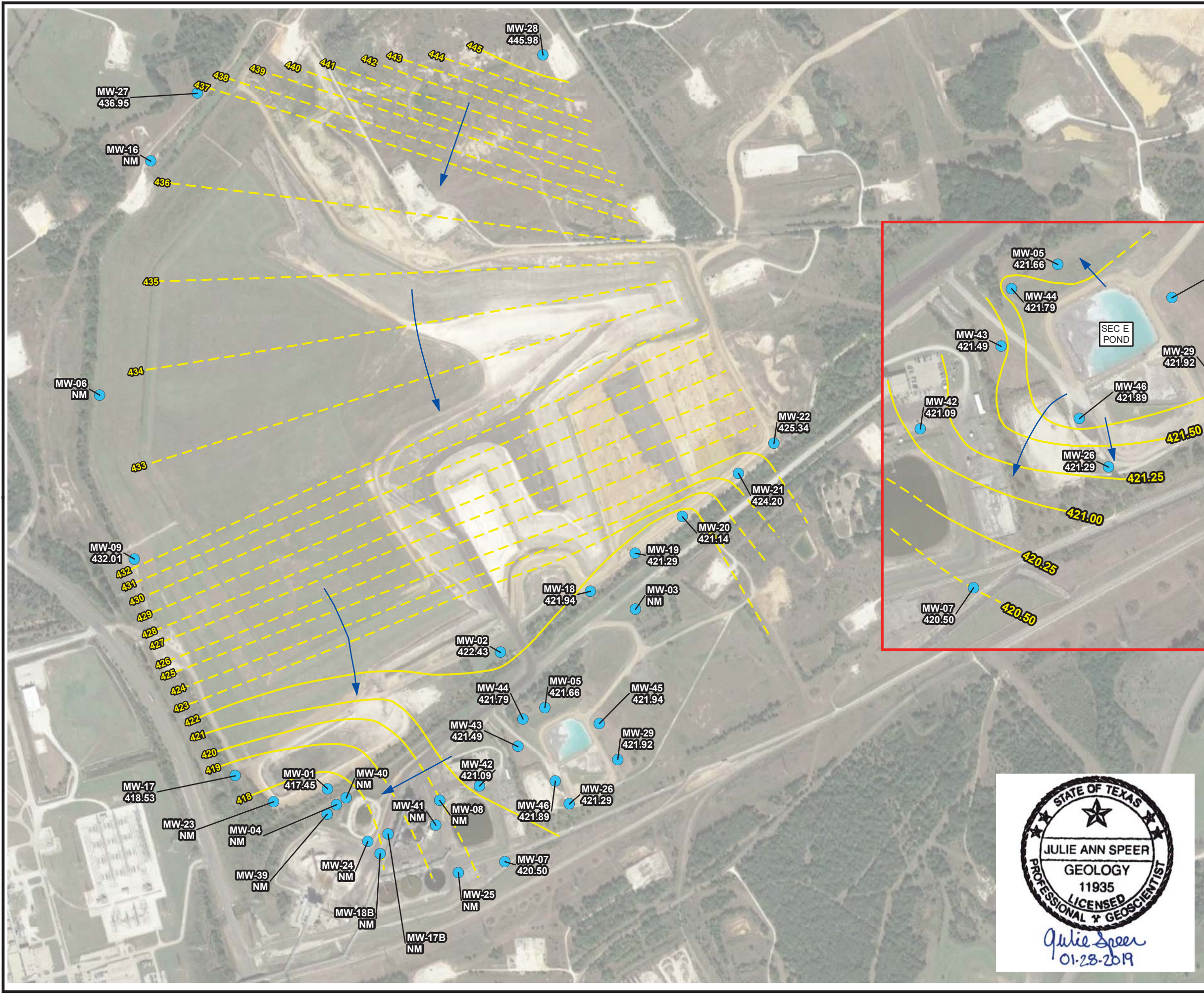
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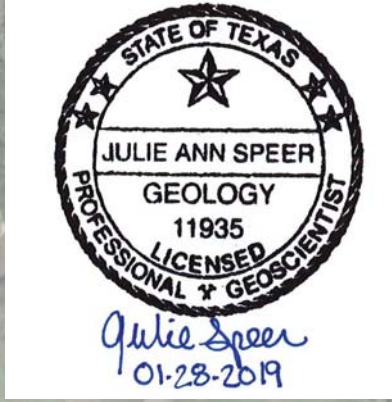
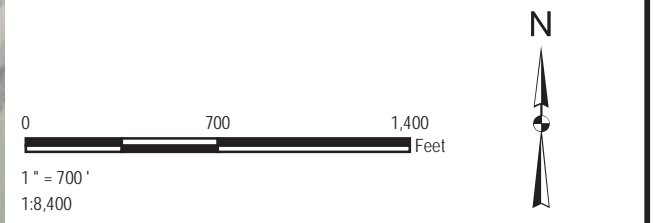
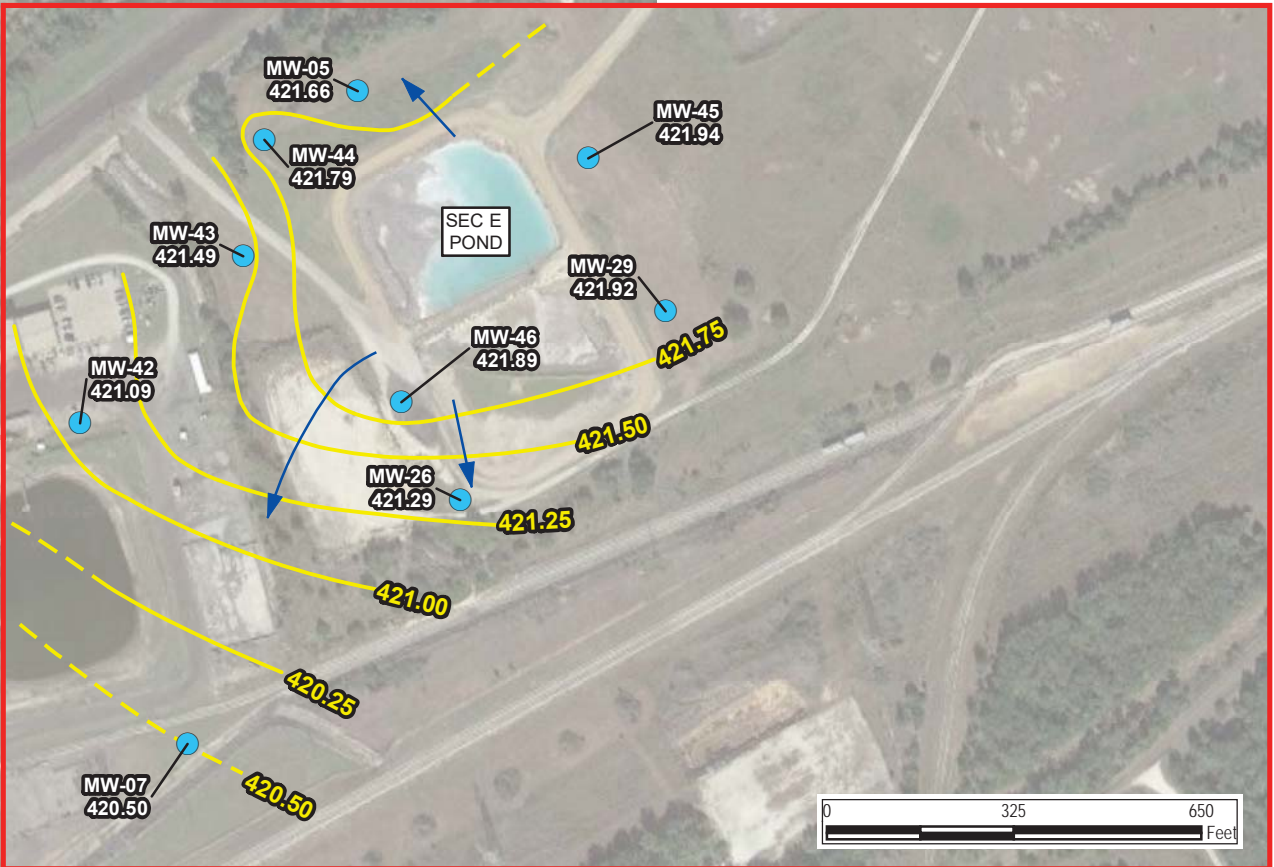


PROJECT:		NRG TEXAS POWER, LLC LIMESTONE JEWETT, TEXAS	
TITLE:		GROUNDWATER POTENTIOMETRIC SUFRACE MAP - MAY 2018	
DRAWN BY:	SRAY	PROJ. NO.:	298367.0000.0000
CHECKED BY:	JSPEER	FIGURE 2	
APPROVED BY:	JSPEER		
DATE:	JANUARY 2019		
		505 East Huntland Drive, Suite 250 Austin, TX 78752 Phone: 512.329.6080 www.trcsolutions.com	
FILE NO.:		298367_2-2.mxd	



LEGEND

- MONITORING WELL
- 421.92** GROUNDWATER ELEVATION (FEET MSL)
- NM** NOT MEASURED
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER POTENTIOMETRIC SUFRACE CONTOUR (FEET) - DASHED WHERE INFERRED



PROJECT:		NRG TEXAS POWER, LLC LIMESTONE JEWETT, TEXAS	
TITLE:		GROUNDWATER POTENTIOMETRIC SUFRACE MAP - OCTOBER 2018	
DRAWN BY:	S. RAY	PROJ. NO.:	298367.0000.0000
CHECKED BY:	J. SPEER	FIGURE 3	
APPROVED BY:	J. SPEER		
DATE:	JANUARY 2019		
		505 East Huntland Drive, Suite 250 Austin, TX 78752 Phone: 512.329.6080 www.trcsolutions.com	
FILE NO.:		298367_2-3.mxd	

Section 2

Alternative Source Demonstration

As discussed in the 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 (comparison of downgradient monitoring results to 95 percent confidence/95 percent coverage upper tolerance limits of the background/baseline monitoring results) identified six SSIs for the Secondary E Pond, as shown on Table 1.

Table 1
SSIs – May 2018 Detection Monitoring Event

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
Calcium	MW-43	N/A	22.4	2018-05-10	107	mg/L
Calcium	MW-44	N/A	22.4	2018-05-10	27.3	mg/L
pH	MW-05	6.4	7.2	2018-05-10	5.42	SU
pH	MW-43	6.4	7.2	2018-05-10	6.22	SU
pH	MW-44	6.4	7.2	2018-05-10	6.26	SU
TDS	MW-43	N/A	484	2018-05-10	960	mg/L

Alternative sources for the potential Secondary E Pond SSIs are non-CCR sources in the vicinity of the Secondary E Pond. The Station and surrounding vicinity are densely populated with historical and current oil and gas activity consisting primarily of natural gas production. An active gas well (API number 42-161-33188) and its associated well pad are located immediately to the southwest of the Secondary E Pond. According to Railroad Commission of Texas (RRC) records, this gas well was completed and recompleted between April and November 2005. According to historical aerial imagery available on Google Earth, a surface pit with approximate dimensions of 35-feet by 30-feet was located at the northeast corner of this gas well pad on November 2, 2015 and November 15, 2015, but the pit was not present in other available aerial images on October 21, 2015 and October 30, 2018.

TRC did not identify a permit for this pit in RRC records, indicating the pit is likely an “authorized pit” (i.e., no permit required for authorized uses). Based on the date of occurrence relative to drilling

activities, the pit likely contained spent completion fluids or workover fluids. Completion or workover fluids are often brines that are used for well testing and are chemically compatible with the formation fluids; and the spent fluids contained in the pit would have come in contact with formation fluids. According to the United States Geological Survey (USGS) National Produced Waters Geochemical Database, water co-produced with hydrocarbons (referred to as “produced water” or “formation water”) from geologic formations underlying the Site has the following composition (USGS 2018):

- pH ranging from 4.67 standard units (SU) to 5.6 SU;
- Calcium ranging from 12,560 milligrams per liter (mg/L) to 33,520 mg/L;
- Chloride ranging from 56,980 mg/L to 96,200 mg/L
- Sulfate ranging from 480 mg/L to 1,790 mg/L; and
- Total dissolved solids (TDS) ranging from 98,330 mg/L to 152,970 mg/L.

Considering the composition of the formation water with which the completion or workover fluids came into contact and the typical brine composition of these fluids, potential releases of these fluids would be expected to affect groundwater quality within the immediate vicinity and downgradient of the gas well pad and surface pit. Even minor releases of these fluids could increase the concentrations of calcium, chloride, sulfate, and TDS and decrease the pH in the nearby Secondary E Pond downgradient monitoring wells MW-5, MW-43, and MW-44. Both upgradient/background monitoring wells at the Secondary E Pond (MW-29 and MW-45) are located upgradient and on the opposite side of the Secondary E Pond from the former surface pit and natural gas well pad; therefore, based on potentiometric surface maps, water quality for the upgradient/background monitoring wells (MW-29 and MW-45) would not be anticipated to be affected by potential releases from the pit to groundwater at the Secondary E Pond area.

As discussed previously, two new groundwater monitoring wells: MW-45 and MW-45; were installed to enhance the CCR groundwater monitoring system at the Secondary E Pond. Furthermore, slug tests (rising head and falling head tests) were performed for the four existing and two new wells in December 2018. Hydraulic conductivities calculated from the December 2018 slug tests results ranged from 1.97E-05 centimeters per second (cm/sec) or 6.47E-07 feet per second (ft/sec) in MW-44 to 5.5E-04 cm/sec or 1.80E-05 ft/sec in MW-43.

Two background/baseline detection monitoring sampling events have been conducted for both new monitoring wells for analysis for the Appendix III and IV CCR constituents. Considering the slow horizontal groundwater velocity at the Secondary E Pond (1.9 feet per year), sufficient time must be allowed between sampling events to collect independent samples. The appropriate time is estimated to be quarterly sampling events for these wells. Additional samples will be collected from the new wells at approximately this frequency until a baseline of 8 samples is obtained. Once an appropriate baseline is obtained, new Upper Tolerance Limits (UTLs) will be calculated for the Secondary E Pond for evaluation of SSIs above background/baseline levels.

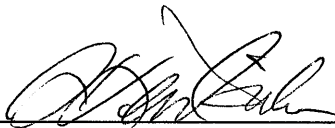
Section 3

Conclusions

The statistical evaluation identified six SSIs, but these were demonstrated to have alternative sources other than a release from the Secondary E Pond to groundwater. Detection monitoring will continue for the Secondary E Pond, utilizing the updated statistical analysis method and the expanded groundwater monitoring network.

Section 4 Certification

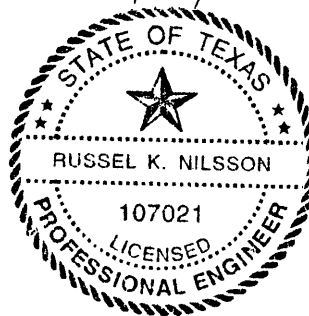
I hereby certify that the alternative source demonstration presented within this document for the Limestone Electric Generating Station Secondary E Pond has been prepared to meet the requirements of Title 40 CFR 257.94 (e) 2 of the Federal CCR Rule. This document is accurate and has been prepared in 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 1972. Geologic Atlas of Texas, Waco Sheet. The University of Texas at Austin, Bureau of Economic Geology. Reprinted 1972.
- TRC 2018a. *Alternative Source Demonstration – Limestone Electric Generating Station Secondary E Pond (Unit 003)*. TRC, July 2018.
- TRC 2018b. *Statistical Methods Certification – Limestone Electric Generating Station*. TRC, August 2018.
- TRC 2019. *2018 Annual Groundwater Monitoring and Corrective Action Report – Limestone Electric Generating Station*. TRC, January 2019.
- USGS 2018. National Produced Waters Geochemical Database, USGS IDs 99922 through 99929. United State Geological Survey. Accessed on July 16, 2018.
- TWDB 1990. Aquifers of Texas. Texas Water Development Board Report 380. Peter George, et al. July 2011.



Alternative Source Demonstration

Limestone Electric Generating Station Landfill (Unit 004)

September 2019

*Prepared For
NRG Texas Power, LLC
Jewett, Texas*



A handwritten signature in blue ink, appearing to read "R. Kent 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.
Project Manager

TRC Environmental Corporation | NRG
Alternate Source Demonstration, Limestone, Secondary E Pond (Unit 003)

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Executive Summary

The NRG Texas Power, LLC (NRG) Limestone Electric Generating Station (Station) is located approximately seven miles northwest of Jewett, Texas and approximately 0.5 miles north of the intersection of Limestone, Freestone, and Leon Counties. Units managing coal combustion residuals (CCR) at the Station are subject to the United States Environmental Protection Agency's (USEPA's) 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 two active CCR units that are managed pursuant to the CCR Rule, including the Landfill (Unit 004), which is the subject of this Alternate Source Demonstration (ASD).

Eight independent background/baseline groundwater monitoring events were conducted at the Landfill between April 2015 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 26, 2017. A statistical evaluation of the first post-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 no apparent SSIs in monitoring wells at the Landfill.

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-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 no apparent SSIs in monitoring wells at the Landfill.

The third post-background/baseline detection monitoring event was conducted in October 2018. Final laboratory analytical data for the third post-background/baseline detection monitoring event were received 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, 2018. The statistical evaluation identified two potential SSIs in monitoring wells at the Landfill. 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 Landfill.

Section 1

Introduction

1.1 Background

The NRG Texas Power, LLC (NRG) Limestone Electric Generating Station (Station) is located approximately seven miles northwest of Jewett, Texas and approximately 0.5 miles north of the intersection of Limestone, Freestone, and Leon Counties. The Station is bisected by Farm-to-Market Road 39 (FM 39), which runs north-south through the middle of the Station. The western portion of the Station is located in Limestone County and includes the electricity generating portion of the Station. The eastern portion of the Station is located in Freestone County and includes the solid waste disposal area.

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 two active CCR-management units, the Landfill (Unit 004) and the Secondary E Pond (Unit 003), and CCR is managed pursuant to the CCR Rule and the CCR Remand Rule Proposal. Both active CCR units are located within the western portion of the Station as shown on Figure 1.

The Landfill was constructed in 1980 and is used for the final disposition of CCR. The Landfill is divided into multiple areas for organization purposes. The western half of the landfill has reached capacity and is capped. CCR is currently being placed at the southern portion of the landfill.

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 for the Landfill were documented in the January 30, 2018, *Annual Groundwater Monitoring Report, Landfill (Unit 004)* (ERM 2018a) and the February 28, 2018, *Groundwater Monitoring Report, Landfill (Unit 004)* (ERM 2018b) pursuant to §257.90(e). No apparent Statistically Significant Increases (SSIs) above background were identified in groundwater for the Landfill for the first post-background/baseline detection monitoring event.

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-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 no apparent SSIs in monitoring wells at the Landfill.

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 two potential SSIs (pH in upgradient monitoring well MW-27 and chloride in upgradient monitoring well MW-28).

1.2 Purpose

On behalf of NRG, TRC Environmental Corporation (TRC) prepared this ASD to evaluate the potential SSIs above background for the third post-background/baseline detection monitoring event in accordance with §257.94(e).

1.3 Hydrogeology

Based on the *Geologic Atlas of Texas, Waco Sheet* (BEG 1972), the Station is primarily located within the outcrop of the Calvert Bluff Formation of the Wilcox Group. Minor portions of the southeast corner of the Station are located within the outcrop of the Carrizo Sand and minor portions of the southwest corner of the Station are immediately underlain by alluvium. The Calvert Bluff Formation underlies both the Carrizo Sand and alluvium where present.

The Landfill is located solely within the outcrop of the Calvert Bluff Formation (BEG 1972); however, site investigation data indicate the Landfill may also be located within the outcrop of the Carrizo Sand. The Calvert Bluff Formation consists mostly of mudstone interbedded with fine sandstone, lignite, and ironstone concretions. The mudstone contains silt and very fine sand laminae. The Carrizo Sand consists of very fine sand with partings of silty clay, carbonaceous clay, and ironstone. The Carrizo Sand and the Wilcox Group comprise the Carrizo-Wilcox aquifer, which is recognized by the Texas Water Development Board (TWDB) as a major aquifer system in Texas. The Station is located within the outcrop, or the recharge zone, of the Carrizo-Wilcox aquifer (TWDB 2011).

Site investigations were conducted at the Station by Espey, Huston & Associated in 1986; Radian International in 1996 and 1997; EPRI in 2007, and Environmental Resources Management, Inc. (ERM) in 2016. The results of these investigations were summarized in the October 2017 *Ground Water Monitoring Networks for Coal Combustion Residual (CCR) Rule Compliance* report (ERM 2017b). The characterization of the local geology is based on observations recorded during the completion of soil

borings. The surficial material around the Landfill consists of in-situ or reworked clay from the Axtell-Tabor soil association. This clay is the source of material for the Landfill liner and cap. The surficial material is underlain by interbedded clays, silts, and sands of the Quaternary alluvium, Carrizo Sand, and Calvert Bluff Formation. The boundaries between these units are generally indistinguishable

The certified CCR monitoring well network for the Landfill consists of two upgradient, background monitoring wells (MW-27 and MW-28) and eight downgradient monitoring wells (MW-1, MW-2, MW-17, MW-18, MW-19, MW-20, MW-21, and MW-22). Groundwater potentiometric surface maps prepared by TRC 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. The direction of groundwater flow beneath the Landfill was to the south southwest in May and was more toward the south-southeast in October 2018. Flow at the south end of the landfill near Lynn Creek during both monitoring events was toward the southwest.

HOU_M:\ACAD-TRCDRAFTING\CCLIENT-Name-K-L-M-N\N-ONIRG\Limestone Station - Jewett-TX2019 - CCR-Report - Fig 1-2 - NRG-LimestoneStation - Secondary E Pont-n-Landfill CCR Units.dwg 01/16/19



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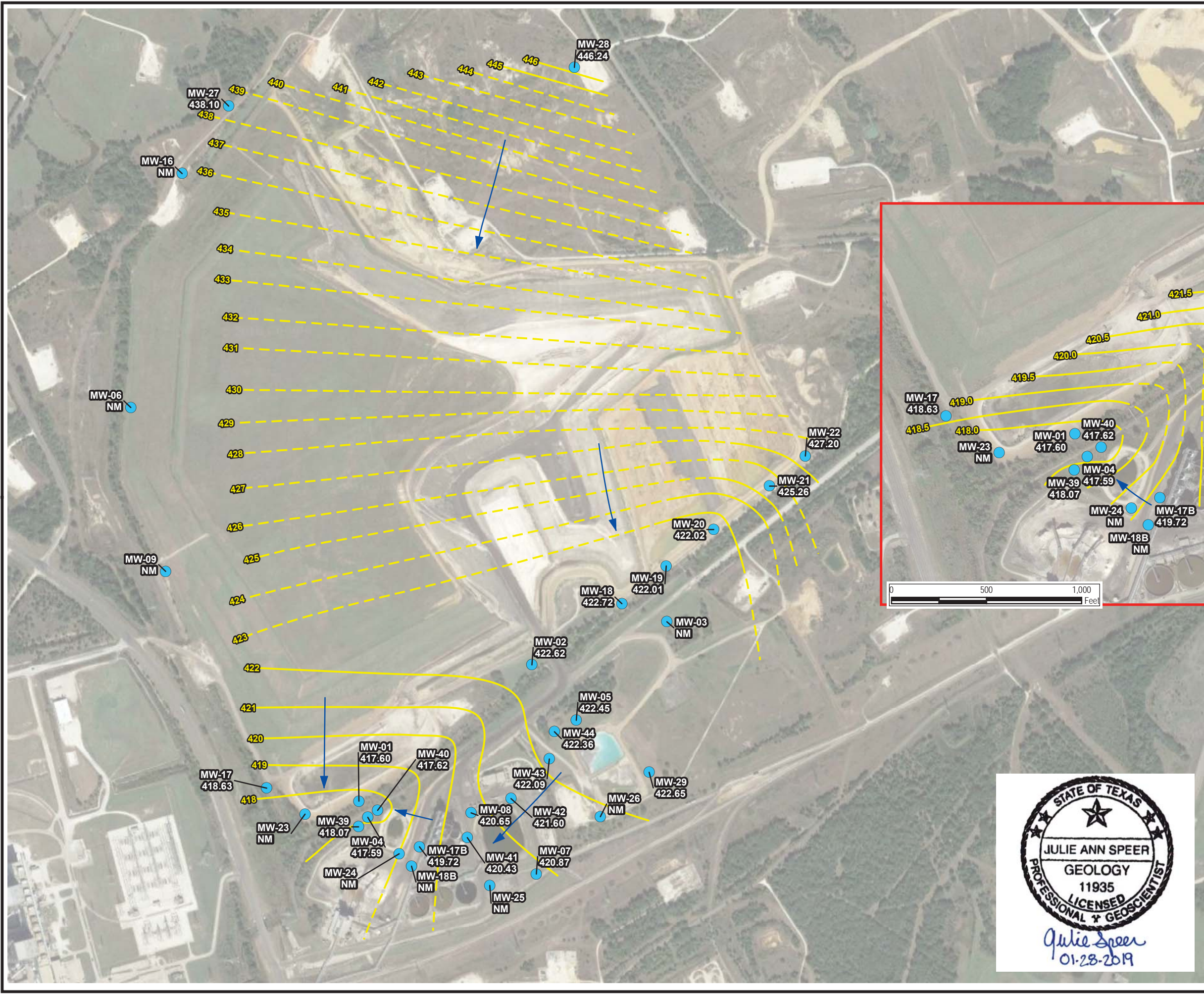
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PROPERTY BOUNDARY

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DRAWN BY:	O. Fonseka	PROJECT No.: 298367.0000.0000
CHECKED BY:	T. Dworaczyk	FIGURE 1
APPROVED BY:	T. Dworaczyk	
DATE:	January 2019	

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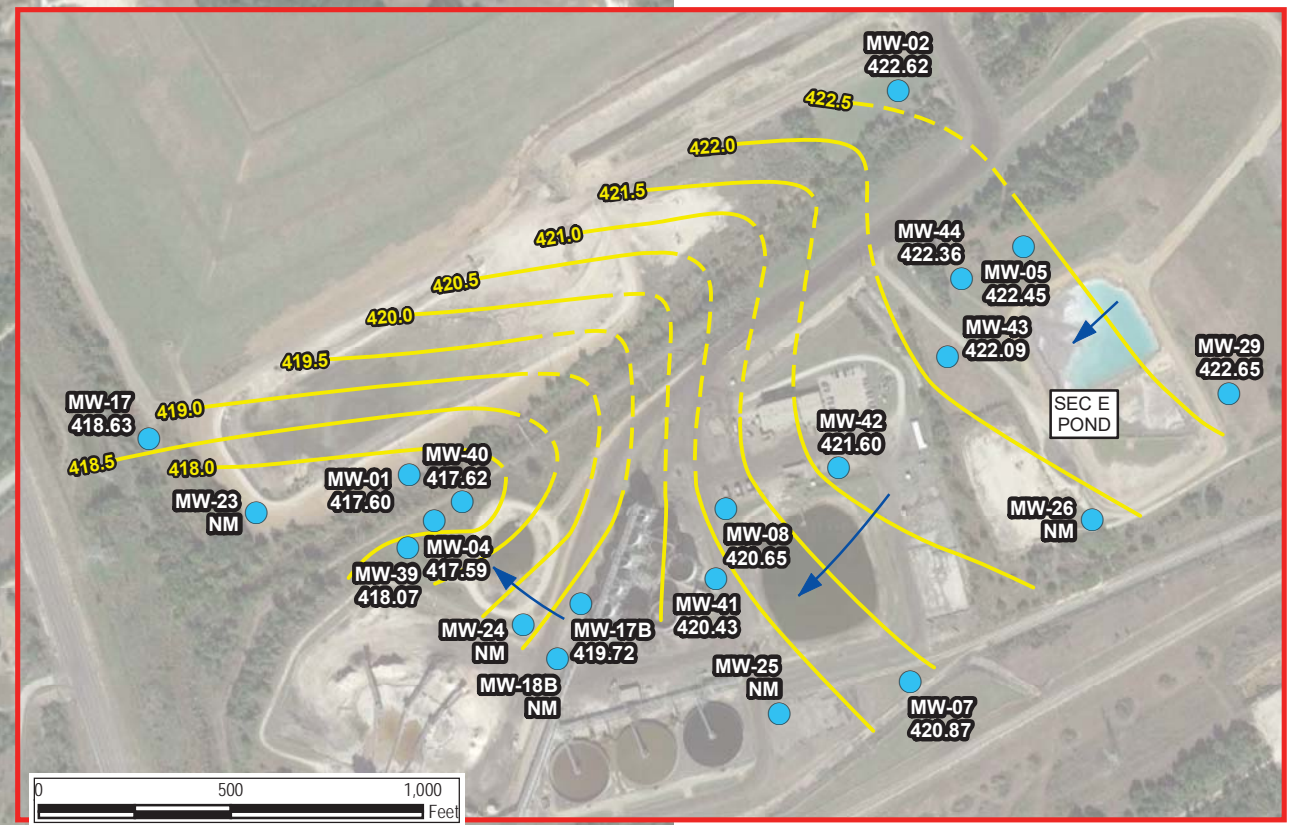
TRC
10550 Richmond Ave.
Suite 210
Houston, TX 77042
Phone: 713.244.1000

Fig 1-2 - NRG-LimestoneStation - Secondary E Pont-n-Landfill CCR Units.dwg



LEGEND

- MONITORING WELL
- 446.24** GROUNDWATER ELEVATION (FEET MSL)
- NM** NOT MEASURED
- GROUNDWATER FLOW DIRECTION
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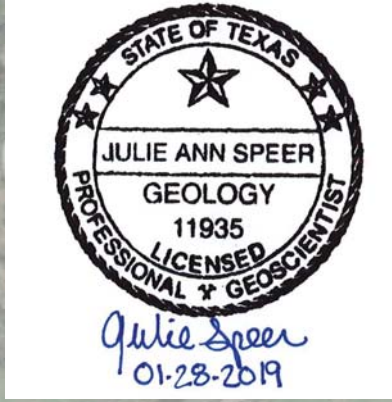


NOTE:
MONITORING WELLS MW -45 AND MW -46 NOT SHOWN (INSTALLED IN SEPTEMBER 2018).

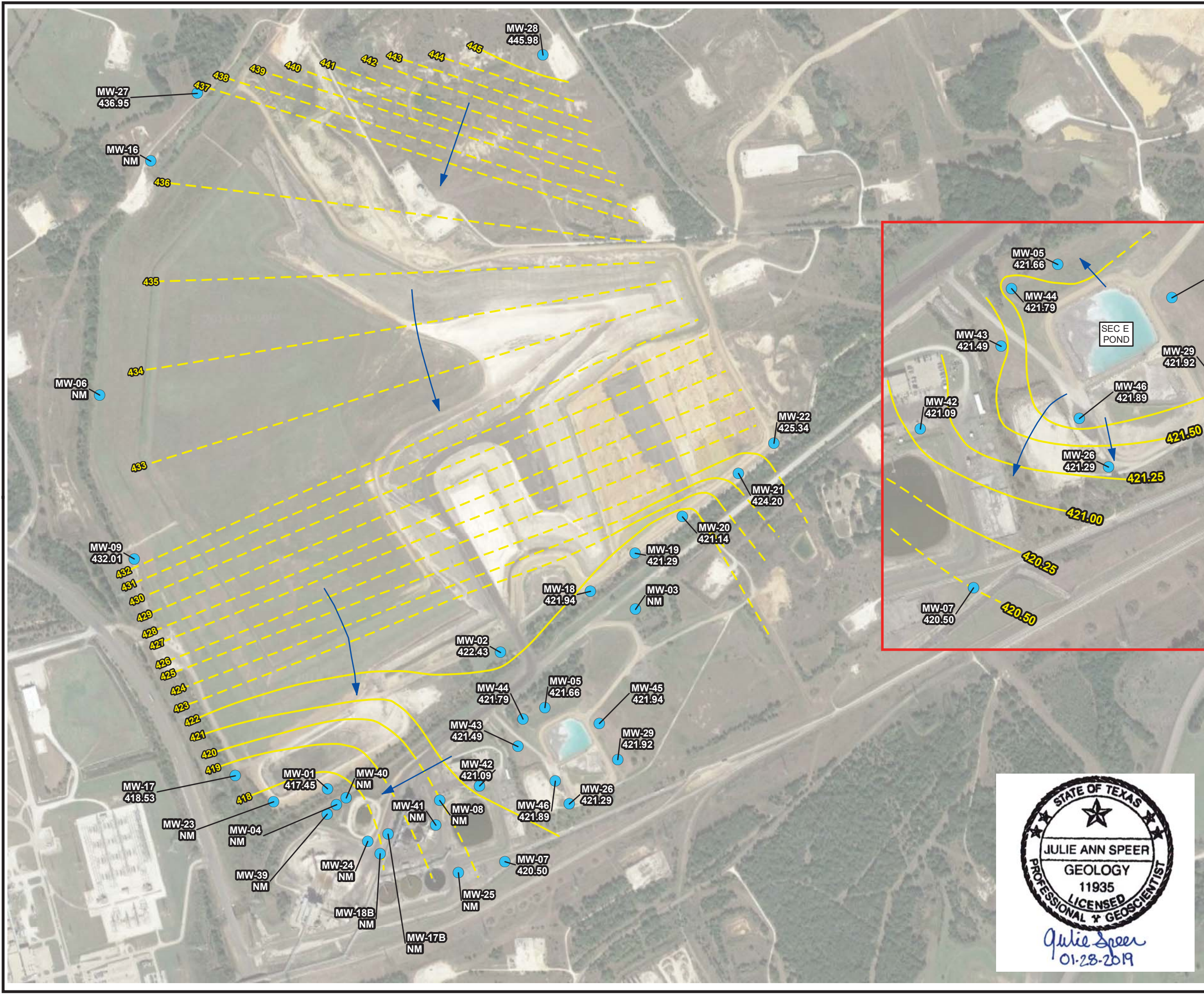
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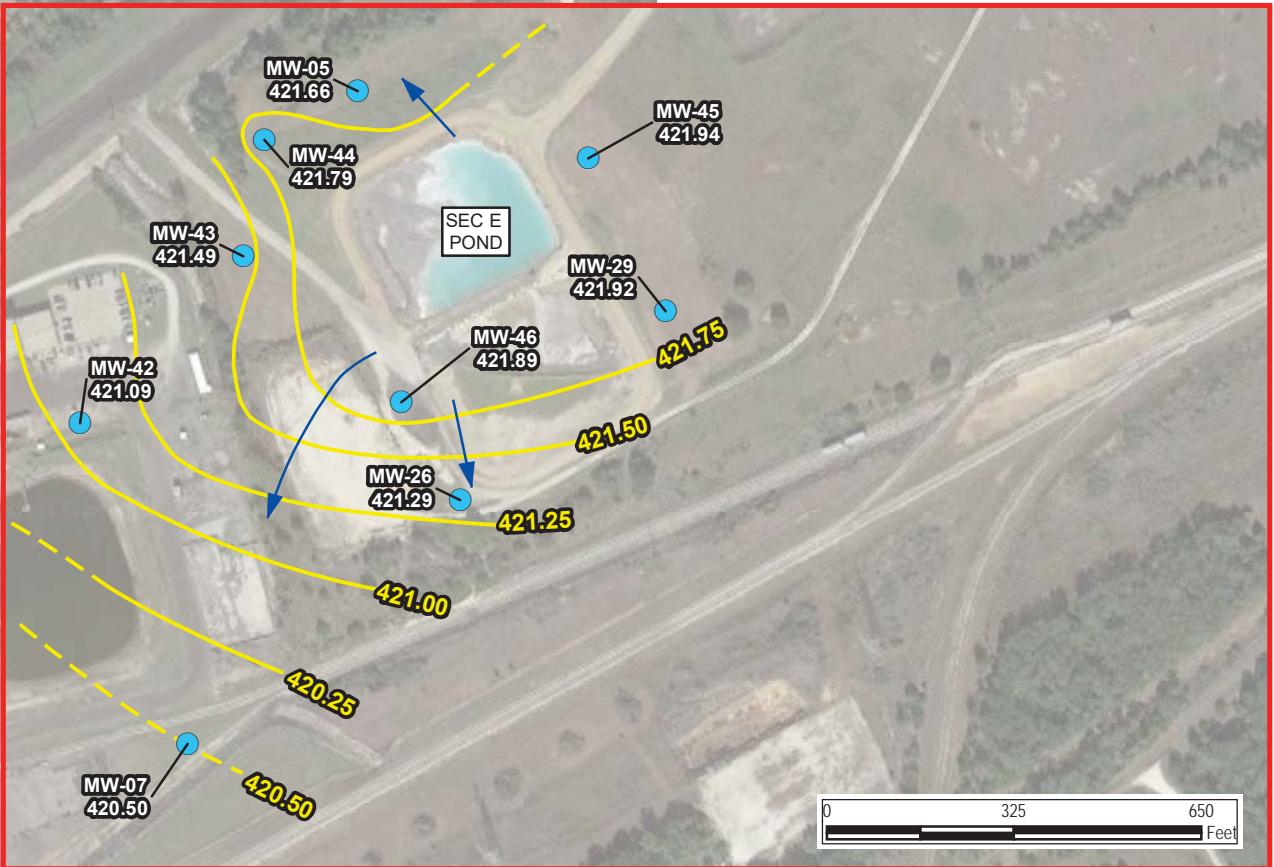


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CHECKED BY:	JSPEER	FIGURE 2	
APPROVED BY:	JSPEER		
DATE:	JANUARY 2019		
FILE NO.:		298367_2-2.mxd	



LEGEND

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- 421.92** GROUNDWATER ELEVATION (FEET MSL)
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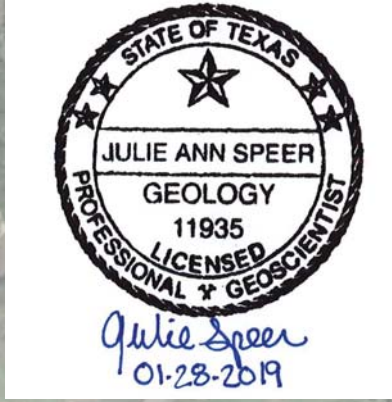


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APPROVED BY:	J. SPEER		
DATE:	JANUARY 2019		
		505 East Huntland Drive, Suite 250 Austin, TX 78752 Phone: 512.329.6080 www.trcsolutions.com	
FILE NO.:		298367_2-3.mxd	

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 (comparison of downgradient monitoring results to 95 percent confidence/95 percent coverage upper tolerance limits of the background/baseline monitoring results) identified two SSIs for the Landfill, as shown on Table 1.

Table 1
SSIs – October 2018 Detection Monitoring Event

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
Chloride	MW-28(UG)		1,607	2018-10-30	1,640	mg/L
pH	MW-27 (UG)	5.1	7.3	2018-10-30	8.9	SU

Both monitoring wells with potential SSIs during the third semiannual detection monitoring event are upgradient monitoring wells. Alternative sources for these potential Landfill SSIs are non-CCR sources in the vicinity of the Landfill and the short baseline period from which the background baseline upper tolerance limits were calculated. The Station and surrounding vicinity are densely populated with historical and current oil and gas activity consisting primarily of natural gas production. Numerous active gas wells and their associated well pads are located immediately surrounding the Landfill.

Well pits typically contain spent completion fluids or workover fluids. Completion or workover fluids are often brines that are used for well testing and are chemically compatible with the formation fluids; and the spent fluids contained in the pit would have come in contact with formation fluids. According to the United States Geological Survey (USGS) National Produced Waters Geochemical Database, water co-produced with hydrocarbons (referred to as “produced water” or “formation water”) from geologic formations underlying the Site has the following composition (USGS 2018):

- pH ranging from 4.67 standard units (SU) to 5.6 SU;
- Calcium ranging from 12,560 milligrams per liter (mg/L) to 33,520 mg/L;
- Chloride ranging from 56,980 mg/L to 96,200 mg/L
- Sulfate ranging from 480 mg/L to 1,790 mg/L; and

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Alternate Source Demonstration, Limestone, Secondary E Pond*

- Total dissolved solids (TDS) ranging from 98,330 mg/L to 152,970 mg/L.

Considering the composition of the formation water with which the completion or workover fluids came into contact and the typical brine composition of these fluids, potential releases of these fluids would be expected to affect groundwater quality within the immediate vicinity and downgradient of the gas well pad and surface pit. Even minor releases of these fluids could increase the concentrations of calcium, chloride, sulfate, and TDS and decrease the pH in the nearby Landfill upgradient and downgradient monitoring wells.

Additionally, the background/baseline groundwater data for this CCR unit were established using a background/baseline monitoring period of just 15 months. This is a short baseline for statistical comparisons and should be updated following each set of four semiannual detection monitoring results, which would occur following the May 2019 semiannual detection monitoring sampling event.

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

The statistical evaluation for the third post-background/baseline semiannual detection monitoring event from October 2018 identified two SSIs, both of which were identified in upgradient monitoring wells and have been demonstrated to have alternative sources other than a release from the Landfill to groundwater. Therefore, these two SSIs appear to be related to ongoing variations in background groundwater quality unrelated to the CCR unit. 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 Landfill 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.

Section 4 Certification

I hereby certify that the alternative source demonstration presented within this document for the Limestone Electric Generating Station Landfill 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

- BEG 1972. Geologic Atlas of Texas, Waco Sheet. The University of Texas at Austin, Bureau of Economic Geology. Reprinted 1972.
- TRC 2018b. *Statistical Methods Certification – Limestone Electric Generating Station*. TRC, August 2018.
- TRC 2019. *2018 Annual Groundwater Monitoring and Corrective Action Report – Limestone Electric Generating Station*. TRC, January 2019.
- USGS 2018. National Produced Waters Geochemical Database, USGS IDs 99922 through 99929. United State Geological Survey. Accessed on July 16, 2018.
- TWDB 1990. Aquifers of Texas. Texas Water Development Board Report 380. Peter George, et al. July 2011.



Alternative Source Demonstration

Limestone Electric Generating Station Secondary E Pond (Unit 003)

September 2019

*Prepared For
NRG Texas Power, LLC
Jewett, Texas*



A handwritten signature in blue ink, appearing to read "R. Kent 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.
Project Manager

TRC Environmental Corporation | NRG
Alternate Source Demonstration, Limestone, Secondary E Pond (Unit 003)

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Executive Summary

The NRG Texas Power, LLC (NRG) Limestone Electric Generating Station (Station) is located approximately seven miles northwest of Jewett, Texas and approximately 0.5 miles north of the intersection of Limestone, Freestone, and Leon Counties. Units managing coal combustion residuals (CCR) at the Station are subject to the United States Environmental Protection Agency's (USEPA's) 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 two active CCR units that are managed pursuant to the CCR Rule, including the Secondary E Pond (Unit 003), which is the subject of this Alternate Source Demonstration (ASD).

Eight independent background/baseline groundwater monitoring events were conducted at the Secondary E Pond between April 2015 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 26, 2017. A statistical evaluation of the first post-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 Secondary 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 both CCR units 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-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 identified apparent SSIs in monitoring wells at the Secondary E Pond. 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 Secondary E Pond. This ASD [prepared in accordance with 257.94(e)] successfully identifies alternative sources for the potential SSIs. Therefore, detection monitoring will be continued for the Secondary E Pond.

Section 1

Introduction

1.1 Background

The NRG Texas Power, LLC (NRG) Limestone Electric Generating Station (Station) is located approximately seven miles northwest of Jewett, Texas and approximately 0.5 miles north of the intersection of Limestone, Freestone, and Leon Counties. The Station is bisected by Farm-to-Market Road 39 (FM 39), which runs north-south through the middle of the Station. The western portion of the Station is located in Limestone County and includes the electricity generating portion of the Station. The eastern portion of the Station is located in Freestone County and includes the solid waste disposal area.

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 two active CCR-management units, the Landfill (Unit 004) and the Secondary E Pond (Unit 003), and CCR is managed pursuant to the CCR Rule and the CCR Remand Rule Proposal. Both active CCR units are located within the western portion of the Station as shown on Figure 1. The Secondary E Pond receives wastewater from the E Pond and FGD residuals from the chloride purge storage tank for stabilization. These materials are temporarily stored in the Secondary E Pond before final disposal in the Site Landfill.

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 for the Secondary E Pond were documented in the January 30, 2018, *Annual Groundwater Monitoring Report, Secondary E Pond (Unit 003)* (ERM 2018a) and the February 28, 2018, *Groundwater Monitoring Report, Secondary E Pond (Unit 003)* (ERM 2018b) pursuant to §257.90(e). Apparent Statistically Significant Increases (SSIs) above background were identified in groundwater for the Secondary E Pond for the first post-background/baseline detection monitoring event and a successful Alternative Source Demonstration (ASD) was completed in July 2018.

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-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 23, 2018. The statistical evaluation again identified apparent SSIs in monitoring wells at the Secondary E Pond 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 statistical method for the CCR units in March 2019. The statistical evaluation identified 23 potential SSIs.

1.2 Purpose

On behalf of NRG, TRC Environmental Corporation (TRC) prepared this ASD to evaluate the potential SSIs above background for the third post-background/baseline detection monitoring event in accordance with §257.94(e).

1.3 Hydrogeology

Based on the *Geologic Atlas of Texas, Waco Sheet* (BEG 1972), the Station is primarily located within the outcrop of the Calvert Bluff Formation of the Wilcox Group. Minor portions of the southeast corner of the Station are located within the outcrop of the Carrizo Sand and minor portions of the southwest corner of the Station are immediately underlain by alluvium. The Calvert Bluff Formation underlies both the Carrizo Sand and alluvium where present.

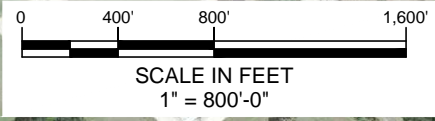
The Secondary E Pond is located solely within the outcrop of the Calvert Bluff Formation (BEG 1972); however, site investigation data indicate the Secondary E Pond may also be located within the outcrop of the Carrizo Sand. The Calvert Bluff Formation consists mostly of mudstone interbedded with fine sandstone, lignite, and ironstone concretions. The mudstone contains silt and very fine sand laminae. The Carrizo Sand consists of very fine sand with partings of silty clay, carbonaceous clay, and ironstone. The Carrizo Sand and the Wilcox Group comprise the Carrizo-Wilcox aquifer, which is recognized by the Texas Water Development Board (TWDB) as a major aquifer system in Texas. The Station is located within the outcrop, or the recharge zone, of the Carrizo-Wilcox aquifer (TWDB 2011).

Site investigations were conducted at the Station by Espey, Huston & Associated in 1986; Radian International in 1996 and 1997; EPRI in 2007, and Environmental Resources Management, Inc. (ERM) in 2016. The results of these investigations were summarized in the October 2017 *Ground Water Monitoring Networks for Coal Combustion Residual (CCR) Rule Compliance* report (ERM 2017b). Boring logs indicate the lithology at the Secondary E Pond consists primarily of silty sand with clayey sand and sandy clay to approximately 60 feet below ground surface (bgs), which appears to be consistent with the

Carrizo Sand. Interbedded mud, silt, and sand consistent with the Calvert Bluff Formation were present at approximately 60 feet bgs in the vicinity of the Secondary E Pond.

The certified CCR monitoring well network for the Secondary E Pond consists of one upgradient, background monitoring well (MW-29) and three downgradient monitoring wells (MW-5, MW-43, and MW-44). Groundwater potentiometric surface maps prepared by TRC 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. The direction of groundwater flow beneath the Secondary E Pond was to the southwest in May and was more radial in October 2018, with flow to the northwest, southwest, and south.

HOU_M:\ACAD-TRCDRAFTING\CCLIENT-Name-K-L-M-N-O\NRGLimestone Station - Jewett-TX2019 - CCR-Report - Fig 1-2 - NRG-LimestoneStation - Secondary E Pont-n-Landfill CCR Units.dwg 01/16/19



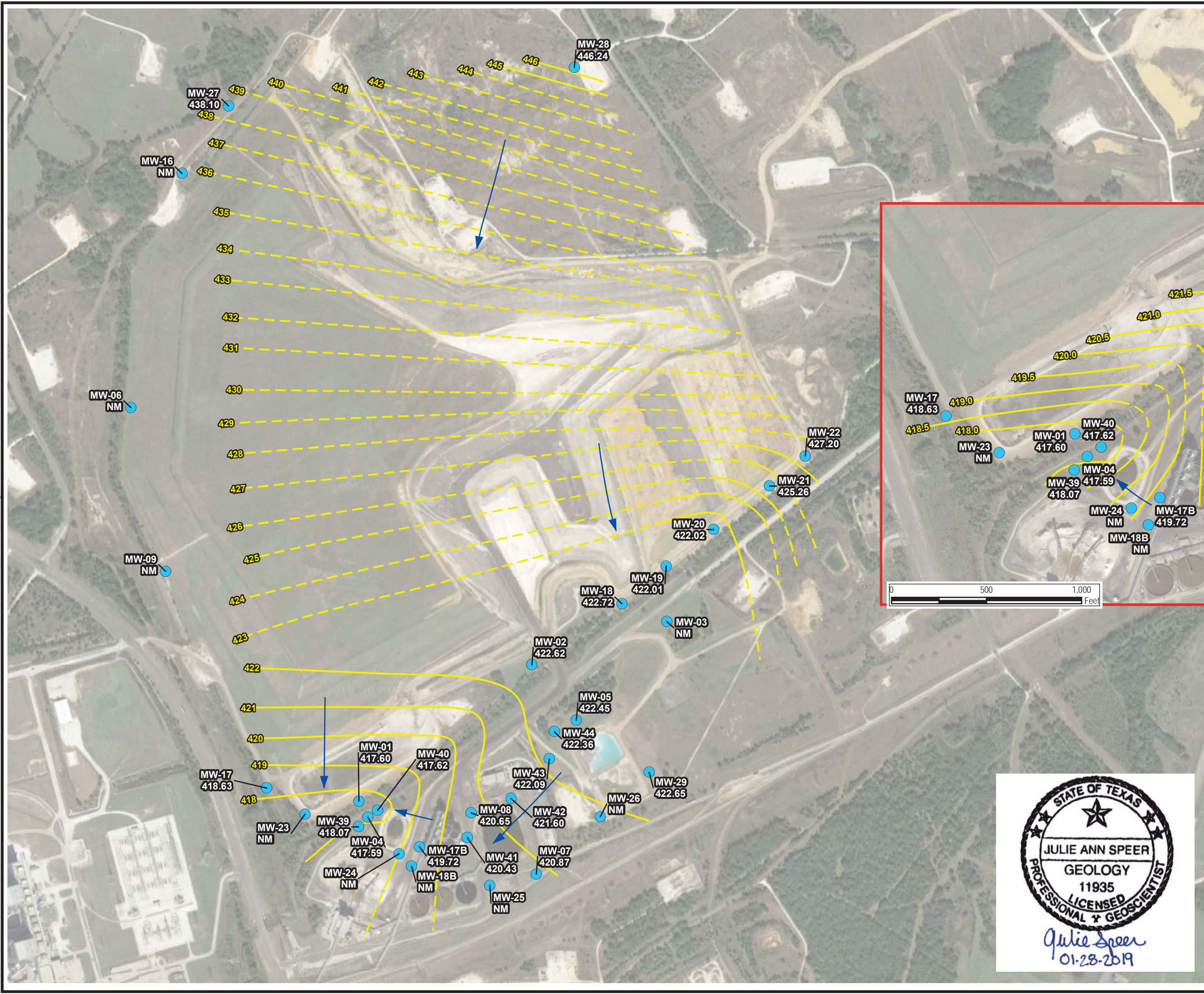
LEGEND
 - - - - - APPROXIMATE PROPERTY BOUNDARY

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TITLE:	SECONDARY E POND AND SITE LOCATION MAP	
DRAWN BY:	O. Fonseka	PROJECT No.: 298367.0000.0000
CHECKED BY:	T. Dworaczyk	FIGURE 1
APPROVED BY:	T. Dworaczyk	
DATE:	January 2019	

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

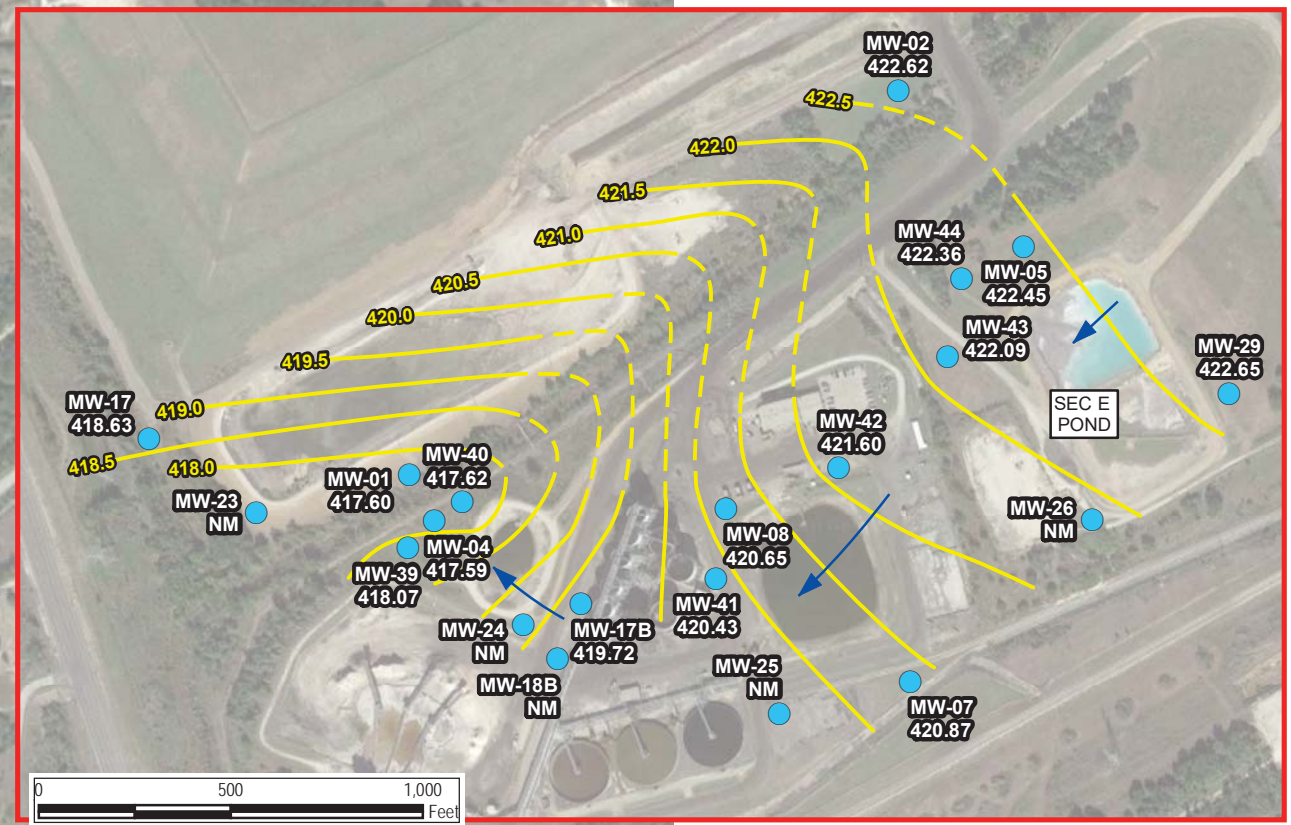
IMAGERY SOURCE: Google Earth (10/30/2014)

Fig 1-2 - NRG-LimestoneStation - Secondary E Pont-n-Landfill CCR Units.dwg



LEGEND

- MONITORING WELL
- 446.24** GROUNDWATER ELEVATION (FEET MSL)
- NM** NOT MEASURED
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER POTENTIOMETRIC SUFRACE CONTOUR (FEET) - DASHED WHERE INFERRED

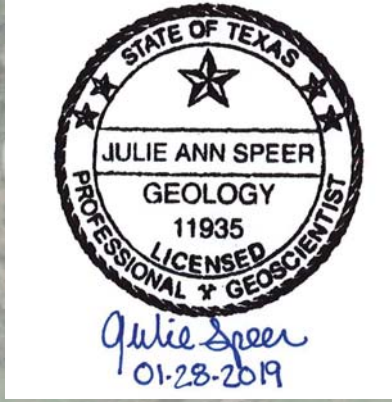


NOTE:
MONITORING WELLS MW -45 AND MW -46 NOT SHOWN (INSTALLED IN SEPTEMBER 2018).

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Feet

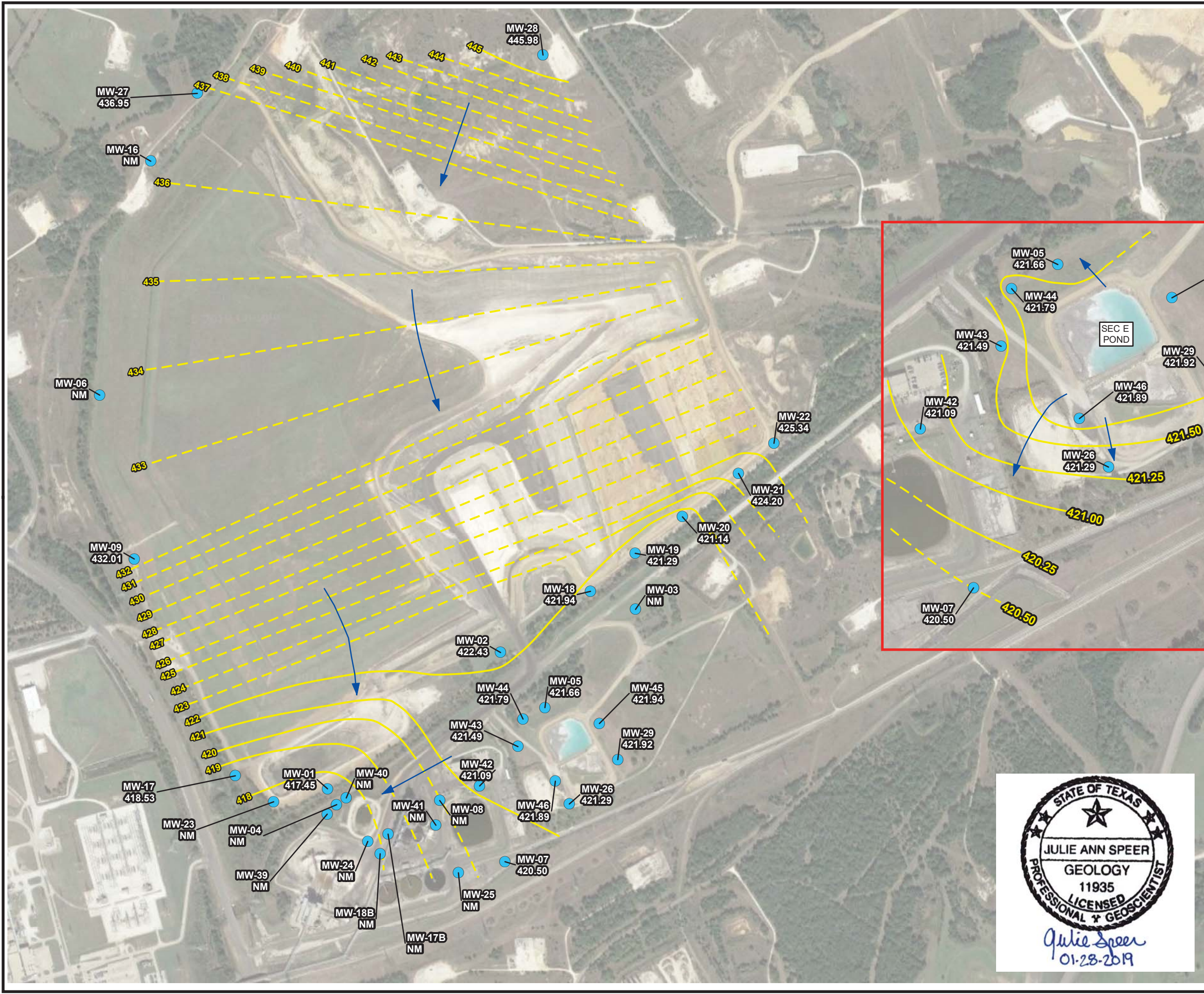
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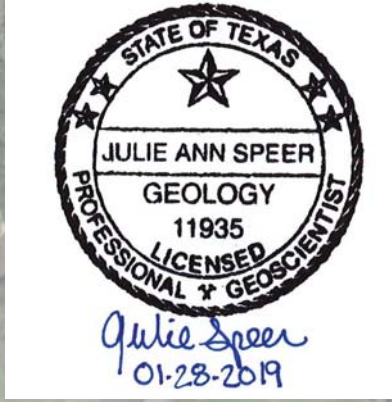
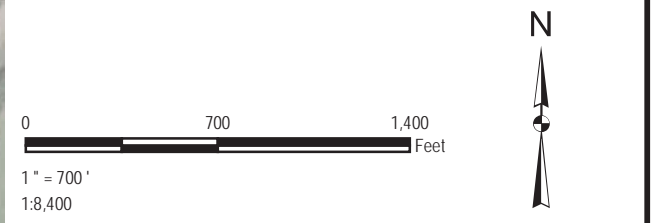
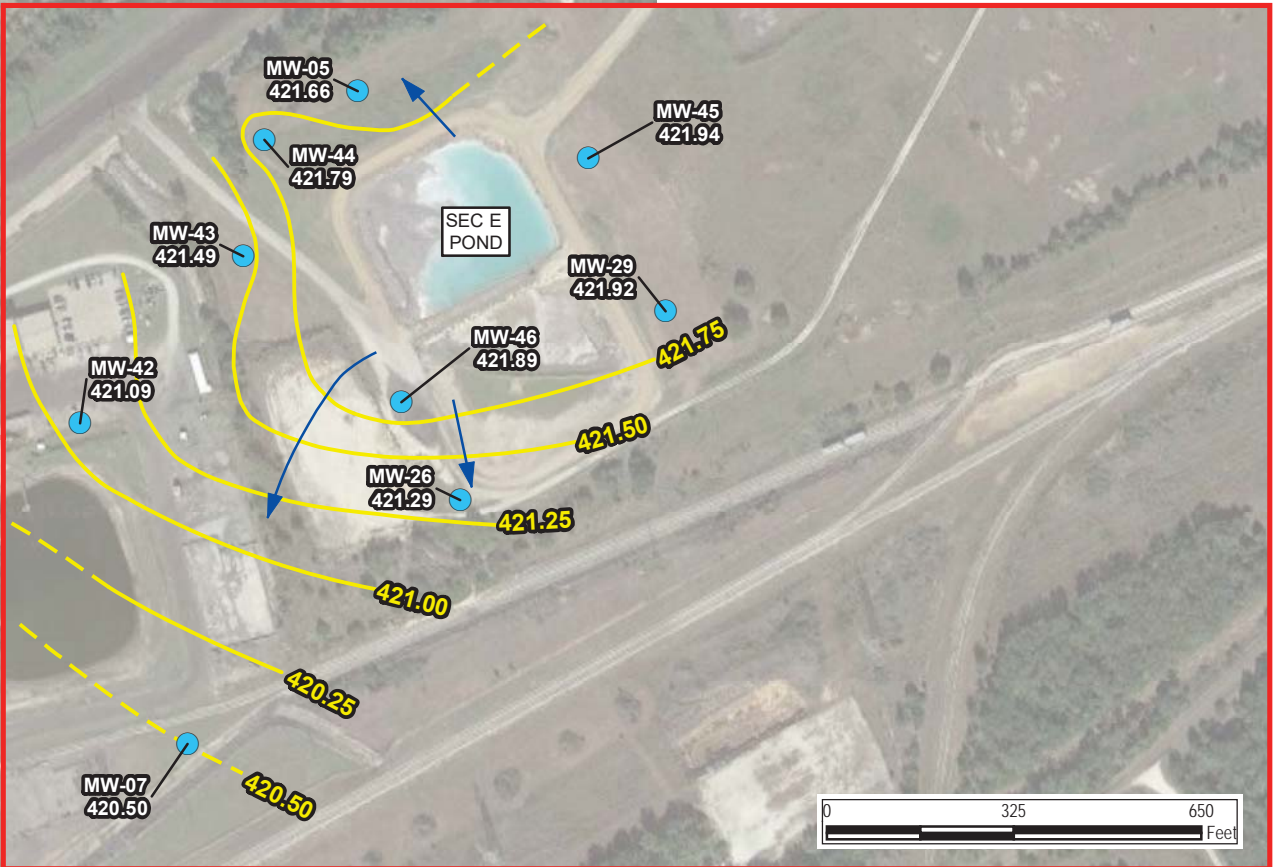
PROJECT:		NRG TEXAS POWER, LLC LIMESTONE JEWETT, TEXAS	
TITLE:		GROUNDWATER POTENTIOMETRIC SUFRACE MAP - MAY 2018	
DRAWN BY:	SRAY	PROJ. NO.:	298367.0000.0000
CHECKED BY:	JSPEER	FIGURE 2	
APPROVED BY:	JSPEER		
DATE:	JANUARY 2019		
FILE NO.:		298367_2-2.mxd	

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Austin, TX 78752
Phone: 512.329.6080
www.trcsolutions.com



LEGEND

- MONITORING WELL
- 421.92** GROUNDWATER ELEVATION (FEET MSL)
- NM** NOT MEASURED
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER POTENTIOMETRIC SUFRACE CONTOUR (FEET) - DASHED WHERE INFERRED



PROJECT:		NRG TEXAS POWER, LLC LIMESTONE JEWETT, TEXAS	
TITLE:		GROUNDWATER POTENTIOMETRIC SUFRACE MAP - OCTOBER 2018	
DRAWN BY:	S. RAY	PROJ. NO.:	298367.0000.0000
CHECKED BY:	J. SPEER	FIGURE 3	
APPROVED BY:	J. SPEER		
DATE:	JANUARY 2019		
FILE NO.:		298367_2-3.mxd	

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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 (comparison of downgradient monitoring results to 95 percent confidence/95 percent coverage upper tolerance limits of the background/baseline monitoring results) identified 23 SSIs for the Secondary E Pond, as shown on Table 1. It should be noted that the increase in number of potential SSIs is largely due to the installation of two new monitoring wells (MW-45 and MW 46) in the Secondary E Pond area plus the inclusion of existing monitoring well MW-26 in the groundwater monitoring network. MW-45 is located upgradient of the pond and the analytical results for this well will be incorporated into an updated set of background upper tolerance limits (UTL) once 8 baseline results are available.

Table 1
SSIs – October 2018 Detection Monitoring Event

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
Calcium	MW-05	N/A	22.4	2018-10-30	24.5	mg/L
Calcium	MW-26	N/A	22.4	2018-10-30	236	mg/L
Calcium	MW-43	N/A	22.4	2018-10-30	88.9	mg/L
Calcium	MW-44	N/A	22.4	2018-10-30	25.0	mg/L
Calcium	MW-45 (UG)	N/A	22.4	2018-10-30	406	mg/L
Calcium	MW-46	N/A	22.4	2018-10-30	567	mg/L
Chloride	MW-05	N/A	26.3	2018-10-30	28.2	mg/L
Chloride	MW-26	N/A	26.3	2018-10-30	287	mg/L
Chloride	MW-43	N/A	26.3	2018-10-30	88.9	mg/L
Chloride	MW-44	N/A	26.3	2018-10-30	27.3	mg/L
Chloride	MW-45 (UG)	N/A	26.3	2018-10-30	1,380	mg/L
Chloride	MW-46	N/A	26.3	2018-10-30	3,130	mg/L
pH	MW-05	6.4	7.2	2018-10-30	6.10	SU
pH	MW-26	6.4	7.2	2018-10-30	5.76	SU
pH	MW-43	6.4	7.2	2018-10-30	6.23	SU
pH	MW-45 (UG)	6.4	7.2	2018-10-30	6.18	SU

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Table 1
SSIs – October 2018 Detection Monitoring Event

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
pH	MW-46	6.4	7.2	2018-10-30	5.66	SU
Sulfate	MW-43	N/A	151	2018-10-30	364	mg/L
TDS	MW-26	N/A	484	2018-10-30	1,050	mg/L
TDS	MW-43	N/A	484	2018-10-30	1,270	mg/L
TDS	MW-45 (UG)	N/A	484	2018-10-30	6,480	mg/L
TDS	MW-44	N/A	484	2018-10-30	544	mg/L
TDS	MW-46	N/A	484	2018-10-30	9,190	mg/L

Alternative sources for the potential Secondary E Pond SSIs are non-CCR sources in the vicinity of the Secondary E Pond. The Station and surrounding vicinity are densely populated with historical and current oil and gas activity consisting primarily of natural gas production. An active gas well (API number 42-161-33188) and its associated well pad are located immediately to the southwest of the Secondary E Pond. According to Railroad Commission of Texas (RRC) records, this gas well was completed and recompleted between April and November 2005. According to historical aerial imagery available on Google Earth, a surface pit with approximate dimensions of 35-feet by 30-feet was located at the northeast corner of this gas well pad on November 2, 2015, and November 15, 2015, but the pit was not present in other available aerial images on October 21, 2015 and October 30, 2018.

TRC did not identify a permit for this pit in RRC records, indicating the pit is likely an “authorized pit” (i.e., no permit required for authorized uses). Based on the date of occurrence relative to drilling activities, the pit likely contained spent completion fluids or workover fluids. Completion or workover fluids are often brines that are used for well testing and are chemically compatible with the formation fluids; and the spent fluids contained in the pit would have come in contact with formation fluids. According to the United States Geological Survey (USGS) National Produced Waters Geochemical Database, water co-produced with hydrocarbons (referred to as “produced water” or “formation water”) from geologic formations underlying the Site has the following composition (USGS 2018):

- pH ranging from 4.67 standard units (SU) to 5.6 SU;
- Calcium ranging from 12,560 milligrams per liter (mg/L) to 33,520 mg/L;
- Chloride ranging from 56,980 mg/L to 96,200 mg/L
- Sulfate ranging from 480 mg/L to 1,790 mg/L; and
- Total dissolved solids (TDS) ranging from 98,330 mg/L to 152,970 mg/L.

Considering the composition of the formation water with which the completion or workover fluids came into contact and the typical brine composition of these fluids, potential releases of these fluids would be expected to affect groundwater quality within the immediate vicinity and downgradient of the gas well pad and surface pit. Even minor releases of these fluids could increase the concentrations of calcium, chloride, sulfate, and TDS and decrease the pH in the nearby Secondary E Pond downgradient monitoring wells MW-5, MW-43, and MW-44. Both upgradient/background monitoring wells at the Secondary E Pond (MW-29 and MW-45) are located upgradient and on the opposite side of the Secondary E Pond from the former surface pit and natural gas well pad; therefore, based on potentiometric surface maps, water quality for the upgradient/background monitoring wells (MW-29 and MW-45) would not be anticipated to be affected by potential releases from the pit to groundwater at the Secondary E Pond area.

As discussed previously, two new groundwater monitoring wells: MW-45 and MW-46; were installed to enhance the CCR groundwater monitoring system at the Secondary E Pond. Three background/baseline detection monitoring sampling events had been conducted for both new monitoring wells for analysis for the Appendix III and IV CCR constituents. However, 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

The statistical evaluation for the third post-background/baseline semiannual detection monitoring event from October 2018 identified 23 SSIs, but these were demonstrated to have alternative sources other than a release from the Secondary E Pond to groundwater. In addition, data quality issues and laboratory procedures resulted in persistent, unresolvable data quality issues. Therefore, NRG has concluded that the existing background/baseline data set for the Secondary 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.

Section 4 Certification

I hereby certify that the alternative source demonstration presented within this document for the Limestone Electric Generating Station Secondary 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

- BEG 1972. Geologic Atlas of Texas, Waco Sheet. The University of Texas at Austin, Bureau of Economic Geology. Reprinted 1972.
- TRC 2018a. *Alternative Source Demonstration – Limestone Electric Generating Station Secondary E Pond (Unit 003)*. TRC, July 2018.
- TRC 2018b. *Statistical Methods Certification – Limestone Electric Generating Station*. TRC, August 2018.
- TRC 2019. *2018 Annual Groundwater Monitoring and Corrective Action Report – Limestone Electric Generating Station*. TRC, January 2019.
- USGS 2018. National Produced Waters Geochemical Database, USGS IDs 99922 through 99929. United State Geological Survey. Accessed on July 16, 2018.
- TWDB 1990. Aquifers of Texas. Texas Water Development Board Report 380. Peter George, et al. July 2011.



Alternative Source Demonstration

Limestone Electric Generating Station Landfill (Unit 004)

November 2019

*Prepared For
NRG Texas Power, LLC
Jewett, Texas*



A handwritten signature in blue ink, appearing to read "R. Kent Nilsson".

R. Kent Nilsson, P.E.
Senior Engineer

11/8/2019

A handwritten signature in blue ink, appearing to read "Tony Dworaczek".

Tony Dworaczek, P.E.
Project Manager

TRC Environmental Corporation | NRG Texas Power, LLC
Alternate Source Demonstration, Limestone, Landfill (Unit 004)

\\GREENVILLE-FP1\WPGVL\PJT2\298367\0000\PH 1\R2983670000-006 ASD LMS LANDFILL.DOCX

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Executive Summary

The NRG Texas Power, LLC (NRG) Limestone Electric Generating Station (Station) is located approximately seven miles northwest of Jewett, Texas and approximately 0.5 miles north of the intersection of Limestone, Freestone, and Leon Counties. Units managing coal combustion residuals (CCR) at the Station are subject to the United States Environmental Protection Agency's (USEPA's) 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 two active CCR units that are managed pursuant to the CCR Rule, including the Landfill (Unit 004), which is the subject of this Alternate Source Demonstration (ASD).

The fourth semiannual 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 monitoring parameters was completed on August 12, 2019 to identify apparent statistically significant increases (SSIs) above background pursuant to §257.93(f) and (g) on August 12, 2019. The statistical evaluation identified two potential SSIs in monitoring wells at the Landfill, one of which is located at an upgradient well. 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 Landfill.

As presented in the ASD for the third semiannual 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) Limestone Electric Generating Station (Station) is located approximately seven miles northwest of Jewett, Texas and approximately 0.5 miles north of the intersection of Limestone, Freestone, and Leon Counties. The Station is bisected by Farm-to-Market Road 39 (FM 39), which runs north-south through the middle of the Station. The western portion of the Station is located in Limestone County and includes the electricity generating portion of the Station. The eastern portion of the Station is located in Freestone County and includes the solid waste disposal area (SWDA).

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 two active CCR-management units:

- Landfill (Unit 004); and
- Secondary E Pond (Unit 003).

Both active CCR units are located within the eastern portion of the Station as shown on Figure 1.

The Landfill was constructed in 1980 and is used for the final disposition of CCR. The western half of the landfill has reached capacity and historically has been closed and capped prior to the effective date of the CCR Rule. CCR is currently being placed at the southern portion of the landfill.

On behalf of NRG, Environmental Resources Management, Inc. (ERM) conducted eight independent background groundwater 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 for the Landfill were documented in the *Annual Groundwater Monitoring Report, Landfill (Unit 004)* (ERM 2018a) and the *Groundwater Monitoring Report, Landfill (Unit 004)* (ERM 2018b) pursuant to §257.90(e). No apparent statistically significant increases (SSIs) above background were identified in groundwater for the Landfill for the first semiannual detection monitoring event.

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). The statistical evaluation again identified no apparent SSIs in monitoring wells at the Landfill.

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 pursuant to §257.93(f) and (g) and the revised statistical method for the CCR unit. The statistical evaluation identified two potential SSIs, one of which was located at an upgradient monitoring well. 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. NRG received the final laboratory analytical results in May 2019. Statistical evaluation was completed in August 2019 to identify SSIs pursuant to 257.93(f) and (g) and the revised statistical method for the CCR unit. The statistical evaluation identified two potential SSIs (high field pH in upgradient monitoring well MW-27 and low field pH in downgradient well MW-1). On behalf of NRG, TRC Environmental Corporation (TRC) prepared this ASD to evaluate the apparent SSIs above background for the fourth semiannual detection monitoring event in accordance with §257.94(e).

1.3 Hydrogeology

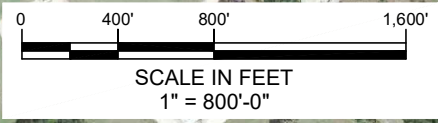
Based on the *Geologic Atlas of Texas, Waco Sheet* (BEG 1972), the Station is primarily located within the outcrop of the Calvert Bluff Formation of the Wilcox Group. Minor portions of the southeast corner of the Station are located within the outcrop of the Carrizo Sand and minor portions of the southwest corner of the Station are immediately underlain by alluvium. The Calvert Bluff Formation underlies both the Carrizo Sand and alluvium where present.

The Landfill is located solely within the outcrop of the Calvert Bluff Formation (BEG 1972); however, site investigation data indicate the Landfill may also be located within the outcrop of the Carrizo Sand. The Calvert Bluff Formation consists mostly of mudstone interbedded with fine sandstone, lignite, and ironstone concretions. The mudstone contains silt and very fine sand laminae. The Carrizo Sand consists of very fine sand with partings of silty clay, carbonaceous clay, and ironstone. The Carrizo Sand and the Wilcox Group comprise the Carrizo-Wilcox aquifer, which is recognized by the Texas Water Development Board (TWDB) as a major aquifer system in Texas. The Station is located within the outcrop, or the recharge zone, of the Carrizo-Wilcox aquifer (TWDB 2011).

Site investigations were conducted at the Station by Espey, Huston & Associated in 1986; Radian International in 1996 and 1997; EPRI in 2007, and Environmental Resources Management, Inc. (ERM) in 2016. The results of these investigations were summarized in the October 2017 *Ground Water Monitoring Networks for Coal Combustion Residual (CCR) Rule Compliance* report (ERM 2017b). Surficial material at the Landfill consists of in-situ or reworked clay from the Axtell-Tabor soil association. This clay is the source material for the Landfill liner and cap. Boring logs indicate the surficial material is underlain by interbedded clays, silts, and sands of the Quaternary alluvium, Carrizo Sand, and Calvert Bluff Formation. The boundaries between these units are generally indistinguishable.

The certified CCR monitoring well network for the Landfill consists of two upgradient, background monitoring wells (MW-27 and MW-28) and eight downgradient monitoring wells (MW-1, MW-2, MW-17, MW-18, MW-19, MW-20, MW-21, and MW-22). A groundwater potentiometric surface map was prepared by TRC for April 2019 semiannual detection monitoring event and is provided in this ASD as Figure 2. The direction of groundwater flow beneath the Landfill was to the south - southwest.

HOU_M\ACAD-TRC\DRAWING\Clients-Name-K-L-M-N\NRG\Limestone Station - Jewett, TX\2019 - CCR-Report\ Fig 1-2 - NRG-LimestoneStation - Secondary E Pond-n-Landfill CCR Units.dwg 01/16/19



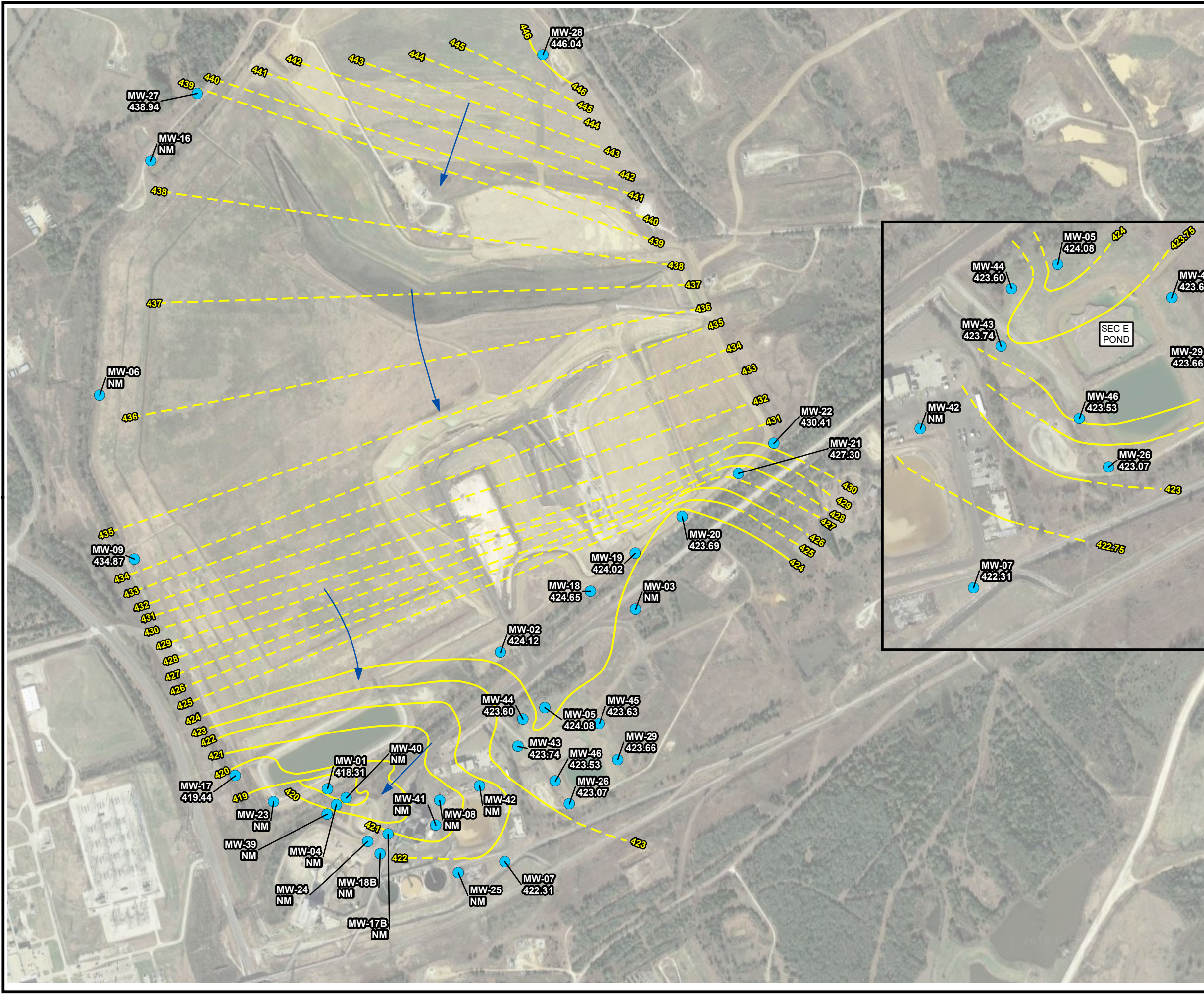
LEGEND
--- APPROXIMATE PROPERTY BOUNDARY

PROJECT:	NRG TEXAS POWER, LLC Limestone Electric Generating Station Jewett, Texas	
TITLE:	SECONDARY E POND AND SITE LOCATION MAP	
DRAWN BY:	O. Fonseka	PROJECT No.: 298367.0000.0000
CHECKED BY:	T. Dworaczyk	FIGURE 1
APPROVED BY:	T. Dworaczyk	
DATE:	January 2019	

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

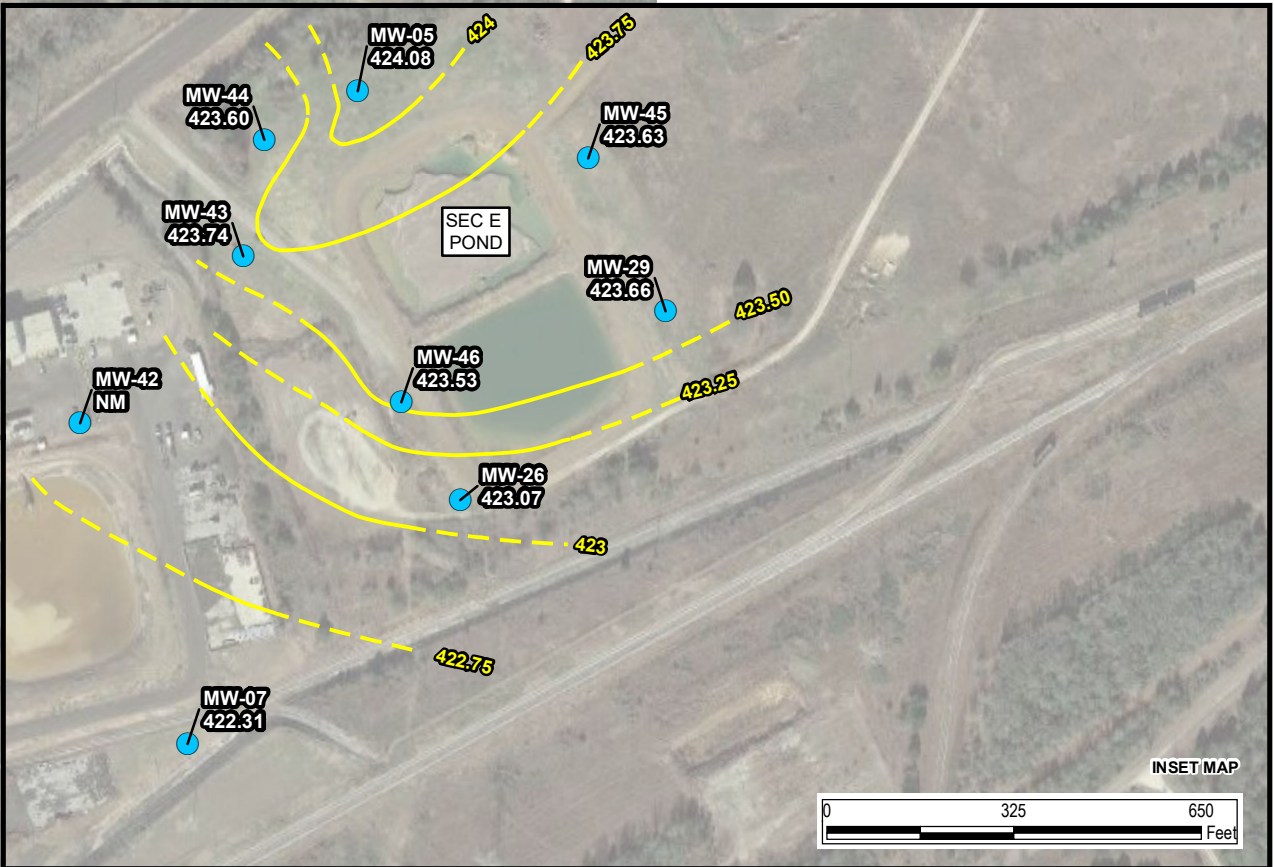
IMAGERY SOURCE: Google Earth (10/30/2014)

Fig 1-2 - NRG-LimestoneStation - Secondary E Pond-n-Landfill CCR Units.dwg



LEGEND

- MONITORING WELL
- 430.41** GROUNDWATER ELEVATION (FEET MSL)
- NM** NOT MEASURED
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER POTENTIOMETRIC SUFRACE CONTOUR (FEET) - DASHED WHERE INFERRED



0 700 1,400 Feet

1" = 700'
1:8,400

PROJECT: **NRG TEXAS POWER, LLC
LIMESTONE
JEWETT, TEXAS**

TITLE: **GROUNDWATER POTENTIOMETRIC
SUFRACE MAP - APRIL 2019**

DRAWN BY: _____ PROJ. NO.: 298367.1000.0000

CHECKED BY: _____

APPROVED BY: _____

DATE: OCTOBER 2019

FIGURE 2-2

TRC

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Austin, TX 78752
Phone: 512.329.6080
www.trcsolutions.com

FILE NO.: 298367_2-2_April.mxd

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. The statistical evaluation identified two apparent SSIs (high field pH in upgradient monitoring well MW-27 and low field pH in downgradient well MW-1). 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 two apparent SSIs for the Landfill, as shown on Table 1.

Table 1
SSIs – April 2019 Detection Monitoring Event

ANALYTE	WELL	LTL	UTL	SAMPLE DATE	VALUE	UNIT
pH	MW-27 (UG)	5.1	7.3	4/30/2019	11.47	SU
pH	MW-1 (DG)	5.1	7.3	4/30/2019	4.74	SU

Alternative sources for both potential Landfill SSIs are non-CCR sources located in the vicinity of the Landfill. The Station and surrounding vicinity are densely populated with historical and current oil and gas activities consisting primarily of natural gas production wells. Numerous active natural gas wells and their associated well pads and surface pits are located immediately surrounding and within the footprint of the Landfill.

Surface well pits typically contain spent completion fluids or workover fluids. Completion or workover fluids are often brine-containing liquids that are used for well testing and are chemically compatible with the formation fluids; and the spent fluids contained in the pit would have come into contact with formation fluids. According to the United States Geological Survey (USGS) National Produced Waters Geochemical Database, water co-produced with hydrocarbons (referred to as “produced water” or “formation water”) from geologic formations underlying the Site has the following composition (USGS 2018):

- pH ranging from 4.67 standard units (SU) to 5.6 SU;
- Calcium ranging from 12,560 milligrams per liter (mg/L) to 33,520 mg/L;

- Chloride ranging from 56,980 mg/L to 96,200 mg/L
- Sulfate ranging from 480 mg/L to 1,790 mg/L; and
- Total dissolved solids (TDS) ranging from 98,330 mg/L to 152,970 mg/L.

Considering the composition of the formation water with which the completion or workover fluids came into contact and the typical brine composition of these fluids, potential releases of these fluids would be expected to affect groundwater quality within the immediate vicinity and downgradient of the natural gas well pads and surface pits. Even minor releases of these fluids could increase the concentrations of calcium, chloride, sulfate, and TDS and decrease the pH in the nearby Landfill upgradient and downgradient monitoring wells.

Additionally, the background groundwater data for this CCR unit were established using a background monitoring period of just 15 months. This is a short background period for statistical evaluation and comparisons. However, as discussed in the third detection monitoring ASD (September 2019) for the Landfill, 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 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

The statistical evaluation identified two apparent SSIs (field pH in upgradient monitoring well MW-27 and field pH in downgradient monitoring well MW-1). This ASD has identified the following lines of reasoning that support alternative sources for these two apparent SSIs:

- One of the two apparent SSIs (pH in MW-27) was identified in an upgradient monitoring well. Therefore, this SSI may be related to ongoing variations in background groundwater quality unrelated to the CCR unit.
- Numerous active natural gas wells and their associated well pads and surface pits are located immediately surrounding and within the footprint of the Landfill. Well pits associated with the natural gas wells contribute spent completion or workover fluids to groundwater that contain constituents that are also CCR Rule detection monitoring constituents.

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 water quality data set for the Landfill is unreliable and a new background data set will be developed. Until the new background water quality 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 Landfill have been shown to likely be responsible for both of the apparent SSIs observed. Based on this successful ASD, NRG will continue detection monitoring for the Landfill.

Section 4 Certification

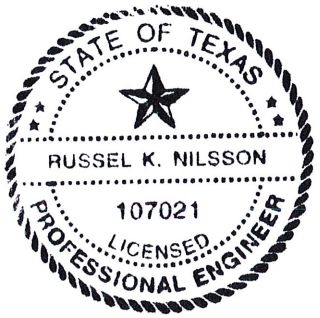
I hereby certify that the alternative source demonstration presented within this document for the Limestone Electric Generating Station Landfill has been prepared to meet the requirements of Title 40 CFR 257.94 (e) 2 of the Federal CCR Rule. This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR 257.94 (e) 2.

Name: 
RUSSEL K. NILSSON

Company: TRC Environmental Corporation

Expiration Date: 9/30/2020

Date: 11/8/2019



Section 5

References

- BEG 1972. Geologic Atlas of Texas, Waco Sheet. The University of Texas at Austin, Bureau of Economic Geology. Reprinted 1972.
- TRC 2018b. *Statistical Methods Certification – Limestone Electric Generating Station*. TRC, August 2018.
- TRC 2019a. *2018 Annual Groundwater Monitoring and Corrective Action Report – Limestone Electric Generating Station*. TRC, January 2019.
- TRC 2019b. Technical Memorandum on Laboratory Quality Issues. TRC, April 24, 2019.
- TRC 2019c. Technical Memorandum on Laboratory Change for CCR Sampling Events. TRC, July 19, 2019.
- TWDB 1990. Aquifers of Texas. Texas Water Development Board Report 380. Peter George, et al. July 2011.
- USGS 2018. National Produced Waters Geochemical Database, USGS IDs 99922 through 99929. United State Geological Survey. Accessed on July 16, 2018.



Alternative Source Demonstration

Limestone Electric Generating Station Secondary E Pond (Unit 003)

November 2019

*Prepared For
NRG Texas Power, LLC
Jewett, Texas*



A handwritten signature in blue ink, appearing to read "R. Nilsson".

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.
Project Manager

TRC Environmental Corporation | NRG Texas Power, LLC
Alternate Source Demonstration, Limestone, Secondary E Pond (Unit 003)

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1.3 Hydrogeology.....	1-2
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4. Certification	4-1
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Executive Summary

The NRG Texas Power, LLC (NRG) Limestone Electric Generating Station (Station) is located approximately seven miles northwest of Jewett, Texas and approximately 0.5 miles north of the intersection of Limestone, Freestone, and Leon Counties. Units managing coal combustion residuals (CCR) at the Station are subject to the United States Environmental Protection Agency's (USEPA's) 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 two active CCR units that are managed pursuant to the CCR Rule, including the Secondary E Pond (Unit 003), which is the subject of this Alternate Source Demonstration (ASD).

The fourth semiannual 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 19 apparent SSIs in monitoring wells at the Secondary E Pond, three of which are located at upgradient monitoring wells. This ASD [prepared in accordance with 257.94(e)] successfully identifies alternative sources for the potential SSIs. Therefore, detection monitoring will be continued for the Secondary E Pond.

As presented in the previous ASDs for the Secondary E Pond, the background water quality data set for the Secondary E Pond is not sufficiently representative of background and downgradient groundwater quality at the Secondary E Pond. Therefore, three groundwater monitoring wells were added to the groundwater monitoring system:

- A new background monitoring well MW-45 was installed in September 2018;
- A new downgradient monitoring well MW-46 was installed in September 2018; and
- Existing side-gradient monitoring well MW-26 was added.

As presented in the ASD for the third semiannual 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) Limestone Electric Generating Station (Station) is located approximately seven miles northwest of Jewett, Texas and approximately 0.5 miles north of the intersection of Limestone, Freestone, and Leon Counties. The Station is bisected by Farm-to-Market Road 39 (FM 39), which runs north-south through the middle of the Station. The western portion of the Station is located in Limestone County and includes the electricity generating portion of the Station. The eastern portion of the Station is located in Freestone County and includes the solid waste disposal area (SWDA).

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 two active CCR-management units:

- Landfill (Unit 004); and
- Secondary E Pond (Unit 003).

Both active CCR units are located within the eastern portion of the Station as shown on Figure 1.

According to NRG, the Secondary E Pond receives wastewater from the E Pond and FGD residuals from the chloride purge storage tank for stabilization. These materials are temporarily stored in the Secondary E Pond before final disposal in the Station Landfill.

On behalf of NRG, Environmental Resources Management, Inc. (ERM) conducted eight independent background groundwater monitoring events for both Appendix II 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 for the Secondary E Pond were documented in the *Annual Groundwater Monitoring Report, Secondary E Pond (Unit 003)* (ERM 2018a) and the *Groundwater Monitoring Report, Secondary E Pond (Unit 003)* (ERM 2018b) pursuant to §257.90(e). ERM identified apparent statistically significant increases (SSIs) above background in groundwater for the Secondary E Pond for the first semiannual detection monitoring event. TRC Environmental Corporation (TRC) evaluated the apparent SSIs and completed a successful *Alternate Source Demonstration (ASD)* in July 2018. The ASD was placed into the facility's operating record (FOR)

TRC Environmental Corporation | NRG Texas Power, LLC
Alternate Source Demonstration, Limestone, Secondary E Pond

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 identified 19 apparent SSIs in monitoring wells at the Secondary E Pond. 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 pursuant to §257.93(f) and (g) and the revised statistical method for the CCR unit. 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. NRG received the final laboratory analytical results in May 2019. Statistical evaluation was completed in August 2019 to identify SSIs pursuant to 257.93(f) and (g) and the revised statistical method for the CCR unit. The statistical evaluation identified 19 potential SSIs, three of which are at upgradient wells. 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, Waco Sheet* (BEG 1972), the Station is primarily located within the outcrop of the Calvert Bluff Formation of the Wilcox Group. Minor portions of the southeast corner of the Station are located within the outcrop of the Carrizo Sand and minor portions of the southwest corner of the Station are immediately underlain by alluvium. The Calvert Bluff Formation underlies both the Carrizo Sand and alluvium where present.

The Secondary E Pond is located solely within the outcrop of the Calvert Bluff Formation (BEG 1972); however, site investigation data indicate the Secondary E Pond may also be located within the outcrop of the Carrizo Sand. The Calvert Bluff Formation consists mostly of mudstone interbedded with fine sandstone, lignite, and ironstone concretions. The mudstone contains silt and very fine sand laminae. The Carrizo Sand consists of very fine sand with partings of silty clay, carbonaceous clay, and ironstone. The Carrizo Sand and the Wilcox Group comprise the Carrizo-Wilcox aquifer, which is recognized by the

Texas Water Development Board (TWDB) as a major aquifer system in Texas. The Station is located within the outcrop, or the recharge zone, of the Carrizo-Wilcox aquifer (TWDB 2011).

Site investigations were conducted at the Station by Espey, Huston & Associated in 1986; Radian International in 1996 and 1997; EPRI in 2007, and Environmental Resources Management, Inc. (ERM) in 2016. The results of these investigations were summarized in the *Ground Water Monitoring Networks for Coal Combustion Residual (CCR) Rule Compliance* report (ERM 2017b). Boring logs indicate the lithology at the Secondary E Pond consists primarily of silty sand with clayey sand and sandy clay to approximately 60 feet below ground surface (bgs), which appears to be consistent with the Carrizo Sand. Interbedded mud, silt, and sand consistent with the Calvert Bluff Formation were present at approximately 60 feet bgs in the vicinity of the Secondary E Pond.

The certified CCR monitoring well network for the Secondary E Pond consists of two upgradient, background monitoring well (MW-29 and MW-45) and five downgradient monitoring wells (MW-5, MW-26, MW-43, MW-44, and MW-46). A groundwater potentiometric surface map was prepared by TRC for the April 2019 semiannual detection monitoring event and is provided in this ASD as Figure 2. Historically, the direction of groundwater flow beneath the Secondary E Pond was to the southwest during the second semiannual detection monitoring event in May 2018 and was more radial during the third semiannual detection monitoring event in October 2018, with flow to the northwest, southwest, and south. During the fourth semiannual detection monitoring event in April 2019, the direction of groundwater flow beneath the Secondary E Pond was to the southwest.

HOU_M\ACAD-TRC\DRAWING\Clients-Name-K-L-M-N\NRG\Limestone Station - Jewett, TX\2019 - CCR-Report\ Fig 1-2 - NRG-LimestoneStation - Secondary E Pond-n-Landfill CCR Units.dwg 01/16/19



0 400' 800' 1,600'
SCALE IN FEET
1" = 800'-0"

LANDFILL

**SECONDARY
E POND**

LEGEND

--- APPROXIMATE
PROPERTY BOUNDARY

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Limestone Electric Generating Station
Jewett, Texas

TITLE: **SECONDARY E POND AND**
SITE LOCATION MAP

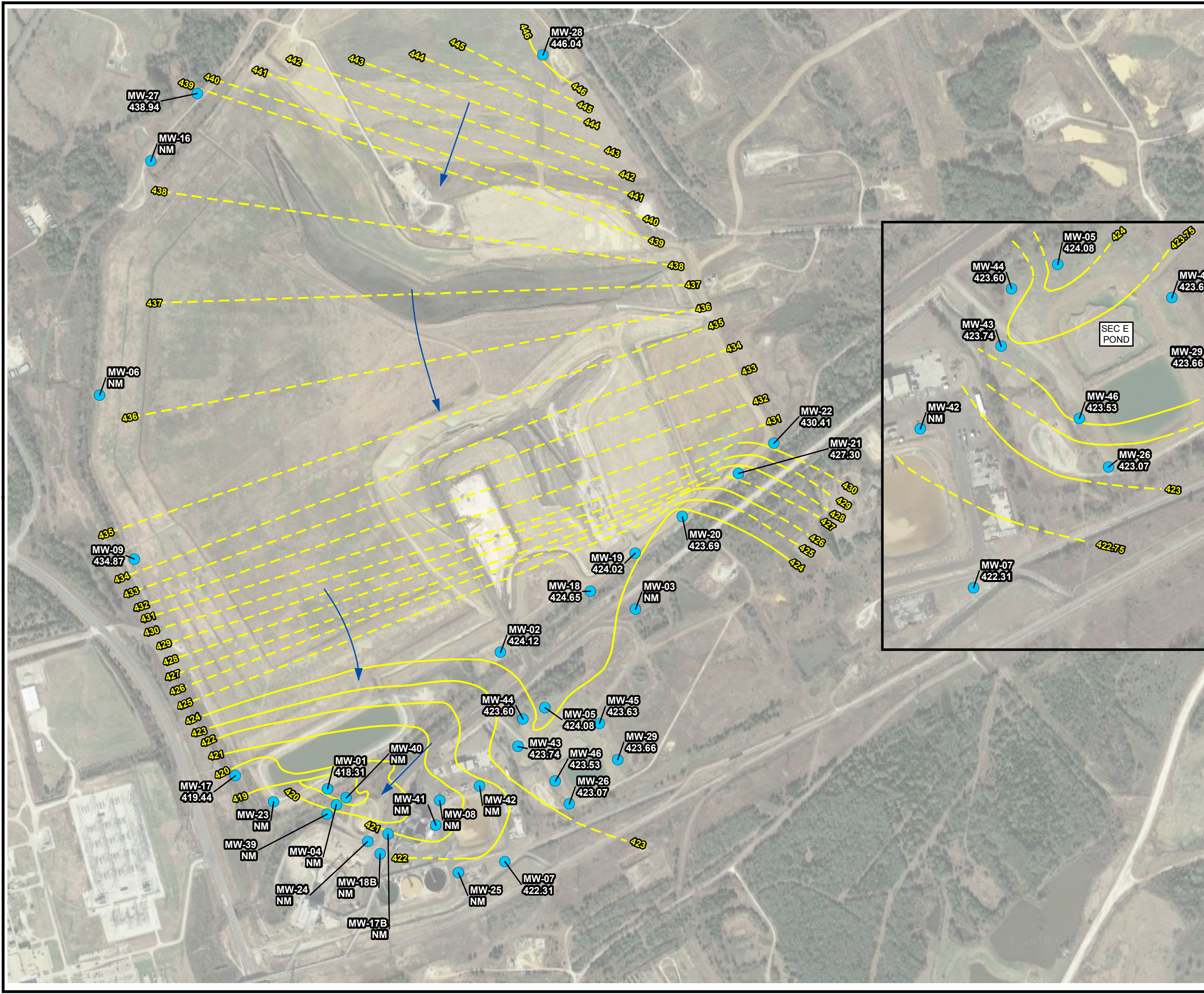
DRAWN BY: O. Fonseka	PROJECT No.: 298367.0000.0000
CHECKED BY: T. Dworaczyk	FIGURE 1
APPROVED BY: T. Dworaczyk	
DATE: January 2019	



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

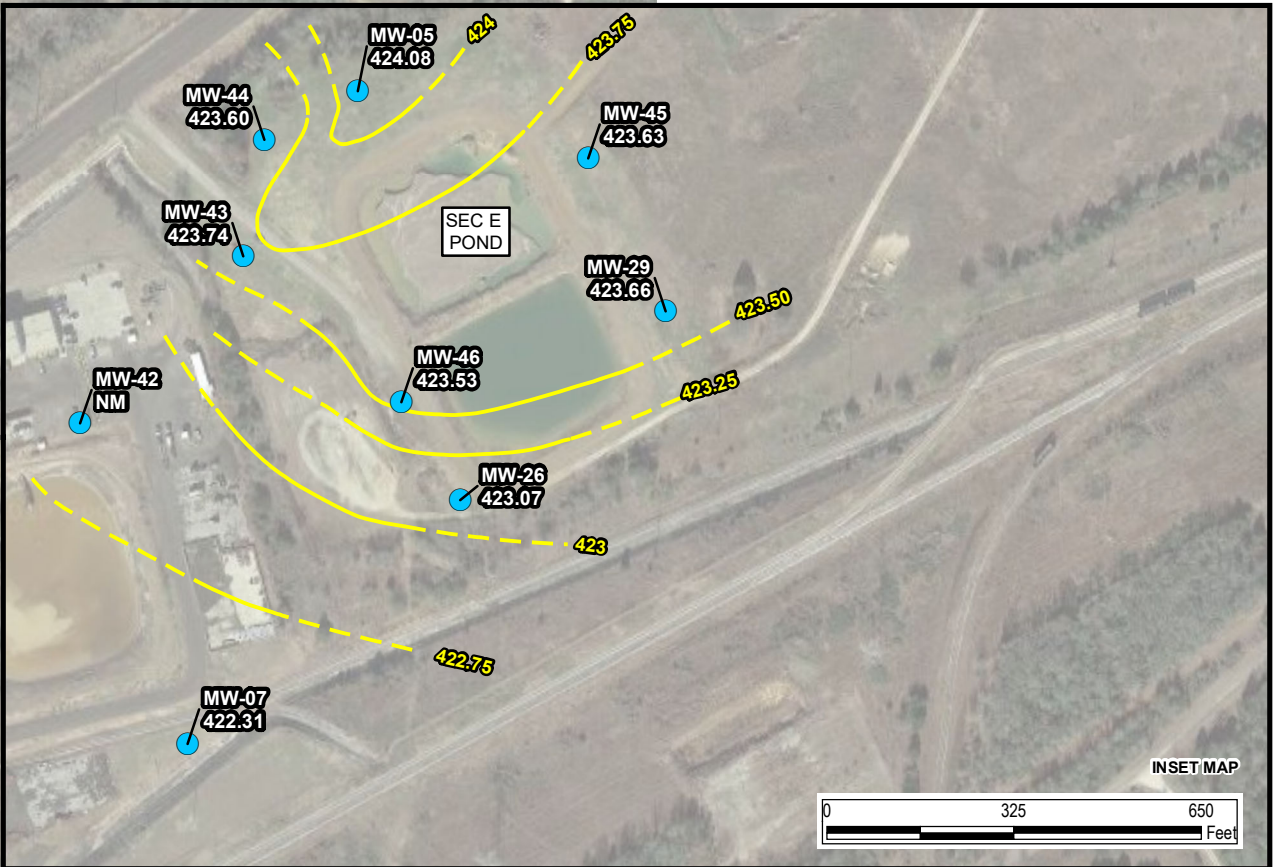
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Fig 1-2 - NRG-LimestoneStation - Secondary E Pond-n-Landfill CCR Units.dwg



LEGEND

- MONITORING WELL
- 430.41** GROUNDWATER ELEVATION (FEET MSL)
- NM** NOT MEASURED
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER POTENTIOMETRIC SUFRACE CONTOUR (FEET) - DASHED WHERE INFERRED



0 700 1,400 Feet

1" = 700'
1:8,400

PROJECT: **NRG TEXAS POWER, LLC
LIMESTONE
JEWETT, TEXAS**

TITLE: **GROUNDWATER POTENTIOMETRIC
SUFRACE MAP - APRIL 2019**

DRAWN BY: _____ PROJ. NO.: 298367.1000.0000

CHECKED BY: _____

APPROVED BY: _____

DATE: OCTOBER 2019

FIGURE 2-2

TRC

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FILE NO.: 298367_2-2_April.mxd

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. The statistical evaluation identified 19 apparent SSIs, three of which were at an upgradient well. 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 19 apparent SSIs for the Secondary 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-43	N/A	0.1	4/30/2019	0.336	mg/L
Calcium	MW-05	N/A	22.4	4/30/2019	27.5	mg/L
Calcium	MW-26	N/A	22.4	4/30/2019	65.8	mg/L
Calcium	MW-43	N/A	22.4	4/30/2019	93.3	mg/L
Calcium	MW-44	N/A	22.4	4/30/2019	26.6	mg/L
Calcium	MW-45 (UG)	N/A	22.4	4/30/2019	353	mg/L
Calcium	MW-46	N/A	22.4	4/30/2019	559	mg/L
Chloride	MW-26	N/A	26.3	4/30/2019	287	mg/L
Chloride	MW-43	N/A	26.3	4/30/2019	29.0	mg/L
Chloride	MW-44	N/A	26.3	4/30/2019	27.2	mg/L
Chloride	MW-45 (UG)	N/A	26.3	4/30/2019	1,120	mg/L
Chloride	MW-46	N/A	26.3	4/30/2019	2,460	mg/L
pH	MW-05	6.4	7.2	4/30/2019	5.95	SU
pH	MW-26	6.4	7.2	4/30/2019	6.24	SU
Sulfate	MW-43	N/A	151	4/30/2019	644 JL	mg/L
TDS	MW-26	N/A	484	4/30/2019	1,030	mg/L
TDS	MW-43	N/A	484	4/30/2019	1,710	mg/L
TDS	MW-45 (UG)	N/A	484	4/30/2019	4,070	mg/L
TDS	MW-46	N/A	484	4/30/2019	8,000	mg/L

Alternative sources for the potential Secondary E Pond SSIs are non-CCR sources located in the vicinity of the Secondary E Pond. The Station and surrounding vicinity are densely populated with historical and current oil and gas activities primarily consisting of natural gas production wells. An active natural gas well (API number 42-161-33188) and its associated well pad are located immediately to the southwest of the Secondary E Pond. According to Railroad Commission of Texas (RRC) records, this gas well was completed and recompleted between April and November 2005. According to publicly available historical aerial imagery, a surface pit with approximate dimensions of 30-feet by 35-feet was located at the northeast corner of this gas well pad on November 2, 2015, and November 15, 2015, but the pit was not present in other available aerial images on October 30, 2018.

TRC did not identify a permit for this pit in RRC records, indicating the pit is likely an “authorized pit” (i.e., no permit required for authorized uses). Based on the date of occurrence relative to drilling activities, the pit likely contained spent completion fluids or workover fluids. Completion or workover fluids are often brine-containing liquids that are used for well testing and are chemically compatible with the formation fluids; and the spent fluids contained in the pit would have come into contact with formation fluids. According to the United States Geological Survey (USGS) National Produced Waters Geochemical Database, water co-produced with hydrocarbons (referred to as “produced water” or “formation water”) from geologic formations underlying the Site has the following composition (USGS 2018):

- pH ranging from 4.67 standard units (SU) to 5.6 SU;
- Calcium ranging from 12,560 milligrams per liter (mg/L) to 33,520 mg/L;
- Chloride ranging from 56,980 mg/L to 96,200 mg/L
- Sulfate ranging from 480 mg/L to 1,790 mg/L; and
- Total dissolved solids (TDS) ranging from 98,330 mg/L to 152,970 mg/L.

Considering the composition of the formation water with which the completion or workover fluids came into contact and the typical brine composition of these fluids, potential releases of these fluids would be expected to affect groundwater quality within the immediate vicinity and downgradient of the natural gas well pads and surface pits. Even minor releases of these fluids could increase the concentrations of calcium, chloride, sulfate, and TDS and decrease the pH in the nearby Secondary E Pond downgradient monitoring wells MW-5, MW-43, and MW-44. Both background monitoring wells at the Secondary E Pond (MW-29 and MW-45) are located upgradient and on the opposite side of the Secondary E Pond from the former surface pit and natural gas well pad; therefore, based on potentiometric surface maps, water quality for the background monitoring wells (MW-29 and MW-45) would not be anticipated to be affected by potential releases from that pit to groundwater at the Secondary E Pond area. However, potential releases from other natural gas wells or surface pits in the immediate vicinity of these two wells could have had the potential to impact groundwater quality at MW-29 and MW-45.

Two new groundwater monitoring wells, MW-45 (upgradient) and MW-46 (downgradient), were installed in September 2018 to enhance the representativeness of groundwater quality for the CCR groundwater monitoring system at the Secondary E Pond. Three background semiannual detection monitoring sampling events had been conducted for both new monitoring wells for analysis for the Appendix III and IV CCR constituents. However, based on TRC's validation of the original background data provided by the analytical laboratory, TRC determine 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 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 Secondary E Pond, MW-43 was selected for split sampling. The chloride concentration for the split sample (20.6 mg/L) was below its UTL and is not an SSI. This provides support for the line of reasoning and likelihood that laboratory analytical issues are an alternative source for the chloride UTS exceedance. It should be noted that the remaining split analyses were apparent SSIs.

As discussed in the third detection monitoring ASD (September 2019) for the Secondary E 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

The statistical evaluation identified 19 apparent SSIs, three of which were at an upgradient monitoring well. This ASD has identified the following lines of reasoning that support alternative sources for these 19 apparent SSIs:

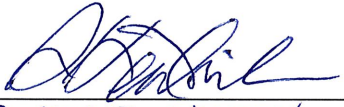
- The original background water quality data set was based on a single upgradient well (MW-26) that was not centered upgradient of the Secondary E Pond and this background monitoring well does not sufficiently represent groundwater quality upgradient of the unit. To rectify this issue, NRG installed an additional upgradient monitoring well (MW-45) in September 2018, which is being incorporated into the water quality background data set;
- The original background water quality data set was also based on a limited number of downgradient monitoring wells that may not sufficiently represent groundwater quality downgradient of the unit. To rectify this issue, NRG installed an additional downgradient monitoring well (MW-46) in September 2018 and incorporated an existing well (MW-26) into the CCR groundwater monitoring system; and
- Numerous active gas wells and their associated well pads are located immediately surrounding the Secondary E Pond. Well pits associated with the gas wells contribute spent completion fluids to groundwater that contain constituents in the detection monitoring program for CCR units and which could be reflected in natural variations in groundwater quality in both the upgradient and downgradient monitoring wells.
- Three (calcium, chloride, and TDS) of the 19 apparent SSIs were identified in upgradient monitoring well MW-45. Therefore, these three SSIs appear to be related to natural variations in background groundwater quality or potential releases associated with natural gas wells or surface pits located in the vicinity of the Secondary E Pond.

The Station had initiated the process of expanding the monitoring system for the Secondary E Pond by installing two additional monitoring wells (one upgradient and one downgradient) at the Secondary E Pond in September 2018. 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 Secondary 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.

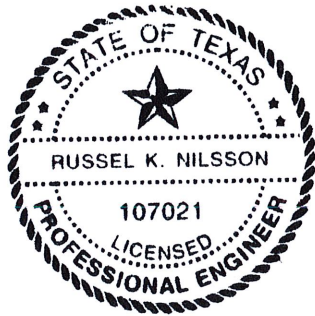
Therefore, based on the lines of reasoning presented in this ASD, alternative sources other than a release from the Secondary E Pond have been shown to likely be responsible for each of the 19 apparent SSIs observed. Based on this successful ASD, NRG will continue detection monitoring for the Secondary E Pond.

Section 4 Certification

I hereby certify that the alternative source demonstration presented within this document for the Limestone Electric Generating Station Secondary 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

References

- BEG 1972. Geologic Atlas of Texas, Waco Sheet. The University of Texas at Austin, Bureau of Economic Geology. Reprinted 1972.
- TRC 2018a. *Alternative Source Demonstration – Limestone Electric Generating Station Secondary E Pond (Unit 003)*. TRC, July 2018.
- TRC 2018b. *Statistical Methods Certification – Limestone Electric Generating Station*. TRC, August 2018.
- TRC 2019. *2018 Annual Groundwater Monitoring and Corrective Action Report – Limestone Electric Generating Station*. TRC, January 2019.
- USGS 2018. National Produced Waters Geochemical Database, USGS IDs 99922 through 99929. United State Geological Survey. Accessed on July 16, 2018.
- TRC 2019a. Technical Memorandum on Laboratory Quality Issues. TRC, April 24, 2019.
- TRC 2019b. Technical Memorandum on Laboratory Change for CCR Sampling Events. TRC, July 19, 2019.
- TWDB 1990. Aquifers of Texas. Texas Water Development Board Report 380. Peter George, et al. July 2011.