State of New Mexico
Oil Conservation Division

Incident ID	NRM2004905376
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	60 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141 State of New Mexico
Page 4 Oil Conservation Division

Incident ID	NRM2004958316
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Joseph Guenzler Title: Staff Scientist

Signature: Date: 6-18-20

email: JGuenzler@Ttemail.com Telephone: 806-544-9276

OCD Only

Received by: Date:

Incident ID	NRM2049458378
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Joseph Guerriero Title: Staff Scientist

Signature: Date: 6-18-20

email: JRGuerriero@TerracomLaw Telephone: 806 544 9276

OCD Only

Received by: Date:

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NRM2004958378
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Joseph Guerriero Title: Staff Scientist

Signature: [signature] Date: 6-18-20

email: JGuerriero Telephone: 806 544 9276

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Closure Report

General Site Information:
Aikman SWD

Site Contact:
Todd Mucha, Spur Energy Partners
920 Memorial City Way, Suite 1000, Houston, Texas 77024
(281) 795-2286

Depth to Ground Water
60 feet below grade surface

Distance to Nearest Surface Water
Brandtly Lake (North-Central Eddy County), approximately 5.1 miles to the North

Driving Directions
From Hwy 82, South on HWY 229 15.2 mi, West on Rock Daisy Road 3.83 mi., North 0.63 mi, then West 0.31 mi, to location.

Legal Description
Unit N Section 27, T19S, R25E, Eddy County, New Mexico

June 18, 2020
Terracon Project No. AR207018

Prepared for:
Spur Energy Partners
Houston, Texas

Prepared by:
Terracon Consultants, Inc.
Lubbock, Texas
TBPG Firm No. 50058

June 18, 2020

Spur Energy Partners LLC
920 Memorial City Way, Suite 1000
Houston, Texas 77024

Attn: Mr. Todd Mucha
P: 281-795-2286
E: todd@spurepllc.com

RE: **Closure Report**
Aikman SWD Release
Unit N Section 27, T19S, R25E, Eddy County, New Mexico
Terracon Project No. AR207018

Dear Mr. Mucha,

Terracon Consultants, Inc. (Terracon) is pleased to submit our Closure Report for the site referenced above. The Closure Report was developed in accordance with the New Mexico Oil Conservation Division (NMOCD) regulations concerning clean-up actions required for releases of crude oil and produced water. The Closure Report presents a description of the release incident and OCD notification, site characteristics, potential receptors, and remedial actions required for the site. Terracon developed the Closure Report in general accordance with our proposal (AR207018) dated January 05, 2020.

Terracon appreciates this opportunity to provide environmental services to Spur Energy Partners LLC (Spur). Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,
Terracon Consultants, Inc.

Joseph Guesnier	Erin Loyd, P.G. (TX)
Staff Scientist	Principal
Lubbock	Office Manager – Lubbock

Terracon

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Closure Report
Aikman SWD Release
Unit N Section 27, Township 19 South, Range 25 East
Eddy County, New Mexico
NMOCD Reference No.
Terracon Project No. AR207018
June 18, 2020

1.0 SITE DESCRIPTION

The site is an approximate 0.65-acre tract of land within the Unit N Section 27, Township 19 South, Range 25 East, Eddy County, New Mexico (hereinafter, the site). The site consists primarily of a salt water disposal (SWD) facility and well head set on a caliche pad with bermed caliche surrounding the entire pad. A Topographic Map illustrating the site location is included as Figure 1 and a Site Plan is included as Figure 2 in Appendix A.

2.0 SCOPE OF SERVICES

Terracon's scope of services is to investigate the magnitude and extent of the documented release, remediation and restoration and develop a Closure Report in accordance with the NMOCD requirements that detail site closure activities to be completed. This Closure Report addresses the January 4, 2020 release of approximately 543 barrels (bbls) of produced water with 130 bbl recovered, all originating from a tubing nipple that broke below the master valve causing a leak at the wellhead which is owned by Spur.

3.0 INTRODUCTION AND NOTIFICATION

A release of produced water containing crude oil occurred on January 4, 2020 at the Aikman SWD site in Eddy County, New Mexico. The site is operated by Spur. The site is comprised of an approximate 0.8-acre developed area, approximately 15.5 miles southwest of Artesia, New Mexico. Incident information is provided in the following table:

Required Information	Site and Release information	
Responsible party Local contact	The facility is operated by Spur Energy Partners LLC	
	Contact: Mr. Tom Mucha	P: (281) 795-2286 E: todd@spurepllc.com
NMOCD Notification	Notice of the release was provided to the NMOCD District 2 Artesia Office by Todd Mucha (Spur) on January 4, 2020.	
Facility description	The facility is Aikman SWD State #001 in Eddy County, New Mexico. It is an approximate 0.8-acre well located within the Unit	

Required Information	Site and Release information	
	N Section 27, Township 19 South, Range 25 East, N.M.P.M., approximately 15.5 miles southwest of Artesia, New Mexico. The site is developed and used as a well pad and tank battery.	
Time of incident	January 4, 2020, discovered at 9:20 a.m.	
Discharge event	Release of produced water containing crude oil originating from a Tubing nipple which broke below the master valve causing the leak. Well is currently operating on vacuum parts and a crew will secure the wellhead. Spill area A is 70 ft x 60 ft and estimated average depth in from 499 barrels. Spill area B is 150 ft x 10 ft and estimated average depth 2 in from 44 barrels. Recovered 130 barrels of water so far. Estimated spill 543 barrels all produced water. The release origin occurred on the well pad the release area, near the origin of the release, was limited to an approximately 6,400 sq ft area; the entirety of the release remained on pad. The release is illustrated on Figure 2 of Appendix A	
Type of discharge	The documented fluids release occurred at the surface and appears to be surficial to depth.	
Quantity of spilled material	Total Fluids: 543 bbls	Produced Water: 543 bbls containing approximately 0 bbls of crude oil
Site characteristics	Relatively flat with drainage following the native ground surface; very gently sloping to the south.	
Immediate corrective actions	Pipeline was shut-in, and Spur Energy Partners enlisted the assistance of a third party who scraped up and stockpiled affected materials proximate to the release origin.	

4.0 INITIAL RESPONSE ACTIONS

4.1 Source Elimination and Site Security

Initial source elimination was accomplished by the Spur foreman shutting in the wellhead and replacing the faulty nipple. A third party contractor secured the site and performed containment and site stabilization activities.

4.2 Containment and Site Stabilization

The contractor consolidated and stockpiled affected soils proximate to the release origin, comprising an area measuring approximately 6,400-square-feet (sf). From this area, the affected

materials stockpile totaled an estimated 200-cubic yards (cy). Following consolidation of these materials, the contractor fenced off the stockpile to deter inadvertent contact with the materials.

5.0 GENERAL SITE CHARACTERISTICS

5.1 Depth to Groundwater

A water well record search of the NMOSE potable water well (POD) Geographic Information System (GIS) data portal identified one registered well (RA-03304) within 0.63 miles of the site. The depth to groundwater at the site is anticipated to be deeper than 50 feet below grade surface (bgs). NMOSE website identified no registered wells within 0.5 miles of the site. NMOSE registered wells within 2 miles of the site have an average depth to groundwater of 60 feet bgs, with a maximum reported depth of 220 feet bgs.

5.2 Distance to Nearest Potable Water Well

Based on review of the NMOSE database, registered potable water wells were not present within 0.5 miles of the site.

5.3 Distance to Nearest Surface Water

Brantley Lake (North-Central Eddy County), approximately 5.5 miles to the southeast of the site, is the closest surface water to the site.

5.4 Soil / Waste Characteristics

Soils at the site are mapped as Reagan-Upton associations, 0 to 3 percent slopes. This soil has a surface layer of gravelly loam 0 to 13 inches, cemented layer 13 to 21 inches and very gravelly loam 21 to 60 inches. The formation is categorized as well drained with low runoff.

5.5 Groundwater Quality

Groundwater quality is unknown at the site. As stated previously, there are no wells registered with the NMOSE website within 0.5 miles of the site.

5.6 Karst Characteristics

Terracon evaluated data from the NMOCD Public file sharepoint site for Karst map designations in reference to the site location. The site appears to be within a low level Karst risk area. Based on site obsservations within the extent of the release margins, the potential for Karst formations in this area are “low to no potential”. The site has a layer of solid competent rock at 21 inches

bgs. The full extent of release quantities and excavation activities took place not greater than 24 inches bgs.

6.0 SOIL REMEDIAL ACTION LEVELS

Crude oil facilities in New Mexico are generally regulated by the NMOCD. Terracon proposes to remediate produced water and crude oil impacted soil of the Aikman SWD Release consistent with the remediation/abatement goals and objectives set forth in the New Mexico Oil Conservation Division (NMOCD) *Closure Criteria for Soils Impacted by a Release, June 21, 2018.*

The guidance document provides direction for initial response actions, site assessment, sampling procedures and provides closure criteria based on the depth to groundwater, distance to private and domestic water sources, and the distance to the nearest surface water body as follows:

Table 1
Closure Criteria for Soils Impacted by a Release

Minimum depth below any point within the horizontal boundary of the release to ground water less than 10,000 mg/L TDS	Constituent	Method*	Limit**
≤50 feet	Chloride***	EPA 300.0 or SM4500 Cl B	600 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015 M	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg
51 feet-100 feet	Chloride***	EPA 300.0 or SM4500 Cl B	10,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015 M	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015 M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg
>100 feet	Chloride***	EPA 300.0 or SM4500 Cl B	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015 M	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015 M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

**Or other methods approved by the division*
***Numerical limits or natural background level, whichever is greater*
****This applies to releases of produced water or other fluids, which may contain chloride*

6.1 Remediation Levels

Remediation limits for Chlorides, TPH (GRO+DRO+MRO), GRO+DRO, BTEX (includes benzene, toluene, ethylbenzene and total xylenes), and Benzene are selected based on *Restoration, Reclamation, and Re-vegetation* (19.15.29.13) NMAC – D (Reclamation of areas no longer in use) being 51 - 100 feet:

Constituent	Remediation Limits
Chloride	10,000 mg/kg
TPH (GRO+DRO+MRO)	2,500 mg/kg
GRO+DRO	1,000 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

7.0 SOIL SAMPLING PROCEDURES

Soil sampling procedures are detailed as follows:

7.1 Soil Sampling Procedures for Laboratory Analysis

Soil Sampling Procedures

Soil sampling for laboratory analysis was conducted according to NMOCD-approved industry standards or other NMOCD-approved procedures. Accepted NMOCD soil sampling procedures and laboratory analytical methods are as follows:

- Collect samples in clean, air-tight glass jars supplied by the laboratory which will conduct the analysis or from a reliable laboratory equipment supplier.
- Label the samples with a unique code for each sample.
- Cool and store samples with cold packs or on ice.
- Promptly ship sample to the lab for analysis following chain of custody procedures.
- All samples must be analyzed within the holding times for the laboratory analytical method specified by EPA.

Analytical Methods

All soil samples must be analyzed using EPA methods, or by other NMOCD-approved methods and must be analyzed within the holding time specified by the method. Below are laboratory analytical methods the selected laboratory will use for analysis of soil samples analyzed for petroleum related constituents.

- Chloride – EPA Method 300.0
- Total Petroleum Hydrocarbons - TPH (GRO+DRO+MRO) – EPA Method 8015M
- Benzene, toluene, ethylbenzene and total xylenes (BTEX) – EPA Method 8021B

8.0 RELEASE INVESTIGATION DATA EVALUATION

During Terracon's January 14, 2020 and January 23, 2020 release investigation activities, a total of 15 soil samples were collected from the site and analyzed for BTEX, chloride, and/or TPH. All samples were collected from within the release margins.

8.1 Release Margins Data Evaluation

Benzene was detected above applicable laboratory SDLs in one of the 15 soil samples analyzed within the release margins. The Benzene detection was 0.127 mg/kg from soil sample HA-5 (0.5 ft bgs to 1 ft bgs). The detected benzene concentrations did not exceed the applicable NMOCD RAL for benzene of 10 mg/kg, as summarized in Table 2.

Total BTEX was detected above applicable laboratory SDLs in one of the 15 soil samples analyzed within the release margins. The Total BTEX detection was 0.127 mg/kg from soil sample HA-5 (0.5 ft bgs to 1 ft bgs). The detected Total BTEX concentrations did not exceed the applicable NMOCD RAL for Total BTEX of 50 mg/kg, as summarized in Table 2.

Total TPH was detected above applicable laboratory SDLs in nine of the 15 soil samples analyzed within the release margins. The Total TPH concentration ranged from 0.313 mg/kg in HA-4 (0.5 ft bgs to 1 ft bgs) to 1,074 mg/kg in HA-5 (0.5 ft bgs to 1 ft bgs). The samples collected within the release margins did not exhibit Total TPH concentrations above the NMOCD RAL of 2,500 mg/kg for Total TPH, as summarized in Table 2.

TPH (GRO+DRO) was detected above applicable laboratory SDLs in nine of the 15 soil samples analyzed within the release margins. The (GRO+DRO) concentration ranged from 0.313 mg/kg in HA-4 (0.5 ft bgs to 1 ft bgs) to 1,074 mg/kg in HA-5 (0.5 ft bgs to 1 ft bgs). The samples collected within the release margins did exhibit (GRO+DRO) concentrations above the applicable NMOCD RAL for (GRO+DRO) of 1,000 mg/kg, as summarized in Table 2.

Chloride was detected above applicable laboratory SDLs in each of the 15 soil samples analyzed within the release margins. The chloride concentrations ranged from 22.0 mg/kg in soil sample HA-1 (1.5 ft bgs to 2 ft bgs) to 15,900 mg/kg in soil sample HA-5 (surface to 0.5 ft bgs). The samples analyzed within the release margins did exhibit chloride concentrations above the applicable NMOCD RAL for chloride of 10,000 mg/kg, as summarized in Table 2.

8.2 Release Investigation Data Summary

Based on the review of the above release investigation analytical results, the areas within the release margins exhibited (GRO+DRO) and chloride concentrations elevated above the NMOCD RALs in one location. Based on these exceedances above NMOCD RALs, Sections 9.0 and subsequent detail recommended remedial response actions to be implemented at the site.

8.3 Confirmation Margins Data Evaluation

During Terracon's confirmation sampling on February 10, 2020, and February 26, 2020 composite soil samples were collected from the base and side walls of the open excavation, post reclamation activites. Confirmation composite samples were collected every 200 sq ft in the base of the excavation and wall samples were collected every 200 linear ft, resulting in 15 total soil samples being collected from the site and analyzed for BTEX, chloride, and TPH.

8.3.1 Confirmation Assessment Data Evaluation

Benzene was not detected above the applicable laboratory SDL in the confirmation soil samples. Benzene concentration did not exceed the applicable NMOCD RAL for benzene of 10 mg/kg, as summarized in Table 2.

Total BTEX was detected above the applicable laboratory SDL in one of the 15 soil samples analyzed within the remediated margins. The BTEX detection was 0.0177 mg/kg in the confirmation soil sample NWT (0.5 ft bgs to 1 ft bgs.). The detected Total BTEX concentration did not exceed the applicable NMOCD RAL for BTEX of 50 mg/kg, as summarized in Table 2.

Total TPH was detected above applicable laboratory SDLs in 14 of the 15 soil samples analyzed within the remediated margins. The Total TPH concentrations ranged from 0.408 mg/kg in NEW-1 (0.5 ft bgs to 1 ft bgs) to 75.65 mg/kg in NWT-1 (0.5 ft bgs to 1 ft bgs). The samples collected did not exhibit Total TPH concentrations above the NMOCD RAL of 2,500 mg/kg for Total TPH, as summarized in Table 2.

TPH (GRO+DRO) was detected above applicable laboratory SDLs in 14 of the 15 soil samples analyzed within the remediated margins. The (GRO+DRO) concentration ranged from 0.408 mg/kg in NEW-1 (0.5 ft bgs to 1 ft bgs) to 75.65 mg/kg in NWT-1 (0.5 ft bgs to 1 ft bgs). The samples collected did not exhibit (GRO+DRO) concentrations above the applicable NMOCD RAL of 1,000 mg/kg, as summarized in Table 2.

Chloride was detected above applicable laboratory SDLs in each of the 15 soil samples analyzed within the remediated margins. The chloride concentrations ranged from 1,580 mg/kg in soil sample NEW-1 (0.5 ft bgs to 1 ft bgs) to 11,000 mg/kg in soil sample SWT-1 (0.5 ft bgs to 1 ft bgs). The samples analyzed within the release margins, with the exception of the initial SWT-1

soil sample did not exhibit chloride concentrations above the applicable NMOCD RAL for chloride of 10,000 mg/kg, as summarized in Table 2.

8.3.2 Confirmation Data Summary

Based on the review of the above confirmation analytical results, the areas within and surrounding the remediation do not exhibit concentrations above the NMOCD RAL for benzene, Total BTEX, chloride and Total TPH. The exception is the initial confirmation sample at (SWT-1) Based on the additional clean confirmation sample from (SWT-1.1) and these results below NMOCD RALs, Sections 9.0 and subsequent detail recommended closure of response actions to be implemented at the site. Terracon recommends beginning the restoration of the above mentioned site, and disposing of the stockpiled material.

9.0 SOIL REMEDIATION

Impacted soil was remediated and managed according to the criteria described below which will remove contaminants to protect fresh waters, public health and the environment.

9.1 Contaminated Soils

Soils exceeding the designated NMOCD RALs described in Section 6 were remediated as follows:

- Highly impacted soils within the release margins, illustrated on Figure 2 of Appendix A, were excavated to a maximum depth of 2 feet bgs, or field evidence demostrated that impacted materials had been sufficiently mitigated.
- Following excavation, vertical and horizontal delineation samples were collected from the base and walls of the excavation to confirm the remaining levels of soil contaminants are below the desired NMOCD RALs.

9.2 Soil Management

The selected method of soil management is removal and disposal at a NMOCD-approved facility. Excavated soils will be transported by truck (20 cubic yard capacity) and disposed of at the R360 Disposal Facility operated by R360 Environmental Solutions, Inc., located in Halfway, New Mexico.

10.0 TERMINATION OF REMEDIAL ACTIONS, FINAL CLOSURE AND REPORTING

10.1 Termination of Remedial Action

Remedial action of soils at the site was terminated when the following criteria had been met. Contaminated soils have been removed from the site. Sufficient contaminated soil has been removed so that residual contaminant concentrations are below the soil remediation action levels.

If soil action levels could not practicably be attained, an evaluation of risk will be performed and provided to NMOCD for approval showing that the remaining contaminants will not pose a threat to present or foreseeable beneficial use of fresh water, public health and the environment.

10.2 Final Closure

Upon termination of remedial actions (Sections 6 and 9), the area of the release was closed by backfilling the excavated area, contouring to surrounding area topography and, if applicable, reseeding the area with approved-native vegetative seed.

10.3 Final Report

Upon completion of remedial activities, a final report summarizing actions taken to mitigate environmental damage related to the release has been provided to NMOCD for approval.

APPENDIX A – FIGURES AND TABLES

Figure 1 – Topographic Map

Figure 2 – Site Diagram

Figure 3 – Initial Release Investigation Concentration Map

Figure 4 – Post Remediation Concentration Map

Figure 5 – NMOSE POD Location Map

Figure 6 – Cave Karst Public UCP

Table 2 – Soil Sample Analytical Results

Project No.	AR207018
Scale:	As Shown
Source:	Google Earth
Image Date:	01/31/2020

Terracon
Consulting Engineers & Scientists
5847 50th St. Lubbock, Texas 79424
PH. (806) 300-0104 FAX. (806) 797 0947

Figure 1 – Topographic Map

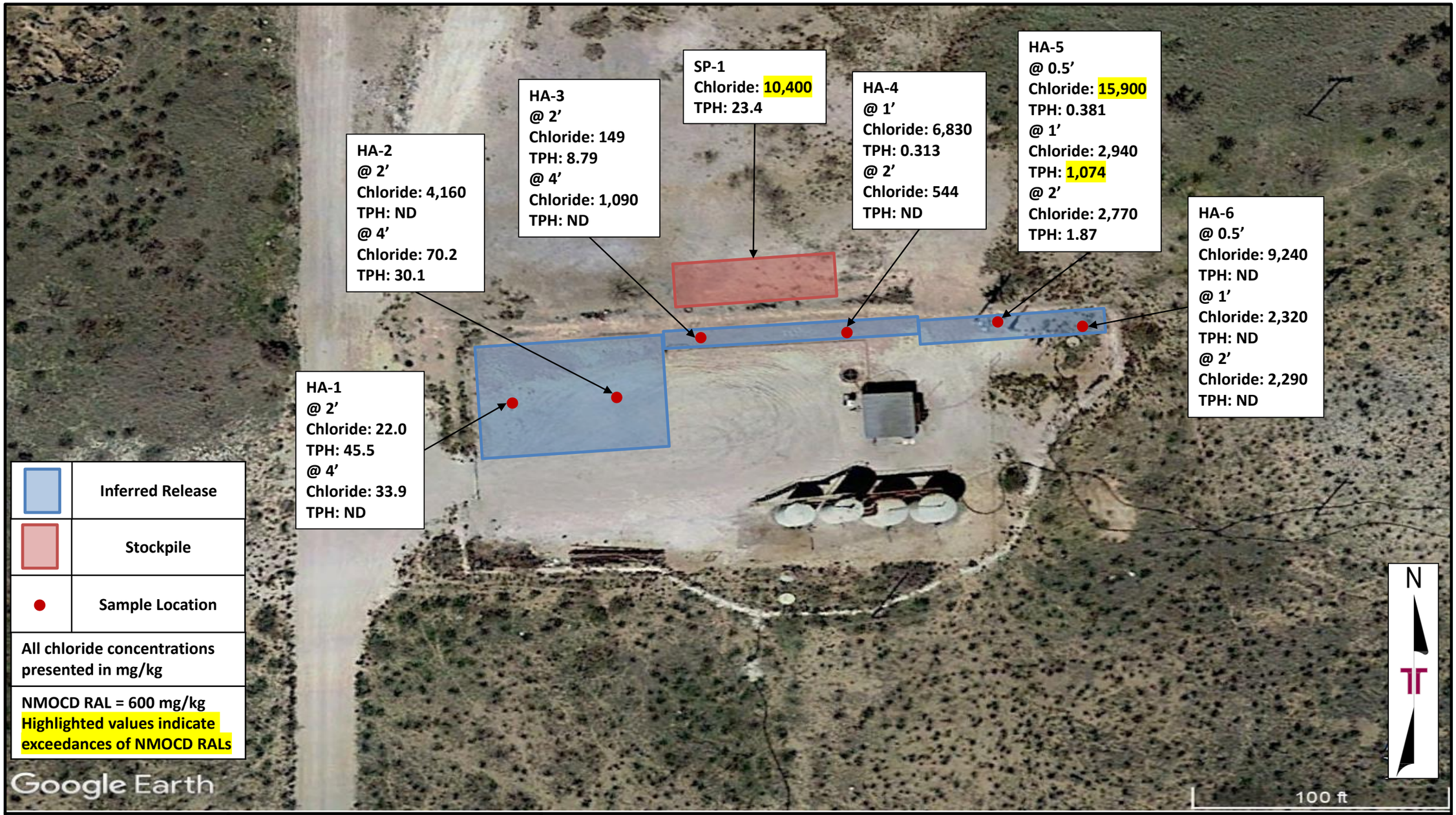
Aikman SWD
32.626115°, -104.474694°
Eddy County, New Mexico

Project No.	AR207018
Scale:	As Shown
Source:	Google Earth
Image Date:	01/31/2020

Terracon
Consulting Engineers & Scientists
5847 50th St. Lubbock, Texas 79424
PH. (806) 300-0104 FAX. (806) 797 0947

Figure 2 – Site Map

Aikman SWD
32.626115°, -104.474694°
Eddy County, New Mexico

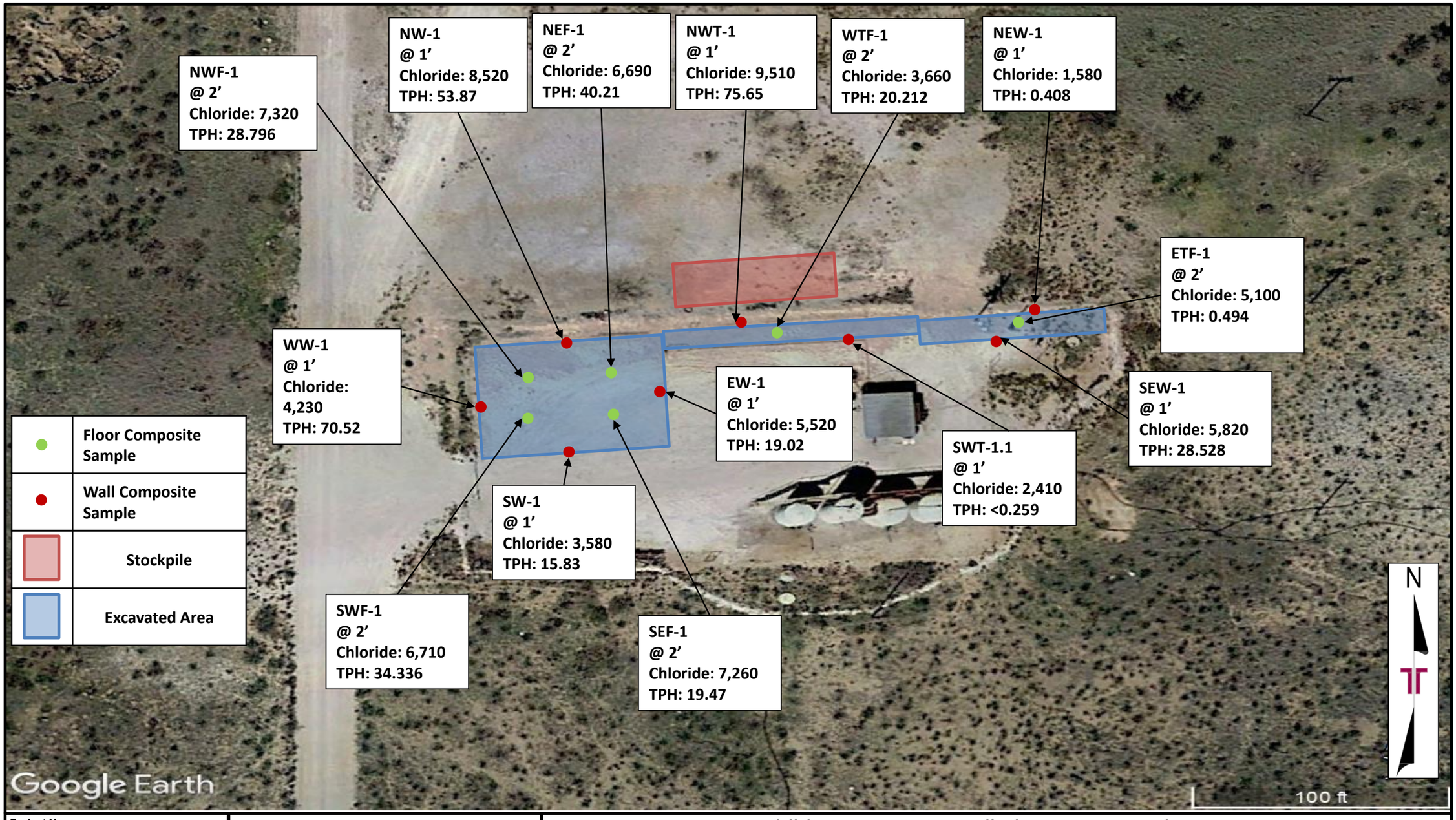


Project No.	AR207018
Scale:	As Shown
Source:	Google Earth
Image Date:	01/31/2020

Terracon
Consulting Engineers & Scientists
5847 50th St. Lubbock, Texas 79424
PH. (806) 300-0104 FAX. (806) 797 0947

Exhibit 3 – Initial Release Investigation Concentration Map

Aikman SWD (01/23/2020)
32.626115°, -104.474694°
Eddy County, New Mexico



Project No.	AR207018
Scale:	As Shown
Source:	Google Earth
Image Date:	01/31/2020

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PH. (806) 300-0104 FAX. (806) 797 0947

Exhibit 4 – Post Remediation Concentration Map

Aikman SWD (02/26/2020)
32.626115°, -104.474694°
Eddy County, New Mexico

Figure 5 - NMOSE POD Location Map

6/18/2020 4:39:05 PM

OSE District Boundary

GIS WATERS PODs

- Active
- Pending

Conveyances

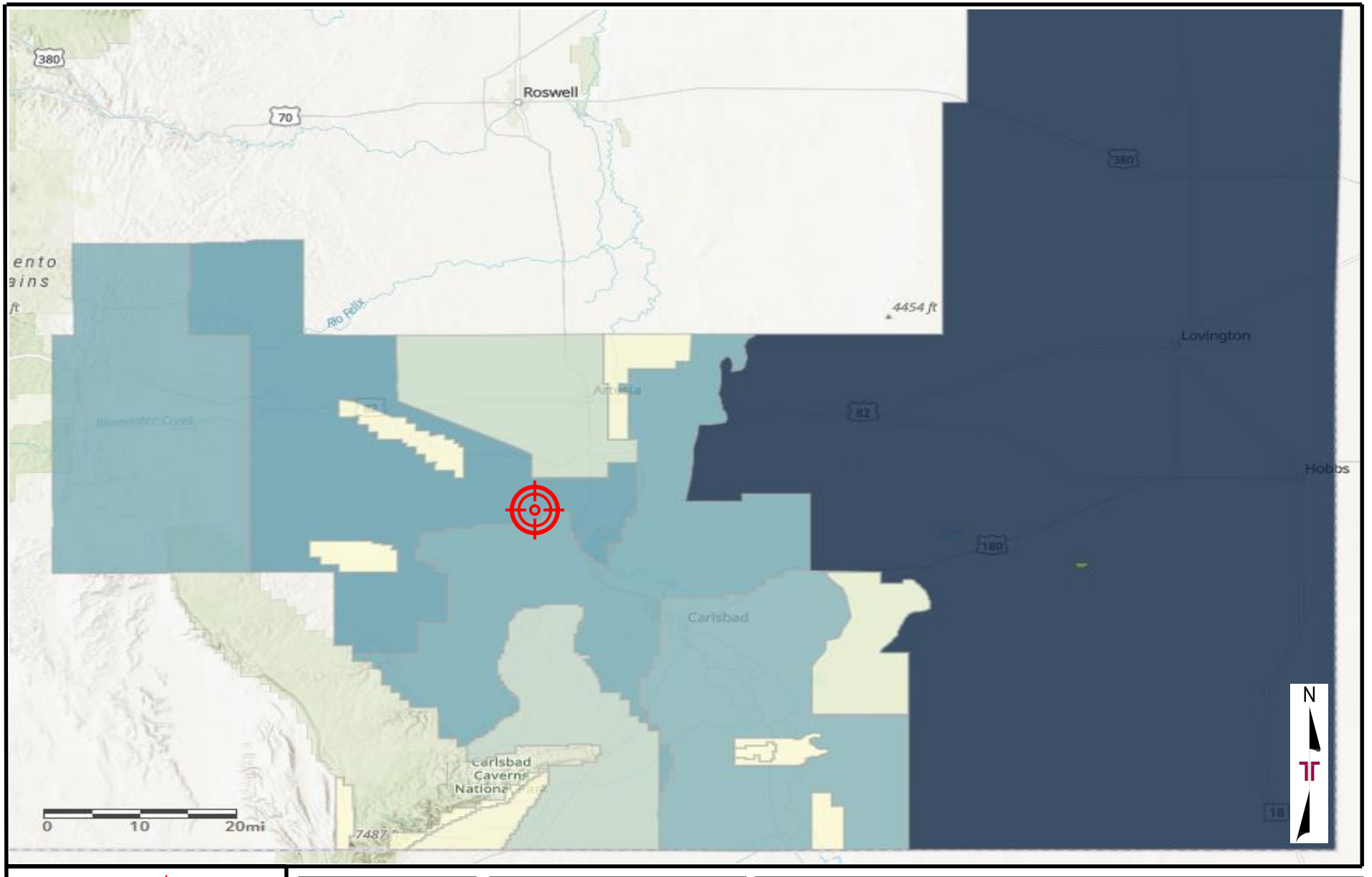
- Acequia
- Acequia Tunnel
- Canal
- Channel
- Closed Drain
- Community Ditch
- Connector
- Culvert
- Ditch
- Diversion Weir
- Drain
- Feeder
- Interior Drain
- Lateral
- Pipe
- Wasteway
- Other
- Unknown

1:18,056

0 0.17 0.35 0.7 mi

0 0.3 0.6 1.2 km

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user



Area
> 4,639,520,691
2,329,282,660
< 19,044,631

Aikman

Project No.	AR207018
Scale:	As Shown
Source:	ESRI
Date:	02/04/2020

Terracon
Consulting Engineers & Scientists
5827 50th Street, Suite 1 Lubbock, Texas 79424
PH. (806) 300 - 0140 FAX. (806) 797 - 0947

Figure 6 - Cave Karst Public UCP

Aikman SWD

32.525430, -103.521001

Eddy County, New Mexico

TABLE 2
SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Aikman SWD
Terracon Project No. AR207018

Sample I.D.	Sample Depth (ft. bgs)	Sample Type	Sample Date	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
						GRO	DRO	ORO	TOTAL
Release Margin Samples (On Pad)									
SP-1	N/A	Comp	01/14/20	Benzene - <0.00895 Toluene - <0.00463 Ethylbenzene - <0.00610 Total Xylenes - <0.00675 Total BTEX - <0.00463	**10,400**	0.398	22.7	<7.46	23.1
HA-1	1.5 - 2	Grab	01/14/20	Benzene - <0.00861 Toluene - <0.00446 Ethylbenzene - <0.00587 Total Xylenes - <0.00650 Total BTEX - <0.00446	22.0	<0.258	45.5	<7.43	45.5
	3.5 - 4	Grab	01/14/20	Benzene - <0.00797 Toluene - <0.00413 Ethylbenzene - <0.00543 Total Xylenes - <0.00601 Total BTEX - <0.00413	33.9	<0.239	<7.42	<7.42	<0.239
HA-2	1.5 - 2	Grab	01/14/20	Benzene - <0.00893 Toluene - <0.00432 Ethylbenzene - <0.00609 Total Xylenes - <0.00674 Total BTEX - <0.00462	4,160	<0.268	<7.42	<7.42	<0.268
	3.5 - 4	Grab	01/14/20	Benzene - <0.00825 Toluene - <0.00427 Ethylbenzene - <0.00562 Total Xylenes - <0.00622 Total BTEX - <0.00427	70.2	<0.247	30.1	<7.47	30.1
HA-3	1.5 - 2	Grab	01/14/20	Benzene - <0.00868 Toluene - <0.00449 Ethylbenzene - <0.00591 Total Xylenes - <0.00655 Total BTEX - <0.00449	149	<0.260	8.79	<7.45	8.79
	3.5 - 4	Grab	01/14/20	Benzene - <0.00831 Toluene - <0.00430 Ethylbenzene - <0.00566 Total Xylenes - <0.00627 Total BTEX - <0.00430	1,090	<0.249	<7.49	<7.49	<0.249
HA-4	1.5 - 2	Grab	01/14/20	Benzene - <0.00858 Toluene - <0.00444 Ethylbenzene - <0.00584 Total Xylenes - <0.00647 Total BTEX - <0.00444	6,830	0.313	<7.52	<7.52	0.313
	3.5 - 4	Grab	01/14/20	Benzene - <0.00871 Toluene - <0.00451 Ethylbenzene - <0.00593 Total Xylenes - <0.00657 Total BTEX - <0.00451	544	<0.261	<7.47	<7.47	<0.261
NMOCD Reclamation Standards[4] **(Applicable for Soils from the Surface to 4 ft. Below Grade Surface)**				**Benzene - 10** **Toluene - N/A** **Ethylbenzene - N/A** **Total Xylenes - N/A** **Total BTEX - 50**	**10,000**	**1,000**		**N/A**	**2,500**
NMOCD Remediation and Delineation Standards[5] **(Applicable for Soils at Depths Greater than 4 ft. Below Grade Surface)**				**Benzene - 10** **Toluene - N/A** **Ethylbenzene - N/A** **Total Xylenes - N/A** **Total BTEX - 50**	**10,000**	**1,000**		**N/A**	**2,500**

1. BTEX = Benzene, toluene, ethylbenzene, total xylenes analyzed by EPA Method 8021B
2. Chloride = Chloride analyzed by EPA Method 300.
3. TPH = Total petroleum hydrocarbons analyzed by EPA Method 8015M (GRO/DRO/MRO)
4. New Mexico Administration Code (NMAC) Restoration, Reclamation, and Re-vegetation (19.15.29.13) New Mexico Administration Code (NMAC) – D (Reclamation of areas no longer in use) for soils extending to 4 ft. bgs
5. New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards are proposed in 19.15.29.12 NMAC - N, 8/14/2018

< = Constituent not detected above the indicated laboratory SDL

NA = Not Analyzed

N/A = Not Applicable

Bold and Highlight denotes concentrations that exceed the New Mexico Oil Conservation Division (NMOCD) Reclamation and/or Remediation and Delineation Standards.

TABLE 2
SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Aikman SWD
Terracon Project No. AR207018

Sample I.D.	Sample Depth (ft. bgs)	Sample Type	Sample Date	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
						GRO	DRO	ORO	TOTAL
Release Margin Samples (On Pad)									
HA-5	0 - 0.5	Grab	01/23/20	Benzene - <0.00828 Toluene - <0.00429 Ethylbenzene - <0.00564 Total Xylenes - <0.00625 Total BTEX - <0.00429	**15,900**	0.381	<7.47	<7.47	0.381
	0.5 - 1	Grab	01/23/20	Benzene - 0.127 Toluene - <0.0213 Ethylbenzene - <0.0280 Total Xylenes - <0.0310 Total BTEX - 0.127	2,940	**14.1**	**1,060**	35	1,074.1
	1.5 - 2	Grab	01/23/20	Benzene - <0.0178 Toluene - <0.00923 Ethylbenzene - <0.0121 Total Xylenes - <0.0135 Total BTEX - <0.00923	2,770	1.87	<7.44	<7.44	1.87
HA-6	0 - 0.5	Grab	01/23/20	Benzene - <0.0170 Toluene - <0.00881 Ethylbenzene - <0.0116 Total Xylenes - <0.0128 Total BTEX - <0.00881	9,240	3.27	<7.56	<7.56	3.27
	0.5 - 1	Grab	01/23/20	Benzene - <0.00809 Toluene - <0.00419 Ethylbenzene - <0.00551 Total Xylenes - <0.00610 Total BTEX - <0.00419	2,320	<0.242	<7.49	<7.49	<0.242
	1.5 - 2	Grab	01/23/20	Benzene - <0.00816 Toluene - <0.00422 Ethylbenzene - <0.00556 Total Xylenes - <0.00616 Total BTEX - <0.00422	2,290	<0.245	<7.45	<7.45	<0.245
Confirmation Samples (On Pad)									
SW-1	0.5 - 1	Comp	02/10/20	Benzene - <0.00888 Toluene - <0.00460 Ethylbenzene - <0.00605 Total Xylenes - <0.00670 Total BTEX - <0.00460	3,580	2.79	13.4	<7.56	15.83
WW-1	0.5 - 1	Comp	02/10/20	Benzene - <0.0179 Toluene - <0.00927 Ethylbenzene - <0.0122 Total Xylenes - <0.0135 Total BTEX - <0.00927	4,230	3.46	67.6	<7.50	70.52
NWT-1	0.5 - 1	Comp	02/10/20	Benzene - <0.00888 Toluene - 0.0177 Ethylbenzene - <0.00605 Total Xylenes - <0.00670 Total BTEX - 0.0177	9,510	0.752	74.9	<7.53	75.65
NMOCD Reclamation Standards[4] **(Applicable for Soils from the Surface to 4 ft. Below Grade Surface)**				**Benzene - 10** **Toluene - N/A** **Ethylbenzene - N/A** **Total Xylenes - N/A** **Total BTEX - 50**	**10,000**	**1,000**		**N/A**	**2,500**
NMOCD Remediation and Delineation Standards[5] **(Applicable for Soils at Depths Greater than 4 ft. Below Grade Surface)**				**Benzene - 10** **Toluene - N/A** **Ethylbenzene - N/A** **Total Xylenes - N/A** **Total BTEX - 50**	**10,000**	**1,000**		**N/A**	**2,500**

1. BTEX = Benzene, toluene, ethylbenzene, total xylenes analyzed by EPA Method 8021B
2. Chloride = Chloride analyzed by EPA Method 300.
3. TPH = Total petroleum hydrocarbons analyzed by EPA Method 8015M (GRO/DRO/MRO)
4. New Mexico Administration Code (NMAC) Restoration, Reclamation, and Re-vegetation (19.15.29.13) New Mexico Administration Code (NMAC) – D (Reclamation of areas no longer in use) for soils extending to 4 ft. bgs
5. New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards are proposed in 19.15.29.12 NMAC - N, 8/14/2018

< = Constituent not detected above the indicated laboratory SDL

NA = Not Analyzed

N/A = Not Applicable

Bold and Highlight denotes concentrations that exceed the New Mexico Oil Conservation Division (NMOCD) Reclamation and/or Remediation and Delineation Standards.

TABLE 2
SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Aikman SWD
Terracon Project No. AR207018

Sample I.D.	Sample Depth (ft. bgs)	Sample Type	Sample Date	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
						GRO	DRO	ORO	TOTAL
Confirmation Samples (On Pad)									
NW-1	0.5 - 1	Comp	02/10/20	Benzene - <0.0175 Toluene - <0.00903 Ethylbenzene - <0.0119 Total Xylenes - <0.0132 Total BTEX - <0.00903	8,520	1.07	52.8	<7.52	53.87
EW-1	0.5 - 1	Comp	02/10/20	Benzene - <0.00783 Toluene - <0.00406 Ethylbenzene - <0.00534 Total Xylenes - <0.00591 Total BTEX - <0.00406	5,520	2.32	16.7	<7.50	19.02
SWT-1	0.5 - 1	Comp	02/10/20	Benzene - <0.00890 Toluene - <0.00461 Ethylbenzene - <0.00606 Total Xylenes - <0.00671 Total BTEX - <0.00461	**11,000**	0.780	21.1	<7.53	21.88
SWT-1.1	0.5 - 1	Comp	02/26/20	Benzene - <0.000207 Toluene - <0.00100 Ethylbenzene - <0.000336 Total Xylenes - <0.000438 Total BTEX - <0.000207	2,410	<0.259	<7.56	<7.56	<0.259
NEW-1	0.5 - 1	Comp	02/10/20	Benzene - <0.00789 Toluene - <0.00408 Ethylbenzene - <0.00538 Total Xylenes - <0.00595 Total BTEX - <0.00408	1,580	0.408	<7.53	<7.53	0.408
SEW-1	0.5 - 1	Comp	02/10/20	Benzene - <0.0178 Toluene - <0.00921 Ethylbenzene - <0.0121 Total Xylenes - <0.0134 Total BTEX - <0.00921	5,820	0.728	27.8	<7.44	28.528
NWF-1	1.5 - 2	Comp	02/10/20	Benzene - <0.00161 Toluene - <0.00836 Ethylbenzene - <0.0110 Total Xylenes - <0.0122 Total BTEX - <0.00836	7,320	0.996	27.8	<7.53	28.796
SWF-1	1.5 - 2	Comp	02/10/20	Benzene - <0.00181 Toluene - <0.00936 Ethylbenzene - <0.00123 Total Xylenes - <0.00136 Total BTEX - <0.00936	6,710	0.936	33.4	<7.45	34.336
NEF-1	1.5 - 2	Comp	02/10/20	Benzene - <0.00157 Toluene - <0.00814 Ethylbenzene - <0.0107 Total Xylenes - <0.0119 Total BTEX - <0.00814	6,690	1.21	39.0	<7.45	40.21
SEF-1	1.5 - 2	Comp	02/10/20	Benzene - <0.0164 Toluene - <0.00849 Ethylbenzene - <0.0112 Total Xylenes - <0.0124 Total BTEX - <0.00849	7,260	1.40	18.7	<7.47	19.47
WTF-1	1.5 - 2	Comp	02/10/20	Benzene - <0.00878 Toluene - <0.00454 Ethylbenzene - <0.00598 Total Xylenes - <0.00662 Total BTEX - <0.00454	3,660	0.612	19.6	<7.51	20.212
ETF-1	1.5 - 2	Comp	02/10/20	Benzene - <0.00831 Toluene - <0.00430 Ethylbenzene - <0.00566 Total Xylenes - <0.00627 Total BTEX - <0.00430	5,100	0.494	<7.48	<7.48	0.494
NMOCD Reclamation Standards[4] **(Applicable for Soils from the Surface to 4 ft. Below Grade Surface)**				**Benzene - 10** **Toluene - N/A** **Ethylbenzene - N/A** **Total Xylenes - N/A** **Total BTEX - 50**	**10,000**	**1,000**		**N/A**	**2,500**
NMOCD Remediation and Delineation Standards[5] **(Applicable for Soils at Depths Greater than 4 ft. Below Grade Surface)**				**Benzene - 10** **Toluene - N/A** **Ethylbenzene - N/A** **Total Xylenes - N/A** **Total BTEX - 50**	**10,000**	**1,000**		**N/A**	**2,500**

1. BTEX = Benzene, toluene, ethylbenzene, total xylenes analyzed by EPA Method 8021B
2. Chloride = Chloride analyzed by EPA Method 300.
3. TPH = Total petroleum hydrocarbons analyzed by EPA Method 8015M (GRO/DRO/MRO)
4. New Mexico Administration Code (NMAC) Restoration, Reclamation, and Re-vegetation (19.15.29.13) New Mexico Administration Code (NMAC) – D (Reclamation of areas no longer in use) for soils extending to 4 ft. bgs
5. New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards are proposed in 19.15.29.12 NMAC - N, 8/14/2018

< = Constituent not detected above the indicated laboratory SDL
NA = Not Analyzed
N/A = Not Applicable
Bold and Highlight denotes concentrations that exceed the New Mexico Oil Conservation Division (NMOCD) Reclamation and/or Remediation and Delineation Standards.

APPENDIX B – PHOTOGRAPHIC LOG

PHOTO 1: View of site, facing north. 1/14/2020 / **TIME:** 10:11AM / **GPS:** 32.6261 -104.4748

PHOTO 2: View of site, facing northeast. 1/14/2019 / **TIME:** 10:07AM / **GPS:** 32.6261 -104.4748

PHOTO 3: View of site, facing east. 1/14/2019 / **TIME:** 1:21PM / **GPS:** 32.6261 -104.4748

PHOTO 4: View of stockpile north of site, facing east. 1/14/2019 / **TIME:** 10:16PM / **GPS:** 32.6261 -104.4748

PHOTO 5: View of site near release point, facing east. 1/14/2019 / **TIME:** 1:11PM / **GPS:** 32.6261 -104.4748

PHOTO 6: View of site, facing northeast. 11/22/2019 / **TIME:** 1:07PM / **GPS:** 32.1218 -1104.0725

PHOTO 7: View of site, facing northeast. 11/22/2019 / **TIME:** 1:21PM / **GPS:** 32.1218 -1104.0725

PHOTO 8: View of site, facing northeast. 11/22/2019 / **TIME:** 1:36PM / **GPS:** 32.1221 -1104.0725

PHOTO 9: View of site, facing west. 7/25/2019 / **TIME:** 1:11PM / **GPS:** 32.1217 -1104.0726

PHOTO 10: View of remediation, facing west. 8/21/2019 / **TIME:** 1:07PM / **GPS:** 32.1218 -1104.0725

PHOTO 11: View of HA-1, facing west. 8/21/2019 / **TIME:** 1:21PM / **GPS:** 32.1218 -1104.0725

PHOTO 12: View of site and HA-2, facing south. 8/21/2019 / **TIME:** 1:36PM / **GPS:** 32.1221 -1104.0725

PHOTO 13: View of remediation, facing west. 11/22/2019 / **TIME:** 1:11PM / **GPS:** 32.1217 -1104.0726

PHOTO 14: View of remediation, facing south. 11/22/2019 / **TIME:** 1:07PM / **GPS:** 32.1218 -1104.0725

PHOTO 15: View of base of excavation, facing south. 11/22/2019 / **TIME:** 1:21PM / **GPS:** 32.1218 -1104.0725

PHOTO 16: View of excavation, facing west. 11/22/2019 / **TIME:** 1:36PM / **GPS:** 32.1221 -1104.0725

PHOTO 17: View of base of excavation, facing south. 11/22/2019 / **TIME:** 1:21PM / **GPS:** 32.1218 -1104.0725

PHOTO 18: View of excavation, facing west. 11/22/2019 / **TIME:** 1:36PM / **GPS:** 32.1221 -1104.0725

APPENDIX C – ANALYTICAL REPORT AND CHAIN OF CUSTODY

Certificate of Analysis Summary 649282

Terracon-Lubbock, Lubbock, TX

Project Name: Aikman SWD

Project Id: AR197355
Contact: Joseph Guesnier
Project Location:

Date Received in Lab: Thu Jan-16-20 12:25 pm
Report Date: 21-JAN-20
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	649282-001		649282-002		649282-003		649282-004		649282-005		649282-006	
	Field Id:	SP-1		HA-1 1 (1.5-2)		HA-1 1 (3.5-4)		HA-2 1 (1.5-2)		HA-2 1 (3.5-4)		HA-3 1 (1.5-2)	
	Depth:			1.5-2 ft		3.5-4 ft		1.5-2 ft		3.5-4 ft		1.5-2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-14-20 10:00		Jan-14-20 10:05		Jan-14-20 10:10		Jan-14-20 10:15		Jan-14-20 10:20		Jan-14-20 10:25	
BTEX by EPA 8021B	*Extracted:*	Jan-20-20 13:00		Jan-20-20 13:00		Jan-20-20 13:00		Jan-20-20 13:00		Jan-20-20 13:00		Jan-20-20 13:00	
	Analyzed:	Jan-20-20 22:11		Jan-20-20 22:35		Jan-20-20 22:59		Jan-20-20 23:22		Jan-20-20 23:46		Jan-21-20 00:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00895	0.0198	<0.00861	0.0190	<0.00797	0.0176	<0.00893	0.0198	<0.00825	0.0182	<0.00868	0.0192
Toluene		<0.00463	0.0198	<0.00446	0.0190	<0.00413	0.0176	<0.00462	0.0198	<0.00427	0.0182	<0.00449	0.0192
Ethylbenzene		<0.00610	0.0198	<0.00587	0.0190	<0.00543	0.0176	<0.00609	0.0198	<0.00562	0.0182	<0.00591	0.0192
m,p-Xylenes		<0.00675	0.0396	<0.00650	0.0381	<0.00601	0.0353	<0.00674	0.0395	<0.00622	0.0365	<0.00655	0.0384
o-Xylene		<0.00675	0.0198	<0.00650	0.0190	<0.00601	0.0176	<0.00674	0.0198	<0.00622	0.0182	<0.00655	0.0192
Total Xylenes		<0.00675	0.0198	<0.00650	0.0190	<0.00601	0.0176	<0.00674	0.0198	<0.00622	0.0182	<0.00655	0.0192
Total BTEX		<0.00463	0.0198	<0.00446	0.0190	<0.00413	0.0176	<0.00462	0.0198	<0.00427	0.0182	<0.00449	0.0192
Chloride by EPA 300 **SUB: T104704215-19-30**	*Extracted:*	Jan-17-20 10:50		Jan-17-20 10:50		Jan-17-20 10:50		Jan-17-20 10:50		Jan-17-20 10:50		Jan-17-20 10:50	
	Analyzed:	Jan-17-20 14:00		Jan-17-20 14:09		Jan-17-20 14:18		Jan-17-20 14:26		Jan-17-20 14:35		Jan-17-20 14:44	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		10400	101	22.0	10.2	33.9	10.1	4160	98.8	70.2	9.84	149	9.98
DRO-ORO By SW8015B	*Extracted:*	Jan-20-20 13:00		Jan-20-20 13:00		Jan-20-20 13:00		Jan-20-20 13:00		Jan-20-20 13:00		Jan-20-20 13:00	
	Analyzed:	Jan-20-20 21:42		Jan-20-20 22:15		Jan-20-20 22:49		Jan-20-20 23:23		Jan-20-20 23:56		Jan-21-20 00:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Diesel Range Organics (DRO)		22.7 J	24.9	45.5	24.8	<7.42	24.8	<7.42	24.8	30.1	25.0	8.79 J	24.9
Oil Range Hydrocarbons (ORO)		<7.46	24.9	<7.43	24.8	<7.42	24.8	<7.42	24.8	<7.47	25.0	<7.45	24.9
TPH GRO by EPA 8015 Mod.	*Extracted:*	Jan-20-20 13:00		Jan-20-20 13:00		Jan-20-20 13:00		Jan-20-20 13:00		Jan-20-20 13:00		Jan-20-20 13:00	
	Analyzed:	Jan-20-20 22:11		Jan-20-20 22:35		Jan-20-20 22:59		Jan-20-20 23:22		Jan-20-20 23:46		Jan-21-20 00:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH-GRO		0.398 J	3.96	<0.258	3.81	<0.239	3.53	<0.268	3.95	<0.247	3.65	<0.260	3.84

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 649282

Terracon-Lubbock, Lubbock, TX

Project Name: Aikman SWD

Project Id: AR197355
Contact: Joseph Guesnier
Project Location:

Date Received in Lab: Thu Jan-16-20 12:25 pm
Report Date: 21-JAN-20
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	649282-007		649282-008		649282-009			
	Field Id:	HA-3 1 (3.5-4)		HA-4 1 (0.5-1)		HA-4 1 (1.5-2)			
	Depth:	3.5-4 ft		0.5-1 ft		1.5-2 ft			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Jan-14-20 10:30		Jan-14-20 10:35		Jan-14-20 10:40			
BTEX by EPA 8021B	***Extracted:***	Jan-20-20 13:00		Jan-20-20 13:00		Jan-20-20 13:00			
	Analyzed:	Jan-20-20 19:50		Jan-21-20 00:34		Jan-21-20 00:57			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		<0.00831	0.0184	<0.00858	0.0190	<0.00871	0.0193		
Toluene		<0.00430	0.0184	<0.00444	0.0190	<0.00451	0.0193		
Ethylbenzene		<0.00566	0.0184	<0.00584	0.0190	<0.00593	0.0193		
m,p-Xylenes		<0.00627	0.0368	<0.00647	0.0380	<0.00657	0.0385		
o-Xylene		<0.00627	0.0184	<0.00647	0.0190	<0.00657	0.0193		
Total Xylenes		<0.00627	0.0184	<0.00647	0.0190	<0.00657	0.0193		
Total BTEX		<0.00430	0.0184	<0.00444	0.0190	<0.00451	0.0193		
Chloride by EPA 300 **SUB: T104704215-19-30**	***Extracted:***	Jan-17-20 10:50		Jan-17-20 10:50		Jan-17-20 10:50			
	Analyzed:	Jan-17-20 15:11		Jan-17-20 15:19		Jan-17-20 15:55			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		1090	9.84	6830	102	544	101		
DRO-ORO By SW8015B	***Extracted:***	Jan-20-20 13:00		Jan-20-20 13:00		Jan-20-20 13:00			
	Analyzed:	Jan-20-20 19:23		Jan-21-20 01:03		Jan-21-20 01:37			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Diesel Range Organics (DRO)		<7.49	25.1	<7.52	25.1	<7.47	25.0		
Oil Range Hydrocarbons (ORO)		<7.49	25.1	<7.52	25.1	<7.47	25.0		
TPH GRO by EPA 8015 Mod.	***Extracted:***	Jan-20-20 13:00		Jan-20-20 13:00		Jan-20-20 13:00			
	Analyzed:	Jan-20-20 19:50		Jan-21-20 00:34		Jan-21-20 00:57			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
TPH-GRO		<0.249	3.68	0.313 J	3.80	<0.261	3.85		

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%

Jessica Kramer
Project Assistant

Analytical Report 649282

for

Terracon-Lubbock

Project Manager: Joseph Guesnier

Aikman SWD

AR197355

21-JAN-20

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

21-JAN-20

Project Manager: **Joseph Guesnier**
Terracon-Lubbock
5827 50th st, Suite 1
Lubbock, TX 79424

Reference: XENCO Report No(s): **649282**
Aikman SWD
Project Address:

Joseph Guesnier:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 649282. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 649282 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-1	S	01-14-20 10:00		649282-001
HA-1 1 (1.5-2)	S	01-14-20 10:05	1.5 - 2 ft	649282-002
HA-1 1 (3.5-4)	S	01-14-20 10:10	3.5 - 4 ft	649282-003
HA-2 1 (1.5-2)	S	01-14-20 10:15	1.5 - 2 ft	649282-004
HA-2 1 (3.5-4)	S	01-14-20 10:20	3.5 - 4 ft	649282-005
HA-3 1 (1.5-2)	S	01-14-20 10:25	1.5 - 2 ft	649282-006
HA-3 1 (3.5-4)	S	01-14-20 10:30	3.5 - 4 ft	649282-007
HA-4 1 (0.5-1)	S	01-14-20 10:35	0.5 - 1 ft	649282-008
HA-4 1 (1.5-2)	S	01-14-20 10:40	1.5 - 2 ft	649282-009

CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: Aikman SWD

Project ID: *AR197355*
Work Order Number(s): *649282*

Report Date: *21-JAN-20*
Date Received: *01/16/2020*

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. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3113870 BTEX-MTBE by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate a,a,a-Trifluorotoluene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7694808-1-BLK,649282-007 S,649282-003,649282-005,649282-002.

Batch: LBA-3113871 TPH GRO by EPA 8015 Mod.
Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 649282-007,649282-009.

Outlier/s are due to possible matrix interference.

Lab Sample ID 649282-007 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). TPH-GRO Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.
Samples in the analytical batch are: 649282-001, -002, -003, -004, -005, -006, -007, -008, -009

Batch: LBA-3113880 DRO-ORO By SW8015B
Sample 649282-002 was spiked with double the amount of surrogate.

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **SP-1** Matrix: Soil Date Received:01.16.20 12.25

Lab Sample Id: 649282-001 Date Collected: 01.14.20 10.00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: JYM % Moisture:

Analyst: JYM Date Prep: 01.17.20 10.50 Basis: Wet Weight

Seq Number: 3113663 SUB: T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10400**	101	3.56	mg/kg	01.17.20 14.00		10

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.20.20 13.00 Basis: Wet Weight

Seq Number: 3113880

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**22.7**	24.9	7.46	mg/kg	01.20.20 21.42	J	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.46	24.9	7.46	mg/kg	01.20.20 21.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	119	%	65-144	01.20.20 21.42	
n-Triacontane	638-68-6	132	%	46-152	01.20.20 21.42	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.20.20 13.00 Basis: Wet Weight

Seq Number: 3113870

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00895	0.0198	0.00895	mg/kg	01.20.20 22.11	U	1
Toluene	108-88-3	<0.00463	0.0198	0.00463	mg/kg	01.20.20 22.11	U	1
Ethylbenzene	100-41-4	<0.00610	0.0198	0.00610	mg/kg	01.20.20 22.11	U	1
m,p-Xylenes	179601-23-1	<0.00675	0.0396	0.00675	mg/kg	01.20.20 22.11	U	1
o-Xylene	95-47-6	<0.00675	0.0198	0.00675	mg/kg	01.20.20 22.11	U	1
Total Xylenes	1330-20-7	<0.00675	0.0198	0.00675	mg/kg	01.20.20 22.11	U	1
Total BTEX		<0.00463	0.0198	0.00463	mg/kg	01.20.20 22.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	68-120	01.20.20 22.11	
a,a,a-Trifluorotoluene	98-08-8	117	%	71-121	01.20.20 22.11	

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**SP-1**	Matrix:	Soil	Date Received:	01.16.20 12.25
Lab Sample Id:	649282-001	Date Collected:	01.14.20 10.00		
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.20.20 13.00	Basis:	Wet Weight
Seq Number:	3113871				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**0.398**	3.96	0.268	mg/kg	01.20.20 22.11	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	86	%	76-123	01.20.20 22.11	
a,a,a-Trifluorotoluene	98-08-8	93	%	69-120	01.20.20 22.11	

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **HA-1 1 (1.5-2)** Matrix: Soil Date Received:01.16.20 12.25

Lab Sample Id: 649282-002 Date Collected: 01.14.20 10.05 Sample Depth: 1.5 - 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: JYM % Moisture:

Analyst: JYM Date Prep: 01.17.20 10.50 Basis: Wet Weight

Seq Number: 3113663 SUB: T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**22.0**	10.2	0.360	mg/kg	01.17.20 14.09		1

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.20.20 13.00 Basis: Wet Weight

Seq Number: 3113880

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**45.5**	24.8	7.43	mg/kg	01.20.20 22.15		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.43	24.8	7.43	mg/kg	01.20.20 22.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	249	%	65-144	01.20.20 22.15	**
n-Triacontane	638-68-6	277	%	46-152	01.20.20 22.15	**

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.20.20 13.00 Basis: Wet Weight

Seq Number: 3113870

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00861	0.0190	0.00861	mg/kg	01.20.20 22.35	U	1
Toluene	108-88-3	<0.00446	0.0190	0.00446	mg/kg	01.20.20 22.35	U	1
Ethylbenzene	100-41-4	<0.00587	0.0190	0.00587	mg/kg	01.20.20 22.35	U	1
m,p-Xylenes	179601-23-1	<0.00650	0.0381	0.00650	mg/kg	01.20.20 22.35	U	1
o-Xylene	95-47-6	<0.00650	0.0190	0.00650	mg/kg	01.20.20 22.35	U	1
Total Xylenes	1330-20-7	<0.00650	0.0190	0.00650	mg/kg	01.20.20 22.35	U	1
Total BTEX		<0.00446	0.0190	0.00446	mg/kg	01.20.20 22.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	68-120	01.20.20 22.35	
a,a,a-Trifluorotoluene	98-08-8	123	%	71-121	01.20.20 22.35	**

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-1 1 (1.5-2)**	Matrix:	Soil	Date Received:	01.16.20 12.25
Lab Sample Id:	649282-002	Date Collected:	01.14.20 10.05	Sample Depth:	1.5 - 2 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.20.20 13.00	Basis:	Wet Weight
Seq Number:	3113871				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.258	3.81	0.258	mg/kg	01.20.20 22.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	76-123	01.20.20 22.35	
a,a,a-Trifluorotoluene	98-08-8	98	%	69-120	01.20.20 22.35	

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **HA-1 1 (3.5-4)** Matrix: Soil Date Received:01.16.20 12.25

Lab Sample Id: 649282-003 Date Collected: 01.14.20 10.10 Sample Depth: 3.5 - 4 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: JYM % Moisture:

Analyst: JYM Date Prep: 01.17.20 10.50 Basis: Wet Weight

Seq Number: 3113663 SUB: T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**33.9**	10.1	0.358	mg/kg	01.17.20 14.18		1

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.20.20 13.00 Basis: Wet Weight

Seq Number: 3113880

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.42	24.8	7.42	mg/kg	01.20.20 22.49	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.42	24.8	7.42	mg/kg	01.20.20 22.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	117	%	65-144	01.20.20 22.49	
n-Triacontane	638-68-6	139	%	46-152	01.20.20 22.49	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.20.20 13.00 Basis: Wet Weight

Seq Number: 3113870

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00797	0.0176	0.00797	mg/kg	01.20.20 22.59	U	1
Toluene	108-88-3	<0.00413	0.0176	0.00413	mg/kg	01.20.20 22.59	U	1
Ethylbenzene	100-41-4	<0.00543	0.0176	0.00543	mg/kg	01.20.20 22.59	U	1
m,p-Xylenes	179601-23-1	<0.00601	0.0353	0.00601	mg/kg	01.20.20 22.59	U	1
o-Xylene	95-47-6	<0.00601	0.0176	0.00601	mg/kg	01.20.20 22.59	U	1
Total Xylenes	1330-20-7	<0.00601	0.0176	0.00601	mg/kg	01.20.20 22.59	U	1
Total BTEX		<0.00413	0.0176	0.00413	mg/kg	01.20.20 22.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	68-120	01.20.20 22.59	
a,a,a-Trifluorotoluene	98-08-8	123	%	71-121	01.20.20 22.59	**

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-1 1 (3.5-4)**	Matrix:	Soil	Date Received:	01.16.20 12.25
Lab Sample Id:	649282-003	Date Collected:	01.14.20 10.10	Sample Depth:	3.5 - 4 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.20.20 13.00	Basis:	Wet Weight
Seq Number:	3113871				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.239	3.53	0.239	mg/kg	01.20.20 22.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	76-123	01.20.20 22.59	
a,a,a-Trifluorotoluene	98-08-8	98	%	69-120	01.20.20 22.59	

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **HA-2 1 (1.5-2)** Matrix: Soil Date Received:01.16.20 12.25

Lab Sample Id: 649282-004 Date Collected: 01.14.20 10.15 Sample Depth: 1.5 - 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: JYM % Moisture:

Analyst: JYM Date Prep: 01.17.20 10.50 Basis: Wet Weight

Seq Number: 3113663 SUB: T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4160**	98.8	3.50	mg/kg	01.17.20 14.26		10

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.20.20 13.00 Basis: Wet Weight

Seq Number: 3113880

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.42	24.8	7.42	mg/kg	01.20.20 23.23	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.42	24.8	7.42	mg/kg	01.20.20 23.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	119	%	65-144	01.20.20 23.23	
n-Triacontane	638-68-6	137	%	46-152	01.20.20 23.23	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.20.20 13.00 Basis: Wet Weight

Seq Number: 3113870

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00893	0.0198	0.00893	mg/kg	01.20.20 23.22	U	1
Toluene	108-88-3	<0.00462	0.0198	0.00462	mg/kg	01.20.20 23.22	U	1
Ethylbenzene	100-41-4	<0.00609	0.0198	0.00609	mg/kg	01.20.20 23.22	U	1
m,p-Xylenes	179601-23-1	<0.00674	0.0395	0.00674	mg/kg	01.20.20 23.22	U	1
o-Xylene	95-47-6	<0.00674	0.0198	0.00674	mg/kg	01.20.20 23.22	U	1
Total Xylenes	1330-20-7	<0.00674	0.0198	0.00674	mg/kg	01.20.20 23.22	U	1
Total BTEX		<0.00462	0.0198	0.00462	mg/kg	01.20.20 23.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	68-120	01.20.20 23.22	
a,a,a-Trifluorotoluene	98-08-8	121	%	71-121	01.20.20 23.22	

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-2 1 (1.5-2)**	Matrix:	Soil	Date Received:	01.16.20 12.25
Lab Sample Id:	649282-004	Date Collected:	01.14.20 10.15	Sample Depth:	1.5 - 2 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.20.20 13.00	Basis:	Wet Weight
Seq Number:	3113871				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.268	3.95	0.268	mg/kg	01.20.20 23.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	86	%	76-123	01.20.20 23.22	
a,a,a-Trifluorotoluene	98-08-8	96	%	69-120	01.20.20 23.22	

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **HA-2 1 (3.5-4)** Matrix: Soil Date Received:01.16.20 12.25

Lab Sample Id: 649282-005 Date Collected: 01.14.20 10.20 Sample Depth: 3.5 - 4 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: JYM % Moisture:

Analyst: JYM Date Prep: 01.17.20 10.50 Basis: Wet Weight

Seq Number: 3113663 SUB: T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**70.2**	9.84	0.348	mg/kg	01.17.20 15.46		1

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.20.20 13.00 Basis: Wet Weight

Seq Number: 3113880

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**30.1**	25.0	7.47	mg/kg	01.20.20 23.56		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.47	25.0	7.47	mg/kg	01.20.20 23.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	132	%	65-144	01.20.20 23.56	
n-Triacontane	638-68-6	145	%	46-152	01.20.20 23.56	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.20.20 13.00 Basis: Wet Weight

Seq Number: 3113870

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00825	0.0182	0.00825	mg/kg	01.20.20 23.46	U	1
Toluene	108-88-3	<0.00427	0.0182	0.00427	mg/kg	01.20.20 23.46	U	1
Ethylbenzene	100-41-4	<0.00562	0.0182	0.00562	mg/kg	01.20.20 23.46	U	1
m,p-Xylenes	179601-23-1	<0.00622	0.0365	0.00622	mg/kg	01.20.20 23.46	U	1
o-Xylene	95-47-6	<0.00622	0.0182	0.00622	mg/kg	01.20.20 23.46	U	1
Total Xylenes	1330-20-7	<0.00622	0.0182	0.00622	mg/kg	01.20.20 23.46	U	1
Total BTEX		<0.00427	0.0182	0.00427	mg/kg	01.20.20 23.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	68-120	01.20.20 23.46	
a,a,a-Trifluorotoluene	98-08-8	122	%	71-121	01.20.20 23.46	**

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-2 1 (3.5-4)**	Matrix:	Soil	Date Received:	01.16.20 12.25
Lab Sample Id:	649282-005	Date Collected:	01.14.20 10.20	Sample Depth:	3.5 - 4 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.20.20 13.00	Basis:	Wet Weight
Seq Number:	3113871				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.247	3.65	0.247	mg/kg	01.20.20 23.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	76-123	01.20.20 23.46	
a,a,a-Trifluorotoluene	98-08-8	97	%	69-120	01.20.20 23.46	

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **HA-3 1 (1.5-2)** Matrix: Soil Date Received:01.16.20 12.25

Lab Sample Id: 649282-006 Date Collected: 01.14.20 10.25 Sample Depth: 1.5 - 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: JYM % Moisture:

Analyst: JYM Date Prep: 01.17.20 10.50 Basis: Wet Weight

Seq Number: 3113663 SUB: T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**149**	9.98	0.353	mg/kg	01.17.20 14.44		1

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.20.20 13.00 Basis: Wet Weight

Seq Number: 3113880

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**8.79**	24.9	7.45	mg/kg	01.21.20 00.30	J	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.45	24.9	7.45	mg/kg	01.21.20 00.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	119	%	65-144	01.21.20 00.30	
n-Triacontane	638-68-6	140	%	46-152	01.21.20 00.30	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.20.20 13.00 Basis: Wet Weight

Seq Number: 3113870

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00868	0.0192	0.00868	mg/kg	01.21.20 00.09	U	1
Toluene	108-88-3	<0.00449	0.0192	0.00449	mg/kg	01.21.20 00.09	U	1
Ethylbenzene	100-41-4	<0.00591	0.0192	0.00591	mg/kg	01.21.20 00.09	U	1
m,p-Xylenes	179601-23-1	<0.00655	0.0384	0.00655	mg/kg	01.21.20 00.09	U	1
o-Xylene	95-47-6	<0.00655	0.0192	0.00655	mg/kg	01.21.20 00.09	U	1
Total Xylenes	1330-20-7	<0.00655	0.0192	0.00655	mg/kg	01.21.20 00.09	U	1
Total BTEX		<0.00449	0.0192	0.00449	mg/kg	01.21.20 00.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	68-120	01.21.20 00.09	
a,a,a-Trifluorotoluene	98-08-8	109	%	71-121	01.21.20 00.09	

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-3 1 (1.5-2)**	Matrix:	Soil	Date Received:	01.16.20 12.25
Lab Sample Id:	649282-006	Date Collected:	01.14.20 10.25	Sample Depth:	1.5 - 2 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.20.20 13.00	Basis:	Wet Weight
Seq Number:	3113871				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.260	3.84	0.260	mg/kg	01.21.20 00.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	86	%	76-123	01.21.20 00.09	
a,a,a-Trifluorotoluene	98-08-8	86	%	69-120	01.21.20 00.09	

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-3 1 (3.5-4)**	Matrix:	Soil	Date Received:	01.16.20 12.25
Lab Sample Id:	649282-007	Date Collected:	01.14.20 10.30	Sample Depth:	3.5 - 4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	01.17.20 10.50	Basis:	Wet Weight
Seq Number:	3113663			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1090**	9.84	0.348	mg/kg	01.17.20 15.11		1

Analytical Method:	DRO-ORO By SW8015B			Prep Method:	SW8015P
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.20.20 13.00	Basis:	Wet Weight
Seq Number:	3113880				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.49	25.1	7.49	mg/kg	01.20.20 19.23	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.49	25.1	7.49	mg/kg	01.20.20 19.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	120	%	65-144	01.20.20 19.23	
n-Triacontane	638-68-6	137	%	46-152	01.20.20 19.23	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.20.20 13.00	Basis:	Wet Weight
Seq Number:	3113870				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00831	0.0184	0.00831	mg/kg	01.20.20 19.50	U	1
Toluene	108-88-3	<0.00430	0.0184	0.00430	mg/kg	01.20.20 19.50	U	1
Ethylbenzene	100-41-4	<0.00566	0.0184	0.00566	mg/kg	01.20.20 19.50	U	1
m,p-Xylenes	179601-23-1	<0.00627	0.0368	0.00627	mg/kg	01.20.20 19.50	U	1
o-Xylene	95-47-6	<0.00627	0.0184	0.00627	mg/kg	01.20.20 19.50	U	1
Total Xylenes	1330-20-7	<0.00627	0.0184	0.00627	mg/kg	01.20.20 19.50	U	1
Total BTEX		<0.00430	0.0184	0.00430	mg/kg	01.20.20 19.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	68-120	01.20.20 19.50	
a,a,a-Trifluorotoluene	98-08-8	93	%	71-121	01.20.20 19.50	

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-3 1 (3.5-4)**	Matrix:	Soil	Date Received:	01.16.20 12.25
Lab Sample Id:	649282-007	Date Collected:	01.14.20 10.30	Sample Depth:	3.5 - 4 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.20.20 13.00	Basis:	Wet Weight
Seq Number:	3113871				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.249	3.68	0.249	mg/kg	01.20.20 19.50	UF	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	72	%	76-123	01.20.20 19.50	**
a,a,a-Trifluorotoluene	98-08-8	73	%	69-120	01.20.20 19.50	

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **HA-4 1 (0.5-1)** Matrix: Soil Date Received:01.16.20 12.25

Lab Sample Id: 649282-008 Date Collected: 01.14.20 10.35 Sample Depth: 0.5 - 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: JYM % Moisture:

Analyst: JYM Date Prep: 01.17.20 10.50 Basis: Wet Weight

Seq Number: 3113663 SUB: T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6830**	102	3.60	mg/kg	01.17.20 15.19		10

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.20.20 13.00 Basis: Wet Weight

Seq Number: 3113880

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.52	25.1	7.52	mg/kg	01.21.20 01.03	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.52	25.1	7.52	mg/kg	01.21.20 01.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	121	%	65-144	01.21.20 01.03	
n-Triacontane	638-68-6	140	%	46-152	01.21.20 01.03	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.20.20 13.00 Basis: Wet Weight

Seq Number: 3113870

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00858	0.0190	0.00858	mg/kg	01.21.20 00.34	U	1
Toluene	108-88-3	<0.00444	0.0190	0.00444	mg/kg	01.21.20 00.34	U	1
Ethylbenzene	100-41-4	<0.00584	0.0190	0.00584	mg/kg	01.21.20 00.34	U	1
m,p-Xylenes	179601-23-1	<0.00647	0.0380	0.00647	mg/kg	01.21.20 00.34	U	1
o-Xylene	95-47-6	<0.00647	0.0190	0.00647	mg/kg	01.21.20 00.34	U	1
Total Xylenes	1330-20-7	<0.00647	0.0190	0.00647	mg/kg	01.21.20 00.34	U	1
Total BTEX		<0.00444	0.0190	0.00444	mg/kg	01.21.20 00.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	68-120	01.21.20 00.34	
a,a,a-Trifluorotoluene	98-08-8	119	%	71-121	01.21.20 00.34	

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-4 1 (0.5-1)**	Matrix:	Soil	Date Received:	01.16.20 12.25
Lab Sample Id:	649282-008	Date Collected:	01.14.20 10.35	Sample Depth:	0.5 - 1 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.20.20 13.00	Basis:	Wet Weight
Seq Number:	3113871				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**0.313**	3.80	0.257	mg/kg	01.21.20 00.34	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	76-123	01.21.20 00.34	
a,a,a-Trifluorotoluene	98-08-8	94	%	69-120	01.21.20 00.34	

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **HA-4 1 (1.5-2)** Matrix: Soil Date Received:01.16.20 12.25

Lab Sample Id: 649282-009 Date Collected: 01.14.20 10.40 Sample Depth: 1.5 - 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: JYM % Moisture:

Analyst: JYM Date Prep: 01.17.20 10.50 Basis: Wet Weight

Seq Number: 3113663 SUB: T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**544**	101	3.58	mg/kg	01.17.20 15.55		10

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.20.20 13.00 Basis: Wet Weight

Seq Number: 3113880

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.47	25.0	7.47	mg/kg	01.21.20 01.37	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.47	25.0	7.47	mg/kg	01.21.20 01.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	119	%	65-144	01.21.20 01.37	
n-Triacontane	638-68-6	138	%	46-152	01.21.20 01.37	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.20.20 13.00 Basis: Wet Weight

Seq Number: 3113870

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00871	0.0193	0.00871	mg/kg	01.21.20 00.57	U	1
Toluene	108-88-3	<0.00451	0.0193	0.00451	mg/kg	01.21.20 00.57	U	1
Ethylbenzene	100-41-4	<0.00593	0.0193	0.00593	mg/kg	01.21.20 00.57	U	1
m,p-Xylenes	179601-23-1	<0.00657	0.0385	0.00657	mg/kg	01.21.20 00.57	U	1
o-Xylene	95-47-6	<0.00657	0.0193	0.00657	mg/kg	01.21.20 00.57	U	1
Total Xylenes	1330-20-7	<0.00657	0.0193	0.00657	mg/kg	01.21.20 00.57	U	1
Total BTEX		<0.00451	0.0193	0.00451	mg/kg	01.21.20 00.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	82	%	68-120	01.21.20 00.57	
a,a,a-Trifluorotoluene	98-08-8	92	%	71-121	01.21.20 00.57	

Certificate of Analytical Results 649282

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-4 1 (1.5-2)**	Matrix:	Soil	Date Received:	01.16.20 12.25
Lab Sample Id:	649282-009	Date Collected:	01.14.20 10.40	Sample Depth:	1.5 - 2 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.20.20 13.00	Basis:	Wet Weight
Seq Number:	3113871				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.261	3.85	0.261	mg/kg	01.21.20 00.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	70	%	76-123	01.21.20 00.57	**
a,a,a-Trifluorotoluene	98-08-8	73	%	69-120	01.21.20 00.57	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 649282

Terracon-Lubbock

Aikman SWD

Analytical Method: Chloride by EPA 300 — Prep Method: SW9056P
Seq Number: 3113663 — Matrix: Solid — Date Prep: 01.17.20
MB Sample Id: 7694586-1-BLK — LCS Sample Id: 7694586-1-BKS — LCSD Sample Id: 7694586-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.354	100	103	103	103	103	80-120	0	20	mg/kg	01.17.20 12:23	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113663 — Matrix: Soil — Date Prep: 01.17.20
Parent Sample Id: 649282-006 — MS Sample Id: 649282-006 S — MSD Sample Id: 649282-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	149	100	244	95	243	94	80-120	0	20	mg/kg	01.17.20 14:53	

Analytical Method: Chloride by EPA 300 — Prep Method: SW9056P
Seq Number: 3113663 — Matrix: Soil — Date Prep: 01.17.20
Parent Sample Id: 649369-001 — MS Sample Id: 649369-001 S — MSD Sample Id: 649369-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	862	99.6	940	78	946	84	80-120	1	20	mg/kg	01.17.20 12:49	X

Analytical Method: DRO-ORO By SW8015B — Prep Method: SW8015P
Seq Number: 3113880 — Matrix: Solid — Date Prep: 01.20.20
MB Sample Id: 7694811-1-BLK — LCS Sample Id: 7694811-1-BKS — LCSD Sample Id: 7694811-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<7.48	100	110	110	106	106	63-139	4	20	mg/kg	01.20.20 16:20	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	105		104		100		65-144	%	01.20.20 16:20
n-Triacontane	123		120		117		46-152	%	01.20.20 16:20

Analytical Method: DRO-ORO By SW8015B — Prep Method: SW8015P
Seq Number: 3113880 — Matrix: Solid — Date Prep: 01.20.20
MB Sample Id: 7694811-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Oil Range Hydrocarbons (ORO)	<7.48	mg/kg	01.20.20 18:49	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 649282

Terracon-Lubbock

Aikman SWD

Analytical Method: **DRO-ORO By SW8015B** Prep Method: SW8015P

Seq Number: 3113880 Matrix: Soil Date Prep: 01.20.20

Parent Sample Id: 649282-007 MS Sample Id: 649282-007 S MSD Sample Id: 649282-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<7.48	100	82.0	82	73.2	72	63-139	11	20	mg/kg	01.20.20 19:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	124		115		65-144	%	01.20.20 19:57
n-Triacontane	138		132		46-152	%	01.20.20 19:57

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3113870 Matrix: Solid Date Prep: 01.20.20

MB Sample Id: 7694808-1-BLK LCS Sample Id: 7694808-1-BKS LCSD Sample Id: 7694808-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00904	2.00	2.01	101	1.95	98	55-120	3	20	mg/kg	01.20.20 17:02	
Toluene	<0.00468	2.00	1.96	98	1.87	94	77-120	5	20	mg/kg	01.20.20 17:02	
Ethylbenzene	<0.00616	2.00	1.93	97	1.86	93	77-120	4	20	mg/kg	01.20.20 17:02	
m,p-Xylenes	<0.00682	4.00	3.83	96	3.73	93	78-120	3	20	mg/kg	01.20.20 17:02	
o-Xylene	<0.00682	2.00	1.95	98	1.91	96	78-120	2	20	mg/kg	01.20.20 17:02	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	107		114		110		68-120	%	01.20.20 17:02
a,a,a-Trifluorotoluene	122	**	119		115		71-121	%	01.20.20 17:02

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3113870 Matrix: Soil Date Prep: 01.20.20

Parent Sample Id: 649282-007 MS Sample Id: 649282-007 S MSD Sample Id: 649282-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00886	1.96	1.90	97	1.80	97	54-120	5	25	mg/kg	01.20.20 20:13	
Toluene	<0.00459	1.96	1.91	97	1.88	101	57-120	2	25	mg/kg	01.20.20 20:13	
Ethylbenzene	<0.00604	1.96	1.90	97	1.88	101	58-131	1	25	mg/kg	01.20.20 20:13	
m,p-Xylenes	<0.00669	3.92	3.76	96	3.72	100	62-124	1	25	mg/kg	01.20.20 20:13	
o-Xylene	<0.00669	1.96	1.85	94	1.82	98	62-124	2	25	mg/kg	01.20.20 20:13	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	109		85		68-120	%	01.20.20 20:13
a,a,a-Trifluorotoluene	124	**	98		71-121	%	01.20.20 20:13

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 649282

Terracon-Lubbock

Aikman SWD

Analytical Method: **TPH GRO by EPA 8015 Mod.** Prep Method: SW5030B

Seq Number: 3113871 Matrix: Solid Date Prep: 01.20.20

MB Sample Id: 7694809-1-BLK LCS Sample Id: 7694809-1-BKS LCSD Sample Id: 7694809-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<0.271	20.0	17.1	86	18.5	93	35-129	8	20	mg/kg	01.20.20 17:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	90		124	**	128	**	76-123	%	01.20.20 17:50
a,a,a-Trifluorotoluene	97		95		93		69-120	%	01.20.20 17:50

Analytical Method: **TPH GRO by EPA 8015 Mod.** Prep Method: SW5030B

Seq Number: 3113871 Matrix: Soil Date Prep: 01.20.20

Parent Sample Id: 649282-007 MS Sample Id: 649282-007 S MSD Sample Id: 649282-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<0.262	19.3	16.0	83	20.4	107	35-129	24	20	mg/kg	01.20.20 21:01	F

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	103		112		76-123	%	01.20.20 21:01
a,a,a-Trifluorotoluene	81		91		69-120	%	01.20.20 21:01

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

649282

649282

Received by OCD: 6/19/2020 11:09:57 AM

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Project Manager: Joseph Guesnier
Contact: Joseph Guesnier (806-544-9276)
Sampler's Name: Bryant McBrayer
SRS #:
Sampler's Signature:

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE: IR-4
TEMP OF COOLER WHEN RECEIVED (°C): 1.4/1.5

+0.1

Page 1 of 1

Project Number: AR197355
Project Name: Aikman SWD

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 2 oz Glass	4 oz Glass	5035 kit	40 ml VOA	BTEX (EPA Method 8021B)	TPH Extended 8015	Chloride (EPA Method 300)	Hold				Lab Sample ID
S	1/14/2020	10:00	X		SP-1	-	-		X			X	X	X					
S	1/14/2020	10:05		X	HA-1 (1.5-2)	1.5'	2'		X			X	X	X					
S	1/14/2020	10:10		X	HA-1 (3.5-4)	3.5'	4'		X			X	X	X					
S	1/14/2020	10:15		X	HA-2 (1.5-2)	1.5'	2'		X			X	X	X					
S	1/14/2020	10:20		X	HA-2 (3.5-4)	3.5'	4'		X			X	X	X					
S	1/14/2020	10:25		X	HA-3 (1.5-2)	1.5'	2'		X			X	X	X					
S	1/14/2020	10:30		X	HA-3 (3.5-4)	3.5'	4'		X			X	X	X					
S	1/14/2020	10:35		X	HA-4 (0.5-1)	0.5'	1'		X			X	X	X					
S	1/14/2020	10:40		X	HA-4 (1.5-2)	1.5'	2'		X			X	X	X					

TURNAROUND TIME ☐ Normal ☐ 48-Hour Rush ☐ 24-Hour Rush

TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
	1/16/2020	11:00	Brenda Ward		
Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time

NOTES: Client:

e-mail results to:

greg.pawlak@terracon.com
erin.loyd@terracon.com
jrguesnier@terracon.com

Matrix: WW-Wastewater; W - Water; S - Soil; L - Liquid; A - Air Bag; C - Charcoal tube; SL - Sludge
Container: VOA - 40 ml vial; A/G - Amber Glass 1L; 250 ml = Glass wide mouth; P/O - Plastic or other _____

Inter-Office Shipment

IOS Number : 56251

Date/Time: 01.16.2020
Lab# From: **Lubbock**
Lab# To: **Houston**

Created by: Brenda Ward
Delivery Priority:
Air Bill No.:

Please send report to: Jessica Kramer
Address: 6701 Aberdeen, Suite 9 Lubbock, TX 79424
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
649282-001	S	SP-1	01.14.2020 10:00	E300_CL	Chloride by EPA 300	01.22.2020	02.11.2020	JKR	CL	
649282-002	S	HA-1 1 (1.5-2)	01.14.2020 10:05	E300_CL	Chloride by EPA 300	01.22.2020	02.11.2020	JKR	CL	
649282-003	S	HA-1 1 (3.5-4)	01.14.2020 10:10	E300_CL	Chloride by EPA 300	01.22.2020	02.11.2020	JKR	CL	
649282-004	S	HA-2 1 (1.5-2)	01.14.2020 10:15	E300_CL	Chloride by EPA 300	01.22.2020	02.11.2020	JKR	CL	
649282-005	S	HA-2 1 (3.5-4)	01.14.2020 10:20	E300_CL	Chloride by EPA 300	01.22.2020	02.11.2020	JKR	CL	
649282-006	S	HA-3 1 (1.5-2)	01.14.2020 10:25	E300_CL	Chloride by EPA 300	01.22.2020	02.11.2020	JKR	CL	
649282-007	S	HA-3 1 (3.5-4)	01.14.2020 10:30	E300_CL	Chloride by EPA 300	01.22.2020	02.11.2020	JKR	CL	
649282-008	S	HA-4 1 (0.5-1)	01.14.2020 10:35	E300_CL	Chloride by EPA 300	01.22.2020	02.11.2020	JKR	CL	
649282-009	S	HA-4 1 (1.5-2)	01.14.2020 10:40	E300_CL	Chloride by EPA 300	01.22.2020	02.11.2020	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By: Brenda Ward
Brenda Ward

Date Relinquished: 01.16.2020

Received By:

Date Received:

Cooler Temperature:

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 56251

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : HOU-068

Sent By: Brenda Ward **Date Sent:** 01.16.2020 01.43 PM

Received By: Abdhija Saidurga **Date Received:** 01.17.2020 10.00 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.9	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 *Custody Seals Signed and dated for Containers/coolers	**N/A**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: Abdhija Saidurga Date: 01.17.2020

Abdhija Saidurga

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 01.16.2020 12.25.18 PM

Work Order #: 649282

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.5	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Chlorides sent to Stafford
#18 Water VOC samples have zero headspace?	**N/A**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 01.16.2020
Brenda Ward

Checklist reviewed by: Jessica Kramer Date: 01.16.2020
Jessica Kramer

Certificate of Analysis Summary 650649

Terracon-Lubbock, Lubbock, TX

Project Name: Aikman SWD

Project Id: AR207018
Contact: Joseph Guesnier
Project Location:

Date Received in Lab: Wed Jan-29-20 10:51 am
Report Date: 30-JAN-20
Project Manager: Jessica Kramer

Analysis Requested		650649-001		650649-002		650649-003		650649-004		650649-005		650649-006	
	Field Id:	HA-5 (0.0.5)		HA-5 (0.5-1)		HA-5 (1.5-2)		HA-6 (0.0.5)		HA-6 (0.5-1)		HA-6 (1.5-2)	
	Depth:	0-0.5 ft		0.5-1 ft		1.5-2 ft		0-0.5 ft		0.5-1 ft		1.5-2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-23-20 13:05		Jan-23-20 13:10		Jan-23-20 13:15		Jan-23-20 13:30		Jan-23-20 13:35		Jan-23-20 13:40	
BTEX by EPA 8021B	Extracted:	Jan-29-20 13:30		Jan-29-20 13:30		Jan-29-20 13:30		Jan-29-20 13:30		Jan-29-20 13:30		Jan-29-20 13:30	
	Analyzed:	Jan-30-20 00:52		Jan-30-20 02:05		Jan-30-20 02:28		Jan-30-20 02:52		Jan-30-20 01:16		Jan-30-20 01:40	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00828	0.0183	0.127	0.0909	<0.0178	0.0394	<0.0170	0.0377	<0.00809	0.0179	<0.00816	0.0181
Toluene		<0.00429	0.0183	<0.0213	0.0909	<0.00923	0.0394	<0.00881	0.0377	<0.00419	0.0179	<0.00422	0.0181
Ethylbenzene		<0.00564	0.0183	<0.0280	0.0909	<0.0121	0.0394	<0.0116	0.0377	<0.00551	0.0179	<0.00556	0.0181
m,p-Xylenes		<0.00625	0.0366	<0.0310	0.182	<0.0135	0.0789	<0.0128	0.0753	<0.00610	0.0358	<0.00616	0.0361
o-Xylene		<0.00625	0.0183	<0.0310	0.0909	<0.0135	0.0394	<0.0128	0.0377	<0.00610	0.0179	<0.00616	0.0181
Total Xylenes		<0.00625	0.0183	<0.0310	0.0909	<0.0135	0.0394	<0.0128	0.0377	<0.00610	0.0179	<0.00616	0.0181
Total BTEX		<0.00429	0.0183	0.127	0.0909	<0.00923	0.0394	<0.00881	0.0377	<0.00419	0.0179	<0.00422	0.0181
Chloride by EPA 300	Extracted:	Jan-29-20 13:00		Jan-29-20 13:00		Jan-29-20 13:00		Jan-29-20 13:00		Jan-29-20 13:00		Jan-29-20 13:00	
	Analyzed:	Jan-29-20 17:25		Jan-29-20 17:50		Jan-29-20 18:15		Jan-29-20 18:40		Jan-29-20 19:04		Jan-29-20 19:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		15900 D	2500	2940 D	250	2770 D	250	9240 D	1250	2320 D	250	2290 DX	250
DRO-ORO By SW8015B	Extracted:	Jan-29-20 11:30		Jan-29-20 11:30		Jan-29-20 11:30		Jan-29-20 11:30		Jan-29-20 11:30		Jan-29-20 11:30	
	Analyzed:	Jan-29-20 22:45		Jan-30-20 04:07		Jan-30-20 01:47		Jan-30-20 02:23		Jan-30-20 02:58		Jan-30-20 03:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Diesel Range Organics (DRO)		<7.47	25.0	1060	50.4	<7.44	24.9	<7.56	25.3	<7.49	25.1	<7.45	24.9
Oil Range Hydrocarbons (ORO)		<7.47	25.0	35.0 J	50.4	<7.44	24.9	<7.56	25.3	<7.49	25.1	<7.45	24.9
TPH GRO by EPA 8015 Mod.	Extracted:	Jan-29-20 13:30		Jan-29-20 13:30		Jan-29-20 13:30		Jan-29-20 13:30		Jan-29-20 13:30		Jan-29-20 13:30	
	Analyzed:	Jan-30-20 00:52		Jan-30-20 02:05		Jan-30-20 02:28		Jan-30-20 02:52		Jan-30-20 01:16		Jan-30-20 01:40	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH-GRO		0.381 J	3.66	14.1 J	18.2	1.87 J	7.89	3.27 J	7.53	<0.242	3.58	<0.245	3.61

Jessica Kramer
Project Assistant

Analytical Report 650649

for

Terracon-Lubbock

Project Manager: Joseph Guesnier

Aikman SWD

AR207018

30-JAN-20

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

30-JAN-20

Project Manager: **Joseph Guesnier**
Terracon-Lubbock
5827 50th st, Suite 1
Lubbock, TX 79424

Reference: XENCO Report No(s): **650649**
Aikman SWD
Project Address:

Joseph Guesnier:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 650649. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 650649 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 650649

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
HA-5 (0.0.5)	S	01-23-20 13:05	0 - 0.5 ft	650649-001
HA-5 (0.5-1)	S	01-23-20 13:10	0.5 - 1 ft	650649-002
HA-5 (1.5-2)	S	01-23-20 13:15	1.5 - 2 ft	650649-003
HA-6 (0.0.5)	S	01-23-20 13:30	0 - 0.5 ft	650649-004
HA-6 (0.5-1)	S	01-23-20 13:35	0.5 - 1 ft	650649-005
HA-6 (1.5-2)	S	01-23-20 13:40	1.5 - 2 ft	650649-006

CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: Aikman SWD

Project ID: *AR207018*
Work Order Number(s): *650649*

Report Date: *30-JAN-20*
Date Received: *01/29/2020*

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. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

BTEX Samples 650649-002, 650649-003, and 650649-004 were diluted due to hydrocarbons beyond xylene.

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3114869 DRO-ORO By SW8015B
Surrogate Tricosane recovered below QC limits Data confirmed by re-analysis. Samples affected are: 7695489-1-BKS,7695489-1-BLK,650649-001 S,650649-001 SD,650649-003,650649-004,650649-006,650649-001.

Lab Sample ID 650649-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Diesel Range Organics (DRO) Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits. .
Samples in the analytical batch are: 650649-001, -002, -003, -004, -005, -006
Lab Control spike RPDs withing control limits; therefore the data was accepted

Outlier/s are due to possible matrix interference.

Batch: LBA-3114924 BTEX by EPA 8021B
Samples 650649-002, 650649-003, and 650649-004 were diluted due to hydrocarbons beyond xylene.

Batch: LBA-3114968 Chloride by EPA 300
Lab Sample ID 650658-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 650649-001, -002, -003, -004, -005, -006.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analytical Results 650649

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **HA-5 (0.0.5)** Matrix: Soil Date Received:01.29.20 10.51

Lab Sample Id: 650649-001 Date Collected: 01.23.20 13.05 Sample Depth: 0 - 0.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 01.29.20 13.00 Basis: Wet Weight

Seq Number: 3114968

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15900**	2500	57.2	mg/kg	01.29.20 17.38	D	100

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.29.20 11.30 Basis: Wet Weight

Seq Number: 3114869

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.47	25.0	7.47	mg/kg	01.29.20 22.45	UF	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.47	25.0	7.47	mg/kg	01.29.20 22.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	64	%	65-144	01.29.20 22.45	**
n-Triacontane	638-68-6	90	%	46-152	01.29.20 22.45	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.29.20 13.30 Basis: Wet Weight

Seq Number: 3114924

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00828	0.0183	0.00828	mg/kg	01.30.20 00.52	U	1
Toluene	108-88-3	<0.00429	0.0183	0.00429	mg/kg	01.30.20 00.52	U	1
Ethylbenzene	100-41-4	<0.00564	0.0183	0.00564	mg/kg	01.30.20 00.52	U	1
m,p-Xylenes	179601-23-1	<0.00625	0.0366	0.00625	mg/kg	01.30.20 00.52	U	1
o-Xylene	95-47-6	<0.00625	0.0183	0.00625	mg/kg	01.30.20 00.52	U	1
Total Xylenes	1330-20-7	<0.00625	0.0183	0.00625	mg/kg	01.30.20 00.52	U	1
Total BTEX		<0.00429	0.0183	0.00429	mg/kg	01.30.20 00.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	68-120	01.30.20 00.52	
a,a,a-Trifluorotoluene	98-08-8	125	%	71-121	01.30.20 00.52	**

Certificate of Analytical Results 650649

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-5 (0.0.5)**	Matrix:	Soil	Date Received:	01.29.20 10.51
Lab Sample Id:	650649-001	Date Collected:	01.23.20 13.05	Sample Depth:	0 - 0.5 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.29.20 13.30	Basis:	Wet Weight
Seq Number:	3114927				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**0.381**	3.66	0.248	mg/kg	01.30.20 00.52	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	80	%	76-123	01.30.20 00.52	
a,a,a-Trifluorotoluene	98-08-8	95	%	69-120	01.30.20 00.52	

Certificate of Analytical Results 650649

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **HA-5 (0.5-1)** Matrix: Soil Date Received:01.29.20 10.51

Lab Sample Id: 650649-002 Date Collected: 01.23.20 13.10 Sample Depth: 0.5 - 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 01.29.20 13.00 Basis: Wet Weight

Seq Number: 3114968

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2940**	250	5.72	mg/kg	01.29.20 18.02	D	10

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.29.20 11.30 Basis: Wet Weight

Seq Number: 3114869

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**1060**	50.4	15.1	mg/kg	01.30.20 04.07		2
Oil Range Hydrocarbons (ORO)	PHCG2835	**35.0**	50.4	15.1	mg/kg	01.30.20 04.07	J	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	250	%	65-144	01.30.20 04.07	**
n-Triacontane	638-68-6	121	%	46-152	01.30.20 04.07	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.29.20 13.30 Basis: Wet Weight

Seq Number: 3114924

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.127**	0.0909	0.0411	mg/kg	01.30.20 02.05		5
Toluene	108-88-3	<0.0213	0.0909	0.0213	mg/kg	01.30.20 02.05	U	5
Ethylbenzene	100-41-4	<0.0280	0.0909	0.0280	mg/kg	01.30.20 02.05	U	5
m,p-Xylenes	179601-23-1	<0.0310	0.182	0.0310	mg/kg	01.30.20 02.05	U	5
o-Xylene	95-47-6	<0.0310	0.0909	0.0310	mg/kg	01.30.20 02.05	U	5
Total Xylenes	1330-20-7	<0.0310	0.0909	0.0310	mg/kg	01.30.20 02.05	U	5
Total BTEX		**0.127**	0.0909	0.0213	mg/kg	01.30.20 02.05		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	68-120	01.30.20 02.05	
a,a,a-Trifluorotoluene	98-08-8	118	%	71-121	01.30.20 02.05	

Certificate of Analytical Results 650649

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-5 (0.5-1)**	Matrix:	Soil	Date Received:	01.29.20 10.51
Lab Sample Id:	650649-002	Date Collected:	01.23.20 13.10	Sample Depth:	0.5 - 1 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.29.20 13.30	Basis:	Wet Weight
Seq Number:	3114927				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**14.1**	18.2	1.23	mg/kg	01.30.20 02.05	J	5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	84	%	76-123	01.30.20 02.05	
a,a,a-Trifluorotoluene	98-08-8	89	%	69-120	01.30.20 02.05	

Certificate of Analytical Results 650649

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-5 (1.5-2)**	Matrix:	Soil	Date Received:	01.29.20 10.51
Lab Sample Id:	650649-003	Date Collected:	01.23.20 13.15	Sample Depth:	1.5 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	01.29.20 13.00	Basis:	Wet Weight
Seq Number:	3114968				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2770**	250	5.72	mg/kg	01.29.20 18.27	D	10

Analytical Method:	DRO-ORO By SW8015B			Prep Method:	SW8015P
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.29.20 11.30	Basis:	Wet Weight
Seq Number:	3114869				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.44	24.9	7.44	mg/kg	01.30.20 01.47	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.44	24.9	7.44	mg/kg	01.30.20 01.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	56	%	65-144	01.30.20 01.47	**
n-Triacontane	638-68-6	77	%	46-152	01.30.20 01.47	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.29.20 13.30	Basis:	Wet Weight
Seq Number:	3114924				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0178	0.0394	0.0178	mg/kg	01.30.20 02.28	U	2
Toluene	108-88-3	<0.00923	0.0394	0.00923	mg/kg	01.30.20 02.28	U	2
Ethylbenzene	100-41-4	<0.0121	0.0394	0.0121	mg/kg	01.30.20 02.28	U	2
m,p-Xylenes	179601-23-1	<0.0135	0.0789	0.0135	mg/kg	01.30.20 02.28	U	2
o-Xylene	95-47-6	<0.0135	0.0394	0.0135	mg/kg	01.30.20 02.28	U	2
Total Xylenes	1330-20-7	<0.0135	0.0394	0.0135	mg/kg	01.30.20 02.28	U	2
Total BTEX		<0.00923	0.0394	0.00923	mg/kg	01.30.20 02.28	U	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	68-120	01.30.20 02.28	
a,a,a-Trifluorotoluene	98-08-8	132	%	71-121	01.30.20 02.28	**

Certificate of Analytical Results 650649

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-5 (1.5-2)**	Matrix:	Soil	Date Received:	01.29.20 10.51
Lab Sample Id:	650649-003	Date Collected:	01.23.20 13.15	Sample Depth:	1.5 - 2 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.29.20 13.30	Basis:	Wet Weight
Seq Number:	3114927				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**1.87**	7.89	0.535	mg/kg	01.30.20 02.28	J	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	76-123	01.30.20 02.28	
a,a,a-Trifluorotoluene	98-08-8	101	%	69-120	01.30.20 02.28	

Certificate of Analytical Results 650649

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **HA-6 (0.0.5)** Matrix: Soil Date Received:01.29.20 10.51

Lab Sample Id: 650649-004 Date Collected: 01.23.20 13.30 Sample Depth: 0 - 0.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 01.29.20 13.00 Basis: Wet Weight

Seq Number: 3114968

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9240**	1250	28.6	mg/kg	01.29.20 18.52	D	50

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.29.20 11.30 Basis: Wet Weight

Seq Number: 3114869

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.56	25.3	7.56	mg/kg	01.30.20 02.23	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.56	25.3	7.56	mg/kg	01.30.20 02.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	60	%	65-144	01.30.20 02.23	**
n-Triacontane	638-68-6	86	%	46-152	01.30.20 02.23	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.29.20 13.30 Basis: Wet Weight

Seq Number: 3114924

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0170	0.0377	0.0170	mg/kg	01.30.20 02.52	U	2
Toluene	108-88-3	<0.00881	0.0377	0.00881	mg/kg	01.30.20 02.52	U	2
Ethylbenzene	100-41-4	<0.0116	0.0377	0.0116	mg/kg	01.30.20 02.52	U	2
m,p-Xylenes	179601-23-1	<0.0128	0.0753	0.0128	mg/kg	01.30.20 02.52	U	2
o-Xylene	95-47-6	<0.0128	0.0377	0.0128	mg/kg	01.30.20 02.52	U	2
Total Xylenes	1330-20-7	<0.0128	0.0377	0.0128	mg/kg	01.30.20 02.52	U	2
Total BTEX		<0.00881	0.0377	0.00881	mg/kg	01.30.20 02.52	U	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	68-120	01.30.20 02.52	
a,a,a-Trifluorotoluene	98-08-8	128	%	71-121	01.30.20 02.52	**

Certificate of Analytical Results 650649

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-6 (0.0.5)**	Matrix:	Soil	Date Received:	01.29.20 10.51
Lab Sample Id:	650649-004	Date Collected:	01.23.20 13.30	Sample Depth:	0 - 0.5 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.29.20 13.30	Basis:	Wet Weight
Seq Number:	3114927				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**3.27**	7.53	0.510	mg/kg	01.30.20 02.52	J	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	76-123	01.30.20 02.52	
a,a,a-Trifluorotoluene	98-08-8	98	%	69-120	01.30.20 02.52	

Certificate of Analytical Results 650649

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-6 (0.5-1)**	Matrix:	Soil	Date Received:	01.29.20 10.51
Lab Sample Id:	650649-005	Date Collected:	01.23.20 13.35	Sample Depth:	0.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	01.29.20 13.00	Basis:	Wet Weight
Seq Number:	3114968				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2320**	250	5.72	mg/kg	01.29.20 19.29	D	10

Analytical Method:	DRO-ORO By SW8015B			Prep Method:	SW8015P
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.29.20 11.30	Basis:	Wet Weight
Seq Number:	3114869				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.49	25.1	7.49	mg/kg	01.30.20 02.58	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.49	25.1	7.49	mg/kg	01.30.20 02.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	66	%	65-144	01.30.20 02.58	
n-Triacontane	638-68-6	93	%	46-152	01.30.20 02.58	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.29.20 13.30	Basis:	Wet Weight
Seq Number:	3114924				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00809	0.0179	0.00809	mg/kg	01.30.20 01.16	U	1
Toluene	108-88-3	<0.00419	0.0179	0.00419	mg/kg	01.30.20 01.16	U	1
Ethylbenzene	100-41-4	<0.00551	0.0179	0.00551	mg/kg	01.30.20 01.16	U	1
m,p-Xylenes	179601-23-1	<0.00610	0.0358	0.00610	mg/kg	01.30.20 01.16	U	1
o-Xylene	95-47-6	<0.00610	0.0179	0.00610	mg/kg	01.30.20 01.16	U	1
Total Xylenes	1330-20-7	<0.00610	0.0179	0.00610	mg/kg	01.30.20 01.16	U	1
Total BTEX		<0.00419	0.0179	0.00419	mg/kg	01.30.20 01.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	68-120	01.30.20 01.16	
a,a,a-Trifluorotoluene	98-08-8	127	%	71-121	01.30.20 01.16	**

Certificate of Analytical Results 650649

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-6 (0.5-1)**	Matrix:	Soil	Date Received:	01.29.20 10.51
Lab Sample Id:	650649-005	Date Collected:	01.23.20 13.35	Sample Depth:	0.5 - 1 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.29.20 13.30	Basis:	Wet Weight
Seq Number:	3114927				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.242	3.58	0.242	mg/kg	01.30.20 01.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	76-123	01.30.20 01.16	
a,a,a-Trifluorotoluene	98-08-8	96	%	69-120	01.30.20 01.16	

Certificate of Analytical Results 650649

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **HA-6 (1.5-2)** Matrix: Soil Date Received:01.29.20 10.51

Lab Sample Id: 650649-006 Date Collected: 01.23.20 13.40 Sample Depth: 1.5 - 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 01.29.20 13.00 Basis: Wet Weight

Seq Number: 3114968

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2290**	250	5.72	mg/kg	01.29.20 19.54	DX	10

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.29.20 11.30 Basis: Wet Weight

Seq Number: 3114869

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.45	24.9	7.45	mg/kg	01.30.20 03.33	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.45	24.9	7.45	mg/kg	01.30.20 03.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	63	%	65-144	01.30.20 03.33	**
n-Triacontane	638-68-6	87	%	46-152	01.30.20 03.33	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 01.29.20 13.30 Basis: Wet Weight

Seq Number: 3114924

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00816	0.0181	0.00816	mg/kg	01.30.20 01.40	U	1
Toluene	108-88-3	<0.00422	0.0181	0.00422	mg/kg	01.30.20 01.40	U	1
Ethylbenzene	100-41-4	<0.00556	0.0181	0.00556	mg/kg	01.30.20 01.40	U	1
m,p-Xylenes	179601-23-1	<0.00616	0.0361	0.00616	mg/kg	01.30.20 01.40	U	1
o-Xylene	95-47-6	<0.00616	0.0181	0.00616	mg/kg	01.30.20 01.40	U	1
Total Xylenes	1330-20-7	<0.00616	0.0181	0.00616	mg/kg	01.30.20 01.40	U	1
Total BTEX		<0.00422	0.0181	0.00422	mg/kg	01.30.20 01.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	68-120	01.30.20 01.40	
a,a,a-Trifluorotoluene	98-08-8	127	%	71-121	01.30.20 01.40	**

Certificate of Analytical Results 650649

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**HA-6 (1.5-2)**	Matrix:	Soil	Date Received:	01.29.20 10.51
Lab Sample Id:	650649-006	Date Collected:	01.23.20 13.40	Sample Depth:	1.5 - 2 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.29.20 13.30	Basis:	Wet Weight
Seq Number:	3114927				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.245	3.61	0.245	mg/kg	01.30.20 01.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	82	%	76-123	01.30.20 01.40	
a,a,a-Trifluorotoluene	98-08-8	97	%	69-120	01.30.20 01.40	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 650649

Terracon-Lubbock

Aikman SWD

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3114968 Matrix: Solid Date Prep: 01.29.20
MB Sample Id: 7695560-1-BLK LCS Sample Id: 7695560-1-BKS LCSD Sample Id: 7695560-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.572	250	241	96	241	96	90-110	0	20	mg/kg	01.29.20 16:10	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3114968 Matrix: Soil Date Prep: 01.29.20
Parent Sample Id: 650649-006 MS Sample Id: 650649-006 S MSD Sample Id: 650649-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1800	250	2550	300	2520	288	80-120	1	20	mg/kg	01.29.20 20:07	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3114968 Matrix: Soil Date Prep: 01.29.20
Parent Sample Id: 650658-001 MS Sample Id: 650658-001 S MSD Sample Id: 650658-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.45	250	254	98	245	95	80-120	4	20	mg/kg	01.29.20 17:00	

Analytical Method: **DRO-ORO By SW8015B** Prep Method: SW8015P
Seq Number: 3114869 Matrix: Solid Date Prep: 01.29.20
MB Sample Id: 7695489-1-BLK LCS Sample Id: 7695489-1-BKS LCSD Sample Id: 7695489-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<7.48	100	82.8	83	92.6	93	63-139	11	20	mg/kg	01.29.20 19:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	63	**	64	**	66		65-144	%	01.29.20 19:46
n-Triacontane	90		86		89		46-152	%	01.29.20 19:46

Analytical Method: **DRO-ORO By SW8015B** Prep Method: SW8015P
Seq Number: 3114869 Matrix: Solid Date Prep: 01.29.20
MB Sample Id: 7695489-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Oil Range Hydrocarbons (ORO)	<7.48	mg/kg	01.29.20 22:10	

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 650649

Terracon-Lubbock

Aikman SWD

Analytical Method: DRO-ORO By SW8015B | Prep Method: SW8015P
Seq Number: 3114869 | Matrix: Soil | Date Prep: 01.29.20
Parent Sample Id: 650649-001 | MS Sample Id: 650649-001 S | MSD Sample Id: 650649-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<7.44	99.5	63.2	64	78.9	80	63-139	22	20	mg/kg	01.29.20 23:20	F

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	53	**	57	**	65-144	%	01.29.20 23:20
n-Triacontane	72		78		46-152	%	01.29.20 23:20

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3114924 | Matrix: Solid | Date Prep: 01.29.20
MB Sample Id: 7695540-1-BLK | LCS Sample Id: 7695540-1-BKS | LCSD Sample Id: 7695540-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00904	2.00	2.04	102	1.99	100	55-120	2	20	mg/kg	01.29.20 19:38	
Toluene	<0.00468	2.00	2.14	107	2.01	101	77-120	6	20	mg/kg	01.29.20 19:38	
Ethylbenzene	<0.00616	2.00	2.16	108	2.07	104	77-120	4	20	mg/kg	01.29.20 19:38	
m,p-Xylenes	<0.00682	4.00	4.28	107	4.14	104	78-120	3	20	mg/kg	01.29.20 19:38	
o-Xylene	<0.00682	2.00	2.15	108	2.09	105	78-120	3	20	mg/kg	01.29.20 19:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	105		108		86		68-120	%	01.29.20 19:38
a,a,a-Trifluorotoluene	118		122	**	95		71-121	%	01.29.20 19:38

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3114924 | Matrix: Soil | Date Prep: 01.29.20
Parent Sample Id: 650658-001 | MS Sample Id: 650658-001 S | MSD Sample Id: 650658-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00879	1.95	1.63	84	1.73	98	54-120	6	25	mg/kg	01.29.20 22:51	
Toluene	<0.00455	1.95	1.59	82	1.72	98	57-120	8	25	mg/kg	01.29.20 22:51	
Ethylbenzene	<0.00599	1.95	1.59	82	1.73	98	58-131	8	25	mg/kg	01.29.20 22:51	
m,p-Xylenes	<0.00663	3.89	3.14	81	3.44	97	62-124	9	25	mg/kg	01.29.20 22:51	
o-Xylene	<0.00663	1.95	1.56	80	1.69	96	62-124	8	25	mg/kg	01.29.20 22:51	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	97		96		68-120	%	01.29.20 22:51
a,a,a-Trifluorotoluene	127	**	127	**	71-121	%	01.29.20 22:51

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Final 1.000

QC Summary 650649

Terracon-Lubbock

Aikman SWD

Analytical Method: **TPH GRO by EPA 8015 Mod.** Prep Method: SW5030B
Seq Number: 3114927 Matrix: Solid Date Prep: 01.29.20
MB Sample Id: 7695541-1-BLK LCS Sample Id: 7695541-1-BKS LCSD Sample Id: 7695541-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<0.271	20.0	18.3	92	19.6	98	35-129	7	20	mg/kg	01.29.20 20:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	86		122		119		76-123	%	01.29.20 20:26
a,a,a-Trifluorotoluene	90		95		95		69-120	%	01.29.20 20:26

Analytical Method: **TPH GRO by EPA 8015 Mod.** Prep Method: SW5030B
Seq Number: 3114927 Matrix: Soil Date Prep: 01.29.20
Parent Sample Id: 650658-001 MS Sample Id: 650658-001 S MSD Sample Id: 650658-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<0.267	19.7	14.6	74	15.7	87	35-129	7	20	mg/kg	01.29.20 23:39	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	109		115		76-123	%	01.29.20 23:39
a,a,a-Trifluorotoluene	98		99		69-120	%	01.29.20 23:39

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

650649

Terracon

CHAIN OF CUSTODY RECORD

650649

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Project Manager: Joseph Guesnier
Sampler's Name: Joseph Guesnier
Phone:
Contact: Joseph Guesnier (806-544-9276)
SRS #:
Sampler's Signature

Project Number: AR207018
Project Name: Aikman SWD

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 3.1 / 3.2

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 2 oz Glass	4 oz Glass	5035 kit	40 ml VOA	BTEX (EPA Method 8021B)	TPH Extended 8015	Chloride (EPA Method 300)	Hold	Lab Sample ID
S	1/23/2020	13:05		X	HA-5 (0-0.5)	0'	0.5'		X			X	X	X		1
S	1/23/2020	13:10		X	HA-5 (0.5-1)	0.5'	1'		X			X	X	X		2
S	1/23/2020	13:15		X	HA-5 (1.5-2)	1.5'	2'		X			X	X	X		3
S	1/23/2020	13:30		X	HA-6 (0-0.5)	0'	0.5'		X			X	X	X		4
S	1/23/2020	13:35		X	HA-6 (0.5-1)	0.5'	1'		X			X	X	X		5
S	1/23/2020	13:40		X	HA-6 (1.5-2)	1.5'	2'		X			X	X	X		6

TURNAROUND TIME: ☐ Normal ☐ 48-Hour Rush ☑ 24-Hour Rush

TRRP Laboratory Review Checklist ☐ Yes ☐ No

	Date	Time		Date	Time
Relinquished by (Signature)	1-23-2020	10:37am	Received by (Signature)	1/24/2020	10:37
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		

NOTES: Client:
e-mail results to:
erin.loyd@terracon.com
jrguesnier@terracon.com

Matrix: WW-Wastewater; W - Water; S - Soil; L - Liquid; A - Air Bag; C - Charcoal tube; SL - Sludge
Container: VOA - 40 ml vial; A/G - Amber Glass 1L; 250 ml = Glass wide mouth; P/O - Plastic or other _____

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 01.29.2020 10.51.00 AM

Work Order #: 650649

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-4

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 01.29.2020
Brenda Ward

Checklist reviewed by: Jessica Kramer Date: 01.30.2020
Jessica Kramer

Certificate of Analysis Summary 652217

Terracon-Lubbock, Lubbock, TX

Project Name: Aikman SWD

Project Id: AR207018
Contact: Joseph Guesnier
Project Location:

Date Received in Lab: Wed Feb-12-20 04:45 pm
Report Date: 14-FEB-20
Project Manager: Jessica Kramer

Analysis Requested		652217-001		652217-002		652217-003		652217-004		652217-005		652217-006	
	Field Id:	SW-1 (0.5-1)		WW-1 (0.5-1)		NWT-1 (0.5-1)		NW-1 (0.5-1)		EW-1 (0.5-1)		SWT-1 (0.5-1)	
	Depth:	0.5-1 ft		0.5-1 ft		0.5-1 ft		0.5-1 ft		0.5-1 ft		0.5-1 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-10-20 12:00		Feb-10-20 12:08		Feb-10-20 12:25		Feb-10-20 12:27		Feb-10-20 12:33		Feb-10-20 12:38	
BTEX by EPA 8021B	Extracted:	Feb-13-20 11:13		Feb-13-20 11:13		Feb-13-20 11:13		Feb-13-20 11:13		Feb-13-20 11:13		Feb-13-20 11:13	
	Analyzed:	Feb-13-20 22:11		Feb-14-20 00:36		Feb-14-20 01:00		Feb-14-20 01:25		Feb-14-20 01:49		Feb-14-20 02:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00888	0.0196	<0.0179	0.0396	<0.00888	0.0196	<0.0175	0.0386	<0.00783	0.0173	<0.00890	0.0197
Toluene		<0.00460	0.0196	<0.00927	0.0396	0.0177 J	0.0196	<0.00903	0.0386	<0.00406	0.0173	<0.00461	0.0197
Ethylbenzene		<0.00605	0.0196	<0.0122	0.0396	<0.00605	0.0196	<0.0119	0.0386	<0.00534	0.0173	<0.00606	0.0197
m,p-Xylenes		<0.00670	0.0393	<0.0135	0.0792	<0.00670	0.0393	<0.0132	0.0772	<0.00591	0.0347	<0.00671	0.0394
o-Xylene		<0.00670	0.0196	<0.0135	0.0396	<0.00670	0.0196	<0.0132	0.0386	<0.00591	0.0173	<0.00671	0.0197
Total Xylenes		<0.00670	0.0196	<0.0135	0.0396	<0.00670	0.0196	<0.0132	0.0386	<0.00591	0.0173	<0.00671	0.0197
Total BTEX		<0.00460	0.0196	<0.00927	0.0396	0.0177 J	0.0196	<0.00903	0.0386	<0.00406	0.0173	<0.00461	0.0197
Chloride by EPA 300	Extracted:	Feb-13-20 14:30		Feb-13-20 14:30		Feb-13-20 14:30		Feb-13-20 14:30		Feb-13-20 14:30		Feb-13-20 14:30	
	Analyzed:	Feb-13-20 16:19		Feb-13-20 17:08		Feb-13-20 17:33		Feb-13-20 17:58		Feb-13-20 18:23		Feb-13-20 19:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3580 DX	250	4230 D	250	9510 D	1250	8520 D	1250	5520 D	1250	11000 DX	2500
DRO-ORO By SW8015B	Extracted:	Feb-13-20 12:00		Feb-13-20 12:00		Feb-13-20 12:00		Feb-13-20 12:00		Feb-13-20 12:00		Feb-13-20 12:00	
	Analyzed:	Feb-13-20 23:42		Feb-14-20 00:19		Feb-14-20 00:58		Feb-14-20 01:35		Feb-14-20 02:13		Feb-14-20 02:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Diesel Range Organics (DRO)		13.4 J	25.3	67.6	25.1	74.9	25.2	52.8	25.1	16.7 J	25.1	21.1 J	25.2
Oil Range Hydrocarbons (ORO)		<7.56	25.3	<7.50	25.1	<7.53	25.2	<7.52	25.1	<7.50	25.1	<7.53	25.2
TPH GRO by EPA 8015 Mod.	Extracted:	Feb-13-20 11:13		Feb-13-20 11:13		Feb-13-20 11:13		Feb-13-20 11:13		Feb-13-20 11:13		Feb-13-20 11:13	
	Analyzed:	Feb-13-20 22:11		Feb-14-20 00:36		Feb-14-20 01:00		Feb-14-20 01:25		Feb-14-20 01:49		Feb-14-20 02:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH-GRO		2.79 J	3.93	3.46 J	7.92	0.752 J	3.93	1.07 J	7.72	2.32 J	3.47	0.780 J	3.94

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 652217

Terracon-Lubbock, Lubbock, TX

Project Name: Aikman SWD

Project Id: AR207018
Contact: Joseph Guesnier
Project Location:

Date Received in Lab: Wed Feb-12-20 04:45 pm
Report Date: 14-FEB-20
Project Manager: Jessica Kramer

Analysis Requested	*Lab Id:*	652217-007		652217-008		652217-009		652217-010		652217-011		652217-012	
	Field Id:	NEW-1 (0.5-1)		SEW-1 (0.5-1)		NWF-1 (1.5-2)		SWF-1 (1.5-2)		NEF-1 (1.5-2)		SEF-1 (1.5-2)	
	Depth:	0.5-1 ft		0.5-1 ft		1.5-2 ft		1.5-2 ft		1.5-2 ft		1.5-2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-10-20 12:47		Feb-10-20 12:56		Feb-10-20 13:04		Feb-10-20 13:13		Feb-10-20 13:21		Feb-10-20 13:29	
BTEX by EPA 8021B	*Extracted:*	Feb-13-20 11:13		Feb-13-20 11:13		Feb-13-20 11:13		Feb-13-20 11:13		Feb-13-20 11:13		Feb-13-20 11:13	
	Analyzed:	Feb-14-20 02:37		Feb-14-20 03:01		Feb-14-20 03:25		Feb-14-20 03:50		Feb-14-20 06:13		Feb-14-20 06:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00789	0.0175	<0.0178	0.0394	<0.0161	0.0357	<0.0181	0.0400	<0.0157	0.0348	<0.0164	0.0363
Toluene		<0.00408	0.0175	<0.00921	0.0394	<0.00836	0.0357	<0.00936	0.0400	<0.00814	0.0348	<0.00849	0.0363
Ethylbenzene		<0.00538	0.0175	<0.0121	0.0394	<0.0110	0.0357	<0.0123	0.0400	<0.0107	0.0348	<0.0112	0.0363
m,p-Xylenes		<0.00595	0.0349	<0.0134	0.0787	<0.0122	0.0714	<0.0136	0.0800	<0.0119	0.0696	<0.0124	0.0726
o-Xylene		<0.00595	0.0175	<0.0134	0.0394	<0.0122	0.0357	<0.0136	0.0400	<0.0119	0.0348	<0.0124	0.0363
Total Xylenes		<0.00595	0.0175	<0.0134	0.0394	<0.0122	0.0357	<0.0136	0.0400	<0.0119	0.0348	<0.0124	0.0363
Total BTEX		<0.00408	0.0175	<0.00921	0.0394	<0.00836	0.0357	<0.00936	0.0400	<0.00814	0.0348	<0.00849	0.0363
Chloride by EPA 300	*Extracted:*	Feb-13-20 14:30		Feb-13-20 14:30		Feb-13-20 14:30		Feb-13-20 14:30		Feb-13-20 14:30		Feb-13-20 14:30	
	Analyzed:	Feb-13-20 19:50		Feb-13-20 20:15		Feb-13-20 20:39		Feb-13-20 21:04		Feb-13-20 22:19		Feb-13-20 23:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1580 D	250	5820 D	1250	7320 D	1250	6710 D	1250	6690 DX	1250	7260 D	1250
DRO-ORO By SW8015B	*Extracted:*	Feb-13-20 12:00		Feb-13-20 12:00		Feb-13-20 12:00		Feb-13-20 12:00		Feb-13-20 12:00		Feb-13-20 12:00	
	Analyzed:	Feb-14-20 03:29		Feb-14-20 04:06		Feb-14-20 04:43		Feb-14-20 05:21		Feb-14-20 05:59		Feb-14-20 06:35	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Diesel Range Organics (DRO)		<7.53	25.2	27.8	24.9	27.8	25.2	33.4	25.0	39.0	24.9	18.7 J	25.0
Oil Range Hydrocarbons (ORO)		<7.53	25.2	<7.44	24.9	<7.53	25.2	<7.49	25.0	<7.45	24.9	<7.47	25.0
TPH GRO by EPA 8015 Mod.	*Extracted:*	Feb-13-20 11:13		Feb-13-20 11:13		Feb-13-20 11:13		Feb-13-20 11:13		Feb-13-20 11:13		Feb-13-20 11:13	
	Analyzed:	Feb-14-20 02:37		Feb-14-20 03:01		Feb-14-20 03:25		Feb-14-20 03:50		Feb-14-20 06:13		Feb-14-20 06:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH-GRO		0.408 J	3.49	0.728 J	7.87	0.996 J	7.14	0.936 J	8.00	1.21 J	6.96	1.40 J	7.26

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 652217

Terracon-Lubbock, Lubbock, TX

Project Name: Aikman SWD

Project Id: AR207018
Contact: Joseph Guesnier
Project Location:

Date Received in Lab: Wed Feb-12-20 04:45 pm
Report Date: 14-FEB-20
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	652217-013		652217-014					
	Field Id:	WTF-1 (1.5-2)		ETF-1 (1.5-2)					
	Depth:	1.5-2 ft		1.5-2 ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Feb-10-20 13:38		Feb-10-20 13:45					
BTEX by EPA 8021B	***Extracted:***	Feb-13-20 11:13		Feb-13-20 11:13					
	Analyzed:	Feb-14-20 07:01		Feb-14-20 07:26					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00878	0.0194	<0.00831	0.0184				
Toluene		<0.00454	0.0194	<0.00430	0.0184				
Ethylbenzene		<0.00598	0.0194	<0.00566	0.0184				
m,p-Xylenes		<0.00662	0.0388	<0.00627	0.0368				
o-Xylene		<0.00662	0.0194	<0.00627	0.0184				
Total Xylenes		<0.00662	0.0194	<0.00627	0.0184				
Total BTEX		<0.00454	0.0194	<0.00430	0.0184				
Chloride by EPA 300	***Extracted:***	Feb-13-20 14:30		Feb-13-20 14:30					
	Analyzed:	Feb-13-20 23:33		Feb-13-20 23:58					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		3660 D	250	5100 D	1250				
DRO-ORO By SW8015B	***Extracted:***	Feb-13-20 12:00		Feb-13-20 12:00					
	Analyzed:	Feb-14-20 07:13		Feb-13-20 21:09					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Diesel Range Organics (DRO)		19.6 J	25.1	<7.48	25.0				
Oil Range Hydrocarbons (ORO)		<7.51	25.1	<7.48	25.0				
TPH GRO by EPA 8015 Mod.	***Extracted:***	Feb-13-20 11:13		Feb-13-20 11:13					
	Analyzed:	Feb-14-20 07:01		Feb-14-20 07:26					
	Units/RL:	mg/kg	RL	mg/kg	RL				
TPH-GRO		0.612 J	3.88	0.494 J	3.68				

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%

Jessica Kramer
Project Assistant

Analytical Report 652217

for

Terracon-Lubbock

Project Manager: Joseph Guesnier

Aikman SWD

AR207018

14-FEB-20

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

14-FEB-20

Project Manager: **Joseph Guesnier**
Terracon-Lubbock
5827 50th st, Suite 1
Lubbock, TX 79424

Reference: XENCO Report No(s): **652217**
Aikman SWD
Project Address:

Joseph Guesnier:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 652217. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 652217 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW-1 (0.5-1)	S	02-10-20 12:00	0.5 - 1 ft	652217-001
WW-1 (0.5-1)	S	02-10-20 12:08	0.5 - 1 ft	652217-002
NWT-1 (0.5-1)	S	02-10-20 12:25	0.5 - 1 ft	652217-003
NW-1 (0.5-1)	S	02-10-20 12:27	0.5 - 1 ft	652217-004
EW-1 (0.5-1)	S	02-10-20 12:33	0.5 - 1 ft	652217-005
SWT-1 (0.5-1)	S	02-10-20 12:38	0.5 - 1 ft	652217-006
NEW-1 (0.5-1)	S	02-10-20 12:47	0.5 - 1 ft	652217-007
SEW-1 (0.5-1)	S	02-10-20 12:56	0.5 - 1 ft	652217-008
NWF-1 (1.5-2)	S	02-10-20 13:04	1.5 - 2 ft	652217-009
SWF-1 (1.5-2)	S	02-10-20 13:13	1.5 - 2 ft	652217-010
NEF-1 (1.5-2)	S	02-10-20 13:21	1.5 - 2 ft	652217-011
SEF-1 (1.5-2)	S	02-10-20 13:29	1.5 - 2 ft	652217-012
WTF-1 (1.5-2)	S	02-10-20 13:38	1.5 - 2 ft	652217-013
ETF-1 (1.5-2)	S	02-10-20 13:45	1.5 - 2 ft	652217-014

CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: Aikman SWD

Project ID: *AR207018*
Work Order Number(s): *652217*

Report Date: *14-FEB-20*
Date Received: *02/12/2020*

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. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116493 DRO-ORO By SW8015B
Surrogate Tricosane recovered below QC limits Data confirmed by re-analysis. Samples affected are: 7696655-1-BKS,7696655-1-BSD,652217-014 S,652217-014 SD,652217-014.

Batch: LBA-3116494 Chloride by EPA 300
Lab Sample ID 652217-006 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 652217-001, -002, -003, -004, -005, -006, -007, -008, -009, -010.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3116500 Chloride by EPA 300
Lab Sample ID 652217-011 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 652217-011, -012, -013, -014.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3116511 BTEX by EPA 8021B
Samples 652217-002, -004, -008, -009, -010, -011, and -012 were diluted due to hydrocarbons beyond Xylenes.

CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: Aikman SWD

Project ID: *AR207018*
Work Order Number(s): *652217*

Report Date: *14-FEB-20*
Date Received: *02/12/2020*

Batch: LBA-3116517 TPH GRO by EPA 8015 Mod.
Samples 652217-002, -004, -008, -009, -010, -011, and -012 were diluted due to hydrocarbons beyond Xylenes.

Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 652217-007,652217-006.

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **SW-1 (0.5-1)** Matrix: Soil Date Received:02.12.20 16.45

Lab Sample Id: 652217-001 Date Collected: 02.10.20 12.00 Sample Depth: 0.5 - 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 02.13.20 14.30 Basis: Wet Weight

Seq Number: 3116494

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3580**	250	5.72	mg/kg	02.13.20 16.31	DX	10

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 12.00 Basis: Wet Weight

Seq Number: 3116493

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**13.4**	25.3	7.56	mg/kg	02.13.20 23.42	J	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.56	25.3	7.56	mg/kg	02.13.20 23.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	70	%	65-144	02.13.20 23.42	
n-Triacontane	638-68-6	93	%	46-152	02.13.20 23.42	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 11.13 Basis: Wet Weight

Seq Number: 3116511

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00888	0.0196	0.00888	mg/kg	02.13.20 22.11	U	1
Toluene	108-88-3	<0.00460	0.0196	0.00460	mg/kg	02.13.20 22.11	U	1
Ethylbenzene	100-41-4	<0.00605	0.0196	0.00605	mg/kg	02.13.20 22.11	U	1
m,p-Xylenes	179601-23-1	<0.00670	0.0393	0.00670	mg/kg	02.13.20 22.11	U	1
o-Xylene	95-47-6	<0.00670	0.0196	0.00670	mg/kg	02.13.20 22.11	U	1
Total Xylenes	1330-20-7	<0.00670	0.0196	0.00670	mg/kg	02.13.20 22.11	U	1
Total BTEX		<0.00460	0.0196	0.00460	mg/kg	02.13.20 22.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	86	%	68-120	02.13.20 22.11	
a,a,a-Trifluorotoluene	98-08-8	99	%	71-121	02.13.20 22.11	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**SW-1 (0.5-1)**	Matrix:	Soil	Date Received:	02.12.20 16.45
Lab Sample Id:	652217-001	Date Collected:	02.10.20 12.00	Sample Depth:	0.5 - 1 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	02.13.20 11.13	Basis:	Wet Weight
Seq Number:	3116517				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**2.79**	3.93	0.266	mg/kg	02.13.20 22.11	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	76	%	76-123	02.13.20 22.11	
a,a,a-Trifluorotoluene	98-08-8	77	%	69-120	02.13.20 22.11	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **WW-1 (0.5-1)** Matrix: Soil Date Received:02.12.20 16.45

Lab Sample Id: 652217-002 Date Collected: 02.10.20 12.08 Sample Depth: 0.5 - 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 02.13.20 14.30 Basis: Wet Weight

Seq Number: 3116494

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4230**	250	5.72	mg/kg	02.13.20 17.21	D	10

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 12.00 Basis: Wet Weight

Seq Number: 3116493

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**67.6**	25.1	7.50	mg/kg	02.14.20 00.19		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.50	25.1	7.50	mg/kg	02.14.20 00.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	78	%	65-144	02.14.20 00.19	
n-Triacontane	638-68-6	98	%	46-152	02.14.20 00.19	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 11.13 Basis: Wet Weight

Seq Number: 3116511

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0179	0.0396	0.0179	mg/kg	02.14.20 00.36	U	2
Toluene	108-88-3	<0.00927	0.0396	0.00927	mg/kg	02.14.20 00.36	U	2
Ethylbenzene	100-41-4	<0.0122	0.0396	0.0122	mg/kg	02.14.20 00.36	U	2
m,p-Xylenes	179601-23-1	<0.0135	0.0792	0.0135	mg/kg	02.14.20 00.36	U	2
o-Xylene	95-47-6	<0.0135	0.0396	0.0135	mg/kg	02.14.20 00.36	U	2
Total Xylenes	1330-20-7	<0.0135	0.0396	0.0135	mg/kg	02.14.20 00.36	U	2
Total BTEX		<0.00927	0.0396	0.00927	mg/kg	02.14.20 00.36	U	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	68-120	02.14.20 00.36	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	02.14.20 00.36	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**WW-1 (0.5-1)**	Matrix:	Soil	Date Received:	02.12.20 16.45
Lab Sample Id:	652217-002	Date Collected:	02.10.20 12.08	Sample Depth:	0.5 - 1 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	02.13.20 11.13	Basis:	Wet Weight
Seq Number:	3116517				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**3.46**	7.92	0.537	mg/kg	02.14.20 00.36	J	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	76-123	02.14.20 00.36	
a,a,a-Trifluorotoluene	98-08-8	87	%	69-120	02.14.20 00.36	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **NWT-1 (0.5-1)** Matrix: Soil Date Received:02.12.20 16.45

Lab Sample Id: 652217-003 Date Collected: 02.10.20 12.25 Sample Depth: 0.5 - 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 02.13.20 14.30 Basis: Wet Weight

Seq Number: 3116494

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9510**	1250	28.6	mg/kg	02.13.20 17.46	D	50

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 12.00 Basis: Wet Weight

Seq Number: 3116493

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**74.9**	25.2	7.53	mg/kg	02.14.20 00.58		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.53	25.2	7.53	mg/kg	02.14.20 00.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	77	%	65-144	02.14.20 00.58	
n-Triacontane	638-68-6	97	%	46-152	02.14.20 00.58	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 11.13 Basis: Wet Weight

Seq Number: 3116511

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00888	0.0196	0.00888	mg/kg	02.14.20 01.00	U	1
Toluene	108-88-3	**0.0177**	0.0196	0.00460	mg/kg	02.14.20 01.00	J	1
Ethylbenzene	100-41-4	<0.00605	0.0196	0.00605	mg/kg	02.14.20 01.00	U	1
m,p-Xylenes	179601-23-1	<0.00670	0.0393	0.00670	mg/kg	02.14.20 01.00	U	1
o-Xylene	95-47-6	<0.00670	0.0196	0.00670	mg/kg	02.14.20 01.00	U	1
Total Xylenes	1330-20-7	<0.00670	0.0196	0.00670	mg/kg	02.14.20 01.00	U	1
Total BTEX		**0.0177**	0.0196	0.00460	mg/kg	02.14.20 01.00	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	68-120	02.14.20 01.00	
a,a,a-Trifluorotoluene	98-08-8	118	%	71-121	02.14.20 01.00	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**NWT-1 (0.5-1)**	Matrix:	Soil	Date Received:	02.12.20 16.45
Lab Sample Id:	652217-003	Date Collected:	02.10.20 12.25	Sample Depth:	0.5 - 1 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	02.13.20 11.13	Basis:	Wet Weight
Seq Number:	3116517				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**0.752**	3.93	0.266	mg/kg	02.14.20 01.00	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	76-123	02.14.20 01.00	
a,a,a-Trifluorotoluene	98-08-8	92	%	69-120	02.14.20 01.00	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **NW-1 (0.5-1)** Matrix: Soil Date Received:02.12.20 16.45

Lab Sample Id: 652217-004 Date Collected: 02.10.20 12.27 Sample Depth: 0.5 - 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 02.13.20 14.30 Basis: Wet Weight

Seq Number: 3116494

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8520**	1250	28.6	mg/kg	02.13.20 18.10	D	50

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 12.00 Basis: Wet Weight

Seq Number: 3116493

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**52.8**	25.1	7.52	mg/kg	02.14.20 01.35		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.52	25.1	7.52	mg/kg	02.14.20 01.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	78	%	65-144	02.14.20 01.35	
n-Triacontane	638-68-6	96	%	46-152	02.14.20 01.35	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 11.13 Basis: Wet Weight

Seq Number: 3116511

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0175	0.0386	0.0175	mg/kg	02.14.20 01.25	U	2
Toluene	108-88-3	<0.00903	0.0386	0.00903	mg/kg	02.14.20 01.25	U	2
Ethylbenzene	100-41-4	<0.0119	0.0386	0.0119	mg/kg	02.14.20 01.25	U	2
m,p-Xylenes	179601-23-1	<0.0132	0.0772	0.0132	mg/kg	02.14.20 01.25	U	2
o-Xylene	95-47-6	<0.0132	0.0386	0.0132	mg/kg	02.14.20 01.25	U	2
Total Xylenes	1330-20-7	<0.0132	0.0386	0.0132	mg/kg	02.14.20 01.25	U	2
Total BTEX		<0.00903	0.0386	0.00903	mg/kg	02.14.20 01.25	U	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	68-120	02.14.20 01.25	
a,a,a-Trifluorotoluene	98-08-8	107	%	71-121	02.14.20 01.25	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**NW-1 (0.5-1)**	Matrix:	Soil	Date Received:	02.12.20 16.45
Lab Sample Id:	652217-004	Date Collected:	02.10.20 12.27	Sample Depth:	0.5 - 1 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	02.13.20 11.13	Basis:	Wet Weight
Seq Number:	3116517				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**1.07**	7.72	0.523	mg/kg	02.14.20 01.25	J	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	84	%	76-123	02.14.20 01.25	
a,a,a-Trifluorotoluene	98-08-8	83	%	69-120	02.14.20 01.25	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **EW-1 (0.5-1)** Matrix: Soil Date Received:02.12.20 16.45

Lab Sample Id: 652217-005 Date Collected: 02.10.20 12.33 Sample Depth: 0.5 - 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 02.13.20 14.30 Basis: Wet Weight

Seq Number: 3116494

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5520**	1250	28.6	mg/kg	02.13.20 18.35	D	50

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 12.00 Basis: Wet Weight

Seq Number: 3116493

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**16.7**	25.1	7.50	mg/kg	02.14.20 02.13	J	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.50	25.1	7.50	mg/kg	02.14.20 02.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	71	%	65-144	02.14.20 02.13	
n-Triacontane	638-68-6	94	%	46-152	02.14.20 02.13	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 11.13 Basis: Wet Weight

Seq Number: 3116511

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00783	0.0173	0.00783	mg/kg	02.14.20 01.49	U	1
Toluene	108-88-3	<0.00406	0.0173	0.00406	mg/kg	02.14.20 01.49	U	1
Ethylbenzene	100-41-4	<0.00534	0.0173	0.00534	mg/kg	02.14.20 01.49	U	1
m,p-Xylenes	179601-23-1	<0.00591	0.0347	0.00591	mg/kg	02.14.20 01.49	U	1
o-Xylene	95-47-6	<0.00591	0.0173	0.00591	mg/kg	02.14.20 01.49	U	1
Total Xylenes	1330-20-7	<0.00591	0.0173	0.00591	mg/kg	02.14.20 01.49	U	1
Total BTEX		<0.00406	0.0173	0.00406	mg/kg	02.14.20 01.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	68-120	02.14.20 01.49	
a,a,a-Trifluorotoluene	98-08-8	106	%	71-121	02.14.20 01.49	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**EW-1 (0.5-1)**	Matrix:	Soil	Date Received:	02.12.20 16.45
Lab Sample Id:	652217-005	Date Collected:	02.10.20 12.33	Sample Depth:	0.5 - 1 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	02.13.20 11.13	Basis:	Wet Weight
Seq Number:	3116517				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**2.32**	3.47	0.235	mg/kg	02.14.20 01.49	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	79	%	76-123	02.14.20 01.49	
a,a,a-Trifluorotoluene	98-08-8	82	%	69-120	02.14.20 01.49	

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Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **SWT-1 (0.5-1)** Matrix: Soil Date Received:02.12.20 16.45

Lab Sample Id: 652217-006 Date Collected: 02.10.20 12.38 Sample Depth: 0.5 - 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 02.13.20 14.30 Basis: Wet Weight

Seq Number: 3116494

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11000**	2500	57.2	mg/kg	02.13.20 19.12	DX	100

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 12.00 Basis: Wet Weight

Seq Number: 3116493

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**21.1**	25.2	7.53	mg/kg	02.14.20 02.49	J	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.53	25.2	7.53	mg/kg	02.14.20 02.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	73	%	65-144	02.14.20 02.49	
n-Triacontane	638-68-6	95	%	46-152	02.14.20 02.49	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 11.13 Basis: Wet Weight

Seq Number: 3116511

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00890	0.0197	0.00890	mg/kg	02.14.20 02.13	U	1
Toluene	108-88-3	<0.00461	0.0197	0.00461	mg/kg	02.14.20 02.13	U	1
Ethylbenzene	100-41-4	<0.00606	0.0197	0.00606	mg/kg	02.14.20 02.13	U	1
m,p-Xylenes	179601-23-1	<0.00671	0.0394	0.00671	mg/kg	02.14.20 02.13	U	1
o-Xylene	95-47-6	<0.00671	0.0197	0.00671	mg/kg	02.14.20 02.13	U	1
Total Xylenes	1330-20-7	<0.00671	0.0197	0.00671	mg/kg	02.14.20 02.13	U	1
Total BTEX		<0.00461	0.0197	0.00461	mg/kg	02.14.20 02.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	68-120	02.14.20 02.13	
a,a,a-Trifluorotoluene	98-08-8	102	%	71-121	02.14.20 02.13	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**SWT-1 (0.5-1)**	Matrix:	Soil	Date Received:	02.12.20 16.45
Lab Sample Id:	652217-006	Date Collected:	02.10.20 12.38	Sample Depth:	0.5 - 1 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	02.13.20 11.13	Basis:	Wet Weight
Seq Number:	3116517				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**0.780**	3.94	0.267	mg/kg	02.14.20 02.13	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	72	%	76-123	02.14.20 02.13	**
a,a,a-Trifluorotoluene	98-08-8	79	%	69-120	02.14.20 02.13	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **NEW-1 (0.5-1)** Matrix: Soil Date Received:02.12.20 16.45

Lab Sample Id: 652217-007 Date Collected: 02.10.20 12.47 Sample Depth: 0.5 - 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 02.13.20 14.30 Basis: Wet Weight

Seq Number: 3116494

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1580**	250	5.72	mg/kg	02.13.20 20.02	D	10

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 12.00 Basis: Wet Weight

Seq Number: 3116493

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.53	25.2	7.53	mg/kg	02.14.20 03.29	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.53	25.2	7.53	mg/kg	02.14.20 03.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	70	%	65-144	02.14.20 03.29	
n-Triacontane	638-68-6	93	%	46-152	02.14.20 03.29	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 11.13 Basis: Wet Weight

Seq Number: 3116511

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00789	0.0175	0.00789	mg/kg	02.14.20 02.37	U	1
Toluene	108-88-3	<0.00408	0.0175	0.00408	mg/kg	02.14.20 02.37	U	1
Ethylbenzene	100-41-4	<0.00538	0.0175	0.00538	mg/kg	02.14.20 02.37	U	1
m,p-Xylenes	179601-23-1	<0.00595	0.0349	0.00595	mg/kg	02.14.20 02.37	U	1
o-Xylene	95-47-6	<0.00595	0.0175	0.00595	mg/kg	02.14.20 02.37	U	1
Total Xylenes	1330-20-7	<0.00595	0.0175	0.00595	mg/kg	02.14.20 02.37	U	1
Total BTEX		<0.00408	0.0175	0.00408	mg/kg	02.14.20 02.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	68-120	02.14.20 02.37	
a,a,a-Trifluorotoluene	98-08-8	104	%	71-121	02.14.20 02.37	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**NEW-1 (0.5-1)**	Matrix:	Soil	Date Received:	02.12.20 16.45
Lab Sample Id:	652217-007	Date Collected:	02.10.20 12.47	Sample Depth:	0.5 - 1 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	02.13.20 11.13	Basis:	Wet Weight
Seq Number:	3116517				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**0.408**	3.49	0.236	mg/kg	02.14.20 02.37	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	73	%	76-123	02.14.20 02.37	**
a,a,a-Trifluorotoluene	98-08-8	81	%	69-120	02.14.20 02.37	

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Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **SEW-1 (0.5-1)** Matrix: Soil Date Received:02.12.20 16.45

Lab Sample Id: 652217-008 Date Collected: 02.10.20 12.56 Sample Depth: 0.5 - 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 02.13.20 14.30 Basis: Wet Weight

Seq Number: 3116494

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5820**	1250	28.6	mg/kg	02.13.20 20.27	D	50

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 12.00 Basis: Wet Weight

Seq Number: 3116493

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**27.8**	24.9	7.44	mg/kg	02.14.20 04.06		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.44	24.9	7.44	mg/kg	02.14.20 04.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	73	%	65-144	02.14.20 04.06	
n-Triacontane	638-68-6	97	%	46-152	02.14.20 04.06	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 11.13 Basis: Wet Weight

Seq Number: 3116511

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0178	0.0394	0.0178	mg/kg	02.14.20 03.01	U	2
Toluene	108-88-3	<0.00921	0.0394	0.00921	mg/kg	02.14.20 03.01	U	2
Ethylbenzene	100-41-4	<0.0121	0.0394	0.0121	mg/kg	02.14.20 03.01	U	2
m,p-Xylenes	179601-23-1	<0.0134	0.0787	0.0134	mg/kg	02.14.20 03.01	U	2
o-Xylene	95-47-6	<0.0134	0.0394	0.0134	mg/kg	02.14.20 03.01	U	2
Total Xylenes	1330-20-7	<0.0134	0.0394	0.0134	mg/kg	02.14.20 03.01	U	2
Total BTEX		<0.00921	0.0394	0.00921	mg/kg	02.14.20 03.01	U	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	68-120	02.14.20 03.01	
a,a,a-Trifluorotoluene	98-08-8	130	%	71-121	02.14.20 03.01	**

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**SEW-1 (0.5-1)**	Matrix:	Soil	Date Received:	02.12.20 16.45
Lab Sample Id:	652217-008	Date Collected:	02.10.20 12.56	Sample Depth:	0.5 - 1 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	02.13.20 11.13	Basis:	Wet Weight
Seq Number:	3116517				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**0.728**	7.87	0.533	mg/kg	02.14.20 03.01	J	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	76-123	02.14.20 03.01	
a,a,a-Trifluorotoluene	98-08-8	102	%	69-120	02.14.20 03.01	

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Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**NWF-1 (1.5-2)**	Matrix:	Soil	Date Received:	02.12.20 16.45
Lab Sample Id:	652217-009	Date Collected:	02.10.20 13.04	Sample Depth:	1.5 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	02.13.20 14.30	Basis:	Wet Weight
Seq Number:	3116494				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7320**	1250	28.6	mg/kg	02.13.20 20.52	D	50

Analytical Method:	DRO-ORO By SW8015B			Prep Method:	SW8015P
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	02.13.20 12.00	Basis:	Wet Weight
Seq Number:	3116493				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**27.8**	25.2	7.53	mg/kg	02.14.20 04.43		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.53	25.2	7.53	mg/kg	02.14.20 04.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	74	%	65-144	02.14.20 04.43	
n-Triacontane	638-68-6	96	%	46-152	02.14.20 04.43	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	02.13.20 11.13	Basis:	Wet Weight
Seq Number:	3116511				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0161	0.0357	0.0161	mg/kg	02.14.20 03.25	U	2
Toluene	108-88-3	<0.00836	0.0357	0.00836	mg/kg	02.14.20 03.25	U	2
Ethylbenzene	100-41-4	<0.0110	0.0357	0.0110	mg/kg	02.14.20 03.25	U	2
m,p-Xylenes	179601-23-1	<0.0122	0.0714	0.0122	mg/kg	02.14.20 03.25	U	2
o-Xylene	95-47-6	<0.0122	0.0357	0.0122	mg/kg	02.14.20 03.25	U	2
Total Xylenes	1330-20-7	<0.0122	0.0357	0.0122	mg/kg	02.14.20 03.25	U	2
Total BTEX		<0.00836	0.0357	0.00836	mg/kg	02.14.20 03.25	U	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	68-120	02.14.20 03.25	
a,a,a-Trifluorotoluene	98-08-8	117	%	71-121	02.14.20 03.25	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**NWF-1 (1.5-2)**	Matrix:	Soil	Date Received:	02.12.20 16.45
Lab Sample Id:	652217-009	Date Collected:	02.10.20 13.04	Sample Depth:	1.5 - 2 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	02.13.20 11.13	Basis:	Wet Weight
Seq Number:	3116517				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**0.996**	7.14	0.484	mg/kg	02.14.20 03.25	J	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	76-123	02.14.20 03.25	
a,a,a-Trifluorotoluene	98-08-8	91	%	69-120	02.14.20 03.25	

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Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **SWF-1 (1.5-2)** Matrix: Soil Date Received:02.12.20 16.45

Lab Sample Id: 652217-010 Date Collected: 02.10.20 13.13 Sample Depth: 1.5 - 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 02.13.20 14.30 Basis: Wet Weight

Seq Number: 3116494

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6710**	1250	28.6	mg/kg	02.13.20 21.17	D	50

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 12.00 Basis: Wet Weight

Seq Number: 3116493

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**33.4**	25.0	7.49	mg/kg	02.14.20 05.21		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.49	25.0	7.49	mg/kg	02.14.20 05.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	77	%	65-144	02.14.20 05.21	
n-Triacontane	638-68-6	99	%	46-152	02.14.20 05.21	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 11.13 Basis: Wet Weight

Seq Number: 3116511

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0181	0.0400	0.0181	mg/kg	02.14.20 03.50	U	2
Toluene	108-88-3	<0.00936	0.0400	0.00936	mg/kg	02.14.20 03.50	U	2
Ethylbenzene	100-41-4	<0.0123	0.0400	0.0123	mg/kg	02.14.20 03.50	U	2
m,p-Xylenes	179601-23-1	<0.0136	0.0800	0.0136	mg/kg	02.14.20 03.50	U	2
o-Xylene	95-47-6	<0.0136	0.0400	0.0136	mg/kg	02.14.20 03.50	U	2
Total Xylenes	1330-20-7	<0.0136	0.0400	0.0136	mg/kg	02.14.20 03.50	U	2
Total BTEX		<0.00936	0.0400	0.00936	mg/kg	02.14.20 03.50	U	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	68-120	02.14.20 03.50	
a,a,a-Trifluorotoluene	98-08-8	118	%	71-121	02.14.20 03.50	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**SWF-1 (1.5-2)**	Matrix:	Soil	Date Received:	02.12.20 16.45
Lab Sample Id:	652217-010	Date Collected:	02.10.20 13.13	Sample Depth:	1.5 - 2 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	02.13.20 11.13	Basis:	Wet Weight
Seq Number:	3116517				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**0.936**	8.00	0.542	mg/kg	02.14.20 03.50	J	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	76-123	02.14.20 03.50	
a,a,a-Trifluorotoluene	98-08-8	92	%	69-120	02.14.20 03.50	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **NEF-1 (1.5-2)** Matrix: Soil Date Received:02.12.20 16.45

Lab Sample Id: 652217-011 Date Collected: 02.10.20 13.21 Sample Depth: 1.5 - 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 02.13.20 14.30 Basis: Wet Weight

Seq Number: 3116500

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6690**	1250	28.6	mg/kg	02.13.20 22.31	DX	50

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 12.00 Basis: Wet Weight

Seq Number: 3116493

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**39.0**	24.9	7.45	mg/kg	02.14.20 05.59		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.45	24.9	7.45	mg/kg	02.14.20 05.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	78	%	65-144	02.14.20 05.59	
n-Triacontane	638-68-6	98	%	46-152	02.14.20 05.59	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 11.13 Basis: Wet Weight

Seq Number: 3116511

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0157	0.0348	0.0157	mg/kg	02.14.20 06.13	U	2
Toluene	108-88-3	<0.00814	0.0348	0.00814	mg/kg	02.14.20 06.13	U	2
Ethylbenzene	100-41-4	<0.0107	0.0348	0.0107	mg/kg	02.14.20 06.13	U	2
m,p-Xylenes	179601-23-1	<0.0119	0.0696	0.0119	mg/kg	02.14.20 06.13	U	2
o-Xylene	95-47-6	<0.0119	0.0348	0.0119	mg/kg	02.14.20 06.13	U	2
Total Xylenes	1330-20-7	<0.0119	0.0348	0.0119	mg/kg	02.14.20 06.13	U	2
Total BTEX		<0.00814	0.0348	0.00814	mg/kg	02.14.20 06.13	U	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	68-120	02.14.20 06.13	
a,a,a-Trifluorotoluene	98-08-8	125	%	71-121	02.14.20 06.13	**

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**NEF-1 (1.5-2)**	Matrix:	Soil	Date Received:	02.12.20 16.45
Lab Sample Id:	652217-011	Date Collected:	02.10.20 13.21	Sample Depth:	1.5 - 2 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	02.13.20 11.13	Basis:	Wet Weight
Seq Number:	3116517				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**1.21**	6.96	0.471	mg/kg	02.14.20 06.13	J	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	76-123	02.14.20 06.13	
a,a,a-Trifluorotoluene	98-08-8	98	%	69-120	02.14.20 06.13	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **SEF-1 (1.5-2)** Matrix: Soil Date Received:02.12.20 16.45

Lab Sample Id: 652217-012 Date Collected: 02.10.20 13.29 Sample Depth: 1.5 - 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 02.13.20 14.30 Basis: Wet Weight

Seq Number: 3116500

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7260**	1250	28.6	mg/kg	02.13.20 23.21	D	50

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 12.00 Basis: Wet Weight

Seq Number: 3116493

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**18.7**	25.0	7.47	mg/kg	02.14.20 06.35	J	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.47	25.0	7.47	mg/kg	02.14.20 06.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	74	%	65-144	02.14.20 06.35	
n-Triacontane	638-68-6	96	%	46-152	02.14.20 06.35	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 11.13 Basis: Wet Weight

Seq Number: 3116511

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0164	0.0363	0.0164	mg/kg	02.14.20 06.37	U	2
Toluene	108-88-3	<0.00849	0.0363	0.00849	mg/kg	02.14.20 06.37	U	2
Ethylbenzene	100-41-4	<0.0112	0.0363	0.0112	mg/kg	02.14.20 06.37	U	2
m,p-Xylenes	179601-23-1	<0.0124	0.0726	0.0124	mg/kg	02.14.20 06.37	U	2
o-Xylene	95-47-6	<0.0124	0.0363	0.0124	mg/kg	02.14.20 06.37	U	2
Total Xylenes	1330-20-7	<0.0124	0.0363	0.0124	mg/kg	02.14.20 06.37	U	2
Total BTEX		<0.00849	0.0363	0.00849	mg/kg	02.14.20 06.37	U	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	68-120	02.14.20 06.37	
a,a,a-Trifluorotoluene	98-08-8	128	%	71-121	02.14.20 06.37	**

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**SEF-1 (1.5-2)**	Matrix:	Soil	Date Received:	02.12.20 16.45
Lab Sample Id:	652217-012	Date Collected:	02.10.20 13.29	Sample Depth:	1.5 - 2 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	02.13.20 11.13	Basis:	Wet Weight
Seq Number:	3116517				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**1.40**	7.26	0.492	mg/kg	02.14.20 06.37	J	2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	76-123	02.14.20 06.37	
a,a,a-Trifluorotoluene	98-08-8	100	%	69-120	02.14.20 06.37	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **WTF-1 (1.5-2)** Matrix: Soil Date Received:02.12.20 16.45

Lab Sample Id: 652217-013 Date Collected: 02.10.20 13.38 Sample Depth: 1.5 - 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 02.13.20 14.30 Basis: Wet Weight

Seq Number: 3116500

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3660**	250	5.72	mg/kg	02.13.20 23.46	D	10

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 12.00 Basis: Wet Weight

Seq Number: 3116493

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	**19.6**	25.1	7.51	mg/kg	02.14.20 07.13	J	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.51	25.1	7.51	mg/kg	02.14.20 07.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	74	%	65-144	02.14.20 07.13	
n-Triacontane	638-68-6	95	%	46-152	02.14.20 07.13	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 11.13 Basis: Wet Weight

Seq Number: 3116511

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00878	0.0194	0.00878	mg/kg	02.14.20 07.01	U	1
Toluene	108-88-3	<0.00454	0.0194	0.00454	mg/kg	02.14.20 07.01	U	1
Ethylbenzene	100-41-4	<0.00598	0.0194	0.00598	mg/kg	02.14.20 07.01	U	1
m,p-Xylenes	179601-23-1	<0.00662	0.0388	0.00662	mg/kg	02.14.20 07.01	U	1
o-Xylene	95-47-6	<0.00662	0.0194	0.00662	mg/kg	02.14.20 07.01	U	1
Total Xylenes	1330-20-7	<0.00662	0.0194	0.00662	mg/kg	02.14.20 07.01	U	1
Total BTEX		<0.00454	0.0194	0.00454	mg/kg	02.14.20 07.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	68-120	02.14.20 07.01	
a,a,a-Trifluorotoluene	98-08-8	123	%	71-121	02.14.20 07.01	**

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**WTF-1 (1.5-2)**	Matrix:	Soil	Date Received:	02.12.20 16.45
Lab Sample Id:	652217-013	Date Collected:	02.10.20 13.38	Sample Depth:	1.5 - 2 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	02.13.20 11.13	Basis:	Wet Weight
Seq Number:	3116517				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**0.612**	3.88	0.263	mg/kg	02.14.20 07.01	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	86	%	76-123	02.14.20 07.01	
a,a,a-Trifluorotoluene	98-08-8	96	%	69-120	02.14.20 07.01	

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **ETF-1 (1.5-2)** Matrix: Soil Date Received:02.12.20 16.45

Lab Sample Id: 652217-014 Date Collected: 02.10.20 13.45 Sample Depth: 1.5 - 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 02.13.20 14.30 Basis: Wet Weight

Seq Number: 3116500

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5100**	1250	28.6	mg/kg	02.14.20 00.10	D	50

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 12.00 Basis: Wet Weight

Seq Number: 3116493

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.48	25.0	7.48	mg/kg	02.13.20 21.09	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.48	25.0	7.48	mg/kg	02.13.20 21.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	60	%	65-144	02.13.20 21.09	**
n-Triacontane	638-68-6	87	%	46-152	02.13.20 21.09	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 02.13.20 11.13 Basis: Wet Weight

Seq Number: 3116511

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00831	0.0184	0.00831	mg/kg	02.14.20 07.26	U	1
Toluene	108-88-3	<0.00430	0.0184	0.00430	mg/kg	02.14.20 07.26	U	1
Ethylbenzene	100-41-4	<0.00566	0.0184	0.00566	mg/kg	02.14.20 07.26	U	1
m,p-Xylenes	179601-23-1	<0.00627	0.0368	0.00627	mg/kg	02.14.20 07.26	U	1
o-Xylene	95-47-6	<0.00627	0.0184	0.00627	mg/kg	02.14.20 07.26	U	1
Total Xylenes	1330-20-7	<0.00627	0.0184	0.00627	mg/kg	02.14.20 07.26	U	1
Total BTEX		<0.00430	0.0184	0.00430	mg/kg	02.14.20 07.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	68-120	02.14.20 07.26	
a,a,a-Trifluorotoluene	98-08-8	126	%	71-121	02.14.20 07.26	**

Certificate of Analytical Results 652217

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**ETF-1 (1.5-2)**	Matrix:	Soil	Date Received:	02.12.20 16.45
Lab Sample Id:	652217-014	Date Collected:	02.10.20 13.45	Sample Depth:	1.5 - 2 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	02.13.20 11.13	Basis:	Wet Weight
Seq Number:	3116517				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**0.494**	3.68	0.249	mg/kg	02.14.20 07.26	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	76-123	02.14.20 07.26	
a,a,a-Trifluorotoluene	98-08-8	98	%	69-120	02.14.20 07.26	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 652217

Terracon-Lubbock

Aikman SWD

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3116494 — Matrix: Solid — Date Prep: 02.13.20
MB Sample Id: 7696652-1-BLK — LCS Sample Id: 7696652-1-BKS — LCSD Sample Id: 7696652-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.572	250	252	101	249	100	90-110	1	20	mg/kg	02.13.20 15:54	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3116500 — Matrix: Solid — Date Prep: 02.13.20
MB Sample Id: 7696653-1-BLK — LCS Sample Id: 7696653-1-BKS — LCSD Sample Id: 7696653-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.572	250	254	102	253	101	90-110	0	20	mg/kg	02.13.20 21:54	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3116494 — Matrix: Soil — Date Prep: 02.13.20
Parent Sample Id: 652217-001 — MS Sample Id: 652217-001 S — MSD Sample Id: 652217-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2370	250	3710	536	3660	516	80-120	1	20	mg/kg	02.13.20 16:43	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3116494 — Matrix: Soil — Date Prep: 02.13.20
Parent Sample Id: 652217-006 — MS Sample Id: 652217-006 S — MSD Sample Id: 652217-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8580	250	10600	808	10600	808	80-120	0	20	mg/kg	02.13.20 19:25	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3116500 — Matrix: Soil — Date Prep: 02.13.20
Parent Sample Id: 652217-011 — MS Sample Id: 652217-011 S — MSD Sample Id: 652217-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5820	250	6630	324	6490	268	80-120	2	20	mg/kg	02.13.20 22:44	X

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 652217

Terracon-Lubbock

Aikman SWD

Analytical Method: DRO-ORO By SW8015B — Prep Method: SW8015P
Seq Number: 3116493 — Matrix: Solid — Date Prep: 02.13.20
MB Sample Id: 7696655-1-BLK — LCS Sample Id: 7696655-1-BKS — LCSD Sample Id: 7696655-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<7.48	100	75.4	75	90.9	91	63-139	19	20	mg/kg	02.13.20 17:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	65		61	**	60	**	65-144	%	02.13.20 17:56
n-Triacontane	90		81		81		46-152	%	02.13.20 17:56

Analytical Method: DRO-ORO By SW8015B — Prep Method: SW8015P
Seq Number: 3116493 — Matrix: Solid — Date Prep: 02.13.20
MB Sample Id: 7696655-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Oil Range Hydrocarbons (ORO)	<7.48	mg/kg	02.13.20 20:30	

Analytical Method: DRO-ORO By SW8015B — Prep Method: SW8015P
Seq Number: 3116493 — Matrix: Soil — Date Prep: 02.13.20
Parent Sample Id: 652217-014 — MS Sample Id: 652217-014 S — MSD Sample Id: 652217-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<7.56	101	70.8	70	65.3	65	63-139	8	20	mg/kg	02.13.20 21:47	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	61	**	63	**	65-144	%	02.13.20 21:47
n-Triacontane	82		84		46-152	%	02.13.20 21:47

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3116511 — Matrix: Solid — Date Prep: 02.13.20
MB Sample Id: 7696662-1-BLK — LCS Sample Id: 7696662-1-BKS — LCSD Sample Id: 7696662-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00904	2.00	1.96	98	1.99	100	55-120	2	20	mg/kg	02.13.20 19:23	
Toluene	<0.00468	2.00	2.09	105	2.10	105	77-120	0	20	mg/kg	02.13.20 19:23	
Ethylbenzene	<0.00616	2.00	2.12	106	2.16	108	77-120	2	20	mg/kg	02.13.20 19:23	
m,p-Xylenes	<0.00682	4.00	4.20	105	4.30	108	78-120	2	20	mg/kg	02.13.20 19:23	
o-Xylene	<0.00682	2.00	2.12	106	2.16	108	78-120	2	20	mg/kg	02.13.20 19:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	109		91		93		68-120	%	02.13.20 19:23
a,a,a-Trifluorotoluene	121		95		96		71-121	%	02.13.20 19:23

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 652217

Terracon-Lubbock

Aikman SWD

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3116511 Matrix: Soil Date Prep: 02.13.20
Parent Sample Id: 652217-001 MS Sample Id: 652217-001 S MSD Sample Id: 652217-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00881	1.95	1.92	98	1.91	101	54-120	1	25	mg/kg	02.13.20 22:35	
Toluene	<0.00456	1.95	2.00	103	2.00	106	57-120	0	25	mg/kg	02.13.20 22:35	
Ethylbenzene	<0.00600	1.95	2.01	103	2.00	106	58-131	0	25	mg/kg	02.13.20 22:35	
m,p-Xylenes	<0.00665	3.90	3.96	102	3.95	105	62-124	0	25	mg/kg	02.13.20 22:35	
o-Xylene	<0.00665	1.95	2.08	107	2.09	111	62-124	0	25	mg/kg	02.13.20 22:35	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	99		97		68-120	%	02.13.20 22:35
a,a,a-Trifluorotoluene	115		113		71-121	%	02.13.20 22:35

Analytical Method: **TPH GRO by EPA 8015 Mod.** Prep Method: SW5030B
Seq Number: 3116517 Matrix: Solid Date Prep: 02.13.20
MB Sample Id: 7696665-1-BLK LCS Sample Id: 7696665-1-BKS LCSD Sample Id: 7696665-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<0.271	20.0	19.5	98	19.7	99	35-129	1	20	mg/kg	02.13.20 20:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	92		104		111		76-123	%	02.13.20 20:11
a,a,a-Trifluorotoluene	95		70		78		69-120	%	02.13.20 20:11

Analytical Method: **TPH GRO by EPA 8015 Mod.** Prep Method: SW5030B
Seq Number: 3116517 Matrix: Soil Date Prep: 02.13.20
Parent Sample Id: 652217-001 MS Sample Id: 652217-001 S MSD Sample Id: 652217-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	2.79	18.1	19.3	91	20.0	94	35-129	4	20	mg/kg	02.13.20 23:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	106		118		76-123	%	02.13.20 23:24
a,a,a-Trifluorotoluene	82		86		69-120	%	02.13.20 23:24

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Final 1.000

652217

CHAIN OF CUSTODY RECORD

652217

Terracon

Office Location	Lubbock	Laboratory:	Xenco
Project Manager	Joseph Guesnier	Address:	6701 Aberdeen, Lubbock, Texas 79424
Sampler's Name	Charles Cannon	Phone:	
		Contact:	Joseph Guesnier (806-544-9276)
		SRS #:	
		Sampler's Signature	

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C) 1.2/1.3
Page 1 of 1

Project Number	Project Name
AR207018	AIKMAN SWD

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 2 oz Glass	4 oz Glass	5035 kit	40 ml VOA	BTEX (EPA Method 8021B)	TPH Extended 8015	Chloride (EPA Method 300)	Hold				Lab Sample ID
S	2/10/2020	12:00	X		SW-1	0.5'	1'		X			X	X	X					1
S	2/10/2020	12:08	X		WW-1	0.5'	1'		X			X	X	X					2
S	2/10/2020	12:25	X		NWT-1	0.5'	1'		X			X	X	X					3
S	2/10/2020	12:27	X		NW-1	0.5'	1'		X			X	X	X					4
S	2/10/2020	12:33	X		EW-1	0.5'	1'		X			X	X	X					5
S	2/10/2020	12:38	X		SWT-1	0.5'	1'		X			X	X	X					6
S	2/10/2020	12:47	X		NEW-1	0.5'	1'		X			X	X	X					7
S	2/10/2020	12:56	X		SEW-1	0.5'	1'		X			X	X	X					8
S	2/10/2020	13:04	X		NWF-1	1.5'	2'		X			X	X	X					9
S	2/10/2020	13:13	X		SWF-1	1.5'	2'		X			X	X	X					10
S	2/10/2020	13:21	X		NEF-1	1.5'	2'		X			X	X	X					11
S	2/10/2020	13:29	X		SEF-1	1.5'	2'		X			X	X	X					12
S	2/10/2020	13:38	X		WTF-1	1.5'	2'		X			X	X	X					13
S	2/10/2020	13:45	X		ETF-1	1.5'	2'		X			X	X	X					14

TURNAROUND TIME ☐ Normal ☐ 48-Hour Rush ☑ 24-Hour Rush

TRRP Laboratory Review Checklist ☐ Yes ☐ No

	Date	Time		Date	Time
Relinquished by (Signature)	2/10/2020	16:45	Received by (Signature) Brenda Ward		
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		

NOTES: Client:

e-mail results to:

bryant.mcbrayer@terracon.com
erin.loyd@terracon.com
jrguesnier@terracon.com

Matrix: WW-Wastewater; W - Water; S - Soil; L - Liquid; A - Air Bag; C - Charcoal tube; SL - Sludge
Container: VOA - 40 ml vial; A/G - Amber Glass 1L; 250 ml = Glass wide mouth; P/O - Plastic or other _____

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 02.12.2020 04.45.00 PM

Work Order #: 652217

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-4

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 02.12.2020
Brenda Ward

Checklist reviewed by: Jessica Kramer Date: 02.13.2020
Jessica Kramer

Certificate of Analysis Summary 654390

Terracon-Lubbock, Lubbock, TX

Project Name: Aikman SWD

Project Id: AR207018
Contact: Joseph Guesnier
Project Location:

Date Received in Lab: Mon Mar-02-20 04:10 pm
Report Date: 05-MAR-20
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	654390-001					
	Field Id:	SWT-1.1 (0.5-1)`					
	Depth:	0.5-1 ft					
	Matrix:	SOIL					
	Sampled:	Feb-26-20 13:00					
BTEX by SW 8260C SUB: T104704215-19-30	***Extracted:***	Mar-04-20 07:50					
	Analyzed:	Mar-04-20 13:26					
	Units/RL:	mg/kg	RL				
Benzene		<0.000207	0.00100				
Toluene		<0.00100	0.00501				
Ethylbenzene		<0.000336	0.00100				
m,p-Xylenes		<0.000438	0.00200				
o-Xylene		<0.000987	0.00100				
Total Xylenes		<0.000438	0.00100				
Total BTEX		<0.000207	0.00100				
Chloride by EPA 300	***Extracted:***	Mar-04-20 08:30					
	Analyzed:	Mar-04-20 12:54					
	Units/RL:	mg/kg	RL				
Chloride		2410	250				
DRO-ORO By SW8015B	***Extracted:***	Mar-03-20 15:30					
	Analyzed:	Mar-04-20 13:26					
	Units/RL:	mg/kg	RL				
Diesel Range Organics (DRO)		<7.56	25.3				
Oil Range Hydrocarbons (ORO)		<7.56	25.3				
TPH GRO by EPA 8015 Mod.	***Extracted:***	Mar-03-20 14:30					
	Analyzed:	Mar-04-20 13:28					
	Units/RL:	mg/kg	RL				
TPH-GRO		<0.259	3.82				

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer
Project Assistant

Analytical Report 654390

for

Terracon-Lubbock

Project Manager: Joseph Guesnier

Aikman SWD

AR207018

05-MAR-20

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

05-MAR-20

Project Manager: **Joseph Guesnier**
Terracon-Lubbock
5827 50th st, Suite 1
Lubbock, TX 79424

Reference: XENCO Report No(s): **654390**
Aikman SWD
Project Address:

Joseph Guesnier:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 654390. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 654390 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 654390

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SWT-1.1 (0.5-1)`	S	02-26-20 13:00	0.5 - 1 ft	654390-001

CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: Aikman SWD

Project ID: *AR207018*
Work Order Number(s): *654390*

Report Date: *05-MAR-20*
Date Received: *03/02/2020*

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. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3118554 TPH GRO by EPA 8015 Mod.
Surrogate 4-Bromofluorobenzene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7698099-1-BKS,654170-001 S.

Batch: LBA-3118634 DRO-ORO By SW8015B
Surrogate Tricosane recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 654390-001 S.
Matrix Spike RPD outside Qaulity Control Limits, Control Spike RPD within limits; therefore the data was accepted.

Certificate of Analytical Results 654390

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id: **SWT-1.1 (0.5-1)`** Matrix: Soil Date Received:03.02.20 16.10

Lab Sample Id: 654390-001 Date Collected: 02.26.20 13.00 Sample Depth: 0.5 - 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 03.04.20 08.30 Basis: Wet Weight

Seq Number: 3118502

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2410**	250	5.72	mg/kg	03.04.20 12.54		10

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 03.03.20 15.30 Basis: Wet Weight

Seq Number: 3118634

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.56	25.3	7.56	mg/kg	03.04.20 13.26	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.56	25.3	7.56	mg/kg	03.04.20 13.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	72	%	65-144	03.04.20 13.26	
n-Triacontane	638-68-6	110	%	46-152	03.04.20 13.26	

Analytical Method: BTEX by SW 8260C Prep Method: SW5035A

Tech: SAD % Moisture:

Analyst: SAD Date Prep: 03.04.20 07.50 Basis: Wet Weight

Seq Number: 3118517 SUB: T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000207	0.00100	0.000207	mg/kg	03.04.20 13.26	U	1
Toluene	108-88-3	<0.00100	0.00501	0.00100	mg/kg	03.04.20 13.26	U	1
Ethylbenzene	100-41-4	<0.000336	0.00100	0.000336	mg/kg	03.04.20 13.26	U	1
m,p-Xylenes	179601-23-1	<0.000438	0.00200	0.000438	mg/kg	03.04.20 13.26	U	1
o-Xylene	95-47-6	<0.000987	0.00100	0.000987	mg/kg	03.04.20 13.26	U	1
Total Xylenes	1330-20-7	<0.000438	0.00100	0.000438	mg/kg	03.04.20 13.26	U	1
Total BTEX		<0.000207	0.00100	0.000207	mg/kg	03.04.20 13.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	104	%	53-142	03.04.20 13.26	
1,2-Dichloroethane-D4	17060-07-0	108	%	53-150	03.04.20 13.26	
Toluene-D8	2037-26-5	101	%	70-130	03.04.20 13.26	

Certificate of Analytical Results 654390

Terracon-Lubbock, Lubbock, TX

Aikman SWD

Sample Id:	**SWT-1.1 (0.5-1)`**	Matrix:	Soil	Date Received:	03.02.20 16.10
Lab Sample Id:	654390-001	Date Collected:	02.26.20 13.00	Sample Depth:	0.5 - 1 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	JGR			% Moisture:	
Analyst:	MIT	Date Prep:	03.03.20 14.30	Basis:	Wet Weight
Seq Number:	3118554				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.259	3.82	0.259	mg/kg	03.04.20 13.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	76-123	03.04.20 13.28	
a,a,a-Trifluorotoluene	98-08-8	102	%	69-120	03.04.20 13.28	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 654390

Terracon-Lubbock

Aikman SWD

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3118502 Matrix: Solid Date Prep: 03.04.20
MB Sample Id: 7698057-1-BLK LCS Sample Id: 7698057-1-BKS LCSD Sample Id: 7698057-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.572	250	253	101	253	101	90-110	0	20	mg/kg	03.04.20 10:15	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3118502 Matrix: Soil Date Prep: 03.04.20
Parent Sample Id: 654203-001 MS Sample Id: 654203-001 S MSD Sample Id: 654203-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.09	250	273	107	278	109	80-120	2	20	mg/kg	03.04.20 11:10	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3118502 Matrix: Soil Date Prep: 03.04.20
Parent Sample Id: 654203-011 MS Sample Id: 654203-011 S MSD Sample Id: 654203-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2.10	250	249	99	250	99	80-120	0	20	mg/kg	03.04.20 12:40	

Analytical Method: **DRO-ORO By SW8015B** Prep Method: SW8015P
Seq Number: 3118634 Matrix: Solid Date Prep: 03.03.20
MB Sample Id: 7698022-1-BLK LCS Sample Id: 7698022-1-BKS LCSD Sample Id: 7698022-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<7.48	100	93.0	93	85.1	85	63-139	9	20	mg/kg	03.04.20 09:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	68		72		70		65-144	%	03.04.20 09:37
n-Triacontane	98		103		101		46-152	%	03.04.20 09:37

Analytical Method: **DRO-ORO By SW8015B** Prep Method: SW8015P
Seq Number: 3118634 Matrix: Solid Date Prep: 03.03.20
MB Sample Id: 7698022-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Oil Range Hydrocarbons (ORO)	<7.48	mg/kg	03.04.20 12:46	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Final 1.000

QC Summary 654390

Terracon-Lubbock

Aikman SWD

Analytical Method: DRO-ORO By SW8015B | Prep Method: SW8015P
Seq Number: 3118634 | Matrix: Soil | Date Prep: 03.03.20
Parent Sample Id: 654390-001 | MS Sample Id: 654390-001 S | MSD Sample Id: 654390-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<7.46	99.7	65.3	65	122	122	63-139	61	20	mg/kg	03.04.20 14:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	59	**	78		65-144	%	03.04.20 14:04
n-Triacontane	88		109		46-152	%	03.04.20 14:04

Analytical Method: BTEX by SW 8260C | Prep Method: SW5035A
Seq Number: 3118517 | Matrix: Solid | Date Prep: 03.04.20
MB Sample Id: 7698070-1-BLK | LCS Sample Id: 7698070-1-BKS | LCSD Sample Id: 7698070-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000207	0.0500	0.0455	91	0.0497	99	62-132	9	25	mg/kg	03.04.20 09:55	
Toluene	<0.00100	0.0500	0.0478	96	0.0528	106	66-124	10	25	mg/kg	03.04.20 09:55	
Ethylbenzene	<0.000336	0.0500	0.0497	99	0.0547	109	71-134	10	25	mg/kg	03.04.20 09:55	
m,p-Xylenes	<0.000437	0.100	0.0988	99	0.110	110	69-128	11	25	mg/kg	03.04.20 09:55	
o-Xylene	<0.000985	0.0500	0.0515	103	0.0578	116	72-131	12	25	mg/kg	03.04.20 09:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	98		98		100		53-142	%	03.04.20 09:55
1,2-Dichloroethane-D4	104		99		102		53-150	%	03.04.20 09:55
Toluene-D8	104		108		110		70-130	%	03.04.20 09:55

Analytical Method: BTEX by SW 8260C | Prep Method: SW5035A
Seq Number: 3118517 | Matrix: Soil | Date Prep: 03.04.20
Parent Sample Id: 653880-002 | MS Sample Id: 653880-002 S | MSD Sample Id: 653880-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000206	0.0498	0.0234	47	0.0405	81	62-132	54	25	mg/kg	03.04.20 10:58	XF
Toluene	<0.000996	0.0498	0.0222	45	0.0397	79	66-124	57	25	mg/kg	03.04.20 10:58	XF
Ethylbenzene	<0.000334	0.0498	0.0207	42	0.0389	77	71-134	61	25	mg/kg	03.04.20 10:58	XF
m,p-Xylenes	<0.000435	0.0996	0.0409	41	0.0779	77	69-128	62	25	mg/kg	03.04.20 10:58	XF
o-Xylene	<0.000981	0.0498	0.0212	43	0.0413	82	72-131	64	25	mg/kg	03.04.20 10:58	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	102		108		53-142	%	03.04.20 10:58
1,2-Dichloroethane-D4	107		108		53-150	%	03.04.20 10:58
Toluene-D8	107		108		70-130	%	03.04.20 10:58

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 654390

Terracon-Lubbock

Aikman SWD

Analytical Method: **TPH GRO by EPA 8015 Mod.** Prep Method: SW5030B
Seq Number: 3118554 Matrix: Solid Date Prep: 03.03.20
MB Sample Id: 7698099-1-BLK LCS Sample Id: 7698099-1-BKS LCSD Sample Id: 7698099-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<0.271	20.0	18.4	92	19.2	96	35-129	4	20	mg/kg	03.03.20 21:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	101		143	**	122		76-123	%	03.03.20 21:05
a,a,a-Trifluorotoluene	99		104		84		69-120	%	03.03.20 21:05

Analytical Method: **TPH GRO by EPA 8015 Mod.** Prep Method: SW5030B
Seq Number: 3118554 Matrix: Soil Date Prep: 03.03.20
Parent Sample Id: 654170-001 MS Sample Id: 654170-001 S MSD Sample Id: 654170-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<0.239	17.7	16.8	95	20.9	105	35-129	22	20	mg/kg	03.04.20 00:20	F

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	138	**	119		76-123	%	03.04.20 00:20
a,a,a-Trifluorotoluene	106		79		69-120	%	03.04.20 00:20

MS/MSD Percent Recovery	[D] = 100*(C-A) / B	LCS = Laboratory Control Sample	MS = Matrix Spike
Relative Percent Difference	RPD = 200* | (C-E) / (C+E) |	A = Parent Result	B = Spike Added
LCS/LCSD Recovery	[D] = 100 * (C) / [B]	C = MS/LCS Result	D = MSD/LCSD % Rec
Log Difference	Log Diff. = Log(Sample Duplicate) - Log(Original Sample)	E = MSD/LCSD Result	

654390

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Project Manager: Joseph Guesnier
Contact: Joseph Guesnier (806-544-9276)
Sampler's Name: Charles Cannon
SRS #:
Sampler's Signature

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE: 654390

TEMP OF COOLER WHEN RECEIVED (°C)

Page 1 of 2

Project Number: AR207018
Project Name: Aikman SWD

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 2 oz Glass	4 oz Glass	5035 kit	40 ml VOA	Chloride (EPA Method 300)	BTEX (EPA Method 8260B)	TPH Extended 8015	Hold				Lab Sample ID
S	2/26/2020	13:00	X		SWT-1.1 (0.5-1)	1.5'	2'		X			X	X	X					1

TURNAROUND TIME: ☐ Normal ☑ 48-Hour Rush ☐ 24-Hour Rush
TRRP Laboratory Review Checklist: ☐ Yes ☐ No

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
	3-2-20	4:10	Holley Taylor	3/2/20	1610
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:

NOTES: Client:

e-mail results to:

bryant.mcbrayer@terracon.com
erin.loyd@terracon.com
jrguesnier@terracon.com

Matrix: WW-Wastewater; W - Water; S - Soil; L - Liquid; A - Air Bag; C - Charcoal tube; SL - Sludge
Container: VOA - 40 ml vial; A/G - Amber Glass 1L; 250 ml = Glass wide mouth; P/O - Plastic or other _____

IR 4
-7.61-7.5°C

Inter-Office Shipment

IOS Number : 59375

Date/Time:	03.03.2020	Created by:	Brenda Ward	Please send report to:	Jessica Kramer
Lab# From:	**Lubbock**	Delivery Priority:		Address:	6701 Aberdeen, Suite 9 Lubbock, TX 79424
Lab# To:	**Houston**	Air Bill No.:	777923417550	E-Mail:	jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
654390-001	S	SWT-1.1 (0.5-1)`	02.26.2020 13:00	SW8260CBTEX	BTEX by SW 8260C	**03.04.2020**	03.11.2020	JKR	BZ BZME EBZ XYLENE	

Inter Office Shipment or Sample Comments:

Relinquished By: Brenda Ward

Brenda Ward

Date Relinquished: 03.03.2020

Received By: Jose Londono

Date Received: 03.04.2020

Cooler Temperature: 2.4

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 59375

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : HOU-068

Sent By: Brenda Ward **Date Sent:** 03.03.2020 01.34 PM

Received By: Jose Londono **Date Received:** 03.04.2020 09.15 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.4	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 *Custody Seals Signed and dated for Containers/coolers	**Yes**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: Jose F. Londono Date: 03.04.2020

Jose Londono

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 03.02.2020 04.10.00 PM

Work Order #: 654390

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-4

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	-7.5	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	BTEX sent to Stafford
#18 Water VOC samples have zero headspace?	**N/A**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 03.03.2020
Brenda Ward

Checklist reviewed by: Jessica Kramer Date: 03.04.2020
Jessica Kramer

APPENDIX D – TERRACON STANDARD OF CARE, LIMITATION, AND RELIANCE

Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, Spur Energy Partners, as reflected in our proposal (AR207018).

Additional Scope Limitations

Development of this Closure Report is based upon information provided by the Client and Terracon's remediation and construction services line. Such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those by information provided by the Client. The data, interpretations, findings, and our recommendations are based solely upon reformation executed within the scope of these services.

Reliance

This report has been prepared for the exclusive use of Spur Energy Partners, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Spur Energy Partners and Terracon. Any unauthorized distribution or reuse is at Spur Energy Partners sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal and Spur Enerygy Partners and Terracon's Master Services Agreement. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to Spur Energy Partners and all relying parties unless otherwise agreed in writing.