

Incident ID	APP2127753131
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 Guesnier Title: Office Manager  
 Signature: [Signature] Date: 12-9-22  
 email: JRGuesnier Telephone: 505-544-9276

**OCD Only**

Received by: Jocelyn Harimon Date: 04/10/2023

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: Robert Hamlet Date: 8/29/2023  
 Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

Incident ID	nAPP212 775 3131
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?	<u>60</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 1/2-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.

State of New Mexico  
Oil Conservation Division

Incident ID	nAPP212-7753131
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 Guenier Title: Office Manager  
 Signature: [Signature] Date: 12-9-22  
 email: JRGuenier@TerraLion.com Telephone: 806-544-9276

**OCD Only**

Received by: Jocelyn Harimon Date: 04/10/2023

State of New Mexico  
Oil Conservation Division

Incident ID	APP2127753131
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### Closure

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**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

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Printed Name: Joseph Guesnier Title: Office Manager  
 Signature: [Signature] Date: 12-9-22  
 email: JRGuesnier Telephone: 506-544-9276

**OCD Only**

Received by: Jocelyn Harimon Date: 04/10/2023

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: \_\_\_\_\_



Incident ID	nAPP212-7753131
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## 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 Guesnier Title: Office Manager  
 Signature: [Signature] Date: 12-9-22  
 email: JRGuesnier@TERRACON.COM Telephone: 806-544-9276

**OCD Only**

Received by: Jocelyn Harimon Date: 04/10/2023

- Approved       Approved with Attached Conditions of Approval       Denied       Deferral Approved

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Spur Energy Partners LLC

Aikman SWD State #001

Unit N, Section 27, T19S, R25E

NMOCD Reference # nAB1806541396, NRM2004958378, nAPP2114556912, nAPP2127753131

Terracon Project # AR207018



**Closure Report**

Attn: Mr. Braidy Moulder

P: 713-264-2517

E: [bmoulder@spurepllc.com](mailto:bmoulder@spurepllc.com)

RE: **Closure Report**

Aikman SWD State #001

Unit N, Section 27, Township 19 South, Range 25 East

Eddy County, New Mexico

Terracon Project No. AR207018

Dear Mr. Moulder,

Terracon Consultants, Inc. (Terracon) is pleased to submit our Closure Report. The Release Investigation, RAP and Closure Report were 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. Based on the release investigation assessment, Terracon recommends the following actions be taken to achieve protection of fresh water and the environment in accordance with NMOCD regulations. Terracon developed the Release Investigation and RAP in general accordance with our scope of work (AR207018) dated December 23, 2020.

**Action Items**

**Completed Actions**

- 1) Vertical and horizontal delineation was achieved during the final excavation activities at the site.
- 2) Confirmation samples were collected every 200 sq. ft, as outlined in the NMOCD correspondence dated January 26, 2022.
- 3) All impacted materials were disposed of as O&G exempt material at Lea Land waste disposal facility.
- 4) This Closure Report covers all four releases at the facility (nAB1806541396, NRM2004958378, nAPP2114556912, nAPP2127753131) and all have been submitted separately for each respective incident number.

**Anticipated Actions**

- 1) New Mexico Oil Conservation Division Closure of this incident.

Spur Energy Partners LLC  
Aikman SWD State #001  
Unit N, Section 27, Township 19 South, Range 25 East  
NMOCD Reference # nAB1806541396, NRM20049558378, nAPP2114556912,  
nAPP2127753131



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.**

A handwritten signature in black ink, appearing to read 'J. Guesnier'.

**Joseph Guesnier**  
Senior Staff Scientist  
Office Manager – Carlsbad

A handwritten signature in black ink, appearing to read 'Erin Loyd'.

**Erin Loyd, P.G. (TX)**  
Principal  
Office Manager – Lubbock

**TABLE OF CONTENTS**

**Incident Information**.....2  
**General Site Characteristics**.....3  
**Regulatory Framework and Response Action Levels**.....4  
**Soil Investigation Discussion**.....5  
Confirmation Sample Data Evaluation.....6  
Confirmation Sampling Data Summary.....7

**Attachments:**

**Appendix A – Exhibits**

- Exhibit 1 – Topo Map
- Exhibit 2 – Site Map
- Exhibit 3 – Initial Site Investigation Map
- Exhibit 4 – Supplemental Site Investigation Map
- Exhibit 5 – Confirmation Soil Sampling Map (Floors)
- Exhibit 6 – Confirmation Soil Sampling Map (Walls)
- Exhibit 7 – Confirmation Soil Sampling Map (nAPP2127753131)
- Exhibit 8 – NMOSE POD Location Map
- Exhibit 9 – Cave Karst Public UCP Map

**Appendix B – Tables, Procedures, and Figures**

- Table 1 – Closure Criteria for Soils Impacted by a release
- Table 2 – Soil Sample Analytical Results

**Appendix C – Photographic Log**

**Appendix D – Analytical Report and Chain of Custody**

**Appendix E – Waste Manifest**

**Appendix F – Terracon Standard of Care, Limitation, and Reliance**

**Spur Energy Partners LLC****Aikman SWD State #001****Unit N, Section 27, Township 19 South, Range 25 East****NMOCD Reference # nAB1806541396, NRM2004958378, nAPP2114556912, nAPP2127753131**

<b>Incident Information</b>
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The following table provides detailed information regarding the four releases referenced at the Aikman SWD State #001 site in Eddy County, New Mexico:

Required Information	Site and Release information	
Responsible party	The facility is operated by Spur Energy Partners LLC	
Local contact	Contact: Mr. Braidy Moulder	P: (281) 795-2286 E: <a href="mailto:bmoulder@spurepllc.com">bmoulder@spurepllc.com</a>
NMOCD Notification	Notice of the release was provided to the NMOCD District 2 Artesia Office by Braidy Moulder (Spur).	
Facility description	The Aikman SWD State #001 is in Eddy County, New Mexico. It is an approximate 1-acre area located within Unit N, Section 27, Township 19 South, Range 25 East, approximately 15.5 miles southwest of Artesia, New Mexico. The site was developed for oil and gas production.	
Date of incidents	nAB1806541936	02/27/2018
	NRM2004958378	01/06/2020
	nAPP2114556912	4/27/2021
	nAPP2127753131	9/16/2021
Discharge event	The cause of the releases have all been malfunctioning equipment with the exception being the most recent release caused by damage to a line during construction services. Site illustrated in Figure 2 of Appendix A	
Type of discharge	nAB1806541936	Produced Water (560 bbls)
	NRM2004958378	Crude Oil (543 bbls)
	nAPP2114556912	Produced Water (105 bbls)
	nAPP2127753131	Produced Water (120 bbls)
Quantity of spilled material	Total Fluids: 1,328 bbls	Produced Water: 785 bbls Total Petroleum Hydrocarbons: 543 bbls
Site characteristics	Relatively flat with drainage following the native ground surface; very gently sloping to the west.	
Immediate corrective actions	All releases had corrective actions immediately implemented, including the shutting in of equipment to eliminate release sources and had vacuum trucks utilized to remove standing liquids.	



**Spur Energy Partners LLC**

**Aikman SWD State #001**

**Unit N, Section 27, Township 19 South, Range 25 East**

**NMOCD Reference # nAB1806541396, NRM2004958378, nAPP2114556912, nAPP2127753131**



General Site Characteristics	
Remedial Determining Information	Site Ranking Characteristics
<b>Facility description</b> Site Map – (Exhibit 2 in Appendix A)	Aikman SWD State #001 is in Eddy County, New Mexico. It is an approximate 1-acre area located within Unit N, Section 27, Township 19 South, Range 25 East, approximately 15.5 miles southwest of Artesia, New Mexico. The site is predominantly developed for oil and gas production.
<b>Site characteristics</b> Topographic Map – (Exhibit 1 in Appendix A)	Relatively flat with drainage following the native ground surface; very gently sloping to the west.
<b>Groundwater</b> NMOSE POD Location Map – (Exhibit 6 in Appendix A)	<p><u>POD Number:</u> (RA-03304-POD1)</p> <p><u>Depth to Groundwater:</u> 60 ft. bgs</p> <p><u>Distance to Well:</u> 0.64 miles to the northwest</p> <p><u>Date Drilled:</u> October 15, 1954</p> <p><u>Groundwater Quality:</u> Groundwater quality at the site is predominately used for Domestic Household, but current quality is unknown</p>
<b>Surface Water</b>	Brantley Lake (South-eastern Eddy County, NM), approximately 5.5 miles to the southeast.
<b>Soil Characteristics</b>	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 being categorized as well-drained with low runoff classification.
<b>Karst Characterization</b> Cave Karst Public UCP Map – (Exhibit 7 in Appendix A)	Terracon evaluated data from the NMOCD Public FTP Site, Karst map designations in reference to the site location. The site appears to be within a high-level Karst risk area. Based on on-site observations within the extent of the release margins the potential for Karst formations in this specific area are of “high” potential. A layer of solid competent rock was encountered from 11 to 21 inches bgs within the release margins. The full extent of release quantities and excavation activities did extend greater than 84 inches bgs.

**Spur Energy Partners LLC****Aikman SWD State #001****Unit N, Section 27, Township 19 South, Range 25 East****NMOCD Reference # nAB1806541396, NRM2004958378, nAPP2114556912,  
nAPP2127753131**

### Regulatory Framework and Response Action Levels

Oil and gas exploration and production facilities in New Mexico are generally regulated by the New Mexico Oil Conservation Division (NMOCD). The NMOCD has issued the *Closure Criteria for Soils Impacted by a Release, June 21, 2018*, and *Restoration, Reclamation, and Re-vegetation (19.15.29.13) NMAC – D (Reclamation of areas no longer in use)* as guidance documents for the remediation and reclamation of sites impacted by releases from oil and gas exploration and production activities. Sections detailed below the applicability of these guidance documents to the site-specific characteristics associated with the Aikman SWD State #001.

#### Reclamation Levels (Surface to 4 ft. bgs)

The below Reclamation Limits for chlorides, TPH (GRO+DRO+MRO), BTEX (includes benzene, toluene, ethylbenzene, and xylenes), and benzene are defined within 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.:

Constituent	Remediation Limits
Chloride	600 mg/kg
TPH (GRO+DRO+MRO)	100 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

#### Remediation Levels (> 4 ft. bgs)

Based on the site-specific characteristics, the applicable NMOCD remediation levels for Total BTEX, chloride, and TPH within soils, exclusive of the Reclamation Zone (surface to 4 ft. bgs), are as follows:

Constituent	Remediation Limit
Chloride	600 mg/kg
TPH (GRO+DRO+MRO)	100 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

**Spur Energy Partners LLC****Aikman SWD State #001****Unit N, Section 27, Township 19 South, Range 25 East****NMOCD Reference # nAB1806541396, NRM2004958378, nAPP2114556912,  
nAPP2127753131****Timeline of Releases**

- nAB1806541396 (Percussion Petroleum Operating, LLC) a release of produced water occurred due to overfilling the tanks onsite on February 27, 2018. A total of 560 bbls were released and 550 bbls were recovered with vacuum trucks. The total inferred release area covered the entire bermed pad area.
  - A workplan was provided to the NMOCD on March 22, 2018, and a revised workplan was provided on April 19, 2018, both by WSP USA, Inc (WSP). The workplan was denied by the NMOCD on April 24, 2018, the main cause for denial was insufficient delineation of the release and insufficient laboratory analytical analysis.
  - There is no further evidence that delineation or remediation had been completed at this site. Terracon has addressed both the delineation and remediation with this closure report.
- NRM2004958378 (Spur Energy Partners, LLC) a release of produced water occurred due to a mechanical issue at the wellhead of the SWD on January 06, 2020. A total of 543 bbls were released and 130 bbls were recovered with vacuum trucks. The total inferred release area ran along the northern berm of the pad and pooled in the northwest corner of the bermed pad area.
  - The delineation of the site and remediation were completed at risk and the closure report was provided to the NMOCD on June 18, 2020, by Terracon Consultants, Inc. The closure report was denied by the NMOCD on September 21, 2020, the main cause of the denial was, due to an improper Karst designation at the site resulting in incorrect remediation action levels (RAL) in the closure report.
  - Terracon has addressed both the stricter RALs and remediation with this closure report.
- nAPP2114556912 (Spur Energy Partners, LLC) a release of produced water occurred due to a poly line leak at the tank battery on April 27, 2021. A total of 105 bbls were released and 100 bbls were recovered with vacuum trucks. The total inferred release area was around the south end of the bermed pad and around the tank battery.
  - Terracon has addressed this release and remediation with this closure report.
- nAPP2127753131 (Spur Energy Partners LLC) a of produced water occurred due to a line strike during construction on the east side of the facility on September 16, 2021. A total of 120 bbls were released and 119 bbls were recovered with vacuum trucks. The total inferred release area was in the pasture off the northeast corner of the bermed facility, the release did remain in the excavation.
  - The remediation of the release was completed by Wescom, inc (Wescom) on April 15, 2022.
  - Terracon has collected confirmation samples from their remedial activities and has incorporated their data as part of this all encompassing closure report.

**Spur Energy Partners LLC****Aikman SWD State #001****Unit N, Section 27, Township 19 South, Range 25 East****NMOCD Reference # nAB1806541396, NRM2004958378, nAPP2114556912,  
nAPP2127753131****Soil Investigation Discussion**

During Terracon's June 29, 2022, through November 30, 2022, confirmation sampling activities, a total of 105 soil samples were collected from the site and analyzed for BTEX, chloride, and/or TPH. A total of 57 samples were collected from within the floor of the excavations, and 48 samples were collected from the walls of the excavation evaluate the concentrations of any remaining constituents.

**Confirmation Sample Data Evaluation****■ Floor Sample Data Evaluation**

Benzene was detected above applicable laboratory SDLs in one of the 57 soil samples analyzed within the floor of the excavation. The total Benzene concentration was 0.0869 mg/kg in FS-12 (7 ft. bgs to 8 ft. bgs). The detected Benzene concentrations did not exceed the applicable NMOCD RAL for Benzene of 10 mg/kg, as summarized in Table 1.

Total BTEX was detected above applicable laboratory SDLs in two of the 57 soil samples analyzed within the floor of the excavation. The Total BTEX concentrations ranged from 0.0912 mg/kg in FS09 (8 ft bgs) to 0.116 in FS12 (8 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 1.

Total TPH was detected above applicable laboratory SDLs in six of the 57 soil samples analyzed within the floor of the excavation. The Total TPH concentration ranged from 35.2 mg/kg in CS-16 (5 ft bgs to 6 ft bgs) to 69.5 mg/kg in (5 ft bgs to 6 ft bgs). The samples collected within the release margins did not exhibit Total TPH concentrations above the NMOCD RAL of 100 mg/kg for Total TPH, with the exception being FS09 (8 ft bgs), but additional sampling demonstrated natural attenuation of the impacts at that location, as summarized in Table 1.

Chloride was detected above applicable laboratory SDLs in each of the 57 soil samples analyzed within the floor of the excavation. The chloride concentrations ranged from 16.7 mg/kg in soil sample FS06 (8 ft bgs) to 3,120 mg/kg in soil sample FS08 (8 ft bgs). Of the 57 soil samples analyzed, eight soil samples exhibited chloride concentrations above the applicable NMOCD Reclamation Assessment Limit of 600 mg/kg but were subsequently below the NMOCD RAL following additional remedial activities, as summarized in Table 1.

**■ Wall Sample Data Evaluation**

Benzene was detected above applicable laboratory SDLs in one of the 48 soil samples analyzed around the perimeter of the excavation walls. The total Benzene concentration was 0.056 mg/kg in TN-2.1 (1 ft. bgs to 2 ft. bgs). The detected Benzene concentrations did not exceed the applicable NMOCD RAL for Benzene of

**Spur Energy Partners LLC****Aikman SWD State #001****Unit N, Section 27, Township 19 South, Range 25 East****NMOCD Reference # nAB1806541396, NRM2004958378, nAPP2114556912,  
nAPP2127753131**

10 mg/kg, as summarized in Table 1.

Total BTEX was detected above applicable laboratory SDLs in two of the 48 soil samples analyzed around the perimeter of the excavation walls. The Total BTEX concentrations ranged from 0.661 mg/kg in TS-2.1 (1 ft bgs to 2 ft bgs) to 1.03 mg/kg in TN-2.1 (1 ft bgs to 2 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 1.

Total TPH was detected above applicable laboratory SDLs in 13 of the 48 soil samples analyzed around the perimeter of the excavation walls. The Total TPH concentration ranged from 12.6 mg/kg in TS-1.1 (1 ft bgs to 2 ft bgs) to 886 mg/kg in W-2 (2 ft bgs to 3 ft bgs). The samples collected within the release margins did not exhibit Total TPH concentrations above the NMOCD RAL of 100 mg/kg for Total TPH, with nine initial confirmation samples being over the RAL but additional remedial activities brought all final samples below the RAL, as summarized in Table 1.

Chloride was detected above applicable laboratory SDLs in 44 of the 48 soil samples analyzed around the perimeter of the excavation walls. The chloride concentrations ranged from 32 mg/kg in soil sample TN-2.1 (1 ft bgs to 2 ft bgs) to 6,400 mg/kg in soil sample TN-1 (1 ft bgs to 2 ft bgs). Of the 48 soil samples analyzed, 12 soil samples exhibited chloride concentrations above the applicable NMOCD Reclamation Assessment Limit of 600 mg/kg but were subsequently below the NMOCD RAL following additional remedial activities, as summarized in Table 1.

**Confirmation Sampling Data Summary**

Based on the review of the above release investigation analytical results, the presence of petroleum hydrocarbon constituents (Benzene/BTEX) were not detected at concentrations above applicable NMOCD Reclamation and/or Remediation Action Limits.

Of the 105 soil samples analyzed, 10 soil samples exhibited TPH concentrations above the applicable NMOCD Reclamation Action Limit of 100 mg/kg. Following additional remedial efforts at the site, all the final soil samples analyzed for TPH were below the NMOCD Remediation Action Limits for TPH.

Of the 105 soil samples analyzed, 20 soil samples exhibited chloride concentrations above the applicable NMOCD Reclamation Action Limit of 600 mg/kg. Following additional remedial efforts at the site, all the final soil samples analyzed for chlorides were below the NMOCD Remediation Action Limits for chlorides.

It has been demonstrated that all remedial actions at the site provided for a remediation that met all NMOCD remedial standards, and any remaining constituents are below the NMOCD Remediation Action Limits.

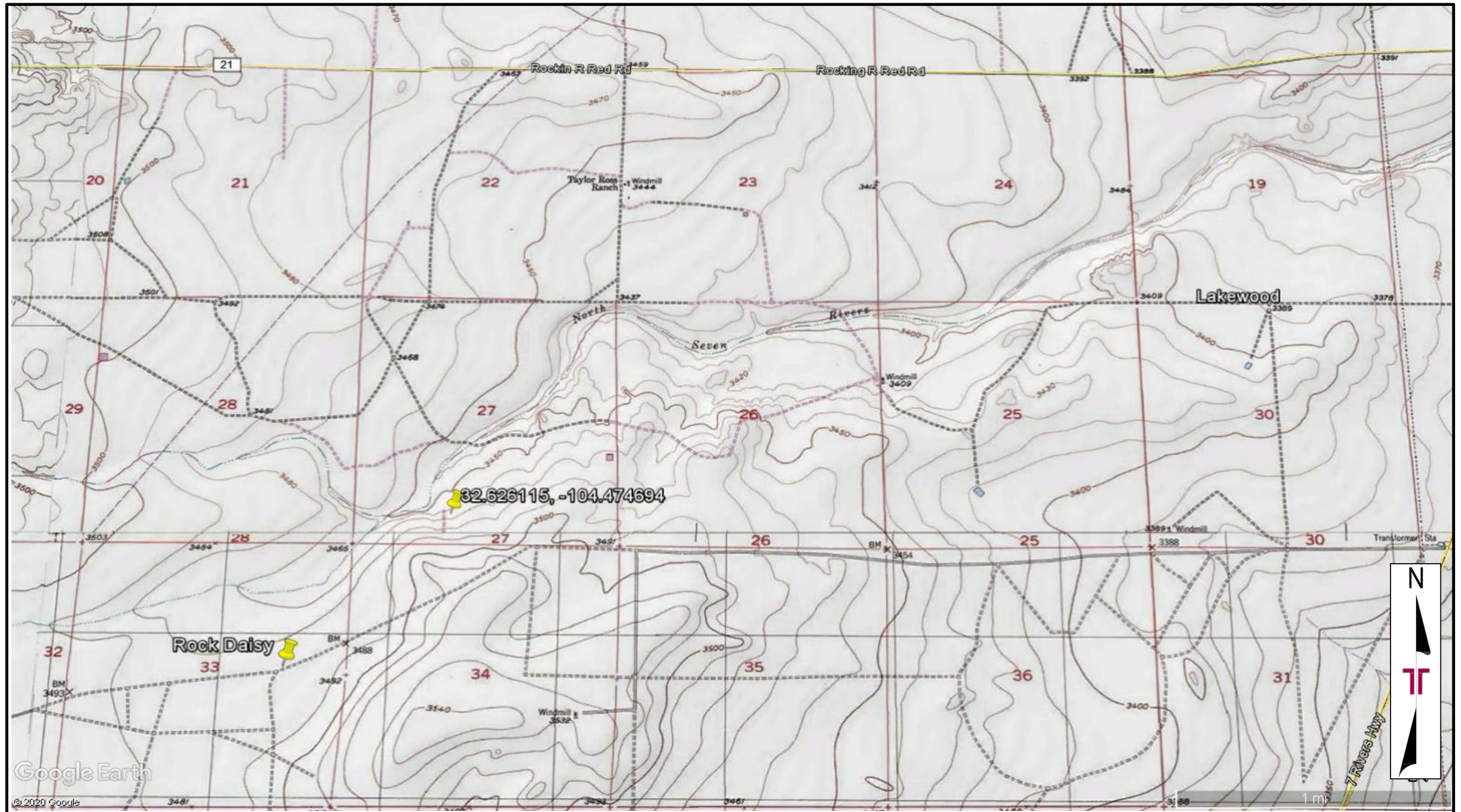


**Spur Energy Partners LLC**  
**Aikman SWD State #001**  
**Unit N, Section 27, Township 19 South, Range 25 East**  
**NMOCD Reference # nAB1806541396, NRM2004958378, nAPP2114556912,**  
**nAPP2127753131**



Soil Management Plan	
Soil Objectives	Approach Actions
<b>General Soil Plan</b>	Remove impacted soils and dispose of them at an O&G exempt waste facility.
<b>Reclamation Response Objectives</b>	Remove all soils impacted above the NMOCD Remediation Action Limits for areas with a high karst designation.
<b>Remediation Response Objectives</b>	Remove all soils impacted above the NMOCD Remediation Action Limits for areas with a high karst designation.
<b>Soil Management</b>	Impacted soils were excavated and stockpiled for disposal
<b>Depth of Remediation</b> Confirmation Soil Map – (Figure 3 in Appendix A)	Total depth of remediation did not exceed 8 ft. bgs.
<b>Disposal Facility</b> Waste Manifest – (Appendix E)	Lea Land Waste Disposal Facility.
<b>Quantity Disposed</b> Waste Manifest – (Appendix E)	3,600 cu. Yds.

## **APPENDIX A – EXHIBITS**



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

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Figure 1 – Topographic Map  
 Aikman SWD  
 32.626115°, -104.474694°  
 Eddy County, New Mexico





Google Earth

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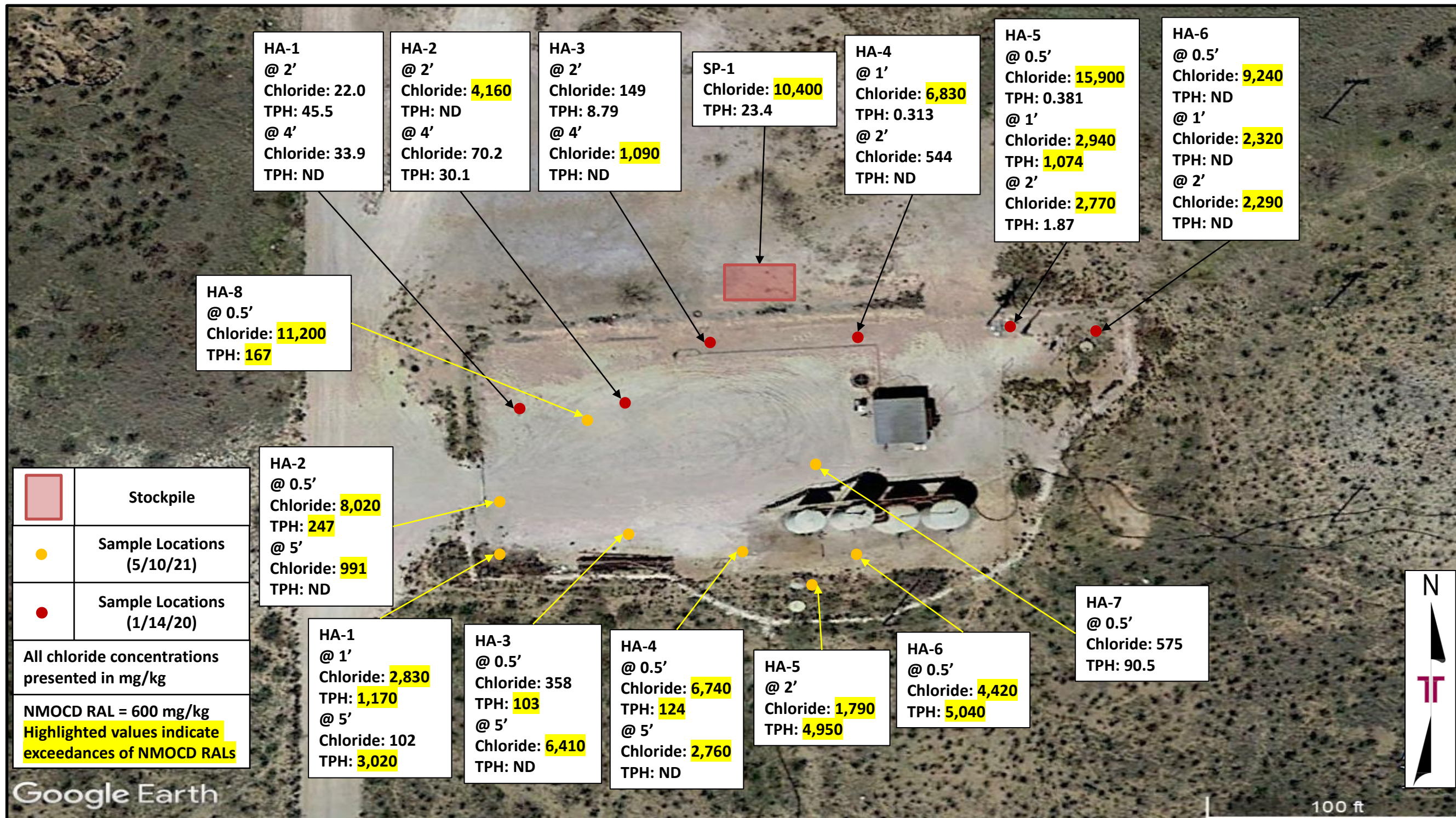
Project No.	AR207018
Scale:	As Shown
Source:	Google Earth
Image Date:	01/31/2020

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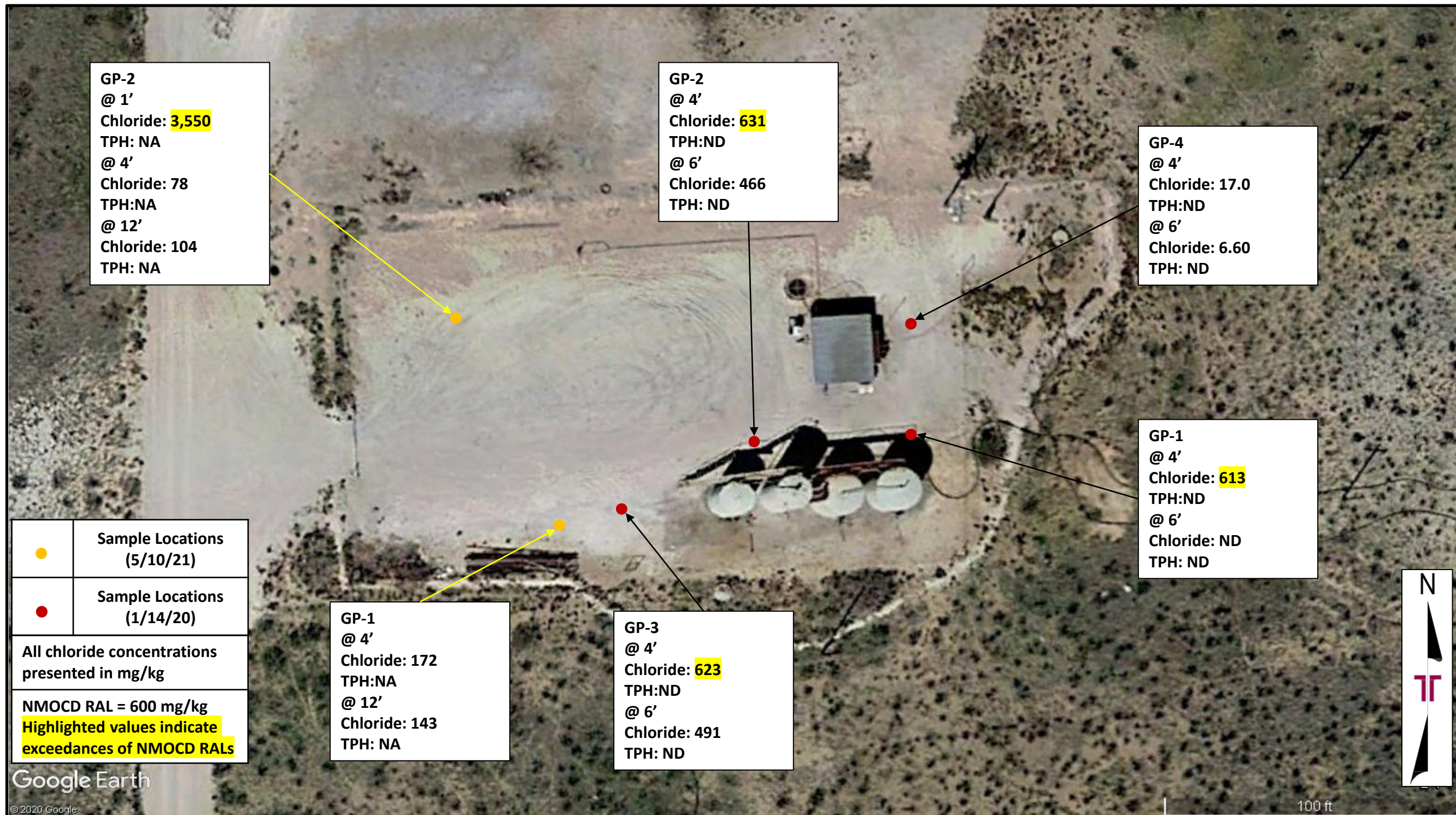
Figure 2 – Site Map  
 Aikman SWD  
 32.626115°, -104.474694°  
 Eddy County, New Mexico





Project No.	AR207018	<p>5847 50<sup>th</sup> St. Lubbock, Texas 79424 PH. (806) 300-0104 FAX. (806) 797 0947</p>	<p><b>Figure 3 – Initial Site Investigation Map</b></p> <p>Aikman SWD 32.626115°, -104.474694° Eddy County, New Mexico</p>
Scale:	As Shown		
Source:	Google Earth		
Image Date:	01/31/2020		





●	Sample Locations (5/10/21)
●	Sample Locations (1/14/20)
All chloride concentrations presented in mg/kg	
NMOCD RAL = 600 mg/kg Highlighted values indicate exceedances of NMOCD RALs	

Google Earth

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

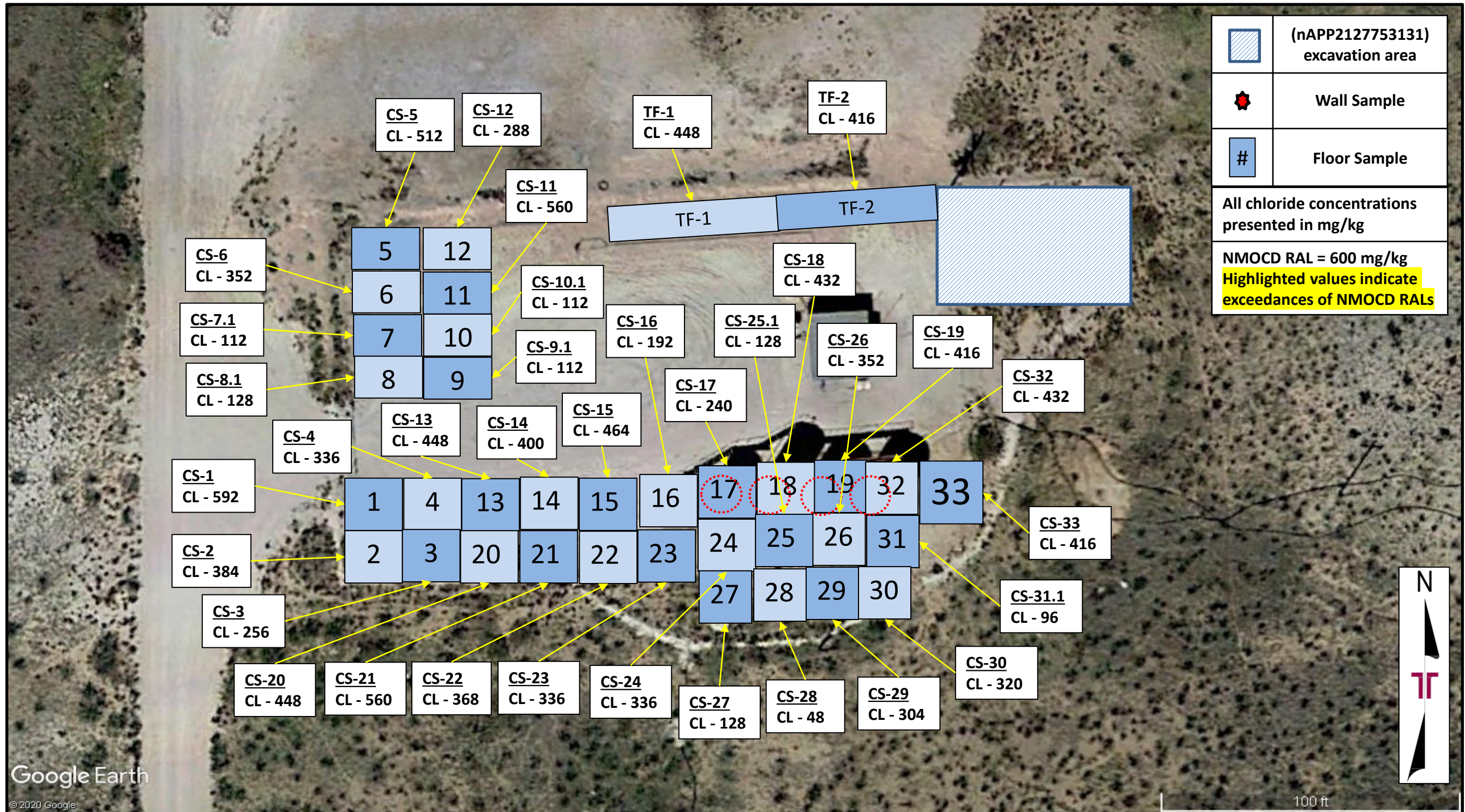
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Figure 4 – Supplemental Site Investigation Map

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





Project No.	AR207018
Scale:	As Shown
Source:	Google Earth
Image Date:	05/31/2022

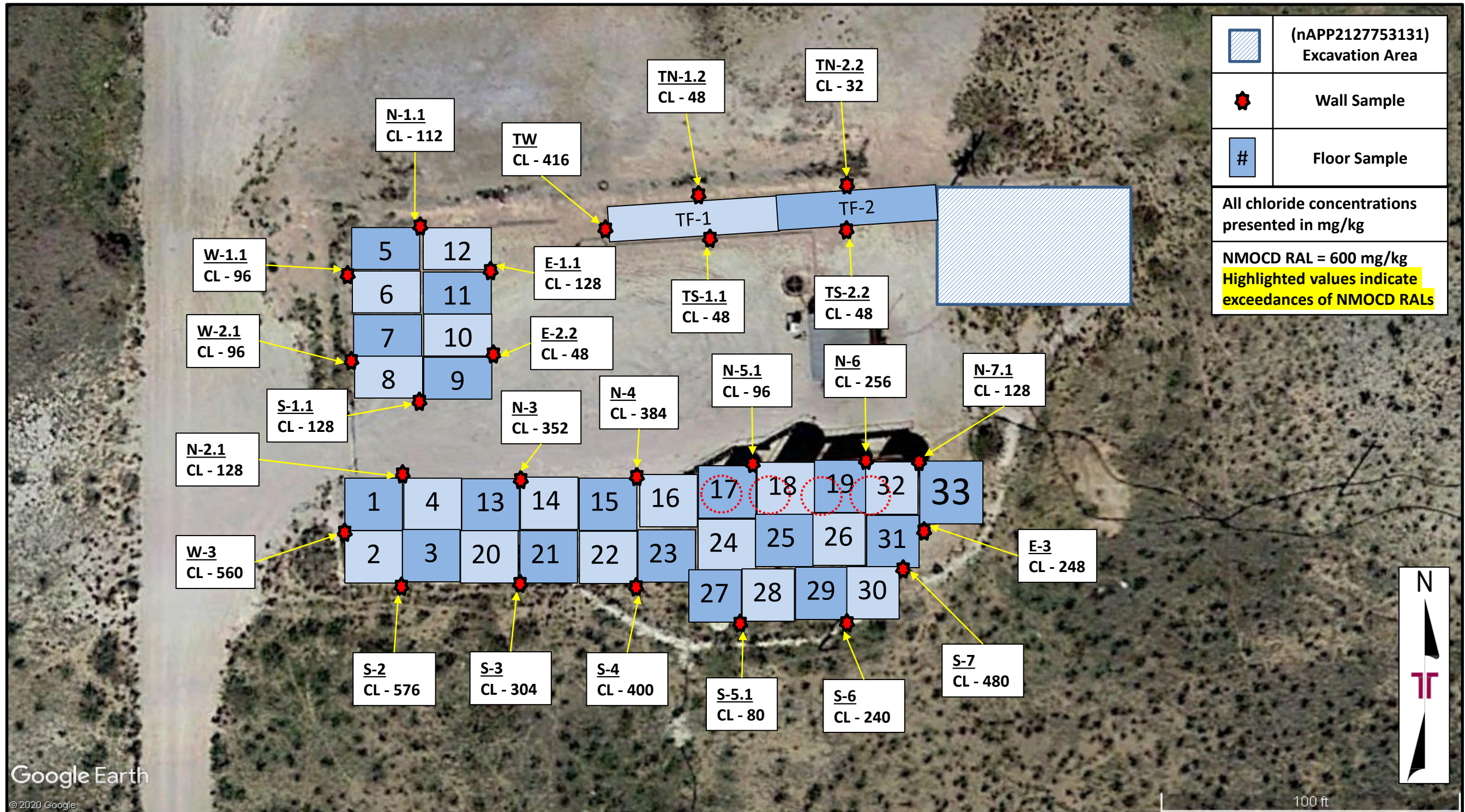
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Figure 5 – Confirmation Sampling Map (Floors)

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





Google Earth

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Project No.	AR207018
Scale:	As Shown
Source:	Google Earth
Image Date:	05/31/2022

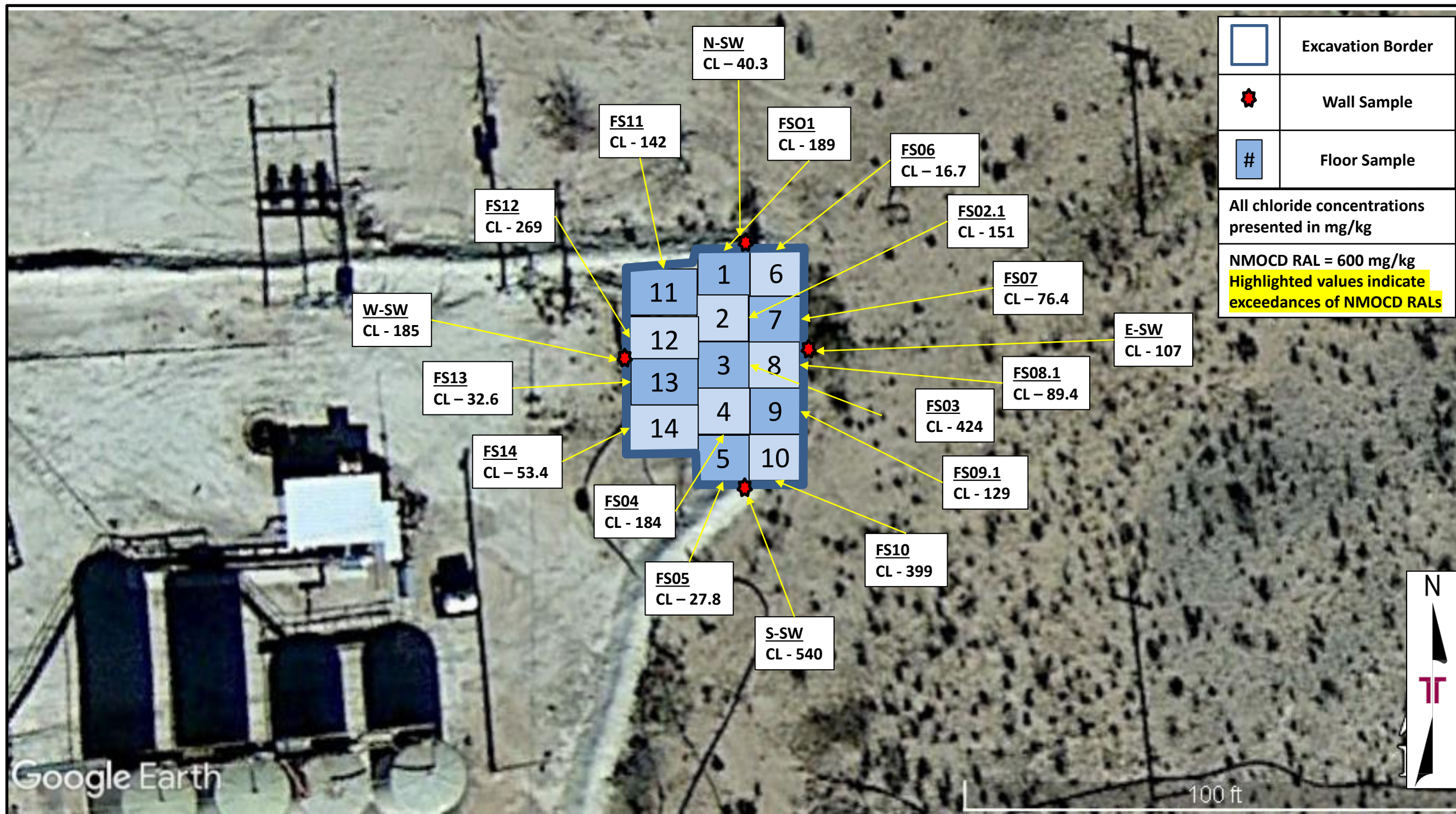
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Figure 6 – Confirmation Sampling Map (Walls)

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





Project No.	AR207018
Scale:	As Shown
Source:	Google Earth
Image Date:	05/31/2022

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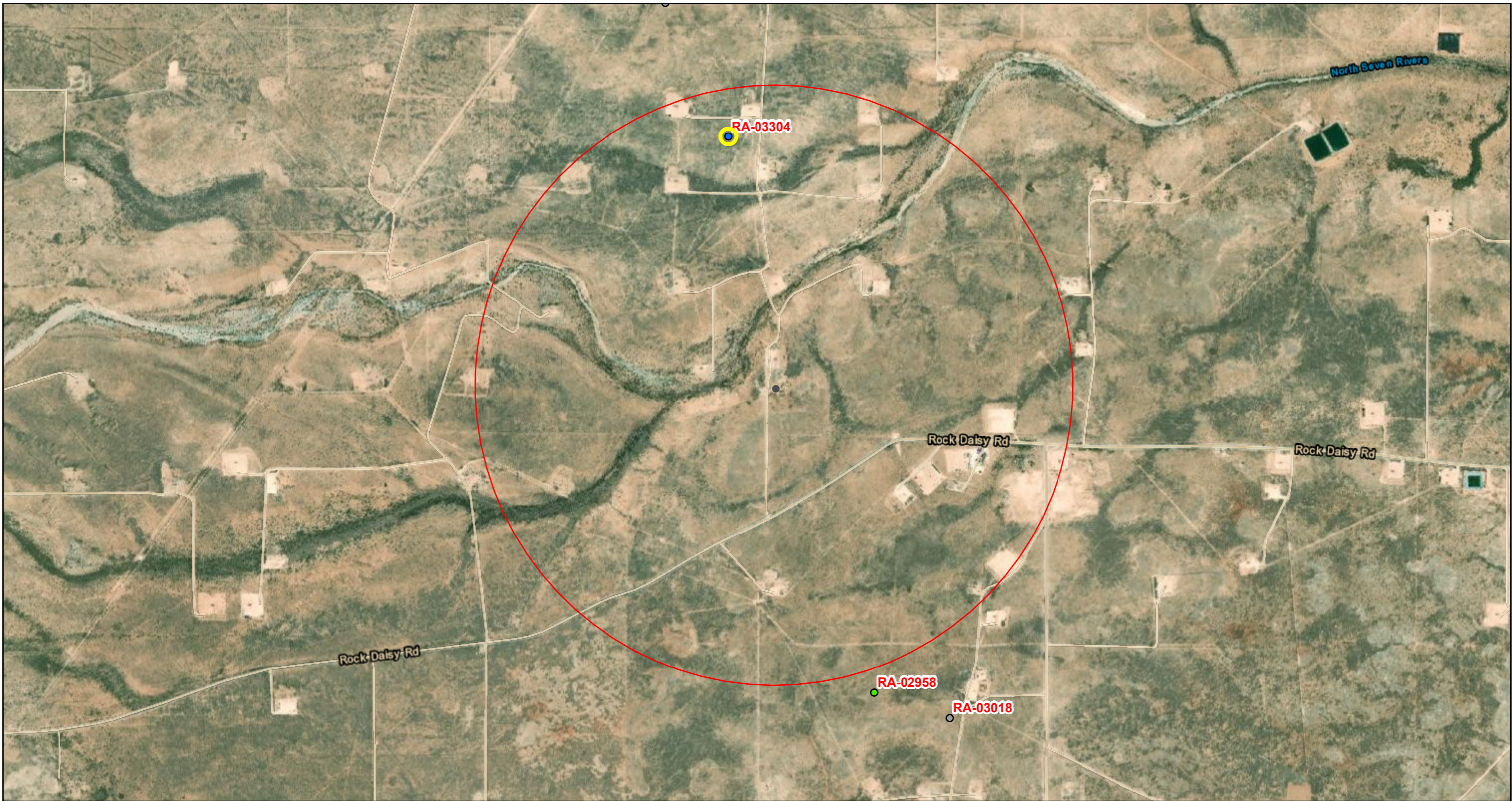
5847 50<sup>th</sup> St. Lubbock, Texas 79424  
PH. (806) 300-0104 FAX. (806) 797 0947

Figure 7 – Confirmation Sampling Map (nAPP2127753131)

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

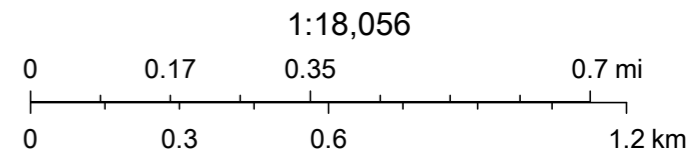


# Figure 8 - NMOSE POD Location Map



6/18/2020 4:39:05 PM




- |                       |                |                 |                |          |
|-----------------------|----------------|-----------------|----------------|----------|
| OSE District Boundary | Conveyances    | Closed Drain    | Diversion Weir | Pipe     |
| Active                | Acequia        | Community Ditch | Drain          | Wasteway |
| Pending               | Acequia Tunnel | Connector       | Feeder         | Other    |
|                       | Canal          | Culvert         | Interior Drain | Unknown  |
|                       | Channel        | Ditch           | Lateral        |          |




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





	Low Karst
	Medium Karst
	High Karst



Project No.	AR207018
Scale:	As Shown
Source:	Google Earth
Date:	06/04/2021



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Consulting Engineers & Scientists

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**Figure 9 – Karst Location Map**

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

## **APPENDIX B – TABLES, PROCEDURES, AND FIGURES**

<b>Table 1</b>			
<b>Closure Criteria for Soils Impacted by a Release</b>			
<b>Minimum depth below any point within the horizontal boundary of the release to ground water less than 10,000 mg/L TDS</b>	<b>Constituent</b>	<b>Method*</b>	<b>Limit**</b>
≤50 feet	Chloride***	EPA 300.0 or SM4500 CI 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 CI 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 CI B	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015 M	2,500 mg/kg
	TPH (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

TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS - BTEX <sup>1</sup> , Chloride <sup>2</sup> , and TPH <sup>3</sup> 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	DRG	ORO	TOTAL
<b>Release Margin Samples (Off Pad)</b>									
HA-1	1.5 - 2'	Grab	01/14/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	22	ND	45.5	ND	45.5
	3.5 - 4'	Grab	01/14/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	33.9	ND	ND	ND	ND
HA-2	1.5 - 2'	Grab	01/14/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	<b>4,160</b>	ND	ND	ND	ND
	3.5 - 4'	Grab	01/14/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	70.2	ND	30.1	ND	30.1
HA-3	1.5 - 2'	Grab	01/14/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	149	ND	8.79	ND	8.79
	3.5 - 4'	Grab	01/14/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	<b>1,090</b>	ND	ND	ND	ND
HA-4	1.5 - 2'	Grab	01/14/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	<b>6,830</b>	0.313	ND	ND	0.313
	3.5 - 4'	Grab	01/14/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	544	ND	ND	ND	ND
SP-1	N/A	Comp	01/14/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	<b>10,400</b>	0.398	22.7	ND	22.7
<b>NMOCD Reclamation and Remediation Standards<sup>4</sup> (Applicable for Soils within a high karst area)</b>				Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50	<b>600</b>	<b>N/A</b>		<b>100</b>	

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/DRG/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  
 ND = Non Detected  
**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 <sup>1</sup> , Chloride <sup>2</sup> , and TPH <sup>3</sup> 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	DRG	ORO	TOTAL
<b>Release Margin Samples (On Pad)</b>									
HA-5	0' - 0.5'	Grab	01/23/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	15,900	0.381	ND	ND	0.381
	0.5' - 1'	Grab	01/23/20	Benzene - 0.127 Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - 0.127	2,940	14.1	1,060	35	1,109.1
	1.5' - 2'	Grab	01/23/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	2,770	1.87	ND	ND	1.87
HA-6	0' - 0.5'	Grab	01/23/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	9,240	3.27	ND	ND	3.27
	0.5' - 1'	Grab	01/23/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	2,320	ND	ND	ND	ND
	1.5' - 2'	Grab	01/23/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	2,290	ND	ND	ND	ND
<b>Confirmation Samples (On Pad)</b>									
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 and Remediation Standards <sup>4</sup> (Applicable for Soils within a high karst area)				Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50	600	N/A			100

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 <sup>1</sup> , Chloride <sup>2</sup> , and TPH <sup>3</sup> 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	DRG	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 - <0.00207 Toluene - <0.00100 Ethylbenzene - <0.00036 Total Xylenes - <0.000438 Total BTEX - <0.00207	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 - <0.00161 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 - <0.00652 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 and Remediation Standards <sup>4</sup> (Applicable for Soils within a high karst area)				Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50	600	N/A		100	

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/DRG/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 <sup>1</sup> , Chloride <sup>2</sup> , and TPH <sup>3</sup> 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	DRG	ORO	TOTAL
<b>Geoprobe Investigation (On Pad)</b>									
GP-1	3' - 4'	Grab	12/21/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - 0.00693 Total BTEX - 0.00693	613	ND	ND	ND	ND
GP-1	5' - 6'	Grab	12/21/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - 0.00708 Total BTEX - 0.00708	ND	ND	ND	ND	ND
GP-2	3' - 4'	Grab	12/21/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	631	ND	ND	ND	ND
GP-2	5' - 6'	Grab	12/21/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	466	ND	ND	ND	ND
GP-3	3' - 4'	Grab	12/21/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	623	ND	ND	ND	ND
GP-3	5' - 6'	Grab	12/21/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	491	ND	ND	ND	ND
GP-4	3' - 4'	Grab	12/21/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	17.0	ND	ND	ND	ND
GP-4	5' - 6'	Grab	12/21/20	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	6.60	ND	ND	ND	ND
<b>Additional Geoprobe Investigation (On Pad)</b>									
GP-1	4' - 5'	Grab	05/21/21	Total BTEX - NA	172	NA	NA	NA	NA
	5' - 6'	Grab	05/21/21	Total BTEX - NA	276	NA	NA	NA	NA
	6' - 7'	Grab	05/21/21	Total BTEX - NA	490	NA	NA	NA	NA
	7' - 8'	Grab	05/21/21	Total BTEX - NA	528	NA	NA	NA	NA
	8' - 9'	Grab	05/21/21	Total BTEX - NA	383	NA	NA	NA	NA
	9' - 10'	Grab	05/21/21	Total BTEX - NA	225	NA	NA	NA	NA
	10' - 11'	Grab	05/21/21	Total BTEX - NA	228	NA	NA	NA	NA
GP-2	11' - 12'	Grab	05/21/21	Total BTEX - NA	143	NA	NA	NA	NA
	0' - 1'	Grab	05/21/21	Total BTEX - NA	3,550	NA	NA	NA	NA
	1' - 2'	Grab	05/21/21	Total BTEX - NA	252	NA	NA	NA	NA
	2' - 3'	Grab	05/21/21	Total BTEX - NA	34	NA	NA	NA	NA
	3' - 4'	Grab	05/21/21	Total BTEX - NA	40.9	NA	NA	NA	NA
	4' - 5'	Grab	05/21/21	Total BTEX - NA	78	NA	NA	NA	NA
	5' - 6'	Grab	05/21/21	Total BTEX - NA	52.2	NA	NA	NA	NA
	6' - 7'	Grab	05/21/21	Total BTEX - NA	58	NA	NA	NA	NA
	7' - 8'	Grab	05/21/21	Total BTEX - NA	60.8	NA	NA	NA	NA
	8' - 9'	Grab	05/21/21	Total BTEX - NA	75	NA	NA	NA	NA
	9' - 10'	Grab	05/21/21	Total BTEX - NA	64.4	NA	NA	NA	NA
	10' - 11'	Grab	05/21/21	Total BTEX - NA	94.4	NA	NA	NA	NA
11' - 12'	Grab	05/21/21	Total BTEX - NA	104	NA	NA	NA	NA	
<b>NMOCD Reclamation and Remediation Standards<sup>4</sup> (Applicable for Soils within a high karst area)</b>				Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50	600	N/A			100

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 <sup>1</sup> , Chloride <sup>2</sup> , and TPH <sup>3</sup> 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	DRG	ORO	TOTAL
<b>(04/27/2021) Release Margin Samples (On Pad)</b>									
HA-1	0-0.5'	Grab	05/10/21	Benzene - ND Total BTEX - ND	315	ND	ND	ND	ND
	0.5-1'	Grab	05/10/21	Benzene - ND Total BTEX - 0.0385	<b>2830</b>	ND	1170	ND	<b>1170</b>
	1.5-2'	Grab	05/10/21	Benzene - 0.0796 Total BTEX - 4.78	189	246	1,790	ND	<b>2040</b>
	3.5-4'	Grab	05/10/21	Benzene - 0.221 Total BTEX - 10.5	256	389	2,050	ND	<b>2,440</b>
	4.5-5'	Grab	05/10/21	Benzene - 0.266 Total BTEX - 42.3	102	722	2,300	ND	<b>3,020</b>
HA-2	0-0.5'	Grab	05/10/21	Benzene - 0.0617 Total BTEX - 1.73	<b>8,020</b>	ND	247	ND	<b>247</b>
	0.5-1'	Grab	05/10/21	Benzene - ND Total BTEX - 0.101	<b>10,300</b>	ND	181	ND	<b>181</b>
	1.5 - 2'	Grab	05/10/21	Benzene - ND Total BTEX - ND	<b>3,300</b>	606	ND	ND	<b>606</b>
	3.5 - 4'	Grab	05/10/21	Benzene - 0.00202 Total BTEX - 0.00202	<b>918</b>	ND	ND	ND	ND
	4.5-5'	Grab	05/10/21	Benzene - ND Total BTEX - ND	<b>991</b>	ND	ND	ND	ND
HA-3	0-0.5'	Grab	05/10/21	Benzene - ND Total BTEX - ND	358	ND	103	ND	<b>103</b>
	0.5-1'	Grab	05/10/21	Benzene - 0.618 Total BTEX - 1.31	265	ND	457	ND	<b>457</b>
	1.5 - 2'	Grab	05/10/21	Benzene - ND Total BTEX - ND	<b>993</b>	ND	61.6	ND	61.6
	3.5 - 4'	Grab	05/10/21	Benzene - ND Total BTEX - ND	<b>8,940</b>	ND	ND	ND	ND
	4.5-5'	Grab	05/10/21	Benzene - ND Total BTEX - ND	<b>6,410</b>	ND	ND	ND	ND
HA-4	0-0.5'	Grab	05/10/21	Benzene - ND Total BTEX - ND	<b>6740</b>	ND	124	ND	<b>124</b>
	0.5-1'	Grab	05/10/21	Benzene - ND Total BTEX - ND	<b>1390</b>	ND	ND	ND	ND
	1.5 - 2'	Grab	05/10/21	Benzene - ND Total BTEX - ND	<b>8,700</b>	ND	ND	ND	ND
	3.5 - 4'	Grab	05/10/21	Benzene - ND Total BTEX - ND	<b>3,720</b>	ND	ND	ND	ND
	4.5-5'	Grab	05/10/21	Benzene - ND Total BTEX - ND	<b>2,760</b>	ND	ND	ND	ND
<b>NMOCDD Reclamation Standards<sup>4</sup> (Applicable for Soils from the Surface to 4 ft. Below Grade Surface)</b>				<b>Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50</b>	<b>600</b>	<b>N/A</b>			<b>100</b>

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 <sup>1</sup> , Chloride <sup>2</sup> , and TPH <sup>3</sup> 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	DRG	ORO	TOTAL
<b>(04/27/2021) Release Margin Samples (On Pad)</b>									
HA-5	0 - 0.5'	Grab	05/10/21	Benzene - ND Toluene - 1.41 Ethylbenzene - 7.79 Total Xylenes - 19 Total BTEX - 28.2	1,790	203	4,750	ND	4,950
HA-6	0 - 0.5'	Grab	05/10/21	Benzene - ND Toluene - 0.173 Ethylbenzene - 0.124 Total Xylenes - 0.218 Total BTEX - 0.515	4,420	52.7	4,990	ND	5,040
HA-7	0 - 0.5'	Grab	05/10/21	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	575	ND	90.5	ND	90.5
HA-8	0 - 0.5'	Grab	05/10/21	Benzene - ND Toluene - ND Ethylbenzene - ND Total Xylenes - ND Total BTEX - ND	11,200	ND	167	ND	167
NMOCD Reclamation Standards <sup>4</sup> (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	600	N/A			100

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  
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**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 <sup>1</sup> , Chloride <sup>2</sup> , and TPH <sup>3</sup> 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
(06/29/2022) Confirmation Samples									
CS-1	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	592	ND	ND	ND	ND
CS-2	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	384	ND	ND	ND	ND
CS-3	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	256	ND	ND	ND	ND
CS-4	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	336	ND	ND	ND	ND
CS-5	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	512	ND	ND	ND	ND
CS-6	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	352	ND	ND	ND	ND
CS-7	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	608	ND	69.5	ND	69.5
CS-7.1	6-7'	Composite	07/20/22	Benzene - ND Total BTEX - ND	112	ND	ND	ND	ND
CS-8	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	608	ND	ND	ND	ND
CS-8.1	6-7'	Composite	07/20/22	Benzene - ND Total BTEX - ND	128	ND	ND	ND	ND
CS-9	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	880	ND	ND	ND	ND
CS-9.1	6-7'	Composite	07/20/22	Benzene - ND Total BTEX - ND	112	ND	ND	ND	ND
CS-10	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	1310	ND	ND	ND	ND
CS-10.1	6-7'	Composite	07/20/22	Benzene - ND Total BTEX - ND	112	ND	ND	ND	ND
CS-11	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	560	ND	ND	ND	ND
CS-12	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	288	ND	ND	ND	ND
CS-13	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	448	ND	ND	ND	ND
CS-14	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	400	ND	ND	ND	ND
CS-15	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	464	ND	ND	ND	ND
CS-16	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	192	ND	35.2	ND	35.2
CS-17	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	240	ND	59.9	ND	59.9
CS-18	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	432	ND	ND	ND	ND
CS-19	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	416	ND	ND	ND	ND
CS-20	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	448	ND	ND	ND	ND
CS-21	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	560	ND	46.1	ND	46.1
CS-22	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	368	ND	ND	ND	ND
CS-23	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	336	ND	ND	ND	ND
CS-24	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	336	ND	ND	ND	ND
CS-25	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	608	ND	ND	ND	ND
CS-25.1	6-7'	Composite	07/20/22	Benzene - ND Total BTEX - ND	128	ND	ND	ND	ND
CS-26	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	352	ND	ND	ND	ND
CS-27	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	128	ND	ND	ND	ND
CS-28	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	48	ND	ND	ND	ND
CS-29	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	304	ND	ND	ND	ND
CS-30	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	320	ND	ND	ND	ND
CS-31	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	1060	ND	ND	ND	ND
CS-31.1	6-7'	Composite	07/20/22	Benzene - ND Total BTEX - ND	96	ND	ND	ND	ND
CS-32	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	432	ND	ND	ND	ND
CS-33	5-6'	Composite	06/29/22	Benzene - ND Total BTEX - ND	416	ND	44.1	ND	44.1
N-1	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	944	ND	35.1	10.6	45.7
N-1.1	2-3'	Composite	07/20/22	Benzene - ND Total BTEX - ND	112	ND	ND	ND	ND
NMOCD Reclamation Standards <sup>4</sup> (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	600	N/A			100

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  
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**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 <sup>1</sup> , Chloride <sup>2</sup> , and TPH <sup>3</sup> 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	DRG	ORO	TOTAL	
(06/29/2022) Confirmation Samples										
N-2	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	640	ND	105	25	130	
N-2.1	2-3'	Composite	07/20/22	Benzene - ND Total BTEX - ND	128	ND	ND	ND	ND	
N-3	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	352	ND	ND	ND	ND	
N-4	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	384	ND	26.3	ND	26.3	
N-5	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	480	ND	372	104	476	
N-5.1	2-3'	Composite	07/20/22	Benzene - ND Total BTEX - ND	96	ND	ND	ND	ND	
N-6	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	256	ND	ND	ND	ND	
N-7	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	2680	ND	82.3	30.8	113.1	
N-7.1	2-3'	Composite	07/20/22	Benzene - ND Total BTEX - ND	128	ND	ND	ND	ND	
S-1	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	400	ND	98.2	18.9	117.1	
S-1.1	2-3'	Composite	07/20/22	Benzene - ND Total BTEX - ND	128	ND	ND	ND	ND	
S-2	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	576	ND	ND	ND	ND	
S-3	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	304	ND	ND	ND	ND	
S-4	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	400	ND	ND	ND	ND	
S-5	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	720	ND	ND	ND	ND	
S-5.1	2-3'	Composite	07/20/22	Benzene - ND Total BTEX - ND	80	ND	ND	ND	ND	
S-6	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	240	ND	ND	ND	ND	
S-7	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	480	ND	ND	ND	ND	
W-1	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	880	ND	ND	ND	ND	
W-1.1	2-3'	Composite	07/20/22	Benzene - ND Total BTEX - ND	96	ND	ND	ND	ND	
W-2	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	336	ND	671	215	886	
W-2.1	2-3'	Composite	07/20/22	Benzene - ND Total BTEX - ND	96	ND	ND	ND	ND	
W-3	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	560	ND	ND	ND	ND	
E-1	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	1730	ND	ND	ND	ND	
E-1.1	2-3'	Composite	07/20/22	Benzene - ND Total BTEX - ND	128	ND	ND	ND	ND	
E-2	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	608	ND	ND	ND	ND	
E-2.1	2-3'	Composite	07/20/22	Benzene - ND Total BTEX - ND	48	ND	256	ND	256	
E-2.2	2-3'	Composite	11/30/22	Benzene - ND Total BTEX - ND	NA	ND	ND	ND	ND	
E-3	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	240	ND	ND	ND	ND	
TN-1	1'-2'	Composite	06/29/22	Benzene - ND Total BTEX - ND	6400	ND	ND	ND	ND	
TN-1.1	1'-2'	Composite	07/20/22	Benzene - ND Total BTEX - ND	48	ND	285	ND	285	
TN-1.2	1'-2'	Composite	11/30/22	Benzene - ND Total BTEX - ND	NA	ND	ND	ND	ND	
TN-2	1'-2'	Composite	06/29/22	Benzene - ND Total BTEX - ND	3240	ND	ND	ND	ND	
TN-2.1	1'-2'	Composite	07/20/22	Benzene - 0.056 Total BTEX - 1.03	32	13.4	327	ND	327	
TN-2.2	1'-2'	Composite	11/30/22	Benzene - ND Total BTEX - ND	NA	ND	ND	ND	ND	
TE	1'-2'	Composite	06/29/22	Benzene - ND Total BTEX - ND	800	ND	ND	ND	ND	
TF-1	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	448	ND	ND	ND	ND	
TF-2	2-3'	Composite	06/29/22	Benzene - ND Total BTEX - ND	416	ND	ND	ND	ND	
TW	1'-2'	Composite	06/29/22	Benzene - ND Total BTEX - ND	416	ND	21.1	ND	21.1	
TS-1	1'-2'	Composite	06/29/22	Benzene - ND Total BTEX - ND	2360	ND	ND	ND	ND	
TS-1.1	1'-2'	Composite	07/20/22	Benzene - ND Total BTEX - ND	48	ND	12.6	ND	12.6	
TS-2	1'-2'	Composite	06/29/22	Benzene - ND Total BTEX - ND	2680	ND	ND	ND	ND	
TS-2.1	1'-2'	Composite	07/20/22	Benzene - ND Total BTEX - 0.661	48	11.6	264	ND	275	
TS-2.2	1'-2'	Composite	11/30/22	Benzene - ND Total BTEX - ND	NA	ND	ND	ND	ND	
NMOCDC Reclamation Standards <sup>4</sup> (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	600		N/A		100	

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.  
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 < = Constituent not detected above the indicated laboratory SDL  
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**Bold and Highlight denotes concentrations that exceed the New Mexico Oil Conservation Division (NMOCDC) Reclamation and/or Remediation and Delineation Standards.**

TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS - BTEX <sup>1</sup> , Chloride <sup>2</sup> , and TPH <sup>3</sup> 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	DRG	ORO	TOTAL
(nAPP2127753131) Confirmation Samples									
E-SW	2'	Composite	10/10/22	Benzene - ND Total BTEX - ND	107	ND	ND	ND	ND
FS01	2'	Composite	10/10/22	Benzene - ND Total BTEX - 0.00451	189	ND	ND	ND	ND
FS02	2'	Composite	10/10/22	Benzene - ND Total BTEX - ND	<b>1,290</b>	ND	ND	ND	ND
FS02.1	2'	Composite	10/28/22	Benzene - ND Total BTEX - ND	151	ND	ND	ND	ND
FS03	2'	Composite	10/10/22	Benzene - ND Total BTEX - ND	424	ND	ND	ND	ND
FS04	2'	Composite	10/10/22	Benzene - ND Total BTEX - ND	184	ND	ND	ND	ND
FS05	2'	Composite	10/10/22	Benzene - ND Total BTEX - ND	27.8	ND	ND	ND	ND
FS06	8'	Composite	10/10/22	Benzene - ND Total BTEX - ND	16.7	ND	ND	ND	ND
FS07	8'	Composite	10/10/22	Benzene - ND Total BTEX - ND	76.4	ND	ND	ND	ND
FS08	8'	Composite	10/10/22	Benzene - ND Total BTEX - ND	<b>3,120</b>	ND	ND	ND	ND
FS08.1	8'	Composite	10/28/22	Benzene - ND Total BTEX - ND	89.4	ND	ND	ND	ND
FS09	8'	Composite	10/10/22	Benzene - ND Total BTEX - 0.0912	52.1	ND	104	ND	<b>104</b>
FS09.1	8'	Composite	11/23/22	Benzene - ND Total BTEX - ND	129	ND	ND	ND	ND
FS10	8'	Composite	10/10/22	Benzene - ND Total BTEX - ND	399	ND	ND	ND	ND
FS11	8'	Composite	10/10/22	Benzene - ND Total BTEX - ND	142	ND	ND	ND	ND
FS12	8'	Composite	10/10/22	Benzene - 0.0869 Total BTEX - 0.116	269	ND	ND	ND	ND
FS13	8'	Composite	10/10/22	Benzene - ND Total BTEX - ND	32.6	ND	ND	ND	ND
FS14	8'	Composite	10/10/22	Benzene - ND Total BTEX - ND	53.4	ND	ND	ND	ND
N-SW	2'	Composite	10/10/22	Benzene - ND Total BTEX - ND	40.3	ND	ND	ND	ND
S-SW	2'	Composite	10/10/22	Benzene - ND Total BTEX - ND	540	ND	ND	ND	ND
W-SW	2'	Composite	10/10/22	Benzene - ND Total BTEX - ND	185	ND	ND	ND	ND
NMOCDD Reclamation Standards <sup>4</sup> (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	600	N/A		100	

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  
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 < = Constituent not detected above the indicated laboratory SDL  
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## **APPENDIX C – PHOTOGRAPHIC LOG**

Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018



**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

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018



**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

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018



**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

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018



**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

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018



**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

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018



**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

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018

**Terracon**



**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

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018



**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

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018

**Terracon**



**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

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018



PHOTO 19: View of new release, facing east.



PHOTO 20: View near release point, facing north.

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018



PHOTO 21: View near release point, facing south.



PHOTO 22: View of flow path, facing west.

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018



PHOTO 23: View of pooling area, facing southeast.



PHOTO 24: View of release point, facing southeast.

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018



PHOTO 25: View of release point, facing south.



PHOTO 26: View of impacted soils, facing west.

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018

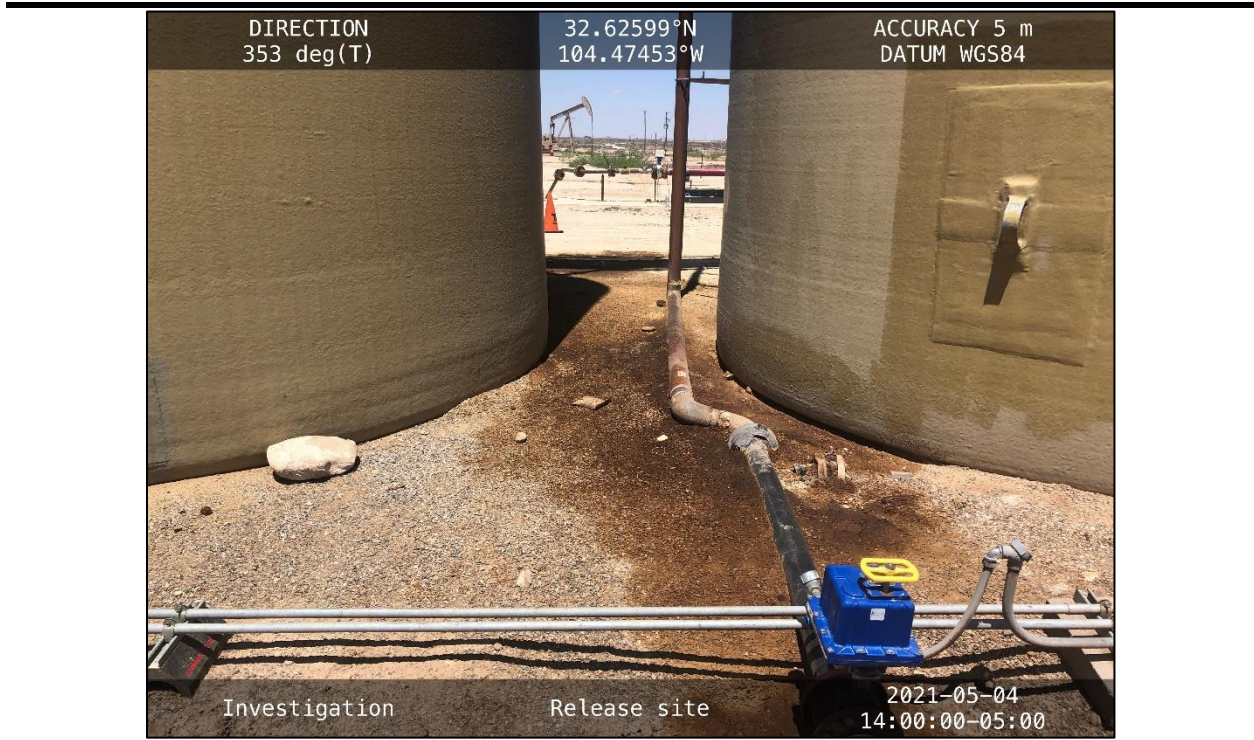


PHOTO 27: View of flow path, facing north.



PHOTO 28: View of impacted soils, facing northeast.

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018



PHOTO 29: View of impacted soils, facing west.



PHOTO 30: View of pooling areas, facing west.

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018



PHOTO 31: View of remediation beginning, facing south.



PHOTO 32: View of remediation around the tank battery, facing west.

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018



PHOTO 33: View of trenching within excavation northwest corner, facing north.



PHOTO 34: View of trenching in northwest corner of excavation, facing north.

Responsive ■ Resourceful ■ Reliable



Aikman SWD ■ Eddy County, New Mexico  
December 9, 2022 ■ Terracon Project No. AR207018



PHOTO 35: View of excavation in northwest corner, facing north.



PHOTO 36: View of excavation around (nAPP2127753131), facing south.

Responsive ■ Resourceful ■ Reliable

## **APPENDIX D – ANALYTICAL REPORT AND CHAIN OF CUSTODY**





# 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

<b>Analysis Requested</b>	<b>Lab Id:</b>	650649-001	650649-002	650649-003	650649-004	650649-005	650649-006
	<b>Field Id:</b>	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)
	<b>Depth:</b>	0-0.5 ft	0.5-1 ft	1.5-2 ft	0-0.5 ft	0.5-1 ft	1.5-2 ft
	<b>Matrix:</b>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<b>Sampled:</b>	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
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b>	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
	<b>Analyzed:</b>	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
	<b>Units/RL:</b>	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	
<b>Chloride by EPA 300</b>	<b>Extracted:</b>	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
	<b>Analyzed:</b>	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
	<b>Units/RL:</b>	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	
<b>DRO-ORO By SW8015B</b>	<b>Extracted:</b>	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
	<b>Analyzed:</b>	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
	<b>Units/RL:</b>	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	
<b>TPH GRO by EPA 8015 Mod.</b>	<b>Extracted:</b>	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
	<b>Analyzed:</b>	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
	<b>Units/RL:</b>	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	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

*Jessica Kramer*

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**  
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: <b>HA-5 (0.0.5)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>0.381</b>	3.66	0.248	mg/kg	01.30.20 00.52	J	1
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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
<b>Chloride</b>	16887-00-6	<b>2940</b>	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
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>1060</b>	50.4	15.1	mg/kg	01.30.20 04.07		2
<b>Oil Range Hydrocarbons (ORO)</b>	PHCG2835	<b>35.0</b>	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
<b>Benzene</b>	71-43-2	<b>0.127</b>	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
<b>Total BTEX</b>		<b>0.127</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>14.1</b>	18.2	1.23	mg/kg	01.30.20 02.05	J	5
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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: <b>HA-5 (1.5-2)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>1.87</b>	7.89	0.535	mg/kg	01.30.20 02.28	J	2
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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: <b>HA-6 (0.0.5)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>3.27</b>	7.53	0.510	mg/kg	01.30.20 02.52	J	2
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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: <b>HA-6 (0.5-1)</b>	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
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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: <b>HA-6 (1.5-2)</b>	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
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		







**Terracon-Lubbock**  
Aikman SWD

**Analytical Method: Chloride by EPA 300**

Seq Number: 3114968

MB Sample Id: 7695560-1-BLK

Matrix: Solid

LCS Sample Id: 7695560-1-BKS

Prep Method: E300P

Date Prep: 01.29.20

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**

Seq Number: 3114968

Parent Sample Id: 650649-006

Matrix: Soil

MS Sample Id: 650649-006 S

Prep Method: E300P

Date Prep: 01.29.20

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**

Seq Number: 3114968

Parent Sample Id: 650658-001

Matrix: Soil

MS Sample Id: 650658-001 S

Prep Method: E300P

Date Prep: 01.29.20

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**

Seq Number: 3114869

MB Sample Id: 7695489-1-BLK

Matrix: Solid

LCS Sample Id: 7695489-1-BKS

Prep Method: SW8015P

Date Prep: 01.29.20

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**

Seq Number: 3114869

Matrix: Solid  
MB Sample Id: 7695489-1-BLK

Prep Method: SW8015P

Date Prep: 01.29.20

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

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



**Terracon-Lubbock**  
Aikman SWD

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

Seq Number: 3114869

Parent Sample Id: 650649-001

Matrix: Soil

MS Sample Id: 650649-001 S

Prep Method: SW8015P

Date Prep: 01.29.20

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

Seq Number: 3114924

MB Sample Id: 7695540-1-BLK

Matrix: Solid

LCS Sample Id: 7695540-1-BKS

Prep Method: SW5030B

Date Prep: 01.29.20

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

Seq Number: 3114924

Parent Sample Id: 650658-001

Matrix: Soil

MS Sample Id: 650658-001 S

Prep Method: SW5030B

Date Prep: 01.29.20

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





**Terracon-Lubbock**  
Aikman SWD

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

Seq Number: 3114927

MB Sample Id: 7695541-1-BLK

Matrix: Solid

LCS Sample Id: 7695541-1-BKS

Prep Method: SW5030B

Date Prep: 01.29.20

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.

Seq Number: 3114927

Parent Sample Id: 650658-001

Matrix: Soil

MS Sample Id: 650658-001 S

Prep Method: SW5030B

Date Prep: 01.29.20

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  
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

650649

650649

3.17.2

Page 1 of 1

CHAIN OF CUSTODY RECORD

**Terracon**

Office Location: Lubbock

Laboratory: Xenco  
Address: 6701 Aberdeen  
Lubbock, Texas 79424

Project Manager: Joseph Guesnier  
Sampler's Name: Joseph Guesnier

Phone: \_\_\_\_\_  
Contact: Joseph Guesnier (806-544-9276)  
SRS #: \_\_\_\_\_

Sampler's Signature: \_\_\_\_\_

Matrix	Date	Time	Comp	Grab	Project Name	Identifying Marks of Sample(s)	No. Type of Containers	
							2 oz Glass	4 oz Glass
S	1/23/2020	13:05	X		Aikman SWD	HA-5 (0-0.5)	X	
S	1/23/2020	13:10	X			HA-5 (0.5-1)	X	
S	1/23/2020	13:15	X			HA-5 (1.5-2)	X	
S	1/23/2020	13:30	X			HA-6 (0-0.5)	X	
S	1/23/2020	13:35	X			HA-6 (0.5-1)	X	
S	1/23/2020	13:40	X			HA-6 (1.5-2)	X	

ANALYSIS REQUESTED

BTEX (EPA Method 8021B)  TPH Extended 8015  Chloride (EPA Method 300)  Hold

LAB USE ONLY  
DUE DATE: \_\_\_\_\_  
TEMP OF COOLER WHEN RECEIVED (°C): \_\_\_\_\_

TRRP Laboratory Review Checklist

24-Hour Rush  48-Hour Rush  Normal

Relinquished by (Signature): *John Chen* Date: 1-23-2020 Time: 10:37am

Relinquished by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Notes Client: \_\_\_\_\_  
e-mail results to: \_\_\_\_\_

erin.loyd@terracon.com  
jguesnier@terracon.com

Matrix Container: W - Water, VOA - 40 ml vial, A/G - Amber Glass 1L

Matrix Container: 250 ml - Glass wide-mouth, P/O - Plastic or other

Matrix Container: S - Soil, L - Liquid, A - Air Bag, C - Charcoal tube, SL - Sludge

Lubbock Office ■ 5827 50th Street, Suite 1 ■ Lubbock, Texas 79424 ■ 806-300-0140

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# 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  
Brenda Ward

Date: 01.29.2020

Checklist reviewed by:

Jessica Kramer  
Jessica Kramer

Date: 01.30.2020





# 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
<b>BTEX by EPA 8021B</b>	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
<b>Chloride by EPA 300 SUB: T104704215-19-30</b>	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
<b>DRO-ORO By SW8015B</b>	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
<b>TPH GRO by EPA 8015 Mod.</b>	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

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.9%

*Jessica Kramer*

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

<i>Analysis Requested</i>	<i>Lab Id:</i>	649282-007	649282-008	649282-009			
	<i>Field Id:</i>	HA-3 1 (3.5-4)	HA-4 1 (0.5-1)	HA-4 1 (1.5-2)			
	<i>Depth:</i>	3.5-4 ft	0.5-1 ft	1.5-2 ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Jan-14-20 10:30	Jan-14-20 10:35	Jan-14-20 10:40			
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Jan-20-20 13:00	Jan-20-20 13:00	Jan-20-20 13:00			
	<i>Analyzed:</i>	Jan-20-20 19:50	Jan-21-20 00:34	Jan-21-20 00:57			
	<i>Units/RL:</i>	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			
<b>Chloride by EPA 300 SUB: T104704215-19-30</b>	<i>Extracted:</i>	Jan-17-20 10:50	Jan-17-20 10:50	Jan-17-20 10:50			
	<i>Analyzed:</i>	Jan-17-20 15:11	Jan-17-20 15:19	Jan-17-20 15:55			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		1090 9.84	6830 102	544 101			
<b>DRO-ORO By SW8015B</b>	<i>Extracted:</i>	Jan-20-20 13:00	Jan-20-20 13:00	Jan-20-20 13:00			
	<i>Analyzed:</i>	Jan-20-20 19:23	Jan-21-20 01:03	Jan-21-20 01:37			
	<i>Units/RL:</i>	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			
<b>TPH GRO by EPA 8015 Mod.</b>	<i>Extracted:</i>	Jan-20-20 13:00	Jan-20-20 13:00	Jan-20-20 13:00			
	<i>Analyzed:</i>	Jan-20-20 19:50	Jan-21-20 00:34	Jan-21-20 00:57			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
TPH-GRO		<0.249 3.68	0.313 J 3.80	<0.261 3.85			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.0%

*Jessica Kramer*

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**  
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*

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# 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): 649282Report 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
<b>TPH-GRO</b>	8006-61-9	<b>0.398</b>	3.96	0.268	mg/kg	01.20.20 22.11	J	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>		
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: <b>HA-1 1 (1.5-2)</b>	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
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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: <b>HA-1 1 (3.5-4)</b>	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
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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: <b>HA-2 1 (1.5-2)</b>	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
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>		
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: <b>HA-2 1 (3.5-4)</b>	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
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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: <b>HA-3 1 (1.5-2)</b>	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
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>		
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: <b>HA-3 1 (3.5-4)</b>	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
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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	<b>6830</b>	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: <b>HA-4 1 (0.5-1)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>0.313</b>	3.80	0.257	mg/kg	01.21.20 00.34	J	1
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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: <b>HA-4 1 (1.5-2)</b>	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
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>		
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			







**Terracon-Lubbock**  
Aikman SWD

**Analytical Method: Chloride by EPA 300**

Seq Number: 3113663

MB Sample Id: 7694586-1-BLK

Matrix: Solid

LCS Sample Id: 7694586-1-BKS

Prep Method: SW9056P

Date Prep: 01.17.20

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**

Seq Number: 3113663

Parent Sample Id: 649282-006

Matrix: Soil

MS Sample Id: 649282-006 S

Prep Method: E300P

Date Prep: 01.17.20

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**

Seq Number: 3113663

Parent Sample Id: 649369-001

Matrix: Soil

MS Sample Id: 649369-001 S

Prep Method: SW9056P

Date Prep: 01.17.20

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**

Seq Number: 3113880

MB Sample Id: 7694811-1-BLK

Matrix: Solid

LCS Sample Id: 7694811-1-BKS

Prep Method: SW8015P

Date Prep: 01.20.20

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**

Seq Number: 3113880

MB Sample Id: 7694811-1-BLK

Matrix: Solid

Prep Method: SW8015P

Date Prep: 01.20.20

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

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



**Terracon-Lubbock**  
Aikman SWD

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

Seq Number: 3113880  
Parent Sample Id: 649282-007

Matrix: Soil  
MS Sample Id: 649282-007 S

Prep Method: SW8015P  
Date Prep: 01.20.20  
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**

Seq Number: 3113870  
MB Sample Id: 7694808-1-BLK

Matrix: Solid  
LCS Sample Id: 7694808-1-BKS

Prep Method: SW5030B  
Date Prep: 01.20.20  
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**

Seq Number: 3113870  
Parent Sample Id: 649282-007

Matrix: Soil  
MS Sample Id: 649282-007 S

Prep Method: SW5030B  
Date Prep: 01.20.20  
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





**Terracon-Lubbock**  
Aikman SWD

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

Seq Number: 3113871

MB Sample Id: 7694809-1-BLK

Matrix: Solid

LCS Sample Id: 7694809-1-BKS

Prep Method: SW5030B

Date Prep: 01.20.20

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.

Seq Number: 3113871

Parent Sample Id: 649282-007

Matrix: Soil

MS Sample Id: 649282-007 S

Prep Method: SW5030B

Date Prep: 01.20.20

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  
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

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1/14/1.5

Page 1 of 1

CHAIN OF CUSTODY RECORD

**Terracon**

Lubbock

Joseph Guesnier  
Bryant McBrayer

Joseph Guesnier (806-544-9276)

Joseph Guesnier (806-544-9276)

Project Name: Aikman SWD

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers				ANALYSIS REQUESTED	LAB USE ONLY DUE DATE:	
								2 oz Glass	4 oz Glass	5035 kit	40 ml VOA			
S	1/14/2020	10:00	X		SP-1	-	-	X						
S	1/14/2020	10:05		X	HA-1 (1.5-2)	1.5'	2'	X						
S	1/14/2020	10:10		X	HA-1 (3.5-4)	3.5'	4'	X						
S	1/14/2020	10:15		X	HA-2 (1.5-2)	1.5'	2'	X						
S	1/14/2020	10:20		X	HA-2 (3.5-4)	3.5'	4'	X						
S	1/14/2020	10:25		X	HA-3 (1.5-2)	1.5'	2'	X						
S	1/14/2020	10:30		X	HA-3 (3.5-4)	3.5'	4'	X						
S	1/14/2020	10:35		X	HA-4 (0.5-1)	0.5'	1'	X						
S	1/14/2020	10:40		X	HA-4 (1.5-2)	1.5'	2'	X						

Requested: BTEX (EPA Method 8021B), TPH Extended 8015, Chloride (EPA Method 300), Hold

TRRP Laboratory Review Checklist

48-Hour Rush:  Normal:  24-Hour Rush:  YES:  NO:

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

Matrix Container: WW-Water, VOA - 40ml vial, W - Water, AG - Amber Glass 1L, S - Soil, 250 ml - glass wide mouth, L - Liquid, P/O - Plastic or other, C - Charcoal tube, S - Sludge

Lubbock Office ■ 5827 50th Street, Suite 1 ■ Lubbock, Texas 79424 ■ 806-300-0140

Responsive ■ Resourceful ■ Reliable

### Inter-Office Shipment

**IOS Number : 56251**

Date/Time: 01.16.2020

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.:

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

Date Relinquished: 01.16.2020

Received By: \_\_\_\_\_

Date Received: \_\_\_\_\_

Cooler Temperature: \_\_\_\_\_





Inter Office Report- Sample Receipt Checklist

Sent To: Houston

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

IOS #: 56251

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 (signature)

Abdhija Saidurga

Date: 01.17.2020

# 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 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

<b>Analysis Requested</b>	<b>Lab Id:</b>	652217-001	652217-002	652217-003	652217-004	652217-005	652217-006
	<b>Field Id:</b>	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)
	<b>Depth:</b>	0.5-1 ft	0.5-1 ft	0.5-1 ft	0.5-1 ft	0.5-1 ft	0.5-1 ft
	<b>Matrix:</b>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<b>Sampled:</b>	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
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b>	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
	<b>Analyzed:</b>	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
	<b>Units/RL:</b>	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	
<b>Chloride by EPA 300</b>	<b>Extracted:</b>	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
	<b>Analyzed:</b>	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
	<b>Units/RL:</b>	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	
<b>DRO-ORO By SW8015B</b>	<b>Extracted:</b>	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
	<b>Analyzed:</b>	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
	<b>Units/RL:</b>	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	
<b>TPH GRO by EPA 8015 Mod.</b>	<b>Extracted:</b>	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
	<b>Analyzed:</b>	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
	<b>Units/RL:</b>	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	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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*Jessica Kramer*

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

<b>Analysis Requested</b>	<b>Lab Id:</b>	652217-007	652217-008	652217-009	652217-010	652217-011	652217-012
	<b>Field Id:</b>	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)
	<b>Depth:</b>	0.5-1 ft	0.5-1 ft	1.5-2 ft	1.5-2 ft	1.5-2 ft	1.5-2 ft
	<b>Matrix:</b>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<b>Sampled:</b>	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
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b>	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
	<b>Analyzed:</b>	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
	<b>Units/RL:</b>	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	
<b>Chloride by EPA 300</b>	<b>Extracted:</b>	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
	<b>Analyzed:</b>	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
	<b>Units/RL:</b>	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	
<b>DRO-ORO By SW8015B</b>	<b>Extracted:</b>	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
	<b>Analyzed:</b>	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
	<b>Units/RL:</b>	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	
<b>TPH GRO by EPA 8015 Mod.</b>	<b>Extracted:</b>	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
	<b>Analyzed:</b>	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
	<b>Units/RL:</b>	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	

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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

<i>Analysis Requested</i>	<i>Lab Id:</i>	652217-013	652217-014			
	<i>Field Id:</i>	WTF-1 (1.5-2)	ETF-1 (1.5-2)			
	<i>Depth:</i>	1.5-2 ft	1.5-2 ft			
	<i>Matrix:</i>	SOIL	SOIL			
	<i>Sampled:</i>	Feb-10-20 13:38	Feb-10-20 13:45			
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Feb-13-20 11:13	Feb-13-20 11:13			
	<i>Analyzed:</i>	Feb-14-20 07:01	Feb-14-20 07:26			
	<i>Units/RL:</i>	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			
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Feb-13-20 14:30	Feb-13-20 14:30			
	<i>Analyzed:</i>	Feb-13-20 23:33	Feb-13-20 23:58			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			
Chloride		3660 D 250	5100 D 1250			
<b>DRO-ORO By SW8015B</b>	<i>Extracted:</i>	Feb-13-20 12:00	Feb-13-20 12:00			
	<i>Analyzed:</i>	Feb-14-20 07:13	Feb-13-20 21:09			
	<i>Units/RL:</i>	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			
<b>TPH GRO by EPA 8015 Mod.</b>	<i>Extracted:</i>	Feb-13-20 11:13	Feb-13-20 11:13			
	<i>Analyzed:</i>	Feb-14-20 07:01	Feb-14-20 07:26			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			
TPH-GRO		0.612 J 3.88	0.494 J 3.68			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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*Jessica Kramer*

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**  
Project Assistant

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.  
Certified and approved by numerous States and Agencies.  
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# 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): 652217Report 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

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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: <b>SW-1 (0.5-1)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>2.79</b>	3.93	0.266	mg/kg	02.13.20 22.11	J	1
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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: <b>WW-1 (0.5-1)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>3.46</b>	7.92	0.537	mg/kg	02.14.20 00.36	J	2
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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	<b>9510</b>	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	<b>74.9</b>	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	<b>0.0177</b>	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
<b>Total BTEX</b>		<b>0.0177</b>	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: <b>NWT-1 (0.5-1)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>0.752</b>	3.93	0.266	mg/kg	02.14.20 01.00	J	1
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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	<b>8520</b>	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	<b>52.8</b>	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: <b>NW-1 (0.5-1)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>1.07</b>	7.72	0.523	mg/kg	02.14.20 01.25	J	2
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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: <b>EW-1 (0.5-1)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>2.32</b>	3.47	0.235	mg/kg	02.14.20 01.49	J	1
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		





# 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: 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	<b>11000</b>	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	<b>21.1</b>	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: <b>SWT-1 (0.5-1)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>0.780</b>	3.94	0.267	mg/kg	02.14.20 02.13	J	1
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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: <b>NEW-1 (0.5-1)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>0.408</b>	3.49	0.236	mg/kg	02.14.20 02.37	J	1
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		





# 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: 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	<b>5820</b>	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	<b>27.8</b>	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: <b>SEW-1 (0.5-1)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>0.728</b>	7.87	0.533	mg/kg	02.14.20 03.01	J	2
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		



# 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: 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	<b>7320</b>	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	<b>27.8</b>	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: <b>NWF-1 (1.5-2)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>0.996</b>	7.14	0.484	mg/kg	02.14.20 03.25	J	2
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		





# 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: 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	<b>6710</b>	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	<b>33.4</b>	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: <b>SWF-1 (1.5-2)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>0.936</b>	8.00	0.542	mg/kg	02.14.20 03.50	J	2
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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: <b>NEF-1 (1.5-2)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>1.21</b>	6.96	0.471	mg/kg	02.14.20 06.13	J	2
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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	<b>7260</b>	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	<b>18.7</b>	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: <b>SEF-1 (1.5-2)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>1.40</b>	7.26	0.492	mg/kg	02.14.20 06.37	J	2
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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: <b>WTF-1 (1.5-2)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>0.612</b>	3.88	0.263	mg/kg	02.14.20 07.01	J	1
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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: <b>ETF-1 (1.5-2)</b>	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
<b>TPH-GRO</b>	8006-61-9	<b>0.494</b>	3.68	0.249	mg/kg	02.14.20 07.26	J	1
<b>Surrogate</b>	<b>Cas Number</b>		<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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



**Terracon-Lubbock**  
Aikman SWD

**Analytical Method:** Chloride by EPA 300

Seq Number: 3116494

MB Sample Id: 7696652-1-BLK

Matrix: Solid

LCS Sample Id: 7696652-1-BKS

Prep Method: E300P

Date Prep: 02.13.20

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

Seq Number: 3116500

MB Sample Id: 7696653-1-BLK

Matrix: Solid

LCS Sample Id: 7696653-1-BKS

Prep Method: E300P

Date Prep: 02.13.20

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

Seq Number: 3116494

Parent Sample Id: 652217-001

Matrix: Soil

MS Sample Id: 652217-001 S

Prep Method: E300P

Date Prep: 02.13.20

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

Seq Number: 3116494

Parent Sample Id: 652217-006

Matrix: Soil

MS Sample Id: 652217-006 S

Prep Method: E300P

Date Prep: 02.13.20

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

Seq Number: 3116500

Parent Sample Id: 652217-011

Matrix: Soil

MS Sample Id: 652217-011 S

Prep Method: E300P

Date Prep: 02.13.20

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  
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





**Terracon-Lubbock**  
Aikman SWD

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

Seq Number: 3116493

MB Sample Id: 7696655-1-BLK

Matrix: Solid

LCS Sample Id: 7696655-1-BKS

Prep Method: SW8015P

Date Prep: 02.13.20

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

Seq Number: 3116493

MB Sample Id: 7696655-1-BLK

Matrix: Solid

MB Sample Id: 7696655-1-BLK

Prep Method: SW8015P

Date Prep: 02.13.20

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

Seq Number: 3116493

Parent Sample Id: 652217-014

Matrix: Soil

MS Sample Id: 652217-014 S

Prep Method: SW8015P

Date Prep: 02.13.20

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

Seq Number: 3116511

MB Sample Id: 7696662-1-BLK

Matrix: Solid

LCS Sample Id: 7696662-1-BKS

Prep Method: SW5030B

Date Prep: 02.13.20

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  
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



**Terracon-Lubbock**  
Aikman SWD

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

Seq Number: 3116511

Parent Sample Id: 652217-001

Matrix: Soil

MS Sample Id: 652217-001 S

Prep Method: SW5030B

Date Prep: 02.13.20

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.

Seq Number: 3116517

MB Sample Id: 7696665-1-BLK

Matrix: Solid

LCS Sample Id: 7696665-1-BKS

Prep Method: SW5030B

Date Prep: 02.13.20

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.

Seq Number: 3116517

Parent Sample Id: 652217-001

Matrix: Soil

MS Sample Id: 652217-001 S

Prep Method: SW5030B

Date Prep: 02.13.20

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



# 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

<b>Analysis Requested</b>	<b>Lab Id:</b>	654390-001				
	<b>Field Id:</b>	SWT-1.1 (0.5-1)				
	<b>Depth:</b>	0.5-1 ft				
	<b>Matrix:</b>	SOIL				
	<b>Sampled:</b>	Feb-26-20 13:00				
<b>BTEX by SW 8260C SUB: T104704215-19-30</b>	<b>Extracted:</b>	Mar-04-20 07:50				
	<b>Analyzed:</b>	Mar-04-20 13:26				
	<b>Units/RL:</b>	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				
<b>Chloride by EPA 300</b>	<b>Extracted:</b>	Mar-04-20 08:30				
	<b>Analyzed:</b>	Mar-04-20 12:54				
	<b>Units/RL:</b>	mg/kg RL				
Chloride		2410 250				
<b>DRO-ORO By SW8015B</b>	<b>Extracted:</b>	Mar-03-20 15:30				
	<b>Analyzed:</b>	Mar-04-20 13:26				
	<b>Units/RL:</b>	mg/kg RL				
Diesel Range Organics (DRO)		<7.56 25.3				
Oil Range Hydrocarbons (ORO)		<7.56 25.3				
<b>TPH GRO by EPA 8015 Mod.</b>	<b>Extracted:</b>	Mar-03-20 14:30				
	<b>Analyzed:</b>	Mar-04-20 13:28				
	<b>Units/RL:</b>	mg/kg RL				
TPH-GRO		<0.259 3.82				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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**  
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: <b>SWT-1.1 (0.5-1)</b>	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
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>		
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			







**Terracon-Lubbock**  
Aikman SWD

**Analytical Method: Chloride by EPA 300**

Seq Number: 3118502

MB Sample Id: 7698057-1-BLK

Matrix: Solid

LCS Sample Id: 7698057-1-BKS

Prep Method: E300P

Date Prep: 03.04.20

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**

Seq Number: 3118502

Parent Sample Id: 654203-001

Matrix: Soil

MS Sample Id: 654203-001 S

Prep Method: E300P

Date Prep: 03.04.20

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**

Seq Number: 3118502

Parent Sample Id: 654203-011

Matrix: Soil

MS Sample Id: 654203-011 S

Prep Method: E300P

Date Prep: 03.04.20

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**

Seq Number: 3118634

MB Sample Id: 7698022-1-BLK

Matrix: Solid

LCS Sample Id: 7698022-1-BKS

Prep Method: SW8015P

Date Prep: 03.03.20

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**

Seq Number: 3118634

MB Sample Id: 7698022-1-BLK

Matrix: Solid

Prep Method: SW8015P

Date Prep: 03.03.20

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



**Terracon-Lubbock**  
Aikman SWD

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

Seq Number: 3118634

Parent Sample Id: 654390-001

Matrix: Soil

MS Sample Id: 654390-001 S

Prep Method: SW8015P

Date Prep: 03.03.20

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

Seq Number: 3118517

MB Sample Id: 7698070-1-BLK

Matrix: Solid

LCS Sample Id: 7698070-1-BKS

Prep Method: SW5035A

Date Prep: 03.04.20

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

Seq Number: 3118517

Parent Sample Id: 653880-002

Matrix: Soil

MS Sample Id: 653880-002 S

Prep Method: SW5035A

Date Prep: 03.04.20

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  
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



**Terracon-Lubbock**  
Aikman SWD

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

Seq Number: 3118554

MB Sample Id: 7698099-1-BLK

Matrix: Solid

LCS Sample Id: 7698099-1-BKS

Prep Method: SW5030B

Date Prep: 03.03.20

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.

Seq Number: 3118554

Parent Sample Id: 654170-001

Matrix: Soil

MS Sample Id: 654170-001 S

Prep Method: SW5030B

Date Prep: 03.03.20

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  
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





# 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	<b>03.04.2020</b>	03.11.2020	JKR	BZ BZME EBZ XYLENE	

**Inter Office Shipment or Sample Comments:**

Relinquished By:   
 Brenda Ward

Date Relinquished: 03.03.2020

Received By:   
 Jose Londono

Date Received: 03.04.2020

Cooler Temperature: 2.4



Inter Office Report- Sample Receipt Checklist

Sent To: Houston

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

IOS #: 59375

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:

Signature of Jose Londono

Date: 03.04.2020

# 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  
Brenda Ward

Date: 03.03.2020

Checklist reviewed by: Jessica Kramer  
Jessica Kramer

Date: 03.04.2020

# Certificate of Analysis Summary 682364

## Terracon-Lubbock, Lubbock, TX



**Project Name: Aikman SWD**

**Project Id:** AR207018  
**Contact:** Joseph Guesnier  
**Project Location:**

**Date Received in Lab:** Tue 12.22.2020 17:02  
**Report Date:** 12.28.2020 15:11  
**Project Manager:** Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	682364-002	682364-003	682364-006	682364-007	682364-011	682364-012
	<i>Field Id:</i>	GP-1 (3-4)	GP-1 (5-6)	GP-2 (3-4)	GP-2 (5-6)	GP-3 (3-4)	GP-3 (5-6)
	<i>Depth:</i>	3-4	5-6	3-4	5-6	3-4	5-6
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.21.2020 14:05	12.21.2020 14:10	12.21.2020 14:25	12.21.2020 14:30	12.21.2020 14:50	12.21.2020 14:55
<b>BTEX by EPA 8021B SUB: T104704400-20-21</b>	<i>Extracted:</i>	12.24.2020 10:30	12.24.2020 10:30	12.24.2020 10:30	12.24.2020 10:30	12.24.2020 10:30	12.28.2020 10:00
	<i>Analyzed:</i>	12.24.2020 18:23	12.24.2020 18:43	12.24.2020 19:04	12.24.2020 19:24	12.24.2020 19:45	12.28.2020 12:40
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
Toluene		<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
Ethylbenzene		<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
m,p-Xylenes		0.00476 0.00404	0.00470 0.00398	<0.00399 0.00399	<0.00399 0.00399	<0.00403 0.00403	<0.00398 0.00398
o-Xylene		0.00217 0.00202	0.00238 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
Xylenes, Total		0.00693 0.00202	0.00708 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
Total BTEX		0.00693 0.00202	0.00708 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
<b>Chloride by EPA 300 SUB: T104704400-20-21</b>	<i>Extracted:</i>	12.28.2020 08:15	12.28.2020 08:15	12.28.2020 08:15	12.28.2020 08:15	12.28.2020 08:15	12.28.2020 08:15
	<i>Analyzed:</i>	12.28.2020 08:55	12.28.2020 13:35	12.28.2020 09:16	12.28.2020 09:21	12.28.2020 09:26	12.28.2020 09:42
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		613 5.04	<5.00 5.00	631 4.98	466 4.98	623 5.01	491 5.04
<b>TPH by SW8015 Mod SUB: T104704400-20-21</b>	<i>Extracted:</i>	12.24.2020 12:00	12.24.2020 12:00	12.24.2020 12:00	12.24.2020 12:00	12.24.2020 12:00	12.24.2020 12:00
	<i>Analyzed:</i>	12.25.2020 06:09	12.25.2020 07:14	12.25.2020 07:36	12.25.2020 07:58	12.25.2020 08:21	12.25.2020 08:44
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<49.9 49.9	<49.8 49.8	<49.9 49.9	<49.8 49.8	<50.0 50.0
Diesel Range Organics (DRO)		<49.9 49.9	<49.9 49.9	<49.8 49.8	<49.9 49.9	<49.8 49.8	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.9 49.9	<49.8 49.8	<49.9 49.9	<49.8 49.8	<50.0 50.0
Total TPH		<49.9 49.9	<49.9 49.9	<49.8 49.8	<49.9 49.9	<49.8 49.8	<50.0 50.0

BRL - Below Reporting Limit

*Jessica Kramer*

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



# Certificate of Analysis Summary 682364

## Terracon-Lubbock, Lubbock, TX



**Project Name: Aikman SWD**

**Project Id:** AR207018  
**Contact:** Joseph Guesnier  
**Project Location:**

**Date Received in Lab:** Tue 12.22.2020 17:02  
**Report Date:** 12.28.2020 15:11  
**Project Manager:** Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	682364-017	682364-018			
	<i>Field Id:</i>	GP-4 (3-4)	GP-4 (5-6)			
	<i>Depth:</i>	3-4	5-6			
	<i>Matrix:</i>	SOIL	SOIL			
	<i>Sampled:</i>	12.21.2020 15:20	12.21.2020 15:25			
<b>BTEX by EPA 8021B SUB: T104704400-20-21</b>	<i>Extracted:</i>	12.28.2020 10:00	12.28.2020 10:00			
	<i>Analyzed:</i>	12.28.2020 13:01	12.28.2020 13:21			
	<i>Units/RL:</i>	mg/kg    RL	mg/kg    RL			
Benzene		<0.00198    0.00198	<0.00199    0.00199			
Toluene		<0.00198    0.00198	<0.00199    0.00199			
Ethylbenzene		<0.00198    0.00198	<0.00199    0.00199			
m,p-Xylenes		<0.00396    0.00396	<0.00398    0.00398			
o-Xylene		<0.00198    0.00198	<0.00199    0.00199			
Xylenes, Total		<0.00198    0.00198	<0.00199    0.00199			
Total BTEX		<0.00198    0.00198	<0.00199    0.00199			
<b>Chloride by EPA 300 SUB: T104704400-20-21</b>	<i>Extracted:</i>	12.28.2020 08:15	12.28.2020 08:15			
	<i>Analyzed:</i>	12.28.2020 09:47	12.28.2020 09:52			
	<i>Units/RL:</i>	mg/kg    RL	mg/kg    RL			
Chloride		17.0    5.03	6.60    4.96			
<b>TPH by SW8015 Mod SUB: T104704400-20-21</b>	<i>Extracted:</i>	12.24.2020 12:00	12.24.2020 12:00			
	<i>Analyzed:</i>	12.25.2020 09:07	12.25.2020 09:31			
	<i>Units/RL:</i>	mg/kg    RL	mg/kg    RL			
Gasoline Range Hydrocarbons (GRO)		<50.0    50.0	<50.0    50.0			
Diesel Range Organics (DRO)		<50.0    50.0	<50.0    50.0			
Motor Oil Range Hydrocarbons (MRO)		<50.0    50.0	<50.0    50.0			
Total TPH		<50.0    50.0	<50.0    50.0			

BRL - Below Reporting Limit

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

*Jessica Kramer*

# Analytical Report 682364

for

## Terracon-Lubbock

Project Manager: Joseph Guesnier

Aikman SWD

AR207018

12.28.2020

Collected By: Client



**6701 Aberdeen, Suite 9 Lubbock, TX 79424**

Xenco-Houston (EPA Lab Code: TX00122):  
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)  
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):  
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)  
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)  
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)  
Xenco-Carlsbad (LELAP): Louisiana (05092)  
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.28.2020

Project Manager: **Joseph Guesnier**

**Terracon-Lubbock**

5827 50th st, Suite 1

Lubbock, TX 79424

Reference: Eurofins Xenco, LLC Report No(s): **682364**

**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 Eurofins Xenco, LLC Report Number(s) 682364. 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 Eurofins Xenco, LLC. 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. 682364 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads "Jessica Kramer". The signature is written in a cursive, slightly slanted style.

---

**Jessica Kramer**

Project Manager

*A Small Business and Minority Company*

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

## Sample Cross Reference 682364

## Terracon-Lubbock, Lubbock, TX

## Aikman SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
GP-1 (3-4)	S	12.21.2020 14:05	3 - 4	682364-002
GP-1 (5-6)	S	12.21.2020 14:10	5 - 6	682364-003
GP-2 (3-4)	S	12.21.2020 14:25	3 - 4	682364-006
GP-2 (5-6)	S	12.21.2020 14:30	5 - 6	682364-007
GP-3 (3-4)	S	12.21.2020 14:50	3 - 4	682364-011
GP-3 (5-6)	S	12.21.2020 14:55	5 - 6	682364-012
GP-4 (3-4)	S	12.21.2020 15:20	3 - 4	682364-017
GP-4 (5-6)	S	12.21.2020 15:25	5 - 6	682364-018
GP-1 (1-2)	S	12.21.2020 14:00	1 - 2	Not Analyzed
GP-1 (6-7)	S	12.21.2020 14:15	6 - 7	Not Analyzed
GP-2 (1-2)	S	12.21.2020 14:20	1 - 2	Not Analyzed
GP-2 (7-8)	S	12.21.2020 14:35	7 - 8	Not Analyzed
GP-2 (9-10)	S	12.21.2020 14:40	9 - 10	Not Analyzed
GP-3 (1-2)	S	12.21.2020 14:45	1 - 2	Not Analyzed
GP-3 (7-8)	S	12.21.2020 15:00	7 - 8	Not Analyzed
GP-3 (9-10)	S	12.21.2020 15:05	9 - 10	Not Analyzed
GP-3 (11-12)	S	12.21.2020 15:10	11 - 12	Not Analyzed
GP-4 (1-2)	S	12.21.2020 15:15	1 - 2	Not Analyzed
GP-4 (7-8)	S	12.21.2020 15:30	7 - 8	Not Analyzed
GP-4 (9-10)	S	12.21.2020 15:35	9 - 10	Not Analyzed
GP-4 (11-12)	S	12.21.2020 15:40	11 - 12	Not Analyzed
GP-4 (12-13)	S	12.21.2020 15:45	12 - 13	Not Analyzed





# CASE NARRATIVE

**Client Name: Terracon-Lubbock**

**Project Name: Aikman SWD**

Project ID: AR207018  
Work Order Number(s): 682364

Report Date: 12.28.2020  
Date Received: 12.22.2020

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**Sample receipt non conformances and comments:**

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**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3146082 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 682364-002 SD.

Batch: LBA-3146094 BTEX by EPA 8021B

Lab Sample ID 682364-012 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes , o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 682364-012, -017, -018.

The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.



# Certificate of Analytical Results 682364

## Terracon-Lubbock, Lubbock, TX Aikman SWD

Sample Id: **GP-1 (3-4)** Matrix: Soil Date Received: 12.22.2020 17:02  
 Lab Sample Id: 682364-002 Date Collected: 12.21.2020 14:05 Sample Depth: 3 - 4  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 12.28.2020 08:15 % Moisture:  
 Seq Number: 3146077 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	613	5.04	mg/kg	12.28.2020 08:55		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: DVM Date Prep: 12.24.2020 12:00 % Moisture:  
 Seq Number: 3146082 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.25.2020 06:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.25.2020 06:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.25.2020 06:09	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.25.2020 06:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-130	12.25.2020 06:09	
o-Terphenyl	84-15-1	114	%	70-130	12.25.2020 06:09	



# Certificate of Analytical Results 682364

## Terracon-Lubbock, Lubbock, TX Aikman SWD

Sample Id: <b>GP-1 (3-4)</b>	Matrix: Soil	Date Received: 12.22.2020 17:02
Lab Sample Id: 682364-002	Date Collected: 12.21.2020 14:05	Sample Depth: 3 - 4
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5035A
Tech: KTL		% Moisture:
Analyst: KTL	Date Prep: 12.24.2020 10:30	Basis: Wet Weight
Seq Number: 3146067		SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.24.2020 18:23	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.24.2020 18:23	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.24.2020 18:23	U	1
<b>m,p-Xylenes</b>	179601-23-1	<b>0.00476</b>	0.00404	mg/kg	12.24.2020 18:23		1
<b>o-Xylene</b>	95-47-6	<b>0.00217</b>	0.00202	mg/kg	12.24.2020 18:23		1
<b>Xylenes, Total</b>	1330-20-7	<b>0.00693</b>	0.00202	mg/kg	12.24.2020 18:23		1
<b>Total BTEX</b>		<b>0.00693</b>	0.00202	mg/kg	12.24.2020 18:23		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	12.24.2020 18:23	
1,4-Difluorobenzene	540-36-3	92	%	70-130	12.24.2020 18:23	



# Certificate of Analytical Results 682364

## Terracon-Lubbock, Lubbock, TX Aikman SWD

Sample Id: **GP-1 (5-6)** Matrix: Soil Date Received: 12.22.2020 17:02  
 Lab Sample Id: 682364-003 Date Collected: 12.21.2020 14:10 Sample Depth: 5 - 6  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 12.28.2020 08:15 % Moisture:  
 Seq Number: 3146077 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	12.28.2020 13:35	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: DVM Date Prep: 12.24.2020 12:00 % Moisture:  
 Seq Number: 3146082 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.25.2020 07:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.25.2020 07:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.25.2020 07:14	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.25.2020 07:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-130	12.25.2020 07:14	
o-Terphenyl	84-15-1	109	%	70-130	12.25.2020 07:14	





# Certificate of Analytical Results 682364

## Terracon-Lubbock, Lubbock, TX Aikman SWD

Sample Id: **GP-1 (5-6)** Matrix: Soil Date Received: 12.22.2020 17:02  
 Lab Sample Id: 682364-003 Date Collected: 12.21.2020 14:10 Sample Depth: 5 - 6  
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A  
 Tech: KTL  
 Analyst: KTL Date Prep: 12.24.2020 10:30 % Moisture:  
 Seq Number: 3146067 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.24.2020 18:43	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.24.2020 18:43	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.24.2020 18:43	U	1
<b>m,p-Xylenes</b>	179601-23-1	<b>0.00470</b>	0.00398	mg/kg	12.24.2020 18:43		1
<b>o-Xylene</b>	95-47-6	<b>0.00238</b>	0.00199	mg/kg	12.24.2020 18:43		1
<b>Xylenes, Total</b>	1330-20-7	<b>0.00708</b>	0.00199	mg/kg	12.24.2020 18:43		1
<b>Total BTEX</b>		<b>0.00708</b>	0.00199	mg/kg	12.24.2020 18:43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	70-130	12.24.2020 18:43	
4-Bromofluorobenzene	460-00-4	103	%	70-130	12.24.2020 18:43	



# Certificate of Analytical Results 682364

## Terracon-Lubbock, Lubbock, TX Aikman SWD

Sample Id: **GP-2 (3-4)** Matrix: Soil Date Received: 12.22.2020 17:02  
 Lab Sample Id: 682364-006 Date Collected: 12.21.2020 14:25 Sample Depth: 3 - 4  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 12.28.2020 08:15 % Moisture:  
 Seq Number: 3146077 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	631	4.98	mg/kg	12.28.2020 09:16		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: DVM Date Prep: 12.24.2020 12:00 % Moisture:  
 Seq Number: 3146082 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.25.2020 07:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.25.2020 07:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.25.2020 07:36	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.25.2020 07:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-130	12.25.2020 07:36	
o-Terphenyl	84-15-1	115	%	70-130	12.25.2020 07:36	



# Certificate of Analytical Results 682364

## Terracon-Lubbock, Lubbock, TX Aikman SWD

Sample Id: **GP-2 (3-4)** Matrix: Soil Date Received: 12.22.2020 17:02  
 Lab Sample Id: 682364-006 Date Collected: 12.21.2020 14:25 Sample Depth: 3 - 4  
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A  
 Tech: KTL  
 Analyst: KTL Date Prep: 12.24.2020 10:30 % Moisture:  
 Seq Number: 3146067 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.24.2020 19:04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.24.2020 19:04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.24.2020 19:04	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.24.2020 19:04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.24.2020 19:04	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	12.24.2020 19:04	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.24.2020 19:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	12.24.2020 19:04	
4-Bromofluorobenzene	460-00-4	112	%	70-130	12.24.2020 19:04	



# Certificate of Analytical Results 682364

## Terracon-Lubbock, Lubbock, TX Aikman SWD

Sample Id: **GP-2 (5-6)** Matrix: Soil Date Received: 12.22.2020 17:02  
 Lab Sample Id: 682364-007 Date Collected: 12.21.2020 14:30 Sample Depth: 5 - 6  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 12.28.2020 08:15 % Moisture:  
 Seq Number: 3146077 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	466	4.98	mg/kg	12.28.2020 09:21		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: DVM Date Prep: 12.24.2020 12:00 % Moisture:  
 Seq Number: 3146082 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.25.2020 07:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.25.2020 07:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.25.2020 07:58	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.25.2020 07:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-130	12.25.2020 07:58	
o-Terphenyl	84-15-1	116	%	70-130	12.25.2020 07:58	





# Certificate of Analytical Results 682364

## Terracon-Lubbock, Lubbock, TX Aikman SWD

Sample Id: **GP-2 (5-6)** Matrix: Soil Date Received: 12.22.2020 17:02  
 Lab Sample Id: 682364-007 Date Collected: 12.21.2020 14:30 Sample Depth: 5 - 6  
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A  
 Tech: KTL  
 Analyst: KTL Date Prep: 12.24.2020 10:30 % Moisture:  
 Seq Number: 3146067 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.24.2020 19:24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.24.2020 19:24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.24.2020 19:24	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.24.2020 19:24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.24.2020 19:24	U	1
Xylenes, Total	1330-20-7	<0.00200	0.00200	mg/kg	12.24.2020 19:24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.24.2020 19:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	12.24.2020 19:24	
1,4-Difluorobenzene	540-36-3	91	%	70-130	12.24.2020 19:24	



# Certificate of Analytical Results 682364

## Terracon-Lubbock, Lubbock, TX Aikman SWD

Sample Id: **GP-3 (3-4)** Matrix: Soil Date Received: 12.22.2020 17:02  
 Lab Sample Id: 682364-011 Date Collected: 12.21.2020 14:50 Sample Depth: 3 - 4  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 12.28.2020 08:15 % Moisture:  
 Seq Number: 3146077 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	623	5.01	mg/kg	12.28.2020 09:26		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: DVM Date Prep: 12.24.2020 12:00 % Moisture:  
 Seq Number: 3146082 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.25.2020 08:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.25.2020 08:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.25.2020 08:21	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.25.2020 08:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-130	12.25.2020 08:21	
o-Terphenyl	84-15-1	113	%	70-130	12.25.2020 08:21	



# Certificate of Analytical Results 682364

## Terracon-Lubbock, Lubbock, TX Aikman SWD

Sample Id: **GP-3 (3-4)** Matrix: Soil Date Received: 12.22.2020 17:02  
 Lab Sample Id: 682364-011 Date Collected: 12.21.2020 14:50 Sample Depth: 3 - 4  
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A  
 Tech: KTL  
 Analyst: KTL Date Prep: 12.24.2020 10:30 % Moisture:  
 Seq Number: 3146067 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.24.2020 19:45	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.24.2020 19:45	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.24.2020 19:45	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.24.2020 19:45	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.24.2020 19:45	U	1
Xylenes, Total	1330-20-7	<0.00202	0.00202	mg/kg	12.24.2020 19:45	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.24.2020 19:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	70-130	12.24.2020 19:45	
4-Bromofluorobenzene	460-00-4	111	%	70-130	12.24.2020 19:45	



# Certificate of Analytical Results 682364

## Terracon-Lubbock, Lubbock, TX Aikman SWD

Sample Id: **GP-3 (5-6)** Matrix: Soil Date Received: 12.22.2020 17:02  
 Lab Sample Id: 682364-012 Date Collected: 12.21.2020 14:55 Sample Depth: 5 - 6  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 12.28.2020 08:15 % Moisture:  
 Seq Number: 3146077 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	491	5.04	mg/kg	12.28.2020 09:42		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: DVM Date Prep: 12.24.2020 12:00 % Moisture:  
 Seq Number: 3146082 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.25.2020 08:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.25.2020 08:44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.25.2020 08:44	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.25.2020 08:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-130	12.25.2020 08:44	
o-Terphenyl	84-15-1	116	%	70-130	12.25.2020 08:44	



# Certificate of Analytical Results 682364

## Terracon-Lubbock, Lubbock, TX Aikman SWD

**Sample Id:** GP-3 (5-6) **Matrix:** Soil **Date Received:** 12.22.2020 17:02  
**Lab Sample Id:** 682364-012 **Date Collected:** 12.21.2020 14:55 **Sample Depth:** 5 - 6  
**Analytical Method:** BTEX by EPA 8021B **Prep Method:** SW5035A  
**Tech:** KTL **% Moisture:**  
**Analyst:** KTL **Date Prep:** 12.28.2020 10:00 **Basis:** Wet Weight  
**Seq Number:** 3146094 **SUB:** T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.28.2020 12:40	UX	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.28.2020 12:40	UX	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.28.2020 12:40	UX	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.28.2020 12:40	UX	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.28.2020 12:40	UX	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	12.28.2020 12:40	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.28.2020 12:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	12.28.2020 12:40	
4-Bromofluorobenzene	460-00-4	104	%	70-130	12.28.2020 12:40	





# Certificate of Analytical Results 682364

## Terracon-Lubbock, Lubbock, TX Aikman SWD

Sample Id: **GP-4 (3-4)** Matrix: Soil Date Received: 12.22.2020 17:02  
 Lab Sample Id: 682364-017 Date Collected: 12.21.2020 15:20 Sample Depth: 3 - 4  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 12.28.2020 08:15 % Moisture:  
 Seq Number: 3146077 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.0	5.03	mg/kg	12.28.2020 09:47		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: DVM Date Prep: 12.24.2020 12:00 % Moisture:  
 Seq Number: 3146082 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.25.2020 09:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.25.2020 09:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.25.2020 09:07	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.25.2020 09:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-130	12.25.2020 09:07	
o-Terphenyl	84-15-1	100	%	70-130	12.25.2020 09:07	



# Certificate of Analytical Results 682364

## Terracon-Lubbock, Lubbock, TX Aikman SWD

Sample Id: **GP-4 (3-4)** Matrix: Soil Date Received: 12.22.2020 17:02  
 Lab Sample Id: 682364-017 Date Collected: 12.21.2020 15:20 Sample Depth: 3 - 4  
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A  
 Tech: KTL  
 Analyst: KTL Date Prep: 12.28.2020 10:00 % Moisture:  
 Seq Number: 3146094 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.28.2020 13:01	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.28.2020 13:01	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.28.2020 13:01	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.28.2020 13:01	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.28.2020 13:01	U	1
Xylenes, Total	1330-20-7	<0.00198	0.00198	mg/kg	12.28.2020 13:01	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.28.2020 13:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.28.2020 13:01	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.28.2020 13:01	



# Certificate of Analytical Results 682364

## Terracon-Lubbock, Lubbock, TX Aikman SWD

Sample Id: **GP-4 (5-6)** Matrix: Soil Date Received: 12.22.2020 17:02  
 Lab Sample Id: 682364-018 Date Collected: 12.21.2020 15:25 Sample Depth: 5 - 6  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 12.28.2020 08:15 % Moisture:  
 Seq Number: 3146077 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.60	4.96	mg/kg	12.28.2020 09:52		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: DVM Date Prep: 12.24.2020 12:00 % Moisture:  
 Seq Number: 3146082 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.25.2020 09:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.25.2020 09:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.25.2020 09:31	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.25.2020 09:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	12.25.2020 09:31	
o-Terphenyl	84-15-1	83	%	70-130	12.25.2020 09:31	



# Certificate of Analytical Results 682364

## Terracon-Lubbock, Lubbock, TX Aikman SWD

Sample Id: **GP-4 (5-6)** Matrix: Soil Date Received: 12.22.2020 17:02  
 Lab Sample Id: 682364-018 Date Collected: 12.21.2020 15:25 Sample Depth: 5 - 6  
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A  
 Tech: KTL  
 Analyst: KTL Date Prep: 12.28.2020 10:00 % Moisture:  
 Seq Number: 3146094 Basis: Wet Weight  
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.28.2020 13:21	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.28.2020 13:21	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.28.2020 13:21	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.28.2020 13:21	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.28.2020 13:21	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	12.28.2020 13:21	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.28.2020 13:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	12.28.2020 13:21	
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.28.2020 13:21	







**Terracon-Lubbock**  
Aikman SWD

**Analytical Method: Chloride by EPA 300**

Seq Number: 3146077

MB Sample Id: 7717925-1-BLK

Matrix: Solid

LCS Sample Id: 7717925-1-BKS

Prep Method: E300P

Date Prep: 12.28.2020

LCSD Sample Id: 7717925-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	258	103	248	99	90-110	4	20	mg/kg	12.28.2020 08:45	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3146077

Parent Sample Id: 682364-002

Matrix: Soil

MS Sample Id: 682364-002 S

Prep Method: E300P

Date Prep: 12.28.2020

MSD Sample Id: 682364-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	613	252	871	102	852	95	90-110	2	20	mg/kg	12.28.2020 09:01	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3146077

Parent Sample Id: 682377-001

Matrix: Soil

MS Sample Id: 682377-001 S

Prep Method: E300P

Date Prep: 12.28.2020

MSD Sample Id: 682377-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.98	249	267	107	261	105	90-110	2	20	mg/kg	12.28.2020 10:13	

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3146082

MB Sample Id: 7717937-1-BLK

Matrix: Solid

LCS Sample Id: 7717937-1-BKS

Prep Method: SW8015P

Date Prep: 12.24.2020

LCSD Sample Id: 7717937-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1080	108	1280	128	70-130	17	20	mg/kg	12.25.2020 05:27	
Diesel Range Organics (DRO)	<50.0	1000	974	97	955	96	70-130	2	20	mg/kg	12.25.2020 05:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		117		114		70-130	%	12.25.2020 05:27
o-Terphenyl	100		111		110		70-130	%	12.25.2020 05:27

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3146082

Matrix: Solid

MB Sample Id: 7717937-1-BLK

Prep Method: SW8015P

Date Prep: 12.24.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.25.2020 05:05	

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



**Terracon-Lubbock**  
Aikman SWD

**Analytical Method:** TPH by SW8015 Mod

Seq Number: 3146082

Parent Sample Id: 682364-002

Matrix: Soil

MS Sample Id: 682364-002 S

Prep Method: SW8015P

Date Prep: 12.24.2020

MSD Sample Id: 682364-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	1090	109	1190	119	70-130	9	20	mg/kg	12.25.2020 06:30	
Diesel Range Organics (DRO)	<50.0	999	1030	103	1050	105	70-130	2	20	mg/kg	12.25.2020 06:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		136	**	70-130	%	12.25.2020 06:30
o-Terphenyl	109		109		70-130	%	12.25.2020 06:30

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

Seq Number: 3146067

MB Sample Id: 7717932-1-BLK

Matrix: Solid

LCS Sample Id: 7717932-1-BKS

Prep Method: SW5035A

Date Prep: 12.24.2020

LCSD Sample Id: 7717932-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0835	84	0.0866	87	70-130	4	35	mg/kg	12.24.2020 10:55	
Toluene	<0.00200	0.100	0.0911	91	0.0931	93	70-130	2	35	mg/kg	12.24.2020 10:55	
Ethylbenzene	<0.00200	0.100	0.0965	97	0.0968	97	70-130	0	35	mg/kg	12.24.2020 10:55	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.194	97	70-130	0	35	mg/kg	12.24.2020 10:55	
o-Xylene	<0.00200	0.100	0.0932	93	0.0942	94	70-130	1	35	mg/kg	12.24.2020 10:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	85		92		93		70-130	%	12.24.2020 10:55
4-Bromofluorobenzene	114		102		103		70-130	%	12.24.2020 10:55

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

Seq Number: 3146094

MB Sample Id: 7717941-1-BLK

Matrix: Solid

LCS Sample Id: 7717941-1-BKS

Prep Method: SW5035A

Date Prep: 12.28.2020

LCSD Sample Id: 7717941-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0870	87	0.0976	98	70-130	11	35	mg/kg	12.28.2020 10:19	
Toluene	<0.00200	0.100	0.0835	84	0.0935	94	70-130	11	35	mg/kg	12.28.2020 10:19	
Ethylbenzene	<0.00200	0.100	0.0874	87	0.0975	98	70-130	11	35	mg/kg	12.28.2020 10:19	
m,p-Xylenes	<0.00400	0.200	0.173	87	0.193	97	70-130	11	35	mg/kg	12.28.2020 10:19	
o-Xylene	<0.00200	0.100	0.0863	86	0.0961	96	70-130	11	35	mg/kg	12.28.2020 10:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		100		101		70-130	%	12.28.2020 10:19
4-Bromofluorobenzene	110		97		97		70-130	%	12.28.2020 10:19

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



**Terracon-Lubbock**  
Aikman SWD

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

Seq Number: 3146067

Parent Sample Id: 682385-004

Matrix: Soil

MS Sample Id: 682385-004 S

Prep Method: SW5035A

Date Prep: 12.24.2020

MSD Sample Id: 682385-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0717	72	0.0701	70	70-130	2	35	mg/kg	12.24.2020 11:37	
Toluene	<0.00200	0.100	0.0813	81	0.0792	79	70-130	3	35	mg/kg	12.24.2020 11:37	
Ethylbenzene	<0.00200	0.100	0.0813	81	0.0795	80	70-130	2	35	mg/kg	12.24.2020 11:37	
m,p-Xylenes	<0.00401	0.200	0.152	76	0.146	73	70-130	4	35	mg/kg	12.24.2020 11:37	
o-Xylene	<0.00200	0.100	0.0734	73	0.0699	70	70-130	5	35	mg/kg	12.24.2020 11:37	

**Surrogate**

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		92		70-130	%	12.24.2020 11:37
4-Bromofluorobenzene	108		100		70-130	%	12.24.2020 11:37

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

Seq Number: 3146094

Parent Sample Id: 682364-012

Matrix: Soil

MS Sample Id: 682364-012 S

Prep Method: SW5035A

Date Prep: 12.28.2020

MSD Sample Id: 682364-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0847	85	0.0636	64	70-130	28	35	mg/kg	12.28.2020 11:00	X
Toluene	<0.00200	0.0998	0.0815	82	0.0608	61	70-130	29	35	mg/kg	12.28.2020 11:00	X
Ethylbenzene	<0.00200	0.0998	0.0841	84	0.0627	63	70-130	29	35	mg/kg	12.28.2020 11:00	X
m,p-Xylenes	<0.00399	0.200	0.166	83	0.124	63	70-130	29	35	mg/kg	12.28.2020 11:00	X
o-Xylene	<0.00200	0.0998	0.0827	83	0.0618	62	70-130	29	35	mg/kg	12.28.2020 11:00	X

**Surrogate**

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		98		70-130	%	12.28.2020 11:00
4-Bromofluorobenzene	100		101		70-130	%	12.28.2020 11:00

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

682764

IX-4  
on Ice

CHAIN OF CUSTODY RECORD

**Terracon**

Office Location: Lubbock  
 Laboratory: Xenco  
 6701 Aberdeen  
 Lubbock, Texas 79424

Project Manager: J. Guesnier  
 Sampler's Name: B. Mcbrayer

Phone: J. Guesnier 806-544-9276  
 Contact: SRS #: Sampler's Signature

LAB USE ONLY  
 DUE DATE: Page 1 of 2  
 TEMP OF COOLER WHEN RECEIVED (°C) 0.3/0.3

Matrix	Date	Time	Project Name		Identifying Marks of Sample(s)	No. Type of Containers		Start Depth	End Depth	Aikman SWD	ANALYSIS REQUESTED			Lab Sample ID
			Comp	Grab		4 oz Glass	60 ml VOA				5035 Kit	Chloride (EPA Method 300)	TPH Extended 8015	
S	12/21/2020	14:00	X	X	GP-1 (1-2)		1	2	X					1
S	12/21/2020	14:05	X	X	GP-1 (3-4)		3	4	X		X	X		2
S	12/21/2020	14:10	X	X	GP-1 (5-6)		5	6	X		X	X		3
S	12/21/2020	14:15	X	X	GP-1 (6-7)		6	7	X				X	4
S	12/21/2020	14:20	X	X	GP-2 (1-2)		1	2	X		X	X		5
S	12/21/2020	14:25	X	X	GP-2 (3-4)		3	4	X		X	X		6
S	12/21/2020	14:30	X	X	GP-2 (5-6)		5	6	X		X	X		7
S	12/21/2020	14:35	X	X	GP-2 (7-8)		7	8	X				X	8
S	12/21/2020	14:40	X	X	GP-2 (9-10)		9	10	X				X	9
S	12/21/2020	14:45	X	X	GP-3 (1-2)		1	2	X				X	10
S	12/21/2020	14:50	X	X	GP-3 (3-4)		3	4	X		X	X		11
S	12/21/2020	14:55	X	X	GP-3 (5-6)		5	6	X		X	X		12
S	12/21/2020	15:00	X	X	GP-3 (7-8)		7	8	X				X	13
S	12/21/2020	15:05	X	X	GP-3 (9-10)		9	10	X		X	X		14
S	12/21/2020	15:10	X	X	GP-3 (11-12)		11	12	X				X	15
S	12/21/2020	15:15	X	X	GP-4 (1-2)		1	2	X				X	16
S	12/21/2020	15:20	X	X	GP-4 (3-4)		3	4	X		X	X		17
S	12/21/2020	15:25	X	X	GP-4 (5-6)		5	6	X		X	X		18
S	12/21/2020	15:30	X	X	GP-4 (7-8)		7	8	X				X	19
S	12/21/2020	15:35	X	X	GP-4 (9-10)		9	10	X				X	20

TURNAROUND TIME: 15:35

Relinquished by (Signature): [Signature] Date: 12-22-20 Time: 5:02

Relinquished by (Signature): [Signature] Date: [ ] Time: [ ]

Relinquished by (Signature): [Signature] Date: [ ] Time: [ ]

Relinquished by (Signature): [Signature] Date: [ ] Time: [ ]

TRRP Laboratory Review Checklist

48-Hour Rush  24-Hour Rush  Normal

Received by (Signature): [Signature] Date: 12/22/20 Time: 12:20

Received by (Signature): [Signature] Date: [ ] Time: [ ]

Received by (Signature): [Signature] Date: [ ] Time: [ ]

Received by (Signature): [Signature] Date: [ ] Time: [ ]

NOTES: Client: Spur Energy Partners LLC

e-mail results to: bryant.mcbrayer@terracon.com, erin.loyd@terracon.com, irguesnier@terracon.com

Matrix Container: WW-Water, VOA - 40 ml vial

S - Soil, 250 ml glass wide mouth

L - Liquid, 250 ml glass wide mouth

A - Air Bag, PFO - Plastic or other

C - Chemical tube

SI - Sludge

Lubbock Office ■ 5827 50th Street, Suite 1 ■ Lubbock, Texas 79424 ■ 806-300-0140

Responsive ■ Resourceful ■ Reliable

682364

8/3/2023 TR-4  
On ice

CHAIN OF CUSTODY RECORD

**TERRACON**

Laboratory: Xenco  
Address: 6701 Aberdeen  
Lubbock, Texas 79424

Office Location: Lubbock

Project Manager: J. Guesnier  
Sampler's Name: B. Mcbrayer

Phone: J. Guesnier 806-544-9276  
Contact: J. Guesnier 806-544-9276  
SRS #: \_\_\_\_\_

Sampler's Signature: \_\_\_\_\_

Project Number: AR207018

Project Name: Aikman SWD

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	No. Type of Containers		Start Depth	End Depth	4 oz Glass	40 ml VOA	60 ml VOA	5035 Kit	Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)	Hold	Lab Sample ID
						4 oz Glass	40 ml VOA											
S	12/21/2020	15:40	X	X	GP-4 (11-12)	11	12	X										21
S	12/21/2020	15:45	X	X	GP-4 (12-13)	12	13	X										22

ANALYSIS REQUESTED: Chloride (EPA Method 300), TPH Extended 8015, BTEX (EPA Method 8021B)

LAB USE ONLY: DUJE DATE: \_\_\_\_\_, TEMP OF COOLER WHEN RECEIVED (°C): 8.3/2023

Page 2 of 2

TURNAROUND TIME: \_\_\_\_\_

Relinquished by (Signature): \_\_\_\_\_ Date: 12/22/20  
Time: 5:02

Relinquished by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

TRRP Laboratory Review Checklist

24-Hour Rush: \_\_\_\_\_  
48-Hour Rush:    
Normal:

Received by (Signature): \_\_\_\_\_ Date: 12/22/20 Time: 5:02

Received by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

NOTES: Client: Spur Energy Partners LLC  
e-mail results to: bryant.mcbrayer@terracon.com, erin.loyd@terracon.com, irguesnier@terracon.com

W-Water, VOA - 40ml vol, S-500, 250ml - Glass wide mouth, L-Liquid, A-Air Bag, P-P, Plastic or other, C-Charcoal tube, S-Soil

Lubbock Office ■ 5827 50th Street, Suite 1 ■ Lubbock, Texas 79424 ■ 806-300-0140  
Responsive ■ Resourceful ■ Reliable



## Inter-Office Shipment

IOS Number : **75476**

Date/Time: 12.23.2020

Created by: Randall Lee

Please send report to: Jessica Kramer

Lab# From: **Lubbock**

Delivery Priority:

Address: 6701 Aberdeen, Suite 9 Lubbock, TX 79424

Lab# To: **Midland**

Air Bill No.:

E-Mail: jessica.kramer@eurofinset.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
682364-002	S	GP-1 (3-4)	12.21.2020 14:05	SW8015MOD_NM	TPH by SW8015 Mod	12.24.2020	01.04.2021	JKR	PHCC10C28 PHCC28C3:	
682364-002	S	GP-1 (3-4)	12.21.2020 14:05	SW8021B	BTEX by EPA 8021B	12.24.2020	01.04.2021	JKR	BR4FBZ BZ BZME EBZ	
682364-002	S	GP-1 (3-4)	12.21.2020 14:05	E300_CL	Chloride by EPA 300	12.24.2020	01.18.2021	JKR	CL	
682364-003	S	GP-1 (5-6)	12.21.2020 14:10	E300_CL	Chloride by EPA 300	12.24.2020	01.18.2021	JKR	CL	
682364-003	S	GP-1 (5-6)	12.21.2020 14:10	SW8021B	BTEX by EPA 8021B	12.24.2020	01.04.2021	JKR	BR4FBZ BZ BZME EBZ	
682364-003	S	GP-1 (5-6)	12.21.2020 14:10	SW8015MOD_NM	TPH by SW8015 Mod	12.24.2020	01.04.2021	JKR	PHCC10C28 PHCC28C3:	
682364-006	S	GP-2 (3-4)	12.21.2020 14:25	SW8015MOD_NM	TPH by SW8015 Mod	12.24.2020	01.04.2021	JKR	PHCC10C28 PHCC28C3:	
682364-006	S	GP-2 (3-4)	12.21.2020 14:25	E300_CL	Chloride by EPA 300	12.24.2020	01.18.2021	JKR	CL	
682364-006	S	GP-2 (3-4)	12.21.2020 14:25	SW8021B	BTEX by EPA 8021B	12.24.2020	01.04.2021	JKR	BR4FBZ BZ BZME EBZ	
682364-007	S	GP-2 (5-6)	12.21.2020 14:30	SW8015MOD_NM	TPH by SW8015 Mod	12.24.2020	01.04.2021	JKR	PHCC10C28 PHCC28C3:	
682364-007	S	GP-2 (5-6)	12.21.2020 14:30	SW8021B	BTEX by EPA 8021B	12.24.2020	01.04.2021	JKR	BR4FBZ BZ BZME EBZ	
682364-007	S	GP-2 (5-6)	12.21.2020 14:30	E300_CL	Chloride by EPA 300	12.24.2020	01.18.2021	JKR	CL	
682364-011	S	GP-3 (3-4)	12.21.2020 14:50	E300_CL	Chloride by EPA 300	12.24.2020	01.18.2021	JKR	CL	
682364-011	S	GP-3 (3-4)	12.21.2020 14:50	SW8015MOD_NM	TPH by SW8015 Mod	12.24.2020	01.04.2021	JKR	PHCC10C28 PHCC28C3:	
682364-011	S	GP-3 (3-4)	12.21.2020 14:50	SW8021B	BTEX by EPA 8021B	12.24.2020	01.04.2021	JKR	BR4FBZ BZ BZME EBZ	
682364-012	S	GP-3 (5-6)	12.21.2020 14:55	SW8021B	BTEX by EPA 8021B	12.24.2020	01.04.2021	JKR	BR4FBZ BZ BZME EBZ	
682364-012	S	GP-3 (5-6)	12.21.2020 14:55	E300_CL	Chloride by EPA 300	12.24.2020	01.18.2021	JKR	CL	
682364-012	S	GP-3 (5-6)	12.21.2020 14:55	SW8015MOD_NM	TPH by SW8015 Mod	12.24.2020	01.04.2021	JKR	PHCC10C28 PHCC28C3:	
682364-017	S	GP-4 (3-4)	12.21.2020 15:20	SW8021B	BTEX by EPA 8021B	12.24.2020	01.04.2021	JKR	BR4FBZ BZ BZME EBZ	
682364-017	S	GP-4 (3-4)	12.21.2020 15:20	E300_CL	Chloride by EPA 300	12.24.2020	01.18.2021	JKR	CL	
682364-017	S	GP-4 (3-4)	12.21.2020 15:20	SW8015MOD_NM	TPH by SW8015 Mod	12.24.2020	01.04.2021	JKR	PHCC10C28 PHCC28C3:	
682364-018	S	GP-4 (5-6)	12.21.2020 15:25	SW8021B	BTEX by EPA 8021B	12.24.2020	01.04.2021	JKR	BR4FBZ BZ BZME EBZ	
682364-018	S	GP-4 (5-6)	12.21.2020 15:25	E300_CL	Chloride by EPA 300	12.24.2020	01.18.2021	JKR	CL	
682364-018	S	GP-4 (5-6)	12.21.2020 15:25	SW8015MOD_NM	TPH by SW8015 Mod	12.24.2020	01.04.2021	JKR	PHCC10C28 PHCC28C3:	

# Inter-Office Shipment

**IOS Number : 75476**

Date/Time: 12.23.2020

Created by: Randall Lee

Please send report to: Jessica Kramer

Lab# From: **Lubbock**

Delivery Priority:

Address: 6701 Aberdeen, Suite 9 Lubbock, TX 79424

Lab# To: **Midland**

Air Bill No.:

E-Mail: jessica.kramer@eurofinset.com

**Inter Office Shipment or Sample Comments:**

Relinquished By:



\_\_\_\_\_  
Randall Lee

Received By:



\_\_\_\_\_  
Jessica Kramer

Date Relinquished:

12.23.2020

Date Received:

12.24.2020

Cooler Temperature:

1.2



Environment Testing  
Xenco

# Eurofins Xenco, LLC



## Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 75476

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sent By: Randall Lee

Date Sent: 12.23.2020 10.29 AM

Received By: Jessica Kramer

Date Received: 12.24.2020 12.06 PM

### Sample Receipt Checklist

### Comments

- #1 \*Temperature of cooler(s)? 1.2
- #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:

*Jessica Kramer*

\_\_\_\_\_  
Jessica Kramer

Date: 12.24.2020

# Eurofins Xenco, LLC

## Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 12.22.2020 05.02.00 PM

Work Order #: 682364

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 *Shipping container in good condition?	N/A	
#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	Xenco Midland
#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: Teddy Randall Lee Date: 12.23.2020  
 Randall Lee

Checklist reviewed by: Jessica Kramer Date: 12.23.2020  
 Jessica Kramer



Environment Testing  
America

## ANALYTICAL REPORT

Eurofins Xenco, Lubbock  
6701 Aberdeen Ave.  
Suite 8  
Lubbock, TX 79424  
Tel: (806)794-1296

Laboratory Job ID: 820-668-1  
Laboratory Sample Delivery Group: AR207018  
Client Project/Site: Aikman SWD--Terracon

For:  
Terracon Consulting Eng & Scientists  
5827 50th St  
Suite 1  
Lubbock, Texas 79424

Attn: Joseph Guesnier

Authorized for release by:  
5/13/2021 4:08:15 PM

Jessica Kramer, Project Manager  
(432)704-5440  
[jessica.kramer@eurofinset.com](mailto:jessica.kramer@eurofinset.com)

### LINKS

Review your project  
results through  
**Total Access**

Have a Question?



Visit us at:  
[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

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

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

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



Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--Terracon

Laboratory Job ID: 820-668-1  
SDG: AR207018

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

#### Coliform MCLs

· Based on the EPA primary drinking water standard MCL for total coliforms, a water supply is considered bacteriologically "SAFE" if no coliform bacteria are detected. To be considered "SAFE" your report should indicate "<1 cfu/100mL" or "NEG" for the coliform test. If you report indicates a positive result "POS" or a value greater than or equal to one, then your supply is "UNSAFE FOR DRINKING" contact your local health department.

#### Warranties, Terms, and Conditions

· Analyses for Field Parameters are performed by EQC field staff. Locations and certifications are identified on the Chain of Custody as follows:

ERF = field staff performs tests under NJ State certification #02015

VL = field staff performs tests under NJ State certification #06005

WG = field staff performs tests under NJ State certification #PA001

H = field staff performs tests under NJ NELAP certification #PA093, PA NELAP certification # 46-

05499

· Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.

· The report shall not be reproduced, except in full, without the written consent of the laboratory

· All samples are collected as "grab" samples unless otherwise identified.

· Reported results related only to the samples as tested. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· EQC is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance.

· Eurofins' online data portal "TotalAccess" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.

· The following personnel or their deputies have approved the results of the tests performed by EQC: Nicki Smith (Environmental Chemistry) and Zachary Smith (Water Microbiology).



---

Jessica Kramer  
Project Manager  
5/13/2021 4:08:15 PM

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--Terracon

Laboratory Job ID: 820-668-1  
SDG: AR207018

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Client Sample Results . . . . .	6
Surrogate Summary . . . . .	22
QC Sample Results . . . . .	24
QC Association Summary . . . . .	30
Lab Chronicle . . . . .	35
Certification Summary . . . . .	41
Method Summary . . . . .	42
Sample Summary . . . . .	43
Chain of Custody . . . . .	44
Receipt Checklists . . . . .	48



## Definitions/Glossary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
SDG: AR207018

## Qualifiers

## GC VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

## GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

## HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

## Glossary

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

### Case Narrative

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
SDG: AR207018

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**Job ID: 820-668-1**

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**Laboratory: Eurofins Xenco, Lubbock**

**Narrative**

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**Job Narrative  
820-668-1**

**Receipt**

The samples were received on 5/11/2021 2:51 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.1°C

**GC VOA**

Method 8021B: Due to matrix, the initial run for sample 021 was performed at a dilution of 100X.

Method 8021B: Due to matrix, the initial run for sample 022 was performed at a dilution of 20X.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**GC Semi VOA**

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**HPLC/IC**

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

- 1
- 2
- 3
- 4
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- 14

### Client Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

**Client Sample ID: HA-1 (0-0.5)**

**Lab Sample ID: 820-668-1**

Date Collected: 05/10/21 12:00

Matrix: Solid

Date Received: 05/11/21 14:51

**Method: 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		05/12/21 09:29	05/12/21 16:32	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/12/21 09:29	05/12/21 16:32	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/12/21 09:29	05/12/21 16:32	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/12/21 09:29	05/12/21 16:32	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/12/21 09:29	05/12/21 16:32	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/12/21 09:29	05/12/21 16:32	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		05/12/21 09:29	05/12/21 16:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	05/12/21 09:29	05/12/21 16:32	1
1,4-Difluorobenzene (Surr)	2	S1-	70 - 130	05/12/21 09:29	05/12/21 16:32	1

**Method: 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/12/21 21:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/12/21 21:49	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/12/21 21:49	1
Total TPH	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/12/21 21:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	05/12/21 13:24	05/12/21 21:49	1
o-Terphenyl	105		70 - 130	05/12/21 13:24	05/12/21 21:49	1

**Method: 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	315	F1	25.0		mg/Kg			05/13/21 00:29	5

**Client Sample ID: HA-1 (0.5-1)**

**Lab Sample ID: 820-668-2**

Date Collected: 05/10/21 12:02

Matrix: Solid

Date Received: 05/11/21 14:51

**Method: 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		05/12/21 09:29	05/12/21 16:53	1
Toluene	<0.00201	U	0.00201		mg/Kg		05/12/21 09:29	05/12/21 16:53	1
Ethylbenzene	0.00537		0.00201		mg/Kg		05/12/21 09:29	05/12/21 16:53	1
m-Xylene & p-Xylene	0.0239		0.00402		mg/Kg		05/12/21 09:29	05/12/21 16:53	1
o-Xylene	0.00922		0.00201		mg/Kg		05/12/21 09:29	05/12/21 16:53	1
Xylenes, Total	0.0331		0.00402		mg/Kg		05/12/21 09:29	05/12/21 16:53	1
Total BTEX	0.0385		0.00402		mg/Kg		05/12/21 09:29	05/12/21 16:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	05/12/21 09:29	05/12/21 16:53	1
1,4-Difluorobenzene (Surr)	103		70 - 130	05/12/21 09:29	05/12/21 16:53	1

**Method: 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		05/12/21 13:24	05/12/21 22:10	1

Eurofins Xenco, Lubbock



## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--TerraconJob ID: 820-668-1  
SDG: AR207018

Client Sample ID: HA-1 (0.5-1)

Lab Sample ID: 820-668-2

Date Collected: 05/10/21 12:02

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	1170		49.8		mg/Kg		05/12/21 13:24	05/12/21 22:10	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/12/21 13:24	05/12/21 22:10	1
<b>Total TPH</b>	<b>1170</b>		<b>49.8</b>		<b>mg/Kg</b>		<b>05/12/21 13:24</b>	<b>05/12/21 22:10</b>	<b>1</b>
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1-Chlorooctane	111		70 - 130				05/12/21 13:24	05/12/21 22:10	1
o-Terphenyl	107		70 - 130				05/12/21 13:24	05/12/21 22:10	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2830		25.2		mg/Kg			05/13/21 00:45	5

Client Sample ID: HA-1 (1.5-2)

Lab Sample ID: 820-668-3

Date Collected: 05/10/21 12:04

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0796		0.0401		mg/Kg		05/12/21 09:29	05/12/21 17:14	20
Toluene	2.02		0.0401		mg/Kg		05/12/21 09:29	05/12/21 17:14	20
Ethylbenzene	0.284		0.0401		mg/Kg		05/12/21 09:29	05/12/21 17:14	20
m-Xylene & p-Xylene	2.17		0.0802		mg/Kg		05/12/21 09:29	05/12/21 17:14	20
o-Xylene	0.227		0.0401		mg/Kg		05/12/21 09:29	05/12/21 17:14	20
Xylenes, Total	2.40		0.0802		mg/Kg		05/12/21 09:29	05/12/21 17:14	20
<b>Total BTEX</b>	<b>4.78</b>		<b>0.0802</b>		<b>mg/Kg</b>		<b>05/12/21 09:29</b>	<b>05/12/21 17:14</b>	<b>20</b>
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	140	S1+	70 - 130				05/12/21 09:29	05/12/21 17:14	20
1,4-Difluorobenzene (Surr)	115		70 - 130				05/12/21 09:29	05/12/21 17:14	20

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	246		50.0		mg/Kg		05/12/21 13:24	05/12/21 22:31	1
Diesel Range Organics (Over C10-C28)	1790		50.0		mg/Kg		05/12/21 13:24	05/12/21 22:31	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/12/21 22:31	1
<b>Total TPH</b>	<b>2040</b>		<b>50.0</b>		<b>mg/Kg</b>		<b>05/12/21 13:24</b>	<b>05/12/21 22:31</b>	<b>1</b>
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1-Chlorooctane	107		70 - 130				05/12/21 13:24	05/12/21 22:31	1
o-Terphenyl	99		70 - 130				05/12/21 13:24	05/12/21 22:31	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	189		5.05		mg/Kg			05/13/21 00:50	1

Eurofins Xenco, Lubbock

### Client Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

**Client Sample ID: HA-1 (3.5-4)**

**Lab Sample ID: 820-668-4**

Date Collected: 05/10/21 12:06

Matrix: Solid

Date Received: 05/11/21 14:51

**Method: 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.221		0.0404		mg/Kg		05/12/21 09:29	05/12/21 17:34	20
Toluene	0.305		0.0404		mg/Kg		05/12/21 09:29	05/12/21 17:34	20
Ethylbenzene	0.286		0.0404		mg/Kg		05/12/21 09:29	05/12/21 17:34	20
m-Xylene & p-Xylene	5.88		0.0808		mg/Kg		05/12/21 09:29	05/12/21 17:34	20
o-Xylene	3.77		0.0404		mg/Kg		05/12/21 09:29	05/12/21 17:34	20
Xylenes, Total	9.65		0.0808		mg/Kg		05/12/21 09:29	05/12/21 17:34	20
Total BTEX	10.5		0.0808		mg/Kg		05/12/21 09:29	05/12/21 17:34	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	191	S1+	70 - 130	05/12/21 09:29	05/12/21 17:34	20
1,4-Difluorobenzene (Surr)	0.3	S1-	70 - 130	05/12/21 09:29	05/12/21 17:34	20

**Method: 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	389		49.9		mg/Kg		05/12/21 13:24	05/12/21 22:59	1
Diesel Range Organics (Over C10-C28)	2050		49.9		mg/Kg		05/12/21 13:24	05/12/21 22:59	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/12/21 22:59	1
Total TPH	2440		49.9		mg/Kg		05/12/21 13:24	05/12/21 22:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	05/12/21 13:24	05/12/21 22:59	1
o-Terphenyl	98		70 - 130	05/12/21 13:24	05/12/21 22:59	1

**Method: 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	256		5.02		mg/Kg			05/13/21 00:56	1

**Client Sample ID: HA-1 (4.5-5)**

**Lab Sample ID: 820-668-5**

Date Collected: 05/10/21 12:08

Matrix: Solid

Date Received: 05/11/21 14:51

**Method: 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.266		0.0404		mg/Kg		05/12/21 09:29	05/12/21 18:59	20
Toluene	0.953		0.0404		mg/Kg		05/12/21 09:29	05/12/21 18:59	20
Ethylbenzene	8.65		0.202		mg/Kg		05/12/21 09:29	05/13/21 09:05	100
m-Xylene & p-Xylene	24.2		0.404		mg/Kg		05/12/21 09:29	05/13/21 09:05	100
o-Xylene	8.31		0.202		mg/Kg		05/12/21 09:29	05/13/21 09:05	100
Xylenes, Total	32.5		0.404		mg/Kg		05/12/21 09:29	05/13/21 09:05	100
Total BTEX	42.3		0.404		mg/Kg		05/12/21 09:29	05/13/21 09:05	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	378	S1+	70 - 130	05/12/21 09:29	05/12/21 18:59	20
1,4-Difluorobenzene (Surr)	117		70 - 130	05/12/21 09:29	05/12/21 18:59	20

**Method: 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	722		49.8		mg/Kg		05/12/21 13:24	05/12/21 23:30	1

Eurofins Xenco, Lubbock

### Client Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

**Client Sample ID: HA-1 (4.5-5)**

**Lab Sample ID: 820-668-5**

Date Collected: 05/10/21 12:08

Matrix: Solid

Date Received: 05/11/21 14:51

**Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Diesel Range Organics (Over C10-C28)</b>	<b>2300</b>		49.8		mg/Kg		05/12/21 13:24	05/12/21 23:30	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/12/21 13:24	05/12/21 23:30	1
<b>Total TPH</b>	<b>3020</b>		49.8		mg/Kg		05/12/21 13:24	05/12/21 23:30	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1-Chlorooctane	113		70 - 130				05/12/21 13:24	05/12/21 23:30	1
o-Terphenyl	97		70 - 130				05/12/21 13:24	05/12/21 23:30	1

**Method: 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>102</b>		4.99		mg/Kg			05/13/21 01:01	1

**Client Sample ID: HA-2 (0-0.5)**

**Lab Sample ID: 820-668-6**

Date Collected: 05/10/21 12:10

Matrix: Solid

Date Received: 05/11/21 14:51

**Method: 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Benzene</b>	<b>0.0617</b>		0.0400		mg/Kg		05/12/21 09:29	05/12/21 19:19	20
<b>Toluene</b>	<b>0.214</b>		0.0400		mg/Kg		05/12/21 09:29	05/12/21 19:19	20
<b>Ethylbenzene</b>	<b>0.414</b>		0.0400		mg/Kg		05/12/21 09:29	05/12/21 19:19	20
<b>m-Xylene &amp; p-Xylene</b>	<b>0.746</b>		0.0800		mg/Kg		05/12/21 09:29	05/12/21 19:19	20
<b>o-Xylene</b>	<b>0.293</b>		0.0400		mg/Kg		05/12/21 09:29	05/12/21 19:19	20
<b>Xylenes, Total</b>	<b>1.04</b>		0.0800		mg/Kg		05/12/21 09:29	05/12/21 19:19	20
<b>Total BTEX</b>	<b>1.73</b>		0.0800		mg/Kg		05/12/21 09:29	05/12/21 19:19	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	97		70 - 130				05/12/21 09:29	05/12/21 19:19	20
1,4-Difluorobenzene (Surr)	112		70 - 130				05/12/21 09:29	05/12/21 19:19	20

**Method: 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		05/12/21 13:24	05/13/21 00:02	1
<b>Diesel Range Organics (Over C10-C28)</b>	<b>247</b>		49.7		mg/Kg		05/12/21 13:24	05/13/21 00:02	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		05/12/21 13:24	05/13/21 00:02	1
<b>Total TPH</b>	<b>247</b>		49.7		mg/Kg		05/12/21 13:24	05/13/21 00:02	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1-Chlorooctane	95		70 - 130				05/12/21 13:24	05/13/21 00:02	1
o-Terphenyl	96		70 - 130				05/12/21 13:24	05/13/21 00:02	1

**Method: 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>8020</b>		99.4		mg/Kg			05/13/21 01:17	20

## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--TerraconJob ID: 820-668-1  
SDG: AR207018

Client Sample ID: HA-2 (0.5-1)

Lab Sample ID: 820-668-7

Date Collected: 05/10/21 12:12

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0398	U	0.0398		mg/Kg		05/12/21 09:29	05/12/21 19:40	20
Toluene	<0.0398	U	0.0398		mg/Kg		05/12/21 09:29	05/12/21 19:40	20
Ethylbenzene	<0.0398	U	0.0398		mg/Kg		05/12/21 09:29	05/12/21 19:40	20
m-Xylene & p-Xylene	0.101		0.0797		mg/Kg		05/12/21 09:29	05/12/21 19:40	20
o-Xylene	<0.0398	U	0.0398		mg/Kg		05/12/21 09:29	05/12/21 19:40	20
Xylenes, Total	0.101		0.0797		mg/Kg		05/12/21 09:29	05/12/21 19:40	20
Total BTEX	0.101		0.0797		mg/Kg		05/12/21 09:29	05/12/21 19:40	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	05/12/21 09:29	05/12/21 19:40	20
1,4-Difluorobenzene (Surr)	110		70 - 130	05/12/21 09:29	05/12/21 19:40	20

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 00:23	1
Diesel Range Organics (Over C10-C28)	181		49.9		mg/Kg		05/12/21 13:24	05/13/21 00:23	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 00:23	1
Total TPH	181		49.9		mg/Kg		05/12/21 13:24	05/13/21 00:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	05/12/21 13:24	05/13/21 00:23	1
o-Terphenyl	105		70 - 130	05/12/21 13:24	05/13/21 00:23	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10300		99.0		mg/Kg			05/13/21 01:23	20

Client Sample ID: HA-2 (1.5-2)

Lab Sample ID: 820-668-8

Date Collected: 05/10/21 12:14

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/12/21 09:29	05/13/21 08:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/12/21 09:29	05/13/21 08:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/12/21 09:29	05/13/21 08:31	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		05/12/21 09:29	05/13/21 08:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/12/21 09:29	05/13/21 08:31	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		05/12/21 09:29	05/13/21 08:31	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		05/12/21 09:29	05/13/21 08:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	05/12/21 09:29	05/13/21 08:31	1
1,4-Difluorobenzene (Surr)	131	S1+	70 - 130	05/12/21 09:29	05/13/21 08:31	1

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	606	F1	49.7		mg/Kg		05/12/21 13:24	05/12/21 20:47	1

Eurofins Xenco, Lubbock

## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--TerraconJob ID: 820-668-1  
SDG: AR207018

Client Sample ID: HA-2 (1.5-2)

Lab Sample ID: 820-668-8

Date Collected: 05/10/21 12:14

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		05/12/21 13:24	05/12/21 20:47	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		05/12/21 13:24	05/12/21 20:47	1
<b>Total TPH</b>	<b>606</b>	<b>F1</b>	49.7		mg/Kg		05/12/21 13:24	05/12/21 20:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	116		70 - 130				05/12/21 13:24	05/12/21 20:47	1
o-Terphenyl	121		70 - 130				05/12/21 13:24	05/12/21 20:47	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3300		24.8		mg/Kg			05/13/21 01:28	5

Client Sample ID: HA-2 (3.5-4)

Lab Sample ID: 820-668-9

Date Collected: 05/10/21 12:16

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00202		0.00200		mg/Kg		05/12/21 09:29	05/13/21 08:52	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/12/21 09:29	05/13/21 08:52	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/12/21 09:29	05/13/21 08:52	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		05/12/21 09:29	05/13/21 08:52	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/12/21 09:29	05/13/21 08:52	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		05/12/21 09:29	05/13/21 08:52	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		05/12/21 09:29	05/13/21 08:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130				05/12/21 09:29	05/13/21 08:52	1
1,4-Difluorobenzene (Surr)	114		70 - 130				05/12/21 09:29	05/13/21 08:52	1

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/13/21 00:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/13/21 00:44	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/13/21 00:44	1
<b>Total TPH</b>	<b>&lt;50.0</b>	<b>U</b>	50.0		mg/Kg		05/12/21 13:24	05/13/21 00:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130				05/12/21 13:24	05/13/21 00:44	1
o-Terphenyl	107		70 - 130				05/12/21 13:24	05/13/21 00:44	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	918		5.04		mg/Kg			05/13/21 01:33	1

Eurofins Xenco, Lubbock



### Client Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

**Client Sample ID: HA-2 (4.5-5)**

**Lab Sample ID: 820-668-10**

Date Collected: 05/10/21 12:18

Matrix: Solid

Date Received: 05/11/21 14:51

**Method: 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		05/12/21 09:29	05/13/21 09:13	1
Toluene	<0.00198	U	0.00198		mg/Kg		05/12/21 09:29	05/13/21 09:13	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		05/12/21 09:29	05/13/21 09:13	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		05/12/21 09:29	05/13/21 09:13	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		05/12/21 09:29	05/13/21 09:13	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		05/12/21 09:29	05/13/21 09:13	1
Total BTEX	<0.00396	U	0.00396		mg/Kg		05/12/21 09:29	05/13/21 09:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	05/12/21 09:29	05/13/21 09:13	1
1,4-Difluorobenzene (Surr)	124		70 - 130	05/12/21 09:29	05/13/21 09:13	1

**Method: 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		05/12/21 13:24	05/13/21 01:04	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		05/12/21 13:24	05/13/21 01:04	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/12/21 13:24	05/13/21 01:04	1
Total TPH	<49.8	U	49.8		mg/Kg		05/12/21 13:24	05/13/21 01:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	05/12/21 13:24	05/13/21 01:04	1
o-Terphenyl	105		70 - 130	05/12/21 13:24	05/13/21 01:04	1

**Method: 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	991		5.03		mg/Kg			05/13/21 01:39	1

**Client Sample ID: HA-3 (0-0.5)**

**Lab Sample ID: 820-668-11**

Date Collected: 05/10/21 12:20

Matrix: Solid

Date Received: 05/11/21 14:51

**Method: 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/12/21 09:29	05/13/21 09:33	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/12/21 09:29	05/13/21 09:33	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/12/21 09:29	05/13/21 09:33	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		05/12/21 09:29	05/13/21 09:33	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/12/21 09:29	05/13/21 09:33	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/12/21 09:29	05/13/21 09:33	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		05/12/21 09:29	05/13/21 09:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	05/12/21 09:29	05/13/21 09:33	1
1,4-Difluorobenzene (Surr)	117		70 - 130	05/12/21 09:29	05/13/21 09:33	1

**Method: 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 01:46	1

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## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--TerraconJob ID: 820-668-1  
SDG: AR207018

Client Sample ID: HA-3 (0-0.5)

Lab Sample ID: 820-668-11

Date Collected: 05/10/21 12:20

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	103		49.9		mg/Kg		05/12/21 13:24	05/13/21 01:46	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 01:46	1
<b>Total TPH</b>	<b>103</b>		49.9		mg/Kg		05/12/21 13:24	05/13/21 01:46	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1-Chlorooctane	106		70 - 130				05/12/21 13:24	05/13/21 01:46	1
o-Terphenyl	106		70 - 130				05/12/21 13:24	05/13/21 01:46	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	358	F1	25.0		mg/Kg			05/13/21 01:44	5

Client Sample ID: HA-3 (0.5-1)

Lab Sample ID: 820-668-12

Date Collected: 05/10/21 12:22

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.618		0.0397		mg/Kg		05/12/21 09:29	05/13/21 09:54	20
Toluene	0.401		0.0397		mg/Kg		05/12/21 09:29	05/13/21 09:54	20
Ethylbenzene	0.0595		0.0397		mg/Kg		05/12/21 09:29	05/13/21 09:54	20
m-Xylene & p-Xylene	0.126		0.0794		mg/Kg		05/12/21 09:29	05/13/21 09:54	20
o-Xylene	0.109		0.0397		mg/Kg		05/12/21 09:29	05/13/21 09:54	20
Xylenes, Total	0.235		0.0794		mg/Kg		05/12/21 09:29	05/13/21 09:54	20
<b>Total BTEX</b>	<b>1.31</b>		0.0794		mg/Kg		05/12/21 09:29	05/13/21 09:54	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	104		70 - 130				05/12/21 09:29	05/13/21 09:54	20
1,4-Difluorobenzene (Surr)	114		70 - 130				05/12/21 09:29	05/13/21 09:54	20

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/13/21 02:07	1
Diesel Range Organics (Over C10-C28)	457		50.0		mg/Kg		05/12/21 13:24	05/13/21 02:07	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/13/21 02:07	1
<b>Total TPH</b>	<b>457</b>		50.0		mg/Kg		05/12/21 13:24	05/13/21 02:07	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1-Chlorooctane	103		70 - 130				05/12/21 13:24	05/13/21 02:07	1
o-Terphenyl	105		70 - 130				05/12/21 13:24	05/13/21 02:07	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	265		24.9		mg/Kg			05/13/21 02:00	5

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## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--TerraconJob ID: 820-668-1  
SDG: AR207018

Client Sample ID: HA-3 (1.5-2)

Lab Sample ID: 820-668-13

Date Collected: 05/10/21 12:24

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		05/12/21 09:29	05/13/21 10:15	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/12/21 09:29	05/13/21 10:15	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/12/21 09:29	05/13/21 10:15	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/12/21 09:29	05/13/21 10:15	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/12/21 09:29	05/13/21 10:15	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/12/21 09:29	05/13/21 10:15	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		05/12/21 09:29	05/13/21 10:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	05/12/21 09:29	05/13/21 10:15	1
1,4-Difluorobenzene (Surr)	114		70 - 130	05/12/21 09:29	05/13/21 10:15	1

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 02:27	1
Diesel Range Organics (Over C10-C28)	61.6		49.9		mg/Kg		05/12/21 13:24	05/13/21 02:27	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 02:27	1
Total TPH	61.6		49.9		mg/Kg		05/12/21 13:24	05/13/21 02:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	05/12/21 13:24	05/13/21 02:27	1
o-Terphenyl	103		70 - 130	05/12/21 13:24	05/13/21 02:27	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	993		24.8		mg/Kg			05/13/21 02:06	5

Client Sample ID: HA-3 (3.5-4)

Lab Sample ID: 820-668-14

Date Collected: 05/10/21 12:26

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		05/12/21 09:29	05/13/21 10:35	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/12/21 09:29	05/13/21 10:35	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/12/21 09:29	05/13/21 10:35	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/12/21 09:29	05/13/21 10:35	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/12/21 09:29	05/13/21 10:35	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/12/21 09:29	05/13/21 10:35	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		05/12/21 09:29	05/13/21 10:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	05/12/21 09:29	05/13/21 10:35	1
1,4-Difluorobenzene (Surr)	1	S1-	70 - 130	05/12/21 09:29	05/13/21 10:35	1

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 02:48	1

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## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--TerraconJob ID: 820-668-1  
SDG: AR207018

Client Sample ID: HA-3 (3.5-4)

Lab Sample ID: 820-668-14

Date Collected: 05/10/21 12:26

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 02:48	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 02:48	1
Total TPH	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 02:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130				05/12/21 13:24	05/13/21 02:48	1
o-Terphenyl	100		70 - 130				05/12/21 13:24	05/13/21 02:48	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8940		49.9		mg/Kg			05/13/21 02:22	10

Client Sample ID: HA-3 (4.5-5)

Lab Sample ID: 820-668-15

Date Collected: 05/10/21 12:28

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		05/12/21 13:07	05/12/21 17:12	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/12/21 13:07	05/12/21 17:12	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/12/21 13:07	05/12/21 17:12	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/12/21 13:07	05/12/21 17:12	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/12/21 13:07	05/12/21 17:12	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/12/21 13:07	05/12/21 17:12	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		05/12/21 13:07	05/12/21 17:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130				05/12/21 13:07	05/12/21 17:12	1
1,4-Difluorobenzene (Surr)	98		70 - 130				05/12/21 13:07	05/12/21 17:12	1

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/13/21 03:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/13/21 03:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/13/21 03:09	1
Total TPH	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/13/21 03:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130				05/12/21 13:24	05/13/21 03:09	1
o-Terphenyl	105		70 - 130				05/12/21 13:24	05/13/21 03:09	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6410		49.7		mg/Kg			05/13/21 02:27	10

Eurofins Xenco, Lubbock

## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--TerraconJob ID: 820-668-1  
SDG: AR207018

Client Sample ID: HA-4 (0-0.5)

Lab Sample ID: 820-668-16

Date Collected: 05/10/21 12:30

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		05/12/21 13:07	05/12/21 17:32	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/12/21 13:07	05/12/21 17:32	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/12/21 13:07	05/12/21 17:32	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/12/21 13:07	05/12/21 17:32	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/12/21 13:07	05/12/21 17:32	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/12/21 13:07	05/12/21 17:32	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		05/12/21 13:07	05/12/21 17:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130	05/12/21 13:07	05/12/21 17:32	1
1,4-Difluorobenzene (Surr)	100		70 - 130	05/12/21 13:07	05/12/21 17:32	1

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/13/21 03:30	1
Diesel Range Organics (Over C10-C28)	124		50.0		mg/Kg		05/12/21 13:24	05/13/21 03:30	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/13/21 03:30	1
Total TPH	124		50.0		mg/Kg		05/12/21 13:24	05/13/21 03:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130	05/12/21 13:24	05/13/21 03:30	1
o-Terphenyl	111		70 - 130	05/12/21 13:24	05/13/21 03:30	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1390		25.0		mg/Kg			05/13/21 02:32	5

Client Sample ID: HA-4 (0.5-1)

Lab Sample ID: 820-668-17

Date Collected: 05/10/21 12:32

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		05/12/21 13:07	05/12/21 17:52	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/12/21 13:07	05/12/21 17:52	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/12/21 13:07	05/12/21 17:52	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/12/21 13:07	05/12/21 17:52	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/12/21 13:07	05/12/21 17:52	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/12/21 13:07	05/12/21 17:52	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		05/12/21 13:07	05/12/21 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	05/12/21 13:07	05/12/21 17:52	1
1,4-Difluorobenzene (Surr)	98		70 - 130	05/12/21 13:07	05/12/21 17:52	1

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		05/12/21 13:24	05/13/21 03:51	1

Eurofins Xenco, Lubbock



## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--TerraconJob ID: 820-668-1  
SDG: AR207018

Client Sample ID: HA-4 (0.5-1)

Lab Sample ID: 820-668-17

Date Collected: 05/10/21 12:32

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		05/12/21 13:24	05/13/21 03:51	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/12/21 13:24	05/13/21 03:51	1
Total TPH	<49.8	U	49.8		mg/Kg		05/12/21 13:24	05/13/21 03:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130				05/12/21 13:24	05/13/21 03:51	1
o-Terphenyl	109		70 - 130				05/12/21 13:24	05/13/21 03:51	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6740		50.1		mg/Kg			05/13/21 02:38	10

Client Sample ID: HA-4 (1.5-2)

Lab Sample ID: 820-668-18

Date Collected: 05/10/21 12:34

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/12/21 13:07	05/12/21 18:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/12/21 13:07	05/12/21 18:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/12/21 13:07	05/12/21 18:13	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		05/12/21 13:07	05/12/21 18:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/12/21 13:07	05/12/21 18:13	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/12/21 13:07	05/12/21 18:13	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		05/12/21 13:07	05/12/21 18:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130				05/12/21 13:07	05/12/21 18:13	1
1,4-Difluorobenzene (Surr)	98		70 - 130				05/12/21 13:07	05/12/21 18:13	1

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/13/21 04:12	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/13/21 04:12	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/13/21 04:12	1
Total TPH	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/13/21 04:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130				05/12/21 13:24	05/13/21 04:12	1
o-Terphenyl	101		70 - 130				05/12/21 13:24	05/13/21 04:12	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8700		50.1		mg/Kg			05/13/21 02:43	10

Eurofins Xenco, Lubbock

## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--TerraconJob ID: 820-668-1  
SDG: AR207018

Client Sample ID: HA-4 (3.5-4)

Lab Sample ID: 820-668-19

Date Collected: 05/10/21 12:36

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/12/21 13:07	05/12/21 18:33	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/12/21 13:07	05/12/21 18:33	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/12/21 13:07	05/12/21 18:33	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		05/12/21 13:07	05/12/21 18:33	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/12/21 13:07	05/12/21 18:33	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		05/12/21 13:07	05/12/21 18:33	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		05/12/21 13:07	05/12/21 18:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	05/12/21 13:07	05/12/21 18:33	1
1,4-Difluorobenzene (Surr)	94		70 - 130	05/12/21 13:07	05/12/21 18:33	1

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 04:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 04:32	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 04:32	1
Total TPH	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 04:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	05/12/21 13:24	05/13/21 04:32	1
o-Terphenyl	106		70 - 130	05/12/21 13:24	05/13/21 04:32	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3720		25.2		mg/Kg			05/13/21 02:49	5

Client Sample ID: HA-4 (4.5-5)

Lab Sample ID: 820-668-20

Date Collected: 05/10/21 12:38

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		05/12/21 13:07	05/12/21 18:54	1
Toluene	<0.00198	U	0.00198		mg/Kg		05/12/21 13:07	05/12/21 18:54	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		05/12/21 13:07	05/12/21 18:54	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		05/12/21 13:07	05/12/21 18:54	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		05/12/21 13:07	05/12/21 18:54	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		05/12/21 13:07	05/12/21 18:54	1
Total BTEX	<0.00396	U	0.00396		mg/Kg		05/12/21 13:07	05/12/21 18:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	05/12/21 13:07	05/12/21 18:54	1
1,4-Difluorobenzene (Surr)	98		70 - 130	05/12/21 13:07	05/12/21 18:54	1

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 04:53	1

Eurofins Xenco, Lubbock

## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--TerraconJob ID: 820-668-1  
SDG: AR207018

## Client Sample ID: HA-4 (4.5-5)

Lab Sample ID: 820-668-20

Date Collected: 05/10/21 12:38

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 04:53	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 04:53	1
Total TPH	<49.9	U	49.9		mg/Kg		05/12/21 13:24	05/13/21 04:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130				05/12/21 13:24	05/13/21 04:53	1
o-Terphenyl	107		70 - 130				05/12/21 13:24	05/13/21 04:53	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2760		25.1		mg/Kg			05/13/21 02:54	5

## Client Sample ID: HA-5 (0-0.5)

Lab Sample ID: 820-668-21

Date Collected: 05/10/21 12:40

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.202	U	0.202		mg/Kg		05/12/21 13:07	05/12/21 19:14	100
Toluene	1.41		0.202		mg/Kg		05/12/21 13:07	05/12/21 19:14	100
Ethylbenzene	7.79		0.202		mg/Kg		05/12/21 13:07	05/12/21 19:14	100
m-Xylene & p-Xylene	11.9		0.404		mg/Kg		05/12/21 13:07	05/12/21 19:14	100
o-Xylene	7.09		0.202		mg/Kg		05/12/21 13:07	05/12/21 19:14	100
Xylenes, Total	19.0		0.404		mg/Kg		05/12/21 13:07	05/12/21 19:14	100
Total BTEX	28.2		0.404		mg/Kg		05/12/21 13:07	05/12/21 19:14	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	163	S1+	70 - 130				05/12/21 13:07	05/12/21 19:14	100
1,4-Difluorobenzene (Surr)	101		70 - 130				05/12/21 13:07	05/12/21 19:14	100

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	203		49.9		mg/Kg		05/12/21 07:52	05/13/21 07:54	1
Diesel Range Organics (Over C10-C28)	4750		49.9		mg/Kg		05/12/21 07:52	05/13/21 07:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/12/21 07:52	05/13/21 07:54	1
Total TPH	4950		49.9		mg/Kg		05/12/21 07:52	05/13/21 07:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	31	S1-	70 - 130				05/12/21 07:52	05/13/21 07:54	1
o-Terphenyl	57	S1-	70 - 130				05/12/21 07:52	05/13/21 07:54	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1780		24.9		mg/Kg			05/12/21 19:37	5

Eurofins Xenco, Lubbock

## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--TerraconJob ID: 820-668-1  
SDG: AR207018

Client Sample ID: HA-6 (0-0.5)

Lab Sample ID: 820-668-22

Date Collected: 05/10/21 12:42

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0401	U	0.0401		mg/Kg		05/12/21 13:07	05/12/21 19:34	20
Toluene	0.173		0.0401		mg/Kg		05/12/21 13:07	05/12/21 19:34	20
Ethylbenzene	0.124		0.0401		mg/Kg		05/12/21 13:07	05/12/21 19:34	20
m-Xylene & p-Xylene	0.125		0.0802		mg/Kg		05/12/21 13:07	05/12/21 19:34	20
o-Xylene	0.0933		0.0401		mg/Kg		05/12/21 13:07	05/12/21 19:34	20
Xylenes, Total	0.218		0.0802		mg/Kg		05/12/21 13:07	05/12/21 19:34	20
Total BTEX	0.515		0.0802		mg/Kg		05/12/21 13:07	05/12/21 19:34	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	05/12/21 13:07	05/12/21 19:34	20
1,4-Difluorobenzene (Surr)	110		70 - 130	05/12/21 13:07	05/12/21 19:34	20

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	52.7		49.8		mg/Kg		05/12/21 07:52	05/12/21 17:56	1
Diesel Range Organics (Over C10-C28)	4990		49.8		mg/Kg		05/12/21 07:52	05/12/21 17:56	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/12/21 07:52	05/12/21 17:56	1
Total TPH	5040		49.8		mg/Kg		05/12/21 07:52	05/12/21 17:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130	05/12/21 07:52	05/12/21 17:56	1
o-Terphenyl	101		70 - 130	05/12/21 07:52	05/12/21 17:56	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4420		50.4		mg/Kg			05/12/21 19:52	10

Client Sample ID: HA-7 (0-0.5)

Lab Sample ID: 820-668-23

Date Collected: 05/10/21 12:44

Matrix: Solid

Date Received: 05/11/21 14:51

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		05/12/21 13:07	05/12/21 23:39	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/12/21 13:07	05/12/21 23:39	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/12/21 13:07	05/12/21 23:39	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/12/21 13:07	05/12/21 23:39	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/12/21 13:07	05/12/21 23:39	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/12/21 13:07	05/12/21 23:39	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		05/12/21 13:07	05/12/21 23:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130	05/12/21 13:07	05/12/21 23:39	1
1,4-Difluorobenzene (Surr)	0.08	S1-	70 - 130	05/12/21 13:07	05/12/21 23:39	1

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/12/21 07:52	05/12/21 18:23	1

Eurofins Xenco, Lubbock

### Client Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

**Client Sample ID: HA-7 (0-0.5)**

**Lab Sample ID: 820-668-23**

Date Collected: 05/10/21 12:44

Matrix: Solid

Date Received: 05/11/21 14:51

**Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Diesel Range Organics (Over C10-C28)</b>	<b>90.5</b>		50.0		mg/Kg		05/12/21 07:52	05/12/21 18:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/12/21 07:52	05/12/21 18:23	1
<b>Total TPH</b>	<b>90.5</b>		50.0		mg/Kg		05/12/21 07:52	05/12/21 18:23	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1-Chlorooctane	103		70 - 130				05/12/21 07:52	05/12/21 18:23	1
o-Terphenyl	104		70 - 130				05/12/21 07:52	05/12/21 18:23	1

**Method: 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>575</b>		5.05		mg/Kg			05/12/21 19:58	1

**Client Sample ID: HA-8 (0-0.5)**

**Lab Sample ID: 820-668-24**

Date Collected: 05/10/21 12:46

Matrix: Solid

Date Received: 05/11/21 14:51

**Method: 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0396	U	0.0396		mg/Kg		05/12/21 13:07	05/13/21 00:00	20
Toluene	<0.0396	U	0.0396		mg/Kg		05/12/21 13:07	05/13/21 00:00	20
Ethylbenzene	<0.0396	U	0.0396		mg/Kg		05/12/21 13:07	05/13/21 00:00	20
m-Xylene & p-Xylene	<0.0792	U	0.0792		mg/Kg		05/12/21 13:07	05/13/21 00:00	20
o-Xylene	<0.0396	U	0.0396		mg/Kg		05/12/21 13:07	05/13/21 00:00	20
Xylenes, Total	<0.0792	U	0.0792		mg/Kg		05/12/21 13:07	05/13/21 00:00	20
Total BTEX	<0.0792	U	0.0792		mg/Kg		05/12/21 13:07	05/13/21 00:00	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	128		70 - 130				05/12/21 13:07	05/13/21 00:00	20
1,4-Difluorobenzene (Surr)	106		70 - 130				05/12/21 13:07	05/13/21 00:00	20

**Method: 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/12/21 07:52	05/12/21 18:43	1
<b>Diesel Range Organics (Over C10-C28)</b>	<b>167</b>		49.9		mg/Kg		05/12/21 07:52	05/12/21 18:43	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/12/21 07:52	05/12/21 18:43	1
<b>Total TPH</b>	<b>167</b>		49.9		mg/Kg		05/12/21 07:52	05/12/21 18:43	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1-Chlorooctane	112		70 - 130				05/12/21 07:52	05/12/21 18:43	1
o-Terphenyl	108		70 - 130				05/12/21 07:52	05/12/21 18:43	1

**Method: 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>11200</b>		99.6		mg/Kg			05/12/21 20:03	20

Eurofins Xenco, Lubbock



## Surrogate Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--TerraconJob ID: 820-668-1  
SDG: AR207018

## Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1 (70-130)	DFBZ1 (70-130)
820-668-1	HA-1 (0-0.5)	107	2 S1-
820-668-2	HA-1 (0.5-1)	102	103
820-668-3	HA-1 (1.5-2)	140 S1+	115
820-668-4	HA-1 (3.5-4)	191 S1+	0.3 S1-
820-668-5	HA-1 (4.5-5)	378 S1+	117
820-668-6	HA-2 (0-0.5)	97	112
820-668-7	HA-2 (0.5-1)	96	110
820-668-8	HA-2 (1.5-2)	110	131 S1+
820-668-9	HA-2 (3.5-4)	99	114
820-668-10	HA-2 (4.5-5)	111	124
820-668-11	HA-3 (0-0.5)	100	117
820-668-12	HA-3 (0.5-1)	104	114
820-668-13	HA-3 (1.5-2)	107	114
820-668-14	HA-3 (3.5-4)	117	1 S1-
820-668-15	HA-3 (4.5-5)	121	98
820-668-16	HA-4 (0-0.5)	124	100
820-668-17	HA-4 (0.5-1)	118	98
820-668-18	HA-4 (1.5-2)	119	98
820-668-19	HA-4 (3.5-4)	111	94
820-668-20	HA-4 (4.5-5)	117	98
820-668-21	HA-5 (0-0.5)	163 S1+	101
820-668-22	HA-6 (0-0.5)	122	110
820-668-23	HA-7 (0-0.5)	132 S1+	0.08 S1-
820-668-24	HA-8 (0-0.5)	128	106
LCS 880-3013/1-A	Lab Control Sample	93	115
LCS 880-3028/1-A	Lab Control Sample	106	107
LCS 880-3013/2-A	Lab Control Sample Dup	92	109
LCS 880-3028/2-A	Lab Control Sample Dup	107	105
MB 880-3013/5-A	Method Blank	101	85
MB 880-3028/5-A	Method Blank	91	94

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1CO1 (70-130)	OTPH1 (70-130)
820-668-1	HA-1 (0-0.5)	104	105
820-668-2	HA-1 (0.5-1)	111	107
820-668-3	HA-1 (1.5-2)	107	99
820-668-4	HA-1 (3.5-4)	106	98
820-668-5	HA-1 (4.5-5)	113	97
820-668-6	HA-2 (0-0.5)	95	96
820-668-7	HA-2 (0.5-1)	105	105
820-668-8	HA-2 (1.5-2)	116	121
820-668-8 MS	HA-2 (1.5-2)	99	91

Eurofins Xenco, Lubbock

### Surrogate Summary

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

**Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)**

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1CO1 (70-130)	OTPH1 (70-130)
820-668-8 MSD	HA-2 (1.5-2)	97	88
820-668-9	HA-2 (3.5-4)	106	107
820-668-10	HA-2 (4.5-5)	105	105
820-668-11	HA-3 (0-0.5)	106	106
820-668-12	HA-3 (0.5-1)	103	105
820-668-13	HA-3 (1.5-2)	101	103
820-668-14	HA-3 (3.5-4)	101	100
820-668-15	HA-3 (4.5-5)	103	105
820-668-16	HA-4 (0-0.5)	112	111
820-668-17	HA-4 (0.5-1)	111	109
820-668-18	HA-4 (1.5-2)	100	101
820-668-19	HA-4 (3.5-4)	106	106
820-668-20	HA-4 (4.5-5)	108	107
820-668-21	HA-5 (0-0.5)	31 S1-	57 S1-
820-668-22	HA-6 (0-0.5)	109	101
820-668-23	HA-7 (0-0.5)	103	104
820-668-24	HA-8 (0-0.5)	112	108
LCS 880-3008/2-A	Lab Control Sample	111	110
LCS 880-3030/2-A	Lab Control Sample	118	112
LCSD 880-3008/3-A	Lab Control Sample Dup	115	110
LCSD 880-3030/3-A	Lab Control Sample Dup	120	114
MB 880-3008/1-A	Method Blank	106	111
MB 880-3030/1-A	Method Blank	111	113

**Surrogate Legend**

1CO = 1-Chlorooctane  
 OTPH = o-Terphenyl

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

### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

#### Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-3013/5-A  
 Matrix: Solid  
 Analysis Batch: 3016

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 3013

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	<0.00200	U	0.00200		mg/Kg		05/12/21 09:29	05/12/21 14:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/12/21 09:29	05/12/21 14:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/12/21 09:29	05/12/21 14:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		05/12/21 09:29	05/12/21 14:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/12/21 09:29	05/12/21 14:05	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/12/21 09:29	05/12/21 14:05	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		05/12/21 09:29	05/12/21 14:05	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	101		70 - 130	05/12/21 09:29	05/12/21 14:05	1
1,4-Difluorobenzene (Surr)	85		70 - 130	05/12/21 09:29	05/12/21 14:05	1

Lab Sample ID: LCS 880-3013/1-A  
 Matrix: Solid  
 Analysis Batch: 3016

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 3013

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzene	0.100	0.07611		mg/Kg		76	70 - 130
Toluene	0.100	0.08793		mg/Kg		88	70 - 130
Ethylbenzene	0.100	0.08858		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	0.200	0.1795		mg/Kg		90	70 - 130
o-Xylene	0.100	0.08700		mg/Kg		87	70 - 130

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	115		70 - 130

Lab Sample ID: LCSD 880-3013/2-A  
 Matrix: Solid  
 Analysis Batch: 3016

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 3013

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
Benzene	0.100	0.08651		mg/Kg		87	70 - 130	13	35
Toluene	0.100	0.09615		mg/Kg		96	70 - 130	9	35
Ethylbenzene	0.100	0.09322		mg/Kg		93	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.1881		mg/Kg		94	70 - 130	5	35
o-Xylene	0.100	0.09218		mg/Kg		92	70 - 130	6	35

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: MB 880-3028/5-A  
 Matrix: Solid  
 Analysis Batch: 3029

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 3028

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	<0.00200	U	0.00200		mg/Kg		05/12/21 13:07	05/12/21 16:30	1

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### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

#### Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 880-3028/5-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 3029

Prep Batch: 3028

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Toluene	<0.00200	U	0.00200		mg/Kg		05/12/21 13:07	05/12/21 16:30	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/12/21 13:07	05/12/21 16:30	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		05/12/21 13:07	05/12/21 16:30	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/12/21 13:07	05/12/21 16:30	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/12/21 13:07	05/12/21 16:30	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		05/12/21 13:07	05/12/21 16:30	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	91		70 - 130	05/12/21 13:07	05/12/21 16:30	1
1,4-Difluorobenzene (Surr)	94		70 - 130	05/12/21 13:07	05/12/21 16:30	1

Lab Sample ID: LCS 880-3028/1-A

Client Sample ID: Lab Control Sample

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 3029

Prep Batch: 3028

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzene	0.100	0.09171		mg/Kg		92	70 - 130
Toluene	0.100	0.08739		mg/Kg		87	70 - 130
Ethylbenzene	0.100	0.09124		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	0.200	0.1943		mg/Kg		97	70 - 130
o-Xylene	0.100	0.1021		mg/Kg		102	70 - 130

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-3028/2-A

Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 3029

Prep Batch: 3028

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	Limit
		Result	Qualifier						
Benzene	0.100	0.1011		mg/Kg		101	70 - 130	10	35
Toluene	0.100	0.09671		mg/Kg		97	70 - 130	10	35
Ethylbenzene	0.100	0.1028		mg/Kg		103	70 - 130	12	35
m-Xylene & p-Xylene	0.200	0.2190		mg/Kg		109	70 - 130	12	35
o-Xylene	0.100	0.1134		mg/Kg		113	70 - 130	11	35

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-3008/1-A  
 Matrix: Solid  
 Analysis Batch: 3004

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 3008

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/12/21 07:52	05/12/21 10:29	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/12/21 07:52	05/12/21 10:29	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/12/21 07:52	05/12/21 10:29	1
Total TPH	<50.0	U	50.0		mg/Kg		05/12/21 07:52	05/12/21 10:29	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	05/12/21 07:52	05/12/21 10:29	1
o-Terphenyl	111		70 - 130	05/12/21 07:52	05/12/21 10:29	1

Lab Sample ID: LCS 880-3008/2-A  
 Matrix: Solid  
 Analysis Batch: 3004

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 3008

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	963.8		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1152		mg/Kg		115	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	111		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: LCSD 880-3008/3-A  
 Matrix: Solid  
 Analysis Batch: 3004

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 3008

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	996.0		mg/Kg		100	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	1142		mg/Kg		114	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	115		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: MB 880-3030/1-A  
 Matrix: Solid  
 Analysis Batch: 3004

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 3030

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/12/21 19:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/12/21 19:45	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/12/21 19:45	1
Total TPH	<50.0	U	50.0		mg/Kg		05/12/21 13:24	05/12/21 19:45	1

Eurofins Xenco, Lubbock



### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	111		70 - 130	05/12/21 13:24	05/12/21 19:45	1
o-Terphenyl	113		70 - 130	05/12/21 13:24	05/12/21 19:45	1

Lab Sample ID: LCS 880-3030/2-A  
 Matrix: Solid  
 Analysis Batch: 3004

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 3030

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Gasoline Range Organics (GRO)-C6-C10	1000	1002		mg/Kg		100	70 - 130	
Diesel Range Organics (Over C10-C28)	1000	1179		mg/Kg		118	70 - 130	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	118		70 - 130
o-Terphenyl	112		70 - 130

Lab Sample ID: LCSD 880-3030/3-A  
 Matrix: Solid  
 Analysis Batch: 3004

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 3030

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	964.8		mg/Kg		96	70 - 130	4	20	
Diesel Range Organics (Over C10-C28)	1000	1195		mg/Kg		120	70 - 130	1	20	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	120		70 - 130
o-Terphenyl	114		70 - 130

Lab Sample ID: 820-668-8 MS  
 Matrix: Solid  
 Analysis Batch: 3004

Client Sample ID: HA-2 (1.5-2)  
 Prep Type: Total/NA  
 Prep Batch: 3030

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
Gasoline Range Organics (GRO)-C6-C10	606	F1	996	925.5	F1	mg/Kg		32	70 - 130	
Diesel Range Organics (Over C10-C28)	<49.7	U	996	1064		mg/Kg		103	70 - 130	

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	99		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: 820-668-8 MSD  
 Matrix: Solid  
 Analysis Batch: 3004

Client Sample ID: HA-2 (1.5-2)  
 Prep Type: Total/NA  
 Prep Batch: 3030

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	606	F1	998	900.2	F1	mg/Kg		29	70 - 130	3	20	

Eurofins Xenco, Lubbock

### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 820-668-8 MSD  
 Matrix: Solid  
 Analysis Batch: 3004

Client Sample ID: HA-2 (1.5-2)  
 Prep Type: Total/NA  
 Prep Batch: 3030

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (Over C10-C28)	<49.7	U	998	1047		mg/Kg		101	70 - 130	2	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>MSD</b>	<b>Limits</b>							
1-Chlorooctane	97			70 - 130							
o-Terphenyl	88			70 - 130							

#### Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-3017/1-A  
 Matrix: Solid  
 Analysis Batch: 3032

Client Sample ID: Method Blank  
 Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			05/13/21 00:13	1

Lab Sample ID: LCS 880-3017/2-A  
 Matrix: Solid  
 Analysis Batch: 3032

Client Sample ID: Lab Control Sample  
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	233.4		mg/Kg		93	90 - 110

Lab Sample ID: LCSD 880-3017/3-A  
 Matrix: Solid  
 Analysis Batch: 3032

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	237.3		mg/Kg		95	90 - 110	2	20

Lab Sample ID: 820-668-1 MS  
 Matrix: Solid  
 Analysis Batch: 3032

Client Sample ID: HA-1 (0-0.5)  
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	315	F1	250	1584	F1	mg/Kg		508	90 - 110

Lab Sample ID: 820-668-1 MSD  
 Matrix: Solid  
 Analysis Batch: 3032

Client Sample ID: HA-1 (0-0.5)  
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	315	F1	250	1578	F1	mg/Kg		505	90 - 110	0	20

Lab Sample ID: 820-668-11 MS  
 Matrix: Solid  
 Analysis Batch: 3032

Client Sample ID: HA-3 (0-0.5)  
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	358	F1	250	1642	F1	mg/Kg		514	90 - 110

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### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

#### Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 820-668-11 MSD  
 Matrix: Solid  
 Analysis Batch: 3032

Client Sample ID: HA-3 (0-0.5)  
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	358	F1	250	1553	F1	mg/Kg		478	90 - 110	6	20

Lab Sample ID: MB 880-3018/1-A  
 Matrix: Solid  
 Analysis Batch: 3048

Client Sample ID: Method Blank  
 Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			05/12/21 19:21	1

Lab Sample ID: LCS 880-3018/2-A  
 Matrix: Solid  
 Analysis Batch: 3048

Client Sample ID: Lab Control Sample  
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	247.5		mg/Kg		99	90 - 110

Lab Sample ID: LCSD 880-3018/3-A  
 Matrix: Solid  
 Analysis Batch: 3048

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	244.0		mg/Kg		98	90 - 110	1	20

Lab Sample ID: 820-668-21 MS  
 Matrix: Solid  
 Analysis Batch: 3048

Client Sample ID: HA-5 (0-0.5)  
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1780		1250	3006		mg/Kg		98	90 - 110

Lab Sample ID: 820-668-21 MSD  
 Matrix: Solid  
 Analysis Batch: 3048

Client Sample ID: HA-5 (0-0.5)  
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1780		1250	2992		mg/Kg		97	90 - 110	0	20

## QC Association Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--TerraconJob ID: 820-668-1  
SDG: AR207018

## GC VOA

## Prep Batch: 3013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-668-1	HA-1 (0-0.5)	Total/NA	Solid	5035	
820-668-2	HA-1 (0.5-1)	Total/NA	Solid	5035	
820-668-3	HA-1 (1.5-2)	Total/NA	Solid	5035	
820-668-4	HA-1 (3.5-4)	Total/NA	Solid	5035	
820-668-5	HA-1 (4.5-5)	Total/NA	Solid	5035	
820-668-6	HA-2 (0-0.5)	Total/NA	Solid	5035	
820-668-7	HA-2 (0.5-1)	Total/NA	Solid	5035	
820-668-8	HA-2 (1.5-2)	Total/NA	Solid	5035	
820-668-9	HA-2 (3.5-4)	Total/NA	Solid	5035	
820-668-10	HA-2 (4.5-5)	Total/NA	Solid	5035	
820-668-11	HA-3 (0-0.5)	Total/NA	Solid	5035	
820-668-12	HA-3 (0.5-1)	Total/NA	Solid	5035	
820-668-13	HA-3 (1.5-2)	Total/NA	Solid	5035	
820-668-14	HA-3 (3.5-4)	Total/NA	Solid	5035	
MB 880-3013/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-3013/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-3013/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

## Analysis Batch: 3016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-668-1	HA-1 (0-0.5)	Total/NA	Solid	8021B	3013
820-668-2	HA-1 (0.5-1)	Total/NA	Solid	8021B	3013
820-668-3	HA-1 (1.5-2)	Total/NA	Solid	8021B	3013
820-668-4	HA-1 (3.5-4)	Total/NA	Solid	8021B	3013
820-668-5	HA-1 (4.5-5)	Total/NA	Solid	8021B	3013
820-668-6	HA-2 (0-0.5)	Total/NA	Solid	8021B	3013
820-668-7	HA-2 (0.5-1)	Total/NA	Solid	8021B	3013
820-668-8	HA-2 (1.5-2)	Total/NA	Solid	8021B	3013
820-668-9	HA-2 (3.5-4)	Total/NA	Solid	8021B	3013
820-668-10	HA-2 (4.5-5)	Total/NA	Solid	8021B	3013
820-668-11	HA-3 (0-0.5)	Total/NA	Solid	8021B	3013
820-668-12	HA-3 (0.5-1)	Total/NA	Solid	8021B	3013
820-668-13	HA-3 (1.5-2)	Total/NA	Solid	8021B	3013
820-668-14	HA-3 (3.5-4)	Total/NA	Solid	8021B	3013
MB 880-3013/5-A	Method Blank	Total/NA	Solid	8021B	3013
LCS 880-3013/1-A	Lab Control Sample	Total/NA	Solid	8021B	3013
LCSD 880-3013/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	3013

## Prep Batch: 3028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-668-15	HA-3 (4.5-5)	Total/NA	Solid	5035	
820-668-16	HA-4 (0-0.5)	Total/NA	Solid	5035	
820-668-17	HA-4 (0.5-1)	Total/NA	Solid	5035	
820-668-18	HA-4 (1.5-2)	Total/NA	Solid	5035	
820-668-19	HA-4 (3.5-4)	Total/NA	Solid	5035	
820-668-20	HA-4 (4.5-5)	Total/NA	Solid	5035	
820-668-21	HA-5 (0-0.5)	Total/NA	Solid	5035	
820-668-22	HA-6 (0-0.5)	Total/NA	Solid	5035	
820-668-23	HA-7 (0-0.5)	Total/NA	Solid	5035	
820-668-24	HA-8 (0-0.5)	Total/NA	Solid	5035	
MB 880-3028/5-A	Method Blank	Total/NA	Solid	5035	

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## QC Association Summary

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

## GC VOA (Continued)

## Prep Batch: 3028 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-3028/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 880-3028/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

## Analysis Batch: 3029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-668-5	HA-1 (4.5-5)	Total/NA	Solid	8021B	3013
820-668-15	HA-3 (4.5-5)	Total/NA	Solid	8021B	3028
820-668-16	HA-4 (0-0.5)	Total/NA	Solid	8021B	3028
820-668-17	HA-4 (0.5-1)	Total/NA	Solid	8021B	3028
820-668-18	HA-4 (1.5-2)	Total/NA	Solid	8021B	3028
820-668-19	HA-4 (3.5-4)	Total/NA	Solid	8021B	3028
820-668-20	HA-4 (4.5-5)	Total/NA	Solid	8021B	3028
820-668-21	HA-5 (0-0.5)	Total/NA	Solid	8021B	3028
820-668-22	HA-6 (0-0.5)	Total/NA	Solid	8021B	3028
820-668-23	HA-7 (0-0.5)	Total/NA	Solid	8021B	3028
820-668-24	HA-8 (0-0.5)	Total/NA	Solid	8021B	3028
MB 880-3028/5-A	Method Blank	Total/NA	Solid	8021B	3028
LCS 880-3028/1-A	Lab Control Sample	Total/NA	Solid	8021B	3028
LCS 880-3028/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	3028

## GC Semi VOA

## Analysis Batch: 3004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-668-1	HA-1 (0-0.5)	Total/NA	Solid	8015B NM	3030
820-668-2	HA-1 (0.5-1)	Total/NA	Solid	8015B NM	3030
820-668-3	HA-1 (1.5-2)	Total/NA	Solid	8015B NM	3030
820-668-4	HA-1 (3.5-4)	Total/NA	Solid	8015B NM	3030
820-668-5	HA-1 (4.5-5)	Total/NA	Solid	8015B NM	3030
820-668-6	HA-2 (0-0.5)	Total/NA	Solid	8015B NM	3030
820-668-7	HA-2 (0.5-1)	Total/NA	Solid	8015B NM	3030
820-668-8	HA-2 (1.5-2)	Total/NA	Solid	8015B NM	3030
820-668-9	HA-2 (3.5-4)	Total/NA	Solid	8015B NM	3030
820-668-10	HA-2 (4.5-5)	Total/NA	Solid	8015B NM	3030
820-668-11	HA-3 (0-0.5)	Total/NA	Solid	8015B NM	3030
820-668-12	HA-3 (0.5-1)	Total/NA	Solid	8015B NM	3030
820-668-13	HA-3 (1.5-2)	Total/NA	Solid	8015B NM	3030
820-668-14	HA-3 (3.5-4)	Total/NA	Solid	8015B NM	3030
820-668-15	HA-3 (4.5-5)	Total/NA	Solid	8015B NM	3030
820-668-16	HA-4 (0-0.5)	Total/NA	Solid	8015B NM	3030
820-668-17	HA-4 (0.5-1)	Total/NA	Solid	8015B NM	3030
820-668-18	HA-4 (1.5-2)	Total/NA	Solid	8015B NM	3030
820-668-19	HA-4 (3.5-4)	Total/NA	Solid	8015B NM	3030
820-668-20	HA-4 (4.5-5)	Total/NA	Solid	8015B NM	3030
820-668-21	HA-5 (0-0.5)	Total/NA	Solid	8015B NM	3008
820-668-22	HA-6 (0-0.5)	Total/NA	Solid	8015B NM	3008
820-668-23	HA-7 (0-0.5)	Total/NA	Solid	8015B NM	3008
820-668-24	HA-8 (0-0.5)	Total/NA	Solid	8015B NM	3008
MB 880-3008/1-A	Method Blank	Total/NA	Solid	8015B NM	3008
MB 880-3030/1-A	Method Blank	Total/NA	Solid	8015B NM	3030
LCS 880-3008/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	3008

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## QC Association Summary

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

## GC Semi VOA (Continued)

## Analysis Batch: 3004 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-3030/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	3030
LCSD 880-3008/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	3008
LCSD 880-3030/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	3030
820-668-8 MS	HA-2 (1.5-2)	Total/NA	Solid	8015B NM	3030
820-668-8 MSD	HA-2 (1.5-2)	Total/NA	Solid	8015B NM	3030

## Prep Batch: 3008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-668-21	HA-5 (0-0.5)	Total/NA	Solid	8015NM Prep	
820-668-22	HA-6 (0-0.5)	Total/NA	Solid	8015NM Prep	
820-668-23	HA-7 (0-0.5)	Total/NA	Solid	8015NM Prep	
820-668-24	HA-8 (0-0.5)	Total/NA	Solid	8015NM Prep	
MB 880-3008/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-3008/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-3008/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

## Prep Batch: 3030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-668-1	HA-1 (0-0.5)	Total/NA	Solid	8015NM Prep	
820-668-2	HA-1 (0.5-1)	Total/NA	Solid	8015NM Prep	
820-668-3	HA-1 (1.5-2)	Total/NA	Solid	8015NM Prep	
820-668-4	HA-1 (3.5-4)	Total/NA	Solid	8015NM Prep	
820-668-5	HA-1 (4.5-5)	Total/NA	Solid	8015NM Prep	
820-668-6	HA-2 (0-0.5)	Total/NA	Solid	8015NM Prep	
820-668-7	HA-2 (0.5-1)	Total/NA	Solid	8015NM Prep	
820-668-8	HA-2 (1.5-2)	Total/NA	Solid	8015NM Prep	
820-668-9	HA-2 (3.5-4)	Total/NA	Solid	8015NM Prep	
820-668-10	HA-2 (4.5-5)	Total/NA	Solid	8015NM Prep	
820-668-11	HA-3 (0-0.5)	Total/NA	Solid	8015NM Prep	
820-668-12	HA-3 (0.5-1)	Total/NA	Solid	8015NM Prep	
820-668-13	HA-3 (1.5-2)	Total/NA	Solid	8015NM Prep	
820-668-14	HA-3 (3.5-4)	Total/NA	Solid	8015NM Prep	
820-668-15	HA-3 (4.5-5)	Total/NA	Solid	8015NM Prep	
820-668-16	HA-4 (0-0.5)	Total/NA	Solid	8015NM Prep	
820-668-17	HA-4 (0.5-1)	Total/NA	Solid	8015NM Prep	
820-668-18	HA-4 (1.5-2)	Total/NA	Solid	8015NM Prep	
820-668-19	HA-4 (3.5-4)	Total/NA	Solid	8015NM Prep	
820-668-20	HA-4 (4.5-5)	Total/NA	Solid	8015NM Prep	
MB 880-3030/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-3030/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-3030/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
820-668-8 MS	HA-2 (1.5-2)	Total/NA	Solid	8015NM Prep	
820-668-8 MSD	HA-2 (1.5-2)	Total/NA	Solid	8015NM Prep	

## HPLC/IC

## Leach Batch: 3017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-668-1	HA-1 (0-0.5)	Soluble	Solid	DI Leach	
820-668-2	HA-1 (0.5-1)	Soluble	Solid	DI Leach	
820-668-3	HA-1 (1.5-2)	Soluble	Solid	DI Leach	

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## QC Association Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--TerraconJob ID: 820-668-1  
SDG: AR207018

## HPLC/IC (Continued)

## Leach Batch: 3017 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-668-4	HA-1 (3.5-4)	Soluble	Solid	DI Leach	
820-668-5	HA-1 (4.5-5)	Soluble	Solid	DI Leach	
820-668-6	HA-2 (0-0.5)	Soluble	Solid	DI Leach	
820-668-7	HA-2 (0.5-1)	Soluble	Solid	DI Leach	
820-668-8	HA-2 (1.5-2)	Soluble	Solid	DI Leach	
820-668-9	HA-2 (3.5-4)	Soluble	Solid	DI Leach	
820-668-10	HA-2 (4.5-5)	Soluble	Solid	DI Leach	
820-668-11	HA-3 (0-0.5)	Soluble	Solid	DI Leach	
820-668-12	HA-3 (0.5-1)	Soluble	Solid	DI Leach	
820-668-13	HA-3 (1.5-2)	Soluble	Solid	DI Leach	
820-668-14	HA-3 (3.5-4)	Soluble	Solid	DI Leach	
820-668-15	HA-3 (4.5-5)	Soluble	Solid	DI Leach	
820-668-16	HA-4 (0-0.5)	Soluble	Solid	DI Leach	
820-668-17	HA-4 (0.5-1)	Soluble	Solid	DI Leach	
820-668-18	HA-4 (1.5-2)	Soluble	Solid	DI Leach	
820-668-19	HA-4 (3.5-4)	Soluble	Solid	DI Leach	
820-668-20	HA-4 (4.5-5)	Soluble	Solid	DI Leach	
MB 880-3017/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-3017/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-3017/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
820-668-1 MS	HA-1 (0-0.5)	Soluble	Solid	DI Leach	
820-668-1 MSD	HA-1 (0-0.5)	Soluble	Solid	DI Leach	
820-668-11 MS	HA-3 (0-0.5)	Soluble	Solid	DI Leach	
820-668-11 MSD	HA-3 (0-0.5)	Soluble	Solid	DI Leach	

## Leach Batch: 3018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-668-21	HA-5 (0-0.5)	Soluble	Solid	DI Leach	
820-668-22	HA-6 (0-0.5)	Soluble	Solid	DI Leach	
820-668-23	HA-7 (0-0.5)	Soluble	Solid	DI Leach	
820-668-24	HA-8 (0-0.5)	Soluble	Solid	DI Leach	
MB 880-3018/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-3018/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-3018/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
820-668-21 MS	HA-5 (0-0.5)	Soluble	Solid	DI Leach	
820-668-21 MSD	HA-5 (0-0.5)	Soluble	Solid	DI Leach	

## Analysis Batch: 3032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-668-1	HA-1 (0-0.5)	Soluble	Solid	300.0	3017
820-668-2	HA-1 (0.5-1)	Soluble	Solid	300.0	3017
820-668-3	HA-1 (1.5-2)	Soluble	Solid	300.0	3017
820-668-4	HA-1 (3.5-4)	Soluble	Solid	300.0	3017
820-668-5	HA-1 (4.5-5)	Soluble	Solid	300.0	3017
820-668-6	HA-2 (0-0.5)	Soluble	Solid	300.0	3017
820-668-7	HA-2 (0.5-1)	Soluble	Solid	300.0	3017
820-668-8	HA-2 (1.5-2)	Soluble	Solid	300.0	3017
820-668-9	HA-2 (3.5-4)	Soluble	Solid	300.0	3017
820-668-10	HA-2 (4.5-5)	Soluble	Solid	300.0	3017
820-668-11	HA-3 (0-0.5)	Soluble	Solid	300.0	3017
820-668-12	HA-3 (0.5-1)	Soluble	Solid	300.0	3017

Eurofins Xenco, Lubbock

## QC Association Summary

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

## HPLC/IC (Continued)

## Analysis Batch: 3032 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-668-13	HA-3 (1.5-2)	Soluble	Solid	300.0	3017
820-668-14	HA-3 (3.5-4)	Soluble	Solid	300.0	3017
820-668-15	HA-3 (4.5-5)	Soluble	Solid	300.0	3017
820-668-16	HA-4 (0-0.5)	Soluble	Solid	300.0	3017
820-668-17	HA-4 (0.5-1)	Soluble	Solid	300.0	3017
820-668-18	HA-4 (1.5-2)	Soluble	Solid	300.0	3017
820-668-19	HA-4 (3.5-4)	Soluble	Solid	300.0	3017
820-668-20	HA-4 (4.5-5)	Soluble	Solid	300.0	3017
MB 880-3017/1-A	Method Blank	Soluble	Solid	300.0	3017
LCS 880-3017/2-A	Lab Control Sample	Soluble	Solid	300.0	3017
LCSD 880-3017/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	3017
820-668-1 MS	HA-1 (0-0.5)	Soluble	Solid	300.0	3017
820-668-1 MSD	HA-1 (0-0.5)	Soluble	Solid	300.0	3017
820-668-11 MS	HA-3 (0-0.5)	Soluble	Solid	300.0	3017
820-668-11 MSD	HA-3 (0-0.5)	Soluble	Solid	300.0	3017

## Analysis Batch: 3048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-668-21	HA-5 (0-0.5)	Soluble	Solid	300.0	3018
820-668-22	HA-6 (0-0.5)	Soluble	Solid	300.0	3018
820-668-23	HA-7 (0-0.5)	Soluble	Solid	300.0	3018
820-668-24	HA-8 (0-0.5)	Soluble	Solid	300.0	3018
MB 880-3018/1-A	Method Blank	Soluble	Solid	300.0	3018
LCS 880-3018/2-A	Lab Control Sample	Soluble	Solid	300.0	3018
LCSD 880-3018/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	3018
820-668-21 MS	HA-5 (0-0.5)	Soluble	Solid	300.0	3018
820-668-21 MSD	HA-5 (0-0.5)	Soluble	Solid	300.0	3018

## Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
SDG: AR207018

## Client Sample ID: HA-1 (0-0.5)

Lab Sample ID: 820-668-1

Date Collected: 05/10/21 12:00

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3013	05/12/21 09:29	KL	XM
Total/NA	Analysis	8021B		1	3016	05/12/21 16:32	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/12/21 21:49	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		5	3032	05/13/21 00:29	CH	XM

## Client Sample ID: HA-1 (0.5-1)

Lab Sample ID: 820-668-2

Date Collected: 05/10/21 12:02

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3013	05/12/21 09:29	KL	XM
Total/NA	Analysis	8021B		1	3016	05/12/21 16:53	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/12/21 22:10	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		5	3032	05/13/21 00:45	CH	XM

## Client Sample ID: HA-1 (1.5-2)

Lab Sample ID: 820-668-3

Date Collected: 05/10/21 12:04

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3013	05/12/21 09:29	KL	XM
Total/NA	Analysis	8021B		20	3016	05/12/21 17:14	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/12/21 22:31	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		1	3032	05/13/21 00:50	CH	XM

## Client Sample ID: HA-1 (3.5-4)

Lab Sample ID: 820-668-4

Date Collected: 05/10/21 12:06

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3013	05/12/21 09:29	KL	XM
Total/NA	Analysis	8021B		20	3016	05/12/21 17:34	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/12/21 22:59	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		1	3032	05/13/21 00:56	CH	XM

Eurofins Xenco, Lubbock

### Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

**Client Sample ID: HA-1 (4.5-5)**

**Lab Sample ID: 820-668-5**

Date Collected: 05/10/21 12:08

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3013	05/12/21 09:29	KL	XM
Total/NA	Analysis	8021B		20	3016	05/12/21 18:59	KL	XM
Total/NA	Prep	5035			3013	05/12/21 09:29	KL	XM
Total/NA	Analysis	8021B		100	3029	05/13/21 09:05	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/12/21 23:30	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		1	3032	05/13/21 01:01	CH	XM

**Client Sample ID: HA-2 (0-0.5)**

**Lab Sample ID: 820-668-6**

Date Collected: 05/10/21 12:10

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3013	05/12/21 09:29	KL	XM
Total/NA	Analysis	8021B		20	3016	05/12/21 19:19	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/13/21 00:02	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		20	3032	05/13/21 01:17	CH	XM

**Client Sample ID: HA-2 (0.5-1)**

**Lab Sample ID: 820-668-7**

Date Collected: 05/10/21 12:12

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3013	05/12/21 09:29	KL	XM
Total/NA	Analysis	8021B		20	3016	05/12/21 19:40	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/13/21 00:23	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		20	3032	05/13/21 01:23	CH	XM

**Client Sample ID: HA-2 (1.5-2)**

**Lab Sample ID: 820-668-8**

Date Collected: 05/10/21 12:14

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3013	05/12/21 09:29	KL	XM
Total/NA	Analysis	8021B		1	3016	05/13/21 08:31	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/12/21 20:47	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		5	3032	05/13/21 01:28	CH	XM

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## Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
SDG: AR207018

## Client Sample ID: HA-2 (3.5-4)

Lab Sample ID: 820-668-9

Date Collected: 05/10/21 12:16

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3013	05/12/21 09:29	KL	XM
Total/NA	Analysis	8021B		1	3016	05/13/21 08:52	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/13/21 00:44	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		1	3032	05/13/21 01:33	CH	XM

## Client Sample ID: HA-2 (4.5-5)

Lab Sample ID: 820-668-10

Date Collected: 05/10/21 12:18

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3013	05/12/21 09:29	KL	XM
Total/NA	Analysis	8021B		1	3016	05/13/21 09:13	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/13/21 01:04	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		1	3032	05/13/21 01:39	CH	XM

## Client Sample ID: HA-3 (0-0.5)

Lab Sample ID: 820-668-11

Date Collected: 05/10/21 12:20

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3013	05/12/21 09:29	KL	XM
Total/NA	Analysis	8021B		1	3016	05/13/21 09:33	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/13/21 01:46	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		5	3032	05/13/21 01:44	CH	XM

## Client Sample ID: HA-3 (0.5-1)

Lab Sample ID: 820-668-12

Date Collected: 05/10/21 12:22

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3013	05/12/21 09:29	KL	XM
Total/NA	Analysis	8021B		20	3016	05/13/21 09:54	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/13/21 02:07	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		5	3032	05/13/21 02:00	CH	XM

Eurofins Xenco, Lubbock

## Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
SDG: AR207018

## Client Sample ID: HA-3 (1.5-2)

Lab Sample ID: 820-668-13

Date Collected: 05/10/21 12:24

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3013	05/12/21 09:29	KL	XM
Total/NA	Analysis	8021B		1	3016	05/13/21 10:15	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/13/21 02:27	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		5	3032	05/13/21 02:06	CH	XM

## Client Sample ID: HA-3 (3.5-4)

Lab Sample ID: 820-668-14

Date Collected: 05/10/21 12:26

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3013	05/12/21 09:29	KL	XM
Total/NA	Analysis	8021B		1	3016	05/13/21 10:35	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/13/21 02:48	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		10	3032	05/13/21 02:22	CH	XM

## Client Sample ID: HA-3 (4.5-5)

Lab Sample ID: 820-668-15

Date Collected: 05/10/21 12:28

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3028	05/12/21 13:07	KL	XM
Total/NA	Analysis	8021B		1	3029	05/12/21 17:12	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/13/21 03:09	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		10	3032	05/13/21 02:27	CH	XM

## Client Sample ID: HA-4 (0-0.5)

Lab Sample ID: 820-668-16

Date Collected: 05/10/21 12:30

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3028	05/12/21 13:07	KL	XM
Total/NA	Analysis	8021B		1	3029	05/12/21 17:32	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/13/21 03:30	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		5	3032	05/13/21 02:32	CH	XM

Eurofins Xenco, Lubbock

### Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

**Client Sample ID: HA-4 (0.5-1)**

**Lab Sample ID: 820-668-17**

Date Collected: 05/10/21 12:32

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3028	05/12/21 13:07	KL	XM
Total/NA	Analysis	8021B		1	3029	05/12/21 17:52	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/13/21 03:51	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		10	3032	05/13/21 02:38	CH	XM

**Client Sample ID: HA-4 (1.5-2)**

**Lab Sample ID: 820-668-18**

Date Collected: 05/10/21 12:34

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3028	05/12/21 13:07	KL	XM
Total/NA	Analysis	8021B		1	3029	05/12/21 18:13	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/13/21 04:12	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		10	3032	05/13/21 02:43	CH	XM

**Client Sample ID: HA-4 (3.5-4)**

**Lab Sample ID: 820-668-19**

Date Collected: 05/10/21 12:36

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3028	05/12/21 13:07	KL	XM
Total/NA	Analysis	8021B		1	3029	05/12/21 18:33	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/13/21 04:32	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		5	3032	05/13/21 02:49	CH	XM

**Client Sample ID: HA-4 (4.5-5)**

**Lab Sample ID: 820-668-20**

Date Collected: 05/10/21 12:38

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3028	05/12/21 13:07	KL	XM
Total/NA	Analysis	8021B		1	3029	05/12/21 18:54	KL	XM
Total/NA	Prep	8015NM Prep			3030	05/12/21 13:24	DM	XM
Total/NA	Analysis	8015B NM		1	3004	05/13/21 04:53	AJ	XM
Soluble	Leach	DI Leach			3017	05/12/21 09:36	CH	XM
Soluble	Analysis	300.0		5	3032	05/13/21 02:54	CH	XM

## Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
SDG: AR207018

## Client Sample ID: HA-5 (0-0.5)

Lab Sample ID: 820-668-21

Date Collected: 05/10/21 12:40

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3028	05/12/21 13:07	KL	XM
Total/NA	Analysis	8021B		100	3029	05/12/21 19:14	KL	XM
Total/NA	Prep	8015NM Prep			3008	05/12/21 07:52	AM	XM
Total/NA	Analysis	8015B NM		1	3004	05/13/21 07:54	AJ	XM
Soluble	Leach	DI Leach			3018	05/12/21 09:43	SC	XM
Soluble	Analysis	300.0		5	3048	05/12/21 19:37	CH	XM

## Client Sample ID: HA-6 (0-0.5)

Lab Sample ID: 820-668-22

Date Collected: 05/10/21 12:42

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3028	05/12/21 13:07	KL	XM
Total/NA	Analysis	8021B		20	3029	05/12/21 19:34	KL	XM
Total/NA	Prep	8015NM Prep			3008	05/12/21 07:52	AM	XM
Total/NA	Analysis	8015B NM		1	3004	05/12/21 17:56	AJ	XM
Soluble	Leach	DI Leach			3018	05/12/21 09:43	SC	XM
Soluble	Analysis	300.0		10	3048	05/12/21 19:52	CH	XM

## Client Sample ID: HA-7 (0-0.5)

Lab Sample ID: 820-668-23

Date Collected: 05/10/21 12:44

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3028	05/12/21 13:07	KL	XM
Total/NA	Analysis	8021B		1	3029	05/12/21 23:39	KL	XM
Total/NA	Prep	8015NM Prep			3008	05/12/21 07:52	AM	XM
Total/NA	Analysis	8015B NM		1	3004	05/12/21 18:23	AJ	XM
Soluble	Leach	DI Leach			3018	05/12/21 09:43	SC	XM
Soluble	Analysis	300.0		1	3048	05/12/21 19:58	CH	XM

## Client Sample ID: HA-8 (0-0.5)

Lab Sample ID: 820-668-24

Date Collected: 05/10/21 12:46

Matrix: Solid

Date Received: 05/11/21 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3028	05/12/21 13:07	KL	XM
Total/NA	Analysis	8021B		20	3029	05/13/21 00:00	KL	XM
Total/NA	Prep	8015NM Prep			3008	05/12/21 07:52	AM	XM
Total/NA	Analysis	8015B NM		1	3004	05/12/21 18:43	AJ	XM
Soluble	Leach	DI Leach			3018	05/12/21 09:43	SC	XM
Soluble	Analysis	300.0		20	3048	05/12/21 20:03	CH	XM

## Laboratory References:

XM = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Xenco, Lubbock

### Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
SDG: AR207018

#### Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

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### Method Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
SDG: AR207018

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XM
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XM
300.0	Anions, Ion Chromatography	MCAWW	XM
5035	Closed System Purge and Trap	SW846	XM
8015NM Prep	Microextraction	SW846	XM
DI Leach	Deionized Water Leaching Procedure	ASTM	XM

**Protocol References:**

ASTM = ASTM International

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

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

**Laboratory References:**

XM = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



### Sample Summary

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD--Terracon

Job ID: 820-668-1  
 SDG: AR207018

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
820-668-1	HA-1 (0-0.5)	Solid	05/10/21 12:00	05/11/21 14:51	
820-668-2	HA-1 (0.5-1)	Solid	05/10/21 12:02	05/11/21 14:51	
820-668-3	HA-1 (1.5-2)	Solid	05/10/21 12:04	05/11/21 14:51	
820-668-4	HA-1 (3.5-4)	Solid	05/10/21 12:06	05/11/21 14:51	
820-668-5	HA-1 (4.5-5)	Solid	05/10/21 12:08	05/11/21 14:51	
820-668-6	HA-2 (0-0.5)	Solid	05/10/21 12:10	05/11/21 14:51	
820-668-7	HA-2 (0.5-1)	Solid	05/10/21 12:12	05/11/21 14:51	
820-668-8	HA-2 (1.5-2)	Solid	05/10/21 12:14	05/11/21 14:51	
820-668-9	HA-2 (3.5-4)	Solid	05/10/21 12:16	05/11/21 14:51	
820-668-10	HA-2 (4.5-5)	Solid	05/10/21 12:18	05/11/21 14:51	
820-668-11	HA-3 (0-0.5)	Solid	05/10/21 12:20	05/11/21 14:51	
820-668-12	HA-3 (0.5-1)	Solid	05/10/21 12:22	05/11/21 14:51	
820-668-13	HA-3 (1.5-2)	Solid	05/10/21 12:24	05/11/21 14:51	
820-668-14	HA-3 (3.5-4)	Solid	05/10/21 12:26	05/11/21 14:51	
820-668-15	HA-3 (4.5-5)	Solid	05/10/21 12:28	05/11/21 14:51	
820-668-16	HA-4 (0-0.5)	Solid	05/10/21 12:30	05/11/21 14:51	
820-668-17	HA-4 (0.5-1)	Solid	05/10/21 12:32	05/11/21 14:51	
820-668-18	HA-4 (1.5-2)	Solid	05/10/21 12:34	05/11/21 14:51	
820-668-19	HA-4 (3.5-4)	Solid	05/10/21 12:36	05/11/21 14:51	
820-668-20	HA-4 (4.5-5)	Solid	05/10/21 12:38	05/11/21 14:51	
820-668-21	HA-5 (0-0.5)	Solid	05/10/21 12:40	05/11/21 14:51	
820-668-22	HA-6 (0-0.5)	Solid	05/10/21 12:42	05/11/21 14:51	
820-668-23	HA-7 (0-0.5)	Solid	05/10/21 12:44	05/11/21 14:51	
820-668-24	HA-8 (0-0.5)	Solid	05/10/21 12:46	05/11/21 14:51	

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Office Location: Lubbock  
 Laboratory: Xenco  
 Address: 6701 Aberdeen  
Lubbock, Texas 79424  
 Phone: \_\_\_\_\_  
 Contact: J. Guesnier  
 SRS #: \_\_\_\_\_  
 Project Manager: J. Guesnier  
 Sampler's Name: J. Guesnier  
 Sampler's Signature: \_\_\_\_\_  
 Project Number: \_\_\_\_\_  
 Project Name: \_\_\_\_\_

CHAIN OF CUSTODY RECORD

Matrix	Date	Time	Comp	Grab	Project Name	Alkman SWD		No. Type of Containers	No. Type of Containers	Request	Lab Sample ID
						Identifying Marks of Sample(s)	Start Depth				
S	5/10/2021	12:00	X	X	HA-1 (0-0.5)	0	0.5'	X		Chloride (EPA Method 800)	820-668-1
S	5/10/2021	12:02	X	X	HA-1 (0.5-1)	0.5'	1'	X		BTEX (EPA Method 8021B)	2
S	5/10/2021	12:04	X	X	HA-1 (1.5-2)	1.5'	2'	X			3
S	5/10/2021	12:06	X	X	HA-1 (3.5-4)	3.5'	4'	X			4
S	5/10/2021	12:08	X	X	HA-1 (4.5-5)	4.5'	5'	X			5
S	5/10/2021	12:10	X	X	HA-2 (0-0.5)	0	0.5'	X			6
S	5/10/2021	12:12	X	X	HA-2 (0.5-1)	0.5'	1'	X			7
S	5/10/2021	12:14	X	X	HA-2 (1.5-2)	1.5'	2'	X			8
S	5/10/2021	12:16	X	X	HA-2 (3.5-4)	3.5'	4'	X			9
S	5/10/2021	12:18	X	X	HA-2 (4.5-5)	4.5'	5'	X			10
S	5/10/2021	12:20	X	X	HA-3 (0-0.5)	0	0.5'	X			11
S	5/10/2021	12:22	X	X	HA-3 (0.5-1)	0.5'	1'	X			12
S	5/10/2021	12:24	X	X	HA-3 (1.5-2)	1.5'	2'	X			13
S	5/10/2021	12:26	X	X	HA-3 (3.5-4)	3.5'	4'	X			14
S	5/10/2021	12:28	X	X	HA-3 (4.5-5)	4.5'	5'	X			15
S	5/10/2021	12:30	X	X	HA-4 (0-0.5)	0	0.5'	X			16
S	5/10/2021	12:32	X	X	HA-4 (0.5-1)	0.5'	1'	X			17
S	5/10/2021	12:34	X	X	HA-4 (1.5-2)	1.5'	2'	X			18
S	5/10/2021	12:36	X	X	HA-4 (3.5-4)	3.5'	4'	X			19
S	5/10/2021	12:38	X	X	HA-4 (4.5-5)	4.5'	5'	X			20
S	5/10/2021	12:40	X	X	HA-5 (0-0.5)	0	0.5'	X			21

LAB USE ONLY  
 DUE DATE: \_\_\_\_\_  
 TEMP OF COOLER WHEN RECEIVED (C): \_\_\_\_\_  
 Page 1 of 2

Loc: 820  
668

820-668-01 Chain of Custody

Turnaround Time	Normal	48-Hour Rush	24-Hour Rush
Retrieved by (Signature)	<u>[Signature]</u>	<u>[Signature]</u>	<u>[Signature]</u>
Retrieved by (Signature)	<u>[Signature]</u>	<u>[Signature]</u>	<u>[Signature]</u>
Retrieved by (Signature)	<u>[Signature]</u>	<u>[Signature]</u>	<u>[Signature]</u>
Retrieved by (Signature)	<u>[Signature]</u>	<u>[Signature]</u>	<u>[Signature]</u>

NOTES: Client: Spur Energy Partners

e-mail results to: bryant.mcbrayer@terracon.com  
erin.loyd@terracon.com  
irguesnier@terracon.com

Matrix: WW Wastewater  
 Container: 100, 40-ml vial  
 W. Water: AG Amber Glass  
 S. Soil: 250ml + Glass wide mouth  
 L. Liquid: A. Air Bag  
 C. Charcoal: 5L. Storage  
 P.03: Resistor  
 P.04: Resistor  
 L. Lubbock Office ■ 5827 50th Street, Suite 1 ■ Lubbock, Texas 79424 ■ 806-300-0140  
 Responsive ■ Resourceful ■ Reliable



Loc: 820  
668

CHAIN OF CUSTODY RECORD

**Terracon**

Laboratory: Xenco  
Address: 6701 Aberdeen Lubbock, Texas 79424  
Phone: J. Guesnier 806-544-9276  
Contact: J. Guesnier 806-544-9276  
SRS #: \_\_\_\_\_  
Sampler's Signature \_\_\_\_\_

Office Location: Lubbock  
Project Manager: J. Guesnier  
Sampler's Name: J. Guesnier

Project Number: AR207018

Matrix	Date	Time	Project Name		Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers					
			Grab	Comp				4 oz Glass	40 ml VOA	250 ml Poly	5035 Kit		
S	5/10/2021	12:42	X		HA-6 (0-0.5)	0	0.5'	X					
S	5/10/2021	12:44	X		HA-7 (0-0.5)	0	0.5'	X					
S	5/10/2021	12:46	X		HA-8 (0-0.5)	0	0.5'	X					

Analyses Requested: Chloride (EPA Method 300) X, BTEX (EPA Method 8021B) X, TPH Extended 8015 X

LAB USE ONLY  
DUE DATE: \_\_\_\_\_  
TEMP OF COOLER WHEN RECEIVED (°C): 21/208  
Page 2 of 2

Lab Sample ID: 820-608-22  
23  
24

TURNAROUND TIME: \_\_\_\_\_  
Relinquished by (Signature): \_\_\_\_\_  
Relinquished by (Signature): \_\_\_\_\_  
Relinquished by (Signature): \_\_\_\_\_

TRRP Laboratory Review Checklist  
Date: 5/11/21 Time: 14:51  
Date: 5/11/21 Time: 14:51

48-Hour Rush:  Normal  
24-Hour Rush:  Yes  No

NOTES: Client: Spur Energy Partners  
e-mail results to: bryant.mcbrayer@terracon.com, erin.loyd@terracon.com, jguesnier@terracon.com

Lubbock Office ■ 5827 50th Street, Suite 1 ■ Lubbock, Texas 79424 ■ 806-300-0140  
Responsive ■ Resourceful ■ Reliable

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Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler	Lab Pk#	Carrier Tracking No(s)	COC No	
Client Contact: Shipping/Receiving		Phone	Kramer, Jessica		820-904 1	
Company: Eurofins Xenco		E-Mail	jessica.kramer@eurofins.com	State of Origin: New Mexico	Page: 1 of 3	
Address: 1211 W Florida Ave		Accreditations Required (See note):	NE LAP - Texas	Job #:	820-668-1	
City: Midland		Due Date Requested		Preservation Codes		
State Zip: TX, 79701		TAT Requested (days)		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)		
Phone: 432-704-5440(Tel)		PO #:		Analysis Requested		
Email: 432-704-5440(Tel)		W/O #:		8021B/5035FP_Calc BTEX 8015MOD_NM/8015NM_S_Prep Full TPH 300_ORGFM_28/DI_LEACH Chloride		
Project Name: Alkman SWD-Terracon		Project #:	82000268	Field Filtered Sample (Yes or No)		
Site: SSOV#:		SSOV#:		Perform MS/MSD (Yes or No)		
				8021B/5035FP_Calc BTEX 8015MOD_NM/8015NM_S_Prep Full TPH 300_ORGFM_28/DI_LEACH Chloride		
				Total Number of containers		
				Special Instructions/Note:		
<b>Sample Identification - Client ID (Lab ID)</b>		<b>Sample Date</b>	<b>Sample Time</b>	<b>Sample Type (G=Comp, G=grab)</b>	<b>Matrix (Water, Solid, Over-satd, B-Tissue, Aq/Al)</b>	<b>Preservation Code</b>
HA-1 (0-0-5) (820-668-1)	5/10/21	12:00	Mountain	Solid	Solid	
HA-1 (0-5-1) (820-668-2)	5/10/21	12:02	Mountain	Solid	Solid	
HA-1 (1-5-2) (820-668-3)	5/10/21	12:04	Mountain	Solid	Solid	
HA-1 (3-5-4) (820-668-4)	5/10/21	12:06	Mountain	Solid	Solid	
HA-1 (4-5-5) (820-668-5)	5/10/21	12:08	Mountain	Solid	Solid	
HA-2 (0-0-5) (820-668-6)	5/10/21	12:10	Mountain	Solid	Solid	
HA-2 (0-5-1) (820-668-7)	5/10/21	12:12	Mountain	Solid	Solid	
HA-2 (1-5-2) (820-668-8)	5/10/21	12:14	Mountain	Solid	Solid	
HA-2 (3-5-4) (820-668-9)	5/10/21	12:16	Mountain	Solid	Solid	

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

**Possible Hazard Identification**  
Unconfirmed

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

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: 5/11/21 15:47 Company: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seals Intact:  Yes  No Custody Seal No \_\_\_\_\_

Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_

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

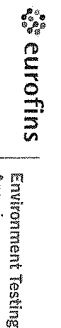
Method of Shipment: \_\_\_\_\_

Received by: \_\_\_\_\_ Date/Time: 5-12-21 11:20am Company: \_\_\_\_\_

Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_



Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler	Lab PM:	Carrier Tracking No(s)	COC No:		
Client Contact: <b>Shipping/Receiving</b>		Phone	Kramer, Jessica		820-904 3		
Company: <b>Eurofins Xenco</b>			E-Mail: <a href="mailto:jessica.kramer@eurofinsnet.com">jessica.kramer@eurofinsnet.com</a>	State of Origin: <b>New Mexico</b>	Page: <b>3 of 3</b>		
Address: <b>1211 W Florida Ave</b>		Due Date Requested: <b>5/13/2021</b>	Accreditations Required (See note): <b>NE LAP - 1 Exams</b>	Job #:	820-668-1		
City: <b>Midland</b>		TAT Requested (days)	<b>Analysis Requested</b>				
State Zip: <b>TX, 79701</b>			<input type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> 8021B/5035FP_Calc BTEX <input checked="" type="checkbox"/> 8015MOD_NM/8015NM_S_Prep Full TPH <input checked="" type="checkbox"/> 300_ORGFM_28D/DI_LEACH Chloride				
Phone: <b>432-704-5440(Tel)</b>		PO #:	<input checked="" type="checkbox"/> Total Number of containers				
Email: <b>WQ #</b>		WO #:	Preservation Codes A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsN9O2 P - Na2SO4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)				
Project Name: <b>Alkman SWD--Terracon</b>		Project #:	Special Instructions/Note:				
Site: <b>SSOW#:</b>		82000268					
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=solid, O=over/oli, B=issue Anal)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers
HA-4 (3 5-4) (820-668-19)	5/1/0/21	12 36	Mountain	Solid	X	X	1
HA-4 (4 5-5) (820-668-20)	5/1/0/21	12 38	Mountain	Solid	X	X	1
HA-5 (0-0 5) (820-668-21)	5/1/0/21	12 40	Mountain	Solid	X	X	1
HA-6 (0-0 5) (820-668-22)	5/1/0/21	12 42	Mountain	Solid	X	X	1
HA-7 (0-0 5) (820-668-23)	5/1/0/21	12 44	Mountain	Solid	X	X	1
HA-8 (0-0 5) (820-668-24)	5/1/0/21	12 46	Mountain	Solid	X	X	1

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

**Possible Hazard Identification**

Uncertified

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

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: **5/11/21 15:47** Company: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seals Intact:  Yes  No Custody Seal No. \_\_\_\_\_

Special Instructions/Note: **Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)**  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months  
 Special Instructions/QC Requirements: \_\_\_\_\_

Method of Shipment: \_\_\_\_\_ Date/Time: **5-12-21 11:00 AM** Company: \_\_\_\_\_

Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_

### Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-668-1

SDG Number: AR207018

**Login Number: 668**

**List Number: 1**

**Creator: Turner, Michael**

**List Source: Eurofins Lubbock**

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

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### Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-668-1

SDG Number: AR207018

**Login Number: 668**

**List Number: 2**

**Creator: Copeland, Tatiana**

**List Source: Eurofins Midland**

**List Creation: 05/12/21 11:35 AM**

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

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Environment Testing  
America

## ANALYTICAL REPORT

Eurofins Xenco, Lubbock  
6701 Aberdeen Ave.  
Suite 8  
Lubbock, TX 79424  
Tel: (806)794-1296

Laboratory Job ID: 820-779-1  
Client Project/Site: Aikman SWD  
Revision: 1

For:  
Terracon Consulting Eng & Scientists  
5827 50th St  
Suite 1  
Lubbock, Texas 79424

Attn: Joseph Guesnier

Authorized for release by:  
5/31/2021 12:42:23 PM

Jessica Kramer, Project Manager  
(432)704-5440  
[jessica.kramer@eurofinset.com](mailto:jessica.kramer@eurofinset.com)



### LINKS

Review your project  
results through  
**Total Access**

Have a Question?



Visit us at:  
[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

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

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

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Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Laboratory Job ID: 820-779-1

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Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

#### Coliform MCLs

· Based on the EPA primary drinking water standard MCL for total coliforms, a water supply is considered bacteriologically "SAFE" if no coliform bacteria are detected. To be considered "SAFE" your report should indicate "<1 cfu/100mL" or "NEG" for the coliform test. If you report indicates a positive result "POS" or a value greater than or equal to one, then your supply is "UNSAFE FOR DRINKING" contact your local health department.

#### Warranties, Terms, and Conditions

· Analyses for Field Parameters are performed by EQC field staff. Locations and certifications are identified on the Chain of Custody as follows:

ERF = field staff performs tests under NJ State certification #02015

VL = field staff performs tests under NJ State certification #06005

WG = field staff performs tests under NJ State certification #PA001

H = field staff performs tests under NJ NELAP certification #PA093, PA NELAP certification # 46-

05499

· Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.

· The report shall not be reproduced, except in full, without the written consent of the laboratory

· All samples are collected as "grab" samples unless otherwise identified.

· Reported results related only to the samples as tested. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· EQC is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance.

· Eurofins' online data portal "TotalAccess" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.

· The following personnel or their deputies have approved the results of the tests performed by EQC: Nicki Smith (Environmental Chemistry) and Zachary Smith (Water Microbiology).



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Jessica Kramer  
Project Manager  
5/31/2021 12:42:23 PM



Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Laboratory Job ID: 820-779-1

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

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Client Sample Results . . . . .	6
Surrogate Summary . . . . .	14
QC Sample Results . . . . .	15
QC Association Summary . . . . .	17
Lab Chronicle . . . . .	20
Certification Summary . . . . .	25
Method Summary . . . . .	26
Sample Summary . . . . .	27
Chain of Custody . . . . .	28
Receipt Checklists . . . . .	31

## Definitions/Glossary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

## Qualifiers

## GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

## HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

## Glossary

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

Eurofins Xenco, Lubbock

### Case Narrative

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

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

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**Job ID: 820-779-1**

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**Laboratory: Eurofins Xenco, Lubbock**

**Narrative**

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**Job Narrative  
820-779-1**

**Receipt**

The samples were received on 5/24/2021 4:25 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was -9.1°C

**HPLC/IC**

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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**Job ID: 820-779-2**

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**Laboratory: Eurofins Xenco, Lubbock**

**Narrative**

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**Job Narrative  
820-779-2**

**Receipt**

The samples were received on 5/24/2021 4:25 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was -9.1°C

**GC Semi VOA**

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

## Client Sample ID: GP-1 (4-5)

Lab Sample ID: 820-779-1

Date Collected: 05/21/21 11:35

Matrix: Solid

Date Received: 05/24/21 16:25

Sample Depth: 4 - 5

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 15:56	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 15:56	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 15:56	1
Total TPH	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 15:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130	05/27/21 09:15	05/28/21 15:56	1
o-Terphenyl	80		70 - 130	05/27/21 09:15	05/28/21 15:56	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	172		5.05		mg/Kg			05/25/21 15:32	1

## Client Sample ID: GP-1 (5-6)

Lab Sample ID: 820-779-2

Date Collected: 05/21/21 11:37

Matrix: Solid

Date Received: 05/24/21 16:25

Sample Depth: 5 - 6

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		05/27/21 09:15	05/28/21 17:00	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		05/27/21 09:15	05/28/21 17:00	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/27/21 09:15	05/28/21 17:00	1
Total TPH	<49.8	U	49.8		mg/Kg		05/27/21 09:15	05/28/21 17:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130	05/27/21 09:15	05/28/21 17:00	1
o-Terphenyl	79		70 - 130	05/27/21 09:15	05/28/21 17:00	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	276		5.02		mg/Kg			05/25/21 15:47	1

## Client Sample ID: GP-1 (6-7)

Lab Sample ID: 820-779-3

Date Collected: 05/21/21 11:39

Matrix: Solid

Date Received: 05/24/21 16:25

Sample Depth: 6 - 7

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		05/27/21 09:15	05/28/21 17:21	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		05/27/21 09:15	05/28/21 17:21	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/27/21 09:15	05/28/21 17:21	1
Total TPH	<49.8	U	49.8		mg/Kg		05/27/21 09:15	05/28/21 17:21	1

Eurofins Xenco, Lubbock

## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

## Client Sample ID: GP-1 (6-7)

Date Collected: 05/21/21 11:39

Date Received: 05/24/21 16:25

Sample Depth: 6 - 7

## Lab Sample ID: 820-779-3

Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	05/27/21 09:15	05/28/21 17:21	1
o-Terphenyl	79		70 - 130	05/27/21 09:15	05/28/21 17:21	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	490		5.03		mg/Kg			05/25/21 15:52	1

## Client Sample ID: GP-1 (7-8)

Date Collected: 05/21/21 11:41

Date Received: 05/24/21 16:25

Sample Depth: 7 - 8

## Lab Sample ID: 820-779-4

Matrix: Solid

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 17:43	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 17:43	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 17:43	1
Total TPH	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 17:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130	05/27/21 09:15	05/28/21 17:43	1
o-Terphenyl	81		70 - 130	05/27/21 09:15	05/28/21 17:43	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	528		5.01		mg/Kg			05/25/21 15:57	1

## Client Sample ID: GP-1 (8-9)

Date Collected: 05/21/21 11:43

Date Received: 05/24/21 16:25

Sample Depth: 8 - 9

## Lab Sample ID: 820-779-5

Matrix: Solid

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		05/27/21 09:15	05/28/21 18:04	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		05/27/21 09:15	05/28/21 18:04	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/27/21 09:15	05/28/21 18:04	1
Total TPH	<49.8	U	49.8		mg/Kg		05/27/21 09:15	05/28/21 18:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	05/27/21 09:15	05/28/21 18:04	1
o-Terphenyl	81		70 - 130	05/27/21 09:15	05/28/21 18:04	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	383		4.99		mg/Kg			05/25/21 16:03	1

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## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

Client Sample ID: GP-1 (9-10)

Lab Sample ID: 820-779-6

Date Collected: 05/21/21 11:45

Matrix: Solid

Date Received: 05/24/21 16:25

Sample Depth: 9 - 10

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 18:26	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 18:26	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 18:26	1
Total TPH	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 18:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	05/27/21 09:15	05/28/21 18:26	1
o-Terphenyl	83		70 - 130	05/27/21 09:15	05/28/21 18:26	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	225		4.99		mg/Kg			05/25/21 16:18	1

Client Sample ID: GP-1 (10-11)

Lab Sample ID: 820-779-7

Date Collected: 05/21/21 11:47

Matrix: Solid

Date Received: 05/24/21 16:25

Sample Depth: 10 - 11

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 18:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 18:47	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 18:47	1
Total TPH	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 18:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	05/27/21 09:15	05/28/21 18:47	1
o-Terphenyl	81		70 - 130	05/27/21 09:15	05/28/21 18:47	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	228		4.96		mg/Kg			05/25/21 16:38	1

Client Sample ID: GP-1 (11-12)

Lab Sample ID: 820-779-8

Date Collected: 05/21/21 11:49

Matrix: Solid

Date Received: 05/24/21 16:25

Sample Depth: 11 - 12

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 19:08	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 19:08	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 19:08	1
Total TPH	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 19:08	1

Eurofins Xenco, Lubbock

## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

## Client Sample ID: GP-1 (11-12)

Lab Sample ID: 820-779-8

Date Collected: 05/21/21 11:49

Matrix: Solid

Date Received: 05/24/21 16:25

Sample Depth: 11 - 12

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	05/27/21 09:15	05/28/21 19:08	1
o-Terphenyl	84		70 - 130	05/27/21 09:15	05/28/21 19:08	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	143		4.97		mg/Kg			05/25/21 16:43	1

## Client Sample ID: GP-2 (0-1)

Lab Sample ID: 820-779-9

Date Collected: 05/21/21 12:00

Matrix: Solid

Date Received: 05/24/21 16:25

Sample Depth: 0 - 1

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 19:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 19:30	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 19:30	1
Total TPH	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 19:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	05/27/21 09:15	05/28/21 19:30	1
o-Terphenyl	80		70 - 130	05/27/21 09:15	05/28/21 19:30	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3550		50.0		mg/Kg			05/25/21 16:49	10

## Client Sample ID: GP-2 (1-2)

Lab Sample ID: 820-779-10

Date Collected: 05/21/21 12:02

Matrix: Solid

Date Received: 05/24/21 16:25

Sample Depth: 1 - 2

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 19:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 19:51	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 19:51	1
Total TPH	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 19:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130	05/27/21 09:15	05/28/21 19:51	1
o-Terphenyl	86		70 - 130	05/27/21 09:15	05/28/21 19:51	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	252		5.00		mg/Kg			05/25/21 16:54	1

Eurofins Xenco, Lubbock

## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

## Client Sample ID: GP-2 (2-3)

Date Collected: 05/21/21 12:04

Date Received: 05/24/21 16:25

Sample Depth: 2 - 3

## Lab Sample ID: 820-779-11

Matrix: Solid

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		05/27/21 09:15	05/28/21 20:33	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		05/27/21 09:15	05/28/21 20:33	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/27/21 09:15	05/28/21 20:33	1
Total TPH	<49.8	U	49.8		mg/Kg		05/27/21 09:15	05/28/21 20:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	05/27/21 09:15	05/28/21 20:33	1
o-Terphenyl	84		70 - 130	05/27/21 09:15	05/28/21 20:33	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	34.0		4.95		mg/Kg			05/25/21 16:59	1

## Client Sample ID: GP-2 (3-4)

Date Collected: 05/21/21 12:06

Date Received: 05/24/21 16:25

Sample Depth: 3 - 4

## Lab Sample ID: 820-779-12

Matrix: Solid

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 20:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 20:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 20:54	1
Total TPH	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 20:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	05/27/21 09:15	05/28/21 20:54	1
o-Terphenyl	84		70 - 130	05/27/21 09:15	05/28/21 20:54	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	40.9		5.02		mg/Kg			05/25/21 17:15	1

## Client Sample ID: GP-2 (4-5)

Date Collected: 05/21/21 12:08

Date Received: 05/24/21 16:25

Sample Depth: 4 - 5

## Lab Sample ID: 820-779-13

Matrix: Solid

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 21:16	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 21:16	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 21:16	1
Total TPH	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 21:16	1

Eurofins Xenco, Lubbock

## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

## Client Sample ID: GP-2 (4-5)

Date Collected: 05/21/21 12:08

Date Received: 05/24/21 16:25

Sample Depth: 4 - 5

## Lab Sample ID: 820-779-13

Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	05/27/21 09:15	05/28/21 21:16	1
o-Terphenyl	80		70 - 130	05/27/21 09:15	05/28/21 21:16	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	78.0		5.05		mg/Kg			05/25/21 17:20	1

## Client Sample ID: GP-2 (5-6)

Date Collected: 05/21/21 12:10

Date Received: 05/24/21 16:25

Sample Depth: 5 - 6

## Lab Sample ID: 820-779-14

Matrix: Solid

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 21:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 21:37	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 21:37	1
Total TPH	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 21:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	05/27/21 09:15	05/28/21 21:37	1
o-Terphenyl	77		70 - 130	05/27/21 09:15	05/28/21 21:37	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	52.2		5.04		mg/Kg			05/25/21 17:35	1

## Client Sample ID: GP-2 (6-7)

Date Collected: 05/21/21 12:12

Date Received: 05/24/21 16:25

Sample Depth: 6 - 7

## Lab Sample ID: 820-779-15

Matrix: Solid

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 21:58	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 21:58	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 21:58	1
Total TPH	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 21:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	05/27/21 09:15	05/28/21 21:58	1
o-Terphenyl	86		70 - 130	05/27/21 09:15	05/28/21 21:58	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	58.0		5.04		mg/Kg			05/25/21 17:40	1

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## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

## Client Sample ID: GP-2 (7-8)

Date Collected: 05/21/21 12:14

Date Received: 05/24/21 16:25

Sample Depth: 7 - 8

## Lab Sample ID: 820-779-16

Matrix: Solid

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 22:20	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 22:20	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 22:20	1
Total TPH	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 22:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130	05/27/21 09:15	05/28/21 22:20	1
o-Terphenyl	83		70 - 130	05/27/21 09:15	05/28/21 22:20	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	60.8		4.97		mg/Kg			05/25/21 17:45	1

## Client Sample ID: GP-2 (8-9)

Date Collected: 05/21/21 12:16

Date Received: 05/24/21 16:25

Sample Depth: 8 - 9

## Lab Sample ID: 820-779-17

Matrix: Solid

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 22:41	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 22:41	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 22:41	1
Total TPH	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 22:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	05/27/21 09:15	05/28/21 22:41	1
o-Terphenyl	81		70 - 130	05/27/21 09:15	05/28/21 22:41	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	75.0		4.96		mg/Kg			05/25/21 17:51	1

## Client Sample ID: GP-2 (9-10)

Date Collected: 05/21/21 12:18

Date Received: 05/24/21 16:25

Sample Depth: 9 - 10

## Lab Sample ID: 820-779-18

Matrix: Solid

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 23:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 23:02	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 23:02	1
Total TPH	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 23:02	1

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## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

## Client Sample ID: GP-2 (9-10)

Date Collected: 05/21/21 12:18

Date Received: 05/24/21 16:25

Sample Depth: 9 - 10

## Lab Sample ID: 820-779-18

Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130	05/27/21 09:15	05/28/21 23:02	1
o-Terphenyl	81		70 - 130	05/27/21 09:15	05/28/21 23:02	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	64.4		4.97		mg/Kg			05/25/21 17:56	1

## Client Sample ID: GP-2 (10-11)

Date Collected: 05/21/21 12:20

Date Received: 05/24/21 16:25

Sample Depth: 10 - 11

## Lab Sample ID: 820-779-19

Matrix: Solid

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 23:24	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 23:24	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 23:24	1
Total TPH	<49.9	U	49.9		mg/Kg		05/27/21 09:15	05/28/21 23:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	05/27/21 09:15	05/28/21 23:24	1
o-Terphenyl	79		70 - 130	05/27/21 09:15	05/28/21 23:24	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	94.4		4.98		mg/Kg			05/25/21 18:01	1

## Client Sample ID: GP-2 (11-12)

Date Collected: 05/21/21 12:22

Date Received: 05/24/21 16:25

Sample Depth: 11 - 12

## Lab Sample ID: 820-779-20

Matrix: Solid

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 23:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 23:45	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 23:45	1
Total TPH	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 23:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	05/27/21 09:15	05/28/21 23:45	1
o-Terphenyl	83		70 - 130	05/27/21 09:15	05/28/21 23:45	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	104		5.00		mg/Kg			05/25/21 18:06	1

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## Surrogate Summary

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD

Job ID: 820-779-1

**Method: 8015B NM - Diesel Range Organics (DRO) (GC)**

**Matrix: Solid**

**Prep Type: Total/NA**

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1CO1 (70-130)	OTPH1 (70-130)
820-779-1	GP-1 (4-5)	92	80
820-779-1 MS	GP-1 (4-5)	94	73
820-779-1 MSD	GP-1 (4-5)	94	72
820-779-2	GP-1 (5-6)	92	79
820-779-3	GP-1 (6-7)	91	79
820-779-4	GP-1 (7-8)	94	81
820-779-5	GP-1 (8-9)	95	81
820-779-6	GP-1 (9-10)	95	83
820-779-7	GP-1 (10-11)	95	81
820-779-8	GP-1 (11-12)	95	84
820-779-9	GP-2 (0-1)	95	80
820-779-10	GP-2 (1-2)	96	86
820-779-11	GP-2 (2-3)	95	84
820-779-12	GP-2 (3-4)	95	84
820-779-13	GP-2 (4-5)	93	80
820-779-14	GP-2 (5-6)	91	77
820-779-15	GP-2 (6-7)	100	86
820-779-16	GP-2 (7-8)	96	83
820-779-17	GP-2 (8-9)	93	81
820-779-18	GP-2 (9-10)	92	81
820-779-19	GP-2 (10-11)	91	79
820-779-20	GP-2 (11-12)	95	83
LCS 880-3560/2-A	Lab Control Sample	94	75
LCSD 880-3560/3-A	Lab Control Sample Dup	92	72
MB 880-3560/1-A	Method Blank	95	81

**Surrogate Legend**

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD

Job ID: 820-779-1

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-3560/1-A  
 Matrix: Solid  
 Analysis Batch: 3614

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 3560

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 14:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 14:51	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 14:51	1
Total TPH	<50.0	U	50.0		mg/Kg		05/27/21 09:15	05/28/21 14:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	05/27/21 09:15	05/28/21 14:51	1
o-Terphenyl	81		70 - 130	05/27/21 09:15	05/28/21 14:51	1

Lab Sample ID: LCS 880-3560/2-A  
 Matrix: Solid  
 Analysis Batch: 3614

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 3560

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	740.6		mg/Kg		74	70 - 130
Diesel Range Organics (Over C10-C28)	1000	850.1		mg/Kg		85	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	75		70 - 130

Lab Sample ID: LCSD 880-3560/3-A  
 Matrix: Solid  
 Analysis Batch: 3614

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 3560

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	806.3		mg/Kg		81	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	1000	810.2		mg/Kg		81	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	92		70 - 130
o-Terphenyl	72		70 - 130

Lab Sample ID: 820-779-1 MS  
 Matrix: Solid  
 Analysis Batch: 3614

Client Sample ID: GP-1 (4-5)  
 Prep Type: Total/NA  
 Prep Batch: 3560

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	921.9		mg/Kg		93	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	996	950.8		mg/Kg		95	70 - 130

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### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD

Job ID: 820-779-1

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 820-779-1 MS  
 Matrix: Solid  
 Analysis Batch: 3614

Client Sample ID: GP-1 (4-5)  
 Prep Type: Total/NA  
 Prep Batch: 3560

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	94		70 - 130
o-Terphenyl	73		70 - 130

Lab Sample ID: 820-779-1 MSD  
 Matrix: Solid  
 Analysis Batch: 3614

Client Sample ID: GP-1 (4-5)  
 Prep Type: Total/NA  
 Prep Batch: 3560

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec.		RPD	Limit
				Result	Qualifier				Limits	RPD		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	974.4		mg/Kg		98	70 - 130	6	20	
Diesel Range Organics (Over C10-C28)	<49.9	U	996	959.9		mg/Kg		96	70 - 130	1	20	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	94		70 - 130
o-Terphenyl	72		70 - 130

#### Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-3463/1-A  
 Matrix: Solid  
 Analysis Batch: 3470

Client Sample ID: Method Blank  
 Prep Type: Soluble

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	<5.00	U	5.00		mg/Kg			05/25/21 15:16	1

Lab Sample ID: LCS 880-3463/2-A  
 Matrix: Solid  
 Analysis Batch: 3470

Client Sample ID: Lab Control Sample  
 Prep Type: Soluble

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	RPD
Chloride	250	244.4		mg/Kg		98	90 - 110	

Lab Sample ID: LCSD 880-3463/3-A  
 Matrix: Solid  
 Analysis Batch: 3470

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Soluble

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec.		RPD	Limit
		Result	Qualifier				Limits	RPD		
Chloride	250	244.8		mg/Kg		98	90 - 110	0	20	

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## QC Association Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

## GC Semi VOA

## Prep Batch: 3560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-779-1	GP-1 (4-5)	Total/NA	Solid	8015NM Prep	
820-779-2	GP-1 (5-6)	Total/NA	Solid	8015NM Prep	
820-779-3	GP-1 (6-7)	Total/NA	Solid	8015NM Prep	
820-779-4	GP-1 (7-8)	Total/NA	Solid	8015NM Prep	
820-779-5	GP-1 (8-9)	Total/NA	Solid	8015NM Prep	
820-779-6	GP-1 (9-10)	Total/NA	Solid	8015NM Prep	
820-779-7	GP-1 (10-11)	Total/NA	Solid	8015NM Prep	
820-779-8	GP-1 (11-12)	Total/NA	Solid	8015NM Prep	
820-779-9	GP-2 (0-1)	Total/NA	Solid	8015NM Prep	
820-779-10	GP-2 (1-2)	Total/NA	Solid	8015NM Prep	
820-779-11	GP-2 (2-3)	Total/NA	Solid	8015NM Prep	
820-779-12	GP-2 (3-4)	Total/NA	Solid	8015NM Prep	
820-779-13	GP-2 (4-5)	Total/NA	Solid	8015NM Prep	
820-779-14	GP-2 (5-6)	Total/NA	Solid	8015NM Prep	
820-779-15	GP-2 (6-7)	Total/NA	Solid	8015NM Prep	
820-779-16	GP-2 (7-8)	Total/NA	Solid	8015NM Prep	
820-779-17	GP-2 (8-9)	Total/NA	Solid	8015NM Prep	
820-779-18	GP-2 (9-10)	Total/NA	Solid	8015NM Prep	
820-779-19	GP-2 (10-11)	Total/NA	Solid	8015NM Prep	
820-779-20	GP-2 (11-12)	Total/NA	Solid	8015NM Prep	
MB 880-3560/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-3560/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-3560/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
820-779-1 MS	GP-1 (4-5)	Total/NA	Solid	8015NM Prep	
820-779-1 MSD	GP-1 (4-5)	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 3614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-779-1	GP-1 (4-5)	Total/NA	Solid	8015B NM	3560
820-779-2	GP-1 (5-6)	Total/NA	Solid	8015B NM	3560
820-779-3	GP-1 (6-7)	Total/NA	Solid	8015B NM	3560
820-779-4	GP-1 (7-8)	Total/NA	Solid	8015B NM	3560
820-779-5	GP-1 (8-9)	Total/NA	Solid	8015B NM	3560
820-779-6	GP-1 (9-10)	Total/NA	Solid	8015B NM	3560
820-779-7	GP-1 (10-11)	Total/NA	Solid	8015B NM	3560
820-779-8	GP-1 (11-12)	Total/NA	Solid	8015B NM	3560
820-779-9	GP-2 (0-1)	Total/NA	Solid	8015B NM	3560
820-779-10	GP-2 (1-2)	Total/NA	Solid	8015B NM	3560
820-779-11	GP-2 (2-3)	Total/NA	Solid	8015B NM	3560
820-779-12	GP-2 (3-4)	Total/NA	Solid	8015B NM	3560
820-779-13	GP-2 (4-5)	Total/NA	Solid	8015B NM	3560
820-779-14	GP-2 (5-6)	Total/NA	Solid	8015B NM	3560
820-779-15	GP-2 (6-7)	Total/NA	Solid	8015B NM	3560
820-779-16	GP-2 (7-8)	Total/NA	Solid	8015B NM	3560
820-779-17	GP-2 (8-9)	Total/NA	Solid	8015B NM	3560
820-779-18	GP-2 (9-10)	Total/NA	Solid	8015B NM	3560
820-779-19	GP-2 (10-11)	Total/NA	Solid	8015B NM	3560
820-779-20	GP-2 (11-12)	Total/NA	Solid	8015B NM	3560
MB 880-3560/1-A	Method Blank	Total/NA	Solid	8015B NM	3560
LCS 880-3560/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	3560
LCSD 880-3560/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	3560

Eurofins Xenco, Lubbock



## QC Association Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

## GC Semi VOA (Continued)

## Analysis Batch: 3614 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-779-1 MS	GP-1 (4-5)	Total/NA	Solid	8015B NM	3560
820-779-1 MSD	GP-1 (4-5)	Total/NA	Solid	8015B NM	3560

## HPLC/IC

## Leach Batch: 3463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-779-1	GP-1 (4-5)	Soluble	Solid	DI Leach	
820-779-2	GP-1 (5-6)	Soluble	Solid	DI Leach	
820-779-3	GP-1 (6-7)	Soluble	Solid	DI Leach	
820-779-4	GP-1 (7-8)	Soluble	Solid	DI Leach	
820-779-5	GP-1 (8-9)	Soluble	Solid	DI Leach	
820-779-6	GP-1 (9-10)	Soluble	Solid	DI Leach	
820-779-7	GP-1 (10-11)	Soluble	Solid	DI Leach	
820-779-8	GP-1 (11-12)	Soluble	Solid	DI Leach	
820-779-9	GP-2 (0-1)	Soluble	Solid	DI Leach	
820-779-10	GP-2 (1-2)	Soluble	Solid	DI Leach	
820-779-11	GP-2 (2-3)	Soluble	Solid	DI Leach	
820-779-12	GP-2 (3-4)	Soluble	Solid	DI Leach	
820-779-13	GP-2 (4-5)	Soluble	Solid	DI Leach	
820-779-14	GP-2 (5-6)	Soluble	Solid	DI Leach	
820-779-15	GP-2 (6-7)	Soluble	Solid	DI Leach	
820-779-16	GP-2 (7-8)	Soluble	Solid	DI Leach	
820-779-17	GP-2 (8-9)	Soluble	Solid	DI Leach	
820-779-18	GP-2 (9-10)	Soluble	Solid	DI Leach	
820-779-19	GP-2 (10-11)	Soluble	Solid	DI Leach	
820-779-20	GP-2 (11-12)	Soluble	Solid	DI Leach	
MB 880-3463/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-3463/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-3463/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
820-779-1 MS	GP-1 (4-5)	Soluble	Solid	DI Leach	
820-779-1 MSD	GP-1 (4-5)	Soluble	Solid	DI Leach	
820-779-11 MS	GP-2 (2-3)	Soluble	Solid	DI Leach	
820-779-11 MSD	GP-2 (2-3)	Soluble	Solid	DI Leach	

## Analysis Batch: 3470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-779-1	GP-1 (4-5)	Soluble	Solid	300.0	3463
820-779-2	GP-1 (5-6)	Soluble	Solid	300.0	3463
820-779-3	GP-1 (6-7)	Soluble	Solid	300.0	3463
820-779-4	GP-1 (7-8)	Soluble	Solid	300.0	3463
820-779-5	GP-1 (8-9)	Soluble	Solid	300.0	3463
820-779-6	GP-1 (9-10)	Soluble	Solid	300.0	3463
820-779-7	GP-1 (10-11)	Soluble	Solid	300.0	3463
820-779-8	GP-1 (11-12)	Soluble	Solid	300.0	3463
820-779-9	GP-2 (0-1)	Soluble	Solid	300.0	3463
820-779-10	GP-2 (1-2)	Soluble	Solid	300.0	3463
820-779-11	GP-2 (2-3)	Soluble	Solid	300.0	3463
820-779-12	GP-2 (3-4)	Soluble	Solid	300.0	3463
820-779-13	GP-2 (4-5)	Soluble	Solid	300.0	3463
820-779-14	GP-2 (5-6)	Soluble	Solid	300.0	3463

Eurofins Xenco, Lubbock

## QC Association Summary

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD

Job ID: 820-779-1

## HPLC/IC (Continued)

## Analysis Batch: 3470 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-779-15	GP-2 (6-7)	Soluble	Solid	300.0	3463
820-779-16	GP-2 (7-8)	Soluble	Solid	300.0	3463
820-779-17	GP-2 (8-9)	Soluble	Solid	300.0	3463
820-779-18	GP-2 (9-10)	Soluble	Solid	300.0	3463
820-779-19	GP-2 (10-11)	Soluble	Solid	300.0	3463
820-779-20	GP-2 (11-12)	Soluble	Solid	300.0	3463
MB 880-3463/1-A	Method Blank	Soluble	Solid	300.0	3463
LCS 880-3463/2-A	Lab Control Sample	Soluble	Solid	300.0	3463
LCSD 880-3463/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	3463
820-779-1 MS	GP-1 (4-5)	Soluble	Solid	300.0	3463
820-779-1 MSD	GP-1 (4-5)	Soluble	Solid	300.0	3463
820-779-11 MS	GP-2 (2-3)	Soluble	Solid	300.0	3463
820-779-11 MSD	GP-2 (2-3)	Soluble	Solid	300.0	3463

Eurofins Xenco, Lubbock

## Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

## Client Sample ID: GP-1 (4-5)

Date Collected: 05/21/21 11:35

Date Received: 05/24/21 16:25

## Lab Sample ID: 820-779-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 15:56	AM	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 15:32	SC	XEN MID

## Client Sample ID: GP-1 (5-6)

Date Collected: 05/21/21 11:37

Date Received: 05/24/21 16:25

## Lab Sample ID: 820-779-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 17:00	AM	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 15:47	SC	XEN MID

## Client Sample ID: GP-1 (6-7)

Date Collected: 05/21/21 11:39

Date Received: 05/24/21 16:25

## Lab Sample ID: 820-779-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 17:21	AM	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 15:52	SC	XEN MID

## Client Sample ID: GP-1 (7-8)

Date Collected: 05/21/21 11:41

Date Received: 05/24/21 16:25

## Lab Sample ID: 820-779-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 17:43	AM	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 15:57	SC	XEN MID

## Client Sample ID: GP-1 (8-9)

Date Collected: 05/21/21 11:43

Date Received: 05/24/21 16:25

## Lab Sample ID: 820-779-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 18:04	AM	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 16:03	SC	XEN MID

Eurofins Xenco, Lubbock

## Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

Client Sample ID: GP-1 (9-10)

Lab Sample ID: 820-779-6

Date Collected: 05/21/21 11:45

Matrix: Solid

Date Received: 05/24/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 18:26	AM	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 16:18	SC	XEN MID

Client Sample ID: GP-1 (10-11)

Lab Sample ID: 820-779-7

Date Collected: 05/21/21 11:47

Matrix: Solid

Date Received: 05/24/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 18:47	AM	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 16:38	SC	XEN MID

Client Sample ID: GP-1 (11-12)

Lab Sample ID: 820-779-8

Date Collected: 05/21/21 11:49

Matrix: Solid

Date Received: 05/24/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 19:08	AM	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 16:43	SC	XEN MID

Client Sample ID: GP-2 (0-1)

Lab Sample ID: 820-779-9

Date Collected: 05/21/21 12:00

Matrix: Solid

Date Received: 05/24/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 19:30	AM	XEN MID
Soluble	Leach	DI Leach			5.00 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		10			3470	05/25/21 16:49	SC	XEN MID

Client Sample ID: GP-2 (1-2)

Lab Sample ID: 820-779-10

Date Collected: 05/21/21 12:02

Matrix: Solid

Date Received: 05/24/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 19:51	AM	XEN MID
Soluble	Leach	DI Leach			5.00 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 16:54	SC	XEN MID

Eurofins Xenco, Lubbock

## Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

## Client Sample ID: GP-2 (2-3)

Lab Sample ID: 820-779-11

Date Collected: 05/21/21 12:04

Matrix: Solid

Date Received: 05/24/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 20:33	AM	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 16:59	SC	XEN MID

## Client Sample ID: GP-2 (3-4)

Lab Sample ID: 820-779-12

Date Collected: 05/21/21 12:06

Matrix: Solid

Date Received: 05/24/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 20:54	AM	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 17:15	SC	XEN MID

## Client Sample ID: GP-2 (4-5)

Lab Sample ID: 820-779-13

Date Collected: 05/21/21 12:08

Matrix: Solid

Date Received: 05/24/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 21:16	AM	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 17:20	SC	XEN MID

## Client Sample ID: GP-2 (5-6)

Lab Sample ID: 820-779-14

Date Collected: 05/21/21 12:10

Matrix: Solid

Date Received: 05/24/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 21:37	AM	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 17:35	SC	XEN MID

## Client Sample ID: GP-2 (6-7)

Lab Sample ID: 820-779-15

Date Collected: 05/21/21 12:12

Matrix: Solid

Date Received: 05/24/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 21:58	AM	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 17:40	SC	XEN MID

Eurofins Xenco, Lubbock



## Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

**Client Sample ID: GP-2 (7-8)****Date Collected: 05/21/21 12:14****Date Received: 05/24/21 16:25****Lab Sample ID: 820-779-16****Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 22:20	AM	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 17:45	SC	XEN MID

**Client Sample ID: GP-2 (8-9)****Date Collected: 05/21/21 12:16****Date Received: 05/24/21 16:25****Lab Sample ID: 820-779-17****Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 22:41	AM	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 17:51	SC	XEN MID

**Client Sample ID: GP-2 (9-10)****Date Collected: 05/21/21 12:18****Date Received: 05/24/21 16:25****Lab Sample ID: 820-779-18****Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 23:02	AM	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 17:56	SC	XEN MID

**Client Sample ID: GP-2 (10-11)****Date Collected: 05/21/21 12:20****Date Received: 05/24/21 16:25****Lab Sample ID: 820-779-19****Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 23:24	AM	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 18:01	SC	XEN MID

**Client Sample ID: GP-2 (11-12)****Date Collected: 05/21/21 12:22****Date Received: 05/24/21 16:25****Lab Sample ID: 820-779-20****Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	3560	05/27/21 09:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3614	05/28/21 23:45	AM	XEN MID
Soluble	Leach	DI Leach			5.00 g	50 mL	3463	05/25/21 11:46	CH	XEN MID
Soluble	Analysis	300.0		1			3470	05/25/21 18:06	SC	XEN MID

Eurofins Xenco, Lubbock

# Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

**Laboratory References:**

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

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## Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD

Job ID: 820-779-1

### Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0		Solid	Chloride
8015B NM	8015NM Prep	Solid	Diesel Range Organics (Over C10-C28)
8015B NM	8015NM Prep	Solid	Gasoline Range Organics (GRO)-C6-C10
8015B NM	8015NM Prep	Solid	Oil Range Organics (Over C28-C36)
8015B NM	8015NM Prep	Solid	Total TPH

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- 2
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- 14

# Method Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman SWD

Job ID: 820-779-1

Method	Method Description	Protocol	Laboratory
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

**Protocol References:**

ASTM = ASTM International

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

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

**Laboratory References:**

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



## Sample Summary

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman SWD

Job ID: 820-779-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
820-779-1	GP-1 (4-5)	Solid	05/21/21 11:35	05/24/21 16:25	4 - 5
820-779-2	GP-1 (5-6)	Solid	05/21/21 11:37	05/24/21 16:25	5 - 6
820-779-3	GP-1 (6-7)	Solid	05/21/21 11:39	05/24/21 16:25	6 - 7
820-779-4	GP-1 (7-8)	Solid	05/21/21 11:41	05/24/21 16:25	7 - 8
820-779-5	GP-1 (8-9)	Solid	05/21/21 11:43	05/24/21 16:25	8 - 9
820-779-6	GP-1 (9-10)	Solid	05/21/21 11:45	05/24/21 16:25	9 - 10
820-779-7	GP-1 (10-11)	Solid	05/21/21 11:47	05/24/21 16:25	10 - 11
820-779-8	GP-1 (11-12)	Solid	05/21/21 11:49	05/24/21 16:25	11 - 12
820-779-9	GP-2 (0-1)	Solid	05/21/21 12:00	05/24/21 16:25	0 - 1
820-779-10	GP-2 (1-2)	Solid	05/21/21 12:02	05/24/21 16:25	1 - 2
820-779-11	GP-2 (2-3)	Solid	05/21/21 12:04	05/24/21 16:25	2 - 3
820-779-12	GP-2 (3-4)	Solid	05/21/21 12:06	05/24/21 16:25	3 - 4
820-779-13	GP-2 (4-5)	Solid	05/21/21 12:08	05/24/21 16:25	4 - 5
820-779-14	GP-2 (5-6)	Solid	05/21/21 12:10	05/24/21 16:25	5 - 6
820-779-15	GP-2 (6-7)	Solid	05/21/21 12:12	05/24/21 16:25	6 - 7
820-779-16	GP-2 (7-8)	Solid	05/21/21 12:14	05/24/21 16:25	7 - 8
820-779-17	GP-2 (8-9)	Solid	05/21/21 12:16	05/24/21 16:25	8 - 9
820-779-18	GP-2 (9-10)	Solid	05/21/21 12:18	05/24/21 16:25	9 - 10
820-779-19	GP-2 (10-11)	Solid	05/21/21 12:20	05/24/21 16:25	10 - 11
820-779-20	GP-2 (11-12)	Solid	05/21/21 12:22	05/24/21 16:25	11 - 12

Eurofins Xenco, Lubbock



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820-779 Chain of Custody

Loc: 820  
779

### CHAIN OF CUSTODY RECORD

**LAB USE ONLY**  
DUPLICATE DATE: \_\_\_\_\_  
TEMP OF COOLER WHEN RECEIVED (°C): \_\_\_\_\_  
Page 1 of 1

**ANALYSIS REQUESTED**  
Chloride (EPA Method 300)  BTEX (EPA Method 8021B)  TPH Extended 8015

**Lab Sample ID**

**Laboratory:** Xenco  
6701 Aberdeen  
Lubbock, Texas 79424

**Phone:** \_\_\_\_\_  
**Contact:** J. Guesnier 806-544-9276  
**SRS #:** \_\_\_\_\_

**Sampler's Name:** J. Guesnier  
**Sampler's Signature:** \_\_\_\_\_

**Project Name:** Aikman SWD

Date	Time	Matrix	Grab	Comp	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers	
								4 oz Glass	250 ml Poly
5/21/2021	11:35	S	X		GP-1 (4-5)	4'	5'	X	
5/21/2021	11:37	S	X		GP-1 (5-6)	5'	6'	X	
5/21/2021	11:39	S	X		GP-1 (6-7)	6'	7'	X	
5/21/2021	11:41	S	X		GP-1 (7-8)	7'	8'	X	
5/21/2021	11:43	S	X		GP-1 (8-9)	8'	9'	X	
5/21/2021	11:45	S	X		GP-1 (9-10)	9'	10'	X	
5/21/2021	11:47	S	X		GP-1 (10-11)	10'	11'	X	
5/21/2021	11:49	S	X		GP-1 (11-12)	11'	12'	X	
5/21/2021	12:00	S	X		GP-2 (0-1)	0'	1'	X	
5/21/2021	12:02	S	X		GP-2 (1-2)	1'	2'	X	
5/21/2021	12:04	S	X		GP-2 (2-3)	2'	3'	X	
5/21/2021	12:06	S	X		GP-2 (3-4)	3'	4'	X	
5/21/2021	12:08	S	X		GP-2 (4-5)	4'	5'	X	
5/21/2021	12:10	S	X		GP-2 (5-6)	5'	6'	X	
5/21/2021	12:12	S	X		GP-2 (6-7)	6'	7'	X	
5/21/2021	12:14	S	X		GP-2 (7-8)	7'	8'	X	
5/21/2021	12:16	S	X		GP-2 (8-9)	8'	9'	X	
5/21/2021	12:18	S	X		GP-2 (9-10)	9'	10'	X	
5/21/2021	12:20	S	X		GP-2 (10-11)	10'	11'	X	
5/21/2021	12:22	S	X		GP-2 (11-12)	11'	12'	X	

**TURNAROUND TIME**  
 Normal  48-Hour Rush  24-Hour Rush  
 Received by (Signature): \_\_\_\_\_ Date: 5-24-21 Time: 4:24  
 Received by (Signature): \_\_\_\_\_ Date: 5/24/21 Time: 6:25  
 Received by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Received by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

**TRRP Laboratory Review Checklist**  
 Yes  No  
 NOTES: Client: Spur Energy Partners  
 e-mail results to: bryant.mcbrayer@terracon.com, erin.loyd@terracon.com, jfguesnier@terracon.com

**Matrix:** WW/Wellwater, VOA, 40 ml vol  
**Container:** 250 ml Glass Water Mouth  
**W- Water:** A90 Amber Glass 1L  
**S- Soil:** 250 ml Glass Water Mouth  
**L- Liquid:** A, A2, E, C, Charcoal Tube  
**A- Air Tag:** \_\_\_\_\_  
**P- Pesticide or other:** \_\_\_\_\_  
**S- Sludge:** \_\_\_\_\_

Lubbock Office ■ 5827 50th Street, Suite 1 ■ Lubbock, Texas 79424 ■ 806-300-0140  
 Responsive ■ Resourceful ■ Reliable

Eurofins Xenco, Lubbock  
6701 Aberdeen Ave Suite 8  
Lubbock, TX 79424  
Phone 806-794-1296

Chain of Custody Record



eurofins  
Environment Testing  
America

<b>Client Information (Sub Contract Lab)</b>		Sampler	Lab PM	Carrier Tracking No(s)	COC No					
Shipping/Receiving	Phone	Kramer Jessica	E-Mail	State of Origin	820-1097-1					
Company	Eurofins Xenco	Accreditations Required (See note):	TEXAS	Page 1 of 3	Page 1 of 3					
Address	1211 W Florida Ave,	Job #	NE LAP - Texas	Job #	820-179-1					
City	Midland	Due Date Requested:		Preservation Codes:	A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amelior H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - Nitro O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)					
State Zip:	TX 79701	TAT Requested (days)								
Phone	432-704-5440(Tel)	PO #								
Email		WO #								
Project Name:	AR207018 Alkman SWD	Project #:								
Site:		SSOW#:								
<b>Sample Identification - Client ID (Lab ID)</b>		<b>Sample Date</b>	<b>Sample Time</b>	<b>Sample Type (C=Comp, G=grab)</b>	<b>Matrix (Mercuric Selenide, Oxidant, Inorganic Acid)</b>	<b>Field Filtered Sample (Yes or No)</b>	<b>Perform MS/MSD (Yes or No)</b>	<b>300_ORGM_28D/DI_LEACH Chloride</b>	<b>Total Number of containers</b>	<b>Special Instructions/Note:</b>
GP-1(4-5) (820-779-1)	5/21/21	11 35	Central	Solid		X		1		
GP-1(5-6) (820-779-2)	5/21/21	11 37	Central	Solid		X		1		
GP-1(6-7) (820-779-3)	5/21/21	11 39	Central	Solid		X		1		
GP-1(7-8) (820-779-4)	5/21/21	11 41	Central	Solid		X		1		
GP-1(8-9) (820-779-5)	5/21/21	11 43	Central	Solid		X		1		
GP-1(9-10) (820-779-6)	5/21/21	11 45	Central	Solid		X		1		
GP-1(10-11) (820-779-7)	5/21/21	11 47	Central	Solid		X		1		
GP-1(11-12) (820-779-8)	5/21/21	11 49	Central	Solid		X		1		
GP-2(0-1) (820-779-9)	5/21/21	12:00	Central	Solid		X		1		

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

**Possible Hazard Identification**  
Unconfirmed

Deliverable Requested I II III IV, Other (specify) \_\_\_\_\_ Primary Deliverable Rank 2

Empty Kit Relinquished by \_\_\_\_\_ Date \_\_\_\_\_

Relinquished by \_\_\_\_\_ Date/Time \_\_\_\_\_ Company \_\_\_\_\_

Relinquished by \_\_\_\_\_ Date/Time \_\_\_\_\_ Company \_\_\_\_\_

Relinquished by \_\_\_\_\_ Date/Time \_\_\_\_\_ Company \_\_\_\_\_

Custody Seals Intact:  Yes  No Custody Seal No \_\_\_\_\_

Special Instructions/Note: \_\_\_\_\_

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

Received by \_\_\_\_\_ Date/Time \_\_\_\_\_ Company \_\_\_\_\_

Received by \_\_\_\_\_ Date/Time \_\_\_\_\_ Company \_\_\_\_\_

Color Temperature(s) °C and Other Remarks \_\_\_\_\_

**Eurofins Xenco, Lubbock**  
 6701 Aberdeen Ave Suite 8  
 Lubbock, TX 79424  
 Phone: 806-794-1296

**Chain of Custody Record**



**Client Information (Sub Contract Lab)**  
 Client Contact: **Samper**  
 Shipping/Receiving: **Lab PM: Kramer Jessica**  
 Company: **Eurofins Xenco**  
 Address: **1211 W. Florida Ave.**  
 City: **Midland**  
 State Zip: **TX, 79701**  
 Phone: **432-704-5440 (Tel)**  
 Email: **WQ #**  
 Project Name: **AR207018 Alkman SMD**  
 Site: **SSOW#:**

**Due Date Requested** 5/25/2021  
**TAT Requested (days)**  
**Accreditations Required (See note):** NELAP - Texas  
**Carrier Tracking No(s):**  
**State of Origin:** Texas  
**Page 2 of 3**  
**Job #:** 820-779-1  
**COC No:** 820-1097 2

**Analysis Requested**  
 Field Filtered Sample (Yes or No)   
 Perform MS/MSD (Yes or No)   
 300\_ORGFM\_280/DI\_LEACH Chloride

**Preservation Codes**  
 A - HCL  
 B - NaOH  
 C - Zn Acetate  
 D - Nitric Acid  
 E - NaHSO4  
 F - MeOH  
 G - Amchlor  
 H - Ascorbic Acid  
 I - Ice  
 J - DI Water  
 K - EDTA  
 L - EDA  
 M - Hexane  
 N - None  
 O - AsNaO2  
 P - Na2OAS  
 Q - Na2SO3  
 R - Na2S2O3  
 S - H2SO4  
 T - TSP Dodecahydrate  
 U - Acetone  
 V - MCAA  
 W - pH 4.5  
 Z - other (specify)

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Seawater, Overstabil, BT-Triume, AAH)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_280/DI_LEACH Chloride	Total Number of containers	Special Instructions/Note:
GP-2(1-2) (820-779-10)	5/21/21	12 02	Central	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		1	
GP-2(2-3) (820-779-11)	5/21/21	12 04	Central	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		1	
GP-2(3-4) (820-779-12)	5/21/21	12 06	Central	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		1	
GP-2(4-5) (820-779-13)	5/21/21	12 08	Central	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		1	
GP-2(5-6) (820-779-14)	5/21/21	12 10	Central	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		1	
GP-2(6-7) (820-779-15)	5/21/21	12 12	Central	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		1	
GP-2(7-8) (820-779-16)	5/21/21	12 14	Central	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		1	
GP-2(8-9) (820-779-17)	5/21/21	12 16	Central	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		1	
GP-2(9-10) (820-779-18)	5/21/21	12 18	Central	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		1	

**Unconfirmed**  
 Deliverable Requested I II III, IV, Other (specify): **Primary Deliverable Rank 2**  
**Possible Hazard Identification**  
 Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: 5/24/21 17:04  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Custody Seals Intact:  Yes  No  
 Custody Seal No. \_\_\_\_\_  
**Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)**  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months  
 Special Instructions/QC Requirements: \_\_\_\_\_  
 Method of Shipment: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: 5/25/21 11:30 AM  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_

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

### Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-779-1

**Login Number: 779**

**List Number: 1**

**Creator: Lee, Randell**

**List Source: Eurofins Xenco, Lubbock**

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

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### Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-779-1

**Login Number: 779**

**List Number: 2**

**Creator: Copeland, Tatiana**

**List Source: Eurofins Xenco, Midland**

**List Creation: 05/25/21 11:24 AM**

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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July 05, 2022

JOSEPH GUESNIER  
TERRACON CONSULTANTS  
5827 50TH ST. SUITE 1  
LUBBOCK, TX 79424

RE: AIKMAN SWD

Enclosed are the results of analyses for samples received by the laboratory on 07/01/22 8:38.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene  
Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: CS - 1 ( 5-6' ) (H222825-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89	
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38	
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23	
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32	
Total BTEX	<0.300	0.300	07/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	07/01/2022	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	221	110	200	3.68	
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	220	110	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND					

Surrogate: 1-Chlorooctane 73.7 % 43-149

Surrogate: 1-Chlorooctadecane 87.1 % 42.5-161

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: CS - 2 ( 5-6' ) (H222825-02)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	07/01/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	221	110	200	3.68		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	220	110	200	2.53		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 80.8 % 43-149

Surrogate: 1-Chlorooctadecane 94.8 % 42.5-161

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 3 ( 5-6' ) (H222825-03)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	07/01/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	221	110	200	3.68		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	220	110	200	2.53		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 84.4 % 43-149

Surrogate: 1-Chlorooctadecane 98.2 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: CS - 4 ( 5-6' ) (H222825-04)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	336	16.0	07/01/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	221	110	200	3.68		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	220	110	200	2.53		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 81.9 % 43-149

Surrogate: 1-Chlorooctadecane 93.1 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 5 ( 5-6' ) (H222825-05)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	512	16.0	07/01/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	221	110	200	3.68		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	220	110	200	2.53		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 76.8 % 43-149

Surrogate: 1-Chlorooctadecane 91.3 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
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 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 6 ( 5-6' ) (H222825-06)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	07/01/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 74.8 % 43-149

Surrogate: 1-Chlorooctadecane 88.4 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
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 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 7 ( 5-6' ) (H222825-07)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>608</b>	16.0	07/01/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
<b>DRO &gt;C10-C28*</b>	<b>69.5</b>	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 81.0 % 43-149

Surrogate: 1-Chlorooctadecane 99.0 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 8 ( 5-6' ) (H222825-08)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	07/01/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 67.7 % 43-149

Surrogate: 1-Chlorooctadecane 79.8 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: CS - 9 ( 5-6' ) (H222825-09)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	880	16.0	07/01/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 65.4 % 43-149

Surrogate: 1-Chlorooctadecane 78.4 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 10 ( 5-6' ) (H222825-10)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>1310</b>	16.0	07/01/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 74.3 % 43-149

Surrogate: 1-Chlorooctadecane 87.2 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 11 ( 5-6' ) (H222825-11)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	560	16.0	07/01/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 69.3 % 43-149

Surrogate: 1-Chlorooctadecane 78.8 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: CS - 12 ( 5-6' ) (H222825-12)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	07/01/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 71.5 % 43-149

Surrogate: 1-Chlorooctadecane 82.3 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: CS - 13 ( 5-6' ) (H222825-13)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	07/01/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 78.0 % 43-149

Surrogate: 1-Chlorooctadecane 88.4 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: CS - 14 ( 5-6' ) (H222825-14)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	400	16.0	07/01/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 79.4 % 43-149

Surrogate: 1-Chlorooctadecane 91.0 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: CS - 15 ( 5-6' ) (H222825-15)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	464	16.0	07/01/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 104 % 43-149

Surrogate: 1-Chlorooctadecane 118 % 42.5-161

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TERRACON CONSULTANTS  
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 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 16 ( 5-6' ) (H222825-16)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>192</b>	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
<b>DRO &gt;C10-C28*</b>	<b>35.2</b>	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 89.4 % 43-149

Surrogate: 1-Chlorooctadecane 104 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: CS - 17 ( 5-6' ) (H222825-17)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>240</b>	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
<b>DRO &gt;C10-C28*</b>	<b>59.9</b>	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 90.7 % 43-149

Surrogate: 1-Chlorooctadecane 107 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 18 ( 5-6' ) (H222825-18)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	432	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 87.6 % 43-149

Surrogate: 1-Chlorooctadecane 99.6 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: CS - 19 ( 5-6' ) (H222825-19)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	416	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 87.7 % 43-149

Surrogate: 1-Chlorooctadecane 102 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: CS - 20 ( 5-6' ) (H222825-20)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.11	105	2.00	3.89		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	2.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.11	106	2.00	3.23		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.41	107	6.00	3.32		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 88.6 % 43-149

Surrogate: 1-Chlorooctadecane 102 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 21 ( 5-6' ) (H222825-21)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42		
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>560</b>	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
<b>DRO &gt;C10-C28*</b>	<b>46.1</b>	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 93.8 % 43-149

Surrogate: 1-Chlorooctadecane 109 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 22 ( 5-6' ) (H222825-22)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42		
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	368	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 90.5 % 43-149

Surrogate: 1-Chlorooctadecane 104 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: CS - 23 ( 5-6' ) (H222825-23)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42	
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38	
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01	
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21	
Total BTEX	<0.300	0.300	07/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	07/01/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05	
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	203	102	200	0.966	
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND					

Surrogate: 1-Chlorooctane 71.8 % 43-149

Surrogate: 1-Chlorooctadecane 82.4 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 24 ( 5-6' ) (H222825-24)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42		
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	336	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05		
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	203	102	200	0.966		
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND						

Surrogate: 1-Chlorooctane 78.0 % 43-149

Surrogate: 1-Chlorooctadecane 90.0 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: CS - 25 ( 5-6' ) (H222825-25)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42	
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38	
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01	
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21	
Total BTEX	<0.300	0.300	07/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	07/01/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/01/2022	ND	190	94.9	200	2.05	
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	203	102	200	0.966	
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND					

Surrogate: 1-Chlorooctane 70.7 % 43-149

Surrogate: 1-Chlorooctadecane 80.8 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 26 ( 5-6' ) (H222825-26)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42		
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	198	99.0	200	5.24		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 70.7 % 43-149

Surrogate: 1-Chlorooctadecane 76.0 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: CS - 27 ( 5-6' ) (H222825-27)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42	
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38	
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01	
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21	
Total BTEX	<0.300	0.300	07/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/01/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520	
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	198	99.0	200	5.24	
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND					

Surrogate: 1-Chlorooctane 71.7 % 43-149

Surrogate: 1-Chlorooctadecane 76.9 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 28 ( 5-6' ) (H222825-28)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42		
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	198	99.0	200	5.24		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 72.8 % 43-149

Surrogate: 1-Chlorooctadecane 77.6 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 29 ( 5-6' ) (H222825-29)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42	
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38	
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01	
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21	
Total BTEX	<0.300	0.300	07/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	07/01/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520	
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	198	99.0	200	5.24	
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND					

Surrogate: 1-Chlorooctane 75.4 % 43-149

Surrogate: 1-Chlorooctadecane 81.2 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 30 ( 5-6' ) (H222825-30)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42	
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38	
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01	
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21	
Total BTEX	<0.300	0.300	07/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	07/01/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520	
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	198	99.0	200	5.24	
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND					

Surrogate: 1-Chlorooctane 68.9 % 43-149

Surrogate: 1-Chlorooctadecane 74.2 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 31 ( 5-6' ) (H222825-31)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42	
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38	
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01	
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21	
Total BTEX	<0.300	0.300	07/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1060	16.0	07/01/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520	
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	198	99.0	200	5.24	
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND					

Surrogate: 1-Chlorooctane 66.2 % 43-149

Surrogate: 1-Chlorooctadecane 70.8 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 32 ( 5-6' ) (H222825-32)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42		
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	432	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	198	99.0	200	5.24		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 64.2 % 43-149

Surrogate: 1-Chlorooctadecane 69.1 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: CS - 33 ( 5-6' ) (H222825-33)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42	
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38	
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01	
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21	
Total BTEX	<0.300	0.300	07/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>416</b>	16.0	07/01/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520	
<b>DRO &gt;C10-C28*</b>	<b>44.1</b>	10.0	07/02/2022	ND	198	99.0	200	5.24	
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND					

Surrogate: 1-Chlorooctane 63.7 % 43-149

Surrogate: 1-Chlorooctadecane 72.2 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: N - 1 ( 2-3' ) (H222825-34)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42	
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38	
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01	
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21	
Total BTEX	<0.300	0.300	07/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.7 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>944</b>	16.0	07/01/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520	
<b>DRO &gt;C10-C28*</b>	<b>35.1</b>	10.0	07/02/2022	ND	198	99.0	200	5.24	
<b>EXT DRO &gt;C28-C36</b>	<b>10.6</b>	10.0	07/02/2022	ND					

Surrogate: 1-Chlorooctane 56.3 % 43-149

Surrogate: 1-Chlorooctadecane 64.7 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: N - 2 ( 2-3' ) (H222825-35)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42	
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38	
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01	
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21	
Total BTEX	<0.300	0.300	07/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>640</b>	16.0	07/01/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520	
<b>DRO &gt;C10-C28*</b>	<b>105</b>	10.0	07/02/2022	ND	198	99.0	200	5.24	
<b>EXT DRO &gt;C28-C36</b>	<b>25.0</b>	10.0	07/02/2022	ND					

Surrogate: 1-Chlorooctane 66.1 % 43-149

Surrogate: 1-Chlorooctadecane 78.6 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: N - 3 ( 2-3' ) (H222825-36)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42	
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38	
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01	
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21	
Total BTEX	<0.300	0.300	07/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	07/01/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520	
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	198	99.0	200	5.24	
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND					

Surrogate: 1-Chlorooctane 64.1 % 43-149

Surrogate: 1-Chlorooctadecane 69.6 % 42.5-161

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: N - 4 ( 2-3' ) (H222825-37)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42	
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38	
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01	
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21	
Total BTEX	<0.300	0.300	07/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>384</b>	16.0	07/01/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520	
<b>DRO &gt;C10-C28*</b>	<b>26.3</b>	10.0	07/02/2022	ND	198	99.0	200	5.24	
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND					

Surrogate: 1-Chlorooctane 68.7 % 43-149

Surrogate: 1-Chlorooctadecane 76.8 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: N - 5 ( 2-3' ) (H222825-38)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2022	ND	1.94	97.1	2.00	7.42	
Toluene*	<0.050	0.050	07/01/2022	ND	1.93	96.3	2.00	7.38	
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	1.93	96.7	2.00	8.01	
Total Xylenes*	<0.150	0.150	07/01/2022	ND	5.89	98.2	6.00	8.21	
Total BTEX	<0.300	0.300	07/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>480</b>	16.0	07/01/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520	
<b>DRO &gt;C10-C28*</b>	<b>372</b>	10.0	07/02/2022	ND	198	99.0	200	5.24	
<b>EXT DRO &gt;C28-C36</b>	<b>104</b>	10.0	07/02/2022	ND					

Surrogate: 1-Chlorooctane 57.4 % 43-149

Surrogate: 1-Chlorooctadecane 87.0 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: N - 6 ( 2-3' ) (H222825-39)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2022	ND	1.94	97.1	2.00	7.42	
Toluene*	<0.050	0.050	07/02/2022	ND	1.93	96.3	2.00	7.38	
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	1.93	96.7	2.00	8.01	
Total Xylenes*	<0.150	0.150	07/02/2022	ND	5.89	98.2	6.00	8.21	
Total BTEX	<0.300	0.300	07/02/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	07/01/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520	
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	198	99.0	200	5.24	
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND					

Surrogate: 1-Chlorooctane 62.4 % 43-149

Surrogate: 1-Chlorooctadecane 67.6 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: N - 7 ( 2-3' ) (H222825-40)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2022	ND	1.94	97.1	2.00	7.42	
Toluene*	<0.050	0.050	07/02/2022	ND	1.93	96.3	2.00	7.38	
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	1.93	96.7	2.00	8.01	
Total Xylenes*	<0.150	0.150	07/02/2022	ND	5.89	98.2	6.00	8.21	
Total BTEX	<0.300	0.300	07/02/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>2680</b>	16.0	07/01/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520	
<b>DRO &gt;C10-C28*</b>	<b>82.3</b>	10.0	07/02/2022	ND	198	99.0	200	5.24	
<b>EXT DRO &gt;C28-C36</b>	<b>30.8</b>	10.0	07/02/2022	ND					

Surrogate: 1-Chlorooctane 66.6 % 43-149

Surrogate: 1-Chlorooctadecane 78.8 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: S - 1 ( 2-3' ) (H222825-41)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>400</b>	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520		
<b>DRO &gt;C10-C28*</b>	<b>98.2</b>	10.0	07/02/2022	ND	198	99.0	200	5.24		
<b>EXT DRO &gt;C28-C36</b>	<b>18.9</b>	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 61.7 % 43-149

Surrogate: 1-Chlorooctadecane 74.1 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: S - 2 ( 2-3' ) (H222825-42)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	576	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	198	99.0	200	5.24		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 65.2 % 43-149

Surrogate: 1-Chlorooctadecane 71.3 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: S - 3 ( 2-3' ) (H222825-43)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	304	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	198	99.0	200	5.24		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 51.2 % 43-149

Surrogate: 1-Chlorooctadecane 55.7 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: S - 4 ( 2-3' ) (H222825-44)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	400	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	198	99.0	200	5.24		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 66.3 % 43-149

Surrogate: 1-Chlorooctadecane 71.0 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: S - 5 ( 2-3' ) (H222825-45)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/01/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/01/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/01/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/01/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	720	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	180	89.8	200	0.520		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	198	99.0	200	5.24		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 63.2 % 43-149

Surrogate: 1-Chlorooctadecane 68.0 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: S - 6 ( 2-3' ) (H222825-46)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/02/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/02/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	215	107	200	4.06		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	227	113	200	2.87		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 89.9 % 43-149

Surrogate: 1-Chlorooctadecane 90.6 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: S - 7 ( 2-3' ) (H222825-47)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/02/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/02/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	480	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	215	107	200	4.06		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	227	113	200	2.87		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 87.9 % 43-149

Surrogate: 1-Chlorooctadecane 87.6 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: W - 1 ( 2-3' ) (H222825-48)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/02/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/02/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>880</b>	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	215	107	200	4.06		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	227	113	200	2.87		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 90.8 % 43-149

Surrogate: 1-Chlorooctadecane 90.0 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: W - 2 ( 2-3' ) (H222825-49)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/02/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/02/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>336</b>	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	215	107	200	4.06		
<b>DRO &gt;C10-C28*</b>	<b>671</b>	10.0	07/02/2022	ND	227	113	200	2.87		
<b>EXT DRO &gt;C28-C36</b>	<b>215</b>	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 84.1 % 43-149

Surrogate: 1-Chlorooctadecane 118 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: W - 3 ( 2-3' ) (H222825-50)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/02/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/02/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	560	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	215	107	200	4.06		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	227	113	200	2.87		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 100 % 43-149

Surrogate: 1-Chlorooctadecane 102 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: E - 1 ( 2-3' ) (H222825-51)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/02/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/02/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>1730</b>	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	215	107	200	4.06		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	227	113	200	2.87		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 92.8 % 43-149

Surrogate: 1-Chlorooctadecane 93.8 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: E - 2 ( 2-3' ) (H222825-52)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/02/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/02/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	215	107	200	4.06		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	227	113	200	2.87		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 99.6 % 43-149

Surrogate: 1-Chlorooctadecane 99.9 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: E - 3 ( 2-3' ) (H222825-53)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/02/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/02/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>240</b>	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	215	107	200	4.06		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	227	113	200	2.87		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 93.2 % 43-149

Surrogate: 1-Chlorooctadecane 93.7 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: TN - 1 ( 1-2' ) (H222825-54)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/02/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/02/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6400	16.0	07/01/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	215	107	200	4.06		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	227	113	200	2.87		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 93.3 % 43-149

Surrogate: 1-Chlorooctadecane 94.4 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: TN - 2 ( 1-2' ) (H222825-55)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2022	ND	2.15	107	2.00	6.63	
Toluene*	<0.050	0.050	07/02/2022	ND	2.12	106	2.00	6.13	
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	2.09	105	2.00	6.93	
Total Xylenes*	<0.150	0.150	07/02/2022	ND	6.32	105	6.00	7.87	
Total BTEX	<0.300	0.300	07/02/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3240	16.0	07/01/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	215	107	200	4.06	
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	227	113	200	2.87	
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND					

Surrogate: 1-Chlorooctane 98.5 % 43-149

Surrogate: 1-Chlorooctadecane 101 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: TE ( 1-2' ) (H222825-56)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/02/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/02/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	800	16.0	07/05/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	215	107	200	4.06		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	227	113	200	2.87		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 73.6 % 43-149

Surrogate: 1-Chlorooctadecane 74.2 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: TF - 1 ( 2-3' ) (H222825-57)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/02/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/02/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	07/05/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	215	107	200	4.06		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	227	113	200	2.87		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 81.6 % 43-149

Surrogate: 1-Chlorooctadecane 83.4 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: TF - 2 ( 2-3' ) (H222825-58)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/02/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/02/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	416	16.0	07/05/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	215	107	200	4.06		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	227	113	200	2.87		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 75.7 % 43-149

Surrogate: 1-Chlorooctadecane 77.3 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/01/2022	Sampling Date:	06/29/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Shalyn Rodriguez
Project Location:	SPUR ENERGY		

**Sample ID: TW ( 1-2' ) (H222825-59)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2022	ND	2.15	107	2.00	6.63	
Toluene*	<0.050	0.050	07/02/2022	ND	2.12	106	2.00	6.13	
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	2.09	105	2.00	6.93	
Total Xylenes*	<0.150	0.150	07/02/2022	ND	6.32	105	6.00	7.87	
Total BTEX	<0.300	0.300	07/02/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>416</b>	16.0	07/05/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	215	107	200	4.06	
<b>DRO &gt;C10-C28*</b>	<b>21.1</b>	10.0	07/02/2022	ND	227	113	200	2.87	
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND					

Surrogate: 1-Chlorooctane 78.0 % 43-149

Surrogate: 1-Chlorooctadecane 78.9 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: TS - 1 ( 1-2' ) (H222825-60)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2022	ND	2.15	107	2.00	6.63		
Toluene*	<0.050	0.050	07/02/2022	ND	2.12	106	2.00	6.13		
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	2.09	105	2.00	6.93		
Total Xylenes*	<0.150	0.150	07/02/2022	ND	6.32	105	6.00	7.87		
Total BTEX	<0.300	0.300	07/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2360	16.0	07/05/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	215	107	200	4.06		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	227	113	200	2.87		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 80.1 % 43-149

Surrogate: 1-Chlorooctadecane 81.0 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/01/2022  
 Reported: 07/05/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 06/29/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: TS - 2 ( 1-2' ) (H222825-61)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2022	ND	2.14	107	2.00	5.28		
Toluene*	<0.050	0.050	07/02/2022	ND	2.10	105	2.00	5.19		
Ethylbenzene*	<0.050	0.050	07/02/2022	ND	2.07	104	2.00	5.24		
Total Xylenes*	<0.150	0.150	07/02/2022	ND	6.29	105	6.00	5.19		
Total BTEX	<0.300	0.300	07/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2680	16.0	07/05/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2022	ND	215	107	200	4.06		
DRO >C10-C28*	<10.0	10.0	07/02/2022	ND	227	113	200	2.87		
EXT DRO >C28-C36	<10.0	10.0	07/02/2022	ND						

Surrogate: 1-Chlorooctane 82.0 % 43-149

Surrogate: 1-Chlorooctadecane 83.2 % 42.5-161

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Notes and Definitions**

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



Office Location: Lubbock

Project Manager: J. Guesnier  
Sampler's Name: J. Guesnier

Laboratory: Xenco  
Address: 6701 Aberdeen  
Lubbock, Texas 79424

Phone: 4500  
Contact: 7-1-22  
SRS #: 28  
Sampler's Signature

Project Number: AR207018  
Project Name: Alkman SWD

No. Type of Containers

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth		End Depth		No. Type of Containers			Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)	LAB USE ONLY
						4 oz Glass	2 oz Glass	250 ml Poly	DUF DATE:	TEMP OF COOLER WHEN RECEIVED (°C)						
S	6/29/2022	10:00	X		CS-1 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	10:05	X		CS-2 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	10:10	X		CS-3 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	10:15	X		CS-4 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	10:20	X		CS-5 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	10:25	X		CS-6 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	10:30	X		CS-7 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	10:35	X		CS-8 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	10:40	X		CS-9 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	10:45	X		CS-10 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	10:50	X		CS-11 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	10:55	X		CS-12 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	11:00	X		CS-13 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	11:05	X		CS-14 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	11:10	X		CS-15 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	11:15	X		CS-16 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	11:20	X		CS-17 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	11:25	X		CS-18 (5-6)	5'	6'	X	X			X	X			
S	6/29/2022	11:30	X		CS-19 (5-6)	5'	6'	X	X			X	X			

TURNAROUND TIME: 11:30

Normal  48-Hour Rush  24-Hour Rush

TRRP Laboratory Review Checklist

Yes  No

Requisitioned By (Signature): *[Signature]*  
Date: 7-1-22  
Time: 8:35

Received by (Signature): *[Signature]*  
Date: 7-1-22  
Time: 7:31

Requisitioned By (Signature): *[Signature]*  
Date: 7-1-22  
Time: 18:38

Received by (Signature): *[Signature]*  
Date: 7-1-22  
Time: 18:38

Bill To: Spur Energy Partners  
-2.3°C -0.5°C  
-2.8°C #113  
SR2  
e-mail results to:  
joseph.guesnier@terracon.com  
erin.loyd@terracon.com  
brady.thornton@terracon.com

Mats Container: WW/Watermark  
W-Water: A/C - Amber Glass 1L  
S - Seal: 250 ml - Glass wide mouth  
1 - Liquid: A - Air Bag  
A - Air Bag: P/O - Plastic or other  
C - Check-out table  
S - Sludge

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CHAIN OF CUSTODY RECORD

LAB USE ONLY  
DUF DATE:  
TEMP OF COOLER WHEN RECEIVED (°C)

Page 1 of 4

Lab Sample ID: H222825





Office Location: Lubbock

Project Manager: J. Guesnier  
Sampler's Name: J. Guesnier

Laboratory: Xenco  
Address: 6701 Abercrombie  
Lubbock, Texas 79424  
Phone: 817-221-1028  
SRS #: 4500  
Sampler's Signature: [Signature]

ANALYSIS REQUESTED

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

Page 2 of 4

CHAIN OF CUSTODY RECORD

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers			Chloride (EPA Method 309)	TPH Extended 8015	BTEX (EPA Method 8021B)	Lab Sample ID
								4 oz Glass	2 oz Glass	250 ml Poly				
S	6/29/2022	11:35	X		CS-20 (5-6)	5'	6'	X	X	X	X	X	20	
S	6/29/2022	11:40	X		CS-21 (5-6)	5'	6'	X	X	X	X	X	21	
S	6/29/2022	11:45	X		CS-22 (5-6)	5'	6'	X	X	X	X	X	22	
S	6/29/2022	11:50	X		CS-23 (5-6)	5'	6'	X	X	X	X	X	23	
S	6/29/2022	11:55	X		CS-24 (5-6)	5'	6'	X	X	X	X	X	24	
S	6/29/2022	12:00	X		CS-25 (5-6)	5'	6'	X	X	X	X	X	25	
S	6/29/2022	12:02	X		CS-26 (5-6)	5'	6'	X	X	X	X	X	26	
S	6/29/2022	12:04	X		CS-27 (5-6)	5'	6'	X	X	X	X	X	27	
S	6/29/2022	12:06	X		CS-28 (5-6)	5'	6'	X	X	X	X	X	28	
S	6/29/2022	12:08	X		CS-29 (5-6)	5'	6'	X	X	X	X	X	29	
S	6/29/2022	12:10	X		CS-30 (5-6)	5'	6'	X	X	X	X	X	30	
S	6/29/2022	12:12	X		CS-31 (5-6)	5'	6'	X	X	X	X	X	31	
S	6/29/2022	12:14	X		CS-32 (5-6)	5'	6'	X	X	X	X	X	32	
S	6/29/2022	12:16	X		CS-33 (5-6)	5'	6'	X	X	X	X	X	33	
S	6/29/2022	12:18	X		N-1 (2-3)	2'	3'	X	X	X	X	X	34	
S	6/29/2022	12:20	X		N-2 (2-3)	2'	3'	X	X	X	X	X	35	
S	6/29/2022	12:22	X		N-3 (2-3)	2'	3'	X	X	X	X	X	36	
S	6/29/2022	12:24	X		N-4 (2-3)	2'	3'	X	X	X	X	X	37	
S	6/29/2022	12:26	X		N-5 (2-3)	2'	3'	X	X	X	X	X	38	

Normal  48-Hour Rush  24-Hour Rush

TRRP Laboratory Review Checklist  Yes  No

Redequested by (Signature): [Signature]  
Date: 7-1-22  
Time: 7:30

Received by (Signature): [Signature]  
Date: 7-1-22  
Time: 8:35

Received by (Signature): [Signature]  
Date: 7-1-22  
Time: 0838

Bill To: Spur Energy Partners  
-23°C C.O.5°C  
-28°C #113  
erin.loyd@terracon.com  
joseph.guesnier@terracon.com  
brady.thornton@terracon.com

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Laboratory: Xenco  
Address: 6701 Aberdeen  
Lubbock, Texas 79424

Phone: 806-71-002

Office Location: Lubbock  
Project Manager: J. Guesnier  
Sampler's Name: J. Guesnier  
Sampler's Signature: [Signature]

Project Number: AR207018  
Project Name: Alkman SWD

Identifying Marks of Sample(s):  
Start Depth: 2'  
End Depth: 3'

No. Type of Containers:  
4 oz Glass  
2 oz Glass  
250 ml Poly

ANALYSIS REQUESTED:  
Chloride (EPA Method 360) 450  
TPH Extended 8015  
BTEX (EPA Method 8021B)

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

Page 3 of 4  
Lab Sample ID: H020825

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers	ANALYSIS REQUESTED	LAB USE ONLY
S	6/29/2022	12:28	X		N-6 (2-3)	2'	3'	X	Chloride (EPA Method 360)	
S	6/29/2022	12:30	X		N-7 (2-3)	2'	3'	X	TPH Extended 8015	
S	6/29/2022	12:32	X		S-1 (2-3)	2'	3'	X	BTEX (EPA Method 8021B)	
S	6/29/2022	12:34	X		S-2 (2-3)	2'	3'	X		
S	6/29/2022	12:36	X		S-3 (2-3)	2'	3'	X		
S	6/29/2022	12:38	X		S-4 (2-3)	2'	3'	X		
S	6/29/2022	12:40	X		S-5 (2-3)	2'	3'	X		
S	6/29/2022	12:42	X		S-6 (2-3)	2'	3'	X		
S	6/29/2022	12:44	X		S-7 (2-3)	2'	3'	X		
S	6/29/2022	12:46	X		W-1 (2-3)	2'	3'	X		
S	6/29/2022	12:48	X		W-2 (2-3)	2'	3'	X		
S	6/29/2022	12:50	X		W-3 (2-3)	2'	3'	X		
S	6/29/2022	12:52	X		E-1 (2-3)	2'	3'	X		
S	6/29/2022	12:54	X		E-2 (2-3)	2'	3'	X		
S	6/29/2022	12:56	X		E-3 (2-3)	2'	3'	X		
S	6/29/2022	12:58	X		TN-1 (1-2)	1'	2'	X		
S	6/29/2022	13:00	X		TN-2 (1-2)	1'	2'	X		
S	6/29/2022	13:02	X		TE (1-2)	1'	2'	X		
S	6/29/2022	13:04	X		TT-1 (2-3)	2'	3'	X		

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

TRRP Laboratory Review Checklist:  Yes  No

Bill To: Spur Energy Partners  
-2.32 E-0.52  
-2.82 #113  
SR

Received by (Signature): [Signature] Date: 7-1-22 Time: 7:30  
Received by (Signature): [Signature] Date: 7-1-22 Time: 7:31

Received by (Signature): [Signature] Date: 7-1-22 Time: 8:35  
Received by (Signature): [Signature] Date: 7-1-22 Time: 0838

Received by (Signature): [Signature] Date: [ ] Time: [ ]  
Received by (Signature): [Signature] Date: [ ] Time: [ ]

Matrix: WM-Water, VC4-40 ml Lid, W-Water, AGC-Ambler Glass 11, S-Soil, 250 ml Glass side mouth, L-Liquid, A-Air Bag, PPO-Pink or other, C-Chloro Ink, S-Slide  
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Office Location: Lubbock

Phone: \_\_\_\_\_

Project Manager: J. Guesnier

Contact: \_\_\_\_\_

Sampler's Name: J. Guesnier

SRS #: \_\_\_\_\_

Sampler's Signature: \_\_\_\_\_

Laboratory: Xenco  
 Address: 6701 Aberdeen  
 Lubbock, Texas 79424

ANALYSIS REQUESTED

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

Page 4 of 4

Project Number: AR207018  
 Project Name: Alkman SWD

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth		End Depth		No. Type of Containers			Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)	Lab Sample ID
						2'	3'	1'	2'	4 oz Glass	2 oz Glass	250 ml Poly				
S	6/29/2022	13:06	X		TF-2 (2-3)	2'	3'	1'	2'	X	X	X	X	X	X	58
S	6/29/2022	13:08	X		TW (1-2)	1'	2'	1'	2'	X	X	X	X	X	X	59
S	6/29/2022	13:10	X		TS-1 (1-2)	1'	2'	1'	2'	X	X	X	X	X	X	60
S	6/29/2022	13:12	X		TS-2 (1-2)	1'	2'	1'	2'	X	X	X	X	X	X	61

TURNAROUND TIME:  Normal  48-Hour Rush  24-Hour Rush TRRP Laboratory Review Checklist:  Yes  No

Relinquished by (Signature): <i>[Signature]</i>	Date: 7-1-22	Time: 7:30	Received by (Signature): <i>[Signature]</i>	Date: 7-1-22	Time: 7:31
Relinquished by (Signature): <i>[Signature]</i>	Date: 7-1-22	Time: 8:35	Received by (Signature): <i>[Signature]</i>	Date: 7-1-22	Time: 0838
Relinquished by (Signature): _____	Date: _____	Time: _____	Received by (Signature): _____	Date: _____	Time: _____

Matrix: W - Water, VOA - 40 ml cell, W - Water, A.G. - Amber Glass 1L, S - Soil, 250 ml - Glass wide mouth, L - Liquid, A - Air Bag, C - Chemical Tube, S - Sludge

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Bill To: Spur Energy Partners  
 e-mail results to: joseph.guesnier@terracon.com  
 afn.loyd@terracon.com  
 brady.thornton@terracon.com





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---

July 26, 2022

JOSEPH GUESNIER  
TERRACON CONSULTANTS  
5827 50TH ST. SUITE 1  
LUBBOCK, TX 79424

RE: AIKMAN SWD

Enclosed are the results of analyses for samples received by the laboratory on 07/21/22 10:19.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene  
Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/21/2022  
 Reported: 07/26/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 07/20/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: CS - 7.1 (6-7) (H223190-01)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2022	ND	2.03	102	2.00	9.56	
Toluene*	<0.050	0.050	07/24/2022	ND	2.08	104	2.00	10.2	
Ethylbenzene*	<0.050	0.050	07/24/2022	ND	2.08	104	2.00	9.54	
Total Xylenes*	<0.150	0.150	07/24/2022	ND	6.33	106	6.00	9.72	
Total BTEX	<0.300	0.300	07/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	07/25/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	220	110	200	0.757	
DRO >C10-C28*	<10.0	10.0	07/25/2022	ND	223	112	200	1.38	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 71.7 % 43-149

Surrogate: 1-Chlorooctadecane 80.2 % 42.5-161

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: CS - 8.1 (6-7) (H223190-02)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/24/2022	ND	2.03	102	2.00	9.56		
Toluene*	<0.050	0.050	07/24/2022	ND	2.08	104	2.00	10.2		
Ethylbenzene*	<0.050	0.050	07/24/2022	ND	2.08	104	2.00	9.54		
Total Xylenes*	<0.150	0.150	07/24/2022	ND	6.33	106	6.00	9.72		
Total BTEX	<0.300	0.300	07/24/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	07/25/2022	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	220	110	200	0.757		
DRO >C10-C28*	<10.0	10.0	07/25/2022	ND	223	112	200	1.38		
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND						

Surrogate: 1-Chlorooctane 67.6 % 43-149

Surrogate: 1-Chlorooctadecane 75.1 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: CS - 9.1 (6-7) (H223190-03)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2022	ND	2.03	102	2.00	9.56	
Toluene*	<0.050	0.050	07/24/2022	ND	2.08	104	2.00	10.2	
Ethylbenzene*	<0.050	0.050	07/24/2022	ND	2.08	104	2.00	9.54	
Total Xylenes*	<0.150	0.150	07/24/2022	ND	6.33	106	6.00	9.72	
Total BTEX	<0.300	0.300	07/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	07/25/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	220	110	200	0.757	
DRO >C10-C28*	<10.0	10.0	07/25/2022	ND	223	112	200	1.38	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 67.5 % 43-149

Surrogate: 1-Chlorooctadecane 75.8 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: CS - 10.1 (6-7) (H223190-04)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2022	ND	2.03	102	2.00	9.56	
Toluene*	<0.050	0.050	07/24/2022	ND	2.08	104	2.00	10.2	
Ethylbenzene*	<0.050	0.050	07/24/2022	ND	2.08	104	2.00	9.54	
Total Xylenes*	<0.150	0.150	07/24/2022	ND	6.33	106	6.00	9.72	
Total BTEX	<0.300	0.300	07/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	07/25/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	190	94.9	200	0.511	
DRO >C10-C28*	<10.0	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 76.9 % 43-149

Surrogate: 1-Chlorooctadecane 86.1 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: CS - 25.1 (6-7) (H223190-05)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2022	ND	2.10	105	2.00	1.50	
Toluene*	<0.050	0.050	07/25/2022	ND	2.16	108	2.00	1.18	
Ethylbenzene*	<0.050	0.050	07/25/2022	ND	2.18	109	2.00	1.13	
Total Xylenes*	<0.150	0.150	07/25/2022	ND	6.64	111	6.00	1.64	
Total BTEX	<0.300	0.300	07/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/25/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	190	94.9	200	0.511	
DRO >C10-C28*	<10.0	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 73.1 % 43-149

Surrogate: 1-Chlorooctadecane 82.1 % 42.5-161

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**Analytical Results For:**

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 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: CS - 31.1 (6-7) (H223190-06)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2022	ND	2.10	105	2.00	1.50	
Toluene*	<0.050	0.050	07/25/2022	ND	2.16	108	2.00	1.18	
Ethylbenzene*	<0.050	0.050	07/25/2022	ND	2.18	109	2.00	1.13	
Total Xylenes*	<0.150	0.150	07/25/2022	ND	6.64	111	6.00	1.64	
Total BTEX	<0.300	0.300	07/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/25/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	190	94.9	200	0.511	
DRO >C10-C28*	<10.0	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 72.1 % 43-149

Surrogate: 1-Chlorooctadecane 87.0 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/21/2022  
 Reported: 07/26/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 07/20/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: N - 1.1 (2-3) (H223190-07)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2022	ND	2.10	105	2.00	1.50	
Toluene*	<0.050	0.050	07/25/2022	ND	2.16	108	2.00	1.18	
Ethylbenzene*	<0.050	0.050	07/25/2022	ND	2.18	109	2.00	1.13	
Total Xylenes*	<0.150	0.150	07/25/2022	ND	6.64	111	6.00	1.64	
Total BTEX	<0.300	0.300	07/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	07/25/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	190	94.9	200	0.511	
DRO >C10-C28*	<10.0	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 70.1 % 43-149

Surrogate: 1-Chlorooctadecane 78.9 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: N - 2.1 (2-3) (H223190-08)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2022	ND	2.10	105	2.00	1.50	
Toluene*	<0.050	0.050	07/25/2022	ND	2.16	108	2.00	1.18	
Ethylbenzene*	<0.050	0.050	07/25/2022	ND	2.18	109	2.00	1.13	
Total Xylenes*	<0.150	0.150	07/25/2022	ND	6.64	111	6.00	1.64	
Total BTEX	<0.300	0.300	07/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/25/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	190	94.9	200	0.511	
DRO >C10-C28*	<10.0	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 78.6 % 43-149

Surrogate: 1-Chlorooctadecane 89.5 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: N - 5.1 (2-3) (H223190-09)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2022	ND	2.10	105	2.00	1.50	
Toluene*	<0.050	0.050	07/25/2022	ND	2.16	108	2.00	1.18	
Ethylbenzene*	<0.050	0.050	07/25/2022	ND	2.18	109	2.00	1.13	
Total Xylenes*	<0.150	0.150	07/25/2022	ND	6.64	111	6.00	1.64	
Total BTEX	<0.300	0.300	07/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/25/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	190	94.9	200	0.511	
DRO >C10-C28*	<10.0	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 65.6 % 43-149

Surrogate: 1-Chlorooctadecane 74.0 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received: 07/21/2022  
 Reported: 07/26/2022  
 Project Name: AIKMAN SWD  
 Project Number: AR207018  
 Project Location: SPUR ENERGY

Sampling Date: 07/20/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: N - 7.1 (2-3) (H223190-10)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2022	ND	2.10	105	2.00	1.50	
Toluene*	<0.050	0.050	07/25/2022	ND	2.16	108	2.00	1.18	
Ethylbenzene*	<0.050	0.050	07/25/2022	ND	2.18	109	2.00	1.13	
Total Xylenes*	<0.150	0.150	07/25/2022	ND	6.64	111	6.00	1.64	
Total BTEX	<0.300	0.300	07/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/25/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	190	94.9	200	0.511	
DRO >C10-C28*	<10.0	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 73.8 % 43-149

Surrogate: 1-Chlorooctadecane 82.9 % 42.5-161

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**Analytical Results For:**

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 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: S - 1.1 (2-3) (H223190-11)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2022	ND	2.10	105	2.00	1.50	
Toluene*	<0.050	0.050	07/25/2022	ND	2.16	108	2.00	1.18	
Ethylbenzene*	<0.050	0.050	07/25/2022	ND	2.18	109	2.00	1.13	
Total Xylenes*	<0.150	0.150	07/25/2022	ND	6.64	111	6.00	1.64	
Total BTEX	<0.300	0.300	07/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/25/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	190	94.9	200	0.511	
DRO >C10-C28*	<10.0	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 79.5 % 43-149

Surrogate: 1-Chlorooctadecane 88.9 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: S - 5.1 (2-3) (H223190-12)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2022	ND	2.10	105	2.00	1.50	
Toluene*	<0.050	0.050	07/25/2022	ND	2.16	108	2.00	1.18	
Ethylbenzene*	<0.050	0.050	07/25/2022	ND	2.18	109	2.00	1.13	
Total Xylenes*	<0.150	0.150	07/25/2022	ND	6.64	111	6.00	1.64	
Total BTEX	<0.300	0.300	07/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	07/25/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	190	94.9	200	0.511	
DRO >C10-C28*	<10.0	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 76.5 % 43-149

Surrogate: 1-Chlorooctadecane 85.5 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: W - 1.1 (2-3) (H223190-13)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2022	ND	2.10	105	2.00	1.50	
Toluene*	<0.050	0.050	07/25/2022	ND	2.16	108	2.00	1.18	
Ethylbenzene*	<0.050	0.050	07/25/2022	ND	2.18	109	2.00	1.13	
Total Xylenes*	<0.150	0.150	07/25/2022	ND	6.64	111	6.00	1.64	
Total BTEX	<0.300	0.300	07/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/25/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	190	94.9	200	0.511	
DRO >C10-C28*	<10.0	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 73.7 % 43-149

Surrogate: 1-Chlorooctadecane 82.9 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: W - 2.1 (2-3) (H223190-14)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2022	ND	2.10	105	2.00	1.50	
Toluene*	<0.050	0.050	07/25/2022	ND	2.16	108	2.00	1.18	
Ethylbenzene*	<0.050	0.050	07/25/2022	ND	2.18	109	2.00	1.13	
Total Xylenes*	<0.150	0.150	07/25/2022	ND	6.64	111	6.00	1.64	
Total BTEX	<0.300	0.300	07/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/25/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	190	94.9	200	0.511	
DRO >C10-C28*	<10.0	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 76.5 % 43-149

Surrogate: 1-Chlorooctadecane 85.5 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: E - 1.1 (2-3) (H223190-15)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2022	ND	2.10	105	2.00	1.50	
Toluene*	<0.050	0.050	07/25/2022	ND	2.16	108	2.00	1.18	
Ethylbenzene*	<0.050	0.050	07/25/2022	ND	2.18	109	2.00	1.13	
Total Xylenes*	<0.150	0.150	07/25/2022	ND	6.64	111	6.00	1.64	
Total BTEX	<0.300	0.300	07/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/25/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	190	94.9	200	0.511	
DRO >C10-C28*	<10.0	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 69.4 % 43-149

Surrogate: 1-Chlorooctadecane 75.7 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: E - 2.1 (2-3) (H223190-16)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2022	ND	2.10	105	2.00	1.50	
<b>Toluene*</b>	<b>0.064</b>	0.050	07/25/2022	ND	2.16	108	2.00	1.18	
Ethylbenzene*	<0.050	0.050	07/25/2022	ND	2.18	109	2.00	1.13	
Total Xylenes*	<0.150	0.150	07/25/2022	ND	6.64	111	6.00	1.64	
Total BTEX	<0.300	0.300	07/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>48.0</b>	16.0	07/25/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	190	94.9	200	0.511	
<b>DRO &gt;C10-C28*</b>	<b>256</b>	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 75.8 % 43-149

Surrogate: 1-Chlorooctadecane 85.1 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: TN - 1.1 (1-2) (H223190-17)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2022	ND	2.10	105	2.00	1.50	
<b>Toluene*</b>	<b>0.063</b>	0.050	07/25/2022	ND	2.16	108	2.00	1.18	
Ethylbenzene*	<0.050	0.050	07/25/2022	ND	2.18	109	2.00	1.13	
Total Xylenes*	<0.150	0.150	07/25/2022	ND	6.64	111	6.00	1.64	
Total BTEX	<0.300	0.300	07/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>48.0</b>	16.0	07/25/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	190	94.9	200	0.511	
<b>DRO &gt;C10-C28*</b>	<b>285</b>	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 81.0 % 43-149

Surrogate: 1-Chlorooctadecane 92.3 % 42.5-161

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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: TN - 2.1 (1-2) (H223190-18)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.056</b>	0.050	07/25/2022	ND	2.10	105	2.00	1.50	
<b>Toluene*</b>	<b>0.417</b>	0.050	07/25/2022	ND	2.16	108	2.00	1.18	
Ethylbenzene*	<0.050	0.050	07/25/2022	ND	2.18	109	2.00	1.13	
<b>Total Xylenes*</b>	<b>0.553</b>	0.150	07/25/2022	ND	6.64	111	6.00	1.64	
<b>Total BTEX</b>	<b>1.03</b>	0.300	07/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>32.0</b>	16.0	07/25/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>13.4</b>	10.0	07/25/2022	ND	190	94.9	200	0.511	
<b>DRO &gt;C10-C28*</b>	<b>327</b>	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 70.4 % 43-149

Surrogate: 1-Chlorooctadecane 75.4 % 42.5-161

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: TS - 1.1 (1-2) (H223190-20)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2022	ND	2.10	105	2.00	1.50	
Toluene*	<0.050	0.050	07/25/2022	ND	2.16	108	2.00	1.18	
Ethylbenzene*	<0.050	0.050	07/25/2022	ND	2.18	109	2.00	1.13	
Total Xylenes*	<0.150	0.150	07/25/2022	ND	6.64	111	6.00	1.64	
Total BTEX	<0.300	0.300	07/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>48.0</b>	16.0	07/25/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2022	ND	190	94.9	200	0.511	
<b>DRO &gt;C10-C28*</b>	<b>12.6</b>	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 71.7 % 43-149

Surrogate: 1-Chlorooctadecane 78.6 % 42.5-161

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	07/21/2022	Sampling Date:	07/20/2022
Reported:	07/26/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: TS - 2.1 (1-2) (H223190-21)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2022	ND	2.10	105	2.00	1.50	
<b>Toluene*</b>	<b>0.283</b>	0.050	07/25/2022	ND	2.16	108	2.00	1.18	
Ethylbenzene*	<0.050	0.050	07/25/2022	ND	2.18	109	2.00	1.13	
<b>Total Xylenes*</b>	<b>0.378</b>	0.150	07/25/2022	ND	6.64	111	6.00	1.64	
<b>Total BTEX</b>	<b>0.661</b>	0.300	07/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>48.0</b>	16.0	07/25/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>11.6</b>	10.0	07/25/2022	ND	190	94.9	200	0.511	
<b>DRO &gt;C10-C28*</b>	<b>264</b>	10.0	07/25/2022	ND	202	101	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	07/25/2022	ND					

Surrogate: 1-Chlorooctane 74.6 % 43-149

Surrogate: 1-Chlorooctadecane 81.0 % 42.5-161

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Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: *Terrason*  
 Project Manager: *Joseph Greiner*  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: *808-544-9276* Fax #: \_\_\_\_\_  
 Project #: *ARR27018* Project Owner: \_\_\_\_\_  
 Project Name: *Aiken* City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Project Location: \_\_\_\_\_ Phone #: \_\_\_\_\_  
 Sampler Name: \_\_\_\_\_ Fax #: \_\_\_\_\_

P.O. #: \_\_\_\_\_  
 Company: *S Pur*  
 Attn: *Brady Moulder*  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS REQUEST
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
<i>H22319D</i>	<i>CS-7.1 (6-7)</i>	<i>1</i>	<i>1</i>	<i>X</i>					<i>7-20-22</i>	<i>19:00</i>	<i>Chloride (4500)</i>	
	<i>CS-8.1 (6-7)</i>	<i>1</i>	<i>1</i>	<i>X</i>					<i>19:05</i>	<i>19:10</i>	<i>BTEX (8021B)</i>	
	<i>CS-9.1 (6-7)</i>	<i>1</i>	<i>1</i>	<i>X</i>					<i>19:15</i>	<i>19:20</i>	<i>TPH Etc (8015)</i>	
	<i>CS-10.1 (6-7)</i>	<i>1</i>	<i>1</i>	<i>X</i>					<i>19:25</i>	<i>19:30</i>		
	<i>CS-25.1 (6-7)</i>	<i>1</i>	<i>1</i>	<i>X</i>					<i>19:35</i>	<i>19:40</i>		
	<i>CS-31.1 (6-7)</i>	<i>1</i>	<i>1</i>	<i>X</i>					<i>19:45</i>	<i>19:45</i>		
	<i>N-1.1 (2-3)</i>	<i>1</i>	<i>1</i>	<i>X</i>								
	<i>N-2.1 (2-3)</i>	<i>1</i>	<i>1</i>	<i>X</i>								
	<i>N-5.1 (2-3)</i>	<i>1</i>	<i>1</i>	<i>X</i>								
	<i>N-7.1 (2-3)</i>	<i>1</i>	<i>1</i>	<i>X</i>								

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Relinquished By: *[Signature]* Date: *7-20-22* Received By: *[Signature]* Date: *7-20-22*  
 Time: *19:15* Received By: *[Signature]* Time: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Received By: \_\_\_\_\_ Date: \_\_\_\_\_

Delivered By: (Circle One) Observed Temp. °C: *0.10* Sample Condition: \_\_\_\_\_  
 Sampler - UPS - Bus - Other: Corrected Temp. °C: *-0.52* Cool Intact:  Yes  No  
 Intact:  Yes  No

Checked By: (Initials) *JD*  
 Turnaround Time: \_\_\_\_\_ Standard  Rush   
 Thermometer ID #113 Correction Factor -0.5°C *70.7/21/22* Bacteria (only) Sample Condition: \_\_\_\_\_  
 Cool Intact:  Yes  No Corrected Temp. °C: \_\_\_\_\_

REMARKS: \_\_\_\_\_

Verbal Result:  Yes  No Add'l Phone #: \_\_\_\_\_  
 All Results are emailed. Please provide Email address: \_\_\_\_\_

† Cardinal cannot accept verbal changes. Please email changes to *celey.keene@cardinallabsnm.com*





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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: **TERRON** P.O. #: **SPR** ANALYSIS REQUEST  
 Project Manager: **Joseph Guenier** Attn: **Grady Morales**

Address: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 City: \_\_\_\_\_

Phone #: **506-544-9276** Fax #: \_\_\_\_\_  
 Project #: **AR207018** Project Owner: \_\_\_\_\_

Project Name: \_\_\_\_\_ City: \_\_\_\_\_  
 Project Location: **Aikman** State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_

Sampler Name: \_\_\_\_\_ Fax #: \_\_\_\_\_  
 FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS REQUEST
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
<b>H2319D</b>												
11	E-1.1 (E-3)	C	1						7-20-22	19:50	X	Chloride (4500)
12	S-F.1 (E-3)	C	1							19:55	X	BTEX (8021B)
13	W-1.1 (E-3)	C	1							20:00	X	TPH EXT (8015)
14	W-2.1 (E-3)	C	1							20:05	X	
15	E-1.1 (E-3)	C	1							20:10	X	
16	E-2.1 (E-3)	C	1							20:15	X	
17	TN-1.1 (E-2)	C	1							20:20	X	
18	TN-2.1 (E-2)	C	1							20:25	X	
19	FE-1.1 (E-2)	C	1							20:30	X	ND SAMPLE
20	FS-1.1 (E-2)	C	1							20:35	X	

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Relinquished By: \_\_\_\_\_ Date: **7-21-22** Received By: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date: **7-21-22** Received By: \_\_\_\_\_

Delivered By: (Circle One) Observed Temp. °C: **0.12** Sample Condition:  Intact  
 Sampler - UPS - Bus - Other: Corrected Temp. °C: **-0.52-0.72** Cool Intact:  Yes  No

Checked By: \_\_\_\_\_ (initials) **SP**  
 Turnaround Time: \_\_\_\_\_ Standard  Bacteria (only) Sample Condition  
 Thermometer ID #13 **TS**  Cool Intact  Yes  No  
 Correction Factor -0.8°C **TS**  Observed Temp. °C  Yes  No  
 Corrected Temp. °C \_\_\_\_\_

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Terrace P.O. #: \_\_\_\_\_  
 Project Manager: Joseph Guerin Company: SLR  
 Address: \_\_\_\_\_ Attn: Emily Morales  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: 806-544-9276 Fax #: \_\_\_\_\_  
 Project #: HR27018 Project Owner: \_\_\_\_\_  
 Project Name: Aiken City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Project Location: \_\_\_\_\_ Phone #: \_\_\_\_\_  
 Sampler Name: \_\_\_\_\_ Fax #: \_\_\_\_\_

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME						
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :								
<u>H223190</u>	<u>21 TS-2.1 (1-2)</u>	<u>✓</u>	<u>1</u>			<u>✓</u>				<u>7-20-22</u>	<u>20:40</u>	<u>X</u>	<u>Chloride (4500)</u>				
												<u>X</u>	<u>BTEX (8021B)</u>				
												<u>X</u>	<u>TPH EXT (8615)</u>				

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Relinquished By: \_\_\_\_\_ Date: 7-21-22 Received By: Shirley White Time: 10:30  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Received By: \_\_\_\_\_ Time: \_\_\_\_\_

Delivered By: (Circle One) Observed Temp. °C 0.18 Sample Condition  Cool  Intact  Bacteria (only)  Yes  No  Corrected Temp. °C -0.52 0.72  Yes  No  No  No  No  No  No

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 7-21-22



# Environment Testing America

## ANALYTICAL REPORT

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad, NM 88220  
Tel: (575)988-3199

Laboratory Job ID: 890-3191-1  
Client Project/Site: Aikman State #001

For:  
Terracon Consulting Eng & Scientists  
5847 50th St  
Lubbock, Texas 79424

Attn: Mike Adams

Authorized for release by:  
10/17/2022 3:08:08 PM

Jessica Kramer, Project Manager  
(432)704-5440  
[Jessica.Kramer@et.eurofinsus.com](mailto:Jessica.Kramer@et.eurofinsus.com)



### LINKS

Review your project results through



Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

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

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

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

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman State #001

Laboratory Job ID: 890-3191-1

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Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

#### Coliform MCLs

· Based on the EPA primary drinking water standard MCL for total coliforms, a water supply is considered bacteriologically "SAFE" if no coliform bacteria are detected. To be considered "SAFE" your report should indicate "<1 cfu/100mL" or "NEG" for the coliform test. If you report indicates a positive result "POS" or a value greater than or equal to one, then your supply is "UNSAFE FOR DRINKING" contact your local health department.

#### Warranties, Terms, and Conditions

· Analyses for Field Parameters are performed by Eurofins Philadelphia field staff. Locations and certifications are identified on the Chain of Custody as follows:

ERF = field staff performs tests under NJ State certification #02015

VL = field staff performs tests under NJ State certification #06005

WG = field staff performs tests under NJ State certification #PA001

H = field staff performs tests under NJ NELAP certification #PA093, PA NELAP certification # 46-

05499

· Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.

· The report shall not be reproduced, except in full, without the written consent of the laboratory

· All samples are collected as "grab" samples unless otherwise identified.

· Reported results related only to the samples as tested. Eurofins Philadelphia is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· Eurofins Philadelphia is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance.

· Eurofins' online data portal "TotalAccess" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.

· The following personnel or their deputies have approved the results of the tests performed by Eurofins Philadelphia : Nicki Smith (Environmental Chemistry) and Jacqueline Gartner (Water Microbiology).



---

Jessica Kramer  
Project Manager  
10/17/2022 3:08:08 PM

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman State #001

Laboratory Job ID: 890-3191-1

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

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Client Sample Results . . . . .	6
Surrogate Summary . . . . .	21
QC Sample Results . . . . .	23
QC Association Summary . . . . .	30
Lab Chronicle . . . . .	35
Certification Summary . . . . .	41
Method Summary . . . . .	42
Sample Summary . . . . .	43
Chain of Custody . . . . .	44
Receipt Checklists . . . . .	45

## Definitions/Glossary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman State #001

Job ID: 890-3191-1

## Qualifiers

## GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

## GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

## HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

## Glossary

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

Eurofins Carlsbad



### Case Narrative

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman State #001

Job ID: 890-3191-1

---

**Job ID: 890-3191-1**

---

**Laboratory: Eurofins Carlsbad****Narrative****Job Narrative  
890-3191-1****Receipt**

The samples were received on 10/10/2022 3:58 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C

**Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: N-SW (890-3191-1), E-SW (890-3191-2), S-SW (890-3191-3), W-SW (890-3191-4), FS01 (890-3191-5), FS02 (890-3191-6), FS03 (890-3191-7), FS04 (890-3191-8), FS05 (890-3191-9), FS06 (890-3191-10), FS07 (890-3191-11), FS08 (890-3191-12), FS09 (890-3191-13), FS10 (890-3191-14), FS11 (890-3191-15), FS12 (890-3191-16), FS13 (890-3191-17) and FS14 (890-3191-18).

**GC VOA**

Method 8021B: The matrix spike duplicate (MSD) recoveries for preparation batch 880-36982 and analytical batch 880-37017 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: FS01 (890-3191-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: FS05 (890-3191-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: FS11 (890-3191-15). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: FS09 (890-3191-13) and FS12 (890-3191-16). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**GC Semi VOA**

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: FS02 (890-3191-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-36769 and analytical batch 880-36709 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**HPLC/IC**

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.





## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman State #001

Job ID: 890-3191-1

## Client Sample ID: N-SW

Lab Sample ID: 890-3191-1

Date Collected: 10/10/22 11:50

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 2'

## Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0200	U	0.0200		mg/Kg		10/17/22 08:52	10/17/22 13:50	10
Toluene	<0.0200	U	0.0200		mg/Kg		10/17/22 08:52	10/17/22 13:50	10
Ethylbenzene	<0.0200	U	0.0200		mg/Kg		10/17/22 08:52	10/17/22 13:50	10
m-Xylene & p-Xylene	<0.0399	U	0.0399		mg/Kg		10/17/22 08:52	10/17/22 13:50	10
o-Xylene	<0.0200	U	0.0200		mg/Kg		10/17/22 08:52	10/17/22 13:50	10
Xylenes, Total	<0.0399	U	0.0399		mg/Kg		10/17/22 08:52	10/17/22 13:50	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130	10/17/22 08:52	10/17/22 13:50	10
1,4-Difluorobenzene (Surr)	72		70 - 130	10/17/22 08:52	10/17/22 13:50	10

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0399	U	0.0399		mg/Kg			10/17/22 12:04	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/13/22 11:39	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U*1	49.8		mg/Kg		10/12/22 15:33	10/12/22 22:16	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/12/22 15:33	10/12/22 22:16	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/12/22 15:33	10/12/22 22:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	10/12/22 15:33	10/12/22 22:16	1
o-Terphenyl	114		70 - 130	10/12/22 15:33	10/12/22 22:16	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	40.3		5.02		mg/Kg			10/14/22 12:39	1

## Client Sample ID: E-SW

Lab Sample ID: 890-3191-2

Date Collected: 10/10/22 11:52

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 2'

## Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/14/22 14:55	10/16/22 07:03	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/14/22 14:55	10/16/22 07:03	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/14/22 14:55	10/16/22 07:03	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/14/22 14:55	10/16/22 07:03	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/14/22 14:55	10/16/22 07:03	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/14/22 14:55	10/16/22 07:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	129		70 - 130	10/14/22 14:55	10/16/22 07:03	1

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### Client Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Client Sample ID: E-SW**

**Lab Sample ID: 890-3191-2**

Date Collected: 10/10/22 11:52

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 2'

**Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	91		70 - 130	10/14/22 14:55	10/16/22 07:03	1

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			10/17/22 12:04	1

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			10/13/22 11:39	1

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		10/12/22 15:33	10/12/22 23:21	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/12/22 15:33	10/12/22 23:21	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/12/22 15:33	10/12/22 23:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	10/12/22 15:33	10/12/22 23:21	1
o-Terphenyl	107		70 - 130	10/12/22 15:33	10/12/22 23:21	1

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	107		5.00		mg/Kg			10/14/22 12:53	1

**Client Sample ID: S-SW**

**Lab Sample ID: 890-3191-3**

Date Collected: 10/10/22 11:54

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 2'

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 07:23	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 07:23	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 07:23	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/14/22 14:55	10/16/22 07:23	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 07:23	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/14/22 14:55	10/16/22 07:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		70 - 130	10/14/22 14:55	10/16/22 07:23	1
1,4-Difluorobenzene (Surr)	73		70 - 130	10/14/22 14:55	10/16/22 07:23	1

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			10/17/22 12:04	1

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/13/22 11:39	1

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## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman State #001

Job ID: 890-3191-1

## Client Sample ID: S-SW

Lab Sample ID: 890-3191-3

Date Collected: 10/10/22 11:54

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 2'

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		10/12/22 15:33	10/12/22 23:43	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/12/22 15:33	10/12/22 23:43	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/12/22 15:33	10/12/22 23:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130				10/12/22 15:33	10/12/22 23:43	1
o-Terphenyl	111		70 - 130				10/12/22 15:33	10/12/22 23:43	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	540		4.98		mg/Kg			10/14/22 12:58	1

## Client Sample ID: W-SW

Lab Sample ID: 890-3191-4

Date Collected: 10/10/22 11:56

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 2'

## Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0201	U	0.0201		mg/Kg		10/17/22 08:52	10/17/22 14:10	10
Toluene	<0.0201	U	0.0201		mg/Kg		10/17/22 08:52	10/17/22 14:10	10
Ethylbenzene	<0.0201	U	0.0201		mg/Kg		10/17/22 08:52	10/17/22 14:10	10
m-Xylene & p-Xylene	<0.0402	U	0.0402		mg/Kg		10/17/22 08:52	10/17/22 14:10	10
o-Xylene	0.0209		0.0201		mg/Kg		10/17/22 08:52	10/17/22 14:10	10
Xylenes, Total	<0.0402	U	0.0402		mg/Kg		10/17/22 08:52	10/17/22 14:10	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		70 - 130				10/17/22 08:52	10/17/22 14:10	10
1,4-Difluorobenzene (Surr)	77		70 - 130				10/17/22 08:52	10/17/22 14:10	10

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0402	U	0.0402		mg/Kg			10/17/22 12:04	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			10/13/22 11:39	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		10/12/22 15:33	10/13/22 00:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/12/22 15:33	10/13/22 00:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/12/22 15:33	10/13/22 00:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130				10/12/22 15:33	10/13/22 00:04	1
o-Terphenyl	111		70 - 130				10/12/22 15:33	10/13/22 00:04	1

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### Client Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Client Sample ID: W-SW**

**Lab Sample ID: 890-3191-4**

Date Collected: 10/10/22 11:56

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 2'

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	185		5.00		mg/Kg			10/14/22 13:03	1

**Client Sample ID: FS01**

**Lab Sample ID: 890-3191-5**

Date Collected: 10/10/22 11:58

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 2'

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/14/22 14:55	10/16/22 08:05	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/14/22 14:55	10/16/22 08:05	1
Ethylbenzene	0.00451		0.00201		mg/Kg		10/14/22 14:55	10/16/22 08:05	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/14/22 14:55	10/16/22 08:05	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/14/22 14:55	10/16/22 08:05	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/14/22 14:55	10/16/22 08:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	10/14/22 14:55	10/16/22 08:05	1
1,4-Difluorobenzene (Surr)	65	S1-	70 - 130	10/14/22 14:55	10/16/22 08:05	1

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.00451		0.00402		mg/Kg			10/17/22 12:04	1

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/13/22 11:39	1

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		10/12/22 15:33	10/13/22 00:25	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/12/22 15:33	10/13/22 00:25	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/12/22 15:33	10/13/22 00:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	10/12/22 15:33	10/13/22 00:25	1
o-Terphenyl	115		70 - 130	10/12/22 15:33	10/13/22 00:25	1

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	189		4.99		mg/Kg			10/14/22 13:08	1

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## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman State #001

Job ID: 890-3191-1

Client Sample ID: FS02

Lab Sample ID: 890-3191-6

Date Collected: 10/10/22 12:00

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 2'

## Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 08:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 08:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 08:25	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/14/22 14:55	10/16/22 08:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 08:25	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/14/22 14:55	10/16/22 08:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	10/14/22 14:55	10/16/22 08:25	1
1,4-Difluorobenzene (Surr)	109		70 - 130	10/14/22 14:55	10/16/22 08:25	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			10/17/22 12:04	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			10/13/22 11:39	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U*1	49.9		mg/Kg		10/12/22 15:33	10/13/22 00:46	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/12/22 15:33	10/13/22 00:46	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/12/22 15:33	10/13/22 00:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	116		70 - 130	10/12/22 15:33	10/13/22 00:46	1
o-Terphenyl	131	S1+	70 - 130	10/12/22 15:33	10/13/22 00:46	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1290		25.2		mg/Kg			10/14/22 13:28	5

Client Sample ID: FS03

Lab Sample ID: 890-3191-7

Date Collected: 10/10/22 12:02

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 2'

## Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/14/22 14:55	10/16/22 08:46	1
Toluene	0.00218		0.00199		mg/Kg		10/14/22 14:55	10/16/22 08:46	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/14/22 14:55	10/16/22 08:46	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/14/22 14:55	10/16/22 08:46	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/14/22 14:55	10/16/22 08:46	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/14/22 14:55	10/16/22 08:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	10/14/22 14:55	10/16/22 08:46	1

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### Client Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Client Sample ID: FS03**

**Lab Sample ID: 890-3191-7**

Date Collected: 10/10/22 12:02

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 2'

**Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	112		70 - 130	10/14/22 14:55	10/16/22 08:46	1

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			10/17/22 12:04	1

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/13/22 11:39	1

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0		mg/Kg		10/12/22 15:33	10/13/22 01:07	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/12/22 15:33	10/13/22 01:07	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/12/22 15:33	10/13/22 01:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	10/12/22 15:33	10/13/22 01:07	1
o-Terphenyl	113		70 - 130	10/12/22 15:33	10/13/22 01:07	1

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	424		4.97		mg/Kg			10/14/22 13:33	1

**Client Sample ID: FS04**

**Lab Sample ID: 890-3191-8**

Date Collected: 10/10/22 12:04

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 2'

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 09:07	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 09:07	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 09:07	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/14/22 14:55	10/16/22 09:07	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 09:07	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/14/22 14:55	10/16/22 09:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	10/14/22 14:55	10/16/22 09:07	1
1,4-Difluorobenzene (Surr)	104		70 - 130	10/14/22 14:55	10/16/22 09:07	1

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			10/17/22 12:04	1

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/13/22 11:39	1

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### Client Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Client Sample ID: FS04**

**Lab Sample ID: 890-3191-8**

Date Collected: 10/10/22 12:04

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 2'

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0		mg/Kg		10/12/22 15:33	10/13/22 01:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/12/22 15:33	10/13/22 01:28	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/12/22 15:33	10/13/22 01:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130				10/12/22 15:33	10/13/22 01:28	1
o-Terphenyl	109		70 - 130				10/12/22 15:33	10/13/22 01:28	1

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	184		5.00		mg/Kg			10/14/22 13:38	1

**Client Sample ID: FS05**

**Lab Sample ID: 890-3191-9**

Date Collected: 10/10/22 12:06

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 2'

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/14/22 14:55	10/16/22 09:27	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/14/22 14:55	10/16/22 09:27	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/14/22 14:55	10/16/22 09:27	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/14/22 14:55	10/16/22 09:27	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/14/22 14:55	10/16/22 09:27	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/14/22 14:55	10/16/22 09:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130				10/14/22 14:55	10/16/22 09:27	1
1,4-Difluorobenzene (Surr)	68	S1-	70 - 130				10/14/22 14:55	10/16/22 09:27	1

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			10/17/22 12:04	1

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/13/22 11:39	1

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		10/12/22 15:33	10/13/22 01:49	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/12/22 15:33	10/13/22 01:49	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/12/22 15:33	10/13/22 01:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130				10/12/22 15:33	10/13/22 01:49	1
o-Terphenyl	113		70 - 130				10/12/22 15:33	10/13/22 01:49	1

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### Client Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Client Sample ID: FS05**

**Lab Sample ID: 890-3191-9**

Date Collected: 10/10/22 12:06

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 2'

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27.8		4.99		mg/Kg			10/14/22 13:43	1

**Client Sample ID: FS06**

**Lab Sample ID: 890-3191-10**

Date Collected: 10/10/22 12:08

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 8'

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 09:48	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 09:48	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 09:48	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/14/22 14:55	10/16/22 09:48	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 09:48	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/14/22 14:55	10/16/22 09:48	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	122		70 - 130				10/14/22 14:55	10/16/22 09:48	1
1,4-Difluorobenzene (Surr)	98		70 - 130				10/14/22 14:55	10/16/22 09:48	1

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			10/17/22 12:04	1

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/13/22 11:39	1

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		10/12/22 15:33	10/13/22 02:10	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/12/22 15:33	10/13/22 02:10	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/12/22 15:33	10/13/22 02:10	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1-Chlorooctane	102		70 - 130				10/12/22 15:33	10/13/22 02:10	1
o-Terphenyl	117		70 - 130				10/12/22 15:33	10/13/22 02:10	1

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.7		4.98		mg/Kg			10/14/22 13:48	1

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## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman State #001

Job ID: 890-3191-1

Client Sample ID: FS07

Lab Sample ID: 890-3191-11

Date Collected: 10/10/22 12:10

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 8'

## Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 11:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 11:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 11:12	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/14/22 14:55	10/16/22 11:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 11:12	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/14/22 14:55	10/16/22 11:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	10/14/22 14:55	10/16/22 11:12	1
1,4-Difluorobenzene (Surr)	91		70 - 130	10/14/22 14:55	10/16/22 11:12	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			10/17/22 12:04	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/13/22 11:39	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U*1	50.0		mg/Kg		10/12/22 15:33	10/13/22 02:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/12/22 15:33	10/13/22 02:52	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/12/22 15:33	10/13/22 02:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130	10/12/22 15:33	10/13/22 02:52	1
o-Terphenyl	126		70 - 130	10/12/22 15:33	10/13/22 02:52	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	76.4		5.00		mg/Kg			10/14/22 13:52	1

Client Sample ID: FS08

Lab Sample ID: 890-3191-12

Date Collected: 10/10/22 12:12

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 8'

## Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/14/22 14:55	10/16/22 11:32	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/14/22 14:55	10/16/22 11:32	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/14/22 14:55	10/16/22 11:32	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/14/22 14:55	10/16/22 11:32	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/14/22 14:55	10/16/22 11:32	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/14/22 14:55	10/16/22 11:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	10/14/22 14:55	10/16/22 11:32	1

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### Client Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Client Sample ID: FS08**

**Lab Sample ID: 890-3191-12**

Date Collected: 10/10/22 12:12

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 8'

**Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	101		70 - 130	10/14/22 14:55	10/16/22 11:32	1

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			10/17/22 12:04	1

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			10/13/22 11:39	1

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		10/12/22 15:33	10/13/22 03:13	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/12/22 15:33	10/13/22 03:13	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/12/22 15:33	10/13/22 03:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	10/12/22 15:33	10/13/22 03:13	1
o-Terphenyl	109		70 - 130	10/12/22 15:33	10/13/22 03:13	1

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3120		24.8		mg/Kg			10/14/22 14:07	5

**Client Sample ID: FS09**

**Lab Sample ID: 890-3191-13**

Date Collected: 10/10/22 12:14

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 8'

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0199	U	0.0199		mg/Kg		10/14/22 14:55	10/16/22 13:57	10
Toluene	0.0912		0.0199		mg/Kg		10/14/22 14:55	10/16/22 13:57	10
Ethylbenzene	<0.0199	U	0.0199		mg/Kg		10/14/22 14:55	10/16/22 13:57	10
m-Xylene & p-Xylene	<0.0398	U	0.0398		mg/Kg		10/14/22 14:55	10/16/22 13:57	10
o-Xylene	<0.0199	U	0.0199		mg/Kg		10/14/22 14:55	10/16/22 13:57	10
Xylenes, Total	<0.0398	U	0.0398		mg/Kg		10/14/22 14:55	10/16/22 13:57	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	178	S1+	70 - 130	10/14/22 14:55	10/16/22 13:57	10
1,4-Difluorobenzene (Surr)	86		70 - 130	10/14/22 14:55	10/16/22 13:57	10

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.0912		0.0398		mg/Kg			10/17/22 12:04	1

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	104		49.9		mg/Kg			10/13/22 11:39	1

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### Client Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Client Sample ID: FS09**

**Lab Sample ID: 890-3191-13**

Date Collected: 10/10/22 12:14

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 8'

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		10/12/22 15:33	10/13/22 03:34	1
Diesel Range Organics (Over C10-C28)	104		49.9		mg/Kg		10/12/22 15:33	10/13/22 03:34	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/12/22 15:33	10/13/22 03:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130				10/12/22 15:33	10/13/22 03:34	1
o-Terphenyl	115		70 - 130				10/12/22 15:33	10/13/22 03:34	1

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	52.1		5.01		mg/Kg			10/14/22 14:12	1

**Client Sample ID: FS10**

**Lab Sample ID: 890-3191-14**

Date Collected: 10/10/22 12:16

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 8'

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/14/22 14:55	10/16/22 11:53	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/14/22 14:55	10/16/22 11:53	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/14/22 14:55	10/16/22 11:53	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/14/22 14:55	10/16/22 11:53	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/14/22 14:55	10/16/22 11:53	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/14/22 14:55	10/16/22 11:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130				10/14/22 14:55	10/16/22 11:53	1
1,4-Difluorobenzene (Surr)	97		70 - 130				10/14/22 14:55	10/16/22 11:53	1

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			10/17/22 12:04	1

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/13/22 11:39	1

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		10/12/22 15:33	10/13/22 03:55	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/12/22 15:33	10/13/22 03:55	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/12/22 15:33	10/13/22 03:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130				10/12/22 15:33	10/13/22 03:55	1
o-Terphenyl	112		70 - 130				10/12/22 15:33	10/13/22 03:55	1

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### Client Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Client Sample ID: FS10**

**Lab Sample ID: 890-3191-14**

Date Collected: 10/10/22 12:16

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 8'

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	399		5.04		mg/Kg			10/14/22 14:26	1

**Client Sample ID: FS11**

**Lab Sample ID: 890-3191-15**

Date Collected: 10/10/22 12:18

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 8'

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 12:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 12:14	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 12:14	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/14/22 14:55	10/16/22 12:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 12:14	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/14/22 14:55	10/16/22 12:14	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	38	S1-	70 - 130				10/14/22 14:55	10/16/22 12:14	1
1,4-Difluorobenzene (Surr)	73		70 - 130				10/14/22 14:55	10/16/22 12:14	1

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			10/17/22 12:04	1

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/13/22 11:39	1

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0		mg/Kg		10/12/22 15:33	10/13/22 04:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/12/22 15:33	10/13/22 04:16	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/12/22 15:33	10/13/22 04:16	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1-Chlorooctane	99		70 - 130				10/12/22 15:33	10/13/22 04:16	1
o-Terphenyl	112		70 - 130				10/12/22 15:33	10/13/22 04:16	1

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	142		4.98		mg/Kg			10/14/22 14:31	1

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### Client Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Client Sample ID: FS12**

**Lab Sample ID: 890-3191-16**

Date Collected: 10/10/22 12:20

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 8'

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0869		0.0198		mg/Kg		10/14/22 14:55	10/16/22 14:23	10
Toluene	<0.0198	U	0.0198		mg/Kg		10/14/22 14:55	10/16/22 14:23	10
Ethylbenzene	<0.0198	U	0.0198		mg/Kg		10/14/22 14:55	10/16/22 14:23	10
m-Xylene & p-Xylene	<0.0396	U	0.0396		mg/Kg		10/14/22 14:55	10/16/22 14:23	10
o-Xylene	0.0291		0.0198		mg/Kg		10/14/22 14:55	10/16/22 14:23	10
Xylenes, Total	<0.0396	U	0.0396		mg/Kg		10/14/22 14:55	10/16/22 14:23	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	158	S1+	70 - 130	10/14/22 14:55	10/16/22 14:23	10
1,4-Difluorobenzene (Surr)	99		70 - 130	10/14/22 14:55	10/16/22 14:23	10

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.116		0.0396		mg/Kg			10/17/22 12:04	1

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/13/22 11:39	1

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U*1	50.0		mg/Kg		10/12/22 15:33	10/13/22 04:38	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/12/22 15:33	10/13/22 04:38	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/12/22 15:33	10/13/22 04:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	10/12/22 15:33	10/13/22 04:38	1
o-Terphenyl	108		70 - 130	10/12/22 15:33	10/13/22 04:38	1

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	269		5.03		mg/Kg			10/14/22 14:36	1

**Client Sample ID: FS13**

**Lab Sample ID: 890-3191-17**

Date Collected: 10/10/22 12:22

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 8'

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 12:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 12:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 12:34	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/14/22 14:55	10/16/22 12:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 12:34	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/14/22 14:55	10/16/22 12:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	10/14/22 14:55	10/16/22 12:34	1

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### Client Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Client Sample ID: FS13**

**Lab Sample ID: 890-3191-17**

Date Collected: 10/10/22 12:22

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 8'

**Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	96		70 - 130	10/14/22 14:55	10/16/22 12:34	1

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			10/17/22 12:04	1

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			10/13/22 11:39	1

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/12/22 09:06	10/12/22 20:07	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/12/22 09:06	10/12/22 20:07	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/12/22 09:06	10/12/22 20:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	10/12/22 09:06	10/12/22 20:07	1
o-Terphenyl	110		70 - 130	10/12/22 09:06	10/12/22 20:07	1

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32.6		4.99		mg/Kg			10/14/22 14:41	1

**Client Sample ID: FS14**

**Lab Sample ID: 890-3191-18**

Date Collected: 10/10/22 12:24

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 8'

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		10/14/22 14:55	10/16/22 12:55	1
Toluene	<0.00202	U	0.00202		mg/Kg		10/14/22 14:55	10/16/22 12:55	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		10/14/22 14:55	10/16/22 12:55	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		10/14/22 14:55	10/16/22 12:55	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		10/14/22 14:55	10/16/22 12:55	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		10/14/22 14:55	10/16/22 12:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	10/14/22 14:55	10/16/22 12:55	1
1,4-Difluorobenzene (Surr)	100		70 - 130	10/14/22 14:55	10/16/22 12:55	1

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			10/17/22 12:04	1

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			10/13/22 11:39	1

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### Client Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Client Sample ID: FS14**

**Lab Sample ID: 890-3191-18**

Date Collected: 10/10/22 12:24

Matrix: Solid

Date Received: 10/10/22 15:58

Sample Depth: 8'

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/12/22 09:06	10/12/22 20:28	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/12/22 09:06	10/12/22 20:28	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/12/22 09:06	10/12/22 20:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130				10/12/22 09:06	10/12/22 20:28	1
o-Terphenyl	112		70 - 130				10/12/22 09:06	10/12/22 20:28	1

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	53.4		5.02		mg/Kg			10/14/22 14:46	1

## Surrogate Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman State #001

Job ID: 890-3191-1

## Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1 (70-130)	DFBZ1 (70-130)
890-3191-1	N-SW	89	72
890-3191-2	E-SW	129	91
890-3191-3	S-SW	71	73
890-3191-4	W-SW	77	77
890-3191-5	FS01	104	65 S1-
890-3191-6	FS02	116	109
890-3191-7	FS03	109	112
890-3191-8	FS04	116	104
890-3191-9	FS05	116	68 S1-
890-3191-10	FS06	122	98
890-3191-11	FS07	108	91
890-3191-12	FS08	115	101
890-3191-13	FS09	178 S1+	86
890-3191-14	FS10	123	97
890-3191-15	FS11	38 S1-	73
890-3191-16	FS12	158 S1+	99
890-3191-17	FS13	115	96
890-3191-18	FS14	116	100
890-3191-A-1-G MS	890-3191-A-1-G MS	91	94
890-3191-A-1-H MSD	890-3191-A-1-H MSD	74	63 S1-
LCS 880-36982/1-A	Lab Control Sample	86	85
LCS 880-37048/1-A	Lab Control Sample	94	107
LCSD 880-36982/2-A	Lab Control Sample Dup	97	89
LCSD 880-37048/2-A	Lab Control Sample Dup	87	106
MB 880-36976/5-A	Method Blank	96	88
MB 880-36982/5-A	Method Blank	106	89
MB 880-37048/5-A	Method Blank	91	110

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1CO1 (70-130)	OTPH1 (70-130)
890-3191-1	N-SW	104	114
890-3191-1 MS	N-SW	82	83
890-3191-1 MSD	N-SW	84	84
890-3191-2	E-SW	95	107
890-3191-3	S-SW	98	111
890-3191-4	W-SW	97	111
890-3191-5	FS01	100	115
890-3191-6	FS02	116	131 S1+
890-3191-7	FS03	98	113
890-3191-8	FS04	97	109
890-3191-9	FS05	99	113
890-3191-10	FS06	102	117

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### Surrogate Summary

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)**

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1CO1 (70-130)	OTPH1 (70-130)
890-3191-11	FS07	111	126
890-3191-12	FS08	98	109
890-3191-13	FS09	101	115
890-3191-14	FS10	102	112
890-3191-15	FS11	99	112
890-3191-16	FS12	95	108
890-3191-17	FS13	97	110
890-3191-18	FS14	97	112
LCS 880-36720/2-A	Lab Control Sample	94	109
LCS 880-36769/2-A	Lab Control Sample	107	122
LCSD 880-36720/3-A	Lab Control Sample Dup	93	105
LCSD 880-36769/3-A	Lab Control Sample Dup	94	108
MB 880-36720/1-A	Method Blank	97	112
MB 880-36769/1-A	Method Blank	92	107

**Surrogate Legend**

1CO = 1-Chlorooctane  
 OTPH = o-Terphenyl

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

### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

#### Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36976/5-A  
 Matrix: Solid  
 Analysis Batch: 37017

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 36976

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:04	10/15/22 19:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:04	10/15/22 19:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:04	10/15/22 19:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/14/22 14:04	10/15/22 19:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:04	10/15/22 19:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/14/22 14:04	10/15/22 19:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	10/14/22 14:04	10/15/22 19:40	1
1,4-Difluorobenzene (Surr)	88		70 - 130	10/14/22 14:04	10/15/22 19:40	1

Lab Sample ID: MB 880-36982/5-A  
 Matrix: Solid  
 Analysis Batch: 37017

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 36982

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 06:20	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 06:20	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 06:20	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/14/22 14:55	10/16/22 06:20	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/14/22 14:55	10/16/22 06:20	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/14/22 14:55	10/16/22 06:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	10/14/22 14:55	10/16/22 06:20	1
1,4-Difluorobenzene (Surr)	89		70 - 130	10/14/22 14:55	10/16/22 06:20	1

Lab Sample ID: LCS 880-36982/1-A  
 Matrix: Solid  
 Analysis Batch: 37017

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 36982

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09388		mg/Kg		94	70 - 130
Toluene	0.100	0.09749		mg/Kg		97	70 - 130
Ethylbenzene	0.100	0.08906		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	0.200	0.1896		mg/Kg		95	70 - 130
o-Xylene	0.100	0.09515		mg/Kg		95	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	86		70 - 130
1,4-Difluorobenzene (Surr)	85		70 - 130

Lab Sample ID: LCSD 880-36982/2-A  
 Matrix: Solid  
 Analysis Batch: 37017

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 36982

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1040		mg/Kg		104	70 - 130	10	35

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### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

#### Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-36982/2-A

Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 37017

Prep Batch: 36982

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Toluene	0.100	0.1093		mg/Kg		109	70 - 130	11	35
Ethylbenzene	0.100	0.1015		mg/Kg		102	70 - 130	13	35
m-Xylene & p-Xylene	0.200	0.2150		mg/Kg		107	70 - 130	13	35
o-Xylene	0.100	0.1113		mg/Kg		111	70 - 130	16	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Lab Sample ID: 890-3191-A-1-G MS

Client Sample ID: 890-3191-A-1-G MS

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 37017

Prep Batch: 36982

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.0114	F2 F1	0.101	0.07686	F1	mg/Kg		65	70 - 130
Toluene	0.0933	F2 F1	0.101	0.08499	F1	mg/Kg		-8	70 - 130
Ethylbenzene	0.0140	F1	0.101	0.07579	F1	mg/Kg		61	70 - 130
m-Xylene & p-Xylene	0.128	F1	0.201	0.1574	F1	mg/Kg		15	70 - 130
o-Xylene	0.0401	F1	0.101	0.07955	F1	mg/Kg		39	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 890-3191-A-1-H MSD

Client Sample ID: 890-3191-A-1-H MSD

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 37017

Prep Batch: 36982

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.0114	F2 F1	0.0996	0.04672	F2 F1	mg/Kg		35	70 - 130	49	35
Toluene	0.0933	F2 F1	0.0996	0.05328	F2 F1	mg/Kg		-40	70 - 130	46	35
Ethylbenzene	0.0140	F1	0.0996	0.05814	F1	mg/Kg		44	70 - 130	26	35
m-Xylene & p-Xylene	0.128	F1	0.199	0.1225	F1	mg/Kg		-3	70 - 130	25	35
o-Xylene	0.0401	F1	0.0996	0.06679	F1	mg/Kg		27	70 - 130	17	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	74		70 - 130
1,4-Difluorobenzene (Surr)	63	S1-	70 - 130

Lab Sample ID: MB 880-37048/5-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 37045

Prep Batch: 37048

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/17/22 08:52	10/17/22 12:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/17/22 08:52	10/17/22 12:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/17/22 08:52	10/17/22 12:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/17/22 08:52	10/17/22 12:00	1

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### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

#### Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 880-37048/5-A

Matrix: Solid

Analysis Batch: 37045

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 37048

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/17/22 08:52	10/17/22 12:00	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/17/22 08:52	10/17/22 12:00	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	91		70 - 130	10/17/22 08:52	10/17/22 12:00	1
1,4-Difluorobenzene (Surr)	110		70 - 130	10/17/22 08:52	10/17/22 12:00	1

Lab Sample ID: LCS 880-37048/1-A

Matrix: Solid

Analysis Batch: 37045

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 37048

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Benzene	0.100	0.1049		mg/Kg		105	70 - 130
Toluene	0.100	0.1048		mg/Kg		105	70 - 130
Ethylbenzene	0.100	0.09253		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	0.200	0.1869		mg/Kg		93	70 - 130
o-Xylene	0.100	0.09065		mg/Kg		91	70 - 130

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-37048/2-A

Matrix: Solid

Analysis Batch: 37045

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 37048

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
Benzene	0.100	0.09963		mg/Kg		100	70 - 130	5	35
Toluene	0.100	0.09719		mg/Kg		97	70 - 130	7	35
Ethylbenzene	0.100	0.08715		mg/Kg		87	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1751		mg/Kg		88	70 - 130	7	35
o-Xylene	0.100	0.08443		mg/Kg		84	70 - 130	7	35

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	87		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-36720/1-A

Matrix: Solid

Analysis Batch: 36709

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 36720

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/12/22 09:06	10/12/22 10:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/12/22 09:06	10/12/22 10:59	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/12/22 09:06	10/12/22 10:59	1

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### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	97		70 - 130	10/12/22 09:06	10/12/22 10:59	1
o-Terphenyl	112		70 - 130	10/12/22 09:06	10/12/22 10:59	1

Lab Sample ID: LCS 880-36720/2-A  
 Matrix: Solid  
 Analysis Batch: 36709

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 36720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics (Over C10-C28)	1000	1059		mg/Kg		106	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	94		70 - 130
o-Terphenyl	109		70 - 130

Lab Sample ID: LCSD 880-36720/3-A  
 Matrix: Solid  
 Analysis Batch: 36709

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 36720

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics (Over C10-C28)	1000	1067		mg/Kg		107	70 - 130	1	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	93		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: MB 880-36769/1-A  
 Matrix: Solid  
 Analysis Batch: 36709

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 36769

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/12/22 15:33	10/12/22 21:12	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/12/22 15:33	10/12/22 21:12	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/12/22 15:33	10/12/22 21:12	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	92		70 - 130	10/12/22 15:33	10/12/22 21:12	1
o-Terphenyl	107		70 - 130	10/12/22 15:33	10/12/22 21:12	1

### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

**Lab Sample ID: LCS 880-36769/2-A**  
**Matrix: Solid**  
**Analysis Batch: 36709**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 36769**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
							Lower	Upper
Gasoline Range Organics (GRO)-C6-C10	1000	1168		mg/Kg		117	70	130
Diesel Range Organics (Over C10-C28)	1000	1102		mg/Kg		110	70	130
		<b>LCS</b>	<b>LCS</b>					
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>					
1-Chlorooctane	107		70 - 130					
o-Terphenyl	122		70 - 130					

**Lab Sample ID: LCSD 880-36769/3-A**  
**Matrix: Solid**  
**Analysis Batch: 36709**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 36769**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD Limit	
							Lower	Upper	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	912.0	*1	mg/Kg		91	70	130	25	20
Diesel Range Organics (Over C10-C28)	1000	1006		mg/Kg		101	70	130	9	20
		<b>LCSD</b>	<b>LCSD</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>							
1-Chlorooctane	94		70 - 130							
o-Terphenyl	108		70 - 130							

**Lab Sample ID: 890-3191-1 MS**  
**Matrix: Solid**  
**Analysis Batch: 36709**

**Client Sample ID: N-SW**  
**Prep Type: Total/NA**  
**Prep Batch: 36769**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	
									Lower	Upper
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	998	990.0		mg/Kg		97	70	130
Diesel Range Organics (Over C10-C28)	<49.8	U	998	932.7		mg/Kg		92	70	130
		<b>MS</b>	<b>MS</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>							
1-Chlorooctane	82		70 - 130							
o-Terphenyl	83		70 - 130							

**Lab Sample ID: 890-3191-1 MSD**  
**Matrix: Solid**  
**Analysis Batch: 36709**

**Client Sample ID: N-SW**  
**Prep Type: Total/NA**  
**Prep Batch: 36769**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD Limit	
									Lower	Upper	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	998	1048		mg/Kg		102	70	130	6	20
Diesel Range Organics (Over C10-C28)	<49.8	U	998	964.2		mg/Kg		95	70	130	3	20
		<b>MSD</b>	<b>MSD</b>									
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>									
1-Chlorooctane	84		70 - 130									

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### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-3191-1 MSD  
 Matrix: Solid  
 Analysis Batch: 36709

Client Sample ID: N-SW  
 Prep Type: Total/NA  
 Prep Batch: 36769

Surrogate	%Recovery	MSD Qualifier	MSD Limits
<i>o</i> -Terphenyl	84		70 - 130

#### Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36771/1-A  
 Matrix: Solid  
 Analysis Batch: 36929

Client Sample ID: Method Blank  
 Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/14/22 12:24	1

Lab Sample ID: LCS 880-36771/2-A  
 Matrix: Solid  
 Analysis Batch: 36929

Client Sample ID: Lab Control Sample  
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	268.5		mg/Kg		107	90 - 110

Lab Sample ID: 890-3191-1 MS  
 Matrix: Solid  
 Analysis Batch: 36929

Client Sample ID: N-SW  
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	40.3		251	316.9		mg/Kg		110	90 - 110

Lab Sample ID: 890-3191-1 MSD  
 Matrix: Solid  
 Analysis Batch: 36929

Client Sample ID: N-SW  
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	40.3		251	314.8		mg/Kg		109	90 - 110	1	20

Lab Sample ID: 890-3191-11 MS  
 Matrix: Solid  
 Analysis Batch: 36929

Client Sample ID: FS07  
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	76.4		250	341.4		mg/Kg		106	90 - 110

Lab Sample ID: 890-3191-11 MSD  
 Matrix: Solid  
 Analysis Batch: 36929

Client Sample ID: FS07  
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	76.4		250	342.4		mg/Kg		106	90 - 110	0	20

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### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman State #001

Job ID: 890-3191-1

#### Method: 300.0 - Anions, Ion Chromatography - RE2

Lab Sample ID: LCSD 880-36771/3-A  
Matrix: Solid  
Analysis Batch: 36929

Client Sample ID: Lab Control Sample Dup  
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride - RE2	250	268.7		mg/Kg		107	90 - 110	0	20

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



### QC Association Summary

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

#### GC VOA

##### Prep Batch: 36976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36976/5-A	Method Blank	Total/NA	Solid	5035	

##### Prep Batch: 36982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3191-2	E-SW	Total/NA	Solid	5035	
890-3191-3	S-SW	Total/NA	Solid	5035	
890-3191-5	FS01	Total/NA	Solid	5035	
890-3191-6	FS02	Total/NA	Solid	5035	
890-3191-7	FS03	Total/NA	Solid	5035	
890-3191-8	FS04	Total/NA	Solid	5035	
890-3191-9	FS05	Total/NA	Solid	5035	
890-3191-10	FS06	Total/NA	Solid	5035	
890-3191-11	FS07	Total/NA	Solid	5035	
890-3191-12	FS08	Total/NA	Solid	5035	
890-3191-13	FS09	Total/NA	Solid	5035	
890-3191-14	FS10	Total/NA	Solid	5035	
890-3191-15	FS11	Total/NA	Solid	5035	
890-3191-16	FS12	Total/NA	Solid	5035	
890-3191-17	FS13	Total/NA	Solid	5035	
890-3191-18	FS14	Total/NA	Solid	5035	
MB 880-36982/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36982/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36982/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3191-A-1-G MS	890-3191-A-1-G MS	Total/NA	Solid	5035	
890-3191-A-1-H MSD	890-3191-A-1-H MSD	Total/NA	Solid	5035	

##### Analysis Batch: 37017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3191-2	E-SW	Total/NA	Solid	8021B	36982
890-3191-3	S-SW	Total/NA	Solid	8021B	36982
890-3191-5	FS01	Total/NA	Solid	8021B	36982
890-3191-6	FS02	Total/NA	Solid	8021B	36982
890-3191-7	FS03	Total/NA	Solid	8021B	36982
890-3191-8	FS04	Total/NA	Solid	8021B	36982
890-3191-9	FS05	Total/NA	Solid	8021B	36982
890-3191-10	FS06	Total/NA	Solid	8021B	36982
890-3191-11	FS07	Total/NA	Solid	8021B	36982
890-3191-12	FS08	Total/NA	Solid	8021B	36982
890-3191-13	FS09	Total/NA	Solid	8021B	36982
890-3191-14	FS10	Total/NA	Solid	8021B	36982
890-3191-15	FS11	Total/NA	Solid	8021B	36982
890-3191-16	FS12	Total/NA	Solid	8021B	36982
890-3191-17	FS13	Total/NA	Solid	8021B	36982
890-3191-18	FS14	Total/NA	Solid	8021B	36982
MB 880-36976/5-A	Method Blank	Total/NA	Solid	8021B	36976
MB 880-36982/5-A	Method Blank	Total/NA	Solid	8021B	36982
LCS 880-36982/1-A	Lab Control Sample	Total/NA	Solid	8021B	36982
LCSD 880-36982/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36982
890-3191-A-1-G MS	890-3191-A-1-G MS	Total/NA	Solid	8021B	36982
890-3191-A-1-H MSD	890-3191-A-1-H MSD	Total/NA	Solid	8021B	36982

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### QC Association Summary

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

#### GC VOA

##### Analysis Batch: 37045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3191-1	N-SW	Total/NA	Solid	8021B	37048
890-3191-4	W-SW	Total/NA	Solid	8021B	37048
MB 880-37048/5-A	Method Blank	Total/NA	Solid	8021B	37048
LCS 880-37048/1-A	Lab Control Sample	Total/NA	Solid	8021B	37048
LCSD 880-37048/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37048

##### Prep Batch: 37048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3191-1	N-SW	Total/NA	Solid	5035	
890-3191-4	W-SW	Total/NA	Solid	5035	
MB 880-37048/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37048/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37048/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

##### Analysis Batch: 37152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3191-1	N-SW	Total/NA	Solid	Total BTEX	
890-3191-2	E-SW	Total/NA	Solid	Total BTEX	
890-3191-3	S-SW	Total/NA	Solid	Total BTEX	
890-3191-4	W-SW	Total/NA	Solid	Total BTEX	
890-3191-5	FS01	Total/NA	Solid	Total BTEX	
890-3191-6	FS02	Total/NA	Solid	Total BTEX	
890-3191-7	FS03	Total/NA	Solid	Total BTEX	
890-3191-8	FS04	Total/NA	Solid	Total BTEX	
890-3191-9	FS05	Total/NA	Solid	Total BTEX	
890-3191-10	FS06	Total/NA	Solid	Total BTEX	
890-3191-11	FS07	Total/NA	Solid	Total BTEX	
890-3191-12	FS08	Total/NA	Solid	Total BTEX	
890-3191-13	FS09	Total/NA	Solid	Total BTEX	
890-3191-14	FS10	Total/NA	Solid	Total BTEX	
890-3191-15	FS11	Total/NA	Solid	Total BTEX	
890-3191-16	FS12	Total/NA	Solid	Total BTEX	
890-3191-17	FS13	Total/NA	Solid	Total BTEX	
890-3191-18	FS14	Total/NA	Solid	Total BTEX	

#### GC Semi VOA

##### Analysis Batch: 36709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3191-1	N-SW	Total/NA	Solid	8015B NM	36769
890-3191-2	E-SW	Total/NA	Solid	8015B NM	36769
890-3191-3	S-SW	Total/NA	Solid	8015B NM	36769
890-3191-4	W-SW	Total/NA	Solid	8015B NM	36769
890-3191-5	FS01	Total/NA	Solid	8015B NM	36769
890-3191-6	FS02	Total/NA	Solid	8015B NM	36769
890-3191-7	FS03	Total/NA	Solid	8015B NM	36769
890-3191-8	FS04	Total/NA	Solid	8015B NM	36769
890-3191-9	FS05	Total/NA	Solid	8015B NM	36769
890-3191-10	FS06	Total/NA	Solid	8015B NM	36769
890-3191-11	FS07	Total/NA	Solid	8015B NM	36769
890-3191-12	FS08	Total/NA	Solid	8015B NM	36769

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## QC Association Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman State #001

Job ID: 890-3191-1

## GC Semi VOA (Continued)

## Analysis Batch: 36709 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3191-13	FS09	Total/NA	Solid	8015B NM	36769
890-3191-14	FS10	Total/NA	Solid	8015B NM	36769
890-3191-15	FS11	Total/NA	Solid	8015B NM	36769
890-3191-16	FS12	Total/NA	Solid	8015B NM	36769
890-3191-17	FS13	Total/NA	Solid	8015B NM	36720
890-3191-18	FS14	Total/NA	Solid	8015B NM	36720
MB 880-36720/1-A	Method Blank	Total/NA	Solid	8015B NM	36720
MB 880-36769/1-A	Method Blank	Total/NA	Solid	8015B NM	36769
LCS 880-36720/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36720
LCS 880-36769/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36769
LCSD 880-36720/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36720
LCSD 880-36769/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36769
890-3191-1 MS	N-SW	Total/NA	Solid	8015B NM	36769
890-3191-1 MSD	N-SW	Total/NA	Solid	8015B NM	36769

## Prep Batch: 36720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3191-17	FS13	Total/NA	Solid	8015NM Prep	
890-3191-18	FS14	Total/NA	Solid	8015NM Prep	
MB 880-36720/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36720/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36720/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

## Prep Batch: 36769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3191-1	N-SW	Total/NA	Solid	8015NM Prep	
890-3191-2	E-SW	Total/NA	Solid	8015NM Prep	
890-3191-3	S-SW	Total/NA	Solid	8015NM Prep	
890-3191-4	W-SW	Total/NA	Solid	8015NM Prep	
890-3191-5	FS01	Total/NA	Solid	8015NM Prep	
890-3191-6	FS02	Total/NA	Solid	8015NM Prep	
890-3191-7	FS03	Total/NA	Solid	8015NM Prep	
890-3191-8	FS04	Total/NA	Solid	8015NM Prep	
890-3191-9	FS05	Total/NA	Solid	8015NM Prep	
890-3191-10	FS06	Total/NA	Solid	8015NM Prep	
890-3191-11	FS07	Total/NA	Solid	8015NM Prep	
890-3191-12	FS08	Total/NA	Solid	8015NM Prep	
890-3191-13	FS09	Total/NA	Solid	8015NM Prep	
890-3191-14	FS10	Total/NA	Solid	8015NM Prep	
890-3191-15	FS11	Total/NA	Solid	8015NM Prep	
890-3191-16	FS12	Total/NA	Solid	8015NM Prep	
MB 880-36769/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36769/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36769/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3191-1 MS	N-SW	Total/NA	Solid	8015NM Prep	
890-3191-1 MSD	N-SW	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 36870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3191-1	N-SW	Total/NA	Solid	8015 NM	
890-3191-2	E-SW	Total/NA	Solid	8015 NM	

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## QC Association Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman State #001

Job ID: 890-3191-1

## GC Semi VOA (Continued)

## Analysis Batch: 36870 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3191-3	S-SW	Total/NA	Solid	8015 NM	
890-3191-4	W-SW	Total/NA	Solid	8015 NM	
890-3191-5	FS01	Total/NA	Solid	8015 NM	
890-3191-6	FS02	Total/NA	Solid	8015 NM	
890-3191-7	FS03	Total/NA	Solid	8015 NM	
890-3191-8	FS04	Total/NA	Solid	8015 NM	
890-3191-9	FS05	Total/NA	Solid	8015 NM	
890-3191-10	FS06	Total/NA	Solid	8015 NM	
890-3191-11	FS07	Total/NA	Solid	8015 NM	
890-3191-12	FS08	Total/NA	Solid	8015 NM	
890-3191-13	FS09	Total/NA	Solid	8015 NM	
890-3191-14	FS10	Total/NA	Solid	8015 NM	
890-3191-15	FS11	Total/NA	Solid	8015 NM	
890-3191-16	FS12	Total/NA	Solid	8015 NM	
890-3191-17	FS13	Total/NA	Solid	8015 NM	
890-3191-18	FS14	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 36771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3191-1	N-SW	Soluble	Solid	DI Leach	
890-3191-2	E-SW	Soluble	Solid	DI Leach	
890-3191-3	S-SW	Soluble	Solid	DI Leach	
890-3191-4	W-SW	Soluble	Solid	DI Leach	
890-3191-5	FS01	Soluble	Solid	DI Leach	
890-3191-6	FS02	Soluble	Solid	DI Leach	
890-3191-7	FS03	Soluble	Solid	DI Leach	
890-3191-8	FS04	Soluble	Solid	DI Leach	
890-3191-9	FS05	Soluble	Solid	DI Leach	
890-3191-10	FS06	Soluble	Solid	DI Leach	
890-3191-11	FS07	Soluble	Solid	DI Leach	
890-3191-12	FS08	Soluble	Solid	DI Leach	
890-3191-13	FS09	Soluble	Solid	DI Leach	
890-3191-14	FS10	Soluble	Solid	DI Leach	
890-3191-15	FS11	Soluble	Solid	DI Leach	
890-3191-16	FS12	Soluble	Solid	DI Leach	
890-3191-17	FS13	Soluble	Solid	DI Leach	
890-3191-18	FS14	Soluble	Solid	DI Leach	
MB 880-36771/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36771/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36771/3-A - RE2	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3191-1 MS	N-SW	Soluble	Solid	DI Leach	
890-3191-1 MSD	N-SW	Soluble	Solid	DI Leach	
890-3191-11 MS	FS07	Soluble	Solid	DI Leach	
890-3191-11 MSD	FS07	Soluble	Solid	DI Leach	

## Analysis Batch: 36929

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3191-1	N-SW	Soluble	Solid	300.0	36771
890-3191-2	E-SW	Soluble	Solid	300.0	36771

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## QC Association Summary

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

## HPLC/IC (Continued)

## Analysis Batch: 36929 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3191-3	S-SW	Soluble	Solid	300.0	36771
890-3191-4	W-SW	Soluble	Solid	300.0	36771
890-3191-5	FS01	Soluble	Solid	300.0	36771
890-3191-6	FS02	Soluble	Solid	300.0	36771
890-3191-7	FS03	Soluble	Solid	300.0	36771
890-3191-8	FS04	Soluble	Solid	300.0	36771
890-3191-9	FS05	Soluble	Solid	300.0	36771
890-3191-10	FS06	Soluble	Solid	300.0	36771
890-3191-11	FS07	Soluble	Solid	300.0	36771
890-3191-12	FS08	Soluble	Solid	300.0	36771
890-3191-13	FS09	Soluble	Solid	300.0	36771
890-3191-14	FS10	Soluble	Solid	300.0	36771
890-3191-15	FS11	Soluble	Solid	300.0	36771
890-3191-16	FS12	Soluble	Solid	300.0	36771
890-3191-17	FS13	Soluble	Solid	300.0	36771
890-3191-18	FS14	Soluble	Solid	300.0	36771
MB 880-36771/1-A	Method Blank	Soluble	Solid	300.0	36771
LCS 880-36771/2-A	Lab Control Sample	Soluble	Solid	300.0	36771
LCSD 880-36771/3-A - RE2	Lab Control Sample Dup	Soluble	Solid	300.0	36771
890-3191-1 MS	N-SW	Soluble	Solid	300.0	36771
890-3191-1 MSD	N-SW	Soluble	Solid	300.0	36771
890-3191-11 MS	FS07	Soluble	Solid	300.0	36771
890-3191-11 MSD	FS07	Soluble	Solid	300.0	36771

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## Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman State #001

Job ID: 890-3191-1

## Client Sample ID: N-SW

Lab Sample ID: 890-3191-1

Date Collected: 10/10/22 11:50

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	37048	10/17/22 08:52	EL	EET MID
Total/NA	Analysis	8021B		10	5 mL	5 mL	37045	10/17/22 13:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	36769	10/12/22 15:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/12/22 22:16	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		1			36929	10/14/22 12:39	CH	EET MID

## Client Sample ID: E-SW

Lab Sample ID: 890-3191-2

Date Collected: 10/10/22 11:52

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	36982	10/14/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37017	10/16/22 07:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36769	10/12/22 15:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/12/22 23:21	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		1			36929	10/14/22 12:53	CH	EET MID

## Client Sample ID: S-SW

Lab Sample ID: 890-3191-3

Date Collected: 10/10/22 11:54

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	36982	10/14/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37017	10/16/22 07:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	36769	10/12/22 15:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/12/22 23:43	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		1			36929	10/14/22 12:58	CH	EET MID

## Client Sample ID: W-SW

Lab Sample ID: 890-3191-4

Date Collected: 10/10/22 11:56

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	37048	10/17/22 08:52	EL	EET MID
Total/NA	Analysis	8021B		10	5 mL	5 mL	37045	10/17/22 14:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID

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### Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Client Sample ID: W-SW**

**Lab Sample ID: 890-3191-4**

Date Collected: 10/10/22 11:56

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36769	10/12/22 15:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/13/22 00:04	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		1			36929	10/14/22 13:03	CH	EET MID

**Client Sample ID: FS01**

**Lab Sample ID: 890-3191-5**

Date Collected: 10/10/22 11:58

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	36982	10/14/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37017	10/16/22 08:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	36769	10/12/22 15:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/13/22 00:25	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		1			36929	10/14/22 13:08	CH	EET MID

**Client Sample ID: FS02**

**Lab Sample ID: 890-3191-6**

Date Collected: 10/10/22 12:00

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	36982	10/14/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37017	10/16/22 08:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36769	10/12/22 15:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/13/22 00:46	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		5			36929	10/14/22 13:28	CH	EET MID

**Client Sample ID: FS03**

**Lab Sample ID: 890-3191-7**

Date Collected: 10/10/22 12:02

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	36982	10/14/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37017	10/16/22 08:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	36769	10/12/22 15:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/13/22 01:07	SM	EET MID

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### Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Client Sample ID: FS03**

**Lab Sample ID: 890-3191-7**

Date Collected: 10/10/22 12:02

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		1			36929	10/14/22 13:33	CH	EET MID

**Client Sample ID: FS04**

**Lab Sample ID: 890-3191-8**

Date Collected: 10/10/22 12:04

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	36982	10/14/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37017	10/16/22 09:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36769	10/12/22 15:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/13/22 01:28	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		1			36929	10/14/22 13:38	CH	EET MID

**Client Sample ID: FS05**

**Lab Sample ID: 890-3191-9**

Date Collected: 10/10/22 12:06

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	36982	10/14/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37017	10/16/22 09:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	36769	10/12/22 15:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/13/22 01:49	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		1			36929	10/14/22 13:43	CH	EET MID

**Client Sample ID: FS06**

**Lab Sample ID: 890-3191-10**

Date Collected: 10/10/22 12:08

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	36982	10/14/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37017	10/16/22 09:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	36769	10/12/22 15:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/13/22 02:10	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		1			36929	10/14/22 13:48	CH	EET MID

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### Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Client Sample ID: FS07**

**Lab Sample ID: 890-3191-11**

Date Collected: 10/10/22 12:10

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	36982	10/14/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37017	10/16/22 11:12	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36769	10/12/22 15:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/13/22 02:52	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		1			36929	10/14/22 13:52	CH	EET MID

**Client Sample ID: FS08**

**Lab Sample ID: 890-3191-12**

Date Collected: 10/10/22 12:12

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	36982	10/14/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37017	10/16/22 11:32	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36769	10/12/22 15:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/13/22 03:13	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		5			36929	10/14/22 14:07	CH	EET MID

**Client Sample ID: FS09**

**Lab Sample ID: 890-3191-13**

Date Collected: 10/10/22 12:14

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	36982	10/14/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		10	5 mL	5 mL	37017	10/16/22 13:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36769	10/12/22 15:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/13/22 03:34	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		1			36929	10/14/22 14:12	CH	EET MID

**Client Sample ID: FS10**

**Lab Sample ID: 890-3191-14**

Date Collected: 10/10/22 12:16

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	36982	10/14/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37017	10/16/22 11:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID

Eurofins Carlsbad

### Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Client Sample ID: FS10**

**Lab Sample ID: 890-3191-14**

Date Collected: 10/10/22 12:16

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	36769	10/12/22 15:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/13/22 03:55	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		1			36929	10/14/22 14:26	CH	EET MID

**Client Sample ID: FS11**

**Lab Sample ID: 890-3191-15**

Date Collected: 10/10/22 12:18

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	36982	10/14/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37017	10/16/22 12:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	36769	10/12/22 15:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/13/22 04:16	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		1			36929	10/14/22 14:31	CH	EET MID

**Client Sample ID: FS12**

**Lab Sample ID: 890-3191-16**

Date Collected: 10/10/22 12:20

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	36982	10/14/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		10	5 mL	5 mL	37017	10/16/22 14:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36769	10/12/22 15:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/13/22 04:38	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		1			36929	10/14/22 14:36	CH	EET MID

**Client Sample ID: FS13**

**Lab Sample ID: 890-3191-17**

Date Collected: 10/10/22 12:22

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	36982	10/14/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37017	10/16/22 12:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36720	10/12/22 09:06	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/12/22 20:07	SM	EET MID

Eurofins Carlsbad

### Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

**Client Sample ID: FS13**

**Lab Sample ID: 890-3191-17**

Date Collected: 10/10/22 12:22

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		1			36929	10/14/22 14:41	CH	EET MID

**Client Sample ID: FS14**

**Lab Sample ID: 890-3191-18**

Date Collected: 10/10/22 12:24

Matrix: Solid

Date Received: 10/10/22 15:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	36982	10/14/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37017	10/16/22 12:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37152	10/17/22 12:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			36870	10/13/22 11:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36720	10/12/22 09:06	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36709	10/12/22 20:28	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	36771	10/12/22 15:48	KS	EET MID
Soluble	Analysis	300.0		1			36929	10/14/22 14:46	CH	EET MID

**Laboratory References:**

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

### Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman State #001

Job ID: 890-3191-1

#### Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

- 1
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### Method Summary

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman State #001

Job ID: 890-3191-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

**Protocol References:**

- ASTM = ASTM International
- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



### Sample Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman State #001

Job ID: 890-3191-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3191-1	N-SW	Solid	10/10/22 11:50	10/10/22 15:58	2'
890-3191-2	E-SW	Solid	10/10/22 11:52	10/10/22 15:58	2'
890-3191-3	S-SW	Solid	10/10/22 11:54	10/10/22 15:58	2'
890-3191-4	W-SW	Solid	10/10/22 11:56	10/10/22 15:58	2'
890-3191-5	FS01	Solid	10/10/22 11:58	10/10/22 15:58	2'
890-3191-6	FS02	Solid	10/10/22 12:00	10/10/22 15:58	2'
890-3191-7	FS03	Solid	10/10/22 12:02	10/10/22 15:58	2'
890-3191-8	FS04	Solid	10/10/22 12:04	10/10/22 15:58	2'
890-3191-9	FS05	Solid	10/10/22 12:06	10/10/22 15:58	2'
890-3191-10	FS06	Solid	10/10/22 12:08	10/10/22 15:58	8'
890-3191-11	FS07	Solid	10/10/22 12:10	10/10/22 15:58	8'
890-3191-12	FS08	Solid	10/10/22 12:12	10/10/22 15:58	8'
890-3191-13	FS09	Solid	10/10/22 12:14	10/10/22 15:58	8'
890-3191-14	FS10	Solid	10/10/22 12:16	10/10/22 15:58	8'
890-3191-15	FS11	Solid	10/10/22 12:18	10/10/22 15:58	8'
890-3191-16	FS12	Solid	10/10/22 12:20	10/10/22 15:58	8'
890-3191-17	FS13	Solid	10/10/22 12:22	10/10/22 15:58	8'
890-3191-18	FS14	Solid	10/10/22 12:24	10/10/22 15:58	8'

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CHAIN OF CUSTODY RECORD

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Laboratory Address: 4502 W. Pierce St. Carlsbad, NM, 88220

Project Manager: Mike Adams  
Sampler's Name: Travis Casey

Phone: Contact:  
SRS #: Sampler's Signature: *[Signature]*

Project Name: A. Kuman Salt & Pool

Matrix	Date	Time	Comp Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers		
							4 oz Glass	2 oz Glass	250 ml Poly
S	10-10	1150	X	N-Sw	2'	2'	1	0	0
		1152		E-Sw	2'	2'	1	0	0
		1154		S-Sw	2'	2'	1	0	0
		1154		W-Sw	2'	2'	1	0	0
		1158		E501	2'	2'	1	0	0
		1200		E502	2'	2'	1	0	0
		1202		E503	2'	2'	1	0	0
		1204		E504	2'	2'	1	0	0
		1206		E505	2'	2'	1	0	0
		1208		E506	2'	2'	1	0	0
		1210		E507	2'	2'	1	0	0
		1212		E508	2'	2'	1	0	0
		1214		E509	2'	2'	1	0	0
		1214		E510	2'	2'	1	0	0
		1218		E511	2'	2'	1	0	0
		1220		E512	2'	2'	1	0	0
		1222		E513	2'	2'	1	0	0
		1224		E514	2'	2'	1	0	0

ANALYSIS REQUEST  
 Chloride (EPA Method 300)  
 TPH Extended 8015  
 BTEX (EPA Method 8021B)

LAB USE ONLY: DATE: 2.4/2.2  
TEMP OF COOLER WHEN RECEIVED: 2.4/2.2  
-D.2  
TMM-007



890-3191 Chain of Custody

TRRNAROUND TIME:  Normal  48-Hour Rush  24-Hour Rush

TRRP Laboratory Review Checklist:  Yes  No

Relinquished by (Signature): *[Signature]* Date: 12/10/2015 Time: 15:58 Received by (Signature): *[Signature]* Date: 12/10/2015 Time: 15:58

Relinquished by (Signature): *[Signature]* Date: 12/10/2015 Time: 15:58 Received by (Signature): *[Signature]* Date: 12/10/2015 Time: 15:58

Relinquished by (Signature): *[Signature]* Date: 12/10/2015 Time: 15:58 Received by (Signature): *[Signature]* Date: 12/10/2015 Time: 15:58

Matrix: WW-Wastewater W-Water S-Soil L-Liq A-Air Bag C-Charcoal tube Sl-Sludge  
Container: VOA - 40 ml vial A/G - Amber Gla 250 ml = Glass wide P/O - Plastic or other

Lubbock Office ■ 5827 50th Street, Suite 1 ■ Lubbock, Texas 79424 ■ 806-300-0140

e-mail results to:  
joseph.guesnier@terracon.com  
travis.casey@terracon.com  
mike.adams@terracon.com

### Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 890-3191-1

**Login Number: 3191**

**List Source: Eurofins Carlsbad**

**List Number: 1**

**Creator: Stutzman, Amanda**

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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- 2
- 3
- 4
- 5
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- 7
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- 13
- 14

### Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 890-3191-1

**Login Number: 3191**

**List Number: 2**

**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**

**List Creation: 10/12/22 11:01 AM**

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

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



# Environment Testing

## ANALYTICAL REPORT

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad, NM 88220  
Tel: (575)988-3199

Laboratory Job ID: 890-3319-1  
Client Project/Site: Akman #001

For:  
Terracon Consulting Eng & Scientists  
5847 50th St  
Lubbock, Texas 79424

Attn: Joseph Guesnier

Authorized for release by:  
11/3/2022 10:37:51 AM

Jessica Kramer, Project Manager  
(432)704-5440  
[Jessica.Kramer@et.eurofinsus.com](mailto:Jessica.Kramer@et.eurofinsus.com)



### LINKS

Review your project results through



Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

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

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

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



Client: Terracon Consulting Eng & Scientists  
Project/Site: Akman #001

Laboratory Job ID: 890-3319-1

1

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Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

#### Coliform MCLs

· Based on the EPA primary drinking water standard MCL for total coliforms, a water supply is considered bacteriologically "SAFE" if no coliform bacteria are detected. To be considered "SAFE" your report should indicate "<1 cfu/100mL" or "NEG" for the coliform test. If you report indicates a positive result "POS" or a value greater than or equal to one, then your supply is "UNSAFE FOR DRINKING" contact your local health department.

#### Warranties, Terms, and Conditions

· Analyses for Field Parameters are performed by Eurofins Philadelphia field staff. Locations and certifications are identified on the Chain of Custody as follows:

ERF = field staff performs tests under NJ State certification #02015

VL = field staff performs tests under NJ State certification #06005

WG = field staff performs tests under NJ State certification #PA001

H = field staff performs tests under NJ NELAP certification #PA093, PA NELAP certification # 46-

05499

· Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.

· The report shall not be reproduced, except in full, without the written consent of the laboratory

· All samples are collected as "grab" samples unless otherwise identified.

· Reported results related only to the samples as tested. Eurofins Philadelphia is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· Eurofins Philadelphia is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance.

· Eurofins' online data portal "TotalAccess" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.

· The following personnel or their deputies have approved the results of the tests performed by Eurofins Philadelphia : Nicki Smith (Environmental Chemistry) and Jacqueline Gartner (Water Microbiology).



Jessica Kramer

Project Manager

11/3/2022 10:37:51 AM

Client: Terracon Consulting Eng & Scientists  
Project/Site: Akman #001

Laboratory Job ID: 890-3319-1

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

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Client Sample Results . . . . .	6
Surrogate Summary . . . . .	8
QC Sample Results . . . . .	9
QC Association Summary . . . . .	14
Lab Chronicle . . . . .	16
Certification Summary . . . . .	17
Method Summary . . . . .	18
Sample Summary . . . . .	19
Chain of Custody . . . . .	20
Receipt Checklists . . . . .	21

## Definitions/Glossary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Akman #001

Job ID: 890-3319-1

## Qualifiers

## GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

## GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

## HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

## Glossary

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

Eurofins Carlsbad

# Case Narrative

Client: Terracon Consulting Eng & Scientists  
Project/Site: Akman #001

Job ID: 890-3319-1

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## Job ID: 890-3319-1

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### Laboratory: Eurofins Carlsbad

#### Narrative

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#### Job Narrative 890-3319-1

#### Receipt

The samples were received on 10/28/2022 12:13 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.8°C

#### Receipt Exceptions

The following samples > were received and analyzed from an unpreserved bulk soil jar: FS2.1 (890-3319-1) and FS8.1 (890-3319-2).

#### GC VOA

Method 8021B: The matrix spike duplicate (MSD) recoveries for preparation batch 880-38419 and analytical batch 880-38443 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### GC Semi VOA

Method 8015MOD\_NM: The laboratory control sample (LCS) associated with preparation batch 880-38261 and analytical batch 880-38217 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.



## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Akman #001

Job ID: 890-3319-1

Client Sample ID: FS2.1

Lab Sample ID: 890-3319-1

Date Collected: 10/28/22 08:30

Matrix: Solid

Date Received: 10/28/22 12:13

Sample Depth: 2

## Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		11/01/22 15:07	11/02/22 11:15	1
Toluene	<0.00202	U	0.00202		mg/Kg		11/01/22 15:07	11/02/22 11:15	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		11/01/22 15:07	11/02/22 11:15	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		11/01/22 15:07	11/02/22 11:15	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		11/01/22 15:07	11/02/22 11:15	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		11/01/22 15:07	11/02/22 11:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	11/01/22 15:07	11/02/22 11:15	1
1,4-Difluorobenzene (Surr)	102		70 - 130	11/01/22 15:07	11/02/22 11:15	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			11/02/22 14:29	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/01/22 13:05	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/31/22 10:25	10/31/22 17:05	1
Diesel Range Organics (Over C10-C28)	<50.0	U **	50.0		mg/Kg		10/31/22 10:25	10/31/22 17:05	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/31/22 10:25	10/31/22 17:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	82		70 - 130	10/31/22 10:25	10/31/22 17:05	1
o-Terphenyl	93		70 - 130	10/31/22 10:25	10/31/22 17:05	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	151		5.01		mg/Kg			11/01/22 22:45	1

Client Sample ID: FS8.1

Lab Sample ID: 890-3319-2

Date Collected: 10/28/22 08:32

Matrix: Solid

Date Received: 10/28/22 12:13

Sample Depth: 8

## Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/01/22 15:13	11/02/22 11:20	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/01/22 15:13	11/02/22 11:20	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/01/22 15:13	11/02/22 11:20	1
m-Xylene & p-Xylene	<0.00402	U F1	0.00402		mg/Kg		11/01/22 15:13	11/02/22 11:20	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/01/22 15:13	11/02/22 11:20	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/01/22 15:13	11/02/22 11:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	11/01/22 15:13	11/02/22 11:20	1

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## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Akman #001

Job ID: 890-3319-1

Client Sample ID: FS8.1

Lab Sample ID: 890-3319-2

Date Collected: 10/28/22 08:32

Matrix: Solid

Date Received: 10/28/22 12:13

Sample Depth: 8

## Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	97		70 - 130	11/01/22 15:13	11/02/22 11:20	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/02/22 14:26	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			11/01/22 13:05	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		10/31/22 10:25	10/31/22 17:27	1
Diesel Range Organics (Over C10-C28)	<49.8	U **	49.8		mg/Kg		10/31/22 10:25	10/31/22 17:27	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/31/22 10:25	10/31/22 17:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130	10/31/22 10:25	10/31/22 17:27	1
o-Terphenyl	94		70 - 130	10/31/22 10:25	10/31/22 17:27	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	89.4		4.99		mg/Kg			11/01/22 23:00	1



## Surrogate Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Akman #001

Job ID: 890-3319-1

## Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1	DFBZ1
		(70-130)	(70-130)
890-3319-1	FS2.1	100	102
890-3319-1 MS	FS2.1	94	106
890-3319-1 MSD	FS2.1	99	108
890-3319-2	FS8.1	108	97
890-3319-2 MS	FS8.1	92	97
890-3319-2 MSD	FS8.1	87	101
LCS 880-38415/1-A	Lab Control Sample	91	105
LCS 880-38419/1-A	Lab Control Sample	83	95
LCSD 880-38415/2-A	Lab Control Sample Dup	93	110
LCSD 880-38419/2-A	Lab Control Sample Dup	78	101
MB 880-38415/5-A	Method Blank	85	94
MB 880-38419/5-A	Method Blank	103	96

## Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1	OTPH1
		(70-130)	(70-130)
890-3319-1	FS2.1	82	93
890-3319-2	FS8.1	85	94
LCS 880-38261/2-A	Lab Control Sample	131 S1+	146 S1+
LCSD 880-38261/3-A	Lab Control Sample Dup	133 S1+	148 S1+
MB 880-38261/1-A	Method Blank	87	99

## Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Akman #001

Job ID: 890-3319-1

#### Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38415/5-A  
 Matrix: Solid  
 Analysis Batch: 38442

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 38415

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/01/22 15:07	11/02/22 10:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/01/22 15:07	11/02/22 10:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/01/22 15:07	11/02/22 10:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/01/22 15:07	11/02/22 10:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/01/22 15:07	11/02/22 10:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/01/22 15:07	11/02/22 10:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130	11/01/22 15:07	11/02/22 10:53	1
1,4-Difluorobenzene (Surr)	94		70 - 130	11/01/22 15:07	11/02/22 10:53	1

Lab Sample ID: LCS 880-38415/1-A  
 Matrix: Solid  
 Analysis Batch: 38442

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 38415

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1004		mg/Kg		100	70 - 130
Toluene	0.100	0.08754		mg/Kg		88	70 - 130
Ethylbenzene	0.100	0.08210		mg/Kg		82	70 - 130
m-Xylene & p-Xylene	0.200	0.1676		mg/Kg		84	70 - 130
o-Xylene	0.100	0.08632		mg/Kg		86	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: LCSD 880-38415/2-A  
 Matrix: Solid  
 Analysis Batch: 38442

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 38415

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1038		mg/Kg		104	70 - 130	3	35
Toluene	0.100	0.08958		mg/Kg		90	70 - 130	2	35
Ethylbenzene	0.100	0.08377		mg/Kg		84	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.1698		mg/Kg		85	70 - 130	1	35
o-Xylene	0.100	0.08507		mg/Kg		85	70 - 130	1	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Lab Sample ID: 890-3319-1 MS  
 Matrix: Solid  
 Analysis Batch: 38442

Client Sample ID: FS2.1  
 Prep Type: Total/NA  
 Prep Batch: 38415

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.0998	0.09552		mg/Kg		96	70 - 130
Toluene	<0.00202	U	0.0998	0.08259		mg/Kg		82	70 - 130

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### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Akman #001

Job ID: 890-3319-1

#### Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-3319-1 MS  
 Matrix: Solid  
 Analysis Batch: 38442

Client Sample ID: FS2.1  
 Prep Type: Total/NA  
 Prep Batch: 38415

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.0998	0.07590		mg/Kg		76	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.200	0.1548		mg/Kg		78	70 - 130
o-Xylene	<0.00202	U	0.0998	0.07740		mg/Kg		78	70 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 890-3319-1 MSD  
 Matrix: Solid  
 Analysis Batch: 38442

Client Sample ID: FS2.1  
 Prep Type: Total/NA  
 Prep Batch: 38415

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	<0.00202	U	0.0990	0.09441		mg/Kg		95	70 - 130	1	35
Toluene	<0.00202	U	0.0990	0.07862		mg/Kg		79	70 - 130	5	35
Ethylbenzene	<0.00202	U	0.0990	0.07386		mg/Kg		75	70 - 130	3	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.1485		mg/Kg		75	70 - 130	4	35
o-Xylene	<0.00202	U	0.0990	0.07377		mg/Kg		75	70 - 130	5	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: MB 880-38419/5-A  
 Matrix: Solid  
 Analysis Batch: 38443

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 38419

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/01/22 15:13	11/02/22 10:59	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/01/22 15:13	11/02/22 10:59	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/01/22 15:13	11/02/22 10:59	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/01/22 15:13	11/02/22 10:59	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/01/22 15:13	11/02/22 10:59	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/01/22 15:13	11/02/22 10:59	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	11/01/22 15:13	11/02/22 10:59	1
1,4-Difluorobenzene (Surr)	96		70 - 130	11/01/22 15:13	11/02/22 10:59	1

Lab Sample ID: LCS 880-38419/1-A  
 Matrix: Solid  
 Analysis Batch: 38443

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 38419

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08829		mg/Kg		88	70 - 130
Toluene	0.100	0.09041		mg/Kg		90	70 - 130
Ethylbenzene	0.100	0.08814		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	0.200	0.1644		mg/Kg		82	70 - 130

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## QC Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: Akman #001

Job ID: 890-3319-1

## Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 880-38419/1-A

Matrix: Solid

Analysis Batch: 38443

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 38419

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	0.100	0.09396		mg/Kg		94	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	83		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: LCSD 880-38419/2-A

Matrix: Solid

Analysis Batch: 38443

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 38419

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.08867		mg/Kg		89	70 - 130	0	35
Toluene	0.100	0.08886		mg/Kg		89	70 - 130	2	35
Ethylbenzene	0.100	0.08311		mg/Kg		83	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1522		mg/Kg		76	70 - 130	8	35
o-Xylene	0.100	0.08579		mg/Kg		86	70 - 130	9	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	78		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: 890-3319-2 MS

Matrix: Solid

Analysis Batch: 38443

Client Sample ID: FS8.1

Prep Type: Total/NA

Prep Batch: 38419

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.0998	0.08073		mg/Kg		80	70 - 130
Toluene	<0.00201	U	0.0998	0.08353		mg/Kg		84	70 - 130
Ethylbenzene	<0.00201	U	0.0998	0.07974		mg/Kg		80	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.200	0.1521		mg/Kg		76	70 - 130
o-Xylene	<0.00201	U	0.0998	0.08611		mg/Kg		86	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 890-3319-2 MSD

Matrix: Solid

Analysis Batch: 38443

Client Sample ID: FS8.1

Prep Type: Total/NA

Prep Batch: 38419

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	<0.00201	U	0.0990	0.07868		mg/Kg		78	70 - 130	3	35
Toluene	<0.00201	U	0.0990	0.07973		mg/Kg		81	70 - 130	5	35
Ethylbenzene	<0.00201	U	0.0990	0.07266		mg/Kg		73	70 - 130	9	35
m-Xylene & p-Xylene	<0.00402	U F1	0.198	0.1342	F1	mg/Kg		68	70 - 130	12	35
o-Xylene	<0.00201	U	0.0990	0.07432		mg/Kg		75	70 - 130	15	35

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### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Akman #001

Job ID: 890-3319-1

#### Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-3319-2 MSD  
 Matrix: Solid  
 Analysis Batch: 38443

Client Sample ID: FS8.1  
 Prep Type: Total/NA  
 Prep Batch: 38419

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	87		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-38261/1-A  
 Matrix: Solid  
 Analysis Batch: 38217

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 38261

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/31/22 10:25	10/31/22 09:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/31/22 10:25	10/31/22 09:53	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/31/22 10:25	10/31/22 09:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130	10/31/22 10:25	10/31/22 09:53	1
o-Terphenyl	99		70 - 130	10/31/22 10:25	10/31/22 09:53	1

Lab Sample ID: LCS 880-38261/2-A  
 Matrix: Solid  
 Analysis Batch: 38217

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 38261

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	903.3		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1384	*+	mg/Kg		138	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	131	S1+	70 - 130
o-Terphenyl	146	S1+	70 - 130

Lab Sample ID: LCSD 880-38261/3-A  
 Matrix: Solid  
 Analysis Batch: 38217

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 38261

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	944.8		mg/Kg		94	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	1000	1439	*+	mg/Kg		144	70 - 130	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	133	S1+	70 - 130
o-Terphenyl	148	S1+	70 - 130

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### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Akman #001

Job ID: 890-3319-1

#### Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38262/1-A  
 Matrix: Solid  
 Analysis Batch: 38428

Client Sample ID: Method Blank  
 Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/01/22 22:29	1

Lab Sample ID: LCS 880-38262/2-A  
 Matrix: Solid  
 Analysis Batch: 38428

Client Sample ID: Lab Control Sample  
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	262.5		mg/Kg		105	90 - 110

Lab Sample ID: LCSD 880-38262/3-A  
 Matrix: Solid  
 Analysis Batch: 38428

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	265.5		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 890-3319-1 MS  
 Matrix: Solid  
 Analysis Batch: 38428

Client Sample ID: FS2.1  
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	151		251	401.6		mg/Kg		100	90 - 110

Lab Sample ID: 890-3319-1 MSD  
 Matrix: Solid  
 Analysis Batch: 38428

Client Sample ID: FS2.1  
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	151		251	394.5		mg/Kg		97	90 - 110	2	20



## QC Association Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Akman #001

Job ID: 890-3319-1

## GC VOA

## Prep Batch: 38415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3319-1	FS2.1	Total/NA	Solid	5035	
MB 880-38415/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38415/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38415/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3319-1 MS	FS2.1	Total/NA	Solid	5035	
890-3319-1 MSD	FS2.1	Total/NA	Solid	5035	

## Prep Batch: 38419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3319-2	FS8.1	Total/NA	Solid	5035	
MB 880-38419/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38419/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38419/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3319-2 MS	FS8.1	Total/NA	Solid	5035	
890-3319-2 MSD	FS8.1	Total/NA	Solid	5035	

## Analysis Batch: 38442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3319-1	FS2.1	Total/NA	Solid	8021B	38415
MB 880-38415/5-A	Method Blank	Total/NA	Solid	8021B	38415
LCS 880-38415/1-A	Lab Control Sample	Total/NA	Solid	8021B	38415
LCSD 880-38415/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38415
890-3319-1 MS	FS2.1	Total/NA	Solid	8021B	38415
890-3319-1 MSD	FS2.1	Total/NA	Solid	8021B	38415

## Analysis Batch: 38443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3319-2	FS8.1	Total/NA	Solid	8021B	38419
MB 880-38419/5-A	Method Blank	Total/NA	Solid	8021B	38419
LCS 880-38419/1-A	Lab Control Sample	Total/NA	Solid	8021B	38419
LCSD 880-38419/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38419
890-3319-2 MS	FS8.1	Total/NA	Solid	8021B	38419
890-3319-2 MSD	FS8.1	Total/NA	Solid	8021B	38419

## Analysis Batch: 38515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3319-1	FS2.1	Total/NA	Solid	Total BTEX	
890-3319-2	FS8.1	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Analysis Batch: 38217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3319-1	FS2.1	Total/NA	Solid	8015B NM	38261
890-3319-2	FS8.1	Total/NA	Solid	8015B NM	38261
MB 880-38261/1-A	Method Blank	Total/NA	Solid	8015B NM	38261
LCS 880-38261/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38261
LCSD 880-38261/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38261

Eurofins Carlsbad

## QC Association Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Akman #001

Job ID: 890-3319-1

## GC Semi VOA

## Prep Batch: 38261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3319-1	FS2.1	Total/NA	Solid	8015NM Prep	
890-3319-2	FS8.1	Total/NA	Solid	8015NM Prep	
MB 880-38261/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38261/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38261/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 38390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3319-1	FS2.1	Total/NA	Solid	8015 NM	
890-3319-2	FS8.1	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 38262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3319-1	FS2.1	Soluble	Solid	DI Leach	
890-3319-2	FS8.1	Soluble	Solid	DI Leach	
MB 880-38262/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38262/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38262/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3319-1 MS	FS2.1	Soluble	Solid	DI Leach	
890-3319-1 MSD	FS2.1	Soluble	Solid	DI Leach	

## Analysis Batch: 38428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3319-1	FS2.1	Soluble	Solid	300.0	38262
890-3319-2	FS8.1	Soluble	Solid	300.0	38262
MB 880-38262/1-A	Method Blank	Soluble	Solid	300.0	38262
LCS 880-38262/2-A	Lab Control Sample	Soluble	Solid	300.0	38262
LCSD 880-38262/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38262
890-3319-1 MS	FS2.1	Soluble	Solid	300.0	38262
890-3319-1 MSD	FS2.1	Soluble	Solid	300.0	38262

Eurofins Carlsbad

## Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: Akman #001

Job ID: 890-3319-1

Client Sample ID: FS2.1

Lab Sample ID: 890-3319-1

Date Collected: 10/28/22 08:30

Matrix: Solid

Date Received: 10/28/22 12:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	38415	11/01/22 15:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38442	11/02/22 11:15	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38515	11/02/22 14:29	SM	EET MID
Total/NA	Analysis	8015 NM		1			38390	11/01/22 13:05	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	38261	10/31/22 10:25	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38217	10/31/22 17:05	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	38262	10/31/22 10:26	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38428	11/01/22 22:45	CH	EET MID

Client Sample ID: FS8.1

Lab Sample ID: 890-3319-2

Date Collected: 10/28/22 08:32

Matrix: Solid

Date Received: 10/28/22 12:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	38419	11/01/22 15:13	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38443	11/02/22 11:20	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38515	11/02/22 14:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			38390	11/01/22 13:05	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	38261	10/31/22 10:25	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38217	10/31/22 17:27	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	38262	10/31/22 10:26	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38428	11/01/22 23:00	CH	EET MID

## Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Carlsbad

### Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Akman #001

Job ID: 890-3319-1

#### Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

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

## Method Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Akman #001

Job ID: 890-3319-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

### Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

### Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

# Sample Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Akman #001

Job ID: 890-3319-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3319-1	FS2.1	Solid	10/28/22 08:30	10/28/22 12:13	2
890-3319-2	FS8.1	Solid	10/28/22 08:32	10/28/22 12:13	8

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### Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 890-3319-1

**Login Number: 3319**  
**List Number: 1**  
**Creator: Clifton, Cloe**

**List Source: Eurofins Carlsbad**

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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- 14

### Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 890-3319-1

**Login Number: 3319**

**List Source: Eurofins Midland**

**List Number: 2**

**List Creation: 10/31/22 09:20 AM**

**Creator: Rodriguez, Leticia**

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

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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

---

December 02, 2022

JOSEPH GUESNIER  
TERRACON CONSULTANTS  
5827 50TH ST. SUITE 1  
LUBBOCK, TX 79424

RE: AIKMAN SWD

Enclosed are the results of analyses for samples received by the laboratory on 11/30/22 16:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene  
Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	11/30/2022	Sampling Date:	11/30/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: E- 2.2 (2-3) (H225616-01)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/01/2022	ND	1.86	93.2	2.00	10.5	
Toluene*	<0.050	0.050	12/01/2022	ND	2.06	103	2.00	9.73	
Ethylbenzene*	<0.050	0.050	12/01/2022	ND	2.12	106	2.00	9.19	
Total Xylenes*	<0.150	0.150	12/01/2022	ND	6.50	108	6.00	8.79	
Total BTEX	<0.300	0.300	12/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 69.9-140

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/01/2022	ND	195	97.4	200	0.106	
DRO >C10-C28*	<10.0	10.0	12/01/2022	ND	182	90.8	200	1.62	
EXT DRO >C28-C36	<10.0	10.0	12/01/2022	ND					

Surrogate: 1-Chlorooctane 97.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 104 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	11/30/2022	Sampling Date:	11/30/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: TN- 1.2 (1-2) (H225616-02)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/01/2022	ND	1.86	93.2	2.00	10.5	
Toluene*	<0.050	0.050	12/01/2022	ND	2.06	103	2.00	9.73	
Ethylbenzene*	<0.050	0.050	12/01/2022	ND	2.12	106	2.00	9.19	
Total Xylenes*	<0.150	0.150	12/01/2022	ND	6.50	108	6.00	8.79	
Total BTEX	<0.300	0.300	12/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 69.9-140

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/01/2022	ND	195	97.4	200	0.106	
DRO >C10-C28*	<10.0	10.0	12/01/2022	ND	182	90.8	200	1.62	
EXT DRO >C28-C36	<10.0	10.0	12/01/2022	ND					

Surrogate: 1-Chlorooctane 94.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 99.2 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	11/30/2022	Sampling Date:	11/30/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: TN- 2.2 (1-2) (H225616-03)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/01/2022	ND	1.76	87.9	2.00	10.1		
Toluene*	<0.050	0.050	12/01/2022	ND	2.00	100	2.00	9.75		
Ethylbenzene*	<0.050	0.050	12/01/2022	ND	2.06	103	2.00	9.90		
Total Xylenes*	<0.150	0.150	12/01/2022	ND	6.35	106	6.00	9.52		
Total BTEX	<0.300	0.300	12/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	12/01/2022	ND	195	97.4	200	0.106		
DRO >C10-C28*	<10.0	10.0	12/01/2022	ND	182	90.8	200	1.62		
EXT DRO >C28-C36	<10.0	10.0	12/01/2022	ND						

Surrogate: 1-Chlorooctane 92.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 99.3 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TERRACON CONSULTANTS  
 JOSEPH GUESNIER  
 5827 50TH ST. SUITE 1  
 LUBBOCK TX, 79424  
 Fax To:

Received:	11/30/2022	Sampling Date:	11/30/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	AIKMAN SWD	Sampling Condition:	Cool & Intact
Project Number:	AR207018	Sample Received By:	Tamara Oldaker
Project Location:	SPUR ENERGY		

**Sample ID: TS- 2.2 (1-2) (H225616-04)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/01/2022	ND	1.76	87.9	2.00	10.1		
Toluene*	<0.050	0.050	12/01/2022	ND	2.00	100	2.00	9.75		
Ethylbenzene*	<0.050	0.050	12/01/2022	ND	2.06	103	2.00	9.90		
Total Xylenes*	<0.150	0.150	12/01/2022	ND	6.35	106	6.00	9.52		
Total BTEX	<0.300	0.300	12/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	12/01/2022	ND	195	97.4	200	0.106		
DRO >C10-C28*	<10.0	10.0	12/01/2022	ND	182	90.8	200	1.62		
EXT DRO >C28-C36	<10.0	10.0	12/01/2022	ND						

Surrogate: 1-Chlorooctane 93.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 99.2 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



Laboratory:  
Address:

Phone:  
Contact:

SRS #:

Sampler's Signature: *[Signature]*

Office Location  
Project Manager: J. Guesnier  
Sampler's Name: A. Adams

Project Number: AR207018

Project Name: Alkman SWD

No. Type of Containers

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	4 oz Glass	TPH Extended 8015	BTEX (EPA Method 8021B)	Chloride (EPA Method 300)	Hold	LAB USE ONLY DUE DATE:	TEMP OF COOLER WHEN RECEIVED (°C)
S	11/30/2022	13:50	X		E-2.2 (2-3)	2'	3'	X	X	X			#113	5.42/4.82
S	11/30/2022	13:45	X		TN-1.2 (1-2)	1'	2'	X	X	X				
S	11/30/2022	11:10	X		TN-2.2 (1-2)	1'	2'	X	X	X				
S	11/30/2022	11:15	X		TS-2.2 (1-2)	1'	2'	X	X	X				

Lab Sample ID  
H225616-01

02  
03  
04

TURBACOUND TIME		Normal	48-Hour Rush	24-Hour Rush	TRRP-Laboratory Review Checklist	Yes	No
Requested by (Signature)	<i>[Signature]</i>						
Date:	11-30-22						
Time:	16:15						
Requested by (Signature)	<i>[Signature]</i>						
Date:	11-30-22						
Time:	14:15						

Bill To: Spur Energy Partners  
e-mail results to:  
joseph.guesnier@terracon.com  
austin.worley@terracon.com

Matrix: WW Wetstream    W: Water    S: Soil    L: Liquid    A: Air Bag    C: Charcoal tube    SL: Sludge  
 Container: VCA - 40 gal    A/C: Amber Glass 1L    250 ml Glass with mouth    90 - Plastic or other

Lubbock Office ■ 5827 50th Street, Suite 1 ■ Lubbock, Texas 79424 ■ 806-300-0140  
Responsive ■ Resourceful ■ Reliable



Environment Testing

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

# ANALYTICAL REPORT

## PREPARED FOR

Attn: Joseph Guesnier  
 Terracon Consulting Eng & Scientists  
 5847 50th St  
 Lubbock, Texas 79424  
 Generated 12/5/2022 2:59:09 PM

## JOB DESCRIPTION

Aikman  
 SDG NUMBER AR207018

## JOB NUMBER

890-3560-1

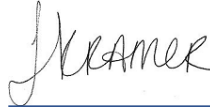


# Eurofins Carlsbad

## Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

## Authorization



Generated  
12/5/2022 2:59:09 PM

Authorized for release by  
Jessica Kramer, Project Manager  
[Jessica.Kramer@et.eurofinsus.com](mailto:Jessica.Kramer@et.eurofinsus.com)  
(432)704-5440



# Eurofins Carlsbad

## Compliance Statement

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Coliform MCLs

· Based on the EPA primary drinking water standard MCL for total coliforms, a water supply is considered bacteriologically "SAFE" if no coliform bacteria are detected. To be considered "SAFE" your report should indicate "<1 cfu/100mL" or "NEG" for the coliform test. If you report indicates a positive result "POS" or a value greater than or equal to one, then your supply is "UNSAFE FOR DRINKING" contact your local health department.

### Warranties, Terms, and Conditions

· Analyses for Field Parameters are performed by Eurofins Philadelphia field staff. Locations and certifications are identified on the Chain of Custody as follows:

ERF = field staff performs tests under NJ State certification #02015

VL = field staff performs tests under NJ State certification #06005

WG = field staff performs tests under NJ State certification #PA001

H = field staff performs tests under NJ NELAP certification #PA093, PA NELAP certification # 46-05499

· Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.

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· All samples are collected as "grab" samples unless otherwise identified.

· Reported results related only to the samples as tested. Eurofins Philadelphia is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· Eurofins Philadelphia is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance.

· Eurofins' online data portal "TotalAccess" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.

· The following personnel or their deputies have approved the results of the tests performed by Eurofins Philadelphia : Nicki Smith (Environmental Chemistry) and Jacqueline Gartner (Water Microbiology).



---

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman

Laboratory Job ID: 890-3560-1  
SDG: AR207018

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	4
Definitions/Glossary . . . . .	5
Case Narrative . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	8
QC Sample Results . . . . .	9
QC Association Summary . . . . .	12
Lab Chronicle . . . . .	13
Certification Summary . . . . .	14
Method Summary . . . . .	15
Sample Summary . . . . .	16
Chain of Custody . . . . .	17
Receipt Checklists . . . . .	19

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

## Definitions/Glossary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman

Job ID: 890-3560-1  
SDG: AR207018

## Qualifiers

## GC VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

## GC Semi VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

## HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

## Glossary

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

### Case Narrative

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman

Job ID: 890-3560-1  
SDG: AR207018

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**Job ID: 890-3560-1**

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**Laboratory: Eurofins Carlsbad****Narrative**

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**Job Narrative  
890-3560-1****Receipt**

The sample was received on 11/23/2022 11:28 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 12.0°C

**Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: FS .91 (890-3560-1).

**GC VOA**

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**GC Semi VOA**

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-40686/5), (LCS 880-40653/2-A) and (LCSD 880-40653/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-40653 and analytical batch 880-40686 was outside the upper control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**HPLC/IC**

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.



## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: AikmanJob ID: 890-3560-1  
SDG: AR207018

Client Sample ID: FS .91

Lab Sample ID: 890-3560-1

Date Collected: 11/23/22 09:20

Matrix: Solid

Date Received: 11/23/22 11:28

Sample Depth: 5

## Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/29/22 16:02	12/02/22 19:24	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/29/22 16:02	12/02/22 19:24	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/29/22 16:02	12/02/22 19:24	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/29/22 16:02	12/02/22 19:24	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/29/22 16:02	12/02/22 19:24	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/29/22 16:02	12/02/22 19:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	11/29/22 16:02	12/02/22 19:24	1
1,4-Difluorobenzene (Surr)	97		70 - 130	11/29/22 16:02	12/02/22 19:24	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/05/22 14:17	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/01/22 12:06	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/30/22 08:30	11/30/22 22:12	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/30/22 08:30	11/30/22 22:12	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/30/22 08:30	11/30/22 22:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	15	S1-	70 - 130	11/30/22 08:30	11/30/22 22:12	1
o-Terphenyl	0.9	S1-	70 - 130	11/30/22 08:30	11/30/22 22:12	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	129		24.9		mg/Kg			11/30/22 14:09	5

## Surrogate Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman

Job ID: 890-3560-1  
SDG: AR207018

## Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1	DFBZ1
		(70-130)	(70-130)
890-3560-1	FS .91	118	97
LCS 880-40625/1-A	Lab Control Sample	105	100
LCSD 880-40625/2-A	Lab Control Sample Dup	104	97
MB 880-40625/5-A	Method Blank	68 S1-	94

## Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1	OTPH1
		(70-130)	(70-130)
890-3560-1	FS .91	15 S1-	0.9 S1-
LCS 880-40653/2-A	Lab Control Sample	183 S1+	217 S1+
LCSD 880-40653/3-A	Lab Control Sample Dup	170 S1+	200 S1+
MB 880-40653/1-A	Method Blank	116	145 S1+

## Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl



### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman

Job ID: 890-3560-1  
 SDG: AR207018

#### Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-40625/5-A  
 Matrix: Solid  
 Analysis Batch: 40842

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 40625

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/29/22 16:02	12/02/22 11:45	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/29/22 16:02	12/02/22 11:45	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/29/22 16:02	12/02/22 11:45	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/29/22 16:02	12/02/22 11:45	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/29/22 16:02	12/02/22 11:45	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/29/22 16:02	12/02/22 11:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	68	S1-	70 - 130	11/29/22 16:02	12/02/22 11:45	1
1,4-Difluorobenzene (Surr)	94		70 - 130	11/29/22 16:02	12/02/22 11:45	1

Lab Sample ID: LCS 880-40625/1-A  
 Matrix: Solid  
 Analysis Batch: 40842

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 40625

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1252		mg/Kg		125	70 - 130
Toluene	0.100	0.1206		mg/Kg		121	70 - 130
Ethylbenzene	0.100	0.1093		mg/Kg		109	70 - 130
m-Xylene & p-Xylene	0.200	0.2198		mg/Kg		110	70 - 130
o-Xylene	0.100	0.1069		mg/Kg		107	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: LCSD 880-40625/2-A  
 Matrix: Solid  
 Analysis Batch: 40842

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 40625

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.1186		mg/Kg		119	70 - 130	5	35
Toluene	0.100	0.1151		mg/Kg		115	70 - 130	5	35
Ethylbenzene	0.100	0.1044		mg/Kg		104	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.2094		mg/Kg		105	70 - 130	5	35
o-Xylene	0.100	0.1069		mg/Kg		107	70 - 130	0	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman

Job ID: 890-3560-1  
 SDG: AR207018

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-40653/1-A  
 Matrix: Solid  
 Analysis Batch: 40686

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 40653

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/30/22 08:30	11/30/22 14:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/30/22 08:30	11/30/22 14:25	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/30/22 08:30	11/30/22 14:25	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	116		70 - 130	11/30/22 08:30	11/30/22 14:25	1
o-Terphenyl	145	S1+	70 - 130	11/30/22 08:30	11/30/22 14:25	1

Lab Sample ID: LCS 880-40653/2-A  
 Matrix: Solid  
 Analysis Batch: 40686

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 40653

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics (Over C10-C28)	1000	1096		mg/Kg		110	70 - 130

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1-Chlorooctane	183	S1+	70 - 130
o-Terphenyl	217	S1+	70 - 130

Lab Sample ID: LCSD 880-40653/3-A  
 Matrix: Solid  
 Analysis Batch: 40686

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 40653

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	
								RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	834.2		mg/Kg		83	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	1000	993.6		mg/Kg		99	70 - 130	10	20

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
1-Chlorooctane	170	S1+	70 - 130
o-Terphenyl	200	S1+	70 - 130

#### Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40392/1-A  
 Matrix: Solid  
 Analysis Batch: 40643

Client Sample ID: Method Blank  
 Prep Type: Soluble

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	<5.00	U	5.00		mg/Kg			11/30/22 09:23	1

Eurofins Carlsbad

### QC Sample Results

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman

Job ID: 890-3560-1  
 SDG: AR207018

**Method: 300.0 - Anions, Ion Chromatography (Continued)**

Lab Sample ID: LCS 880-40392/2-A  
 Matrix: Solid  
 Analysis Batch: 40643

Client Sample ID: Lab Control Sample  
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	251.6		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-40392/3-A  
 Matrix: Solid  
 Analysis Batch: 40643

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	252.8		mg/Kg		101	90 - 110	0	20

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

## QC Association Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: AikmanJob ID: 890-3560-1  
SDG: AR207018

## GC VOA

## Prep Batch: 40625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3560-1	FS .91	Total/NA	Solid	5035	
MB 880-40625/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40625/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40625/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

## Analysis Batch: 40842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3560-1	FS .91	Total/NA	Solid	8021B	40625
MB 880-40625/5-A	Method Blank	Total/NA	Solid	8021B	40625
LCS 880-40625/1-A	Lab Control Sample	Total/NA	Solid	8021B	40625
LCSD 880-40625/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40625

## Analysis Batch: 41055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3560-1	FS .91	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 40653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3560-1	FS .91	Total/NA	Solid	8015NM Prep	
MB 880-40653/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-40653/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-40653/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 40686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3560-1	FS .91	Total/NA	Solid	8015B NM	40653
MB 880-40653/1-A	Method Blank	Total/NA	Solid	8015B NM	40653
LCS 880-40653/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	40653
LCSD 880-40653/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	40653

## Analysis Batch: 40777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3560-1	FS .91	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 40392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3560-1	FS .91	Soluble	Solid	DI Leach	
MB 880-40392/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-40392/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-40392/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

## Analysis Batch: 40643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3560-1	FS .91	Soluble	Solid	300.0	40392
MB 880-40392/1-A	Method Blank	Soluble	Solid	300.0	40392
LCS 880-40392/2-A	Lab Control Sample	Soluble	Solid	300.0	40392
LCSD 880-40392/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	40392

Eurofins Carlsbad

### Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman

Job ID: 890-3560-1  
 SDG: AR207018

**Client Sample ID: FS .91**

**Lab Sample ID: 890-3560-1**

**Date Collected: 11/23/22 09:20**

**Matrix: Solid**

**Date Received: 11/23/22 11:28**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	40625	11/29/22 16:02	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40842	12/02/22 19:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			41055	12/05/22 14:17	AJ	EET MID
Total/NA	Analysis	8015 NM		1			40777	12/01/22 12:06	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	40653	11/30/22 08:30	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40686	11/30/22 22:12	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	40392	11/28/22 09:15	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	40643	11/30/22 14:09	SMC	EET MID

**Laboratory References:**

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

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### Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman

Job ID: 890-3560-1  
SDG: AR207018

#### Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

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### Method Summary

Client: Terracon Consulting Eng & Scientists  
 Project/Site: Aikman

Job ID: 890-3560-1  
 SDG: AR207018

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

**Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



### Sample Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: Aikman

Job ID: 890-3560-1  
SDG: AR207018

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3560-1	FS .91	Solid	11/23/22 09:20	11/23/22 11:28	5

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# Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300  
 Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334  
 El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296  
 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Environment Testing  
 Xenco



Work Order No: \_\_\_\_\_

www.xenco.com Page 1 of 1

Project Manager:	Joseph Guerslain	Bill to: (if different)	
Company Name:	Purcell	Company Name:	
Address:	4518 W Purcell St	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	(575) 689-4020	Email:	becky.sue.stiller@xenco.com

Project Number:	AR207018	Turn Around:	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush
Project Location:	Edley	Due Date:	
Sampler's Name:	Pravir Casey	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT	Temp Blank:		Thermometer ID:	Correction Factor:	Temperature Reading:	Corrected Temperature:	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Pres. Code	Parameters
	Yes	No											
	<input checked="" type="radio"/>	<input type="radio"/>	NM007	-0.0	12.2	12.0	11/23	9:20	5'	G	1		EPA Chloride (method 300)
FS 9.1	<input type="radio"/>	<input type="radio"/>											2 BTEX (8024 G)
	<input type="radio"/>	<input type="radio"/>											2 TPH (8015)

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO<sub>2</sub> Na Sr Ti Sn U V Zn  
 Circle Method(s) and Metal(s) to be analyzed TCLP/SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$95.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Joseph Guerslain	Received by: (Signature)	Becky Stiller
Date/Time	11-23-22 12:08	Date/Time	
Relinquished by: (Signature)		Received by: (Signature)	
Date/Time		Date/Time	

Sample Comments	None: NO DI Water: H <sub>2</sub> O Cool: Cool MeOH: Me HCL: HC HNO <sub>3</sub> : HN H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> H <sub>3</sub> PO <sub>4</sub> : HP NaHSO <sub>4</sub> : NABIS Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub> Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SACP
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### Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 890-3560-1

SDG Number: AR207018

**Login Number: 3560**

**List Number: 1**

**Creator: Clifton, Cloe**

**List Source: Eurofins Carlsbad**

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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### Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 890-3560-1

SDG Number: AR207018

**Login Number: 3560**

**List Number: 2**

**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**

**List Creation: 11/29/22 10:55 AM**

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

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## APPENDIX E – WASTE MANIFEST

## **APPENDIX F – TERRACON STANDARD OF CARE, LIMITATION, AND RELIANCE**

## **APPENDIX E – 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, Solaris Water Midstream, as reflected in our proposal (PA4197040).

### **Additional Scope Limitations**

The development of this RAP 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 recommendations are based solely upon reformation executed within the scope of these services.

### **Reliance**

This report has been prepared for the exclusive use of Solaris Water Midstream, 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 Solaris Water Midstream and Terracon. Any unauthorized distribution or reuse is at Solaris Water Midstream's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal and Solaris Water Midstream 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 Solaris Water Midstream and all relying parties unless otherwise agreed in writing.

**District I**  
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 Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
 811 S. First St., Artesia, NM 88210  
 Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
 1000 Rio Brazos Rd., Aztec, NM 87410  
 Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
 1220 S. St Francis Dr., Santa Fe, NM 87505  
 Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 205724

**CONDITIONS**

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 205724
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2127753131 AIKMAN SWD STATE #001, thank you. This closure is approved.	8/29/2023